LEVEL 2 REPLACEMENT RESERVE REPORT FY 2020
WATERSIDE PROPERTY OWNERS ASSOCIATION

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REPLACEMENT RESERVE REPORT

WATERSIDE PROPERTY OWNERS ASSOCIATION

FRANKFORD, DELAWARE
November 15, 2019
Revised February 27, 2020

Description. Waterside Property Owners Association is a Master Association located in Frankford, Delaware. The community consists of Pool House containing 0 units. The survey examined the common elements of the property, including:

- Signage, Main Roadways, Pool Parking, and Roadway Bridges
- Main Roadway Sidewalks
- Irrigation
- Non-Townhome Ponds and Fountains
- Exterior Main Pool
- Pool house exterior and interior

Level of Service. This study has been performed as a Level 2 Update with Site Visit/On-Site Review as defined by the Community Associations Institute's, National Reserve Study Standards. As such, the component inventory is based on the study that was performed by USI Commercial in September 2014. This inventory was adjusted to reflect changes provided by the Community Manager and/or the Board of Directors, or adjustments made based on the site visit and visual assessment performed by the Analyst. The analysis, including fund status and funding plan, is developed from the adjusted 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 Waterside Property Owners 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 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 Association's current funding and the recommended funding based on the Cash Flow Method. An Executive Summary of these calculations is provided on Page A1. The alternative Component Method of funding is provided in the Appendix.

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 November 15, 2019 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 not 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.

Current Funding. This reserve study has been prepared for Fiscal Year 2020 covering the period from January 1, 2020 to December 31, 2020. The Replacement Reserves on deposit as of January 1, 2020 are proposed to be $51,969. The reported current annual funding for reserves is $14,450.

The balance and contribution figures have been supplied by the managing 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.

Analyst's Credentials. Mr. Gregory S. Gilbert (RS) holds a Bachelors Degree in Architecture from the Georgia Institute of Technology and a Master of Architecture from the University of Oklahoma. Mr. Gilbert is a licensed Architect. Mr. Gilbert's experience includes the design of residential homes, fire stations, and most recently educational projects. Greg has also performed over twenty feasibility studies for the U. S. Navy, Boards of Education, and retail developers, which included performing existing condition surveys to address maintenance issues, code violations, and general conditions of the structure to determine if and how the buildings can be renovated or modified. Mr. Gilbert is currently a Reserve Specialist for Miller+Dodson Associates.

Respectfully Submitted,

millerdodson
CAPITAL RESERVE CONSULTANTS

Greg Gilbert
Gregory S. Gilbert, RS

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EXECUTIVE SUMMARY

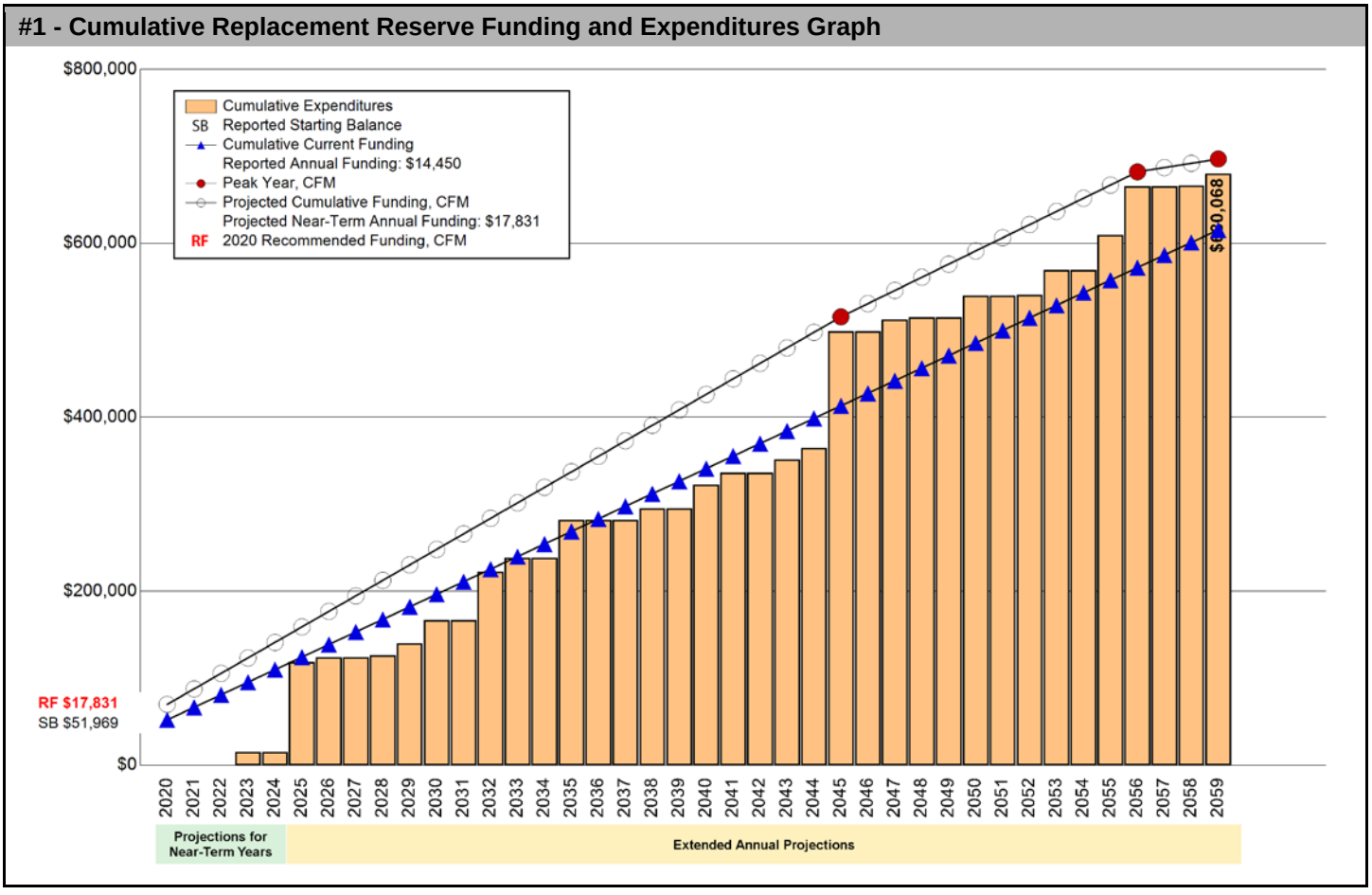
The Waterside Property Owners Association Replacement Reserve Analysis uses the Cash Flow Method (CFM) to calculate Replacement Reserve funding for the periodic replacement of the 49 Projected Replacements identified in the Replacement Reserve Inventory.

$17,831 **RECOMMENDED REPLACEMENT RESERVE FUNDING FOR THE STUDY YEAR, 2020**

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.

Waterside Property Owners Association reports a Starting Balance of $51,969 and Annual Funding totaling $14,450. The reported Current Annual Funding of $14,450 is inadequate to fund projected replacements starting in 2035. See Page A.3 for a more detailed evaluation.

#1 - Cumulative Replacement Reserve Funding and Expenditures Graph



The Current Funding Objective as calculated by the Component Method (Fully Funded) is $134,848 making the reserve account 38.5% funded. See the Appendix for more information on this method.

REPLACEMENT RESERVE ANALYSIS - GENERAL INFORMATION

The Waterside Property Owners Association 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.

2020 **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, 2020.

40 Years **STUDY PERIOD**

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

$51,969 **STARTING BALANCE**

The Association reports Replacement Reserves on Deposit totaling $51,969 at the start of the Study Year.

Level Two **LEVEL OF SERVICE**

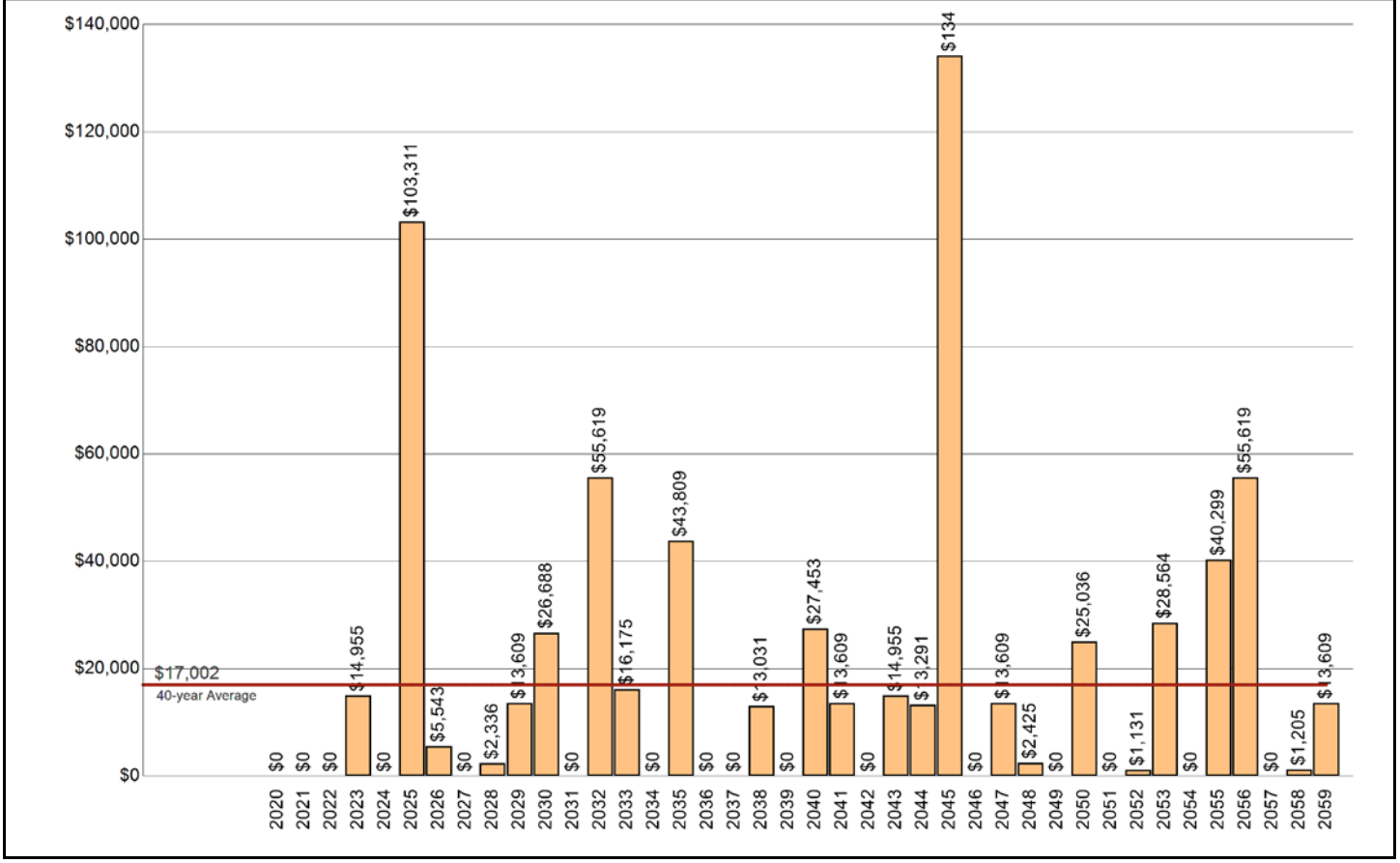
The Replacement Reserve Inventory has been developed in compliance with the National Reserve Study Standards for a Level Two Study, as defined by the Community Associations Institute (CAI).

$680,068 **REPLACEMENT RESERVE INVENTORY - PROJECTED REPLACEMENTS**

The Waterside Property Owners Association Replacement Reserve Inventory identifies 49 items that will require periodic replacement, which are to be funded from Replacement Reserves. We estimate the cost of these replacements will be $680,068 over the 40-year Study Period. The Projected Replacements are divided into 4 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 $17,002. Section C provides a year by year Calendar of these expenditures.



UPDATING

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 $680,068 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	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Starting Balance	$51,969									
Projected Replacements				($14,955)		($103,311)	($5,543)		($2,336)	($13,609)
Annual Deposit	$14,450	$14,450	$14,450	$14,450	$14,450	$14,450	$14,450	$14,450	$14,450	$14,450
End of Year Balance	$66,419	$80,869	$95,319	$94,814	$109,264	$20,404	$29,311	$43,761	$55,875	$56,716
Cumulative Expenditures				($14,955)	($14,955)	($118,266)	($123,808)	($123,808)	($126,144)	($139,753)
Cumulative Receipts	$51,969	$66,419	$80,869	$95,319	$109,769	$124,219	$138,669	$153,119	$167,569	$182,019
Year	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**
Projected Replacements	($26,688)		($55,619)	($16,175)		($43,809)			($13,031)	
Annual Deposit	$14,450	$14,450	$14,450	$14,450	$14,450	$14,450	$14,450	$14,450	$14,450	$14,450
End of Year Balance	$44,478	$58,928	$17,759	$16,034	$30,484	$1,125	$15,575	$30,025	$31,444	$45,894
Cumulative Expenditures	($166,441)	($166,441)	($222,060)	($238,235)	($238,235)	($282,044)	($282,044)	($282,044)	($295,075)	($295,075)
Cumulative Receipts	$196,469	$210,919	$225,369	$239,819	$254,269	$268,719	$283,169	$297,619	$312,069	$326,519
Year	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**	**2046**	**2047**	**2048**	**2049**
Projected Replacements	($27,453)	($13,609)		($14,955)	($13,291)	($134,190)		($13,609)	($2,425)	
Annual Deposit	$14,450	$14,450	$14,450	$14,450	$14,450	$14,450	$14,450	$14,450	$14,450	$14,450
End of Year Balance	$32,891	$33,732	$48,182	$47,677	$48,836	($70,903)	($56,453)	($55,612)	($43,587)	($29,137)
Cumulative Expenditures	($322,528)	($336,137)	($336,137)	($351,092)	($364,383)	($498,572)	($498,572)	($512,181)	($514,606)	($514,606)
Cumulative Receipts	$340,969	$355,419	$369,869	$384,319	$398,769	$413,219	$427,669	$442,119	$456,569	$471,019
Year	**2050**	**2051**	**2052**	**2053**	**2054**	**2055**	**2056**	**2057**	**2058**	**2059**
Projected Replacements	($25,036)		($1,131)	($28,564)		($40,299)	($55,619)		($1,205)	($13,609)
Annual Deposit	$14,450	$14,450	$14,450	$14,450	$14,450	$14,450	$14,450	$14,450	$14,450	$14,450
End of Year Balance	($39,723)	($25,273)	($11,954)	($26,068)	($11,618)	($37,467)	($78,636)	($64,186)	($50,941)	($50,099)
Cumulative Expenditures	($539,642)	($539,642)	($540,773)	($569,337)	($569,337)	($609,636)	($665,255)	($665,255)	($666,460)	($680,068)
Cumulative Receipts	$485,469	$499,919	$514,369	$528,819	$543,269	$557,719	$572,169	$586,619	$601,069	$615,519

EVALUATION OF CURRENT FUNDING

The evaluation of Current Funding (Starting Balance of $51,969 & annual funding of $14,450), 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 49 Projected Replacements identified in the Replacement Reserve Inventory and that the Association will continue Annual Funding of $14,450 throughout the 40-year Study Period.

Annual Funding of $14,450 is approximately 81 percent of the $17,831 recommended Annual Funding calculated by the Cash Flow Method for 2020, the Study Year.

Evaluation of the 49 Projected Replacements calculates an average annual expenditure over the next 40 years of $17,002. Annual funding of $14,450 is 85 percent of the average annual expenditure. Our calculations identify funding shortfalls in 15 years of the Study Period with the initial shortfall in 2045. The largest shortfall, $-78,636, occurs in 2056. All shortfalls can be seen and evaluated in Table 3 above.

See the Executive Summary for the Current Funding Statement.

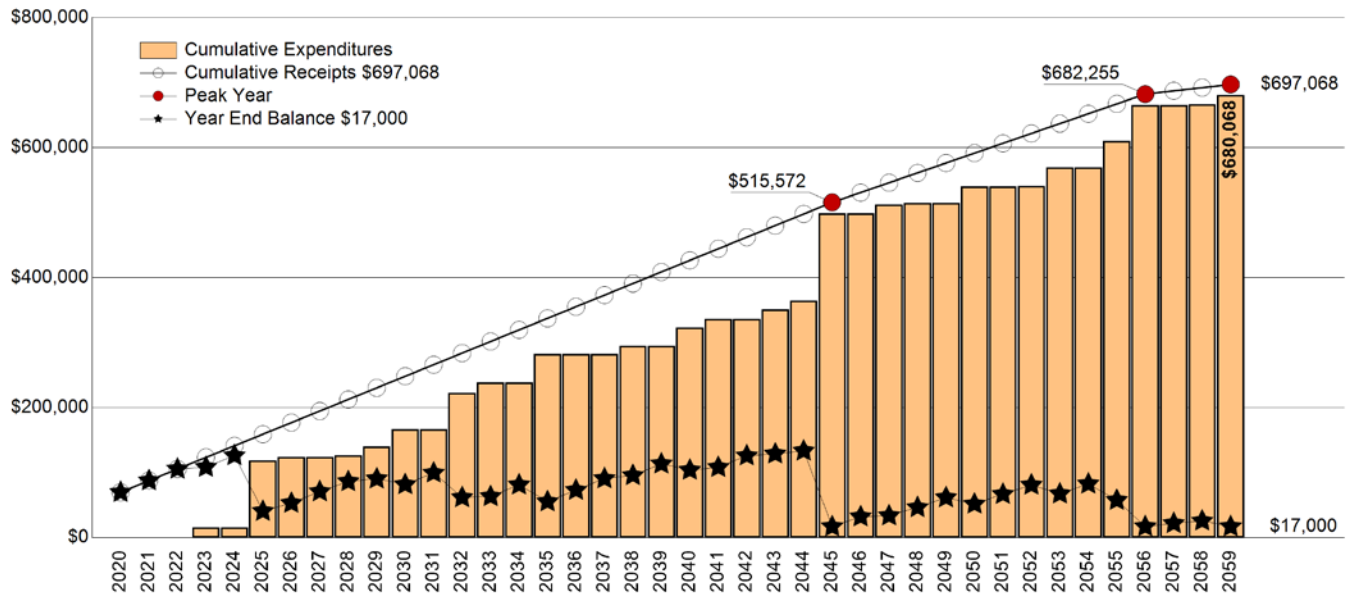
CASH FLOW METHOD FUNDING

$17,831 **RECOMMENDED REPLACEMENT RESERVE FUNDING FOR 2020**

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 2045 with Replacement Reserves on Deposit dropping to the Minimum Balance after the completion of $498,572 of replacements from 2020 to 2045. Recommended funding is anticipated to decline in 2046. Peak Years are identified in Chart 4 and Table 5.
- Minimum Balance. The calculations assume a Minimum Balance of $17,000 in Replacement Reserves. This is approximately 12 months of average expenditures based on the $17,002, 40-year average annual expenditure.
- Cash Flow Method Study Period. Cash Flow Method calculates funding for $680,068 of expenditures over the 40-year Study Period. It does not include funding for any projects beyond 2059 and in 2059, the end of year balance will always be the Minimum Balance.

#4 - Cash Flow Method - Graph of Cumulative Receipts and Expenditures - Years 1 through 40



#5 - Cash Flow Method - Table of Receipts & Expenditures - Years 1 through 40

Year	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Starting Balance	$51,969									
Projected Replacements				($14,955)		($103,311)	($5,543)		($2,336)	($13,609)
Annual Deposit	$17,831	$17,831	$17,831	$17,831	$17,831	$17,831	$17,831	$17,831	$17,831	$17,831
End of Year Balance	$69,800	$87,631	$105,462	$108,338	$126,169	$40,689	$52,977	$70,808	$86,303	$90,525
Cumulative Expenditures				($14,955)	($14,955)	($118,266)	($123,808)	($123,808)	($126,144)	($139,753)
Cumulative Receipts	$69,800	$87,631	$105,462	$123,293	$141,124	$158,954	$176,785	$194,616	$212,447	$230,278

Year	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Projected Replacements	($26,688)		($55,619)	($16,175)		($43,809)			($13,031)	
Annual Deposit	$17,831	$17,831	$17,831	$17,831	$17,831	$17,831	$17,831	$17,831	$17,831	$17,831
End of Year Balance	$81,668	$99,499	$61,711	$63,367	$81,198	$55,219	$73,050	$90,881	$95,681	$113,512
Cumulative Expenditures	($166,441)	($166,441)	($222,060)	($238,235)	($238,235)	($282,044)	($282,044)	($282,044)	($295,075)	($295,075)
Cumulative Receipts	$248,109	$265,940	$283,771	$301,602	$319,433	$337,263	$355,094	$372,925	$390,756	$408,587

Year	2040	2041	2042	2043	2044	1st Peak - 2045	2046	2047	2048	2049
Projected Replacements	($27,453)	($13,609)		($14,955)	($13,291)	($134,190)		($13,609)	($2,425)	
Annual Deposit	$17,831	$17,831	$17,831	$17,831	$17,831	$17,831	$15,153	$15,153	$15,153	$15,153
End of Year Balance	$103,890	$108,112	$125,943	$128,819	$133,359	$17,000	$32,153	$33,697	$46,425	$61,578
Cumulative Expenditures	($322,528)	($336,137)	($336,137)	($351,092)	($364,383)	($498,572)	($498,572)	($512,181)	($514,606)	($514,606)
Cumulative Receipts	$426,418	$444,249	$462,080	$479,911	$497,742	$515,572	$530,725	$545,878	$561,031	$576,184

Year	2050	2051	2052	2053	2054	2055	2nd Peak - 2056	2057	2058	3rd Peak - 2059
Projected Replacements	($25,036)		($1,131)	($28,564)		($40,299)	($55,619)		($1,205)	($13,609)
Annual Deposit	$15,153	$15,153	$15,153	$15,153	$15,153	$15,153	$15,153	$4,938	$4,938	$4,938
End of Year Balance	$51,695	$66,848	$80,870	$67,459	$82,612	$57,466	$17,000	$21,938	$25,671	$17,000
Cumulative Expenditures	($539,642)	($539,642)	($540,773)	($569,337)	($569,337)	($609,636)	($665,255)	($665,255)	($666,460)	($680,068)
Cumulative Receipts	$591,337	$606,490	$621,643	$636,796	$651,949	$667,102	$682,255	$687,193	$692,131	$697,068

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.

$17,831 **2020 - CASH FLOW METHOD RECOMMENDED FUNDING**

The 2020 Study Year calculations have been made using current replacement costs (see Page B.2), modified by the Analyst for any project specific conditions.

$18,241 **2021 - INFLATION ADJUSTED FUNDING**

A new analysis calculates the 2021 funding based on three assumptions:

- Replacement Reserves on Deposit totaling $69,800 on January 1, 2021.
- No Expenditures from Replacement Reserves in 2020.
- Construction Cost Inflation of 2.30 percent in 2020.

The $18,241 inflation adjusted funding in 2021 is a 2.30 percent increase over the non-inflation adjusted funding of $17,831.

$18,661 **2022 - INFLATION ADJUSTED FUNDING**

A new analysis calculates the 2022 funding based on three assumptions:

- Replacement Reserves on Deposit totaling $88,470 on January 1, 2022.
- No Expenditures from Replacement Reserves in 2021.
- Construction Cost Inflation of 2.30 percent in 2021.

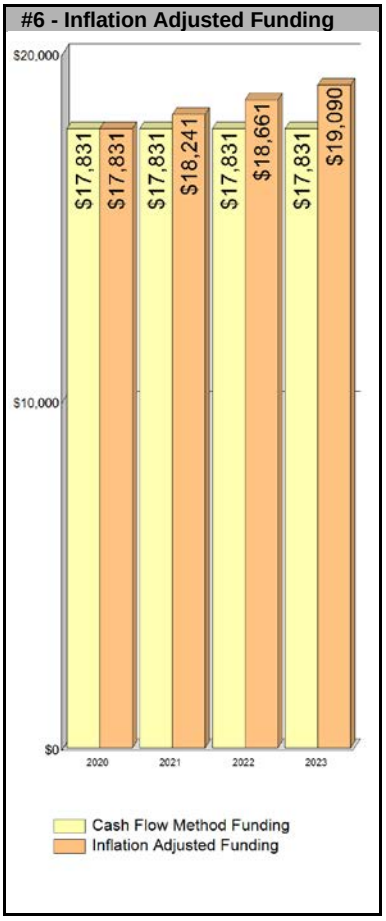
The $18,661 inflation adjusted funding in 2022 is a 4.65 percent increase over the non-inflation adjusted funding of $17,831.

$19,090 **2023 - INFLATION ADJUSTED FUNDING**

A new analysis calculates the 2023 funding based on three assumptions:

- Replacement Reserves on Deposit totaling $107,641 on January 1, 2023.
- No Expenditures from Replacement Reserves in 2022.
- Construction Cost Inflation of 2.30 percent in 2022.

The $19,090 inflation adjusted funding in 2023 is a 7.05 percent increase over the non-inflation adjusted funding of $17,831.



Year Five 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 be professionally updated every 3 to 5 years.

Inflation Adjustment

Prior to approving a budget based upon the 2021, 2022 and 2023 inflation adjusted funding calculations above, the 2.30 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 percent), 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 2020, based on a 1.00 percent interest rate, we estimate the Association may earn $609 on an average balance of $60,884, $791 on an average balance of $79,135 in 2021, and $981 on $98,055 in 2022. The Association may elect to attribute 100 percent of the earned interest to Reserves, resulting in a reduction in the 2020 funding from $17,831 to $17,222 (a 3.41 percent reduction), $18,241 to $17,450 in 2021 (a 4.33 percent reduction), and $18,661 to $17,680 in 2022 (a 5.25 percent reduction).

REPLACEMENT RESERVE STUDY - SUPPLEMENTAL COMMENTS

- The Cash Flow Method calculates the minimum annual funding necessary to prevent Replacement Reserves from dropping below the Minimum Balance. Failure to fund at least the recommended levels may result in funding not being available for the Projected Replacements listed in the Replacement Reserve Inventory.
- The accuracy of the Replacement Reserve Analysis is dependent upon expenditures from Replacement Reserves being made ONLY for the 49 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.

REPLACEMENT RESERVE INVENTORY
GENERAL INFORMATION

Waterside Property Owners Association - Replacement Reserve Inventory identifies 49 Projected Replacements.

- PROJECTED REPLACEMENTS. 49 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 $363,435. Replacements totaling $680,068 are scheduled in the Replacement Reserve Inventory over the 40-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. 1 of the items included 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 $1,000 and/or a normal economic life of less than 3 years are typically excluded from funding from Replacement Reserves. This exclusion should reflect 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 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 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 49 items included in the Waterside Property Owners Association Replacement Reserve Inventory are divided into 4 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 Two Update, as defined by the National Reserve Study Standards, established in 1998 by Community Associations Institute, which states:

  This study has been performed as a Level 2 Update with Site Visit/On-Site Review as defined by the Community Associations Institute's, National Reserve Study Standards. As such, the component inventory is based on the study that was performed by USI Commercial in September 2014. This inventory was adjusted to reflect changes provided by the Community Manager and/or the Board of Directors, or adjustments made based on the site visit and visual assessment performed by the Analyst. The analysis, including fund status and funding plan, is developed from the adjusted inventory.

REPLACEMENT RESERVE INVENTORY - GENERAL INFORMATION (CONT'D)

- INVENTORY DATA. Each of the 49 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.

- REVIEW OF EXPENDITURES. This Replacement Reserve Study should be reviewed by an accounting professional representing the Association prior to implementation.

- 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.

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 monument, composite sign						EXCLUDED
2	Asphalt pavement, mill & overlay	sf	25,195	$1.68	24	12	$42,328
3	Asphalt pavement, seal coat	sf	25,195	$0.22	6	6	$5,543
4	Asphalt pavement, mill & overlay, roadway	sf	46,688	$1.68	20	5	$78,436
5	Asphalt pavement, mill & overlay, parking	sf	5,953	$1.68	24	20	$10,001
6	Asphalt pavement, seal coat, parking	sf	5,953	$0.22	5	5	$1,310
7	Concrete curb & gutter, mountable (6%)	ft	237	$28.90	6	9	$6,849
8	Concrete curb & gutter, barrier (10%)	ft	177	$35.50	6	12	$6,284
9	Concrete flatwork (6%)	sf	623	$10.85	6	9	$6,760
10	Concrete flatwork (25%)	sf	135	$10.85	12	12	$1,465
11	Storm water pond dredging	cy	347	$75.00	30	25	$26,025
12	Storm water management (10% allowance)	ls	1	$10,000.00	10	15	$10,000
13	Bridge, repoint masonry	sf	64	$8.50	10	15	$544
14	Bridge fence, 4' vinyl picket	ft	200	$29.50	40	35	$5,900

Replacement Costs - Page Subtotal $204,443

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.
- Item #1: Entrance monument, composite sign - [02/27/2020] excluded per board
- Item #2: Asphalt pavement, mill & overlay - 2.272020: Per request, added line item.
- Item #3: Asphalt pavement, seal coat - 2.272020: Per request, added line item.
- Item #8: Concrete curb & gutter, barrier (10%) - 2.27.2020: Per request, added line item.
- Item #10: Concrete flatwork (25%) - 2.27.2020: Per request, added line item.

POOL HOUSE
PROJECTED REPLACEMENTS

NEL- Normal Economic Life (yrs)
REL- Remaining Economic Life (yrs)

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST ($)	NEL	REL	REPLACEMENT COST ($)
15	Roofing, asphalt shingles	sf	608	$4.50	30	10	$2,736
16	Gutter & downspouts, 5" aluminum	ft	1	$7.20	30	10	$7
17	Soffit & trim, vinyl	sf	100	$8.10	50	30	$810
18	Siding & trim, vinyl, standard (10%)	sf	72	$7.80	35	15	$562
19	Door, steel, flush (3' X 6'8")	ea	4	$960.00	25	5	$3,840
20	Window, operating	ea	7	$350.00	40	20	$2,450
21	Sink fixture & mirror	ea	2	$200.00	20	10	$400
22	Toilet & stall	ea	2	$1,000.00	20	10	$2,000
23	Mop sink	ea	1	$650.00	20	10	$650
24	Interior lighting, general	ea	8	$105.00	20	10	$840
25	Exterior lighting, decorative sconce	ea	4	$150.00	15	5	$600
26	Heat pump, air to air, 2 ton	ea	1	$4,250.00	15	5	$4,250
27	Security camera (IP)	ea	1	$350.00	10	5	$350
28	Security system	ea	1	$3,000.00	15	10	$3,000

Replacement Costs - Page Subtotal $22,495

COMMENTS

RECREATION ITEMS
PROJECTED REPLACEMENTS

NEL- Normal Economic Life (yrs)
REL- Remaining Economic Life (yrs)

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST ($)	NEL	REL	REPLACEMENT COST ($)
29	Swimming pool structure	sf	870	$90.00	60	45	$78,300
30	Swimming pool, whitecoat	sf	1,350	$6.10	10	5	$8,235
31	Swimming pool coping, stone (10%)	ft	12	$55.00	30	15	$660
32	Swimming pool waterline tile (6x6)	ft	120	$10.75	10	5	$1,290
33	Pool deck, concrete (25%)	sf	910	$11.50	30	10	$10,465
34	Pool cover, safety mesh	sf	870	$1.30	12	8	$1,131
35	Pool pump, 3/4 HP	ea	1	$830.00	5	3	$830
36	Pool filter, cartridge, 150 sf	ea	1	$940.00	15	13	$940
37	Chemical tank	ea	1	$280.00	15	13	$280
38	Chemical feed pump	ea	1	$375.00	5	3	$375
39	Safety rail	ea	2	$450.00	20	15	$900
40	Pool furniture	ls	1	$5,000.00	10	5	$5,000
41	Fence, 6' vinyl solid face	ft	1	$30.90	40	20	$31
42	Fence piers (10%)	ea	1	$3,000.00	40	20	$3,000
43	Site light, decorative double head	ea	1	$1,180.00	20	10	$1,180
44	Pool entry system	ea	1	$2,180.00	20	10	$2,180

Replacement Costs - Page Subtotal $114,797

COMMENTS

IRRIGATION SYSTEM
PROJECTED REPLACEMENTS

NEL- Normal Economic Life (yrs)
REL- Remaining Economic Life (yrs)

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST ($)	NEL	REL	REPLACEMENT COST ($)
45	Roofing, asphalt shingles	sf	300	$4.50	30	15	$1,350
46	Siding & trim, vinyl, standard	sf	600	$7.80	35	20	$4,680
47	Door, steel, flush (3' X 6'8")	ea	2	$960.00	25	10	$1,920
48	Irrigation, well	ea	1	$5,500.00	10	3	$5,500
49	Irrigation, well	ea	2	$3,500.00	10	3	$7,000
50	Irrigation, controller	ea	1	$1,250.00	10	3	$1,250

Replacement Costs - Page Subtotal $21,700

COMMENTS

LONG-LIFE EXCLUSIONS
Excluded Items

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST ($)	NEL	REL	REPLACEMENT COST ($)
	Miscellaneous culverts						EXCLUDED
	Bridge structure and foundations						EXCLUDED
	Building foundation(s)						EXCLUDED
	Concrete floor slabs (interior)						EXCLUDED
	Wall, floor, & roof structure						EXCLUDED
	Common element electrical services						EXCLUDED
	Electrical wiring						EXCLUDED
	Water piping at common facilities						EXCLUDED
	Waste piping at common facilities						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 ($)	NEL	REL	REPLACEMENT COST ($)
	Domestic water pipes serving one unit						EXCLUDED
	Sanitary sewers serving one unit						EXCLUDED
	Electrical wiring serving one unit						EXCLUDED
	Cable TV service serving one unit						EXCLUDED
	Telephone service serving one unit						EXCLUDED
	Gas service serving one unit						EXCLUDED
	Driveway on an individual lot						EXCLUDED
	Apron on an individual lot						EXCLUDED
	Fence on an individual lot						EXCLUDED
	Unit exterior						EXCLUDED
	Unit windows						EXCLUDED
	Unit doors						EXCLUDED
	Unit deck, patio, and/or balcony						EXCLUDED
	Unit interior						EXCLUDED
	Unit HVAC system						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 ($)	NEL	REL	REPLACEMENT COST ($)
	Primary electric feeds						EXCLUDED
	Electric transformers						EXCLUDED
	Cable TV systems and structures						EXCLUDED
	Telephone cables and structures						EXCLUDED
	Site lighting						EXCLUDED
	Gas mains and meters						EXCLUDED
	Water mains and meters						EXCLUDED
	Sanitary sewers						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 ($)	NEL	REL	REPLACEMENT COST ($)
	Cleaning of asphalt pavement						EXCLUDED
	Crack sealing of asphalt pavement						EXCLUDED
	Painting of curbs						EXCLUDED
	Striping of parking spaces						EXCLUDED
	Numbering of parking spaces						EXCLUDED
	Landscaping and site grading						EXCLUDED
	Exterior painting						EXCLUDED
	Interior painting						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.

PROJECTED ANNUAL REPLACEMENTS
GENERAL INFORMATION

CALENDAR OF ANNUAL REPLACEMENTS. The 49 Projected Replacements in the Waterside Property Owners Association 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

- 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 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 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 Test 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 1 TO 6

Item	2020 - YEAR 1	$
No Scheduled Replacements		

Item	2021 - YEAR 2	$
No Scheduled Replacements		

Item	2022 - YEAR 3	$
No Scheduled Replacements		

Item	2023 - YEAR 4	$
35	Pool pump, 3/4 HP	$830
38	Chemical feed pump	$375
48	Irrigation, well	$5,500
49	Irrigation, well	$7,000
50	Irrigation, controller	$1,250
Total Scheduled Replacements		$14,955

Item	2024 - YEAR 5	$
No Scheduled Replacements		

Item	2025 - YEAR 6	$
4	Asphalt pavement, mill & overlay, roadway	$78,436
6	Asphalt pavement, seal coat, parking	$1,310
19	Door, steel, flush (3' X 6'8")	$3,840
25	Exterior lighting, decorative sconce	$600
26	Heat pump, air to air, 2 ton	$4,250
27	Security camera (IP)	$350
30	Swimming pool, whitecoat	$8,235
32	Swimming pool waterline tile (6x6)	$1,290
40	Pool furniture	$5,000
Total Scheduled Replacements		$103,311

PROJECTED REPLACEMENTS - YEARS 7 TO 12

Item	2026 - YEAR 7	$
3	Asphalt pavement, seal coat	$5,543
	Total Scheduled Replacements	$5,543

Item	2027 - YEAR 8	$
	No Scheduled Replacements	

Item	2028 - YEAR 9	$
34	Pool cover, safety mesh	$1,131
35	Pool pump, 3/4 HP	$830
38	Chemical feed pump	$375
	Total Scheduled Replacements	$2,336

Item	2029 - YEAR 10	$
7	Concrete curb & gutter, mountable (6%)	$6,849
9	Concrete flatwork (6%)	$6,760
	Total Scheduled Replacements	$13,609

Item	2030 - YEAR 11	$
6	Asphalt pavement, seal coat, parking	$1,310
15	Roofing, asphalt shingles	$2,736
16	Gutter & downspouts, 5" aluminum	$7
21	Sink fixture & mirror	$400
22	Toilet & stall	$2,000
23	Mop sink	$650
24	Interior lighting, general	$840
28	Security system	$3,000
33	Pool deck, concrete (25%)	$10,465
43	Site light, decorative double head	$1,180
44	Pool entry system	$2,180
47	Door, steel, flush (3' X 6'8")	$1,920
	Total Scheduled Replacements	$26,688

Item	2031 - YEAR 12	$
	No Scheduled Replacements	

PROJECTED REPLACEMENTS - YEARS 13 TO 18

Item	2032 - YEAR 13	$
2	Asphalt pavement, mill & overlay	$42,328
3	Asphalt pavement, seal coat	$5,543
8	Concrete curb & gutter, barrier (10%)	$6,284
10	Concrete flatwork (25%)	$1,465
	Total Scheduled Replacements	$55,619

Item	2033 - YEAR 14	$
35	Pool pump, 3/4 HP	$830
36	Pool filter, cartridge, 150 sf	$940
37	Chemical tank	$280
38	Chemical feed pump	$375
48	Irrigation, well	$5,500
49	Irrigation, well	$7,000
50	Irrigation, controller	$1,250
	Total Scheduled Replacements	$16,175

Item	2034 - YEAR 15	$
	No Scheduled Replacements	

Item	2035 - YEAR 16	$
6	Asphalt pavement, seal coat, parking	$1,310
7	Concrete curb & gutter, mountable (6%)	$6,849
9	Concrete flatwork (6%)	$6,760
12	Storm water management (10% allowance)	$10,000
13	Bridge, repoint masonry	$544
18	Siding & trim, vinyl, standard (10%)	$562
27	Security camera (IP)	$350
30	Swimming pool, whitecoat	$8,235
31	Swimming pool coping, stone (10%)	$660
32	Swimming pool waterline tile (6x6)	$1,290
39	Safety rail	$900
40	Pool furniture	$5,000
45	Roofing, asphalt shingles	$1,350
	Total Scheduled Replacements	$43,809

Item	2036 - YEAR 17	$
	No Scheduled Replacements	

Item	2037 - YEAR 18	$
	No Scheduled Replacements	

PROJECTED REPLACEMENTS - YEARS 19 TO 24

Item	2038 - YEAR 19	$
3	Asphalt pavement, seal coat	$5,543
8	Concrete curb & gutter, barrier (10%)	$6,284
35	Pool pump, 3/4 HP	$830
38	Chemical feed pump	$375
	Total Scheduled Replacements	$13,031

Item	2039 - YEAR 20	$
	No Scheduled Replacements	

Item	2040 - YEAR 21	$
5	Asphalt pavement, mill & overlay, parking	$10,001
6	Asphalt pavement, seal coat, parking	$1,310
20	Window, operating	$2,450
25	Exterior lighting, decorative sconce	$600
26	Heat pump, air to air, 2 ton	$4,250
34	Pool cover, safety mesh	$1,131
41	Fence, 6' vinyl solid face	$31
42	Fence piers (10%)	$3,000
46	Siding & trim, vinyl, standard	$4,680
	Total Scheduled Replacements	$27,453

Item	2041 - YEAR 22	$
7	Concrete curb & gutter, mountable (6%)	$6,849
9	Concrete flatwork (6%)	$6,760
	Total Scheduled Replacements	$13,609

Item	2042 - YEAR 23	$
	No Scheduled Replacements	

Item	2043 - YEAR 24	$
35	Pool pump, 3/4 HP	$830
38	Chemical feed pump	$375
48	Irrigation, well	$5,500
49	Irrigation, well	$7,000
50	Irrigation, controller	$1,250
	Total Scheduled Replacements	$14,955

PROJECTED REPLACEMENTS - YEARS 25 TO 30

Item	2044 - YEAR 25	$
3	Asphalt pavement, seal coat	$5,543
8	Concrete curb & gutter, barrier (10%)	$6,284
10	Concrete flatwork (25%)	$1,465
	Total Scheduled Replacements	$13,291

Item	2045 - YEAR 26	$
4	Asphalt pavement, mill & overlay, roadway	$78,436
6	Asphalt pavement, seal coat, parking	$1,310
11	Storm water pond dredging	$26,025
12	Storm water management (10% allowance)	$10,000
13	Bridge, repoint masonry	$544
27	Security camera (IP)	$350
28	Security system	$3,000
30	Swimming pool, whitecoat	$8,235
32	Swimming pool waterline tile (6x6)	$1,290
40	Pool furniture	$5,000
	Total Scheduled Replacements	$134,190

Item	2046 - YEAR 27	$
	No Scheduled Replacements	

Item	2047 - YEAR 28	$
7	Concrete curb & gutter, mountable (6%)	$6,849
9	Concrete flatwork (6%)	$6,760
	Total Scheduled Replacements	$13,609

Item	2048 - YEAR 29	$
35	Pool pump, 3/4 HP	$830
36	Pool filter, cartridge, 150 sf	$940
37	Chemical tank	$280
38	Chemical feed pump	$375
	Total Scheduled Replacements	$2,425

Item	2049 - YEAR 30	$
	No Scheduled Replacements	

PROJECTED REPLACEMENTS - YEARS 31 TO 36

Item	2050 - YEAR 31	$
3	Asphalt pavement, seal coat	$5,543
6	Asphalt pavement, seal coat, parking	$1,310
8	Concrete curb & gutter, barrier (10%)	$6,284
17	Soffit & trim, vinyl	$810
19	Door, steel, flush (3' X 6'8")	$3,840
21	Sink fixture & mirror	$400
22	Toilet & stall	$2,000
23	Mop sink	$650
24	Interior lighting, general	$840
43	Site light, decorative double head	$1,180
44	Pool entry system	$2,180
	Total Scheduled Replacements	$25,036

Item	2051 - YEAR 32	$
	No Scheduled Replacements	

Item	2052 - YEAR 33	$
34	Pool cover, safety mesh	$1,131
	Total Scheduled Replacements	$1,131

Item	2053 - YEAR 34	$
7	Concrete curb & gutter, mountable (6%)	$6,849
9	Concrete flatwork (6%)	$6,760
35	Pool pump, 3/4 HP	$830
38	Chemical feed pump	$375
48	Irrigation, well	$5,500
49	Irrigation, well	$7,000
50	Irrigation, controller	$1,250
	Total Scheduled Replacements	$28,564

Item	2054 - YEAR 35	$
	No Scheduled Replacements	

Item	2055 - YEAR 36	$
6	Asphalt pavement, seal coat, parking	$1,310
12	Storm water management (10% allowance)	$10,000
13	Bridge, repoint masonry	$544
14	Bridge fence, 4' vinyl picket	$5,900
25	Exterior lighting, decorative sconce	$600
26	Heat pump, air to air, 2 ton	$4,250
27	Security camera (IP)	$350
30	Swimming pool, whitecoat	$8,235
32	Swimming pool waterline tile (6x6)	$1,290
39	Safety rail	$900
40	Pool furniture	$5,000
47	Door, steel, flush (3' X 6'8")	$1,920
	Total Scheduled Replacements	$40,299

PROJECTED REPLACEMENTS - YEARS 37 TO 42

Item	2056 - YEAR 37	$
2	Asphalt pavement, mill & overlay	$42,328
3	Asphalt pavement, seal coat	$5,543
8	Concrete curb & gutter, barrier (10%)	$6,284
10	Concrete flatwork (25%)	$1,465
	Total Scheduled Replacements	$55,619

Item	2057 - YEAR 38	$
	No Scheduled Replacements	

Item	2058 - YEAR 39	$
35	Pool pump, 3/4 HP	$830
38	Chemical feed pump	$375
	Total Scheduled Replacements	$1,205

Item	2059 - YEAR 40	$
7	Concrete curb & gutter, mountable (6%)	$6,849
9	Concrete flatwork (6%)	$6,760
	Total Scheduled Replacements	$13,609

Item	2060 (beyond study period)	$
6	Asphalt pavement, seal coat, parking	$1,310
15	Roofing, asphalt shingles	$2,736
16	Gutter & downspouts, 5" aluminum	$7
28	Security system	$3,000
33	Pool deck, concrete (25%)	$10,465
	Total Scheduled Replacements	$17,518

Item	2061 (beyond study period)	$
	No Scheduled Replacements	

CONDITION ASSESSMENT

General Comments. Miller+Dodson Associates conducted a Reserve Study at Waterside Property Owners Association in November 2019. Waterside Property Owners Association is in generally good condition for a master association. 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.

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.

SITE ITEMS

Entry Monument and Signage. The Association maintains an entry monument .

The monuments is are made of cement block is in good condition.

The monument lettering is acrylic or other synthetic material and is expected to have a useful life of 10 to 15 years.

Asphalt Pavement. The Association is responsible for the main roadways and pool parking areas ; other roadways and parking are maintained by other Associations. In general, the Association's asphalt pavements is in poor condition.

As a rule of thumb, asphalt should be overlaid when approximately 5% of the surface area is cracked or otherwise deteriorated. The normal service life of asphalt pavement is typically 18 to 24 years.

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:

- **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 patched if deterioration has penetrated the asphalt. This is a maintenance activity, and we have assumed that it will not be funded from Reserves.
- **Crack Repair.** All cracks should be repaired with an appropriate compound to prevent water infiltration through the asphalt into the base. This repair should be done annually. Crack repair is normally considered a maintenance activity and is not funded from Reserves. Areas of extensive cracking or deterioration that cannot be made watertight should be cut out and patched.
- **Seal Coating.** The asphalt should be seal coated every five to seven years. For this maintenance, activity to be effective in extending the life of the asphalt, cleaning and crack repair should be performed first.

The pricing used is based on recent contracts for a two-inch overlay, which reflects the current local market for this work.

For seal coating, several different products are available. The older, more traditional seal coating products are simply paint. They coat the surface of the asphalt and they are minimally effective. However, the newer coating materials, such as those from Total Asphalt Management, Asphalt Restoration Technologies, Inc., and others, are penetrating. They are engineered, so to speak, to 'remoisturize' the pavement. Asphalt pavement is intended to be flexible. Over time, the volatile chemicals in the pavement dry, the pavement becomes brittle, and degradation follows in the forms of cracking and potholes. Remoisturizing the pavement can return its flexibility and extend the life of the pavement.

Concrete Work. The concrete work includes the community curbs, sidewalks, and other flatwork. The overall condition of the concrete work is in good condition.

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 programed funds for the replacement of these inventories and spread the funds over an extended timeframe to reflect the incremental nature of this work.

Storm Water Pond. The community is served by three ponds.

Ponds will accumulate silt and over time and lose the ability to store storm water at design levels, which could result in overflows and minor local flooding. In addition, water quality can be negatively affected by increased siltation and debris accumulation. Accordingly, ponds require periodic dredging.

Estimates of cost and the frequency of dredging ponds are a function of many variables, including the volume of the pond, 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 the purpose of reserve study planning. The siltation rate and cost of periodic dredging are speculative, varying greatly depending on local conditions.

As a rule of thumb, dredging should be performed when approximately one-third of the volume of the pond has been filled with silt. In the absence of accurate information about the original depth of the pond and the local siltation rate, we have assumed that it will be necessary to remove one cubic yard of material over a third of the pond area periodically as noted in the inventory. We have assumed that the material being removed is free of heavy metals and hydrocarbons, and that it will be accepted as fill at a local landfill. A more accurate prediction of cost and cycles will require a hydrologic analysis and testing, which is beyond the scope of our study.

As a supplement to traditional dredging methods, hydro-raking can prolong the interval between dredging.

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

Based on our understanding, we recommend the following:

- Periodically remove accumulated debris and vegetation growing in the ponds.
- Survey the ponds to establish the current profile of the bottom. After five years of operation, have the pond re-surveyed to establish new depths to determine the local siltation rate. This will establish the frequency required for periodic dredging.
- Periodically sample and test for contaminants.
- Consult with local contractors to determine the cost of removing and disposing of the spoil once its nature is known.

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 short lists of companies that specialize in this type of work.

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

Storm water structures must be maintained over time so that they may perform their two major functions - storm water storage and storm water quality improvement. A well-planned maintenance program is the best way to ensure that these structures will continue to perform their water quality and quantity functions.

The following information outlines the general maintenance considerations for storm-water management structures. Storm-water management structures will require routine and non-routine maintenance. Routine maintenance such as visual inspections, vegetation management, and the regular removal of debris and litter provides a variety of benefits such as reducing the chance of clogging outlet structures, trash racks, risers, and other facility components. It is important to note that while general maintenance tasks are suggested, actual maintenance needs are very site specific. Below is a lists component of a general maintenance program.

Routine:	Non-Routine:
• Visual Inspection	• Bank Stabilization
• Vegetation Management	• Sediment Removal
• Debris/Litter Control Outlet	• Structure Maintenance / Replacement
• Maintaining Undisturbed Areas Around Infiltration Trenches/Basins (routine)	• Maintenance of Mechanical Components (dependent on age of structure; non-routine)

Minimum Inspection Checklist for Ponds:

- Obstructions of the inlet or outlet devices by trash and debris
- Excessive erosion or sedimentation in the basin
- Cracking or settling of the dam
- Low spots in the bottom of a dry pond
- Deterioration of pipes
- Condition of the emergency spillway
- Stability of the side-slopes
- Upstream and downstream channel conditions
- Signs of vandalism

Vegetation Management. Grass is usually used around and in storage ponds to prevent erosion and to filter sediment. The grass near the pond should not be over-fertilized, or the excessive nutrients will be washed into the pond and contribute to the growth of algae. Grass should be cut no shorter than 6-8 inches.

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

Sediment Removal. One of the main purposes of a storm-water management pond is to remove sediment from storm water. As water flows through the pond, sediment will accumulate and eventually will need to be removed. Storm-water management structures vary in design and shape. Therefore, there is no general rule for the frequency of sediment removal. Upstream conditions such as land use, type of land cover (vegetated vs. paved), and soil types are important factors in determining how rapidly sediment will accumulate in a pond. Sediment removal is usually the single largest cost of maintaining a storm-water management structure. Owners are responsible for maintaining the facility and should plan ahead, setting aside the necessary funds to pay for sediment removal. The best solution to sediment removal is to designate an on-site area or a site adjacent to the facility where the sediment can be disposed. This area will need to locate outside of the floodplain. If such a disposal area is not available, the sediment will need to be transported and

disposed of off-site. Transportation costs and disposal fees can greatly increase the cost of sediment removal. Once the sediment is removed, the bottom of the basin and any disturbed areas will need to be stabilized and re-vegetated, or the structure will quickly clog and require sediment removal again.

We have provided funds for the minor dredging of the detention pond and clearing of swales, creek area, and drainage lines. Because of the significance of the cost of this work in establishing the correct reserve contribution, it is recommended that the Association undertake studies to refine the information and replace the assumptions we have had to make with estimates based on your Associations current pond conditions.

Vehicular Bridge. The Association maintains two bridges. The bridge itself is considered a long-life item and the roadway is covered under asphalt paving. The Bridge elements included in the study include the masonry piers and fencing system.

Vinyl fencing made of 100% virgin material can last 30 to 35 years, and periodic cleaning will keep the fence looking attractive. Vinyl components with ticker walls can provide a longer useful life.

POOL HOUSE

Building Roofing. The pool house roof is asphalt shingles which ae in good condition.

Asphalt shingle roofs can have a useful life of 20 to 50 years depending on the weight and quality of the shingle. Weathered, curled, and missing shingles are all indications that the shingles may be nearing the end of their useful life.

Annual inspections are recommended, with cleaning, repair, and mitigation of vegetation performed as needed. Access, inspection, and repair work should be performed by contractors and personnel with the appropriate access equipment who are experienced in the types of roofing used for the facility.

Gutters and Downspouts. The pool house has aluminum gutters and downspouts. The gutters and downspouts are in good condition.

A gutter and downspout system will remove rainwater from the area of the building roof, siding, and foundation. This will protect building's exterior surfaces from water damage. Gutters should run the full length of all drip edges of the building roof. Even with full gutters, it is important to inspection the function of the gutters during heavy rain to identify any deficiencies. It may be necessary to periodically adjust the slope of sections, repair connections, replace hangers, and install shrouds to the gutters. Downspouts should be securely attached to the side of the structure. Any broken straps should be replaced. The area of the outlet should be inspected to promote run-off in the desired direction. Long straight runs should have an elbow at the bottom. Splash blocks should be installed to fray the water out-letting from the downspout.

It is recommended that all gutters be cleaned at least twice each year. If there are a large number of trees located close to a building, consider installing a gutter debris shield that will let water into the gutters but will filter out leaves, twigs, and other debris.

Siding and Trim. The Pool House has vinyl siding which is in good condition.

Vinyl siding and trim can have an extended useful life if not damaged by impact, heat, or other physical reasons. However, the coatings and finishes typically have a useful life and over time begin to weather, chalk, and show their age. For these reasons, we have modeled for the replacement of the siding and trim every 25 years.

Split and Package HVAC Systems. The heating ventilation and air conditioning (HVAC) of the facility are reported to be in good operating condition. Detailed inspection and testing of these systems is beyond the scope of this study.

Even though manufacturers continue to predict 15 to 20-year life cycles for HVAC equipment that use these new refrigerants, this is not proven by historical data. We therefore recommend anticipating a normal economic life of 15 years for all HVAC equipment that uses pressurized refrigerants of these types.

As is the case with most equipment, to achieve a maximum useful economic life, proper maintenance is essential. In some cases, proper and proactive maintenance can greatly extend the useful life of these components.

RECREATION ITEMS

Swimming Pool. The community operates an outdoor pool of concrete construction. Listed below are the major components of the pool facilities:

The pool was winterized at the time of inspection and is reported to be in good condition.

- Pool Shell. The shell for the swimming pool is in good r condition.
- Pool Deck. The pool has a concrete deck. The overall condition of the deck is good.
- Whitecoat. The pool whitecoat is in fair condition. We have assumed a service life of eight to ten years for the pool whitecoat.
- Waterline Tile. The waterline tile is in fair condition. We have assumed that the waterline tile will be replaced or restored when the pool is whitecoated.
- Coping. The pool is edged with masonry coping. The coping is in good condition .
- Pump and Filter System. The filter system is in good operating condition.
- Pool Fence. The swimming pool is enclosed by a vinyl fence that is in good condition.

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

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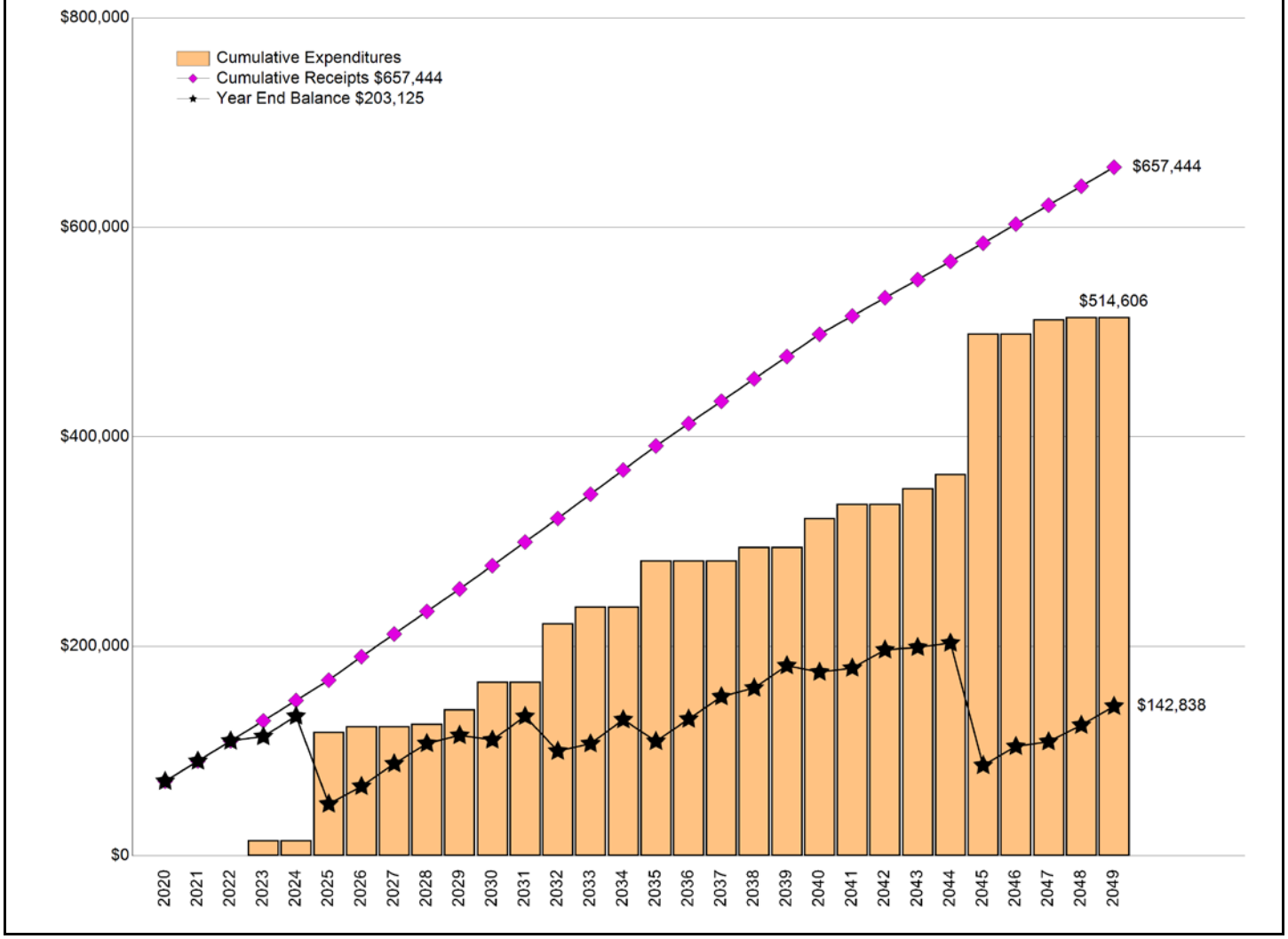
COMPONENT METHOD

$19,225 **COMPONENT METHOD RECOMMENDED ANNUAL FUNDING OF REPLACEMENT RESERVES IN THE STUDY YEAR, 2020.**
$19225.00 Per unit (average), recommended monthly funding of Replacement Reserves

General. The Component Method (also referred to as the Full Funded Method) is a very conservative mathematical model developed by HUD in the early 1980s. Each of the 49 Projected Replacements listed in the Replacement Reserve Inventory is treated as a separate account. The Beginning Balance is allocated to each of the 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 Recommended Annual Funding of Replacement Reserves is a multi-step process outlined in more detail on Page CM.2.

Component Method - Cumulative Receipts and Expenditures Graph



COMPONENT METHOD (CONT.)

- 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 49 Projected Replacements. The total, $134,848, is the Current Funding Objective.

  For an example, consider a 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 ($51,969) by the Current Funding Objective ($134,848). At Waterside Property Owners Association, the Funding Percentage is 38.5%

- Allocation of the Beginning Balance. The Beginning Balance is divided among the 18 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 38.5 percent funded, there is $308 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 $19,225, the Component Method Recommended Annual Funding of Replacement Reserves in the Study Year (2020).

  In our fence example, the $308 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 $346. Next year, the deposit remains $346, 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, inflation, or a constant annual increase in Annual Funding of Replacement Reserves. The Component Method is a very conservative method and if the Analysis is updated regularly, adequate funding will be maintained without the need for adjustments.

Component Method Data - Years 1 through 30

Year	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Beginning Balance	$51,969									
Recommended Annual Funding	$19,225	$19,225	$19,225	$19,225	$19,402	$19,402	$22,456	$21,616	$21,616	$21,361
Expenditures				$14,955		$103,311	$5,543		$2,336	$13,609
Year End Balance	$71,194	$90,420	$109,645	$113,915	$133,317	$49,408	$66,321	$87,937	$107,217	$114,970
Cumulative Expenditures				$14,955	$14,955	$118,266	$123,808	$123,808	$126,144	$139,753
Cumulative Receipts	$71,194	$90,420	$109,645	$128,870	$148,272	$167,674	$190,129	$211,745	$233,361	$254,723
Year	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**
Recommended Annual Funding	$22,320	$22,516	$22,516	$23,181	$23,033	$23,033	$21,325	$21,325	$21,325	$21,325
Expenditures	$26,688		$55,619	$16,175		$43,809			$13,031	
Year End Balance	$110,602	$133,118	$100,015	$107,021	$130,054	$109,278	$130,603	$151,927	$160,220	$181,545
Cumulative Expenditures	$166,441	$166,441	$222,060	$238,235	$238,235	$282,044	$282,044	$282,044	$295,075	$295,075
Cumulative Receipts	$277,043	$299,559	$322,075	$345,256	$368,289	$391,322	$412,647	$433,971	$455,296	$476,620
Year	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**	**2046**	**2047**	**2048**	**2049**
Recommended Annual Funding	$21,325	$17,391	$17,391	$17,391	$17,391	$17,391	$18,136	$18,136	$18,136	$18,136
Expenditures	$27,453	$13,609		$14,955	$13,291	$134,190		$13,609	$2,425	
Year End Balance	$175,417	$179,199	$196,590	$199,026	$203,125	$86,327	$104,463	$108,990	$124,702	$142,838
Cumulative Expenditures	$322,528	$336,137	$336,137	$351,092	$364,383	$498,572	$498,572	$512,181	$514,606	$514,606
Cumulative Receipts	$497,945	$515,336	$532,727	$550,117	$567,508	$584,899	$603,035	$621,172	$639,308	$657,444

2020 - COMPONENT METHOD CATEGORY FUNDING REPORT

Each of the 49 Projected Replacements included in the Waterside Property Owners Association Replacement Reserve Inventory has been assigned to one of the 4 categories listed in TABLE CM1 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 $51,969 as of the first day of the Study Year, January 1, 2020.
- Total reserve funding (including the Beginning Balance) of $71,194 in the Study Year.
- 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 2020 being accomplished in 2020 at a cost of $0.

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.

2020 - COMPONENT METHOD CATEGORY FUNDING - TABLE CM1

CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2020 BEGINNING BALANCE	2020 RESERVE FUNDING	2020 PROJECTED REPLACEMENTS	2020 END OF YEAR BALANCE
	5 to 40 years	5 to 35 years	$201,443	$30,652	$12,647		$35,830
	10 to 50 years	5 to 30 years	$22,495	$4,633	$1,039		$5,671
	5 to 60 years	3 to 45 years	$114,797	$13,380	$3,925		$17,304
	10 to 35 years	3 to 20 years	$21,700	$4,553	$1,615		$6,168

2021 - COMPONENT METHOD CATEGORY FUNDING REPORT

Each of the 49 Projected Replacements included in the Waterside Property Owners Association Replacement Reserve Inventory has been assigned to one of the 4 categories listed in TABLE CM2 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 $71,194 on January 1, 2021.
- Total reserve funding (including the Beginning Balance) of $90,420 from 2020 to 2021.
- 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 2021 being accomplished in 2021 at a cost of $0.

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.

2021 - COMPONENT METHOD CATEGORY FUNDING - TABLE CM2

CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2021 BEGINNING BALANCE	2021 RESERVE FUNDING	2021 PROJECTED REPLACEMENTS	2021 END OF YEAR BALANCE
	5 to 40 years	4 to 34 years	$201,443	$35,830	$12,647		$48,477
	10 to 50 years	4 to 29 years	$22,495	$5,671	$1,039		$6,710
	5 to 60 years	2 to 44 years	$114,797	$17,304	$3,925		$21,229
	10 to 35 years	2 to 19 years	$21,700	$6,168	$1,615		$7,782

2022 - COMPONENT METHOD CATEGORY FUNDING REPORT

Each of the 49 Projected Replacements included in the Waterside Property Owners Association Replacement Reserve Inventory has been assigned to one of the 4 categories listed in TABLE CM3 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 $90,420 on January 1, 2022.
- Total reserve funding (including the Beginning Balance) of $109,645 from 2021 to 2022.
- 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 2022 being accomplished in 2022 at a cost of $0.

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.

2022 - COMPONENT METHOD CATEGORY FUNDING - TABLE CM3

CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2022 BEGINNING BALANCE	2022 RESERVE FUNDING	2022 PROJECTED REPLACEMENTS	2022 END OF YEAR BALANCE
	5 to 40 years	3 to 33 years	$201,443	$48,477	$12,647		$61,125
	10 to 50 years	3 to 28 years	$22,495	$6,710	$1,039		$7,749
	5 to 60 years	1 to 43 years	$114,797	$21,229	$3,925		$25,154
	10 to 35 years	1 to 18 years	$21,700	$7,782	$1,615		$9,397

TABLE CM4 below details the allocation of the $51,969 Beginning Balance, as reported by the Association and the $57,676 of Replacement Reserve Funding calculated by the Component Method from 2020 to 2022, to the 49 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 $51,969 on January 1, 2020.
- Replacement Reserves on Deposit totaling $71,194 on January 1, 2021.
- Replacement Reserves on Deposit totaling $90,420 on January 1, 2022.
- Total Replacement Reserve funding (including the Beginning Balance) of $109,645 from 2020 to 2022.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.
- All Projected Replacements scheduled in the Replacement Reserve Inventory from 2020 to 2022 being accomplished as scheduled in the Replacement Reserve Inventory at a cost of $.

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 CM4

Item #	Description of Projected Replacement	Estimated Replacement Costs	Allocation of Beginning Balance	2020 Reserve Funding	2020 Projected Replacements	2020 End of Year Balance	2021 Reserve Funding	2021 Projected Replacements	2021 End of Year Balance	2022 Reserve Funding	2022 Projected Replacements	2022 End of Year Balance
	SITE ITEMS -											
2	Asphalt pavement, mill & overlay	42,328	7,469									
3	Asphalt pavement, seal coat	5,543		1,764		1,764	1,764		3,527	1,764		5,291
4	Asphalt pavement, mill & overlay,	78,436	21,138	924		22,062	924		22,986	924		23,910
5	Asphalt pavement, mill & overlay,	10,001	481	3,922		4,403	3,922		8,325	3,922		12,247
6	Asphalt pavement, seal coat,	1,310		417		417	417		833	417		1,250
7	Concrete curb & gutter, mountable	6,849		262		262	262		524	262		786
8	Concrete curb & gutter, barrier	6,284		1,142		1,142	1,142		2,283	1,142		3,425
9	Concrete flatwork (6%)	6,760		1,047		1,047	1,047		2,095	1,047		3,142
10	Concrete flatwork (25%)	1,465		1,127		1,127	1,127		2,253	1,127		3,380
11	Storm water pond dredging	26,025	1,336	122		1,458	122		1,580	122		1,702
12	Storm water management (10%	10,000		868		868	868		1,735	868		2,603
13	Bridge, repoint masonry	544		1,000		1,000	1,000		2,000	1,000		3,000
14	Bridge fence, 4' vinyl picket	5,900	227	54		282	54		336	54		390
	POOL HOUSE -											
15	Roofing, asphalt shingles	2,736	667	148		815	148		962	148		1,110
16	Gutter & downspouts, 5" aluminum	7	2	91		93	91		184	91		275
17	Soffit & trim, vinyl	810	119	0		119	0		119	0		119
18	Siding & trim, vinyl, standard (10%)	562	117	16		134	16		150	16		166
19	Door, steel, flush (3' X 6'8")	3,840	1,124	16		1,140	16		1,156	16		1,172
20	Window, operating	2,450	448	154		602	154		755	154		909
21	Sink fixture & mirror	400	69	61		131	61		192	61		253
22	Toilet & stall	2,000	347	20		367	20		387	20		407
23	Mop sink	650	113	100		213	100		313	100		413
24	Interior lighting, general	840	146	33		178	33		211	33		243
25	Exterior lighting, decorative sconce	600	139	42		181	42		223	42		265
26	Heat pump, air to air, 2 ton	4,250	982	40		1,022	40		1,062	40		1,102
27	Security camera (IP)	350	54	283		337	283		621	283		904
28	Security system	3,000	308	35		343	35		378	35		413
	RECREATION ITEMS -											
29	Swimming pool structure	78,300	7,034	200		7,234	200		7,434	200		7,634
30	Swimming pool, whitecoat	8,235	1,268	1,305		2,573	1,305		3,878	1,305		5,183
31	Swimming pool coping, stone (10%)	660	119	824		942	824		1,766	824		2,589
32	Swimming pool waterline tile (6x6)	1,290	199	22		221	22		243	22		265
33	Pool deck, concrete (25%)	10,465	2,552	129		2,681	129		2,810	129		2,939
34	Pool cover, safety mesh	1,131	109	349		458	349		807	349		1,155
35	Pool pump, 3/4 HP	830	64	94		158	94		252	94		347
36	Pool filter, cartridge, 150 sf	940	24	166		190	166		356	166		522
37	Chemical tank	280	7	63		70	63		133	63		195
38	Chemical feed pump	375	29	19		48	19		66	19		85
39	Safety rail	900	69	75		144	75		219	75		294
40	Pool furniture	5,000	770	45		815	45		860	45		905
41	Fence, 6' vinyl solid face	31	6	500		506	500		1,006	500		1,506

COMPONENT METHOD - THREE-YEAR REPLACEMENT FUNDING - TABLE CM4 (cont.)

Item #	Description of Projected Replacement	Estimated Replacement Costs	Allocation of Beginning Balance	2020 Reserve Funding	2020 Projected Replacements	2020 End of Year Balance	2021 Reserve Funding	2021 Projected Replacements	2021 End of Year Balance	2022 Reserve Funding	2022 Projected Replacements	2022 End of Year Balance
42	Fence piers (10%)	3,000	549	1		549	1		550	1		551
43	Site light, decorative double head	1,180	204	75		279	75		354	75		429
44	Pool entry system	2,180	378	59		437	59		496	59		555
	IRRIGATION SYSTEM -											
45	Roofing, asphalt shingles	1,350	243	109		352	109		461	109		570
46	Siding & trim, vinyl, standard	4,680	721	45		766	45		811	45		856
47	Door, steel, flush (3' X 6'8")	1,920	414	134		548	134		681	134		815
48	Irrigation, well	5,500	1,271	77		1,347	77		1,424	77		1,501
49	Irrigation, well	7,000	1,617	550		2,167	550		2,717	550		3,267
50	Irrigation, controller	1,250	289	700		989	700		1,689	700		2,389

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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 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 500 Community Associations in the United States. According to the 1990 U.S. Census, there were 130,000 Community Associations. The Community Associations Institute (CAI), a national trade association, estimates in 2018 that there were more than 347,000 communities with over 73.5 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 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, homeowners 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, 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. Miller+Dodson provides a replacement reserve recommendation based on the Cash Flow Method in Section A, and the Component Method in the Appendix of the report.

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.

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.). The Appendix also includes the Accounting Summary for the Cash Flow Method and the Component Method.

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:

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.

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 that is less than that arrived at by the Component Method.

Component Method. This method is a time-tested mathematical model developed by HUD in the early 1980s but has been generally relegated to a few States that require it by law. For the vast majority of Miller+Dodson's clients, this method is not used.

The Component Method 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.

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 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.

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 Balance. Shown on the Summary Sheet A4, this amount is used in the Cash Flow Method only. Normally derived using the average annual expenditure over the study period, this is the minimum amount held in reserves for every year in the study period.

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 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. 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	**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/pYSMZO13VjQ

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

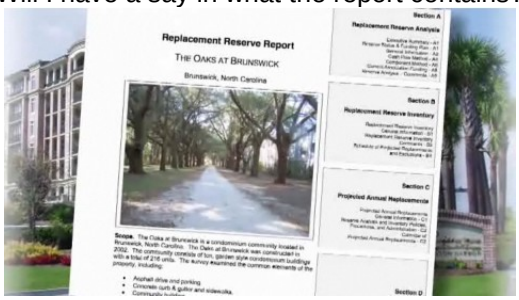
What is my role as a community Board Member?
Will a Reserve Study meet my needs?

https://youtu.be/aARD1B1Oa3o

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

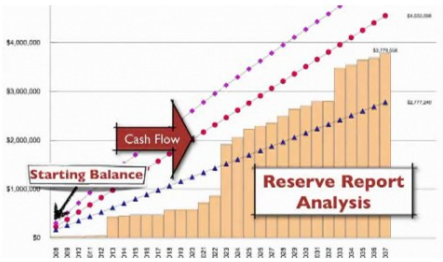
https://youtu.be/diZfM1IyJYU

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?

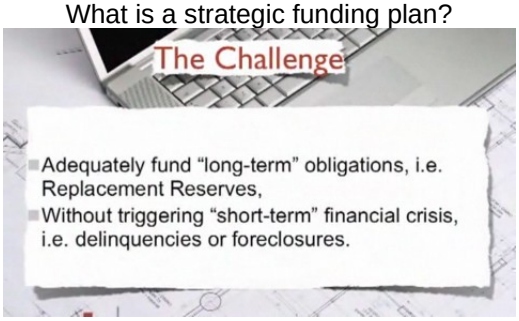


https://youtu.be/SePdwVDvHWI

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

https://youtu.be/W8CDLwRIv68

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



https://youtu.be/hIxV9X1tIcA