

LEVEL 1 REPLACEMENT RESERVE REPORT FY 2024 SUNRISE BAY PROPERTY OWNERS ASSOCIATION, INC.

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Community Management by:

SUNRISE BAY PROPERTY OWNERS ASSOCIATION, INC.

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REPLACEMENT RESERVE REPORT

SUNRISE BAY PROPERTY OWNERS ASSOCIATION, INC.

MINERAL, VIRGINIA

February 18, 2023

Revised May 1, 2023

Revised May 15, 2023



Description. Sunrise Bay Property Owners Association, Inc. is a Property Owners Association located in Mineral, Virginia. Constructed in 2006, the community consists of 88 single-family homes. The survey examined the common elements of the property, including:

- Signage
- Paths and Fencing
- Stormwater Management and Lake
- Marina, Boat Docks, and Boat Ramp

EXECUTIVE SUMMARY

This Reserve Study has been prepared for the Sunrise Bay Property Owners Association, Inc. for the Fiscal Year 2024 covering the period from January 1, 2024 to December 31, 2024. The Replacement Reserves Starting Balance as of January 1, 2024 is proposed to be \$50,000. The reported Current Annual Funding for Reserves is \$10,000. The Recommended Annual Reserve Funding level for 2024 is \$43,838.

The Recommended Annual Funding is significantly higher than the Association is currently contributing for multiple reasons. First, the current annual contribution is not fixed, but rather is simply the remaining money that wasn't spent on operating budget expenses that year. Second, this is the first professional reserve study the Association has performed. Third, the current high rate of inflation in today's construction industry is pushing replacement costs higher. Finally, the Association only recently realized that dredging will be required, and those costs are significant.

The Next Step. The next step in the Reserve Study process is for the Board to carefully review the Component Inventory to make sure that all included components are the responsibility of the Association and that the priorities and the timing of the replacement is in keeping with the goals and objectives of the Board.

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Replacement Reserve Analysis

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Section B

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Replacement Reserve Inventory
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Condition Assessment

Appendix

Overview, Standard Terms, and Definitions
Video Answers to Frequently Asked Questions

MillerDodson strongly recommends that the Association engage a pond/lake management company to conduct a Bathymetric Study of the lake. This Study maps the lake bottom contours to help determine the amount of sediment and the sedimentation rates for dredging purposes. Additionally, the Study also identifies the sources of the sediment so that those sources can be mitigated, thus reducing or even eliminating the need for future costly dredging.

MillerDodson welcomes the opportunity to answer questions or to discuss this Reserve Study in more detail should the Board so desire.

Current Funding. The Starting Balance and Current Annual Reserve Funding figures have been supplied by the managing agent and/or Board of Directors. 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.

Level of Service. This study has been performed as a Level 1 Full-Service Reserve Study with Site Visit/On-Site Review as defined by the Community Associations Institute's, National Reserve Study Standards. As such, a complete inventory of components, including their condition and cost for major repair or replacement, was established by the Analyst for the common and limited common elements of this facility based on information provided by the Community Manager and/or Board of Directors, or by those developed from visual assessments, field measurements, takeoffs from to-scale drawings, or review of provided historical data. The analysis, including fund status and funding plan, is developed from the inventory.

To aid in the understanding of this report and its concepts and practices, on our web site, we have developed videos addressing frequently asked topics. In addition, there are posted links covering a variety of subjects under the resources page of our web site at mdareserves.com.

Purpose. The purpose of this Replacement Reserve Study is to provide Sunrise Bay Property Owners Association, Inc. (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 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 includes our estimates of the normal economic life and the remaining economic life for the projected replacements. Section C provides a year-by-year listing of the projected replacements. Section D 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 the Cash Flow Method. Section A, Replacement Reserve Analysis includes graphic and tabular presentations of the reported current funding and the recommended funding based on the Cash Flow Method. 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.
- Miller+Dodson performed a visual evaluation on February 18, 2023 to determine a remaining useful life and replacement cost for the commonly owned elements of this facility.
- This study contains additional recommendations to address inflation for the Cash Flow Method only. For this recommendation, Miller+Dodson uses the Producers Price Index (PPI), which gauges inflation in manufacturing and construction. Please see page A5 for further details.

To-Scale Drawings. Site and building plans were used in the development of this study. We recommend the Association assemble and maintain a library of site and building plans of the entire facility. Record drawings should be scanned into an electronic format for safe storage and ease of distribution. Upon request for a nominal fee, Miller+Dodson can provide scanning services.

Acknowledgment. Miller+Dodson Associates would like to acknowledge the assistance and input of Tina Rulli, Board President who provided very helpful insight into the current operations of the property.

Analyst's Credentials. Mrs. Heather N. Naples, RS holds a Bachelors Degree in Civil Engineering and a Masters Degree in Engineering Administration from Virginia Tech. A registered Professional Engineer, Mrs. Naples has experience in all phases of project design, contract administration, and inspection of public and private facilities. As an Engineer, she has completed multiple facilities engineering studies, life cycle cost studies, and analysis for repair versus replacement of facilities and systems. She is currently an Engineer and Reserve Specialist for MillerDodson Associates.

Respectfully Submitted,



Heather Naples

Heather N. Naples, RS

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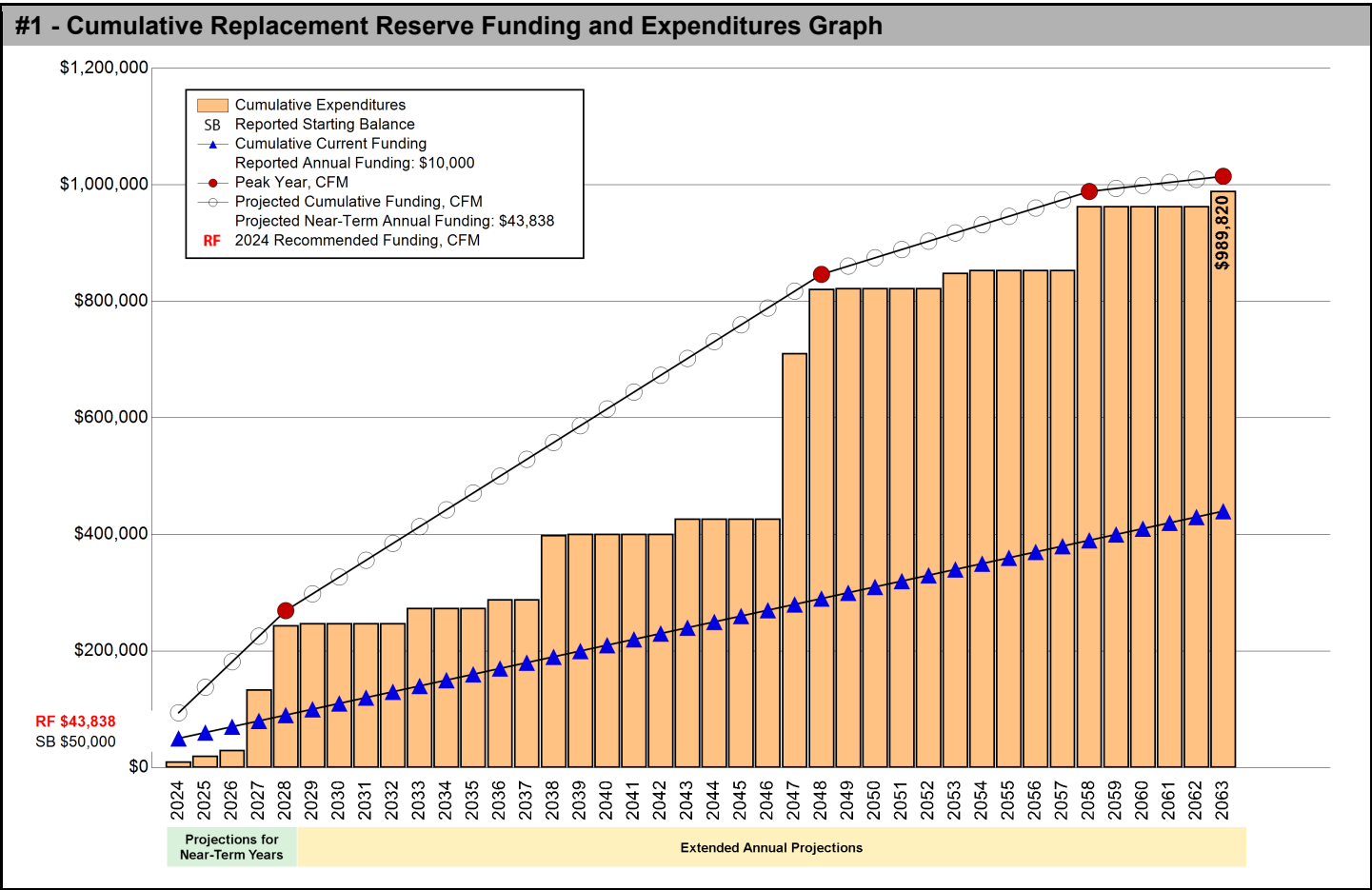
SECTION A - FINANCIAL ANALYSIS

The Sunrise Bay Property Owners Association, Inc. Replacement Reserve Analysis uses the Cash Flow Method (CFM) to calculate Replacement Reserve funding for the periodic replacement of the 25 Projected Replacements identified in the Replacement Reserve Inventory.

\$43,838 **RECOMMENDED REPLACEMENT RESERVE FUNDING FOR THE STUDY YEAR, 2024**
\$41.51 Per unit (average), minimum monthly funding of Replacement Reserves

We recommend the Association adopt a Replacement Reserve Funding Plan based on the annual funding recommendation above. Inflation adjusted funding for subsequent years is shown on Page A.5.

Sunrise Bay Property Owners Association, Inc. reports a Starting Balance of \$50,000 and Annual Funding totaling \$10,000, which is inadequate to fund projected replacements starting in 2027. See Page A.3 for a more detailed evaluation.



The Recommended Annual Funding is significantly higher than the Association is currently contributing for multiple reasons. First, the current annual contribution is not fixed, but rather is simply the remaining money that wasn't spent on operating budget expenses that year. Second, this is the first professional reserve study the Association has performed. Third, the current high rate of inflation in today's construction industry is pushing replacement costs higher. Finally, the Association only recently realized that dredging will be required, and those costs are significant.

MillerDodson strongly recommends that the Association engage a pond/lake management company to conduct a Bathymetric Study of the lake. This Study maps the lake bottom contours to help determine the amount of sediment and the sedimentation rates for dredging purposes. Additionally, the Study also identifies the sources of the sediment so that those sources can be mitigated, thus reducing or even eliminating the need for future costly dredging.

REPLACEMENT RESERVE ANALYSIS - GENERAL INFORMATION

The Sunrise Bay Property Owners Association, Inc. Replacement Reserve Analysis calculations of recommended funding of Replacement Reserves by the Cash Flow Method (CFM) and the evaluation of the Current Funding are based upon the same Study Year, Study Period, Beginning Balance, Replacement Reserve Inventory and Level of Service.

2024 | 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, 2024.

40 Years | STUDY PERIOD

The Replacement Reserve Analysis evaluates the funding of Replacement Reserves over a 40-year Study Period

\$50,000 | STARTING BALANCE

The Association reports Replacement Reserves on Deposit totaling \$50,000 at the start of the Study Year.

Level One | LEVEL OF SERVICE

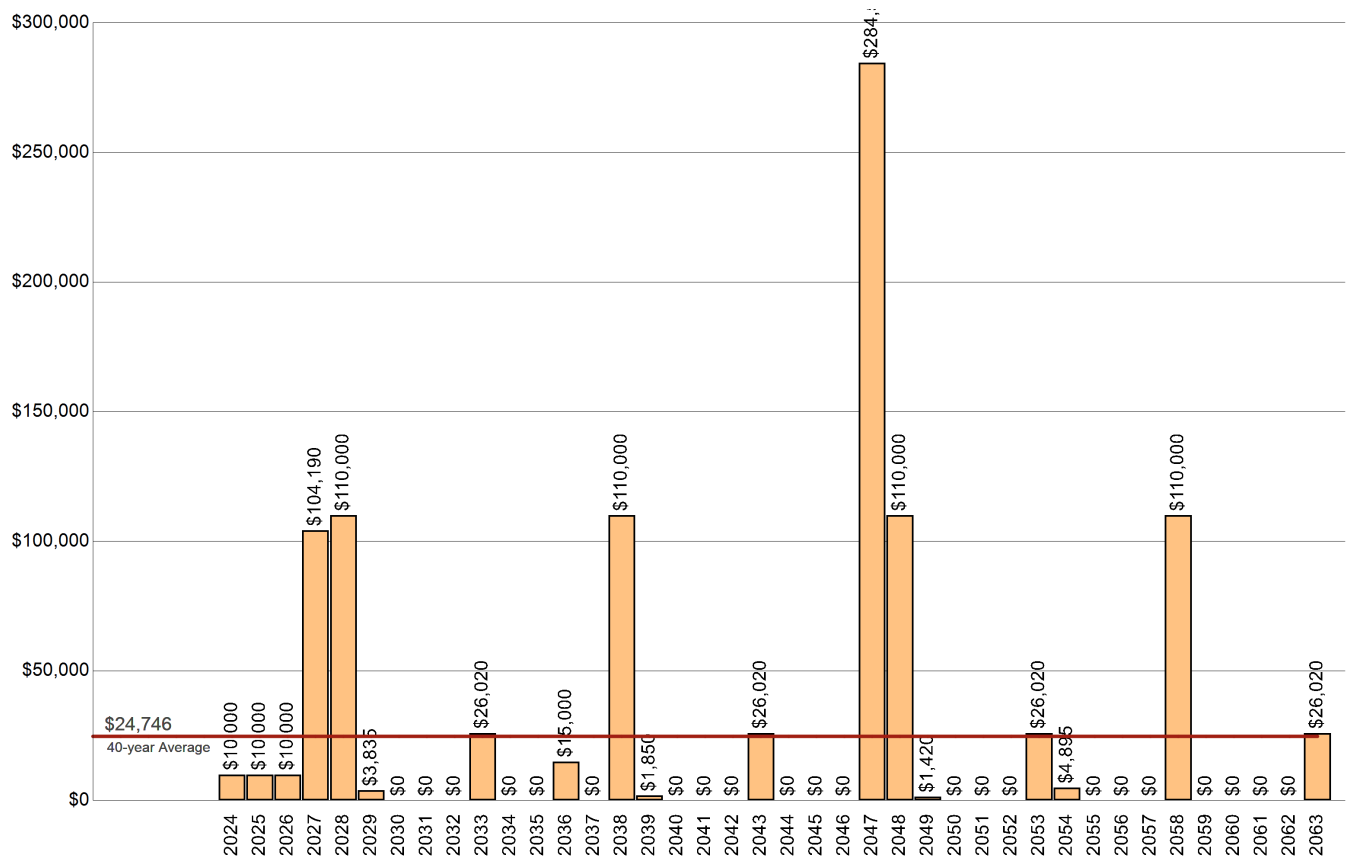
The Replacement Reserve Inventory has been developed in compliance with the National Reserve Study Standards for a Level One Study, as defined by the Community Associations Institute (CAI).

\$989,820 | REPLACEMENT RESERVE INVENTORY - PROJECTED REPLACEMENTS

The Sunrise Bay Property Owners Association, Inc. Replacement Reserve Inventory identifies 25 items that will require periodic replacement, that are to be funded from Replacement Reserves. We estimate the cost of these replacements will be \$989,820 over the 40-year Study Period. The Projected Replacements are divided into 2 major categories starting on Page B.3. Pages B.1-B.2 provide detailed information on the Replacement Reserve Inventory.

#2 - Annual Expenditures for Projected Replacements Graph

This graph shows annual expenditures for Projected Replacements over the 40-year Study Period. The red line shows the average annual expenditure of \$24,746. Section C provides a year by year Calendar of these expenditures.



UPDATING OF THE FUNDING PLAN

The Association has a responsibility to review the Funding Plan annually. The review should include a comparison and evaluation of actual reserve funding with recommended levels shown on Page A.4 and A.5. The Projected Replacements listed on Page C.2 should be compared with any replacements accomplished and funded from Replacement Reserves. Discrepancies should be evaluated and if necessary, the Reserve Study should be updated or a new study commissioned. We recommend annual increases in replacement reserve funding to account for the impact of inflation. Inflation Adjusted Funding is discussed on Page A.5.

UPDATING OF THE REPLACEMENT RESERVE STUDY

At a minimum, the Replacement Reserve Study should be professionally updated every three to five years or after completion of a major replacement project. Updating should also be considered if during the annual review of the Funding Plan, discrepancies are noted between projected and actual reserve funding or replacement costs. Updating may also be necessary if there is a meaningful discrepancy between the actual inflation rate and the inflation rate used for the Inflation Adjusted Funding of Replacement Reserves on Page A.5.

ANNUAL EXPENDITURES AND CURRENT FUNDING

The annual expenditures that comprise the \$989,820 of Projected Expenditures over the 40-year Study Period and the impact of the Association continuing to fund Replacement Reserves at the current level are detailed in Table 3.

#3 - Table of Annual Expenditures and Current Funding Data - Years 1 through 40										
Year	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Starting Balance	\$50,000									
Projected Replacements	(\$10,000)	(\$10,000)	(\$10,000)	(\$104,190)	(\$110,000)	(\$3,835)				(\$26,020)
Annual Deposit	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
End of Year Balance	\$50,000	\$50,000	\$50,000	(\$44,190)	(\$144,190)	(\$138,025)	(\$128,025)	(\$118,025)	(\$108,025)	(\$124,045)
Cumulative Expenditures	(\$10,000)	(\$20,000)	(\$30,000)	(\$134,190)	(\$244,190)	(\$248,025)	(\$248,025)	(\$248,025)	(\$248,025)	(\$274,045)
Cumulative Receipts	\$60,000	\$70,000	\$80,000	\$90,000	\$100,000	\$110,000	\$120,000	\$130,000	\$140,000	\$150,000
Year	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
Projected Replacements			(\$15,000)		(\$110,000)	(\$1,850)				(\$26,020)
Annual Deposit	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
End of Year Balance	(\$114,045)	(\$104,045)	(\$109,045)	(\$99,045)	(\$199,045)	(\$190,895)	(\$180,895)	(\$170,895)	(\$160,895)	(\$176,915)
Cumulative Expenditures	(\$274,045)	(\$274,045)	(\$289,045)	(\$289,045)	(\$399,045)	(\$400,895)	(\$400,895)	(\$400,895)	(\$400,895)	(\$426,915)
Cumulative Receipts	\$160,000	\$170,000	\$180,000	\$190,000	\$200,000	\$210,000	\$220,000	\$230,000	\$240,000	\$250,000
Year	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
Projected Replacements				(\$284,550)	(\$110,000)	(\$1,420)				(\$26,020)
Annual Deposit	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
End of Year Balance	(\$166,915)	(\$156,915)	(\$146,915)	(\$421,465)	(\$521,465)	(\$512,885)	(\$502,885)	(\$492,885)	(\$482,885)	(\$498,905)
Cumulative Expenditures	(\$426,915)	(\$426,915)	(\$426,915)	(\$711,465)	(\$821,465)	(\$822,885)	(\$822,885)	(\$822,885)	(\$822,885)	(\$848,905)
Cumulative Receipts	\$260,000	\$270,000	\$280,000	\$290,000	\$300,000	\$310,000	\$320,000	\$330,000	\$340,000	\$350,000
Year	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063
Projected Replacements	(\$4,895)				(\$110,000)					(\$26,020)
Annual Deposit	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
End of Year Balance	(\$493,800)	(\$483,800)	(\$473,800)	(\$463,800)	(\$563,800)	(\$553,800)	(\$543,800)	(\$533,800)	(\$523,800)	(\$539,820)
Cumulative Expenditures	(\$853,800)	(\$853,800)	(\$853,800)	(\$853,800)	(\$963,800)	(\$963,800)	(\$963,800)	(\$963,800)	(\$963,800)	(\$989,820)
Cumulative Receipts	\$360,000	\$370,000	\$380,000	\$390,000	\$400,000	\$410,000	\$420,000	\$430,000	\$440,000	\$450,000

EVALUATION OF CURRENT FUNDING

The evaluation of Current Funding (Starting Balance of \$50,000 & annual funding of \$10,000), is done in today's dollars with no adjustments for inflation or interest earned on Replacement Reserves. The evaluation assumes Replacement Reserves will only be used for the 25 Projected Replacements identified in the Replacement Reserve Inventory and that the Association will continue Annual Funding of \$10,000 throughout the 40-year Study Period.

Annual Funding of \$10,000 is approximately 23 percent of the \$43,838 recommended Annual Funding calculated by the Cash Flow Method for 2024, the Study Year.

See the Executive Summary for the Current Funding Statement.

CASH FLOW METHOD FUNDING

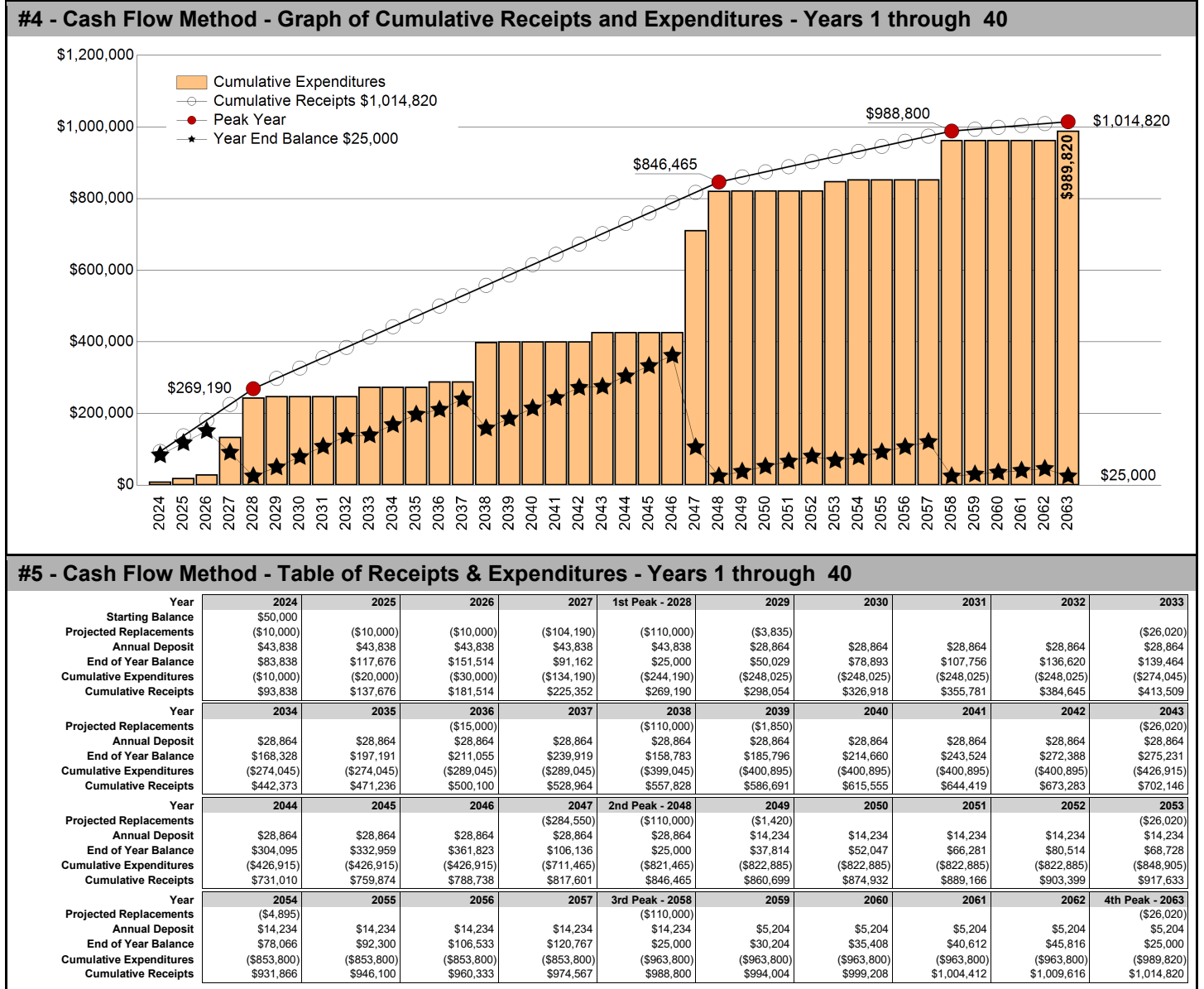
\$43,838

RECOMMENDED REPLACEMENT RESERVE FUNDING FOR 2024

\$41.51 Per unit (average), minimum monthly funding of Replacement Reserves

Recommended Replacement Reserve Funding has been calculated using the Cash Flow Method (also called the Straight Line or Threshold Method). This method calculates a constant annual funding between peaks in cumulative expenditures, while maintaining a Minimum Balance (threshold) in the Peak Years.

- Peak Years.** The First Peak Year occurs in 2028 with Replacement Reserves on Deposit dropping to the Minimum Balance after the completion of \$244,190 of replacements from 2024 to 2028. Recommended funding is projected to decline from \$43,838 in 2028 to \$28,864 in 2029. Peak Years are identified in Chart 4 and Table 5.
- Threshold (Minimum Balance).** The calculations assume a Minimum Balance of \$25,000 will always be held in reserve, which is calculated by rounding the 12-month 40-year average annual expenditure of \$24,746 as shown on Graph #2.
- Cash Flow Method Study Period.** Cash Flow Method calculates funding for \$989,820 of expenditures over the 40-year Study Period. It does not include funding for any projects beyond 2063 and in 2063, the end of year balance will always be the Minimum Balance.



INFLATION ADJUSTED FUNDING

The Cash Flow Method calculations on Page A4 have been done in today's dollars with no adjustment for inflation. At Miller+Dodson, we believe that long-term inflation forecasting is effective at demonstrating the power of compounding, not at calculating appropriate funding levels for Replacement Reserves. We have developed this proprietary model to estimate the short-term impact of inflation on Replacement Reserve funding.

\$43,838 2024 - CASH FLOW METHOD RECOMMENDED FUNDING

The 2024 Study Year calculations have been made using current replacement costs (see Page B.2), modified by the Analyst for any project specific conditions.

\$46,468 2025 - INFLATION ADJUSTED FUNDING

A new analysis calculates the 2025 funding based on three assumptions:

- Replacement Reserves on Deposit totaling \$83,838 on January 1, 2025.
- All 2024 Projected Replacements listed on Page C.2 accomplished at a cost to Replacement Reserves less than \$10,000.
- Construction Cost Inflation of 6.00 percent in 2024.

The \$46,468 inflation adjusted funding in 2025 is a 6.00 percent increase over the non-inflation adjusted funding of \$43,838.

\$49,256 2026 - INFLATION ADJUSTED FUNDING

A new analysis calculates the 2026 funding based on three assumptions:

- Replacement Reserves on Deposit totaling \$93,653 on January 1, 2026.
- All 2025 Projected Replacements listed on Page C.2 accomplished at a cost to Replacement Reserves less than \$10,600.
- Construction Cost Inflation of 6.00 percent in 2025.

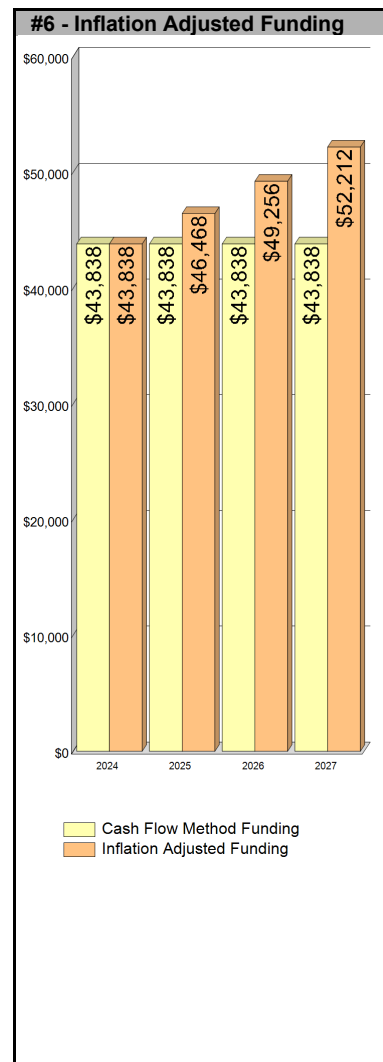
The \$49,256 inflation adjusted funding in 2026 is a 12.36 percent increase over the non-inflation adjusted funding of \$43,838.

\$52,212 2027 - INFLATION ADJUSTED FUNDING

A new analysis calculates the 2027 funding based on three assumptions:

- Replacement Reserves on Deposit totaling \$112,196 on January 1, 2027.
- All 2026 Projected Replacements listed on Page C.2 accomplished at a cost to Replacement Reserves less than \$11,236.
- Construction Cost Inflation of 6.00 percent in 2026.

The \$52,212 inflation adjusted funding in 2027 is a 19.10 percent increase over the non-inflation adjusted funding of \$43,838.



Year Four and Beyond

The inflation-adjusted funding calculations outlined above are not intended to be a substitute for periodic evaluation of common elements by an experienced Reserve Analyst. Industry Standards, lender requirements, and many state and local statutes require a Replacement Reserve Study to be professionally updated every 3 to 5 years.

Inflation Adjustment

Prior to approving a budget based upon the 2025, 2026 and 2027 inflation-adjusted funding calculations above, the 6.00 percent base rate of inflation used in our calculations should be compared to rates published by the Bureau of Labor Statistics. If there is a significant discrepancy (over 1 percentage point), contact Miller+Dodson Associates prior to using the Inflation Adjusted Funding.

Interest on Reserves

The recommended funding calculations do not account for interest earned on Replacement Reserves. In 2024, based on a 1.00 percent interest rate, we estimate the Association may earn \$669 on an average balance of \$66,919, \$887 on an average balance of \$88,746 in 2025, and \$1,029 on \$102,925 in 2026. The Association may elect to attribute 100 percent of the earned interest to Reserves, resulting in a reduction in the 2024 funding from \$43,838 to \$43,169 (a 1.52 percent reduction), \$46,468 to \$45,581 in 2025 (a 1.90 percent reduction), and \$49,256 to \$48,227 in 2026 (a 2.08 percent reduction).

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SECTION B - REPLACEMENT RESERVE INVENTORY

- **PROJECTED REPLACEMENTS.** Sunrise Bay Property Owners Association, Inc. - Replacement Reserve Inventory identifies 25 items which 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 \$473,735. Cumulative Replacements totaling \$989,820 are scheduled in the Replacement Reserve Inventory over the 40-year Study Period. Cumulative Replacements include those components that are replaced more than once during the period of the study.

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.** Some of the items contained in the Replacement Reserve Inventory are 'Excluded Items'. Multiple categories of items 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, minor repairs, and capital improvements.

Value. Items with a replacement cost of less than \$1000 and/or a normal economic life of less than 3 years are typically excluded from funding from Replacement Reserves. This exclusion should reflect the Association policy on the administration of Replacement Reserves. If the Association has selected an alternative level, it will be noted in the Replacement Reserve Inventory - General Comments on Page B.2.

Long-lived Items. Items are excluded from the Replacement Reserve Inventory when items are properly maintained and are assumed to have a life equal to the property.

Unit improvements. Items 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.

- **CATEGORIES.** The 25 items included in the Sunrise Bay Property Owners Association, Inc. Replacement Reserve Inventory are divided into 2 major categories. Each category is printed on a separate page, beginning on page B.3.
- **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 Association, 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 remaining economic life and the value of the components are provided based on these observations and the funding status and funding plan are then derived from the analysis of this data.

REPLACEMENT RESERVE INVENTORY - GENERAL INFORMATION (CONT'D)

- **INVENTORY DATA.** Each of the 25 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 identified each item included in the Inventory. Additional information may be included in the Comments section at the bottom of each page of the Inventory.
 - Units.** We have used standard abbreviations to identify the number of units including SF-square feet, LF-lineal feet, SY-square yard, LS-lump sum, EA-each, and PR-pair. Non-standard abbreviations are noted in the Comments section at the bottom of the page.
 - Number of Units.** The methods used to develop the quantities are discussed in "Level of Service" above.
 - Unit Replacement Cost.** We use four sources to develop the unit cost data shown in the Inventory; actual replacement cost data provided by the client, information provided by local contractors and suppliers, industry standard estimating manuals, and a cost database we have developed based upon our detailed interviews with contractors and service providers who are specialists in their respective lines of work.
 - Normal Economic Life (Years).** The number of years that a new and properly installed item should be expected to remain in service.
 - Remaining Economic Life (Years).** 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.
- **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 in the Comments section.
- **REMAINING ECONOMIC LIFE GREATER THAN 40 YEARS.** The calculations do not include funding for initial replacements beyond 40 years. These replacements are included in this Study for tracking and evaluation. They should be included for funding in future Studies, when they enter the 40-year window.
- **ACCURACY OF THE ANALYSIS.** The accuracy of the Replacement Reserve Analysis is dependent upon expenditures from Replacement Reserves being made ONLY for the 25 Projected Replacements specifically listed in the Replacement Reserve Inventory. The inclusion/exclusion of items from the Replacement Reserve Inventory is discussed on Page B.1.

SITE ITEMS PROJECTED REPLACEMENTS					NEL- Normal Economic Life (yrs) REL- Remaining Economic Life (yrs)		
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)
1	Entrance sign, Cedar Hill/Bellmont, foamboard	ea	1	\$2,415.00	25	5	\$2,415
2	Entrance sign, Days Bridge/Aurora, composite	ea	1	\$1,850.00	25	15	\$1,850
3	Entrance sign, Day Break/Bellmont, wood	ea	1	\$1,420.00	20	5	\$1,420
4	Metal gate, A docks (2019)	pr	1	\$2,480.00	35	30	\$2,480
5	Stormwater management at A-dock, allowance	ls	1	\$15,000.00	30	12	\$15,000
6	Concrete sidewalk at A-dock (20% allowance)	sf	350	\$14.00	10	9	\$4,900
7	Concrete boat ramp at A-dock (20% allowance)	sf	1,056	\$20.00	10	9	\$21,120
8	Lake dredging (allowance)	ls	1	\$110,000.00	10	4	\$110,000
Replacement Costs - Page Subtotal							\$159,185

COMMENTS
Item #8: Lake dredging (allowance) - Conditions at Foremost Run Creek inlet have created a silt build-up that is impacting homes across from the neighboring POA (Southwinds Shore I). Allowance is based on recent costs to dredge this area on the Southwinds Shore I side.

RECREATION ITEMS PROJECTED REPLACEMENTS					NEL- Normal Economic Life (yrs) REL- Remaining Economic Life (yrs)		
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)
9	Pier structure, PTL , A-dock Main	sf	2,380	\$36.00	40	23	\$85,680
10	Pier decking, PTL, A-dock Main	sf	2,380	\$17.00	20	3	\$40,460
11	Wood stairs, PTL, A-dock Main	sf	60	\$60.00	20	3	\$3,600
12	Wood stair railing, A-dock Main	ft	26	\$40.00	20	3	\$1,040
13	Pier structure, PTL , A-dock Pathway	sf	1,150	\$36.00	40	23	\$41,400
14	Pier decking, PTL, A-dock Pathway	sf	1,150	\$17.00	20	3	\$19,550
15	Wood stairs, PTL, A-dock Pathway	sf	50	\$60.00	20	3	\$3,000
16	Wood stair railing, A-dock Pathway	ft	22	\$40.00	20	3	\$880
17	Pier structure, PTL , A-dock Launch	sf	200	\$36.00	40	23	\$7,200
18	Pier decking, PTL, A-dock Launch	sf	200	\$17.00	20	3	\$3,400
19	Pier structure, PTL , D-dock	sf	1,280	\$36.00	40	23	\$46,080
20	Pier decking, PTL, D-dock	sf	1,280	\$17.00	20	3	\$21,760
21	Wood stairs, PTL, D-dock	sf	145	\$60.00	20	3	\$8,700
22	Wood stair railing, D-dock	ft	45	\$40.00	20	3	\$1,800
23	Repairs to piers, allowance (2024)	ls	1	\$10,000.00	99	none	\$10,000
24	Repairs to piers, allowance (2025)	ls	1	\$10,000.00	99	1	\$10,000
25	Repairs to piers, allowance (2026)	ls	1	\$10,000.00	99	2	\$10,000
Replacement Costs - Page Subtotal							\$314,550

COMMENTS
- Item #9: Pier structure, PTL , A-dock Main - Presumes the dock structure may be retained with only minor repairs when the decking is replaced in full. - Item #13: Pier structure, PTL , A-dock Pathway - Presumes the dock structure may be retained with only minor repairs when the decking is replaced in full. - Item #17: Pier structure, PTL , A-dock Launch - Presumes the dock structure may be retained with only minor repairs when the decking is replaced in full. - Item #19: Pier structure, PTL , D-dock - Presumes the dock structure may be retained with only minor repairs when the decking is replaced in full. - Item #23: Repairs to piers, allowance (2024) - 2023 repairs are scheduled at a cost of \$28K to include two coats of sealant, which should extend the life of the docks. Allowance is provided to continue to maintain the docks until they are fully replaced in 2027.

Excluded Items

Comments

Excluded Items

Comments

MAINTENANCE AND REPAIR EXCLUSIONS							
Excluded Items							
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)
	Gravel replenishment, access roads to docks						EXCLUDED
	Landscaping and site grading						EXCLUDED
	Exterior painting (signs)						EXCLUDED
	Janitorial service						EXCLUDED
	Repair services						EXCLUDED
	Partial replacements						EXCLUDED
	Capital improvements						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 are listed above. The list above exemplifies exclusions by the cited standard(s) and is not intended to be comprehensive.	

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SECTION C - CALENDAR OF PROJECTED ANNUAL REPLACEMENTS

GENERAL STATEMENT. The 25 Projected Replacements in the Sunrise Bay Property Owners Association, Inc. 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 C.2.

REPLACEMENT RESERVE ANALYSIS AND INVENTORY POLICIES, PROCEDURES, AND ADMINISTRATION

- **REVIEW OF THE REPLACEMENT RESERVE STUDY.** For this study to be effective, it should be reviewed by the 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.
- **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. We acknowledge that there are instances in which multiple revisions are necessary. However, unnecessary multiple revisions drain on our time and manpower resources. Therefore, Miller Dodson will exercise its sole discretion as to whether additional charges are incurred.
- **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 1120 (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 co-mingle 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 1120H (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.
- **EXPERIENCE WITH FUTURE REPLACEMENTS.** The Calendar of Annual Projected Replacements, lists replacements we have projected to occur over the Study Period, 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.

PROJECTED REPLACEMENTS

2024 - Study Year		
Item		\$
23	Repairs to piers, allowance (2024)	\$10,000
Total Scheduled Replacements		\$10,000

2025 - YEAR 1		
Item		\$
24	Repairs to piers, allowance (2025)	\$10,000
Total Scheduled Replacements		\$10,000

2026 - YEAR 2		
Item		\$
25	Repairs to piers, allowance (2026)	\$10,000
Total Scheduled Replacements		\$10,000

2027 - YEAR 3		
Item		\$
10	Pier decking, PTL, A-dock Main	\$40,460
11	Wood stairs, PTL, A-dock Main	\$3,600
12	Wood stair railing, A-dock Main	\$1,040
14	Pier decking, PTL, A-dock Pathway	\$19,550
15	Wood stairs, PTL, A-dock Pathway	\$3,000
16	Wood stair railing, A-dock Pathway	\$880
18	Pier decking, PTL, A-dock Launch	\$3,400
20	Pier decking, PTL, D-dock	\$21,760
21	Wood stairs, PTL, D-dock	\$8,700
22	Wood stair railing, D-dock	\$1,800
Total Scheduled Replacements		\$104,190

2028 - YEAR 4		
Item		\$
8	Lake dredging (allowance)	\$110,000
Total Scheduled Replacements		\$110,000

2029 - YEAR 5		
Item		\$
1	Entrance sign, Cedar Hill/Bellmont, foamboard	\$2,415
3	Entrance sign, Day Break/Bellmont, wood	\$1,420
Total Scheduled Replacements		\$3,835

PROJECTED REPLACEMENTS

Item	2030 - YEAR 6	\$
No Scheduled Replacements		

Item	2031 - YEAR 7	\$
No Scheduled Replacements		

Item	2032 - YEAR 8	\$
No Scheduled Replacements		

Item	2033 - YEAR 9	\$
6	Concrete sidewalk at A-dock (20% allowance)	\$4,900
7	Concrete boat ramp at A-dock (20% allowance)	\$21,120
Total Scheduled Replacements		\$26,020

Item	2034 - YEAR 10	\$
No Scheduled Replacements		

Item	2035 - YEAR 11	\$
No Scheduled Replacements		

PROJECTED REPLACEMENTS

Item	2036 - YEAR 12	\$
5	Stormwater management at A-dock, allowance	\$15,000
Total Scheduled Replacements		\$15,000

Item	2037 - YEAR 13	\$
No Scheduled Replacements		

Item	2038 - YEAR 14	\$
8 Lake dredging (allowance)		\$110,000
Total Scheduled Replacements		\$110,000

Item	2039 - YEAR 15	\$
2 Entrance sign, Days Bridge/Aurora, composite		\$1,850
Total Scheduled Replacements		\$1,850

Item	2040 - YEAR 16	\$
No Scheduled Replacements		

Item	2041 - YEAR 17	\$
No Scheduled Replacements		

PROJECTED REPLACEMENTS

Item	2042 - YEAR 18	\$
No Scheduled Replacements		

Item	2043 - YEAR 19	\$
6	Concrete sidewalk at A-dock (20% allowance)	\$4,900
7	Concrete boat ramp at A-dock (20% allowance)	\$21,120
Total Scheduled Replacements		\$26,020

Item	2044 - YEAR 20	\$
No Scheduled Replacements		

Item	2045 - YEAR 21	\$
No Scheduled Replacements		

Item		2046 - YEAR 22	\$
No Scheduled Replacements	Total Scheduled Replacements		\$284,550

PROJECTED REPLACEMENTS

Item	2048 - YEAR 24	\$	Item	2049 - YEAR 25	\$
8	Lake dredging (allowance)	\$110,000	3	Entrance sign, Day Break/Bellmont, wood	\$1,420
Total Scheduled Replacements		\$110,000	Total Scheduled Replacements		\$1,420
Item	2050 - YEAR 26	\$	Item	2051 - YEAR 27	\$
No Scheduled Replacements			No Scheduled Replacements		
Item	2052 - YEAR 28	\$	Item	2053 - YEAR 29	\$
No Scheduled Replacements			6	Concrete sidewalk at A-dock (20% allowance)	\$4,900
			7	Concrete boat ramp at A-dock (20% allowance)	\$21,120
No Scheduled Replacements			Total Scheduled Replacements		\$26,020

PROJECTED REPLACEMENTS

[illegible]

PROJECTED REPLACEMENTS

2060 - YEAR 36			2061 - YEAR 37		
Item		\$	Item		\$
No Scheduled Replacements			No Scheduled Replacements		
2062 - YEAR 38			2063 - YEAR 39		
Item		\$	Item		\$
No Scheduled Replacements			6	Concrete sidewalk at A-dock (20% allowance)	\$4,900
			7	Concrete boat ramp at A-dock (20% allowance)	\$21,120
No Scheduled Replacements			Total Scheduled Replacements		
			\$26,020		
2064 (beyond study period)			2065 (beyond study period)		
Item		\$	Item		\$
2	Entrance sign, Days Bridge/Aurora, composite	\$1,850	No Scheduled Replacements		
Total Scheduled Replacements		\$1,850			

SECTION D - CONDITION ASSESSMENT

General Comments. Miller+Dodson Associates conducted a Reserve Study at Sunrise Bay Property Owners Association, Inc. in February 2023. Sunrise Bay Property Owners Association, Inc. is in generally fair condition for a property owners association constructed in 2006. 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.

IMPORTANT NOTE: This Condition Assessment is based upon visual and apparent conditions of the common elements of the community which were observed by the Reserve Analyst at the time of the site visit. This Condition Assessment does not constitute, nor is it a substitute for, a professional Structural Evaluation of the buildings, amenities, or systems. Miller Dodson strongly recommends that the Association retain the services of a Structural Engineer to conduct thorough and periodic evaluations of the buildings, balconies, and any other structural components of the buildings and amenities of the Association.

General Condition Statements.

Excellent. 100% to 90% of Normal Economic Life expected, with no appreciable wear or defects.

Good. 90% to 60% of Normal Economic Life expected, minor wear or cosmetic defects found. Normal maintenance should be expected. If performed properly, normal maintenance may increase the useful life of a component. Otherwise, the component is wearing normally.

Fair. 60% to 30% of Normal Economic Life expected, moderate wear with defects found. Repair actions should be taken to extend the life of the component or to correct repairable defects and distress. Otherwise, the component is wearing normally.

Marginal. 30% to 10% of Normal Economic Life expected, with moderate to significant wear or distress found. Repair actions are expected to be cost-effective for localized issues, but normal wear and use are evident. The component is reaching the end of the Normal Economic Life.

Poor. 10% to 0% of Normal Economic Life expected, with significant distress and wear. Left unattended, additional damage to underlying structures is likely to occur. Further maintenance is unlikely to be cost-effective.

(Continued on next page)

SITE ITEMS

Entry Monument and Signage. The Association maintains signs at each of the three community entrances. The signs are made of different materials and all have a vinyl sticker or similar product with the community name and logo. The stickers are cracked, faded, or peeling and should be replaced to make the signs more appealing. The frame structures are generally in good condition, with the wood components requiring sanding and painting. Both of these are considered minor items and should be accomplished using other funds. We have provided funds to replace the entire signs in the future.

The largest entrance sign is located at the intersection of Belmont and Cedar Hill Drive. The wood frame is in good condition, with flaking paint. The foam board sign is damaged in a couple of areas but remains serviceable.



The small sign at the intersection of Days Bridge Rd and Aurora Ln is in good condition. This sign has vinyl posts and the sticker appears to have been placed on composite material. The stickers are on both sides of the sign, and one is peeling.



The small sign at the intersection of Day Break and Belmont is in fair condition. The sign is completely wood, except for the sticker. The sticker is cracked and the wood needs to be painted.

(Continued on next page)



In addition to monuments, the Association is responsible for community signage at the common areas. These small miscellaneous signs are not considered in this study and should be replaced using other funds.

Metal Gates, A-Dock. A metal gate system with wood posts was installed to control access to the A-docks. The gates are locked with a chain lock that opens with a combination provided to unit owners. The gates were installed in 2019 and are in good condition, with minor rust.



Stormwater Management Allowance, A-Dock. There is a culvert beneath the concrete boat ramp that channels water from a nearby stream into the lake. The Association should monitor erosion of the swale upstream, and ensure that the culvert remains clear of debris. At some point, major swale restoration or culvert lining/replacement may be required. We have included an allowance to address either or both conditions every 30 years.



The D-dock is accessed via a gravel roadway through an easement. Rip rap has been installed along this path near the lake. Rip-rap has also been installed along portions of the A-dock banks. Rip-rap should have a long life, and replenishment of the gravel pathways is being funded from the operating budget.



Concrete Work. The concrete work includes the community sidewalks and boat ramp at A-dock. The overall condition of the concrete work is excellent, with only one cracked corner in the boat ramp and no obvious defects in the sidewalk.



The standards we use for recommending replacement are as follows:

- Trip hazard, ½ inch height difference.
- Severe cracking.
- Severe spalling and scale.

Because it is highly unlikely that all of the concrete components will fail and require replacement in the period of the study, we have programmed funds for the replacement of these inventories and spread the funds over an extended timeframe to reflect the incremental nature of this work.

Lake Dredging. The Foremost Run Creek inlet has let in a lot of silt, and as a result there is a silt island and a condition whereby boats have a hard time navigating when the water level is low. The Association approved a check dam to be installed to help this situation, with a \$25,000 expenditure for the Association's 50% match with the neighboring community Southwinds Shores I. Dominion Power did not approve this measure because it would require an underwater structure. This area may require dredging in the near future. The rate of silt accumulation is increasing according to the Board President. We have included an allowance of \$110,000, which is based on the cost for Southwinds Shores I to dredge a channel on their side of the silt island several years ago, including fees and permits.

We understand that the docks have adequate water depth and that dredging is not required in the foreseeable future.

Estimates of cost and the frequency of dredging lakes are a function of many variables, including the volume of the cove, the siltation rate, the nature of the material being removed, the method of removal, and the haul distance to a site that will accept the spoil material. Most of this information is unknown and must be assumed for reserve study planning. The siltation rate and cost of periodic dredging are speculative, varying greatly depending on local conditions.

Because of the significant cost of this work, it is recommended that the Association undertake studies to refine the assumptions of this study.

Firms that specialize in this work can be typically found by internet searching "Lake and Pond, Construction and Maintenance" for your state or area of the country. Some states provide shortlists of companies that specialize in this type of work.

Please note that the periodic removal of overgrown vegetation from the cove is considered a maintenance activity and has not been reserved for or included in this study.

RECREATION ITEMS

Wood Piers. The Association operates four wood piers with a total of 56 slips. The Association maintains the wood components, and the slip owners maintain bumpers, cleats, and other devices that they install on their slips. The piers are constructed from pressure-treated lumber supported by wood pilings. The piers are original, and some dock boards have been replaced. The Association has contracted with Joseph D. Maurer for dock repairs, pressure wash, and sealant application in 2023. After power washing, the repairs identified were extensive. 304 total boards and 12 band boards are being replaced. In addition, it was discovered the slips were nailed to the band boards as opposed to properly securing with carriage bolts. 27 of the 56 boat slips have pulled away from the pier and will be properly secured with carriage bolts. The cost is \$27,205 for these 2023 repairs. Additional repairs identified as needed to fix lifted piers and apply the second coat of stain have been pushed to 2024. The Board President now anticipates at least \$10,000 in safety repairs will be needed each year until the structure can be replaced.

The Association looked into having the docks re-designed and totally replaced to include floating docks, but the \$3,500 Special Assessment budget of \$300,000 was voted down by the members in 2022 according to the Board President.

There are three piers at Common Area A, referred to as "A-Docks". The largest dock ("Main") is built near wetlands, which complicates the design and use of the docks since vegetation control is not allowed. The Board President reported that the layout concerns have improved since "No Wake" buoys were installed in this area.



The medium-size dock ("Pathway") has a couple of pilings that are leaning. The pier for slips 30/32 is noticeably tilted, and we sensed movement of at least one other pier during our site visit. These pilings are scheduled to be addressed in 2023, although the contractor is unsure whether they will be able to successfully secure these piles.



The smallest pier at Dock-A ("Launch") is shown below. The bottom step will be addressed during the 2023 repair project.



There is one pier in Common Area D, referred to as "D-Dock". This pier is reported to be structurally stable.



Pier Structure. The structure consists of pressure-treated wood piles with stringers spanning the distance between piles. We have assumed that when the pier structure requires replacement, all pilings will also be replaced. It is recommended that all piers be inspected at least once each year to identify damage to structural members and surface boards.

We have presumed that the structure will be re-used when the deck boards are replaced in 2027.

The Main dock structure is reported to be stable. It is possible that when the deck boards are replaced, the original structure can remain.



The Pathway dock structure needs attention, as noted above. The 2023 work includes lowering two pilings and installing support beams to minimize future lifting.



The D-dock structure is reported to be stable.



Wood Pier Decking. The wood decking on the piers, the finger piers, and the wood walk is exposed to harsh extremes of sun and weather. It will typically require replacement before the heavier members of the underlying structure. This decking will also be removed and replaced in its entirety when the underlying structure is replaced. To model this replacement pattern, we have provided for a complete replacement incident to the replacement of the structure, and we have included an additional replacement interval for the wood pier decking at the midpoint of the service life of the underlying structure.

Deck boards have been replaced as needed, which has extended the overall life of the deck boards. We noted several boards that have failed and may need to be replaced. The 2023 work includes the replacement of 26 deteriorated floorboards with pressure treated 2x6 floorboards.



Pressure Treated Wood Steps. The three larger docks are accessed by steps that are constructed from pressure-treated wood. The general condition of the steps is fair to good. The railings were sturdy and wood boards were intact.

The two A-dock stair structures are shown below.



The D-dock stair structure is shown below.



The community may wish to consider using engineered lumber instead of pressure-treated wood when rebuilding these steps. While engineered lumber is one-third more expensive than pressure-treated wood, it offers the advantages of not splitting, cracking, creating splinters, or rotting. As a result, its rated service life is approximately 50% longer than the service life of pressure-treated wood.

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 and limited common elements of the property to ascertain their remaining useful life and replacement cost. 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

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1. COMMON INTEREST DEVELOPMENTS - AN OVERVIEW

Over the past 40 years, the responsibility for many services, facilities and infrastructure around 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 homeowner 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, streetlights, recreational facilities, and other community facilities and infrastructure.

The growth of Community Associations has been explosive. In 1965, there were only approximately 500 Community Associations in the United States. According to the 1990 U.S. Census, there were roughly 130,000 Community Associations. The Community Associations Institute (CAI), a national trade association, estimates in 2020 that there were more than 350,000 communities with over 75 million residents.

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 issues. Although Community Associations have succeeded in solving many short-term issues, many Associations still fail to properly plan for the significant 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 invariably exposed to the burden of special assessments, major increases in Association fees, and often 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 major repair or replacement, a general view of the physical condition of these components, and an effective financial plan to fund projected periodic replacements or major repairs. The Replacement Reserve Study consists of the following:

Replacement Reserve Study Introduction. The introduction provides a description of the property, an Executive Summary of the Funding Recommendations, Level of Reserve Study service, and a statement of the Purpose of the Replacement Reserve Study. It also lists documents and site evaluations upon which the Replacement Reserve Study is based, and provides the Credentials of the Reserve Analyst.

Section A Replacement Reserve Analysis. Many components that are owned by the Association have a limited life and require periodic replacement. Therefore, it is essential that the Association have a financial plan that provides funding for the timely replacement of these components in order to protect the safety, appearance, and ultimately, the property value of the home in the community. In conformance with National Reserve Study Standards, a Replacement Reserve Analysis evaluates the current funding of Replacement Reserves as reported by the Association and recommends annual funding of Replacement Reserves using the Threshold Cash Flow Method. See definition below.

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. Replacement Reserve Inventory includes estimates of the Normal Economic Life (NEL) and the Remaining Economic Life (REL) for those components whose replacement is scheduled for funding from Replacement Reserves.

The Replacement Reserve Inventory also provides information about those components which are excluded from the Replacement Reserve Inventory and whose replacement is not 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. The observed condition of the major 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 at the time of our visual evaluation.

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, the Cash Flow Method and the Component Method. Due to the difference in accounting methodologies, these methods lead to different calculated values for the Recommended Annual Funding to the Reserves. A brief description is included below:

Cash Flow Threshold Method. This Reserve Study uses the Threshold Cash Flow Method, sometimes referred to as the "Pooling Method." It calculates the minimum constant annual funding to reserves (Minimum Annual Deposit) required to meet projected expenditures without allowing total reserves on hand to fall below the predetermined Minimum Balance, or Threshold, in any year.

Component Method. The Component Method of calculating Reserve Funding needs is based upon an older mathematical model. Instead of calculating total funding based on yearly funding requirements, the Component method treats each component as its own "line item" budget that can only be used for that component. As a result, the Component Method is typically more conservative requiring greater Annual Reserve Funding levels.

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 parties responsible for maintaining the community after acceptance of our proposal. Upon submission of the initial Study, the Study should be reviewed by the Board of Directors and the individuals responsible for maintaining the community. We depend upon the Association for correct information, documentation, and drawings. We also look to the Association representative to help us fashion the Reserve Study so that it reflects what the community hopes to accomplish in the coming years.

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 regular 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 Threshold Method, above.

Component Analysis. See Component Method, above.

Contingency. An allowance for unexpected requirements. The "Threshold" used in the Cash Flow Method is a predetermined minimum balance that serves the same purpose as a "contingency". However, IRS Guidelines do not allow for a "contingency" line item in the inventory. Therefore, it is built into the mathematical model as a "Threshold".

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 Normal Economic Life (NEL). 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 Remaining Economic Life (REL). 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.

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 Balance. Otherwise referred to as the Threshold, this amount is used in the Cash Flow Threshold Method only. Normally derived using the average annual expenditure over the study period, this is the minimum amount held in reserves in the Peak Year.

National Reserve Study Standards. A set of Standards developed by the Community Associations Institute in 1995 (and updated in 2017) which establishes the accepted methods of Reserve Calculation and stipulates what data must be included in the Reserve Study for each component listed in the inventory. These Standards can be found at CALonline.org.

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.)

Number of Years of the Study. The numbers 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. The Reserve Study must cover a minimum of 20 years to comply with the National Reserve Study Standards. However, your study covers a 40-year period.

Peak Year. In the Cash Flow Threshold Method, a year in which the reserves on hand are projected to fall to the established threshold level. See Minimum Balance, above.

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.

Replacement Reserve Study. An analysis of all of the components of the common property of a Community Association for which 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, Normal Economic Life, and Remaining Economic Life. The objective of the study is to calculate a Recommended Annual Funding 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	ls	lump sum	sy	square yard
ft or lf	linear foot	pr	pair	cy	cubic yard
sf	square foot				

What is a Reserve Study?
Who are we?



<https://youtu.be/m4BcOE6q3Aw>

What kind of property uses a Reserve Study?
Who are our clients?



<https://youtu.be/40SodajTW1g>

Who conducts a Reserve Study?
Reserve Specialist (RS) what does this mean?



<https://youtu.be/pYSMZ013VjQ>

When should a Reserve Study be updated?
What are the different types of Reserve Studies?



<https://youtu.be/Qx8WHB9Cgnc>

What's in a Reserve Study and what's out?
Improvement/Component, what's the difference?



<https://youtu.be/ZfBoAEhtf3E>

What is my role as a Community Manager?
Will the report help me explain Reserves?



<https://youtu.be/1J2h7FIU3qw>

What is my role as a community Board Member?
 Will a Reserve Study meet my needs?



<https://youtu.be/aARD1B1Oa3o>

Community dues, how can a Reserve Study help?
 Will a study keep my property competitive?



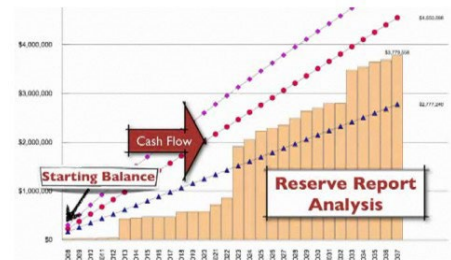
<https://youtu.be/diZfM1lyJYU>

How do I read the report?
 Will I have a say in what the report contains?



<https://youtu.be/qCeVJhFf9ag>

Where do the numbers come from?
 Cumulative expenditures and funding, what?



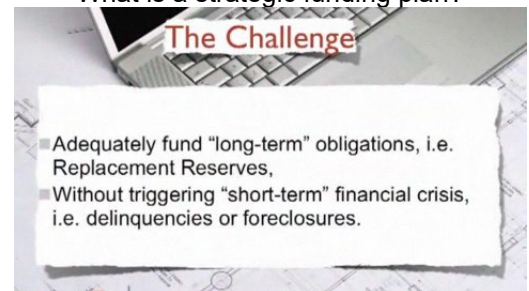
<https://youtu.be/SePdwVDvHWI>

How are interest and inflation addressed?
 Inflation, what should we consider?



<https://youtu.be/W8CDLwRlv68>

A community needs more help, where do we go?
 What is a strategic funding plan?



<https://youtu.be/hIxV9X1tlcA>