LEVEL 2 REPLACEMENT RESERVE REPORT FY 2023
THE WATERS AT LAKE ANNA



LEVEL 2 REPLACEMENT RESERVE REPORT FY 2023

THE WATERS AT LAKE ANNA

millerdodson
Capital Reserve Consultants

Community Management by:

THE WATERS AT LAKE ANNA

John Blair

841 Lake Forest Dr
Mineral, VA 23117
703.629.2682
xprez12@gmail.com

Consultant:

millerdodson
Capital Reserve Consultants

2661 Riva Road, Suite 1023
Annapolis, MD 21401
410.268.0479
800.850.2835

MillerDodson.com

INTENTIONALLY LEFT BLANK

REPLACEMENT RESERVE REPORT

THE WATERS AT LAKE ANNA

MINERAL, VIRGINIA
July 20, 2022
Revised September 30, 2022
Revised October 3, 2022



Description. The Waters at Lake Anna is a community association located in Mineral, Virginia. Developed in the early 2000s the community common elements were transferred to the Association in 2006. The community consists of 426 lots with approximately 217 single-family residences and community common elements. The survey examined the common elements of the property, including:

- Asphalt and gravel drives.
- Concrete drives, ramps, and sidewalk.
- Stormwater management systems.
- Entrance monuments and fencing.
- Community center, pavilion, marina, and beach area.
- Swimming pool and tennis courts, beach pavilion, and tot play lot.

EXECUTIVE SUMMARY

This Reserve Study has been prepared for the The Waters at Lake Anna for the Fiscal Year 2023 covering the period from January 1, 2023 to December 31, 2023. The Replacement Reserves Starting Balance as of January 1, 2023 are proposed to be $364,000. The reported Current Annual Funding for Reserves is $54,000. The Recommended Annual Reserve Funding level for 2023 is $78,339.

The study includes funding for the dredging of a portion of the marina, and the two stormwater ponds serving the community. Pricing for the dredging was provided by two local service providers. The areas in the current analysis are estimates. A comprehensive survey should be performed to provide more exacting quantities. Once the area(s), and quantities are established by the survey(s) the reserve study can be revised to incorporate contractual costs.

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

Section A

Replacement Reserve Analysis

Financial Analysis - A1
General Information - A2
Current Funding - A3
Cash Flow Method Funding - A4
Inflation Adjusted Funding - A5

Section B

Replacement Reserve Inventory

Replacement Reserve Inventory
General information - B1
Replacement Reserve Inventory
Comments - B2
Schedule of Projected Replacements
and Exclusions - B3

Section C

Projected Annual Replacements

Projected Annual Replacements
General Information - C1
Calendar of
Projected Annual Replacements - C2

Section D

Condition Assessment

Appendix

Overview, Standard Terms, and Definitions

Video Answers to Frequently Asked Questions

Current Funding. The Starting Balance and Current Annual Reserve Funding figures have been supplied by the managing agent and/or Board of Directors. Confirmation or audit of these figures is beyond the scope of the study. For the purposes of this study, it is assumed that the annual contribution will be deposited at the end of each month.

Level of Service. This study has been performed as a Level 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 MillerDodson Associates, Inc., in 2015. 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 The Waters at Lake Anna (hereinafter called the Association) with an inventory of the common community facilities and infrastructure components that require periodic replacement. The Study includes a general view of the condition of these items and an effective financial plan to fund projected periodic replacements.

- **Inventory of Items Owned by the Association.** Section B lists the Projected Replacements of the commonly owned items that require periodic replacement using funding from Replacement Reserves. The Replacement Reserve Inventory also provides information about excluded items, which are items whose replacements are not scheduled for funding from Replacement Reserves.

- **Condition of Items Owned by the Association.** Section B includes our estimates of the normal economic life and the remaining economic life for the projected replacements. Section C provides a year-by-year listing of the projected replacements. Section D provides additional detail for items that are unique or deserving of attention because of their condition or the manner in which they have been treated in this study.

- **Financial Plan.** The Association has a fiduciary responsibility to protect the appearance, value, and safety of the property and it is therefore essential the Association have a financial plan that provides funding for the projected replacements. In conformance with American Institute of Certified Public Accountant guidelines, Section A, Replacement Reserve Analysis evaluates the current funding of Replacement Reserves as reported by the Association and recommends annual funding of Replacement Reserves by the Cash Flow Method. Section A, Replacement Reserve Analysis includes graphic and tabular presentations of the reported current funding and the recommended funding based on the Cash Flow Method. An Executive Summary of these calculations is provided on Page A1.

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

- The Request for Proposal submitted and executed by the Association.

- Miller Dodson performed a visual evaluation on July 20, 2022 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.

Acknowledgment. Miller Dodson Associates would like to acknowledge the assistance and input of John Blair, Geoff Harton and Bob Richards Association board members. who provided very helpful insight into the current operations of the Association's property.

Analyst's Credentials. Brian J. Oates graduated from the University of Maryland with a degree in Urban Planning and studied the Principals and Practices of appraisal at the American University. Brian has owned and operated management companies and developed single and multifamily properties in the Washington metropolitan area. As a reserve analyst, Mr. Oates has performed reserve studies for Miller Dodson Associates since 2009.

Respectfully Submitted,

millerdodson
CAPITAL RESERVE CONSULTANTS

Brian J. Oates
Brian J. Oates

INTENTIONALLY LEFT BLANK

SECTION A - FINANCIAL ANALYSIS

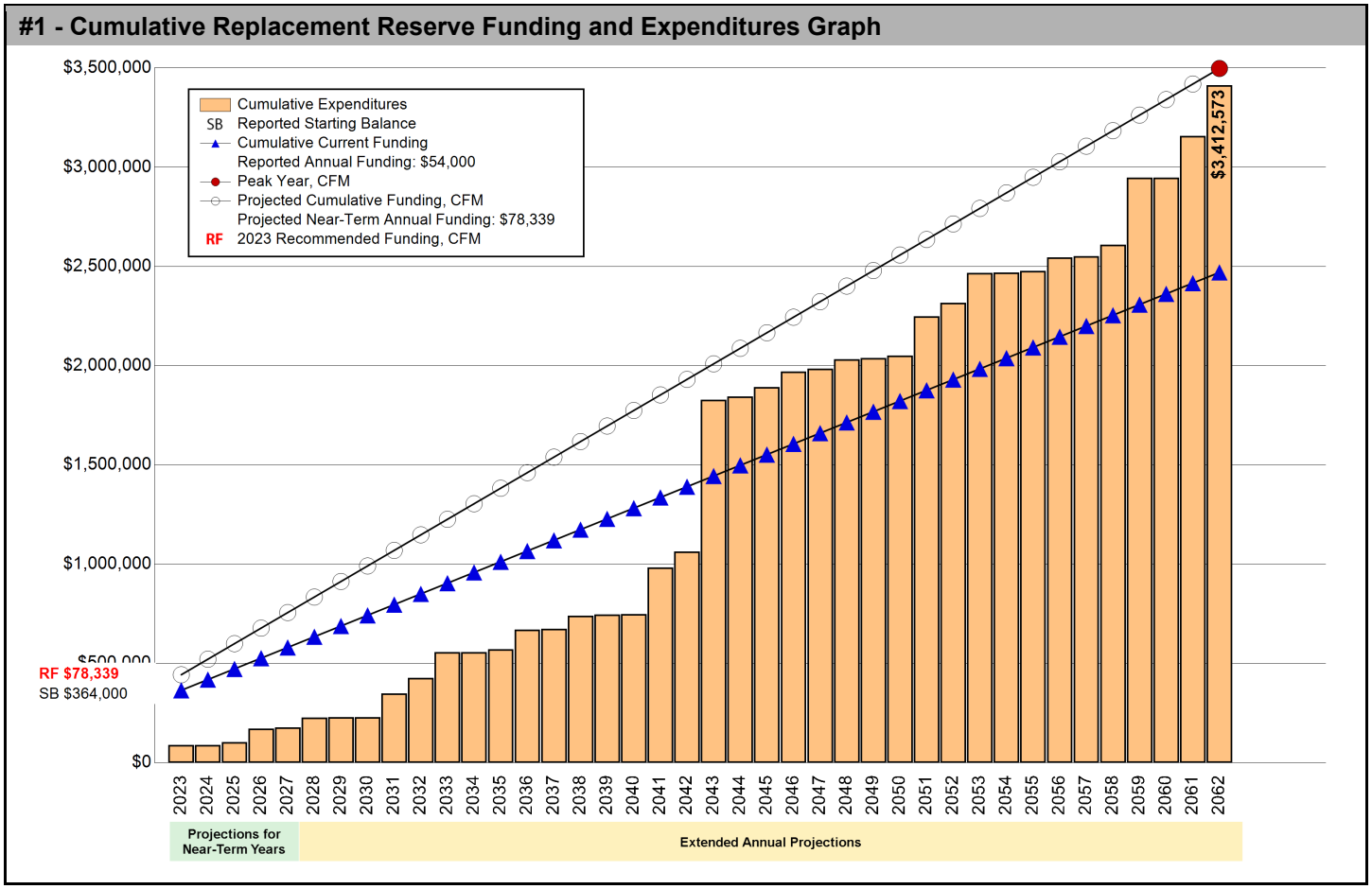
The The Waters at Lake Anna Replacement Reserve Analysis uses the Cash Flow Method (CFM) to calculate Replacement Reserve funding for the periodic replacement of the 119 Projected Replacements identified in the Replacement Reserve Inventory.

$78,339 **RECOMMENDED REPLACEMENT RESERVE FUNDING FOR THE STUDY YEAR, 2023**
$15.32 Per unit (average), minimum monthly funding of Replacement Reserves

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

The Waters at Lake Anna reports a Starting Balance of $364,000 and Annual Funding totaling $54,000, which is inadequate to fund projected replacements starting in 2043. See Page A.3 for a more detailed evaluation.

#1 - Cumulative Replacement Reserve Funding and Expenditures Graph



The study includes funding for the dredging of a portion of the marina, and the two stormwater ponds serving the community. Pricing for the dredging was provided by two local service providers. The areas in the current analysis are estimates. A comprehensive survey should be performed to provide more exacting quantities. Once the area(s), and quantities are established by the survey(s) the reserve study can be revised to incorporate contractual costs.

REPLACEMENT RESERVE ANALYSIS - GENERAL INFORMATION

The The Waters at Lake Anna 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.

2023 **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, 2023.

40 Years **STUDY PERIOD**

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

$364,000 **STARTING BALANCE**

The Association reports Replacement Reserves on Deposit totaling $364,000 at the start of the Study Year.

Level Two **LEVEL OF SERVICE**

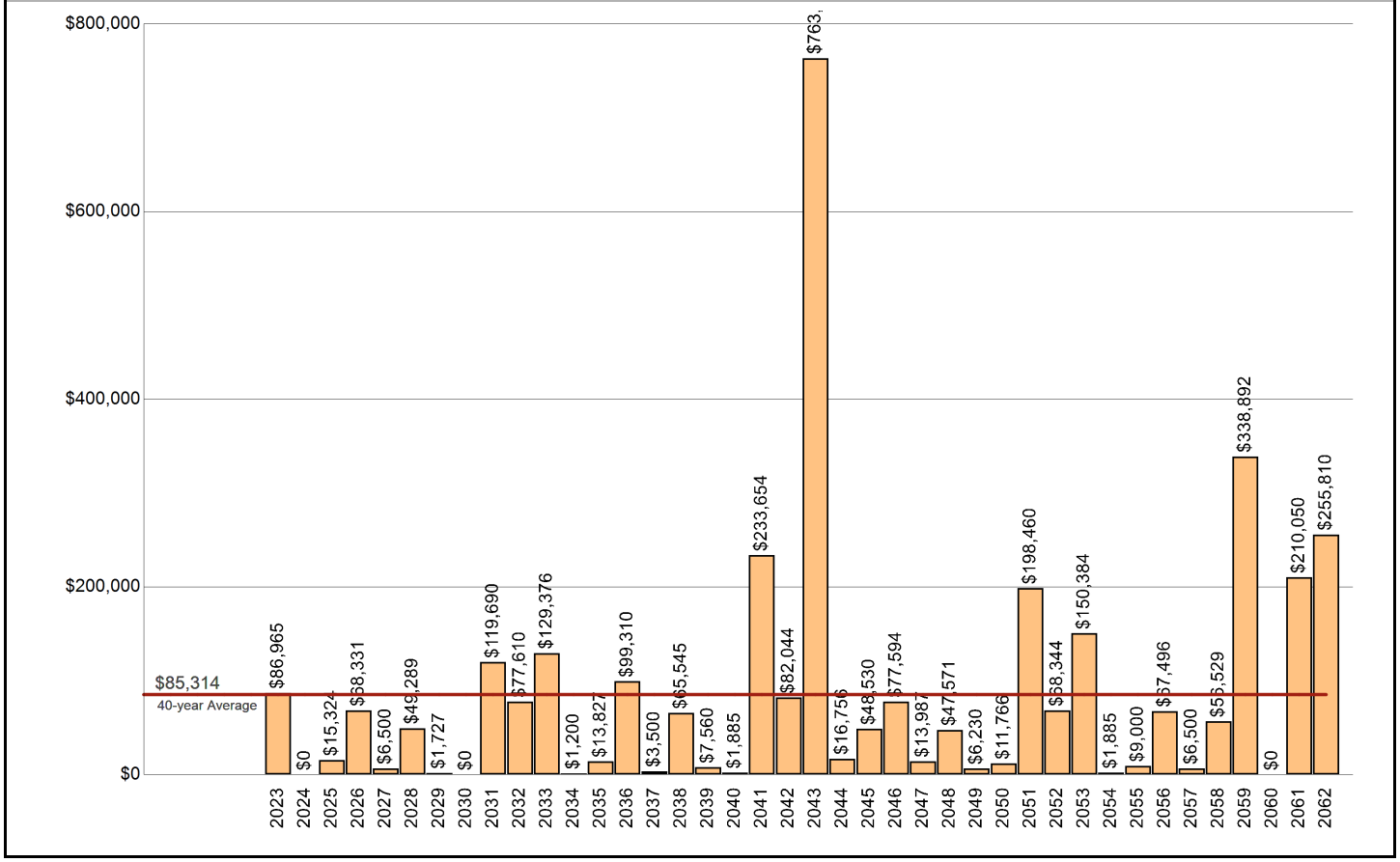
The Replacement Reserve Inventory has been developed in compliance with the National Reserve Study Standards for a Level Two Study, as defined by the Community Associations Institute (CAI).

$3,412,573 **REPLACEMENT RESERVE INVENTORY - PROJECTED REPLACEMENTS**

The The Waters at Lake Anna Replacement Reserve Inventory identifies 119 items that will require periodic replacement, that are to be funded from Replacement Reserves. We estimate the cost of these replacements will be $3,412,573 over the 40-year Study Period. The Projected Replacements are divided into 5 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 $85,314. Section C provides a year by year Calendar of these expenditures.



UPDATING OF THE FUNDING PLAN

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

UPDATING OF THE REPLACEMENT RESERVE STUDY

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

ANNUAL EXPENDITURES AND CURRENT FUNDING

The annual expenditures that comprise the $3,412,573 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	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Starting Balance	$364,000									
Projected Replacements	($86,965)		($15,324)	($68,331)	($6,500)	($49,289)	($1,727)		($119,690)	($77,610)
Annual Deposit	$54,000	$54,000	$54,000	$54,000	$54,000	$54,000	$54,000	$54,000	$54,000	$54,000
End of Year Balance	$331,035	$385,035	$423,711	$409,381	$456,881	$461,592	$513,865	$567,865	$502,175	$478,565
Cumulative Expenditures	($86,965)	($86,965)	($102,289)	($170,620)	($177,120)	($226,409)	($228,135)	($228,135)	($347,825)	($425,435)
Cumulative Receipts	$418,000	$472,000	$526,000	$580,000	$634,000	$688,000	$742,000	$796,000	$850,000	$904,000
Year	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**
Projected Replacements	($129,376)	($1,200)	($13,827)	($99,310)	($3,500)	($65,545)	($7,560)	($1,885)	($233,654)	($82,044)
Annual Deposit	$54,000	$54,000	$54,000	$54,000	$54,000	$54,000	$54,000	$54,000	$54,000	$54,000
End of Year Balance	$403,189	$455,989	$496,162	$450,853	$501,353	$489,808	$536,248	$588,363	$408,709	$380,665
Cumulative Expenditures	($554,811)	($556,011)	($569,838)	($669,147)	($672,647)	($738,192)	($745,752)	($747,637)	($981,291)	($1,063,335)
Cumulative Receipts	$958,000	$1,012,000	$1,066,000	$1,120,000	$1,174,000	$1,228,000	$1,282,000	$1,336,000	$1,390,000	$1,444,000
Year	**2043**	**2044**	**2045**	**2046**	**2047**	**2048**	**2049**	**2050**	**2051**	**2052**
Projected Replacements	($763,458)	($16,756)	($48,530)	($77,594)	($13,987)	($47,571)	($6,230)	($11,766)	($198,460)	($68,344)
Annual Deposit	$54,000	$54,000	$54,000	$54,000	$54,000	$54,000	$54,000	$54,000	$54,000	$54,000
End of Year Balance	($328,792)	($291,548)	($286,078)	($309,672)	($269,659)	($263,229)	($215,459)	($173,225)	($317,685)	($332,028)
Cumulative Expenditures	($1,826,792)	($1,843,548)	($1,892,078)	($1,969,672)	($1,983,659)	($2,031,229)	($2,037,459)	($2,049,225)	($2,247,685)	($2,316,028)
Cumulative Receipts	$1,498,000	$1,552,000	$1,606,000	$1,660,000	$1,714,000	$1,768,000	$1,822,000	$1,876,000	$1,930,000	$1,984,000
Year	**2053**	**2054**	**2055**	**2056**	**2057**	**2058**	**2059**	**2060**	**2061**	**2062**
Projected Replacements	($150,384)	($1,885)	($9,000)	($67,496)	($6,500)	($56,529)	($338,892)		($210,050)	($255,810)
Annual Deposit	$54,000	$54,000	$54,000	$54,000	$54,000	$54,000	$54,000	$54,000	$54,000	$54,000
End of Year Balance	($428,413)	($376,298)	($331,298)	($344,793)	($297,293)	($299,822)	($584,714)	($530,714)	($686,764)	($888,573)
Cumulative Expenditures	($2,466,413)	($2,468,298)	($2,477,298)	($2,544,793)	($2,551,293)	($2,607,822)	($2,946,714)	($2,946,714)	($3,156,764)	($3,412,573)
Cumulative Receipts	$2,038,000	$2,092,000	$2,146,000	$2,200,000	$2,254,000	$2,308,000	$2,362,000	$2,416,000	$2,470,000	$2,524,000

EVALUATION OF CURRENT FUNDING

The evaluation of Current Funding (Starting Balance of $364,000 & annual funding of $54,000), is done in today's dollars with no adjustments for inflation or interest earned on Replacement Reserves. The evaluation assumes Replacement Reserves will only be used for the 119 Projected Replacements identified in the Replacement Reserve Inventory and that the Association will continue Annual Funding of $54,000 throughout the 40-year Study Period.

Annual Funding of $54,000 is approximately 69 percent of the $78,339 recommended Annual Funding calculated by the Cash Flow Method for 2023, the Study Year.

See the Executive Summary for the Current Funding Statement.

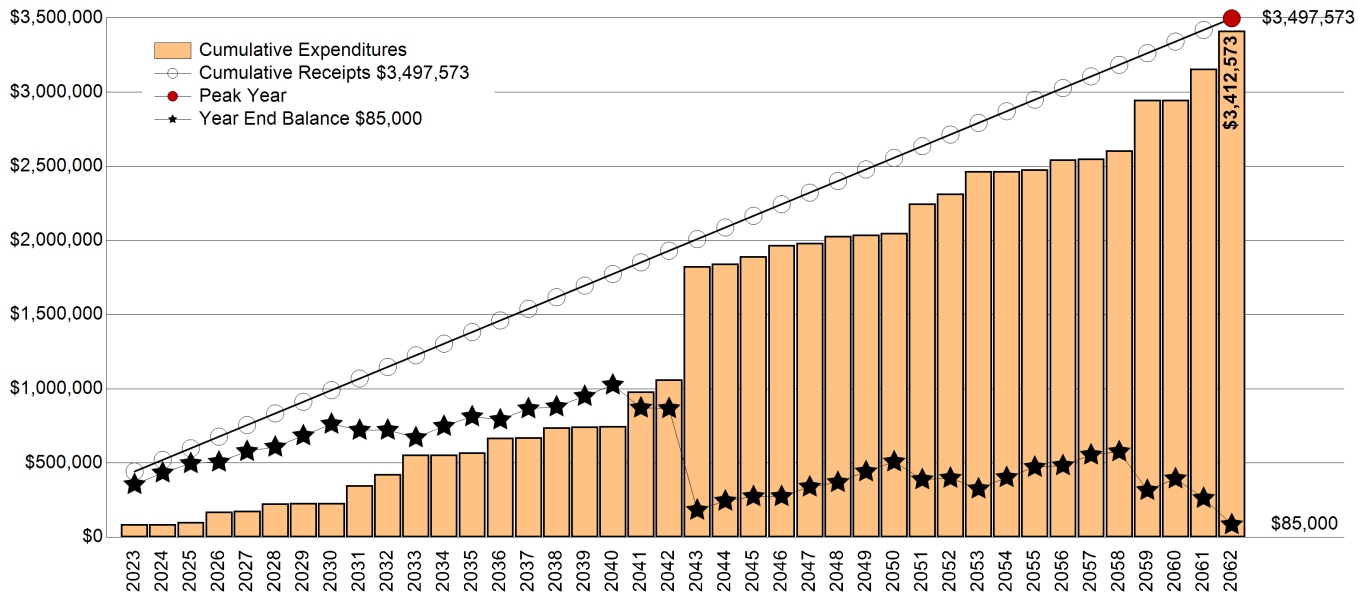
CASH FLOW METHOD FUNDING

$78,339 **RECOMMENDED REPLACEMENT RESERVE FUNDING FOR 2023**
$15.32 Per unit (average), minimum monthly funding of Replacement Reserves

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

- **Peak Years.** The First Peak Year occurs in 2062 with Replacement Reserves on Deposit dropping to the Minimum Balance after the completion of $3,412,573 of replacements from 2023 to 2062. Recommended funding is anticipated to decline in 2063. Peak Years are identified in Chart 4 and Table 5.
- **Threshold (Minimum Balance).** The calculations assume a Minimum Balance of $85,000 will always be held in reserve, which is calculated by rounding the 12-month 40-year average annual expenditure of $85,314 as shown on Graph #2.
- **Cash Flow Method Study Period.** Cash Flow Method calculates funding for $3,412,573 of expenditures over the 40-year Study Period. It does not include funding for any projects beyond 2062 and in 2062, 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	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Starting Balance	$364,000									
Projected Replacements	($86,965)		($15,324)	($68,331)	($6,500)	($49,289)	($1,727)		($119,690)	($77,610)
Annual Deposit	$78,339	$78,339	$78,339	$78,339	$78,339	$78,339	$78,339	$78,339	$78,339	$78,339
End of Year Balance	$355,374	$433,714	$496,729	$506,738	$578,577	$607,627	$684,240	$762,579	$721,228	$721,958
Cumulative Expenditures	($86,965)	($86,965)	($102,289)	($170,620)	($177,120)	($226,409)	($228,135)	($228,135)	($347,825)	($425,435)
Cumulative Receipts	$442,339	$520,679	$599,018	$677,357	$755,697	$834,036	$912,375	$990,715	$1,069,054	$1,147,393

Year	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Projected Replacements	($129,376)	($1,200)	($13,827)	($99,310)	($3,500)	($65,545)	($7,560)	($1,885)	($233,654)	($82,044)
Annual Deposit	$78,339	$78,339	$78,339	$78,339	$78,339	$78,339	$78,339	$78,339	$78,339	$78,339
End of Year Balance	$670,922	$748,061	$812,574	$791,603	$866,443	$879,237	$950,017	$1,026,471	$871,156	$867,452
Cumulative Expenditures	($554,811)	($556,011)	($569,838)	($669,147)	($672,647)	($738,192)	($745,752)	($747,637)	($981,291)	($1,063,335)
Cumulative Receipts	$1,225,733	$1,304,072	$1,382,411	$1,460,751	$1,539,090	$1,617,429	$1,695,769	$1,774,108	$1,852,447	$1,930,787

Year	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052
Projected Replacements	($763,458)	($16,756)	($48,530)	($77,594)	($13,987)	($47,571)	($6,230)	($11,766)	($198,460)	($68,344)
Annual Deposit	$78,339	$78,339	$78,339	$78,339	$78,339	$78,339	$78,339	$78,339	$78,339	$78,339
End of Year Balance	$182,334	$243,917	$273,726	$274,472	$338,824	$369,593	$441,703	$508,276	$388,156	$398,151
Cumulative Expenditures	($1,826,792)	($1,843,548)	($1,892,078)	($1,969,672)	($1,983,659)	($2,031,229)	($2,037,459)	($2,049,225)	($2,247,685)	($2,316,028)
Cumulative Receipts	$2,009,126	$2,087,465	$2,165,805	$2,244,144	$2,322,483	$2,400,823	$2,479,162	$2,557,501	$2,635,840	$2,714,180

Year	2053	2054	2055	2056	2057	2058	2059	2060	2061	1st Peak - 2062
Projected Replacements	($150,384)	($1,885)	($9,000)	($67,496)	($6,500)	($56,529)	($338,892)		($210,050)	($255,810)
Annual Deposit	$78,339	$78,339	$78,339	$78,339	$78,339	$78,339	$78,339	$78,339	$78,339	$78,339
End of Year Balance	$326,107	$402,561	$471,900	$482,744	$554,583	$576,394	$315,842	$394,181	$262,470	$85,000
Cumulative Expenditures	($2,466,413)	($2,468,298)	($2,477,298)	($2,544,793)	($2,551,293)	($2,607,822)	($2,946,714)	($2,946,714)	($3,156,764)	($3,412,573)
Cumulative Receipts	$2,792,519	$2,870,858	$2,949,198	$3,027,537	$3,105,876	$3,184,216	$3,262,555	$3,340,894	$3,419,234	$3,497,573

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.

$78,339 **2023 - CASH FLOW METHOD RECOMMENDED FUNDING**

The 2023 Study Year calculations have been made using current replacement costs (see Page B.2), modified by the Analyst for any project specific conditions.

$83,431 **2024 - INFLATION ADJUSTED FUNDING**

A new analysis calculates the 2024 funding based on three assumptions:

- Replacement Reserves on Deposit totaling $355,374 on January 1, 2024.
- All 2023 Projected Replacements listed on Page C.2 accomplished at a cost to Replacement Reserves less than $86,965.
- Construction Cost Inflation of 6.50 percent in 2023.

The $83,431 inflation adjusted funding in 2024 is a 6.50 percent increase over the non-inflation adjusted funding of $78,339.

$88,854 **2025 - INFLATION ADJUSTED FUNDING**

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

- Replacement Reserves on Deposit totaling $443,447 on January 1, 2025.
- No Expenditures from Replacement Reserves in 2024.
- Construction Cost Inflation of 6.50 percent in 2024.

The $88,854 inflation adjusted funding in 2025 is a 13.42 percent increase over the non-inflation adjusted funding of $78,339.

$94,630 **2026 - INFLATION ADJUSTED FUNDING**

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

- Replacement Reserves on Deposit totaling $434,426 on January 1, 2026.
- All 2025 Projected Replacements listed on Page C.2 accomplished at a cost to Replacement Reserves less than $16,888.
- Construction Cost Inflation of 6.50 percent in 2025.

The $94,630 inflation adjusted funding in 2026 is a 20.79 percent increase over the non-inflation adjusted funding of $78,339.



Year Four and Beyond

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

Inflation Adjustment

Prior to approving a budget based upon the 2024, 2025 and 2026 inflation-adjusted funding calculations above, the 6.50 percent base rate of inflation used in our calculations should be compared to rates published by the Bureau of Labor Statistics. If there is a significant discrepancy (over 1 percentage point), contact Miller Dodson Associates prior to using the Inflation Adjusted Funding.

Interest on Reserves

The recommended funding calculations do not account for interest earned on Replacement Reserves. In 2023, based on a 1.00 percent interest rate, we estimate the Association may earn $3,597 on an average balance of $359,687, $3,994 on an average balance of $399,411 in 2024, and $4,389 on $438,937 in 2025. The Association may elect to attribute 100 percent of the earned interest to Reserves, resulting in a reduction in the 2023 funding from $78,339 to $74,742 (a 4.59 percent reduction), $83,431 to $79,437 in 2024 (a 4.78 percent reduction), and $88,854 to $84,465 in 2025 (a 4.93 percent reduction).

INTENTIONALLY LEFT BLANK

SECTION B - REPLACEMENT RESERVE INVENTORY

- **PROJECTED REPLACEMENTS.** The Waters at Lake Anna - Replacement Reserve Inventory identifies 119 items which are Projected Replacements and the periodic replacements of these items are scheduled for funding from Replacement Reserves. The Projected Replacements have an estimated one-time replacement cost of $1,973,991. Cumulative Replacements totaling $3,412,573 are scheduled in the Replacement Reserve Inventory over the 40-year Study Period. Cumulative Replacements include those components that are replaced more than once during the period of the study.

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

- **EXCLUDED ITEMS.** Some of the items contained in the Replacement Reserve Inventory are 'Excluded Items'. Multiple categories of items are typically excluded from funding by Replacement Reserves, including but not limited to:

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

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

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

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

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

- **CATEGORIES.** The 119 items included in the The Waters at Lake Anna Replacement Reserve Inventory are divided into 5 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 MillerDodson Associates, Inc., in 2015. 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 119 Projected Replacements listed in the Replacement Reserve Inventory includes the following data:

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

  Item Description. We have identified each item included in the Inventory. Additional information may be included in the Comments section at the bottom of each page of the Inventory.

  Units. We have used standard abbreviations to identify the number of units including SF-square feet, LF-lineal feet, SY-square yard, LS-lump sum, EA-each, and PR-pair. Non-standard abbreviations are noted in the Comments section at the bottom of the page.

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

  Unit Replacement Cost. We use four sources to develop the unit cost data shown in the Inventory; actual replacement cost data provided by the client, information provided by local contractors and suppliers, industry standard estimating manuals, and a cost database we have developed based upon our detailed interviews with contractors and service providers who are specialists in their respective lines of work.

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

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

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

- **PARTIAL FUNDING.** Items may have been included in the Replacement Reserve Inventory at less than 100 percent of their full quantity and/or replacement cost. This is done on items that will never be replaced in their entirety, but which may require periodic replacements over an extended period of time. The assumptions that provide the basis for any partial funding are noted in the Comments section.
- **REMAINING ECONOMIC LIFE GREATER THAN 40 YEARS.** The calculations do not include funding for initial replacements beyond 40 years. These replacements are included in this Study for tracking and evaluation. They should be included for funding in future Studies, when they enter the 40-year window.
- **ACCURACY OF THE ANALYSIS.** The accuracy of the Replacement Reserve Analysis is dependent upon expenditures from Replacement Reserves being made ONLY for the 119 Projected Replacements specifically listed in the Replacement Reserve Inventory. The inclusion/exclusion of items from the Replacement Reserve Inventory is discussed on Page B.1.

SITE ITEMS
PROJECTED REPLACEMENTS

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

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST ($)	NEL	REL	REPLACEMENT COST ($)
1	Asphalt pavement, mill and overlay	sf	3,935	$2.45	20	10	$9,641
2	Asphalt pavement, seal coat	sf	3,925	$0.22	5	5	$864
3	Concrete roadway (6%)	sf	1,110	$10.60	6	3	$11,766
4	Concrete flatwork (6%)	sf	67	$10.85	6	6	$727
5	Concrete boat ramp (allowance)	sf	1,300	$17.00	49	20	$22,100
6	Gravel roadway, replenish 3/8" per sf., (25%)	sf	11,100	$1.25	5	none	$13,875
7	Retaining wall, PTL, community center	sf	86	$39.75	20	10	$3,419
8	Retaining wall, PTL, capped beach wall	sf	216	$39.75	20	10	$8,586
9	Retaining wall, PTL, beach jetty wall	sf	108	$39.75	20	10	$4,293
10	Retaining wall, CMU, boat launch ramp	sf	108	$48.50	40	22	$5,238
11	Fence, 4', two rail, vinyl	ft	976	$29.50	40	22	$28,792
12	Entrance monument and lake aerator electric	ls	1	$1,700.00	40	20	$1,700
13	Entrance monument, repoint masonry, 10%	sf	150	$10.50	10	5	$1,575
14	Entrance monument lighting allowance	ea	8	$150.00	15	5	$1,200
15	Community message board	ea	2	$800.00	20	10	$1,600
16	Flagpole, aluminum at boat launch area	ea	1	$1,500.00	30	12	$1,500
17	Gate actuator	ea	2	$500.00	2	2	$1,000
18	Launch and beach gate, steel 15' replacement	ea	2	$1,700.00	15	10	$3,400
						Replacement Costs - Page Subtotal	$121,275

COMMENTS

SITE ITEMS - (cont.)
PROJECTED REPLACEMENTS

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

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST ($)	NEL	REL	REPLACEMENT COST ($)
19	Gate key card and control board (allowance)	ea	2	$1,000.00	6	4	$2,000
20	Surveillance equipment allowance	ls	1	$25,000.00	5	3	$25,000
21	Stormwater inlet and piping (10% allowance)	ls	1	$11,000.00	20	15	$11,000
22	Pond 'F' aerator controller and cable (allowance)	ls	1	$9,000.00	10	8	$9,000
23	Pond 'F' aerator and power unit (allowance)	ls	1	$3,500.00	6	4	$3,500
24	Hydraulic dredging, ponds (25%)	cy	545	$65.00	20	10	$35,425
25	Hydraulic dredging, marina	cy	685	$100.00	20	none	$68,500

Replacement Costs - Page Subtotal $154,425

COMMENTS

- Item #20: Surveillance equipment allowance - 12 cameras and recording equipment. 1 in Clubhouse, 5 at Community entrance, 1 clubhouse roof, 1 marina , 5 under eaves of clubhouse, 2 at beach gate, 2 at beach pavilion
- Item #21: Stormwater inlet and piping (10% allowance) - Includes stormwater ponds and median inlets chamber and piping.
- Item #23: Pond 'F' aerator and power unit (allowance) - Current aerator and power unit installed in or around May 2020.

EXTERIOR ITEMS - COMMUNITY CENTER, EXTERIOR

PROJECTED REPLACEMENTS

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

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST ($)	NEL	REL	REPLACEMENT COST ($)
26	Roofing, asphalt shingles	sf	3,065	$4.00	25	24	$12,260
27	Gutter and downspouts, 6" aluminum	ft	300	$13.50	30	5	$4,050
28	Fascia board	sf	205	$8.10	25	5	$1,661
29	Soffit, vent	ft	600	$4.85	40	20	$2,910
30	Siding and trim, cementitious	sf	1,140	$11.20	50	30	$12,768
31	Trim board	lf	215	$10.00	40	20	$2,150
32	Window, stationary	sf	755	$40.50	35	18	$30,578
33	Door, steel, flush (3' X 6'8")	ea	5	$960.00	30	13	$4,800
34	Door, steel and glass (3' X 6'8")	ea	1	$1,240.00	30	13	$1,240
35	Door, aluminum and glass (6'X7')	pr	1	$2,600.00	35	18	$2,600
36	Deck, structure PTL	sf	1,200	$18.50	45	28	$22,200
37	Deck, composite decking	sf	1,200	$16.70	30	28	$20,040
38	Deck, composite railing	ft	220	$44.80	30	28	$9,856
39	Deck step structure and synthetic tread	ea	19	$110.00	30	13	$2,090
40	Deck, step railing	ft	40	$44.80	30	25	$1,792
41	Recessed soffit light	ea	10	$175.00	30	13	$1,750
42	Exterior wall mounted light	ea	2	$250.00	30	13	$500

Replacement Costs - Page Subtotal $133,244

COMMENTS

INTERIOR ITEMS - COMMUNITY CENTER, INTERIOR

PROJECTED REPLACEMENTS

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

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST ($)	NEL	REL	REPLACEMENT COST ($)
43	Flooring, carpet	sf	1,270	$4.85	10	3	$6,160
44	Flooring, ceramic tile	sf	50	$37.50	30	10	$1,875
45	Flooring, vinyl tile	sf	290	$6.50	14	3	$1,885
46	Kitchen, residential, cabinets	ft	24	$235.00	30	10	$5,640
47	Kitchen, residential, laminate counter-top	sf	50	$38.00	21	2	$1,900
48	Kitchen, residential, microwave	ea	1	$150.00	14	2	$150
49	Kitchen, residential,18 cf refrigerator	ea	1	$1,540.00	21	2	$1,540
50	Kitchen, residential, dishwasher	ea	1	$950.00	21	none	$950
51	Kitchen flooring, vinyl tile	sf	140	$6.50	14	2	$910
52	Powder room renovation, upper level	ea	2	$3,000.00	30	10	$6,000
53	Women's shower room sink, fixture, and mirror	ea	4	$350.00	10	2	$1,400
54	Laminate counter-top	sf	24	$38.00	21	2	$912
55	Toilet and stall	ea	4	$1,000.00	20	10	$4,000
56	Shower, fixtures	ea	2	$450.00	10	5	$900
57	Fluorescent light fixture	ea	5	$250.00	20	5	$1,250
58	Men's shower room sink, fixture, and mirror	ea	4	$350.00	10	2	$1,400
59	Laminate counter-top	sf	24	$38.00	21	2	$912
60	Toilet and stall	ea	2	$1,000.00	20	10	$2,000
61	Urinal and partition	ea	2	$300.00	20	10	$600
62	Shower, fixtures	ea	2	$450.00	10	5	$900
63	Fluorescent light fixture	ea	6	$250.00	20	5	$1,500
64	Office equipment (allowance)	ls	1	$5,000.00	5	5	$5,000
65	Meeting table and chair (allowance)	ls	1	$2,500.00	15	14	$2,500
					Replacement Costs - Page Subtotal		$50,284

COMMENTS

INTERIOR ITEMS - COMMUNITY CENTER, INTERIOR - (cont.)

PROJECTED REPLACEMENTS

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

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST ($)	NEL	REL	REPLACEMENT COST ($)
66	Upholstered chair	ea	6	$175.00	10	13	$1,050
				Replacement Costs - Page Subtotal			$1,050

COMMENTS

BUILDING SYSTEMS - COMMUNITY CENTER, BUILDING SYSTEMS

PROJECTED REPLACEMENTS

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

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST ($)	NEL	REL	REPLACEMENT COST ($)
67	Heat pump and air handler (5 ton)	ea	1	$15,000.00	15	8	$15,000
68	Water heater, electric (65 gallon)	ea	2	$1,250.00	15	none	$2,500
69	Sprinkler system pipe, valve, and head (allowance)	ls	1	$2,500.00	10	5	$2,500
70	Interior copper piping (allowance)	ls	1	$2,500.00	10	5	$2,500
71	Well pump, fresh water (allowance)	ls	1	$1,200.00	10	2	$1,200
72	Water pressure tank	ls	1	$2,600.00	30	12	$2,600
73	Water conditioner system (allowance)	ls	1	$4,000.00	10	2	$4,000
74	Septic tank (allowance)	ls	2	$6,200.00	40	20	$12,400
75	Sanitary system primary pump (allowance)	ls	1	$2,100.00	10	9	$2,100
76	Sanitary system secondary pump (allowance)	ls	1	$2,100.00	10	9	$2,100
				Replacement Costs - Page Subtotal			$46,900

COMMENTS

- Item #68: Water heater, electric (65 gallon) - Current units were manufactured in 2003.

RECREATION ITEMS
PROJECTED REPLACEMENTS

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

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST ($)	NEL	REL	REPLACEMENT COST ($)
77	Swimming pool, structure	sf	1,800	$90.00	60	39	$162,000
78	Swimming pool, whitecoat	sf	1,800	$25.83	10	9	$46,494
79	Swimming pool, waterline tile	ft	180	$72.22	10	9	$13,000
80	Swimming pool coping, precast concrete	ft	180	$90.00	20	19	$16,200
81	Pool ladder (4 step)	ea	2	$1,075.00	10	9	$2,150
82	Safety rail	ea	2	$450.00	20	10	$900
83	Pool cover, safety mesh	sf	1,800	$3.33	10	10	$5,994
84	Pool pump (2.6 hp)	ea	1	$2,000.00	5	3	$2,000
85	Pool filter, sand	ea	2	$2,100.00	15	13	$4,200
86	Hayward Saline C 110 chlorination unit	ls	1	$16,000.00	10	8	$16,000
87	Hayward Cat 500 chemical system	ls	1	$21,100.00	10	8	$21,100
88	Pool deck, concrete, (20%)	sf	750	$11.50	10	10	$8,625
89	Fence, 6' aluminum with 3 rails and pickets	ft	580	$42.60	40	30	$24,708
90	Fence gate	ea	1	$650.00	20	15	$650
91	Chaise lounge, plastic framed	ea	25	$175.00	10	5	$4,375
92	Round metal table, pool	ea	6	$1,000.00	10	5	$6,000
93	Umbrella	ea	6	$190.00	5	none	$1,140

Replacement Costs - Page Subtotal $335,536

COMMENTS

- Item #78: Swimming pool, whitecoat - 9.29.22 Per request, changed URC.
- Item #79: Swimming pool, waterline tile - 9.29.22 Per request, changed URC.
- Item #80: Swimming pool coping, precast concrete - 9.29.22 Per request, changed URC and REL.
- Item #81: Pool ladder (4 step) - 9.29.22 Per request, changed NEL and REL.
- Item #83: Pool cover, safety mesh - 9.29.22 Per request, changed URC, NEL, and REL.
- Item #87: Hayward Cat 500 chemical system - 9.29.22 Per request, changed URC.
- Item #92: Round metal table, pool - 9.29.22 Per request, changed description and URC.

RECREATION ITEMS - PAVILLION

PROJECTED REPLACEMENTS

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

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST ($)	NEL	REL	REPLACEMENT COST ($)
94	Pavilion, asphalt shingles	sf	1,010	$4.00	25	21	$4,040
95	Pavilion support (allowance)	ls	1	$2,400.00	10	8	$2,400
96	Pavilion fascia board, allowance	lf	120	$12.00	30	26	$1,440
97	Pavilion gutter and downspouts, 6" aluminum	ft	140	$13.50	30	26	$1,890
98	Pavilion cupola, small wood, replace	ea	1	$700.00	30	26	$700
99	Pavilion soffit ceiling/vent	ft	900	$4.85	40	36	$4,365
100	Pavilion ceiling fan and recess light allowance	ls	1	$1,200.00	15	11	$1,200
101	Pavilion, metal rectangular 6' tables w/ benches	ea	2	$1,000.00	15	13	$2,000
102	Pavilion, metal rectangular 8' tables w/ benches	ea	2	$1,150.00	15	13	$2,300

Replacement Costs - Page Subtotal $20,335

COMMENTS

- Item #101: Pavilion, metal rectangular 6' tables w/ benches - 9.29.22 Per request, added line item.
- Item #102: Pavilion, metal rectangular 8' tables w/ benches - 9.29.22 Per request, added line item.

RECREATION ITEMS - MARINA
PROJECTED REPLACEMENTS

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

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST ($)	NEL	REL	REPLACEMENT COST ($)
103	Pier structure, PTL	sf	16,000	$38.50	35	20	$616,000
104	Pier decking, composite	sf	16,000	$20.80	45	36	$332,800
				Replacement Costs - Page Subtotal			$948,800

COMMENTS

RECREATION ITEMS - TENNIS COURT

PROJECTED REPLACEMENTS

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

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST ($)	NEL	REL	REPLACEMENT COST ($)
105	Tennis court, asphalt overlay	sf	13,200	$5.80	20	18	$76,560
106	Tennis court, color coat (3 coats)	sf	13,200	$1.20	5	3	$15,840
107	Tennis court, post and footings	pr	2	$1,600.00	20	18	$3,200
108	Fence, tennis court, 10' vinyl coated	ft	460	$30.00	45	18	$13,800
109	Basketball pole and backboard	ea	1	$1,500.00	20	18	$1,500

Replacement Costs - Page Subtotal $110,900

COMMENTS

RECREATION ITEMS - BEACH AREA/TOT LOT

PROJECTED REPLACEMENTS

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

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST ($)	NEL	REL	REPLACEMENT COST ($)
110	Tot lot, MP structure, 2 platforms and 2 slides)	ea	1	$17,150.00	15	13	$17,150
111	Tot lot, 5" single post swing, 3 seat	ea	1	$2,050.00	15	13	$2,050
112	Tot lot surfacing, rubber mulch (3")	ls	1	$5,680.00	5	3	$5,680
113	Tot lot, border recycled plastic	ft	190	$15.65	30	28	$2,974
114	Bench, (coated metal)	ea	2	$1,370.00	15	13	$2,740
115	Picnic, (table vinyl coated metal)	ea	3	$920.00	15	13	$2,760
	Picnic table (PTL wood table and bench, metal						EXCLUDED
116	Trash can and receptacle coated metal	ea	3	$890.00	10	8	$2,670
117	Pavilion concrete slab	sf	364	$25.00	40	38	$9,100
118	Roofing, asphalt shingles	sf	400	$4.00	25	23	$1,600
119	Pavilion support and trim (allowance)	ls	1	$4,000.00	10	8	$4,000

Replacement Costs - Page Subtotal $50,724

COMMENTS

- Tot lots and tot lot equipment should be evaluated annually by a playground safety specialist for compliance with the Consumer Product Safety Commission, Handbook for Public Playground Safety. Defects should be corrected immediately to protect the users of the facilities from potential injury and the Association from potential liability for those injuries.
- Picnic table (PTL wood table and bench, metal supports) - [09/29/2022] excluded per board, this is planned to be removed.

VALUATION EXCLUSIONS
Excluded Items

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST ($)	NEL	REL	REPLACEMENT COST ($)
	Miscellaneous signage						EXCLUDED
	Emergency lighting, exit light, etc.						EXCLUDED
	Interior doors						EXCLUDED

VALUATION EXCLUSIONS
Comments

- Valuation Exclusions. For ease of administration of the Replacement Reserves and to reflect accurately how Replacement Reserves are administered, items with a dollar value less than $1000 have not been scheduled for funding from Replacement Reserve. Examples of items excluded by Replacement Reserves by this standard are listed above.

- The list above exemplifies exclusions by the cited standard(s) and is not intended to be comprehensive.

LONG-LIFE EXCLUSIONS
Excluded Items

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST ($)	NEL	REL	REPLACEMENT COST ($)
	Masonry features						EXCLUDED
	Miscellaneous culverts						EXCLUDED
	Building foundation(s)						EXCLUDED
	Concrete floor slabs (interior)						EXCLUDED
	Wall, floor, and roof structure						EXCLUDED
	Common element electrical services						EXCLUDED
	Electrical wiring						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
	Sidewalk on an individual lot						EXCLUDED
	Stairs on an individual lot						EXCLUDED
	Curb & gutter on an individual lot						EXCLUDED
	Retaining wall on an individual lot						EXCLUDED
	Fence on an individual lot						EXCLUDED
	Dock on an individually lot						EXCLUDED
	Unit exterior						EXCLUDED
	Unit windows						EXCLUDED
	Unit doors						EXCLUDED
	Unit deck, patio, and/or balcony						EXCLUDED
	Unit mailbox						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

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
	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.

GOVERNMENT EXCLUSIONS

Excluded Items

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST ($)	NEL	REL	REPLACEMENT COST ($)
	Government, roadways and parking						EXCLUDED
	Government, sidewalks and curbs						EXCLUDED
	Government, lighting						EXCLUDED
	Government, stormwater mgmt.						EXCLUDED
	Government, ponds						EXCLUDED

GOVERNMENT EXCLUSIONS

Comments

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

INTENTIONALLY LEFT BLANK

SECTION C - CALENDAR OF PROJECTED ANNUAL REPLACEMENTS

GENERAL STATEMENT. The 119 Projected Replacements in the The Waters at Lake Anna Replacement Reserve Inventory whose replacement is scheduled to be funded from Replacement Reserves are broken down on a year-by-year basis, beginning on Page C.2.

REPLACEMENT RESERVE ANALYSIS AND INVENTORY POLICIES, PROCEDURES, AND ADMINISTRATION

- **REVIEW OF THE REPLACEMENT RESERVE STUDY.** For this study to be effective, it should be reviewed by the Board of Directors, those responsible for the management of the items included in the Replacement Reserve Inventory, and the accounting professionals employed by the Association.
- **REVISIONS.** Revisions will be made to the Replacement Reserve Analysis and Replacement Reserve Inventory in accordance with the written instructions of the Association's Board of Directors. No additional charge is incurred for the first revision if requested in writing within three months of the date of the Replacement Reserve Study. It is our policy to provide revisions in electronic (Adobe PDF) format only. We acknowledge that there are instances in which multiple revisions are necessary. However, unnecessary multiple revisions drain on our time and manpower resources. Therefore, Miller Dodson will exercise its sole discretion as to whether additional charges are incurred.
- **TAX CODE**. The United States Tax Code grants favorable tax status to a common interest development (CID) meeting certain guidelines for their Replacement Reserve. If a CID files their taxes as a 'Corporation' on Form 1120 (IRC Section 277), these guidelines typically require maintenance activities, partial replacements, minor replacements, capital improvements, and one-time only replacements to be excluded from Reserves. A CID cannot co-mingle planning for maintenance activities with capital replacement activities in the Reserves (Revenue Ruling 75-370). Funds for maintenance activities and capital replacements activities must be held in separate accounts. If a CID files taxes as an "Exempt Homeowners Association" using Form 1120H (IRC Section 528), the CID does not have to segregate these activities. However, because the CID may elect to change their method of filing from year to year within the Study Period, we advise using the more restrictive approach. We further recommend that the CID consult with their Accountant and consider creating separate and independent accounts and reserves for large maintenance items, such as painting.
- **CONFLICT OF INTEREST.** Neither Miller - Dodson Associates nor the Reserve Analyst has any prior or existing relationship with this Association which would represent a real or perceived conflict of interest.
- **RELIANCE ON DATA PROVIDED BY THE CLIENT.** Information provided by an official representative of the Association regarding financial, physical conditions, quality, or historical issues is deemed reliable.
- **INTENT.** This Replacement Reserve Study is a reflection of the information provided by the Association and the visual evaluations of the Analyst. It has been prepared for the sole use of the Association and is not for the purpose of performing an audit, quality/forensic analyses, or background checks of historical records.
- **PREVIOUS REPLACEMENTS.** Information provided to Miller - Dodson Associates regarding prior replacements is considered to be accurate and reliable. Our visual evaluation is not a project audit or quality inspection.
- **EXPERIENCE WITH FUTURE REPLACEMENTS.** The Calendar of Annual Projected Replacements, lists replacements we have projected to occur over the Study Period, begins on Page C2. Actual experience in replacing the items may differ significantly from the cost estimates and time frames shown because of conditions beyond our control. These differences may be caused by maintenance practices, inflation, variations in pricing and market conditions, future technological developments, regulatory actions, acts of God, and luck. Some items may function normally during our visual evaluation and then fail without notice.

PROJECTED REPLACEMENTS

Item	2023 - Study Year	$
6	Gravel roadway, replenish 3/8" per sf., (25%)	$13,875
25	Hydraulic dredging, marina	$68,500
50	Kitchen, residential, dishwasher	$950
68	Water heater, electric (65 gallon)	$2,500
93	Umbrella	$1,140
	Total Scheduled Replacements	$86,965

Item	2024 - YEAR 1	$
	No Scheduled Replacements	

Item	2025 - YEAR 2	$
17	Gate actuator	$1,000
47	Kitchen, residential, laminate counter-top	$1,900
48	Kitchen, residential, microwave	$150
49	Kitchen, residential,18 cf refrigerator	$1,540
51	Kitchen flooring, vinyl tile	$910
53	Women's shower room sink, fixture, and mirror	$1,400
54	Laminate counter-top	$912
58	Men's shower room sink, fixture, and mirror	$1,400
59	Laminate counter-top	$912
71	Well pump, fresh water (allowance)	$1,200
73	Water conditioner system (allowance)	$4,000
	Total Scheduled Replacements	$15,324

Item	2026 - YEAR 3	$
3	Concrete roadway (6%)	$11,766
20	Surveillance equipment allowance	$25,000
43	Flooring, carpet	$6,160
45	Flooring, vinyl tile	$1,885
84	Pool pump (2.6 hp)	$2,000
106	Tennis court, color coat (3 coats)	$15,840
112	Tot lot surfacing, rubber mulch (3")	$5,680
	Total Scheduled Replacements	$68,331

PROJECTED REPLACEMENTS

Item	2027 - YEAR 4	$
17	Gate actuator	$1,000
19	Gate key card and control board (allowance)	$2,000
23	Pond 'F' aerator and power unit (allowance)	$3,500
	Total Scheduled Replacements	$6,500

Item	2028 - YEAR 5	$
2	Asphalt pavement, seal coat	$864
6	Gravel roadway, replenish 3/8" per sf., (25%)	$13,875
13	Entrance monument, repoint masonry, 10% (allowance)	$1,575
14	Entrance monument lighting allowance	$1,200
27	Gutter and downspouts, 6" aluminum	$4,050
28	Fascia board	$1,661
56	Shower, fixtures	$900
57	Fluorescent light fixture	$1,250
62	Shower, fixtures	$900
63	Fluorescent light fixture	$1,500
64	Office equipment (allowance)	$5,000
69	Sprinkler system pipe, valve, and head (allowance)	$2,500
70	Interior copper piping (allowance)	$2,500
91	Chaise lounge, plastic framed	$4,375
92	Round metal table, pool	$6,000
93	Umbrella	$1,140
	Total Scheduled Replacements	$49,289

Item	2029 - YEAR 6	$
4	Concrete flatwork (6%)	$727
17	Gate actuator	$1,000
	Total Scheduled Replacements	$1,727

Item	2030 - YEAR 7	$
	No Scheduled Replacements	

PROJECTED REPLACEMENTS

Item	2031 - YEAR 8	$
17	Gate actuator	$1,000
20	Surveillance equipment allowance	$25,000
22	Pond 'F' aerator controller and cable (allowance)	$9,000
67	Heat pump and air handler (5 ton)	$15,000
84	Pool pump (2.6 hp)	$2,000
86	Hayward Saline C 110 chlorination unit	$16,000
87	Hayward Cat 500 chemical system	$21,100
95	Pavilion support (allowance)	$2,400
106	Tennis court, color coat (3 coats)	$15,840
112	Tot lot surfacing, rubber mulch (3")	$5,680
116	Trash can and receptacle coated metal	$2,670
119	Pavilion support and trim (allowance)	$4,000
	Total Scheduled Replacements	$119,690

Item	2032 - YEAR 9	$
3	Concrete roadway (6%)	$11,766
75	Sanitary system primary pump (allowance)	$2,100
76	Sanitary system secondary pump (allowance)	$2,100
78	Swimming pool, whitecoat	$46,494
79	Swimming pool, waterline tile	$13,000
81	Pool ladder (4 step)	$2,150
	Total Scheduled Replacements	$77,610

Item	2033 - YEAR 10	$
1	Asphalt pavement, mill and overlay	$9,641
2	Asphalt pavement, seal coat	$864
6	Gravel roadway, replenish 3/8" per sf., (25%)	$13,875
7	Retaining wall, PTL, community center	$3,419
8	Retaining wall, PTL, capped beach wall	$8,586
9	Retaining wall, PTL, beach jetty wall	$4,293
15	Community message board	$1,600
17	Gate actuator	$1,000
18	Launch and beach gate, steel 15' replacement	$3,400
19	Gate key card and control board (allowance)	$2,000
23	Pond 'F' aerator and power unit (allowance)	$3,500
24	Hydraulic dredging, ponds (25%)	$35,425
44	Flooring, ceramic tile	$1,875
46	Kitchen, residential, cabinets	$5,640
52	Powder room renovation, upper level	$6,000
55	Toilet and stall	$4,000
60	Toilet and stall	$2,000
61	Urinal and partition	$600
64	Office equipment (allowance)	$5,000
82	Safety rail	$900
83	Pool cover, safety mesh	$5,994
88	Pool deck, concrete, (20%)	$8,625
93	Umbrella	$1,140
	Total Scheduled Replacements	$129,376

Item	2034 - YEAR 11	$
100	Pavilion ceiling fan and recess light allowance	$1,200
	Total Scheduled Replacements	$1,200

PROJECTED REPLACEMENTS

Item	2035 - YEAR 12	$
4	Concrete flatwork (6%)	$727
16	Flagpole, aluminum at boat launch area	$1,500
17	Gate actuator	$1,000
53	Women's shower room sink, fixture, and mirror	$1,400
58	Men's shower room sink, fixture, and mirror	$1,400
71	Well pump, fresh water (allowance)	$1,200
72	Water pressure tank	$2,600
73	Water conditioner system (allowance)	$4,000
	Total Scheduled Replacements	$13,827

Item	2036 - YEAR 13	$
20	Surveillance equipment allowance	$25,000
33	Door, steel, flush (3' X 6'8")	$4,800
34	Door, steel and glass (3' X 6'8")	$1,240
39	Deck step structure and synthetic tread	$2,090
41	Recessed soffit light	$1,750
42	Exterior wall mounted light	$500
43	Flooring, carpet	$6,160
66	Upholstered chair	$1,050
84	Pool pump (2.6 hp)	$2,000
85	Pool filter, sand	$4,200
101	Pavilion, metal rectangular 6' tables w/ benches	$2,000
102	Pavilion, metal rectangular 8' tables w/ benches	$2,300
106	Tennis court, color coat (3 coats)	$15,840
110	Tot lot, MP structure, 2 platforms and 2 slides)	$17,150
111	Tot lot, 5" single post swing, 3 seat	$2,050
112	Tot lot surfacing, rubber mulch (3")	$5,680
114	Bench, (coated metal)	$2,740
115	Picnic, (table vinyl coated metal)	$2,760
	Total Scheduled Replacements	$99,310

Item	2037 - YEAR 14	$
17	Gate actuator	$1,000
65	Meeting table and chair (allowance)	$2,500
	Total Scheduled Replacements	$3,500

Item	2038 - YEAR 15	$
2	Asphalt pavement, seal coat	$864
3	Concrete roadway (6%)	$11,766
6	Gravel roadway, replenish 3/8" per sf., (25%)	$13,875
13	Entrance monument, repoint masonry, 10% (allowance)	$1,575
21	Stormwater inlet and piping (10% allowance)	$11,000
56	Shower, fixtures	$900
62	Shower, fixtures	$900
64	Office equipment (allowance)	$5,000
68	Water heater, electric (65 gallon)	$2,500
69	Sprinkler system pipe, valve, and head (allowance)	$2,500
70	Interior copper piping (allowance)	$2,500
90	Fence gate	$650
91	Chaise lounge, plastic framed	$4,375
92	Round metal table, pool	$6,000
93	Umbrella	$1,140
	Total Scheduled Replacements	$65,545

PROJECTED REPLACEMENTS

Item	2039 - YEAR 16	$
17	Gate actuator	$1,000
19	Gate key card and control board (allowance)	$2,000
23	Pond 'F' aerator and power unit (allowance)	$3,500
48	Kitchen, residential, microwave	$150
51	Kitchen flooring, vinyl tile	$910
	Total Scheduled Replacements	$7,560

Item	2040 - YEAR 17	$
45	Flooring, vinyl tile	$1,885
	Total Scheduled Replacements	$1,885

Item	2041 - YEAR 18	$
4	Concrete flatwork (6%)	$727
17	Gate actuator	$1,000
20	Surveillance equipment allowance	$25,000
22	Pond 'F' aerator controller and cable (allowance)	$9,000
32	Window, stationary	$30,578
35	Door, aluminum and glass (6'X7')	$2,600
84	Pool pump (2.6 hp)	$2,000
86	Hayward Saline C 110 chlorination unit	$16,000
87	Hayward Cat 500 chemical system	$21,100
95	Pavilion support (allowance)	$2,400
105	Tennis court, asphalt overlay	$76,560
106	Tennis court, color coat (3 coats)	$15,840
107	Tennis court, post and footings	$3,200
108	Fence, tennis court, 10' vinyl coated	$13,800
109	Basketball pole and backboard	$1,500
112	Tot lot surfacing, rubber mulch (3")	$5,680
116	Trash can and receptacle coated metal	$2,670
119	Pavilion support and trim (allowance)	$4,000
	Total Scheduled Replacements	$233,654

Item	2042 - YEAR 19	$
75	Sanitary system primary pump (allowance)	$2,100
76	Sanitary system secondary pump (allowance)	$2,100
78	Swimming pool, whitecoat	$46,494
79	Swimming pool, waterline tile	$13,000
80	Swimming pool coping, precast concrete	$16,200
81	Pool ladder (4 step)	$2,150
	Total Scheduled Replacements	$82,044

PROJECTED REPLACEMENTS

Item	2043 - YEAR 20	$
2	Asphalt pavement, seal coat	$864
5	Concrete boat ramp (allowance)	$22,100
6	Gravel roadway, replenish 3/8" per sf., (25%)	$13,875
12	Entrance monument and lake aerator electric station	$1,700
14	Entrance monument lighting allowance	$1,200
17	Gate actuator	$1,000
25	Hydraulic dredging, marina	$68,500
29	Soffit, vent	$2,910
31	Trim board	$2,150
64	Office equipment (allowance)	$5,000
74	Septic tank (allowance)	$12,400
83	Pool cover, safety mesh	$5,994
88	Pool deck, concrete, (20%)	$8,625
93	Umbrella	$1,140
103	Pier structure, PTL	$616,000
	Total Scheduled Replacements	$763,458

Item	2044 - YEAR 21	$
3	Concrete roadway (6%)	$11,766
50	Kitchen, residential, dishwasher	$950
94	Pavilion, asphalt shingles	$4,040
	Total Scheduled Replacements	$16,756

Item	2045 - YEAR 22	$
10	Retaining wall, CMU, boat launch ramp	$5,238
11	Fence, 4', two rail, vinyl	$28,792
17	Gate actuator	$1,000
19	Gate key card and control board (allowance)	$2,000
23	Pond 'F' aerator and power unit (allowance)	$3,500
53	Women's shower room sink, fixture, and mirror	$1,400
58	Men's shower room sink, fixture, and mirror	$1,400
71	Well pump, fresh water (allowance)	$1,200
73	Water conditioner system (allowance)	$4,000
	Total Scheduled Replacements	$48,530

Item	2046 - YEAR 23	$
20	Surveillance equipment allowance	$25,000
43	Flooring, carpet	$6,160
47	Kitchen, residential, laminate counter-top	$1,900
49	Kitchen, residential,18 cf refrigerator	$1,540
54	Laminate counter-top	$912
59	Laminate counter-top	$912
66	Upholstered chair	$1,050
67	Heat pump and air handler (5 ton)	$15,000
84	Pool pump (2.6 hp)	$2,000
106	Tennis court, color coat (3 coats)	$15,840
112	Tot lot surfacing, rubber mulch (3")	$5,680
118	Roofing, asphalt shingles	$1,600
	Total Scheduled Replacements	$77,594

PROJECTED REPLACEMENTS

Item	2047 - YEAR 24	$
4	Concrete flatwork (6%)	$727
17	Gate actuator	$1,000
26	Roofing, asphalt shingles	$12,260
	Total Scheduled Replacements	$13,987

Item	2048 - YEAR 25	$
2	Asphalt pavement, seal coat	$864
6	Gravel roadway, replenish 3/8" per sf., (25%)	$13,875
13	Entrance monument, repoint masonry, 10% (allowance)	$1,575
18	Launch and beach gate, steel 15' replacement	$3,400
40	Deck, step railing	$1,792
56	Shower, fixtures	$900
57	Fluorescent light fixture	$1,250
62	Shower, fixtures	$900
63	Fluorescent light fixture	$1,500
64	Office equipment (allowance)	$5,000
69	Sprinkler system pipe, valve, and head (allowance)	$2,500
70	Interior copper piping (allowance)	$2,500
91	Chaise lounge, plastic framed	$4,375
92	Round metal table, pool	$6,000
93	Umbrella	$1,140
	Total Scheduled Replacements	$47,571

Item	2049 - YEAR 26	$
17	Gate actuator	$1,000
96	Pavilion fascia board, allowance	$1,440
97	Pavilion gutter and downspouts, 6" aluminum	$1,890
98	Pavilion cupola, small wood, replace	$700
100	Pavilion ceiling fan and recess light allowance	$1,200
	Total Scheduled Replacements	$6,230

Item	2050 - YEAR 27	$
3	Concrete roadway (6%)	$11,766
	Total Scheduled Replacements	$11,766

PROJECTED REPLACEMENTS

Item	2051 - YEAR 28	$
17	Gate actuator	$1,000
19	Gate key card and control board (allowance)	$2,000
20	Surveillance equipment allowance	$25,000
22	Pond 'F' aerator controller and cable (allowance)	$9,000
23	Pond 'F' aerator and power unit (allowance)	$3,500
36	Deck, structure PTL	$22,200
37	Deck, composite decking	$20,040
38	Deck, composite railing	$9,856
84	Pool pump (2.6 hp)	$2,000
85	Pool filter, sand	$4,200
86	Hayward Saline C 110 chlorination unit	$16,000
87	Hayward Cat 500 chemical system	$21,100
95	Pavilion support (allowance)	$2,400
101	Pavilion, metal rectangular 6' tables w/ benches	$2,000
102	Pavilion, metal rectangular 8' tables w/ benches	$2,300
106	Tennis court, color coat (3 coats)	$15,840
110	Tot lot, MP structure, 2 platforms and 2 slides)	$17,150
111	Tot lot, 5" single post swing, 3 seat	$2,050
112	Tot lot surfacing, rubber mulch (3")	$5,680
113	Tot lot, border recycled plastic	$2,974
114	Bench, (coated metal)	$2,740
115	Picnic, (table vinyl coated metal)	$2,760
116	Trash can and receptacle coated metal	$2,670
119	Pavilion support and trim (allowance)	$4,000
	Total Scheduled Replacements	$198,460

Item	2052 - YEAR 29	$
65	Meeting table and chair (allowance)	$2,500
75	Sanitary system primary pump (allowance)	$2,100
76	Sanitary system secondary pump (allowance)	$2,100
78	Swimming pool, whitecoat	$46,494
79	Swimming pool, waterline tile	$13,000
81	Pool ladder (4 step)	$2,150
	Total Scheduled Replacements	$68,344

Item	2053 - YEAR 30	$
1	Asphalt pavement, mill and overlay	$9,641
2	Asphalt pavement, seal coat	$864
4	Concrete flatwork (6%)	$727
6	Gravel roadway, replenish 3/8" per sf., (25%)	$13,875
7	Retaining wall, PTL, community center	$3,419
8	Retaining wall, PTL, capped beach wall	$8,586
9	Retaining wall, PTL, beach jetty wall	$4,293
15	Community message board	$1,600
17	Gate actuator	$1,000
24	Hydraulic dredging, ponds (25%)	$35,425
28	Fascia board	$1,661
30	Siding and trim, cementitious	$12,768
48	Kitchen, residential, microwave	$150
51	Kitchen flooring, vinyl tile	$910
55	Toilet and stall	$4,000
60	Toilet and stall	$2,000
61	Urinal and partition	$600
64	Office equipment (allowance)	$5,000
68	Water heater, electric (65 gallon)	$2,500
82	Safety rail	$900
83	Pool cover, safety mesh	$5,994
88	Pool deck, concrete, (20%)	$8,625
89	Fence, 6' aluminum with 3 rails and pickets	$24,708
93	Umbrella	$1,140
	Total Scheduled Replacements	$150,384

Item	2054 - YEAR 31	$
45	Flooring, vinyl tile	$1,885
	Total Scheduled Replacements	$1,885

PROJECTED REPLACEMENTS

Item	2055 - YEAR 32	$
17	Gate actuator	$1,000
53	Women's shower room sink, fixture, and mirror	$1,400
58	Men's shower room sink, fixture, and mirror	$1,400
71	Well pump, fresh water (allowance)	$1,200
73	Water conditioner system (allowance)	$4,000
	Total Scheduled Replacements	$9,000

Item	2056 - YEAR 33	$
3	Concrete roadway (6%)	$11,766
20	Surveillance equipment allowance	$25,000
43	Flooring, carpet	$6,160
66	Upholstered chair	$1,050
84	Pool pump (2.6 hp)	$2,000
106	Tennis court, color coat (3 coats)	$15,840
112	Tot lot surfacing, rubber mulch (3")	$5,680
	Total Scheduled Replacements	$67,496

Item	2057 - YEAR 34	$
17	Gate actuator	$1,000
19	Gate key card and control board (allowance)	$2,000
23	Pond 'F' aerator and power unit (allowance)	$3,500
	Total Scheduled Replacements	$6,500

Item	2058 - YEAR 35	$
2	Asphalt pavement, seal coat	$864
6	Gravel roadway, replenish 3/8" per sf., (25%)	$13,875
13	Entrance monument, repoint masonry, 10% (allowance)	$1,575
14	Entrance monument lighting allowance	$1,200
21	Stormwater inlet and piping (10% allowance)	$11,000
27	Gutter and downspouts, 6" aluminum	$4,050
56	Shower, fixtures	$900
62	Shower, fixtures	$900
64	Office equipment (allowance)	$5,000
69	Sprinkler system pipe, valve, and head (allowance)	$2,500
70	Interior copper piping (allowance)	$2,500
90	Fence gate	$650
91	Chaise lounge, plastic framed	$4,375
92	Round metal table, pool	$6,000
93	Umbrella	$1,140
	Total Scheduled Replacements	$56,529

PROJECTED REPLACEMENTS

Item	2059 - YEAR 36	$
4	Concrete flatwork (6%)	$727
17	Gate actuator	$1,000
99	Pavilion soffit ceiling/vent	$4,365
104	Pier decking, composite	$332,800
	Total Scheduled Replacements	$338,892

Item	2060 - YEAR 37	$
	No Scheduled Replacements	

Item	2061 - YEAR 38	$
17	Gate actuator	$1,000
20	Surveillance equipment allowance	$25,000
22	Pond 'F' aerator controller and cable (allowance)	$9,000
67	Heat pump and air handler (5 ton)	$15,000
84	Pool pump (2.6 hp)	$2,000
86	Hayward Saline C 110 chlorination unit	$16,000
87	Hayward Cat 500 chemical system	$21,100
95	Pavilion support (allowance)	$2,400
105	Tennis court, asphalt overlay	$76,560
106	Tennis court, color coat (3 coats)	$15,840
107	Tennis court, post and footings	$3,200
109	Basketball pole and backboard	$1,500
112	Tot lot surfacing, rubber mulch (3")	$5,680
116	Trash can and receptacle coated metal	$2,670
117	Pavilion concrete slab	$9,100
119	Pavilion support and trim (allowance)	$4,000
	Total Scheduled Replacements	$210,050

Item	2062 - YEAR 39	$
3	Concrete roadway (6%)	$11,766
75	Sanitary system primary pump (allowance)	$2,100
76	Sanitary system secondary pump (allowance)	$2,100
77	Swimming pool, structure	$162,000
78	Swimming pool, whitecoat	$46,494
79	Swimming pool, waterline tile	$13,000
80	Swimming pool coping, precast concrete	$16,200
81	Pool ladder (4 step)	$2,150
	Total Scheduled Replacements	$255,810

INTENTIONALLY LEFT BLANK

SECTION D - CONDITION ASSESSMENT

General Comments. MillerDodson Associates conducted a Reserve Study at The Waters at Lake Anna in July 2022. The Waters at Lake Anna facilities are in generally good condition for a homeowners association constructed in or around 2002. A review of the Replacement Reserve Inventory will show that we are anticipating most of the components achieving their normal economic lives.

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

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

General Condition Statements.

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

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

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

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

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

SITE ITEMS

Asphalt Pavement. The Association is responsible for the asphalt roadway at the community center. These are primarily entrance aprons. Other roadways are maintained by the County or other municipalities. In general, the Association's asphalt pavements are in good condition.



The Association maintains an inventory of asphalt pavement along the following streets and areas:

Areas	sf.
Tennis court:	1,120
Boat launch:	580
Community center:	2,135

The asphalt is in good overall condition. The following is for information purposes only. Defects normally associated with asphalt include the following:

- **Open Cracks.** Open cracks allow water to penetrate the asphalt base and the bearing soils beneath. Over time, water will erode the base and accelerate the deterioration of the asphalt pavement. If cracks extend to the base and bearing materials, remove the damaged areas, and replace defective materials. As a part of normal maintenance, clean and fill all other cracks.

- **Alligatoring.** When asphalt has developed a pattern of cracking, it is known as alligatoring. The primary cause of alligatoring is an unstable base. Once these cracks extend through the asphalt, they will allow water to penetrate to the base, accelerating the rate of deterioration, and eventually leading to potholes. The only solution is to remove the defective asphalt, compact the base, and install new base materials and asphalt.
- **Improper Grading.** Improper grading results in the ponding of water. Proper grading of the asphalt pavement will require replacing portions of the asphalt. It may also require resetting improperly sloped curb and gutter segments that are not conveying water to the stormwater management system. If ponding is left unattended it can result in unsafe travel areas, by creating conditions for hydroplaning and pockets of ice to form.
- **Potholes.** Potholes form as the result of full-depth pavement failure, including base materials. The repair will require removal of the asphalt and base materials, installation and compaction of new base materials, and asphalt resurfacing.
- **Depressions.** These are areas where the asphalt surface is depressed due to deformation in the surface or underlying layers. These depressions may continue to grow with exposure to traffic. Water ponding is evident in several of these areas. Repair of these areas will require the removal of the asphalt and base material and reinstallation, by compacting the new base material and resurfacing it with asphalt.
- **Wheel Rutting.** Depressions along the wheel lines extend along portions of the roadway. Repair of these areas will require full-depth and full-width pavement replacement. Wheel rutting, if left unattended can adversely affect vehicle steering.
- **Shoving.** This occurs at locations of sharp braking or turning. The primary cause of this defect is from large truck traffic. If addressed early, surface milling and overlay using a stiffer topcoat of asphalt pavement shoving can be mitigated.
- **Tree Root Damage.** This is known as Heaving, these are locations where tree roots caused heaving in the pavement surface. The repair of these areas requires the removal of the asphalt and the tree roots, then replenishing and re-compact the base material and resurfacing the asphalt. Root trimming can also be an effective way to control this defect.
- **Edge Cracking.** Edge cracking occurs along the pavement edges due to improper confinement. Installation of curbs or installation of a compacted gravel shoulder at the time of an overlay project can address this defect.
- **Reflective Cracking.** Reflective cracks occur when placing a new asphalt overlay over an existing cracked pavement. With time and movement, existing cracks will migrate through the new asphalt. Installing a bridging membrane or fabric at the time of overlay can control reflective cracking.

A more detailed summary of pavement distress can be found at http://www.asphaltinstitute.org/engineering/maintenance-and-rehabilitation/pavement-distress-summary/.

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 20 years.

To maintain the condition of the pavement throughout the community and ensure the longest life of the asphalt, we recommend the Association adopts 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 by 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 product is 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 're-moisturize' 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. Re-moisturizing the pavement can return its flexibility and extend its life of the pavement.

Concrete Work. The concrete work includes the community center concrete drives, boat ramp, side, and lead walk. The overall condition of the concrete work is in good condition. However, there is limited damage to certain sections of the concrete work.

The standards we use for recommending replacement are as follows:

- Trip hazard, ½ inch height difference.
- Severe cracking.
- Severe spalling and scale.
- Uneven riser heights on steps.
- Steps with risers in excess of 8¼ inches.

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

Expansion Joint. Expansion joints are composed of sacrificial, asphalt-impregnated fibrous material. This joint material should be installed between concrete elements to separate the curb, sidewalk, concrete drives, and other concrete components. The expansion joints should be installed at regular intervals during concrete replacement. Expansion joints allow for independent movement between adjoining structural members. Joints allow for thermal expansion and contraction without inducing stress in the system. Installing expansion joints in concrete permits independent horizontal and vertical movement between adjoining parts of the structure and helps minimize cracking. Expansion joints also mitigate the inflow of stormwater that undermines substrata and causes concrete to subside. The expansion joints should be inspected periodically and replaced as needed. The replacement of expansion joints is considered a maintenance function and therefore excluded from the reserve funding analysis.













Gravel Parking Areas. The Association maintains four parking areas with gravel surfaces. The gravel has not been replenished in the recent past. Funding for replenishing 25% of the gravel every five years has been programmed in the analysis.



Retaining Walls. The Association maintains a wood retaining wall on the southwest side of the community center. a CMU wall at the boat launch and a retaining wall and jetty at the community beach. The walls are in good overall condition and are listed separately in the analysis.

Retaining walls, in general, are designed to provide slope stabilization and soil retention by means of a structural system. Typically, walls that are three feet high or more require some level of design.

The movement and displacement of any retaining wall is a sign of general settlement or failure. This typically is in the form of leaning and bowing and can involve the entire wall or localized sections of the wall. Typically, these types of movements are gradual and may require the replacement of the wall. The movement of retaining walls located near other buildings or structures may negatively affect the stability of the adjacent structure. These conditions can become extremely costly if not properly identified, monitored, and addressed.

Wood. Wood retaining walls will experience rot and decay over time and partial replacement of defective wooden members is often possible in the early stages of decay. Eventually, however, these walls will require replacement. Wood retaining walls can have a useful life of 25 to 35 years.

Concrete Block. Concrete block masonry walls can have an extended useful life of 40 years or more, and if stable, may only require periodic re-pointing and localized repair. Repoint is the process of raking out defective masonry joints and tooling new mortar into the joints. Properly mortared and tooled joints will repel the weather and keep water from penetrating the wall. Siloxane or other breathable sealants should be considered to provide additional protection to the wall from water penetration. This study assumes that re-pointing will be performed incrementally as needed to maintain the life of the wall.

When and if it becomes necessary to replace these walls, we recommend the Association considers one of the segmental block retaining wall systems. These systems are very low maintenance. If over time the wall experiences movement, sections of the walls can be re-stacked at a very small portion of the cost of a new wall. Segmental block retaining walls can have a service life of 80 years or more.

Retaining wall replacement can be costly, and early planning on the part of the Association can help to reduce the impact of this work on the community's budget in the future. We, therefore, recommend having a Professional Engineer inspect the walls and develop preliminary replacement alternatives and recommendations based on the site conditions, replacement costs, and recommended replacement wall types. This information can then be incorporated into future updates to the Reserve Study.





Fencing. The Association maintains two rail synthetic fencing at the community's entrance and at the beach area. The fencing is in good overall condition. Fencing systems have a large number of configurations and finishes that can usually be repaired as a maintenance activity by replacing individual components as they become damaged or weathered.

Protection from string machine damage during lawn maintenance can extend the useful life of some fence types. Protection from this type of damage is typically provided by applying herbicides around post bases or installing protective sheathing.

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.

Aluminum fencing surrounds the community center pool. This 6' fence was installed in or around 2013 by the Hercules Fence company at a cost of $20,500. The fencing is in good overall condition.





Electric Disconnect Station. The community's pond aeration system and monument ground lights are controlled and monitored by an electric disconnect station. These stations are comprised of a simple circuit breaker panel and meter. The station is exposed to weather elements and eventually will have to be replaced. Funding for future replacement has been programmed in the analysis.



Entry Monument and Signage. The Association maintains three sections of stone veneer monuments at the intersection of Kentucky Springs Road and Lake View Blvd. The center monument supports a carved stone medallion. The monuments are in good condition.

We recommend re-pointing and replacement of defective areas of the masonry as needed. The Association may want to consider applying a coating of Siloxane or other appropriate breathable sealants to mitigate water penetration and further degradation of the masonry work.

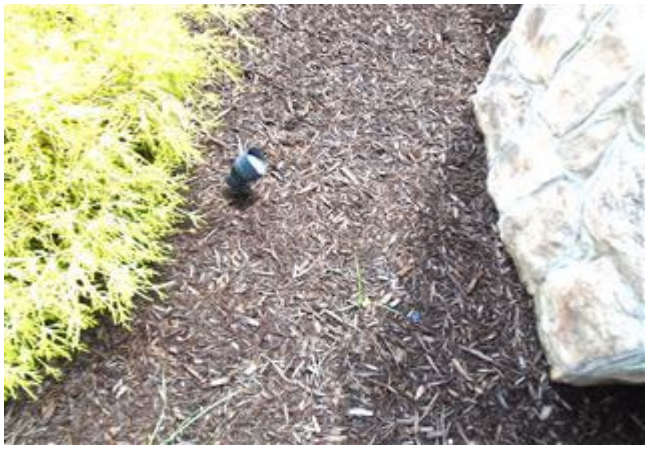
The monuments are illuminated by eight ground spotlights.

Other small miscellaneous signs are not considered in this study and should be replaced using other funds.









Gates. The Association maintains two steel farm gates at the boat launch area and the community beach. These 15' steel gates are automated with fob entry systems, control boards, and actuators. The gates are in good overall condition. Future funding for the gates and associated components has been programmed in the analysis.









Surveillance Equipment. The community maintains a series of cameras and recording equipment. The systems are in good working order. An allowance for future replacements has been programmed in the analysis.







Stormwater System. Stormwater in the community is addressed with a combination of stormwater ponds, median inflow inlets and associated underground piping.

Piping. The cost of replacing community stormwater systems varies widely depending on the housing, the local climate, and the area of impervious surfaces. In the Waters at Lake Anna, two in median drains, two stormwater management ponds, and a system that directs water to the lake to handle storm runoff, and therefore even the lower estimate may be too high for this community.

Due to the subsurface locations of the pipe, the condition of individual sections cannot be easily determined. Different types of pipes have drastically different life expectancies. Generally, both reinforced concrete pipe (RCP) and aluminized steel corrugated pipe (ASCP) have 75-year service lives. The corrugated metal pipe that has been fully coated with asphalt (FCCMP) has a service life of 32-38 years.

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



Stormwater Ponds. The community is served by two stormwater ponds. The ponds appear to be in good overall condition. There were no reported issues. (The pond aerator was not on at the time of site inspection due to an internet contractor damaging the wiring, but the assumption is this would be immediately corrected at no cost to the community. The Association has a contract with a pond management firm to maintain the ponds and aeration components. The aerator system components were recently refurbished and or replaced. The fountain controller, cable, aerator, and power unit were replaced in 2020.

The Association dredged Pond F and re-graded the land around the pond in 2011 at a cost of $10,000 of which approximately $5,000 was allocated to the dredging.

Ponds will accumulate silt and over time and lose the ability to store stormwater 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. Solitude Pond Management has stated they can provide this service.

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

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

Stormwater structures must be maintained over time so that they may perform their two major functions, stormwater storage, and stormwater 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. Stormwater 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 list of the general component of a standard 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. The 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 stormwater. 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 of. 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 the swale, 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 Association's current pond conditions.









Marina Dredging. The Association dredged one of the Lake Anna cove channels (the east channel) in 2011 at a cost of nearly $30,000. At that time, silt was accumulating at a faster rate than anticipated due to excessive silt run-off from upstream. A new gravel parking lot was built, and a system was designed to minimize the silt entering the lake by trapping the silt upstream. As a result, the Association anticipated less frequent dredging of the lake. The marina is currently experiencing new deposits of sediment in the northwest section of the marina. In addition, underwater vegetation at the shoreline is apparent as is channel edge vegetation. The estimated area requiring dredging is outlined in the attached picture.



The analyst spoke with a local marine contractor. General pricing was provided. This was used as an allowance for dredging has been programmed in the analysis. The number of contractors performing dredging on Lake Anna is very limited. Planning for the work is essential.

Developing a program for dredging will require a hydrologic survey and a comprehensive plan. If after this research is performed the exacting cost estimates can be incorporated into the reserve analysis.





EXTERIOR ITEMS

Building Roofing. The community center building and two pavilions have asphalt shingle roofs. The community center roof was replaced in 2021. The pool pavilion was built in 2018, and the beach pavilion in 2020. The roofs appear to be 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.

Access to the roof was not provided at the time of inspection. Observations were made from ground level.

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 community center building and pavilion have aluminum gutters and downspouts. The community center's buildings may date from the original construction of the building. These should be replaced with a 6" gutter and downspout. The pavilion has 6" gutters and downspouts and were installed in 2018.

A gutter and downspout system will remove rainwater from the area of the building's roof, siding, and foundation, and protect the exterior surfaces from water damage. Gutters should run the full length of all drip edges of the building's roof. Even with full gutters, it is important to inspect 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 gutter system.

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.

It is also recommended that the discharge from the downspouts be extended at least ten feet away from the foundations.





Fascia Board. Fascia architectural term for a vertical frieze or band under a roof edge, or which forms the outer surface of a cornice visible to an observer. Typically consisting of a wooden board, UPVC, or non-corrosive sheet metal, many of the non-domestic fascias made of stone form an ornately carved or pieced together cornice, in which case the term fascia is rarely used.

The word fascia derives from Latin fascia meaning "band, bandage, ribbon, and swathe. The term is also used, for band-like surfaces like a wide, flat trim strip around a doorway, different and separate from the wall surface. The horizontal

"fascia board" which caps the end of rafters outside a building is used to hold the rain gutter. The finished surface below the fascia and rafters is called the soffit or eave.



Soffit. Soffit is an exterior or interior architectural feature, generally the horizontal, aloft underside of any construction element. Its archetypal form, sometimes incorporating or implying the projection of beams is the underside of eaves (to connect a retaining wall to the projecting edge(s) of the roof).

Siding and Trim. The community center has cementitious siding. The siding is in good condition.

Cementitious materials typically have an extended useful life and require repainting and recaulking every 10 to 15 years. Following the manufacturer's recommendations for cleaning, painting, and caulking, we expect cementitious products to have a useful life of 40 years or more.



Synthetic products are used in decorative architectural details. Often these are made of Polyvinyl-chloride or (PVC). PVC is known to have degradation problems with sunlight and in particular, ultraviolet radiation. These products come from the manufacturer with several coats of primer, and painting after installation is required. Following the manufacturer's recommendations for cleaning, painting, and caulking, we expect this product to have a useful life of 40 years or more.

Windows and Doors. The Association is responsible for the community center's windows and exterior doors of the facility. The windows and doors are generally in good condition.

Window and door units play an integral part in a facility's overall comfort, efficiency, and energy use. The quality of the installed units and the care taken in their installation and maintenance are major factors in their effectiveness and useful life. These units can have a useful life of 20 to 35 years or more depending on their use and other factors mentioned above.

In general, we recommend coordinating the replacement of these units with other exterior work, such as siding and roof replacements. The weather tightness of the building envelope often requires transitional flashing and caulking that should be performed in coordination with each other. Warranties and advantages in 'economy of scale' can often result in lower overall replacement costs and results that are more reliable. Lastly, coordinated replacements offer the opportunity to correct initial construction defects and improve the effectiveness of details with improved construction techniques and materials.









Deck. The community center has an exterior second-floor deck that surrounds approximately 75% of the building. The decking was recently replaced with synthetic material. The deck's wood structure is estimated to be seventeen years old, the decking six years old, and the railing five years old. The deck, stairway, decking, and railings are in good overall condition.

We recommend for the Association implement an annual inspection program. We also recommend power washing and the application of a wood sealer with UV protection every two to three years. Installation of carpet or other water trapping coverings should be prohibited, and potted plants should be placed on raised feet to allow for proper air circulation and drying of wooden components.

When installing new decking, the installation of a self-healing flashing membrane is recommended along the top and ends of all wooden horizontal structural members. Synthetic decking and railing systems should also be considered.

Please note that your State or local jurisdiction may have specific requirements for deck and balcony inspections, such as the recently enacted Maryland HB 947 (Jonathan's Law). This level of inspection is beyond the scope of work for this Reserve Study.







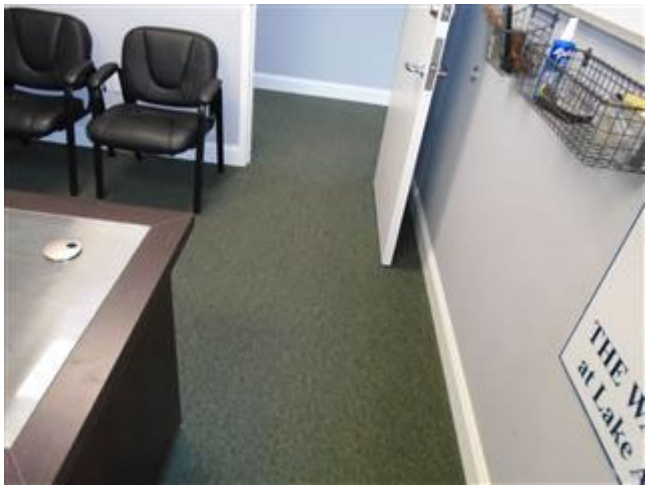


INTERIOR ITEMS

Carpet. The carpet in the community center's main meeting room and office area. The carpet is in fair condition. The commercial carpet of this construction in this type of application has a typical service life of 7 to 10 years.

To extend the life of the carpet, it is important that the Association continues with a comprehensive maintenance program that includes regular vacuuming, spot and spill removal, interim cleaning of high traffic areas, and regularly scheduled cleanings. It is also recommended that all entrances be fitted with walk-off mats to trap soil.







Ceramic Tile. The Association maintains ceramic tiles in the lobby, and vestibule of the community center. The overall condition of the ceramic tile is good.

To help maintain the condition of the ceramic tile, regular cleaning is recommended. The tile can further be protected by the installation of dirt-catching, walk-off mats placed at all building entrances.



The community center has vinyl flooring in the kitchen and powder rooms. The vinyl flooring is dated.

Kitchen. The community center contains a residential-grade kitchen. The components included cabinetry, countertop, and appliances. The flooring is vinyl tile The cabinets are in good condition. The balance of the kitchen components is dated.



Powder Rooms. The community center includes two powder roods with commodes, sink, and countertops. The overall condition of the powder rooms is good. Future funding for replacements has been programmed in the analysis.





Shower Rooms. The community center's lower level contains women's and men's shower rooms. The components include commodes, urinals, sinks, laminate countertops, and simple shower stalls. The countertops are in poor condition. The balance of the shower rooms' components are in good condition. Future funding for replacements has been programmed in the analysis.

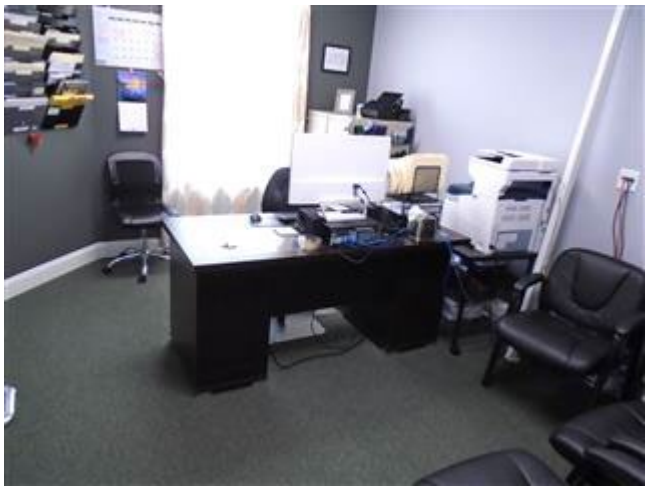




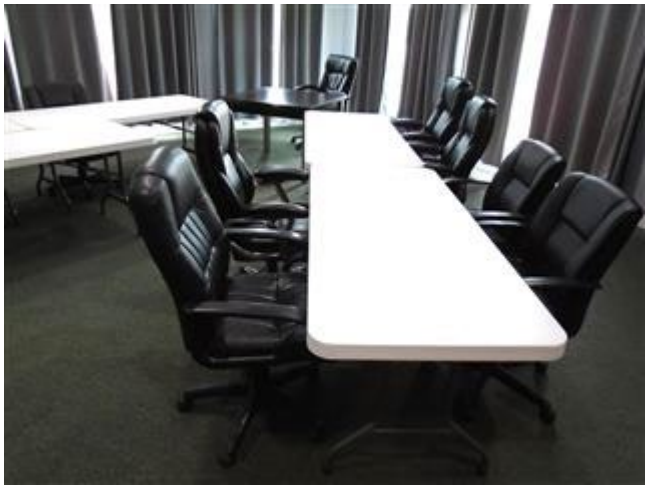




Office. The Association maintains a small office on the community center's main level. The equipment includes a desk, chairs, computer, and copier. The office components appear to be in good overall condition. Future funding for replacements has been programmed in the analysis.



Furnishings. The community center has a limited inventory of furniture. This consist of meeting tables and chairs. The furnishings are in good overall condition. Future funding for replacements has been programmed in the analysis.



BUILDING SYSTEMS

Split and Package HVAC Systems. The community center's HVAC consists of a 5-ton heat pump and air handler with an emergency heating coil. The system was installed in 2015. 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 are beyond the scope of this study.

The Association's HVAC system uses one of the new generation refrigerants. Unlike the old R22 refrigerant, the new refrigerants are expected to be available throughout the period of this study. However, the operating pressure for new refrigerant systems is approximately twice as high as older systems. Many of the standard components have not been redesigned for these higher pressures, including the coils, which generally fail due to metal fatigue.

Even though manufacturers continue to predict 15 to 20-year life cycles for HVAC equipment that uses 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.





Water Heaters. Hot water is supplied to the community center by two, 65-gallon electric hot water heaters. The water heaters were manufactured in 2003 and have exceeded normal service life. Future funding for replacements has been programmed in the analysis.



Domestic Water. Domestic supply water is provided by a private well and copper piping. Water is pumped from the well to the water pressure tank, and is filtered through a cartridge located behind the tank. The well pump is scheduled for replacement after 10 years of use, and the pressure tank has a 30-year normal economic life. The filter system is a minor item. As stated earlier in the report, two 65-gallon residential electric water heaters provide hot water to plumbing fixtures.

Water quality, in particular the Ph of the water, is critical to the longevity of these systems, and typically, the pressurized water supply lines are the most problematic. Because of these problems, the facility's piping will require replacement at some point in time. As a less expensive alternative to the extremely costly work of re-piping a building, systems have been developed to clean and epoxy-line the interior surfaces of these, including other types of pipes. In addition, new pipe materials are on the market.

Please note that the timeframe for re-piping a facility can vary widely, and the estimation of the remaining economic life is highly speculative. For budgeting purposes, an allowance every 10 years is included in this study for re-piping work. Please note that this work has a high degree of variability depending on the layout of the facility and accessibility to the piping components.

To gain a better understanding of the condition of this facility's pipes and water supply lines, we recommend having an expert evaluation of the piping performed. This evaluation should provide an estimation of the remaining useful life of the piping systems, the condition of the water supply, and recommendations for a replacement to maximize the remaining useful life of this facility's piping systems. To gain a better understanding of this issue, please see the Water Delivery Report on our website at http://mdareserves.com/resources/links/building-system.

Filtration System. The community center's domestic water is has a filtration system. This system was installed approximately eight years ago. There were no reported problems with the system. Funding for future replacement has been programmed in the analysis.

Sanitary Systems. The Association is responsible for the operation of a Raised Bed Effluent Disposal Septic System serving the community building. The overall condition of the system is good, except for the secondary sewer pump which was not operable during our inspection. Listed below are the major elements of the septic system for which the Association is responsible.

- Septic Tank. There is reported to be a 1,500-gallon septic tank near the community building. The tank was emptied in 2010 and is reported to be in good condition.
- Pumps. There are 2 pumps used to transfer waste to the septic drainage field. The primary pump and secondary pumps were replaced in 2021.
- Drainage Fields. There is a drainage field connected to the septic tanks. The field is located at the top of the elevated gravel parking lot.

Drain, Waste, & Vent Piping. The visible components of the building's drain waste vent (DWV) piping system are polyvinyl chloride (PVC). The pipes and fittings are constructed from a thermoplastic resin, which is resistant to most common household chemicals. The smooth inner surface means fewer clogs. When installed underground, it is impervious to chemicals that would normally corrode cast iron and copper.

Repairs to damaged sections of a pipe typically involve cutting out the damaged section and solvent welding or gluing in a replacement. The system is reported to be in good operating condition with no leaks. We have assumed that minor repairs will be paid for with maintenance funds, and are therefore excluded from the Reserve Analysis.









RECREATION ITEMS

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

- Pool Shell. The shell for the swimming pool appears to be in good overall condition. There were no reported problems.
- Pool Deck. The pool has a concrete deck. The overall condition of the deck is good it was noted there is subsiding of the deck at the southern side of the pool This should be investigated and corrected.
- Whitecoat. The pool whitecoat was recently recoated and assumed to be in good condition. We have assumed a service life of eight to ten years for the pool whitecoat.
- Waterline Tile. The waterline tile was not replaced during the last whitecoating. This is to be repaired in the current year. We have assumed that the waterline tile will be replaced or restored when the pool is whitecoated.
- Coping. The pool is edged with cast concrete coping. The coping was not replaced in the last whitecoating and is scheduled to be repaired or replaced at the end of the 2022 season.
- Pump and Filter System. The filter system is in was recently upgraded to a saltwater system. It has been assumed the system is in good working order.
- Saline chlorination system and chemical feeder.
- Pool Fence. The swimming pool is enclosed by an aluminum picket fence that is in good condition.
- Pool Furniture. The pool furniture is in good overall condition.






3FT


3FT


3FT















Pavilion. The pool area has an open-shade pavilion that was built in 2018. There are twelve pressure-treated support posts. The pavilion is in good condition. Funding for future replacements has been programmed in the analysis.









Wood Piers. The Association operates a marina on Lake Anna. There are approximately 3050 linear feet of piers with approximately 16,000 sf. of decking. This includes finger piers for the 78 slips. The piers have pressure-treated 8" pilings, header, and stringer support structure. The marina's decking was replaced with composite boards in or around 2013. This 'Lumberock' product apparently has or had a lifetime warranty. The assumption made in this analysis is that the decking will be removed and replaced in the next cycle of support structure replacement.

The pier decking is in good condition.

Pier Structure. The structure consists of pressure-treated woodpiles on 10-foot centers with stringers spanning the distance between piles. We have assumed that when the pier structure requires replacement, all pilings will also be replaced.

The pier structure appears to be in good overall condition.

It is recommended that all piers be inspected at least once each year to identify damage to pilings, structural members, surface boards, and railings.













Tennis Courts. The community maintains two tennis courts at the community center. The courts had surface treatment and color coat application in 2020. Pickleball court markings were applied. The overall condition of these courts is good.

Listed below are the major components of the tennis court facilities:

- Asphalt Pavement (base layer). We have assumed a service life of 20 to 30 years for the asphalt base layer.
- Color Coat (surface layer). Annual cleaning is recommended to maintain the surface of the court. The base of a tennis court is subject to cracking and low spots known as “birdbaths” that can occur from weather and earth movement. A program to address cracks as they appear will help to prolong the useful life of the color coat. We have assumed a service life of five to ten years for the color coat.
- Fencing. We have assumed that the fencing will be replaced when the asphalt pavement is replaced. Posts and fencing should be inspected, repaired, and painted as needed to prolong their economic life. Periodic inspection of the posts, gates, hinges, and latches is also recommended, and it is important that posts and footings be protected to prevent soil erosion. In addition, care should be taken so that damage from string trimmers is minimized.
- Net Posts. We have assumed that the new posts will be replaced when the asphalt pavement is replaced.









Tot Lot. The community maintains a single tot lot at the beach area off of Hemlock Loop. The tot lot equipment was installed in 2020. The tot lot includes a play structure, swing-set synthetic borders, and a chip surface. The facility is in very good condition. There were no loose connections, cutting, entanglement, falling, or tripping hazards. The chip surface was not displaced or missing and appears to be adequate.

The safety of each individual piece of playground equipment, as well as the layout of the entire play area, should be considered when evaluating a playground for safety. The installation and maintenance of the protective surfacing under and around all equipment are crucial. Please note that the evaluation of the equipment and these facilities for safety is beyond the scope of this work.

Information on playground design and safety can be found in the "Public Playground Safety Handbook", U.S. Consumer Product Safety Commission (Pub Number 325). For a link to this handbook, please see our website at www.mdareserves.com/resources/links/recreation.

Our estimates for playground equipment are based on comparing photos of the existing equipment with equipment of a similar size in manufacturers' catalogs. We use the pricing that is quoted by manufacturers for comparable equipment and added an additional 30% for the disposal of the old equipment and installation of new equipment.









Pavilion. The Hemlock Loop beach area has an open-shade pavilion that was built in 2020. There are four pressure-treated support posts. The posts have composite wrapping. . The pavilion is in very good condition. Funding for future replacements has been programmed in the analysis.





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

End of Condition Assessment

1. COMMON INTEREST DEVELOPMENTS - AN OVERVIEW

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

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

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

2. REPLACEMENT RESERVE STUDY

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

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

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

Section B Replacement Reserve Inventory. The Replacement Reserve Inventory lists the commonly owned components within the community that require periodic replacement using funding from Replacement Reserves. Replacement Reserve Inventory includes estimates of the Normal Economic Life (NEL) and the Remaining Economic Life (REL) for those components whose replacement is scheduled for funding from Replacement Reserves.

The Replacement Reserve Inventory also provides information about those components which are excluded from the Replacement Reserve Inventory and whose replacement is not scheduled for funding from Replacement Reserves.

Section C Projected Annual Replacements. The Calendar of Projected Annual Replacements provides a year-by-year listing of the Projected Replacements based on the data in the Replacement Reserve Inventory.

Section D Condition Assessment. The observed condition of the major items listed in the Replacement Reserve Inventory are discussed in more detail. The Condition Assessment includes a narrative and photographs that document conditions at the property observed at the time of our visual evaluation.

The Appendix is provided as an attachment to the Replacement Reserve Study. Additional attachments may include supplemental photographs to document conditions at the property and additional information specific to the property cited in the Conditions Assessment (i.e. Consumer Product Safety Commission, Handbook for Public Playground Safety, information on segmental retaining walls, manufacturer recommendations for asphalt shingles or siding, etc.).

3. METHODS OF ANALYSIS

The Replacement Reserve industry generally recognizes two different methods of accounting for Replacement Reserve Analysis, the Cash Flow Method and the Component Method. Due to the difference in accounting methodologies, these methods lead to different calculated values for the Recommended Annual Funding to the Reserves. A brief description is included below:

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

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

4. REPLACEMENT RESERVE STUDY DATA

Identification of Reserve Components. The Reserve Analyst has only two methods of identifying Reserve Components; (1) information provided by the Association and (2) observations made at the site. It is important that the Reserve Analyst be provided with all available information detailing the components owned by the Association. It is our policy to request such information prior to bidding on a project and to meet with the parties responsible for maintaining the community after acceptance of our proposal. Upon submission of the initial Study, the Study should be reviewed by the Association’s Board of Directors and the individuals responsible for maintaining the community. We depend upon the Association for correct information, documentation, and drawings. We also look to the Association representative to help us fashion the Reserve Study so that it reflects what the community hopes to accomplish in the coming years.

Unit Costs. Unit costs are developed using nationally published standards and estimating guides and are adjusted by state or region. In some instances, recent data received in the course of our work is used to modify these figures. Contractor proposals or actual cost experience may be available as part of the Association records. This is useful information, which should be incorporated into your report. Please bring any such available data to our attention, preferably before the report is commenced.

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

5. DEFINITIONS

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

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

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

Component Analysis. See Component Method, above.

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

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

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

Estimated Remaining Economic Life (REL). Used in the Normal Replacement Schedules. Number of years until the item is expected to need replacement. Normally, this number would be considered to be the difference between the Estimated

Economic Life and the age of the item. However, this number must be modified to reflect maintenance practice, climate, original construction and quality, or other conditions. For the purpose of this report, this number is determined by the Reserve Analyst based on the present condition of the item relative to the actual age.

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

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

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

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

Number of Years of the Study. The numbers of years into the future for which expenditures are projected and reserve levels calculated. This number should be large enough to include the projected replacement of every item on the schedule, at least once. The Reserve Study must cover a minimum of 20 years to comply with the National Reserve Study Standards. However, your study covers a 40-year period.

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

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

Replacement Reserve Study. An analysis of all of the components of the common property of a Community Association for which replacement should be anticipated within the economic life of the property as a whole. The analysis involves estimation for each component of its Estimated Replacement Cost, Normal Economic Life, and Remaining Economic Life. The objective of the study is to calculate a Recommended Annual Funding to the Association's Replacement Reserve Fund.

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

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

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

ea	each	**ls**	lump sum	**sy**	square yard
ft or lf	linear foot	**pr**	pair	**cy**	cubic yard
sf	square foot				

INTENTIONALLY LEFT BLANK

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?



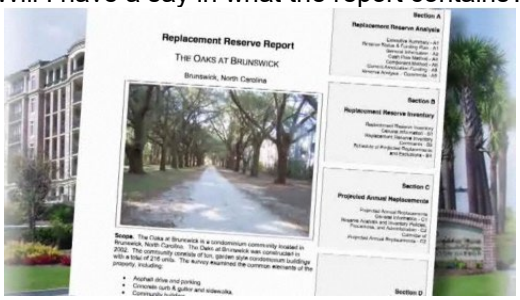
https://youtu.be/aARD1B1Oa3o

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



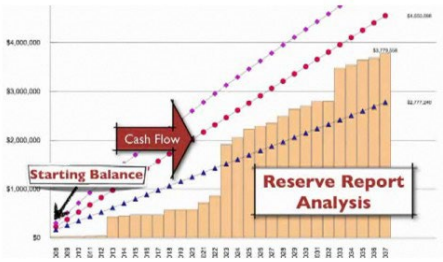
https://youtu.be/diZfM1IyJYU

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?



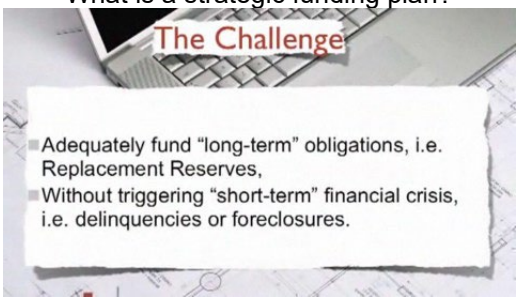
https://youtu.be/SePdwVDvHWI

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