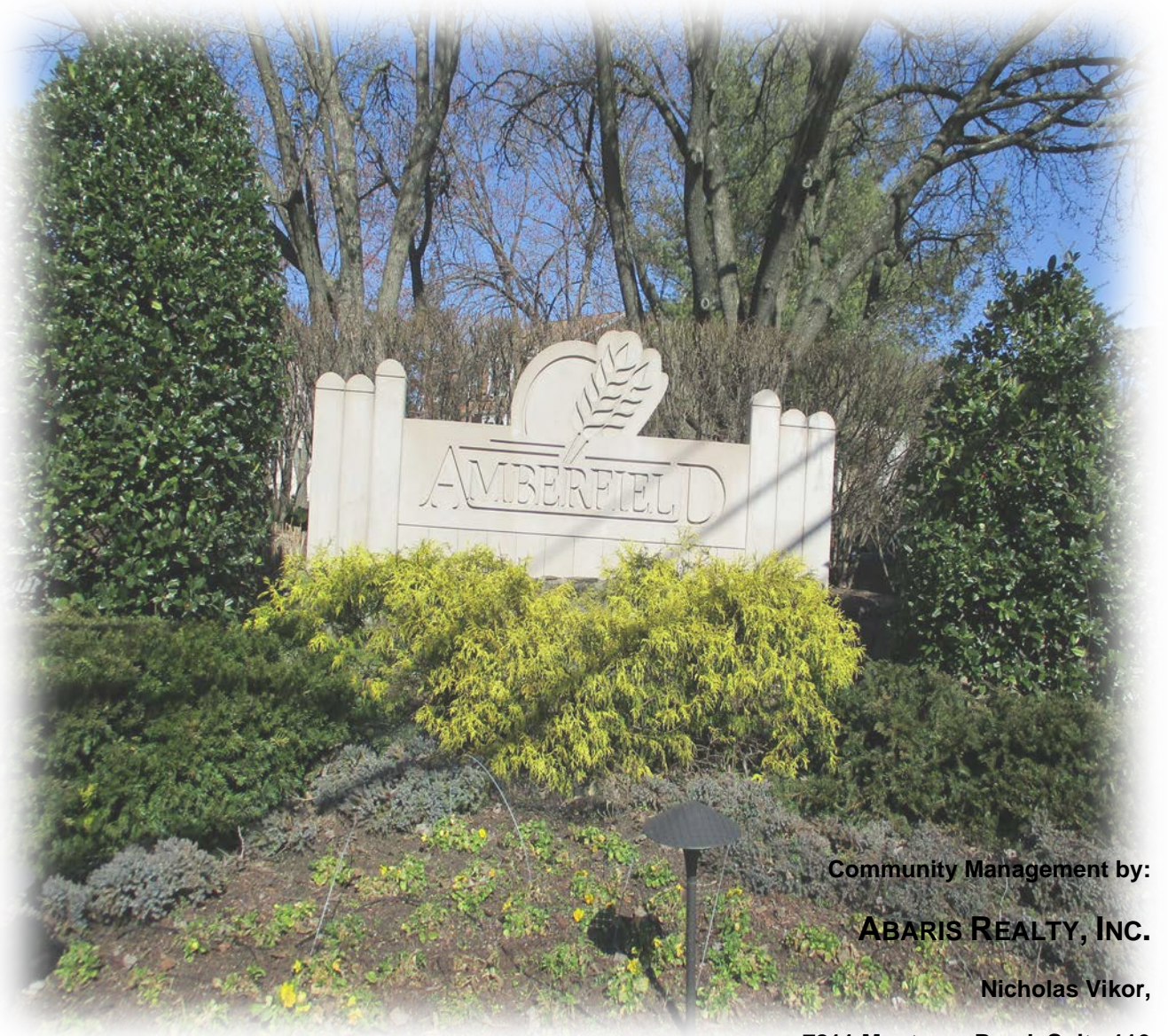


# LEVEL 1 REPLACEMENT RESERVE REPORT FY 2020 AMBERFIELD HOA



LEVEL 1 REPLACEMENT RESERVE REPORT FY 2020  
AMBERFIELD HOA

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# REPLACEMENT RESERVE REPORT

## AMBERFIELD HOA

GAITHERSBURG, MARYLAND

March 5, 2020

Revised May 27, 2020

Revised June 2, 2020

Revised June 17, 2020

Revised June 30, 2020

Revised August 13, 2020



**Description.** Amberfield HOA is a Homeowner's Association located in Gaithersburg, Maryland. The community was constructed in 1984 and consists of 394 townhomes and a community pool house. The survey examined the common elements of the property, including:

- Pool house and townhouse parking areas
- Concrete curbs/gutter and sidewalks
- Fencing and retaining walls
- Site lighting
- Mailbox clusters
- Signage
- Exterior main pool and wading pool
- Tot lots and tennis courts
- Stormwater management

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

### Section A

#### Replacement Reserve Analysis

Strategic Funding Plan – SF1  
Executive Summary - A1  
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### Section B

#### Replacement Reserve Inventory

Replacement Reserve Inventory  
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### Section C

#### Projected Annual Replacements

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

### Section D

#### Condition Assessment

### Appendix

Component Method - CM1  
Overview, Standard Terms, and Definitions  
Video Answers to Frequently Asked Questions



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](http://mdareserves.com).

**Purpose.** The purpose of this Replacement Reserve Study is to provide Amberfield HOA (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. The alternative Component Method of funding is provided in the Appendix.

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

- The Request for Proposal submitted and executed by the Association.
- Miller+Dodson performed a visual evaluation on March 05, 2020 to determine a remaining useful life and replacement cost for the commonly owned elements of this facility.
- This study contains additional recommendations to address inflation for the Cash Flow Method only. For this recommendation, Miller+Dodson uses the Producers Price Index (PPI), which gauges inflation in manufacturing and construction. Please see page A5 for further details.

**To-Scale Drawings.** Site and building plans were not used in the development of this study. We recommend the Association assemble and maintain a library of site and building plans of the entire facility. Record drawings should be scanned into an electronic format for safe storage and ease of distribution. Upon request for a nominal fee, Miller+Dodson can provide scanning services.

**Current Funding.** This reserve study has been prepared for Fiscal Year 2020 covering the period from January 1, 2020 to December 31, 2020. The Replacement Reserves on deposit as of January 1, 2020 are reported to be \$393,516. The reported current annual funding for reserves is \$0.

The balance and contribution figures have been supplied by the managing agent and confirmation or audit of these figures is beyond the scope of the study. For the purposes of this study, it is assumed that the annual contribution will be deposited at the end of each month. It is also assuming the proceeds of the retaining wall loan are included in the balance.

**Acknowledgment.** Miller+Dodson Associates would like to acknowledge the assistance and input of Shireen Ambush, Property Manager, Abaris Realty who provided very helpful insight into the current operations of the property.

**Analyst's Credentials.** Ms. Donna Hylton holds a Bachelors Degree in Accounting, a Masters Degree in Business Administration (concentrating in Management Science), and a Masters Degree in Industrial Engineering and Operations Research, all from Virginia Tech. Ms. Hylton has over 20 years of experience in cost analysis and in systems design and testing, primarily as a contractor for the U.S. Army. She also has experience in landscape design, building, and maintaining hardscape structures. Donna is currently a Reserve Analyst for Miller+Dodson Associates.

Respectfully Submitted,



*Donna Hylton*  
Donna Hylton

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## STRATEGIC FUNDING

### STRATEGIC FUNDING PLAN - CONCEPT

This Strategic Funding Plan has been developed based on the fundamental concept that the Replacement Reserve Account is solvent if cumulative receipts always meet or exceed cumulative expenses.

### STRATEGIC FUNDING PLAN - GOAL

The goal of a Strategic Funding Plan is to provide alternative reserve funding that responds to immediate financial requirements of Amberfield HOA, and models an alternative increase in funding needed to move Replacement Reserve Funding from the Current Annual Funding level to the level recommended by the Cash Flow Method as noted on Page A1 of the Amberfield HOA Replacement Reserve Study (Amberfield HOA v6 08-13-2020).

### STRATEGIC FUNDING PLAN TABLE

The highlighted and labeled rows provided in the table shown on Page SF2 show the alternate reserve funding being considered by Amberfield HOA for a period of 41 years.

This Strategic Funding Plan assumes the same reported Current Annual Funding (Page A3), the same \$393,516 Starting Balance, and the same Replacement Reserve Inventory with 90 Projected Replacements requiring \$4,899,712 of expenditures over the 40-year Study Period.

Unlike the Cash Flow Method, this Strategic Funding Plan may not assume the Minimum Balance.

### STRATEGIC FUNDING PLAN GRAPH

The graph on Page SF2 shows the Cumulative Expenditures in gold bars over the Study Period, which is the minimum that any funding plan must achieve. The blue triangled line represents the reported Current Annual Funding to reserves, and the circled line represents the recommended Cash Flow Method annual reserve funding. Graphed in green diamonds, the alternative reserve funding being considered in this Strategic Funding Plan is shown for 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, and 2060.

The last year of alternative funding is always an adjustment to achieve the annual reserve funding level recommended by the Cash Flow Method.

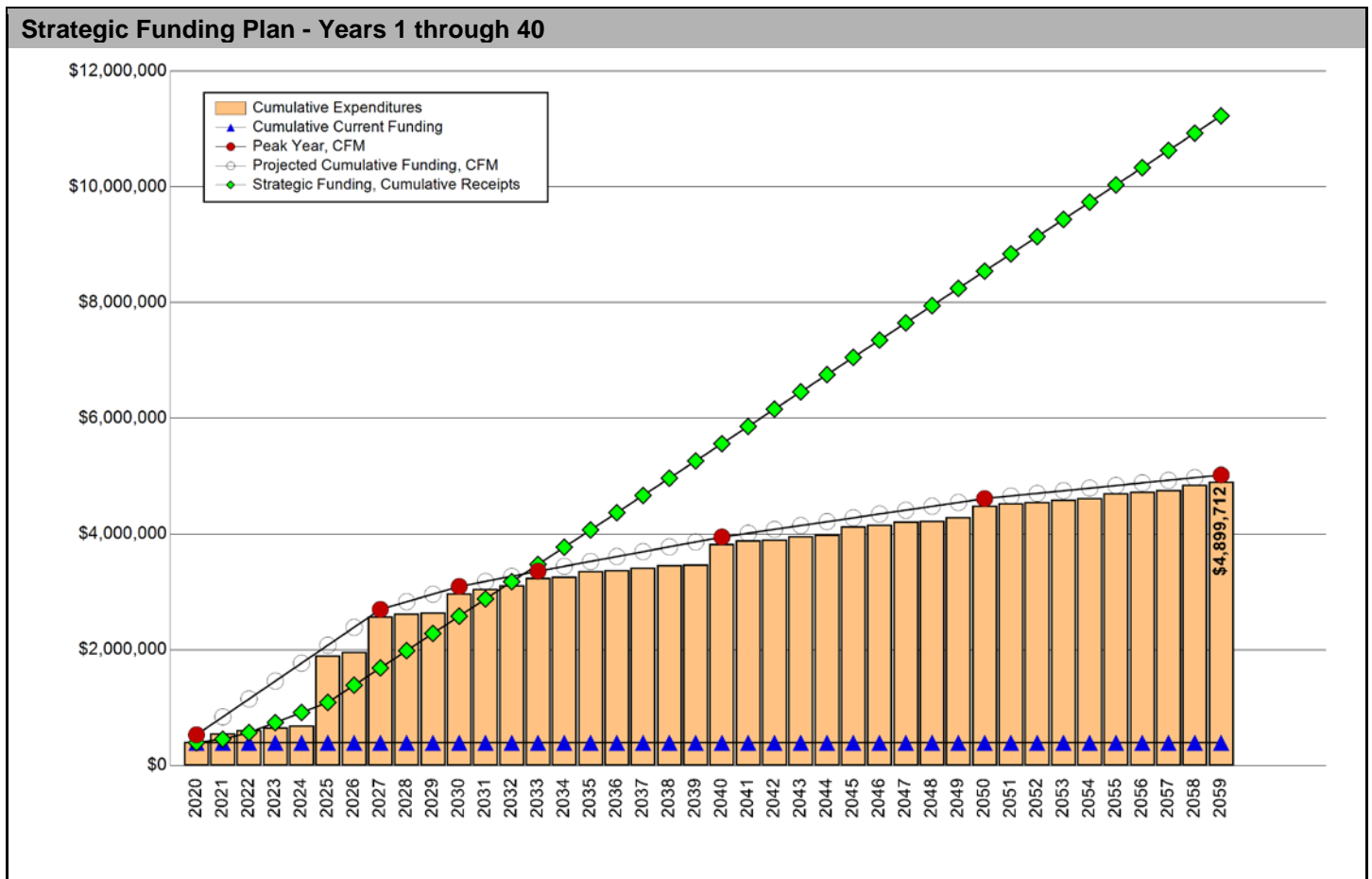
### COORDINATION

This Strategic Funding Plan for Amberfield HOA has been prepared in coordination with Ms. Shireen Ambush.

### NOTES

Incorporate a 10% HOA fee increase for the next 3 consecutive years and then flatten the annual contribution in the year 2026 after the 5-year loan is paid off that higher level for the remaining years as follows:

- \* Annual Reserve Contribution in 2021 \$59,471
- \* Annual Reserve Contribution in 2022 \$113,906
- \* Annual Reserve Contribution in 2023 \$173,784
- \* Annual Reserve Contribution in 2024 \$173,784
- \* Annual Reserve Contribution in 2025 \$173,784
- \* Annual Reserve Contribution in 2026 and years beyond due to the loan being paid off \$298,261



### Strategic Funding Plan - Table of Annual Funding and Expenditures

Year	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Starting Balance	\$393,516									
Projected Replacements	(\$408,115)	(\$145,240)	(\$60,002)	(\$37,481)	(\$39,870)	(\$1,210,319)	(\$57,501)	(\$618,640)	(\$46,842)	(\$15,231)
Adjusted Annual Deposit		\$59,471	\$113,906	\$173,784	\$173,784	\$173,784	\$298,261	\$298,261	\$298,261	\$298,261
End of Year Balance	(\$14,599)	(\$100,368)	(\$46,464)	\$89,840	\$223,754	(\$812,781)	(\$572,021)	(\$892,400)	(\$640,981)	(\$357,951)
Cumulative Expenditures	(\$408,115)	(\$553,355)	(\$613,357)	(\$650,837)	(\$690,707)	(\$1,901,026)	(\$1,958,527)	(\$2,577,167)	(\$2,624,009)	(\$2,639,240)
Cumulative Receipts	\$393,516	\$452,987	\$566,893	\$740,677	\$914,461	\$1,088,245	\$1,386,506	\$1,684,767	\$1,983,028	\$2,281,289
Year	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Projected Replacements	(\$332,847)	(\$75,094)	(\$65,171)	(\$125,224)	(\$21,572)	(\$103,676)	(\$15,040)	(\$42,434)	(\$37,241)	(\$12,940)
AFP - Annual Funding	\$298,261	\$298,261	\$298,261	\$298,261	\$298,261	\$298,261	\$298,261	\$298,261	\$298,261	\$298,261
End of Year Balance	(\$392,536)	(\$169,369)	\$63,721	\$236,758	\$513,447	\$708,032	\$991,253	\$1,247,080	\$1,508,101	\$1,793,422
Cumulative Expenditures	(\$2,972,086)	(\$3,047,180)	(\$3,112,351)	(\$3,237,575)	(\$3,259,147)	(\$3,362,823)	(\$3,377,863)	(\$3,420,297)	(\$3,457,538)	(\$3,470,478)
Cumulative Receipts	\$2,579,550	\$2,877,811	\$3,176,072	\$3,474,333	\$3,772,594	\$4,070,855	\$4,369,116	\$4,667,377	\$4,965,638	\$5,263,899
Year	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049
Projected Replacements	(\$356,561)	(\$63,601)	(\$11,800)	(\$60,394)	(\$27,071)	(\$139,415)	(\$32,802)	(\$52,131)	(\$17,024)	(\$59,764)
AFP - Annual Funding	\$298,261	\$298,261	\$298,261	\$298,261	\$298,261	\$298,261	\$298,261	\$298,261	\$298,261	\$298,261
End of Year Balance	\$1,735,122	\$1,969,782	\$2,256,243	\$2,494,110	\$2,765,300	\$2,924,146	\$3,189,605	\$3,435,736	\$3,716,973	\$3,955,470
Cumulative Expenditures	(\$3,827,039)	(\$3,890,639)	(\$3,902,439)	(\$3,962,833)	(\$3,989,904)	(\$4,129,319)	(\$4,162,121)	(\$4,214,252)	(\$4,231,276)	(\$4,291,040)
Cumulative Receipts	\$5,562,160	\$5,860,421	\$6,158,682	\$6,456,943	\$6,755,204	\$7,053,465	\$7,351,726	\$7,649,987	\$7,948,248	\$8,246,509
Year	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059
Projected Replacements	(\$200,847)	(\$44,040)	(\$20,562)	(\$36,681)	(\$22,270)	(\$88,399)	(\$28,121)	(\$30,960)	(\$91,402)	(\$45,391)
AFP - Annual Funding	\$298,261	\$298,261	\$298,261	\$298,261	\$298,261	\$298,261	\$298,261	\$298,261	\$298,261	\$298,261
End of Year Balance	\$4,052,883	\$4,307,104	\$4,584,803	\$4,846,384	\$5,122,375	\$5,332,237	\$5,602,377	\$5,869,678	\$6,076,537	\$6,329,407
Cumulative Expenditures	(\$4,491,887)	(\$4,535,927)	(\$4,556,489)	(\$4,593,169)	(\$4,615,439)	(\$4,703,838)	(\$4,731,959)	(\$4,762,919)	(\$4,854,321)	(\$4,899,712)
Cumulative Receipts	\$8,544,770	\$8,843,031	\$9,141,292	\$9,439,553	\$9,737,814	\$10,036,075	\$10,334,336	\$10,632,597	\$10,930,858	\$11,229,119



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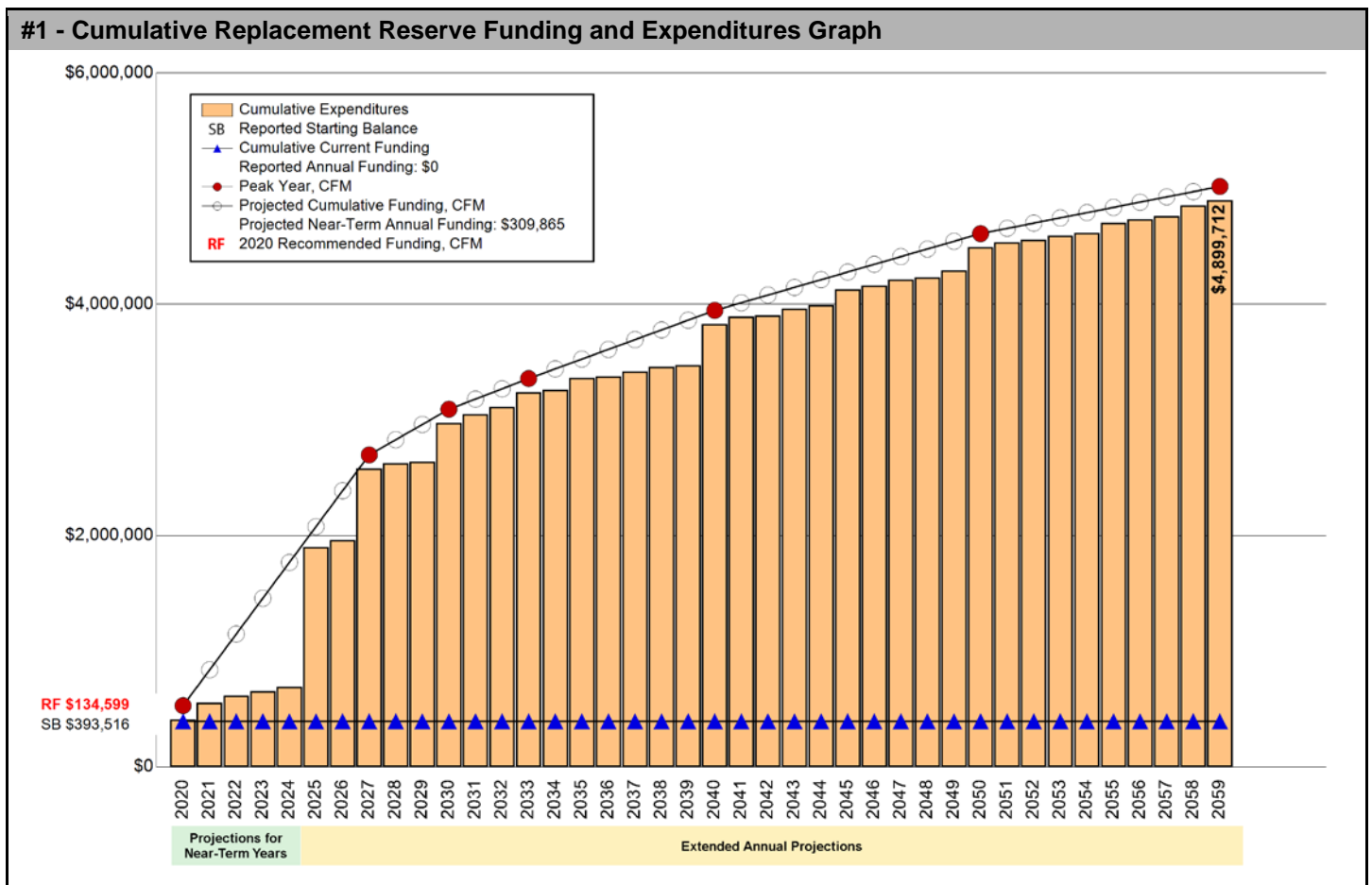
## EXECUTIVE SUMMARY

The Amberfield HOA Replacement Reserve Analysis uses the Cash Flow Method (CFM) to calculate Replacement Reserve funding for the periodic replacement of the 90 Projected Replacements identified in the Replacement Reserve Inventory.

**\$134,599** **RECOMMENDED REPLACEMENT RESERVE FUNDING FOR THE STUDY YEAR, 2020**  
\$28.47 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.

Amberfield HOA reports a Starting Balance of \$393,516 and Annual Funding totaling \$0. The reported Current Annual Funding of \$0 is inadequate to fund projected replacements starting in 2020. See Page A.3 for a more detailed evaluation.



The Current Funding Objective as calculated by the Component Method (Fully Funded) is \$2,515,012 making the reserve account 15.6% funded. See the Appendix for more information on this method.

**REPLACEMENT RESERVE ANALYSIS - GENERAL INFORMATION**

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

**2020 | STUDY YEAR**

The Association reports that their accounting year begins on January 1, and the Study Year, the first year evaluated by the Replacement Reserve Analysis, begins on January 1, 2020.

**40 Years | STUDY PERIOD**

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

**\$393,516 | STARTING BALANCE**

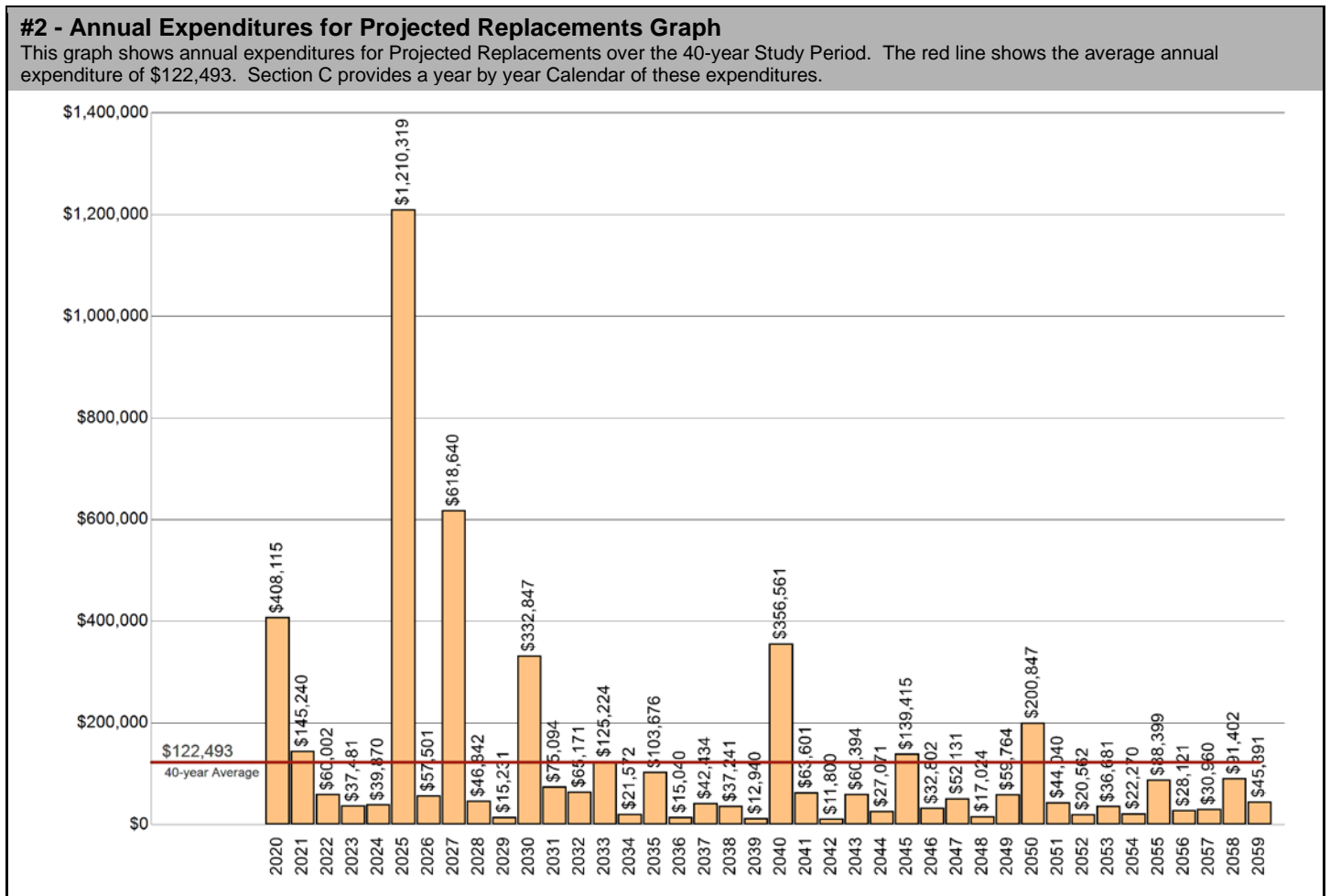
The Association reports Replacement Reserves on Deposit totaling \$393,516 at the start of the Study Year.

**Level One | LEVEL OF SERVICE**

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

**\$4,899,712 | REPLACEMENT RESERVE INVENTORY - PROJECTED REPLACEMENTS**

The Amberfield HOA Replacement Reserve Inventory identifies 90 items that will require periodic replacement, which are to be funded from Replacement Reserves. We estimate the cost of these replacements will be \$4,899,712 over the 40-year Study Period. The Projected Replacements are divided into 3 major categories starting on Page B.3. Pages B.1-B.2 provide detailed information on the Replacement Reserve Inventory.



**UPDATING**

**UPDATING OF THE FUNDING PLAN**

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

**UPDATING OF THE REPLACEMENT RESERVE STUDY**

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

**ANNUAL EXPENDITURES AND CURRENT FUNDING**

The annual expenditures that comprise the \$4,899,712 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.

<b>#3 - Table of Annual Expenditures and Current Funding Data - Years 1 through 40</b>										
Year	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Starting Balance	\$393,516									
Projected Replacements	(\$408,115)	(\$145,240)	(\$60,002)	(\$37,481)	(\$39,870)	(\$1,210,319)	(\$57,501)	(\$618,640)	(\$46,842)	(\$15,231)
Annual Deposit										
End of Year Balance	(\$14,599)	(\$159,839)	(\$219,841)	(\$257,321)	(\$297,191)	(\$1,507,510)	(\$1,565,011)	(\$2,183,651)	(\$2,230,493)	(\$2,245,724)
Cumulative Expenditures	(\$408,115)	(\$553,355)	(\$613,357)	(\$650,837)	(\$690,707)	(\$1,901,026)	(\$1,958,527)	(\$2,577,167)	(\$2,624,009)	(\$2,639,240)
Cumulative Receipts	\$393,516	\$393,516	\$393,516	\$393,516	\$393,516	\$393,516	\$393,516	\$393,516	\$393,516	\$393,516
Year	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Projected Replacements	(\$332,847)	(\$75,094)	(\$65,171)	(\$125,224)	(\$21,572)	(\$103,676)	(\$15,040)	(\$42,434)	(\$37,241)	(\$12,940)
Annual Deposit										
End of Year Balance	(\$2,578,570)	(\$2,653,664)	(\$2,718,835)	(\$2,844,059)	(\$2,865,631)	(\$2,969,307)	(\$2,984,347)	(\$3,026,781)	(\$3,064,021)	(\$3,076,961)
Cumulative Expenditures	(\$2,972,086)	(\$3,047,180)	(\$3,112,351)	(\$3,237,575)	(\$3,259,147)	(\$3,362,823)	(\$3,377,863)	(\$3,420,297)	(\$3,457,538)	(\$3,470,478)
Cumulative Receipts	\$393,516	\$393,516	\$393,516	\$393,516	\$393,516	\$393,516	\$393,516	\$393,516	\$393,516	\$393,516
Year	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049
Projected Replacements	(\$356,561)	(\$63,601)	(\$11,800)	(\$60,394)	(\$27,071)	(\$139,415)	(\$32,802)	(\$52,131)	(\$17,024)	(\$59,764)
Annual Deposit										
End of Year Balance	(\$3,433,522)	(\$3,497,123)	(\$3,508,923)	(\$3,569,317)	(\$3,596,388)	(\$3,735,803)	(\$3,768,605)	(\$3,820,735)	(\$3,837,759)	(\$3,897,523)
Cumulative Expenditures	(\$3,827,039)	(\$3,890,639)	(\$3,902,439)	(\$3,962,833)	(\$3,989,904)	(\$4,129,319)	(\$4,162,121)	(\$4,214,252)	(\$4,231,276)	(\$4,291,040)
Cumulative Receipts	\$393,516	\$393,516	\$393,516	\$393,516	\$393,516	\$393,516	\$393,516	\$393,516	\$393,516	\$393,516
Year	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059
Projected Replacements	(\$200,847)	(\$44,040)	(\$20,562)	(\$36,681)	(\$22,270)	(\$88,399)	(\$28,121)	(\$30,960)	(\$91,402)	(\$45,391)
Annual Deposit										
End of Year Balance	(\$4,098,371)	(\$4,142,411)	(\$4,162,973)	(\$4,199,653)	(\$4,221,923)	(\$4,310,322)	(\$4,338,443)	(\$4,369,403)	(\$4,460,805)	(\$4,506,196)
Cumulative Expenditures	(\$4,491,887)	(\$4,535,927)	(\$4,556,489)	(\$4,593,169)	(\$4,615,439)	(\$4,703,838)	(\$4,731,959)	(\$4,762,919)	(\$4,854,321)	(\$4,899,712)
Cumulative Receipts	\$393,516	\$393,516	\$393,516	\$393,516	\$393,516	\$393,516	\$393,516	\$393,516	\$393,516	\$393,516

**EVALUATION OF CURRENT FUNDING**

The evaluation of Current Funding (Starting Balance of \$393,516 & annual funding of \$0), 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 90 Projected Replacements identified in the Replacement Reserve Inventory and that the Association will continue Annual Funding of \$0 throughout the 40-year Study Period.

Annual Funding of \$0 is approximately percent of the \$134,599 recommended Annual Funding calculated by the Cash Flow Method for 2020, the Study Year.

The progression and effect of continued Current Annual Funding coupled with this studies Projected Replacements over the Study Period are evaluated in Table 3 above. Maintaining Current Annual Funding may result in inadequate End of Year Balances, noted in red.

See the Executive Summary for the Current Funding Statement.

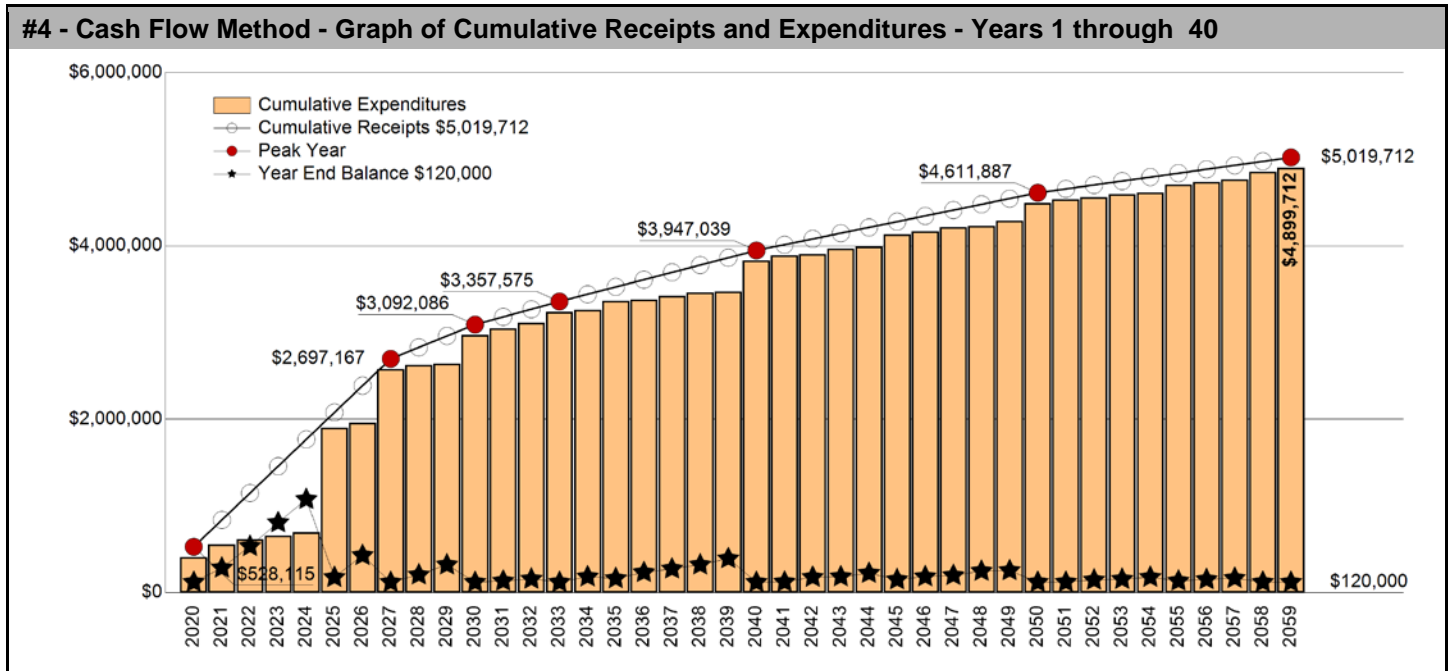
# CASH FLOW METHOD FUNDING

## \$134,599 RECOMMENDED REPLACEMENT RESERVE FUNDING FOR 2020

\$28.47 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 2020 with Replacement Reserves on Deposit dropping to the Minimum Balance after the completion of \$408,115 of replacements from 2020 to 2020. Recommended funding is projected to decline from \$134,599 in 2020 to \$309,865 in 2021. Peak Years are identified in Chart 4 and Table 5.
- **Minimum Balance.** The calculations assume a Minimum Balance of \$120,000 will always be held in reserve, which is calculated by rounding the 12-month 40-year average annual expenditure of \$122,493 as shown on Graph #2.
- **Cash Flow Method Study Period.** Cash Flow Method calculates funding for \$4,899,712 of expenditures over the 40-year Study Period. It does not include funding for any projects beyond 2059 and in 2059, the end of year balance will always be the Minimum Balance.



#5 - Cash Flow Method - Table of Receipts & Expenditures - Years 1 through 40										
Year	1st Peak - 2020	2021	2022	2023	2024	2025	2026	2nd Peak - 2027	2028	2029
Starting Balance	\$393,516									
Projected Replacements	(\$408,115)	(\$145,240)	(\$60,002)	(\$37,481)	(\$39,870)	(\$1,210,319)	(\$57,501)	(\$618,640)	(\$46,842)	(\$15,231)
Annual Deposit	\$134,599	\$309,865	\$309,865	\$309,865	\$309,865	\$309,865	\$309,865	\$309,865	\$309,865	\$131,640
End of Year Balance	\$120,000	\$284,625	\$534,487	\$806,871	\$1,076,866	\$176,412	\$428,775	\$120,000	\$204,798	\$321,207
Cumulative Expenditures	(\$408,115)	(\$553,355)	(\$613,357)	(\$650,837)	(\$690,707)	(\$1,901,026)	(\$1,958,527)	(\$2,577,167)	(\$2,624,009)	(\$2,639,240)
Cumulative Receipts	\$528,115	\$837,980	\$1,147,844	\$1,457,709	\$1,767,573	\$2,077,438	\$2,387,303	\$2,697,167	\$2,828,807	\$2,960,447
Year	3rd Peak - 2030	2031	2032	4th Peak - 2033	2034	2035	2036	2037	2038	2039
Projected Replacements	(\$332,847)	(\$75,094)	(\$65,171)	(\$125,224)	(\$21,572)	(\$103,676)	(\$15,040)	(\$42,434)	(\$37,241)	(\$12,940)
Annual Deposit	\$131,640	\$88,496	\$88,496	\$88,496	\$84,209	\$84,209	\$84,209	\$84,209	\$84,209	\$84,209
End of Year Balance	\$120,000	\$133,402	\$156,728	\$120,000	\$182,637	\$163,171	\$232,340	\$274,115	\$321,083	\$392,352
Cumulative Expenditures	(\$2,972,086)	(\$3,047,180)	(\$3,112,351)	(\$3,237,575)	(\$3,259,147)	(\$3,362,823)	(\$3,377,863)	(\$3,420,297)	(\$3,457,538)	(\$3,470,478)
Cumulative Receipts	\$3,092,086	\$3,180,583	\$3,269,079	\$3,357,575	\$3,441,784	\$3,525,993	\$3,610,202	\$3,694,411	\$3,778,621	\$3,862,830
Year	5th Peak - 2040	2041	2042	2043	2044	2045	2046	2047	2048	2049
Projected Replacements	(\$356,561)	(\$63,601)	(\$11,800)	(\$60,394)	(\$27,071)	(\$139,415)	(\$32,802)	(\$52,131)	(\$17,024)	(\$59,764)
Annual Deposit	\$84,209	\$66,485	\$66,485	\$66,485	\$66,485	\$66,485	\$66,485	\$66,485	\$66,485	\$66,485
End of Year Balance	\$120,000	\$122,884	\$177,569	\$183,660	\$223,074	\$150,144	\$183,827	\$198,181	\$247,642	\$254,363
Cumulative Expenditures	(\$3,827,039)	(\$3,890,639)	(\$3,902,439)	(\$3,962,833)	(\$3,989,904)	(\$4,129,319)	(\$4,162,121)	(\$4,214,252)	(\$4,231,276)	(\$4,291,040)
Cumulative Receipts	\$3,947,039	\$4,013,523	\$4,080,008	\$4,146,493	\$4,212,978	\$4,279,463	\$4,345,948	\$4,412,432	\$4,478,917	\$4,545,402
Year	6th Peak - 2050	2051	2052	2053	2054	2055	2056	2057	2058	7th Peak - 2059
Projected Replacements	(\$200,847)	(\$44,040)	(\$20,562)	(\$36,681)	(\$22,270)	(\$88,399)	(\$28,121)	(\$30,960)	(\$91,402)	(\$45,391)
Annual Deposit	\$66,485	\$45,314	\$45,314	\$45,314	\$45,314	\$45,314	\$45,314	\$45,314	\$45,314	\$45,314
End of Year Balance	\$120,000	\$121,274	\$146,026	\$154,659	\$177,703	\$134,618	\$151,811	\$166,165	\$120,077	\$120,000
Cumulative Expenditures	(\$4,491,887)	(\$4,535,927)	(\$4,556,489)	(\$4,593,169)	(\$4,615,439)	(\$4,703,838)	(\$4,731,959)	(\$4,762,919)	(\$4,854,321)	(\$4,899,712)
Cumulative Receipts	\$4,611,887	\$4,657,201	\$4,702,515	\$4,747,829	\$4,793,142	\$4,838,456	\$4,883,770	\$4,929,084	\$4,974,398	\$5,019,712



## 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.

### **\$134,599** 2020 - CASH FLOW METHOD RECOMMENDED FUNDING

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

### **\$316,992** 2021 - INFLATION ADJUSTED FUNDING

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

- Replacement Reserves on Deposit totaling \$120,000 on January 1, 2021.
- All 2020 Projected Replacements listed on Page C.2 accomplished at a cost to Replacement Reserves less than \$408,115.
- Construction Cost Inflation of 2.30 percent in 2020.

The \$316,992 inflation adjusted funding in 2021 is a 2.30 percent increase over the non-inflation adjusted funding of \$309,865.

### **\$324,282** 2022 - INFLATION ADJUSTED FUNDING

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

- Replacement Reserves on Deposit totaling \$351,838 on January 1, 2022.
- All 2021 Projected Replacements listed on Page C.2 accomplished at a cost to Replacement Reserves less than \$137,676.
- Construction Cost Inflation of 2.30 percent in 2021.

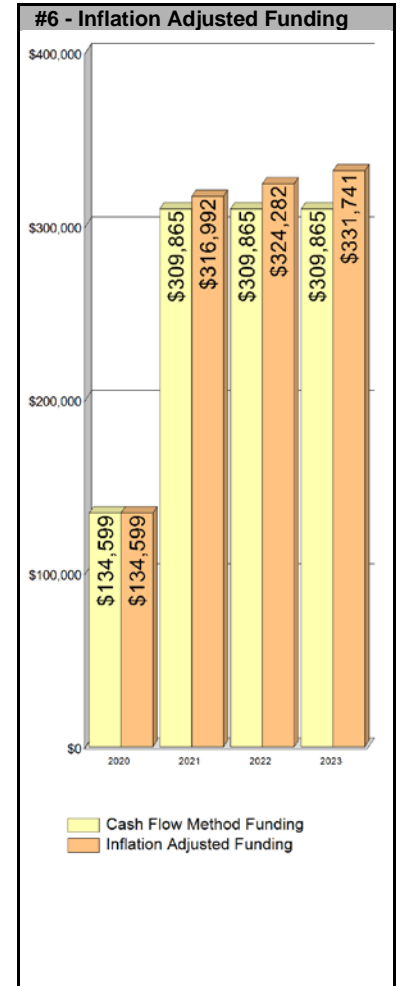
The \$324,282 inflation adjusted funding in 2022 is a 4.65 percent increase over the non-inflation adjusted funding of \$309,865.

### **\$331,741** 2023 - INFLATION ADJUSTED FUNDING

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

- Replacement Reserves on Deposit totaling \$669,998 on January 1, 2023.
- All 2022 Projected Replacements listed on Page C.2 accomplished at a cost to Replacement Reserves less than \$61,631.
- Construction Cost Inflation of 2.30 percent in 2022.

The \$331,741 inflation adjusted funding in 2023 is a 7.05 percent increase over the non-inflation adjusted funding of \$309,865.



### Year Five and Beyond

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

### Inflation Adjustment

Prior to approving a budget based upon the 2021, 2022 and 2023 inflation-adjusted funding calculations above, the 2.30 percent base rate of inflation used in our calculations should be compared to rates published by the Bureau of Labor Statistics. If there is a significant discrepancy (over 1 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 2020, based on a 1.00 percent interest rate, we estimate the Association may earn \$2,568 on an average balance of \$256,758, \$2,359 on an average balance of \$235,919 in 2021, and \$5,109 on \$510,918 in 2022. The Association may elect to attribute 100 percent of the earned interest to Reserves, resulting in a reduction in the 2020 funding from \$134,599 to \$132,031 (a 1.90 percent reduction), \$316,992 to \$314,632 in 2021 (a 0.74 percent reduction), and \$324,282 to \$319,173 in 2022 (a 1.57 percent reduction).

**REPLACEMENT RESERVE STUDY - SUPPLEMENTAL COMMENTS**

- The Cash Flow Method calculates the minimum annual funding necessary to prevent Replacement Reserves from dropping below the Minimum Balance, as defined on Page A4. Failure to fund at least the recommended levels may result in funding not being available for the Projected Replacements listed in the Replacement Reserve Inventory.
- The accuracy of the Replacement Reserve Analysis is dependent upon expenditures from Replacement Reserves being made ONLY for the 90 Projected Replacements specifically listed in the Replacement Reserve Inventory. The inclusion/exclusion of items from the Replacement Reserve Inventory is discussed on Page B.1.

## REPLACEMENT RESERVE INVENTORY GENERAL INFORMATION

Amberfield HOA - Replacement Reserve Inventory identifies 90 Projected Replacements.

- **PROJECTED REPLACEMENTS.** 90 of the items are Projected Replacements and the periodic replacements of these items are scheduled for funding from Replacement Reserves. The Projected Replacements have an estimated one-time replacement cost of \$2,924,593. Cumulative Replacements totaling \$4,899,712 are scheduled in the Replacement Reserve Inventory over the 40-year Study Period.

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

- **EXCLUDED ITEMS.** None of the items included in the Replacement Reserve Inventory are 'Excluded Items'. Multiple categories of items are typically excluded from funding by Replacement Reserves, including but not limited to:

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

**Value.** Items with a replacement cost of less than \$1,000 and/or a normal economic life of less than 3 years are typically excluded from funding from Replacement Reserves. This exclusion should reflect 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 90 items included in the Amberfield HOA Replacement Reserve Inventory are divided into 3 major categories. Each category is printed on a separate page, beginning on page B.3.
- **LEVEL OF SERVICE.** This Replacement Reserve Inventory has been developed in compliance with the standards established for a Level One Study - Full Service, as defined by the National Reserve Study Standards, established in 1998 by Community Associations Institute, which states:

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

## REPLACEMENT RESERVE INVENTORY - GENERAL INFORMATION (CONT'D)

- **INVENTORY DATA.** Each of the 90 Projected Replacements listed in the Replacement Reserve Inventory includes the following data:

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

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

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

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

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

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

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

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

- **REVIEW OF EXPENDITURES.** This Replacement Reserve Study should be reviewed by an accounting professional representing the Association prior to implementation.
- **PARTIAL FUNDING.** Items may have been included in the Replacement Reserve Inventory at less than 100 percent of their full quantity and/or replacement cost. This is done on items that will never be replaced in their entirety, but which may require periodic replacements over an extended period of time. The assumptions that provide the basis for any partial funding are noted in the Comments section.
- **REMAINING ECONOMIC LIFE GREATER THAN 40 YEARS.** The calculations do not include funding for initial replacements beyond 40 years. These replacements are included in this Study for tracking and evaluation. They should be included for funding in future Studies when they enter the 40-year window.

SITE ITEMS		NEL- Normal Economic Life (yrs)						REL- Remaining Economic Life (yrs)	
PROJECTED REPLACEMENTS									
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)		
1	Entry monuments (concrete with carved lettering)	ea	2	\$5,000.00	35	25	\$10,000		
2	Entry monument retaining walls, repoint masonry	sf	150	\$8.00	10	2	\$1,200		
3	Entry monument lighting, solar	ls	1	\$6,000.00	15	10	\$6,000		
4	Asphalt pavement, mill & overlay	sf	110,250	\$1.67	20	none	\$184,118		
5	Asphalt pavement, seal coat	sf	110,250	\$0.22	5	none	\$24,255		
6	Parking Space Striping	ea	599	\$13.50	10	none	\$8,087		
7	Concrete walkways (6%)	sf	1,400	\$10.00	6	5	\$14,000		
8	Concrete curb & gutter, barrier (3.25%)	lf	253	\$46.80	6	none	\$11,840		
9	Concrete driveway apron (6%)	sf	810	\$11.20	6	5	\$9,072		
10	Small masonry walls, repoint masonry	sf	420	\$8.00	8	2	\$3,360		
11	Flagstone & paver patio areas, repoint / reset	sf	1,080	\$7.00	8	2	\$7,560		
Replacement Costs - Page Subtotal							\$279,491		

COMMENTS
<ul style="list-style-type: none"> <li>Retaining wall phase 1 excluded as long life item.</li> <li>Item #3: Entry monument lighting, solar - 120 watt solar system with 12 volt DC lithium 80 amp hour rechargeable battery. Six LED flood fixtures. Nine LED path light fixtures. (Installed in 2016 with repairs in 2018 and 2019.)</li> <li>Item #7: Concrete walkways (6%) - Walkway concrete totals approximately 23,360 square feet (sf). In 2017, repairs were made to approximately 1,722 sf of concrete walkway (by Precision Concrete Cutting, \$6,222.50).</li> <li>Item #8: Concrete curb &amp; gutter, barrier (3.25%) - Concrete curbs &amp; gutters total approximately 7,780 linear feet.</li> <li>Item #9: Concrete driveway apron (6%) - Driveway apron concrete totals approximately 13,500 square feet.</li> <li>Item #10: Small masonry walls, repoint masonry - Located near the community pool house, at the intersection of Suffield Drive and Blazing Star Way, and at the intersection of Suffield Drive and Autumn Flower Lane.</li> </ul>



SITE ITEMS - RETAINING WALL 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 (\$)
12	Retaining wall, PTL (installed in 2019)	sf	40	\$39.75	20	19	\$1,590
13	Stone masonry wall, Blazing Star Way	sf	100	\$80.00	40	25	\$8,000
14	Phase 2.1 retaining wall construction	ls	1	\$540,000.00	100	5	\$540,000
15	Phase 2.1 design, bidding, and permitting fees	ls	1	\$10,800.00	100	5	\$10,800
16	Phase 2.1 construction phase engineering fees	ls	1	\$540,000.00	100	5	\$540,000
17	Phase 2.2 retaining wall construction	ls	1	\$54,000.03	100	7	\$54,000
18	Phase 2.2 design, bidding, and permitting fees	ls	1	\$10,800.00	100	7	\$10,800
19	Phase 2.2 construction phase engineering fees	ls	1	\$540,000.00	100	7	\$540,000
20	Phase 3 retaining wall construction (Great Seneca)	ls	1	\$90,000.00	100	1	\$90,000
21	Phases 3 design, bidding, and permitting fees	ls	1	\$2,000.00	100	1	\$2,000
22	Phases 3 construction phase engineering fees	lf	1	\$10,000.00	100	1	\$10,000
Replacement Costs - Page Subtotal							\$1,807,190

**COMMENTS**

- 8/12/2020 - Per Boards discussion with Engineer - Split Phase 2 Retaining wall in half to be completed with barrier fence in 2025 and 2027. Increase cost by 20% to account for additional mobilization costs.
- Item #12: Retaining wall, PTL (installed in 2019) - PTL retaining wall, installed in 2019. Located at 225-223 Lazy Hollow Drive.
- Item #20: Phase 3 retaining wall construction (Great Seneca) - Phase 3 is the replacement of the sound barrier along Great Seneca Highway, referred to as walls 20a and 20b in the Retaining Wall Project Plan.

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 (\$)
23	Fence, 4' steel w/ 3 rails & pickets	lf	630	\$39.00	40	39	\$24,570
24	Fence, 6' PTL, horizontal slat, perimeter	lf	750	\$25.00	20	10	\$18,750
25	Fence, 6' PTL, shadow box, perimeter	lf	285	\$25.00	20	10	\$7,125
26	Fence, wood split, 3 rails	lf	1,160	\$31.00	15	none	\$35,960
27	Fence & other wood/metal structures, repair	ls	1	\$6,000.00	1	none	\$6,000
28	Storm water management (10% allowance)	ls	1	\$20,000.00	10	none	\$20,000
29	Street name signs	ea	29	\$200.00	35	10	\$5,800
30	Road signs (e.g. No Parking)	ea	165	\$50.00	15	5	\$8,250
31	Mailbox clusters	units	41	\$1,980.00	35	10	\$81,180
Replacement Costs - Page Subtotal							\$207,635

**COMMENTS**

- Item #23: Fence, 4' steel w/ 3 rails & pickets - Metal fencing atop new (2018-2019) Redi-Rock walls, numbers 3, 5, 7, 8, and 14.
- Item #24: Fence, 6' PTL, horizontal slat, perimeter - Located along Great Seneca Highway.
- Item #25: Fence, 6' PTL, shadow box, perimeter - Located along Great Seneca Highway.
- Item #27: Fence & other wood/metal structures, repair allowance - This annual allowance could be used to cover wood and metal fence repair, remaining timber retaining walls (small), and other wood/metal structures (e.g. walkway borders and railings).
- Item #28: Storm water management (10% allowance) - The current estimated replacement cost for storm water management components is approximately \$200,000. This is a long-life system, so we have provided a 10 percent allowance (every 10 years) for component repairs and other drainage work as needed.
- Item #31: Mailbox clusters - In 2018, repairs were made to the two mailbox clusters on Leafcup Court (\$950.00).

RECREATION ITEMS						NEL- Normal Economic Life (yrs)			
PROJECTED REPLACEMENTS						REL- Remaining Economic Life (yrs)			
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL		REPLACEMENT COST (\$)	
<b>Pool House Interior/Exterior</b>									
32	Roofing, asphalt shingles	sf	1,700	\$8.80	20	none		\$14,960	
33	Pool house painting, exterior	ls	1	\$9,500.00	10	3		\$9,500	
34	Pool house painting, interior	ls	1	\$9,500.00	10	3		\$9,500	
35	Pool house floor coating	ls	1	\$4,000.00	18	3		\$4,000	
36	Pool house restoration allowance	ls	1	\$10,000.00	5	none		\$10,000	
Replacement Costs - Page Subtotal								\$47,960	

**COMMENTS**

- Note: Please see Paragraph entitled "TAX CODE" on page C1. Under IRS guidelines painting is considered a maintenance item and therefore not reservable. We recommend that you contact your Association's tax professional to discuss your inclusion of these items within your Reserve Study.
- Item #35: Pool house floor coating - Management has indicated that floor coating will be applied in the near term.
- Item #36: Pool house restoration allowance - This allowance could be used for repair or replacement of doors, windows, locks and other hardware, locker room counters tops, mirrors, benches, toilet, and shower enclosures.

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 (\$)
<b>Pool Area Components</b>							
37	Pool deck, concrete (20%)	sf	2,480	\$11.50	100	none	\$28,520
38	Pool deck, concrete (20%)	sf	2,480	\$11.50	100	2	\$28,520
39	Pool deck, concrete (20%)	sf	2,480	\$11.50	100	4	\$28,520
40	Pool deck, concrete (20%)	sf	2,480	\$11.50	100	6	\$28,520
41	Pool deck, concrete (20%)	sf	2,480	\$11.50	100	8	\$28,520
42	Pool shell repair	ls	1	\$30,000.00	10	1	\$30,000
43	Swimming pool, whitecoat	ls	1	\$28,820.00	10	none	\$28,820
44	Swimming pool coping, 5% allowance	ft	20	\$30.00	1	none	\$600
45	Swimming pool waterline tile (6x6)	ft	375	\$6.00	10	none	\$2,250
Replacement Costs - Page Subtotal							\$204,270

**COMMENTS**

- Item #37: Pool deck, concrete (20%) - The total square footage of the pool deck is approximately 12,400. Management has indicated that the concrete pool deck will be renovated within the next 10 years. We have scheduled five one-time payments to accomplish this goal.
- Item #43: Swimming pool, whitecoat - Management has indicated that white coating will be applied after the 2020 pool season.
- Item #44: Swimming pool coping, 5% allowance - Total pool coping is approximately 400 linear feet.

RECREATION ITEMS - (cont.)					NEL- Normal Economic Life (yrs)		REPLACEMENT COST (\$)
PROJECTED REPLACEMENTS					REL- Remaining Economic Life (yrs)		
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)
<b>Tennis Courts &amp; Multi-purpose Court</b>							
46	Fence, 6' decorative, steel	ft	540	\$45.00	50	40	\$24,300
47	Lifeguard chair, mounted	ea	3	\$4,000.00	20	10	\$12,000
48	Pool grab rails (3 sets)	ea	3	\$600.00	20	16	\$1,800
49	Pool furniture allowance	ls	1	\$4,000.00	1	none	\$4,000
Replacement Costs - Page Subtotal							\$42,100

COMMENTS
<ul style="list-style-type: none"> <li>Item #47: Lifeguard chair, mounted - The plastic lifeguard seats should be evaluated and perhaps replaced in the near term.</li> <li>Item #48: Pool grab rails (3 sets) - New grab rails were installed in 2016 (by Continental Pool LLC).</li> </ul>



RECREATION ITEMS - (cont.)				NEL- Normal Economic Life (yrs)		REL- Remaining Economic Life (yrs)	
PROJECTED REPLACEMENTS							
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)
<b>Tot Lots</b>							
50	Tennis court, asphalt overlay	sf	12,600	\$5.80	25	13	\$73,080
51	Tennis court, color coat	sf	12,600	\$1.20	8	5	\$15,120
52	Tennis court, posts & footings	pr	2	\$1,600.00	20	13	\$3,200
53	Tennis court, nets	ea	2	\$375.00	5	4	\$750
54	Tennis court fence, 10' vinyl coated	ft	450	\$30.00	45	20	\$13,500
55	MP court, asphalt overlay	sf	3,900	\$5.00	20	none	\$19,500
56	Tot lot play structure, large (Lazy Hollow Way)	ea	1	\$25,080.00	15	10	\$25,080
57	Tot lot border PLT (Lazy Hollow Way)	ft	264	\$11.00	15	13	\$2,904
58	Tot lot surfacing, wood chips (Lazy Hollow Way)	sf	1,460	\$1.95	3	2	\$2,847
59	Picnic table, PTL wood & metal (Lazy Hollow Way)	ea	1	\$520.00	15	none	\$520
60	Picnic table, plastic & metal (Lazy Hollow Way)	ea	1	\$1,000.00	15	10	\$1,000
61	Tot lot play structure, 3 platforms/2 slides (Narrow	ea	1	\$25,080.00	15	10	\$25,080
62	Tot lot 48" beanstalk climber (Narrow Leaf Ct.)	ea	1	\$2,500.00	15	14	\$2,500
63	Tot lot arch-frame swing, 2 bay, 4 seat (Narrow Leaf	ea	1	\$3,400.00	15	10	\$3,400
64	Picnic table, plastic & metal (Narrow Leaf Ct.)	ea	1	\$1,000.00	15	10	\$1,000
65	Tot lot border, PLT (Narrow Leaf Ct.)	ft	240	\$11.00	15	1	\$2,640
66	Tot lot surfacing, wood chips (Narrow Leaf Ct.)	sf	2,500	\$1.95	3	2	\$4,875
67	Tot lot play structure, custom platform/2 slides	ea	1	\$25,080.00	15	12	\$25,080
68	Tot lot border, PLT (Fleece Flower Dr.)	ft	320	\$11.00	15	12	\$3,520
Replacement Costs - Page Subtotal							\$225,596

COMMENTS
<ul style="list-style-type: none"> <li>Item #56: Tot lot play structure, large (Lazy Hollow Way) - In 2019, one set of 36" stairs was replaced on the play structure (installed by Playground Specialists, \$1,429 + \$600 installation).</li> <li>Item #57: Tot lot border PLT (Lazy Hollow Way) - In 2018, the 6x6 pressure treated timber border was replaced (work by Facility Service Company).</li> <li>Item #58: Tot lot surfacing, wood chips (Lazy Hollow Way) - In 2018, 20 cubic yards of wood chips were added.</li> <li>Item #61: Tot lot play structure, 3 platforms/2 slides (Narrow Leaf) - In 2019, a new Rope Climber was installed, replacing the old climber (work by Playground Specialists, Inc.).</li> <li>Item #62: Tot lot 48" beanstalk climber (Narrow Leaf Ct.) - In 2019, a new Beanstalk Climber was installed, replacing the old climber (work by Playground Specialists, Inc.).</li> <li>Item #64: Picnic table, plastic &amp; metal (Narrow Leaf Ct.) - A cracked seat board was observed.</li> <li>Item #65: Tot lot border, PLT (Narrow Leaf Ct.) - In 2018, 40 linear feet of deteriorated border was replaced. Other areas of the border will require restoration in the near term.</li> <li>Item #66: Tot lot surfacing, wood chips (Narrow Leaf Ct.) - In 2018, 20 cubic yards of wood chips were added.</li> <li>Item #67: Tot lot play structure, custom platform/2 slides (Fleece) - In 2019, new 36" stairs were installed to replace the old stairs. Also, a custom catwalk with guardrails was installed. (Work by Playground Specialists, Inc.)</li> <li>Item #68: Tot lot border, PLT (Fleece Flower Dr.) - In 2017, the entire PLT border was replaced (by Facility Services Company of MD, Inc.).</li> </ul>

RECREATION ITEMS - (cont.)					NEL- Normal Economic Life (yrs)		
PROJECTED REPLACEMENTS					REL- Remaining Economic Life (yrs)		
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)
<b>Community Message Board and Dog Waste Stations</b>							
69	Tot lot surfacing, wood chips (Fleece Flower Dr.)	sf	1,090	\$1.95	3	none	\$2,126
70	Picnic tables, wood & metal (Fleece Flower Dr.)	ea	3	\$520.00	15	none	\$1,560
71	Tot lot arch-frame swing, 1 bay, 2 seat (Leafcup	ea	1	\$2,550.00	15	12	\$2,550
72	Tot lot border, PLT (Leafcup Rd.)	lf	120	\$11.00	15	13	\$1,320
73	Tot lot surfacing, wood chips (Leafcup Rd.)	sf	900	\$1.95	3	3	\$1,755
74	Picnic tables, wood & wood/metal (Leafcup Rd.)	ea	2	\$520.00	15	2	\$1,040
75	Community message board and enclosure	ea	1	\$800.00	20	11	\$800
76	Dog waste stations	ea	7	\$380.00	20	6	\$2,660
Replacement Costs - Page Subtotal							\$13,811

COMMENTS
<ul style="list-style-type: none"> <li>Item #73: Tot lot surfacing, wood chips (Leafcup Rd.) - In 2018, 9 cubic yards of wood chips were added.</li> </ul>

POOL AREA MECHANICAL, PLUMBING, & ELECTRICAL 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	Electric switchgear	ls	1	\$8,500.00	40	10	\$8,500	
78	Water heater, commercial electric, 119 gal.	ea	1	\$6,500.00	15	12	\$6,500	
79	Domestic water piping	ls	1	\$16,000.00	40	5	\$16,000	
80	Wastewater piping	ls	1	\$10,000.00	60	25	\$10,000	
81	Plumbing fixtures	ls	1	\$8,400.00	45	15	\$8,400	
82	Main pool pump	ea	1	\$8,500.00	25	15	\$8,500	
83	Wading pool pump	ea	1	\$5,000.00	25	none	\$5,000	
84	Main pool filter, sand (30")	ea	3	\$1,500.00	15	5	\$4,500	
85	Wading pool filter	ea	1	\$900.00	15	11	\$900	
86	Pool area site light, 10' fiberglass pole	ea	8	\$1,950.00	35	10	\$15,600	
87	Pool area site light, standard single head, LED	ea	8	\$650.00	20	10	\$5,200	
88	Pool house interior lights	ea	18	\$180.00	30	7	\$3,240	
89	Pool house exterior lights	ls	1	\$2,000.00	26	11	\$2,000	
90	Security camera system	ls	1	\$2,200.00	18	10	\$2,200	
Replacement Costs - Page Subtotal							\$96,540	

COMMENTS
<ul style="list-style-type: none"> <li>Item #77: Electric switchgear - In 2017, all existing circuit breakers were removed, and new breakers were installed: one double-pole 40 amp., 11 single-pole 20 amp., and three single-pole 40 amp. (Work by Power Systems Electric, Corp., \$750.)</li> <li>Item #78: Water heater, commercial electric, 119 gal. - In 2017, a new water heater was installed in the pool house: Bradford White Hydrojet ElectriFLEX Commercial Light Duty Upright Electric, model LE2120T33, S/N PC39167717 (by O/Connor Plumbing and Heating).</li> <li>Item #81: Plumbing fixtures - In 2016, the following pool house plumbing fixtures were replaced due to defect: hot water mixing valve, anti-scold devices on all nine showers, three shower heads in the men's room. In 2019, the following fixtures were replaced: self-closing shower valve, and cartridges to fix two push faucets.</li> <li>Item #84: Main pool filter, sand (30") - In 2016, the sand was recharged in the filters (work by Continental Pools LLC). The filters appear to be Pentair Triton II side-mount filter TR100 fiberglass sand filters.</li> <li>Item #85: Wading pool filter - In 2016, a new wading pool filter was installed (work by Continental Pools LLC). The filter appears to be a Pentair 160353 Clean &amp; Clear RP fiberglass reinforced polypropylene tank cartridge pool filter, 200 Square feet, 150 GPM.</li> </ul>

VALUATION EXCLUSIONS							
Excluded Items							
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)
	Site lighting fixtures on roadways						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.

<b>LONG-LIFE EXCLUSIONS</b>							
<b>Excluded Items</b>							
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	REPLACEMENT COST (\$)	UNIT REL	REL	REPLACEMENT COST (\$)
	Retaining wall phase 1						EXCLUDED
	Segmental retaining walls						EXCLUDED
	Building foundation - pool house						EXCLUDED
	Concrete floor slabs (interior) - pool house						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	
	Sidewalk on an individual lot (if along a street)						EXCLUDED	
	Stairs on an individual lot						EXCLUDED	
	Curb & gutter on an individual lot (if along a street)						EXCLUDED	
	Retaining wall on an individual lot						EXCLUDED	
	Fence on an individual lot						EXCLUDED	
	Unit exterior						EXCLUDED	
	Unit windows						EXCLUDED	
	Unit doors						EXCLUDED	
	Unit skylights						EXCLUDED	
	Unit deck, patio, and/or balcony						EXCLUDED	
	Unit interior						EXCLUDED	
	Unit HVAC system						EXCLUDED	

**UNIT IMPROVEMENTS EXCLUSIONS**

**Comments**

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

UTILITY EXCLUSIONS							
Excluded Items							
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)
	Primary electric feeds						EXCLUDED
	Electric transformers						EXCLUDED
	Cable TV systems and structures						EXCLUDED
	Telephone cables and structures						EXCLUDED
	Site lighting (if along streets)						EXCLUDED
	Gas mains and meters						EXCLUDED
	Water mains and meters						EXCLUDED
	Sanitary sewers						EXCLUDED

**UTILITY EXCLUSIONS**  
 Comments

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

MAINTENANCE AND REPAIR EXCLUSIONS								
Excluded Items								
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	REPLACEMENT COST (\$)	UNIT REL	REL	REPLACEMENT COST (\$)	
	Painting of curbs (if along streets)							EXCLUDED
	Landscaping and site grading							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 & parking						EXCLUDED
	Government, sidewalks & 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.

## PROJECTED ANNUAL REPLACEMENTS GENERAL INFORMATION

CALENDAR OF ANNUAL REPLACEMENTS. The 90 Projected Replacements in the Amberfield HOA Replacement Reserve Inventory whose replacement is scheduled to be funded from Replacement Reserves are broken down on a year-by-year basis, beginning on Page C.2.

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

- **REVISIONS.** Revisions will be made to the Replacement Reserve Analysis and Replacement Reserve Inventory in accordance with the written instructions of the Board of Directors. No additional charge is incurred for the first revision, if requested in writing within three months of the date of the Replacement Reserve Study. It is our policy to provide revisions in electronic (Adobe PDF) format only.
- **TAX CODE.** The United States Tax Code grants favorable tax status to a common interest development (CID) meeting certain guidelines for their Replacement Reserve. If a CID files their taxes as a 'Corporation' on Form 1120 (IRC Section 277), these guidelines typically require maintenance activities, partial replacements, minor replacements, capital improvements, and one-time only replacements to be excluded from Reserves. A CID cannot co-mingle planning for maintenance activities with capital replacement activities in the Reserves (Revenue Ruling 75-370). Funds for maintenance activities and capital replacements activities must be held in separate accounts. If a CID files taxes as an "Exempt Homeowners Association" using Form 1120H (IRC Section 528), the CID does not have to segregate these activities. However, because the CID may elect to change their method of filing from year to year within the Study Period, we advise using the more restrictive approach. We further recommend that the CID consult with their Accountant and consider creating separate and independent accounts and reserves for large maintenance items, such as painting.
- **CONFLICT OF INTEREST.** Neither Miller - Dodson Associates nor the Reserve Analyst has any prior or existing relationship with this Association which would represent a real or perceived conflict of interest.
- **RELIANCE ON DATA PROVIDED BY THE CLIENT.** Information provided by an official representative of the Association regarding financial, physical conditions, quality, or historical issues is deemed reliable.
- **INTENT.** This Replacement Reserve Study is a reflection of the information provided by the Association and the visual evaluations of the Analyst. It has been prepared for the sole use of the Association and is not for the purpose of performing an audit, quality/forensic analyses, or background checks of historical records.
- **PREVIOUS REPLACEMENTS.** Information provided to Miller - Dodson Associates regarding prior replacements is considered to be accurate and reliable. Our visual evaluation is not a project audit or quality inspection.
- **EXPERIENCE WITH FUTURE REPLACEMENTS.** The Calendar of Annual Projected Replacements, lists replacements we have projected to occur over the 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.
- **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.

**PROJECTED REPLACEMENTS - YEARS 1 TO 4**

Item	2020 - YEAR 1	\$	Item	2021 - YEAR 2	\$
4	Asphalt pavement, mill & overlay	\$184,118	20	Phase 3 retaining wall construction (Great Seneca)	\$90,000
5	Asphalt pavement, seal coat	\$24,255	21	Phases 3 design, bidding, and permitting fees	\$2,000
6	Parking Space Striping	\$8,087	22	Phases 3 construction phase engineering fees	\$10,000
8	Concrete curb & gutter, barrier (3.25%)	\$11,840	27	Fence & other wood/metal structures, repair allowance	\$6,000
26	Fence, wood split, 3 rails	\$35,960	42	Pool shell repair	\$30,000
27	Fence & other wood/metal structures, repair allowance	\$6,000	44	Swimming pool coping, 5% allowance	\$600
28	Storm water management (10% allowance)	\$20,000	49	Pool furniture allowance	\$4,000
32	Roofing, asphalt shingles	\$14,960	65	Tot lot border, PLT (Narrow Leaf Ct.)	\$2,640
36	Pool house restoration allowance	\$10,000			
37	Pool deck, concrete (20%)	\$28,520			
43	Swimming pool, whitecoat	\$28,820			
44	Swimming pool coping, 5% allowance	\$600			
45	Swimming pool waterline tile (6x6)	\$2,250			
49	Pool furniture allowance	\$4,000			
55	MP court, asphalt overlay	\$19,500			
59	Picnic table, PTL wood & metal (Lazy Hollow Way)	\$520			
69	Tot lot surfacing, wood chips (Fleece Flower Dr.)	\$2,126			
70	Picnic tables, wood & metal (Fleece Flower Dr.)	\$1,560			
83	Wading pool pump	\$5,000			
Total Scheduled Replacements		\$408,115	Total Scheduled Replacements		\$145,240

Item	2022 - YEAR 3	\$	Item	2023 - YEAR 4	\$
2	Entry monument retaining walls, repoint masonry	\$1,200	27	Fence & other wood/metal structures, repair allowance	\$6,000
10	Small masonry walls, repoint masonry	\$3,360	33	Pool house painting, exterior	\$9,500
11	Flagstone & paver patio areas, repoint / reset	\$7,560	34	Pool house painting, interior	\$9,500
27	Fence & other wood/metal structures, repair allowance	\$6,000	35	Pool house floor coating	\$4,000
38	Pool deck, concrete (20%)	\$28,520	44	Swimming pool coping, 5% allowance	\$600
44	Swimming pool coping, 5% allowance	\$600	49	Pool furniture allowance	\$4,000
49	Pool furniture allowance	\$4,000	69	Tot lot surfacing, wood chips (Fleece Flower Dr.)	\$2,126
58	Tot lot surfacing, wood chips (Lazy Hollow Way)	\$2,847	73	Tot lot surfacing, wood chips (Leafcup Rd.)	\$1,755
66	Tot lot surfacing, wood chips (Narrow Leaf Ct.)	\$4,875			
74	Picnic tables, wood & wood/metal (Leafcup Rd.)	\$1,040			
Total Scheduled Replacements		\$60,002	Total Scheduled Replacements		\$37,481

**PROJECTED REPLACEMENTS - YEARS 5 TO 8**

Item	2024 - YEAR 5	\$	Item	2025 - YEAR 6	\$
27	Fence & other wood/metal structures, repair allowance	\$6,000	5	Asphalt pavement, seal coat	\$24,255
39	Pool deck, concrete (20%)	\$28,520	7	Concrete walkways (6%)	\$14,000
44	Swimming pool coping, 5% allowance	\$600	9	Concrete driveway apron (6%)	\$9,072
49	Pool furniture allowance	\$4,000	14	Phase 2.1 retaining wall construction	\$540,000
53	Tennis court, nets	\$750	15	Phase 2.1 design, bidding, and permitting fees	\$10,800
			16	Phase 2.1 construction phase engineering fees	\$540,000
			27	Fence & other wood/metal structures, repair allowance	\$6,000
			30	Road signs (e.g. No Parking)	\$8,250
			36	Pool house restoration allowance	\$10,000
			44	Swimming pool coping, 5% allowance	\$600
			49	Pool furniture allowance	\$4,000
			51	Tennis court, color coat	\$15,120
			58	Tot lot surfacing, wood chips (Lazy Hollow Way)	\$2,847
			66	Tot lot surfacing, wood chips (Narrow Leaf Ct.)	\$4,875
			79	Domestic water piping	\$16,000
			84	Main pool filter, sand (30")	\$4,500
Total Scheduled Replacements		\$39,870	Total Scheduled Replacements		\$1,210,319

Item	2026 - YEAR 7	\$	Item	2027 - YEAR 8	\$
8	Concrete curb & gutter, barrier (3.25%)	\$11,840	17	Phase 2.2 retaining wall construction	\$54,000
27	Fence & other wood/metal structures, repair allowance	\$6,000	18	Phase 2.2 design, bidding, and permitting fees	\$10,800
40	Pool deck, concrete (20%)	\$28,520	19	Phase 2.2 construction phase engineering fees	\$540,000
44	Swimming pool coping, 5% allowance	\$600	27	Fence & other wood/metal structures, repair allowance	\$6,000
49	Pool furniture allowance	\$4,000	44	Swimming pool coping, 5% allowance	\$600
69	Tot lot surfacing, wood chips (Fleece Flower Dr.)	\$2,126	49	Pool furniture allowance	\$4,000
73	Tot lot surfacing, wood chips (Leafcup Rd.)	\$1,755	88	Pool house interior lights	\$3,240
76	Dog waste stations	\$2,660			
Total Scheduled Replacements		\$57,501	Total Scheduled Replacements		\$618,640



**PROJECTED REPLACEMENTS - YEARS 9 TO 12**

2028 - YEAR 9			2029 - YEAR 10		
Item		\$	Item		\$
27	Fence & other wood/metal structures, repair allowance	\$6,000	27	Fence & other wood/metal structures, repair allowance	\$6,000
41	Pool deck, concrete (20%)	\$28,520	44	Swimming pool coping, 5% allowance	\$600
44	Swimming pool coping, 5% allowance	\$600	49	Pool furniture allowance	\$4,000
49	Pool furniture allowance	\$4,000	53	Tennis court, nets	\$750
58	Tot lot surfacing, wood chips (Lazy Hollow Way)	\$2,847	69	Tot lot surfacing, wood chips (Fleece Flower Dr.)	\$2,126
66	Tot lot surfacing, wood chips (Narrow Leaf Ct.)	\$4,875	73	Tot lot surfacing, wood chips (Leafcup Rd.)	\$1,755
Total Scheduled Replacements		\$46,842	Total Scheduled Replacements		\$15,231

2030 - YEAR 11			2031 - YEAR 12		
Item		\$	Item		\$
3	Entry monument lighting, solar	\$6,000	7	Concrete walkways (6%)	\$14,000
5	Asphalt pavement, seal coat	\$24,255	9	Concrete driveway apron (6%)	\$9,072
6	Parking Space Striping	\$8,087	27	Fence & other wood/metal structures, repair allowance	\$6,000
10	Small masonry walls, repoint masonry	\$3,360	42	Pool shell repair	\$30,000
11	Flagstone & paver patio areas, repoint / reset	\$7,560	44	Swimming pool coping, 5% allowance	\$600
24	Fence, 6' PTL, horizontal slat, perimeter	\$18,750	49	Pool furniture allowance	\$4,000
25	Fence, 6' PTL, shadow box, perimeter	\$7,125	58	Tot lot surfacing, wood chips (Lazy Hollow Way)	\$2,847
27	Fence & other wood/metal structures, repair allowance	\$6,000	66	Tot lot surfacing, wood chips (Narrow Leaf Ct.)	\$4,875
28	Storm water management (10% allowance)	\$20,000	75	Community message board and enclosure	\$800
29	Street name signs	\$5,800	85	Wading pool filter	\$900
31	Mailbox clusters	\$81,180	89	Pool house exterior lights	\$2,000
36	Pool house restoration allowance	\$10,000			
43	Swimming pool, whitecoat	\$28,820			
44	Swimming pool coping, 5% allowance	\$600			
45	Swimming pool waterline tile (6x6)	\$2,250			
47	Lifeguard chair, mounted	\$12,000			
49	Pool furniture allowance	\$4,000			
56	Tot lot play structure, large (Lazy Hollow Way)	\$25,080			
60	Picnic table, plastic & metal (Lazy Hollow Way)	\$1,000			
61	Tot lot play structure, 3 platforms/2 slides (Narrow Leaf)	\$25,080			
63	Tot lot arch-frame swing, 2 bay, 4 seat (Narrow Leaf Ct.)	\$3,400			
64	Picnic table, plastic & metal (Narrow Leaf Ct.)	\$1,000			
77	Electric switchgear	\$8,500			
86	Pool area site light, 10' fiberglass pole	\$15,600			
87	Pool area site light, standard single head, LED	\$5,200			
90	Security camera system	\$2,200			
Total Scheduled Replacements		\$332,847	Total Scheduled Replacements		\$75,094

**PROJECTED REPLACEMENTS - YEARS 13 TO 16**

Item	2032 - YEAR 13	\$	Item	2033 - YEAR 14	\$
2	Entry monument retaining walls, repoint masonry	\$1,200	27	Fence & other wood/metal structures, repair allowance	\$6,000
8	Concrete curb & gutter, barrier (3.25%)	\$11,840	33	Pool house painting, exterior	\$9,500
27	Fence & other wood/metal structures, repair allowance	\$6,000	34	Pool house painting, interior	\$9,500
44	Swimming pool coping, 5% allowance	\$600	44	Swimming pool coping, 5% allowance	\$600
49	Pool furniture allowance	\$4,000	49	Pool furniture allowance	\$4,000
67	Tot lot play structure, custom platform/2 slides (Fleece)	\$25,080	50	Tennis court, asphalt overlay	\$73,080
68	Tot lot border, PLT (Fleece Flower Dr.)	\$3,520	51	Tennis court, color coat	\$15,120
69	Tot lot surfacing, wood chips (Fleece Flower Dr.)	\$2,126	52	Tennis court, posts & footings	\$3,200
71	Tot lot arch-frame swing, 1 bay, 2 seat (Leafcup Rd.)	\$2,550	57	Tot lot border PLT (Lazy Hollow Way)	\$2,904
73	Tot lot surfacing, wood chips (Leafcup Rd.)	\$1,755	72	Tot lot border, PLT (Leafcup Rd.)	\$1,320
78	Water heater, commercial electric, 119 gal.	\$6,500			
Total Scheduled Replacements		\$65,171	Total Scheduled Replacements		\$125,224

Item	2034 - YEAR 15	\$	Item	2035 - YEAR 16	\$
27	Fence & other wood/metal structures, repair allowance	\$6,000	5	Asphalt pavement, seal coat	\$24,255
44	Swimming pool coping, 5% allowance	\$600	26	Fence, wood split, 3 rails	\$35,960
49	Pool furniture allowance	\$4,000	27	Fence & other wood/metal structures, repair allowance	\$6,000
53	Tennis court, nets	\$750	36	Pool house restoration allowance	\$10,000
58	Tot lot surfacing, wood chips (Lazy Hollow Way)	\$2,847	44	Swimming pool coping, 5% allowance	\$600
62	Tot lot 48" beanstalk climber (Narrow Leaf Ct.)	\$2,500	49	Pool furniture allowance	\$4,000
66	Tot lot surfacing, wood chips (Narrow Leaf Ct.)	\$4,875	59	Picnic table, PTL wood & metal (Lazy Hollow Way)	\$520
			69	Tot lot surfacing, wood chips (Fleece Flower Dr.)	\$2,126
			70	Picnic tables, wood & metal (Fleece Flower Dr.)	\$1,560
			73	Tot lot surfacing, wood chips (Leafcup Rd.)	\$1,755
			81	Plumbing fixtures	\$8,400
			82	Main pool pump	\$8,500
Total Scheduled Replacements		\$21,572	Total Scheduled Replacements		\$103,676

**PROJECTED REPLACEMENTS - YEARS 17 TO 20**

Item	2036 - YEAR 17	\$	Item	2037 - YEAR 18	\$
27	Fence & other wood/metal structures, repair allowance	\$6,000	7	Concrete walkways (6%)	\$14,000
44	Swimming pool coping, 5% allowance	\$600	9	Concrete driveway apron (6%)	\$9,072
48	Pool grab rails (3 sets)	\$1,800	27	Fence & other wood/metal structures, repair allowance	\$6,000
49	Pool furniture allowance	\$4,000	44	Swimming pool coping, 5% allowance	\$600
65	Tot lot border, PLT (Narrow Leaf Ct.)	\$2,640	49	Pool furniture allowance	\$4,000
			58	Tot lot surfacing, wood chips (Lazy Hollow Way)	\$2,847
			66	Tot lot surfacing, wood chips (Narrow Leaf Ct.)	\$4,875
			74	Picnic tables, wood & wood/metal (Leafcup Rd.)	\$1,040
Total Scheduled Replacements		\$15,040	Total Scheduled Replacements		\$42,434

Item	2038 - YEAR 19	\$	Item	2039 - YEAR 20	\$
8	Concrete curb & gutter, barrier (3.25%)	\$11,840	12	Retaining wall, PTL (installed in 2019)	\$1,590
10	Small masonry walls, repoint masonry	\$3,360	27	Fence & other wood/metal structures, repair allowance	\$6,000
11	Flagstone & paver patio areas, repoint / reset	\$7,560	44	Swimming pool coping, 5% allowance	\$600
27	Fence & other wood/metal structures, repair allowance	\$6,000	49	Pool furniture allowance	\$4,000
44	Swimming pool coping, 5% allowance	\$600	53	Tennis court, nets	\$750
49	Pool furniture allowance	\$4,000			
69	Tot lot surfacing, wood chips (Fleece Flower Dr.)	\$2,126			
73	Tot lot surfacing, wood chips (Leafcup Rd.)	\$1,755			
Total Scheduled Replacements		\$37,241	Total Scheduled Replacements		\$12,940

**PROJECTED REPLACEMENTS - YEARS 21 TO 24**

Item	2040 - YEAR 21	\$	Item	2041 - YEAR 22	\$
4	Asphalt pavement, mill & overlay	\$184,118	27	Fence & other wood/metal structures, repair allowance	\$6,000
5	Asphalt pavement, seal coat	\$24,255	35	Pool house floor coating	\$4,000
6	Parking Space Striping	\$8,087	42	Pool shell repair	\$30,000
27	Fence & other wood/metal structures, repair allowance	\$6,000	44	Swimming pool coping, 5% allowance	\$600
28	Storm water management (10% allowance)	\$20,000	49	Pool furniture allowance	\$4,000
30	Road signs (e.g. No Parking)	\$8,250	51	Tennis court, color coat	\$15,120
32	Roofing, asphalt shingles	\$14,960	69	Tot lot surfacing, wood chips (Fleece Flower Dr.)	\$2,126
36	Pool house restoration allowance	\$10,000	73	Tot lot surfacing, wood chips (Leafcup Rd.)	\$1,755
43	Swimming pool, whitecoat	\$28,820			
44	Swimming pool coping, 5% allowance	\$600			
45	Swimming pool waterline tile (6x6)	\$2,250			
49	Pool furniture allowance	\$4,000			
54	Tennis court fence, 10' vinyl coated	\$13,500			
55	MP court, asphalt overlay	\$19,500			
58	Tot lot surfacing, wood chips (Lazy Hollow Way)	\$2,847			
66	Tot lot surfacing, wood chips (Narrow Leaf Ct.)	\$4,875			
84	Main pool filter, sand (30")	\$4,500			
Total Scheduled Replacements		\$356,561	Total Scheduled Replacements		\$63,601

Item	2042 - YEAR 23	\$	Item	2043 - YEAR 24	\$
2	Entry monument retaining walls, repoint masonry	\$1,200	7	Concrete walkways (6%)	\$14,000
27	Fence & other wood/metal structures, repair allowance	\$6,000	9	Concrete driveway apron (6%)	\$9,072
44	Swimming pool coping, 5% allowance	\$600	27	Fence & other wood/metal structures, repair allowance	\$6,000
49	Pool furniture allowance	\$4,000	33	Pool house painting, exterior	\$9,500
			34	Pool house painting, interior	\$9,500
			44	Swimming pool coping, 5% allowance	\$600
			49	Pool furniture allowance	\$4,000
			58	Tot lot surfacing, wood chips (Lazy Hollow Way)	\$2,847
			66	Tot lot surfacing, wood chips (Narrow Leaf Ct.)	\$4,875
Total Scheduled Replacements		\$11,800	Total Scheduled Replacements		\$60,394

**PROJECTED REPLACEMENTS - YEARS 25 TO 28**

Item	2044 - YEAR 25	\$	Item	2045 - YEAR 26	\$
8	Concrete curb & gutter, barrier (3.25%)	\$11,840	1	Entry monuments (concrete with carved lettering)	\$10,000
27	Fence & other wood/metal structures, repair allowance	\$6,000	3	Entry monument lighting, solar	\$6,000
44	Swimming pool coping, 5% allowance	\$600	5	Asphalt pavement, seal coat	\$24,255
49	Pool furniture allowance	\$4,000	13	Stone masonry wall, Blazing Star Way	\$8,000
53	Tennis court, nets	\$750	27	Fence & other wood/metal structures, repair allowance	\$6,000
69	Tot lot surfacing, wood chips (Fleece Flower Dr.)	\$2,126	36	Pool house restoration allowance	\$10,000
73	Tot lot surfacing, wood chips (Leafcup Rd.)	\$1,755	44	Swimming pool coping, 5% allowance	\$600
			49	Pool furniture allowance	\$4,000
			56	Tot lot play structure, large (Lazy Hollow Way)	\$25,080
			60	Picnic table, plastic & metal (Lazy Hollow Way)	\$1,000
			61	Tot lot play structure, 3 platforms/2 slides (Narrow Leaf)	\$25,080
			63	Tot lot arch-frame swing, 2 bay, 4 seat (Narrow Leaf Ct.)	\$3,400
			64	Picnic table, plastic & metal (Narrow Leaf Ct.)	\$1,000
			80	Wastewater piping	\$10,000
			83	Wading pool pump	\$5,000
Total Scheduled Replacements			Total Scheduled Replacements		
		\$27,071			\$139,415

Item	2046 - YEAR 27	\$	Item	2047 - YEAR 28	\$
10	Small masonry walls, repoint masonry	\$3,360	27	Fence & other wood/metal structures, repair allowance	\$6,000
11	Flagstone & paver patio areas, repoint / reset	\$7,560	44	Swimming pool coping, 5% allowance	\$600
27	Fence & other wood/metal structures, repair allowance	\$6,000	49	Pool furniture allowance	\$4,000
44	Swimming pool coping, 5% allowance	\$600	67	Tot lot play structure, custom platform/2 slides (Fleece)	\$25,080
49	Pool furniture allowance	\$4,000	68	Tot lot border, PLT (Fleece Flower Dr.)	\$3,520
58	Tot lot surfacing, wood chips (Lazy Hollow Way)	\$2,847	69	Tot lot surfacing, wood chips (Fleece Flower Dr.)	\$2,126
66	Tot lot surfacing, wood chips (Narrow Leaf Ct.)	\$4,875	71	Tot lot arch-frame swing, 1 bay, 2 seat (Leafcup Rd.)	\$2,550
76	Dog waste stations	\$2,660	73	Tot lot surfacing, wood chips (Leafcup Rd.)	\$1,755
85	Wading pool filter	\$900	78	Water heater, commercial electric, 119 gal.	\$6,500
Total Scheduled Replacements			Total Scheduled Replacements		
		\$32,802			\$52,131

**PROJECTED REPLACEMENTS - YEARS 29 TO 32**

2048 - YEAR 29			2049 - YEAR 30		
Item		\$	Item		\$
27	Fence & other wood/metal structures, repair allowance	\$6,000	7	Concrete walkways (6%)	\$14,000
44	Swimming pool coping, 5% allowance	\$600	9	Concrete driveway apron (6%)	\$9,072
49	Pool furniture allowance	\$4,000	27	Fence & other wood/metal structures, repair allowance	\$6,000
57	Tot lot border PLT (Lazy Hollow Way)	\$2,904	44	Swimming pool coping, 5% allowance	\$600
72	Tot lot border, PLT (Leafcup Rd.)	\$1,320	49	Pool furniture allowance	\$4,000
90	Security camera system	\$2,200	51	Tennis court, color coat	\$15,120
			53	Tennis court, nets	\$750
			58	Tot lot surfacing, wood chips (Lazy Hollow Way)	\$2,847
			62	Tot lot 48" beanstalk climber (Narrow Leaf Ct.)	\$2,500
			66	Tot lot surfacing, wood chips (Narrow Leaf Ct.)	\$4,875
Total Scheduled Replacements		\$17,024	Total Scheduled Replacements		\$59,764

2050 - YEAR 31			2051 - YEAR 32		
Item		\$	Item		\$
5	Asphalt pavement, seal coat	\$24,255	27	Fence & other wood/metal structures, repair allowance	\$6,000
6	Parking Space Striping	\$8,087	42	Pool shell repair	\$30,000
8	Concrete curb & gutter, barrier (3.25%)	\$11,840	44	Swimming pool coping, 5% allowance	\$600
24	Fence, 6' PTL, horizontal slat, perimeter	\$18,750	49	Pool furniture allowance	\$4,000
25	Fence, 6' PTL, shadow box, perimeter	\$7,125	65	Tot lot border, PLT (Narrow Leaf Ct.)	\$2,640
26	Fence, wood split, 3 rails	\$35,960	75	Community message board and enclosure	\$800
27	Fence & other wood/metal structures, repair allowance	\$6,000			
28	Storm water management (10% allowance)	\$20,000			
36	Pool house restoration allowance	\$10,000			
43	Swimming pool, whitecoat	\$28,820			
44	Swimming pool coping, 5% allowance	\$600			
45	Swimming pool waterline tile (6x6)	\$2,250			
47	Lifeguard chair, mounted	\$12,000			
49	Pool furniture allowance	\$4,000			
59	Picnic table, PTL wood & metal (Lazy Hollow Way)	\$520			
69	Tot lot surfacing, wood chips (Fleece Flower Dr.)	\$2,126			
70	Picnic tables, wood & metal (Fleece Flower Dr.)	\$1,560			
73	Tot lot surfacing, wood chips (Leafcup Rd.)	\$1,755			
87	Pool area site light, standard single head, LED	\$5,200			
Total Scheduled Replacements		\$200,847	Total Scheduled Replacements		\$44,040

**PROJECTED REPLACEMENTS - YEARS 33 TO 36**

Item	2052 - YEAR 33	\$	Item	2053 - YEAR 34	\$
2	Entry monument retaining walls, repoint masonry	\$1,200	27	Fence & other wood/metal structures, repair allowance	\$6,000
27	Fence & other wood/metal structures, repair allowance	\$6,000	33	Pool house painting, exterior	\$9,500
44	Swimming pool coping, 5% allowance	\$600	34	Pool house painting, interior	\$9,500
49	Pool furniture allowance	\$4,000	44	Swimming pool coping, 5% allowance	\$600
58	Tot lot surfacing, wood chips (Lazy Hollow Way)	\$2,847	49	Pool furniture allowance	\$4,000
66	Tot lot surfacing, wood chips (Narrow Leaf Ct.)	\$4,875	52	Tennis court, posts & footings	\$3,200
74	Picnic tables, wood & wood/metal (Leafcup Rd.)	\$1,040	69	Tot lot surfacing, wood chips (Fleece Flower Dr.)	\$2,126
			73	Tot lot surfacing, wood chips (Leafcup Rd.)	\$1,755
Total Scheduled Replacements		\$20,562	Total Scheduled Replacements		\$36,681

Item	2054 - YEAR 35	\$	Item	2055 - YEAR 36	\$
10	Small masonry walls, repoint masonry	\$3,360	5	Asphalt pavement, seal coat	\$24,255
11	Flagstone & paver patio areas, repoint / reset	\$7,560	7	Concrete walkways (6%)	\$14,000
27	Fence & other wood/metal structures, repair allowance	\$6,000	9	Concrete driveway apron (6%)	\$9,072
44	Swimming pool coping, 5% allowance	\$600	27	Fence & other wood/metal structures, repair allowance	\$6,000
49	Pool furniture allowance	\$4,000	30	Road signs (e.g. No Parking)	\$8,250
53	Tennis court, nets	\$750	36	Pool house restoration allowance	\$10,000
			44	Swimming pool coping, 5% allowance	\$600
			49	Pool furniture allowance	\$4,000
			58	Tot lot surfacing, wood chips (Lazy Hollow Way)	\$2,847
			66	Tot lot surfacing, wood chips (Narrow Leaf Ct.)	\$4,875
			84	Main pool filter, sand (30")	\$4,500
Total Scheduled Replacements		\$22,270	Total Scheduled Replacements		\$88,399

**PROJECTED REPLACEMENTS - YEARS 37 TO 40**

Item	2056 - YEAR 37	\$	Item	2057 - YEAR 38	\$
8	Concrete curb & gutter, barrier (3.25%)	\$11,840	27	Fence & other wood/metal structures, repair allowance	\$6,000
27	Fence & other wood/metal structures, repair allowance	\$6,000	44	Swimming pool coping, 5% allowance	\$600
44	Swimming pool coping, 5% allowance	\$600	49	Pool furniture allowance	\$4,000
48	Pool grab rails (3 sets)	\$1,800	51	Tennis court, color coat	\$15,120
49	Pool furniture allowance	\$4,000	88	Pool house interior lights	\$3,240
69	Tot lot surfacing, wood chips (Fleece Flower Dr.)	\$2,126	89	Pool house exterior lights	\$2,000
73	Tot lot surfacing, wood chips (Leafcup Rd.)	\$1,755			
Total Scheduled Replacements		\$28,121	Total Scheduled Replacements		\$30,960

Item	2058 - YEAR 39	\$	Item	2059 - YEAR 40	\$
27	Fence & other wood/metal structures, repair allowance	\$6,000	12	Retaining wall, PTL (installed in 2019)	\$1,590
44	Swimming pool coping, 5% allowance	\$600	23	Fence, 4' steel w/ 3 rails & pickets	\$24,570
49	Pool furniture allowance	\$4,000	27	Fence & other wood/metal structures, repair allowance	\$6,000
50	Tennis court, asphalt overlay	\$73,080	35	Pool house floor coating	\$4,000
58	Tot lot surfacing, wood chips (Lazy Hollow Way)	\$2,847	44	Swimming pool coping, 5% allowance	\$600
66	Tot lot surfacing, wood chips (Narrow Leaf Ct.)	\$4,875	49	Pool furniture allowance	\$4,000
			53	Tennis court, nets	\$750
			69	Tot lot surfacing, wood chips (Fleece Flower Dr.)	\$2,126
			73	Tot lot surfacing, wood chips (Leafcup Rd.)	\$1,755
Total Scheduled Replacements		\$91,402	Total Scheduled Replacements		\$45,391



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## CONDITION ASSESSMENT

**General Comments.** Miller+Dodson Associates conducted a Reserve Study at Amberfield HOA in March 2020. Amberfield HOA is in generally good condition for a homeowner's association. A review of the Replacement Reserve Inventory will show that we are anticipating most of the components achieving their normal economic lives.

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

### General Condition Statements.

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

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

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

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

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

### SITE ITEMS

**Entry Monuments.** The Association maintains two entry monuments, one on each side of Suffield Drive at the intersection with Muddy Branch Road. The monuments are constructed of molded concrete and concrete block with carved lettering. Also, each monument is fronted by a short stone masonry wall. The monuments appear to be in good condition; however, the masonry walls do exhibit some open joints that should be repaired in the near term.

The monuments are illuminated by a 120-watt solar system with a 12 volt DC lithium 80 amp-hour rechargeable battery. There are six LED flood fixtures, and nine LED path light fixtures. The solar system was installed in 2016 with repairs in 2018 and 2019.





We recommend repointing and replacement of defective areas of the masonry as needed. The Association may want to consider applying a coating of Siloxane or another appropriate breathable sealant to mitigate water penetration and further degradation of the masonry work.

**Asphalt Pavement.** The Association is responsible for the parking areas (and parking space striping) along the community roadways. All roadways are maintained by the City of Gaithersburg, MD.

The Association maintains an inventory of asphalt pavement (for parking spaces only) along the following streets and areas (square footage is approximate):

Street Name	Parking Spaces	Square Footage
Pool area	11	5,340
Earth Star Place	30	5,400
Earth Star Court	14	2,520
Blazing Star Way	32	5,760
Amberfield Lane	45	8,100
Lazy Hollow Drive	113	20,340
Lazy Hollow Way	14	2,520
Earth Star Lane	42	7,560
Autumn Flower Lane	57	10,260
Narrow Leaf Court	31	5,580
Suffield Drive	7	1,260
Smooth Leaf Lane	21	3,780
Fleece Flower Drive	93	16,740
Twisted Stalk Drive	71	12,780
Leafcup Road	0	0
Leafcup Court	18	3,240
<b>Totals</b>	<b>599</b>	<b>111,180</b>

In general, the Association’s asphalt parking spaces are in marginal to poor condition. We observed a large number of cracks and a lesser number of depressions. Some parking areas were worse than others, for example, the asphalt was particularly poor on Autumn Flower Lane and Narrow Leaf Court. Parking space paint conditions also varied throughout the community. For example, the paint on Lazy Hollow Way was in good condition, while the paint on Twisted Stalk Drive was barely visible.





The defects noted include the following:

- **Open Cracks.** There are multiple locations where open cracks are allowing water to penetrate to the asphalt base and 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.** There are multiple locations where the asphalt has developed a pattern of cracking known as alligatoring. Alligatoring is the result of 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 lead to potholes. The only solution is to remove the defective asphalt and compact the base before installing new base materials and asphalt.
- **Depressions.** There 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 will require removal of the asphalt and base material, reinstallation, compaction of new base materials, and resurfacing with asphalt.

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 adopt a systematic and comprehensive maintenance program that includes:

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

- **Seal Coating.** The asphalt should be seal coated every five to seven years. For this maintenance, activity to be effective in extending the life of the asphalt, cleaning and crack repair should be performed first.

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

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

**Concrete Work.** The Community's concrete work includes curbs/gutters adjacent to parking areas, walkways within the community (but generally not along the city-maintained roadways), driveway aprons, and other flatwork. In 2017, the Association funded a project to repair 1,722 square feet of concrete walkway due to trip hazards. As a result, the walkways are in generally good condition. Similarly, the curbs/gutters and driveway aprons are in good condition, with only a few notable defects.

There are, however, a couple of areas in need of near term attention: (1) the concrete steps at the north end of Lazy Hollow Drive (before the hard bend left) are severely cracked, and the metal handrail is loose, and (2) the concrete aprons around two small drains near the tennis courts are cracked. See photos below.



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 over 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.

**Small Masonry Walls.** The Association maintains at least seven small, loosely mortared masonry walls, totaling approximately 420 square feet of stone face-area. Five of these walls are located in the pool house area, one is at the intersection of Suffield Drive and Blazing Star Way, and the other is located at the intersection of Suffield Drive and Autumn Flower Lane. These walls are in generally good condition; however, we did observe a number of instances where mortar is cracking or displaced. Thus, we have included in the study an allowance for masonry wall repointing and repair.



Stone masonry walls can have an extended useful life of 40 years or more, and if stable, may only require periodic repointing and localized repair. Repoint is the process of raking out defective masonry joints and tooling in 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 repointing will be performed incrementally as needed.

**Unit Pavers.** The Association maintains flagstone and unit paver patio areas at two locations within the community: (1) two concrete paver areas near the pool house and (2) one flagstone area at the interaction of Suffield Drive and Autumn Flower Lane. At present, the concrete paver areas are in good condition. The flagstone area, however, exhibits multiple cracks and misaligned flagstones.



The defects noted in the flagstone area include the following:

- Cracking. There are multiple cracked pavers, some of which are creating trip hazards.
- Settlement. We identified areas where pavers have settled due to a failure of the base under the pavers. This settlement has resulted in an uneven surface that can pose a trip hazard.
- Ponding. There is evidence of areas where water is ponding on the unit paver system due to settlement or poor drainage of the surface and surrounding area.

To correct defects and provide the longest service life of the unit paver system, periodic re-setting is required. Re-setting provides an opportunity to replace broken unit pavers, fill in voids in the foundation material, and level the surface. We have included an allowance for periodic re-set of portions of the system.

Unit pavers have a service life of 30 years or more if the system is maintained periodically. Eventually, the system will require a large-scale replacement, identical paver units may not be available, and it is recommended that the unit paver system be replaced.

**Retaining Walls.** The Association maintains 18 wood, brick, stone, segmental block, or Redi-Rock retaining walls. In 2019, the Association began implementing its plans to replace failing retaining walls throughout the community. Old and failing walls are being replaced with Redi-Rock, a long-life, maintenance-free product with a service life of 75 to 100 years. Because of their long lives, as these new walls are built, they can be dropped from the community's replacement inventory. Note that in many cases, a four-foot steel fence/guard is being installed atop the walls; this fencing has an expected service life of roughly 40 years and will remain in the community's replacement inventory.

Wall Number	General Location	Description	Condition	Square Footage
1	Lazy Hollow Dr., north end	Existing segmental block. Not being replaced.	Good	325
2	Lazy Hollow Dr., north end	Redi-Rock. (Phase 1)	New	574
3 & 4	Twisted Stalk Dr., south side	Redi-Rock. (Phase 1)	New	1,255
5	Twisted Stalk Dr., southwest end	Redi-Rock. (Phase 1)	New	593
6	Twisted Stalk Dr., northwest end	Redi-Rock. (Phase 1)	New	145
7	Smoothleaf Ln., south end	Redi-Rock. (Phase 1)	New	267
8	Smoothleaf Ln., north end	Redi-Rock. (Phase 1)	New	233
9	Suffield Dr., southwest end	PT timber wall. (Phase 2)	Fair-poor	554
10 a & b	Suffield Dr., northwest end	PT timber wall. Two tiers. (Phase 2)	Fair-poor	2,475
12 a & b	Suffield Dr., north	PT timber wall. Two tiers. (Phase 2)	Fair-poor	786
13	Lazy Hollow Dr., northeast	Brick wall w/ 35" metal fence. (Phase 2)	Fair	199
14	Lazy Hollow Dr., west side	Redi-Rock. (Phase 1)	New	1,351
15	Blazing Star Way	Stone masonry. Not being replaced.	Good	100
17	Earth Star Pl., south side	Redi-Rock. (Phase 1)	New	105
18	Earth Star Pl., northeast end	PT timber wall. (Phase 2)	Fair	350
19	Earth Star Pl., southeast end	PT timber wall. (Phase 2)	Fair-poor	220
20 a & b	Great Seneca Hwy.	PT timber wall. Two tiers. (Phase 3)	Fair-poor	900
n/a	225-223 Lazy Hollow Dr.	PT timber wall. Installed in 2019.	Excellent	40

As shown in the table above, new (Redi-Rock) walls 2, 3, 4, 5, 6, 7, 8, 14, and 17 were completed in Phase 1 of the Retaining Wall Project and have been dropped from the community's replacement inventory. Note that Wall Number 1 is constructed of segmental block, a long-life material; it will not be replaced, but also will not be included in the replacement inventory because of its long, low-maintenance life.

Retaining walls 9, 10 a & b, 12 a & b, 13, 18, and 19 are scheduled to be replaced in Phase 2 of the Retaining Wall Project, i.e., within the next couple of years. Thus, for now, these Phase-2 walls remain in the community's replacement inventory with pricing that reflects replacement with Redi-Rock wall systems.

Retaining walls 20a & 20b are scheduled to be replaced in Phase 3 of the Retaining Wall Project. Construction will begin when Phase 2 is complete. Like the Phase-2 walls, the Phase-3 walls will remain in the community's replacement inventory with pricing that reflects replacement with Redi-Rock wall systems.

The following is an accounting of the community's 18 major retaining walls. Note that "Wall Number" refers to the wall numbers used in the Retaining Wall Project plan. Further note that Walls 11 and 16 were determined to be homeowner property and were removed from the replacement project.





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.

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. 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 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.

Brick, stone, concrete block masonry walls can have an extended useful life of 40 years or more, and if stable, may only require periodic repointing and localized repair. Repoint is the process of raking out defective masonry joints and tooling in 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 repointing will be performed incrementally as needed.

Segmental block retaining walls can have an extended useful life, and if stable, are likely to only require localized resetting of displaced blocks, typically near the top of the wall. This study assumes that resetting will be performed incrementally as needed. 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.

**Fencing.** The Association maintains a variety of fence types, in a wide range of life stages. As part of the community's Retaining Wall Project (Phase 2), almost all of the existing split-rail fencing (currently in poor condition) will be removed and most will be replaced with 4-foot, steel picket fencing atop the steeper retaining walls. During Phase 1 of the



Retaining Wall Project, roughly 630 linear feet of new 4-foot steel fencing was installed atop the new, Redi-Rock retaining walls.

The following table provides a concise accounting of the community's major fencing (linear footage is approximate). Wall numbers used in this table were derived from the Retaining Wall Project plan.

Fence Type	Linear Feet	Location/Description	Condition
Black, steel picket, 4'	630	Atop Redi-Rock wall numbers 3, 5, 7, 8, & 14.	Excellent
Split rail (3-rails)	1128	Currently atop Phase 2 walls 9, 10a&b, 12a&b, 18, & 19. It will be replaced with a 4' steel picket fence.	Fair-Poor
Metal, 35"	52	Currently atop the brick retaining wall (Wall #13) at 12 Lazy Hollow Dr. Likely will be replaced with 4' steel picket fence. In 2016, work was done to re-sleeve 11 railing posts.	Fair
Split rail, drainage area	32	Newly installed near east-end soccer field drainage pipe (see photo).	Excellent
Shadow box, PTL 6'	285	Perimeter fence along Great Seneca Hwy. Requires repair of individual boards.	Fair
Horizontal slat, PTL 6'	750	Perimeter fence along Great Seneca Hwy. Requires repair of individual boards.	Fair



Pressure-treated wood fencing should be cleaned and sealed every year or two. Typically, the least cost fencing option, this type of fence can last 15 to 20 years if maintained properly.

Steel fencing can have a useful life of 40 years or more. Periodic cleaning and touch-up painting may be required to keep the fence attractive.

The Association maintains steel fence posts and fasteners that are embedded in concrete or masonry. As part of normal maintenance, we recommend the following:

- Lift or remove ornamental base covers, if applicable
- Remove existing caulk completely
- Clean, prime, and paint all posts
- Apply an appropriate caulk around each post base
- Tool and shape caulking to shed water from post
- Reinstall base covers, and seal and paint all joints

Fence posts can have an extended useful life if these simple maintenance activities are performed. If left unattended, the pressure from expansive post rust can crack and damage the supporting material.

**Mailboxes.** Cluster mailboxes are located throughout the community and are in fair condition albeit with widespread pedestal rust and some rust on the box structures. In 2018, repairs were made to two mailbox structures on Leafcup Court to grind and remove rusted bolts and then to re-secure the bases (total cost \$950). Many more such repairs should be anticipated before these mailboxes are replaced.



Mailboxes should be maintained to the extent that rust does not develop on the structure or pedestal, and all mail slot doors remain intact with operable hinges and locks. Our replacement estimate assumes that these units will be replaced with fiberglass or composite units in the future.

**Signage.** The Association is responsible for the street-name signs and other road/notice signs throughout the community. The community signs are in generally good condition; however, we did observe a few damaged street-name signs, a number of faded or damaged road/notice signs, and a few tilted signposts. These should be repaired in the near term.





## RECREATION ITEMS

**Pool House Interior/Exterior.** The Association is responsible for the maintenance of the entire pool area, including the pool house interior and exterior. The pool house is a simple, low-maintenance structure with painted cinder block interior walls, concrete floors, synthetic board exterior siding with PVC trim, and an asphalt shingle hip-style roof. Paint on the interior and exterior wall surfaces appears to be in good condition. The concrete floors in the men's and women's rooms are coated, and management has indicated that these floors will be re-coated in the near term.



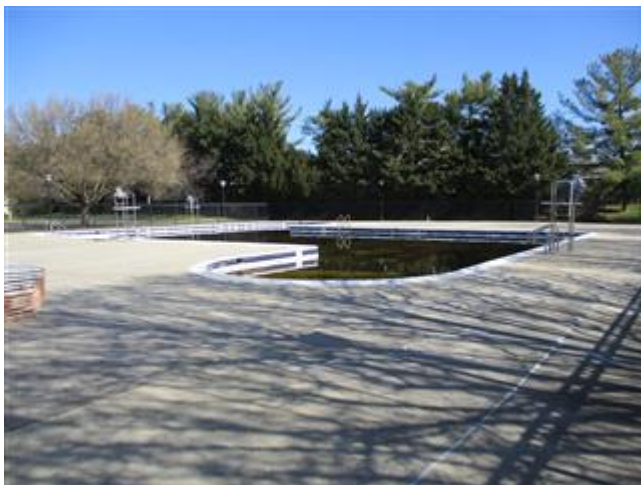
The roof shingles are in marginal to poor condition with an overall weathered appearance and some curled shingles visible from the ground. Annual inspections are recommended, with cleaning, repair, and mitigation of vegetation performed as needed. Access, inspection, and repair work should be performed by contractors and personnel with the appropriate access equipment who are experienced in the types of roofing used for the facility. 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. Gutters appear to be in fair to good condition.

In addition to paint, floor, and roof funding, we have scheduled a pool house allowance to be used for repair or replacement of fixtures such as doors, windows, locks, and other hardware, locker room counters tops, mirrors, toilet and shower enclosures, and dressing room benches.



**Pool Area Components.** The Association is responsible for the components of one large swimming pool (covering approximately 4,750 square feet of surface area) and one wading pool (240 square feet of surface area). Conditions of major components are discussed below.

**1. Pool Deck.** The pool deck consists of approximately 12,400 square feet of cast-in-place concrete. The deck appears to be in fair condition with many repaired cracks and a wavy depression on the east side of the main pool. In 2016, deck work was done to remove and replace several damaged concrete pads and to saw cut and caulk deck cracks. Also, deck expansion caulk was removed and replaced. Management has indicated that the pool deck will be renovated within the next 10 years.



**2. White Coat, Coping, and Waterline Tiles.** During our site visit in early March, the pools were not covered for the cold season, thus we could observe the actual pool surfaces.

- The coping stones appeared to be in good condition. In 2016, roughly 20 coping stones were removed and reset. Also, perimeter caulk was removed and replaced.
- Waterline tiles appeared to be in good condition. In 2016, at least six tiles were removed and replaced.



- The pool white coat was difficult to observe due to dark water and debris in the pool; however, management did indicate that a new white coat would be applied after the upcoming pool season.



**3. Lifeguard Stands and Grab Rails.** There are three lifeguard stands and three sets of grab rails attached to the pool deck around the main pool. During our visit, two of the lifeguard seats were covered. The uncovered seat was stable, but the metal plate and bolts connecting the seat to the stand were rusted and the plastic seat exhibited small cracks around the connection. Assuming that the other two seats are in the same condition, these seats should be repaired or replaced in the near term. The metal stands and their connections to the pool appear in good condition. In 2016, all the old grab rails were removed, and new ones were installed; they remain in excellent condition.



**4. Pool Fencing.** The total pool deck and the wading pool area are bordered by roughly 540 linear feet of six-foot-high, decorative steel fencing. Currently, all of the pool area fencing appears to be in good condition.





**5. Pool Furniture Allowance.** During our site visit in early March, the pool furniture was stacked outside, uncovered on the pool deck. The winter stacking made individual inspection difficult, nonetheless, we did notice that some lounge chair slats were missing and that the metal picnic tables positioned outside the pool fence are suffering deterioration of their protective coatings. In 2016 and 2017, the Association purchased 20 new pool chairs, three lifeguard stand umbrellas, three market umbrellas, and three umbrella bases. We have factored in a pool furniture allowance to provide for repairs and replacements as needed.

In general, the pool furniture appears to be in fair to good condition. To prolong the service life of the pool furnishings, we recommend that, during the cold-weather season, the furniture be stored under shelter as much as possible or under breathable (to prevent mildew) tarps.



Presently, pool covers do not exist for the main pool or the wading pool; however, management has indicated that pool covers will be purchased in the near term. Swimming pool covers are recommended to protect the pool from falling or blowing debris and they can protect against pool-related accidents. Covering the pool will also protect the shell of the pool in colder weather, making it less likely to crack, and they protect the pool from stains, algae growth, and poor water balance that could damage pool surfaces.

The swimming pools are in-ground, cast-in-place concrete structures. Most outdoor pools of this type, in this area, require a major renovation between thirty and forty years of age. The restoration might include beam reconstruction, plumbing replacement/remediation, removal and replacement of the white cost, waterline tiles, coping, and sealants. Management has indicated that a pool renovation will be undertaken after the upcoming (2020) pool season. Thus, we have included a pool renovation inventory item to fund a major pool restoration.

**Tennis Courts and Multi-Purpose Court.** The community maintains two tennis courts, surrounded by one fence, located just north of the pool area on Suffield Drive. The tennis court surfaces appear to be in good condition; a cleaning before the spring season is recommended. The fencing and the nets are in good condition.



The community also maintains one multi-purpose, asphalt court, located just east of the tennis courts. The court is still marked as a basketball court, but the standards have been removed. The asphalt surface is in poor condition, with multiple cracks and at least one displaced chunk of asphalt. Management does not plan to remove the court, but they have stated that they will maintain the asphalt surface.



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 Lots.** The Association maintains four separate tot lots in various stages of life. These tot lots are described below.

**1. Lazy Hollow Way Tot Lot.** The Lazy Hollow tot lot is located behind the townhomes on the south side of Lazy Hollow Way. The tot lot features one large play structure. This structure is in generally good condition; however, we did observe wear on one set of ladder steps and the attached chain ladder. These two items should be repaired or replaced in the near term to help extend the total life of the structure. In 2019, one set of 36" stairs was replaced on the play structure. The tot lot border (6" x 6" timbers, replaced in 2018) and the surface (replenished in with 20 cubic yards of wood chips in 2018) is in excellent condition. Two picnic tables are on site. The wood and metal table is in poor condition, while the plastic and metal table is in good condition.





**2. Narrow Leaf Court Tot Lot.** The Narrow Leaf tot lot is located behind the townhomes near the north end of Narrow Leaf Court. This tot lot comprises one large play structure, one arch-frame (2 bay, 4 seat) swing structure, and one beanstalk climber. The large play structure is in generally good condition with a new Rope Climber installed in 2019. We did, however, observe some rust and wear on the structure's metal stairs, and the bottom of the slide on the structure's north side is holding water. The swing structure is exhibiting wear but is in stable, fair to good condition. The Beanstalk Climber was installed in 2019 and remains in excellent condition.

In 2018, 40 linear feet of deteriorated 6" x 6" timber border were replaced, and 20 cubic yards of wood chips were added. Despite this effort, at least 70 linear feet of the border remains in marginal to poor condition.

There is one plastic and metal picnic table on site. This table is in generally good condition, albeit with one large crack in the east-side bench.



**3. Fleece Flower Drive Tot Lot.** The Fleece Flower tot lot is located behind the townhomes on the north side of Fleece Flower Drive. This tot lot features one, lone large play structure within its 6" x 6" timber border. The play structure is in good condition. In 2019, new 36" stairs were installed to replace the old stairs, and a custom catwalk with guardrails was installed. In 2017, the entire PLT border was replaced. The wood chip surface should be inspected, and new wood chips added as needed.

There are also three wood and metal picnic tables on-site. They are in poor condition.



**4. Leafcup Road Tot Lot.** The Leafcup Road tot lot is located behind the townhomes on the east side of Leafcup Road. This tot lot contains one arch-frame swing (1 bay, 2 seats) that appears to be in good condition. The 6" x 6" timber border and lot surface were also in good condition. Note that, in 2018, nine cubic yards of wood chips were added.

There are two wood and metal picnic tables on-site; they are in marginal to poor condition.





The safety of each 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 is crucial. Please note that the evaluation of the equipment and these facilities for safety is beyond the scope of this work.

Information for 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 web site at [www.mdareerves.com/resources/links/recreation](http://www.mdareerves.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 add 30% for the disposal of the old equipment and installation of new equipment.

**Community Message Board.** The community's glass-door message board is housed in a small kiosk constructed of painted pressure treated lumber and a small, A-frame shingle roof. The message board and its enclosure are in good condition.



**Dog Waste Stations.** Seven dog waste stations are conveniently located throughout the community. They appear to be in generally good condition. We did notice rust at the bottom of one station near Earth Star Court. Also, the station near the Fleece Flower tot lot should be raised on its post to help prevent rust from ground moisture.



## POOL AREA MECHANICAL, PLUMBING, & ELECTRICAL

### Pool House Electrical Switchgear and Plumbing.

**1. Electrical Switchgear.** The electrical switchgear includes the primary distribution equipment, disconnects, relays, fuses, and circuit breakers for the facility. The primary electrical switchgear dates to the original construction of the building. Electrical switchgear has a rated service life of 50 years or more. Electrical switchgear requires ongoing maintenance for proper operation and reliability.

The overall condition of the switchgear appears to be good, but the humid conditions in the pool house contribute to rust and corrosion. In 2017, all existing circuit breakers were removed, and new breakers were installed (one double-pole 40 amp., 11 single-pole 20 amp., and three single-pole 40 amp.). Also, rust was sanded off the existing panel, and the panel was sprayed with cold galvanized spray to help prevent additional rust.

As the switchgear continues to age, obtaining replacement parts can be expected to become more difficult. When parts no longer are available or when the condition of the switchgear deteriorates sufficiently, the Association will have to replace or upgrade the existing equipment. Therefore, we have included funding in the reserve analysis for distribution panel replacement on an incremental basis.



**2. Pool House Plumbing.** At the time of our site visit, all plumbing had been decommissioned for the cold season, so we could not confirm the service condition. We do know that the following work was performed, by a certified plumbing company, within the last five years to address defects and aging in the plumbing systems.

- In 2016, the following pool house plumbing fixtures were replaced: hot water mixing valve, anti-scold devices on all nine showers, three showerheads in the men's room.
- In 2017, a new water heater was installed in the pool house: Bradford White Hydrojet ElectriFLEX 119 gallon Commercial Light Duty Upright Electric, model number LE2120T33.
- In 2019, the following fixtures were replaced: self-closing shower valve, and cartridges to fix two push faucets.





**3. Pool Pumps and Filters.** Again, all pool plumbing had been decommissioned at the time of our site visit, but the Association has been servicing components as needed, and they did not report any nonfunctioning components. That being said, according to the 2016 reserve study, the wading pool pump is due for replacement in 2020, so we recommend that the wading pool pump be evaluated and serviced or replaced, as necessary. The following work was performed, by a qualified pool professional, within the last five years:

- In 2016, the sand was recharged in the main pool filters (Pentair Triton II side-mount filter TR100 fiberglass sand filters).
- In 2016, a new wading pool filter was installed. The filter appears to be a Pentair 160353 Clean & Clear RP fiberglass-reinforced polypropylene tank cartridge pool filter, 200 Square feet, 150 GPM.



**Pool Area Lighting.** The Association is responsible for pool area lighting, which includes pool house interior and exterior lights and pole lighting around the pool. Street lighting in the community is the responsibility of the City of Gaithersburg.

Pool house interior and exterior lights appear to be in good condition. There are eight-pole lights mounted into the pool deck just inside the perimeter fencing. The light poles are ten-foot, single-lamp fiberglass poles, and the lamps are LED. They also appear to be in good condition.





This study assumes replacement of the light fixtures every 15 to 20 years, and pole replacement every 30 to 40 years. When the light poles are replaced, we assume that the underground wiring will also be replaced.

When a whole-scale lighting replacement project is called for, we recommend consulting with a lighting design expert. Many municipalities have design codes, guidelines, and restrictions when it comes to exterior illumination.

**Security Camera System.** The pool area is surveilled by four security cameras (two large and two small) mounted on the pool house. The cameras are controlled via monitoring equipment housed in a locked room inside the pool house. The security system was installed in 2013, and the cameras appear to be in good condition.



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

End of Condition Assessment

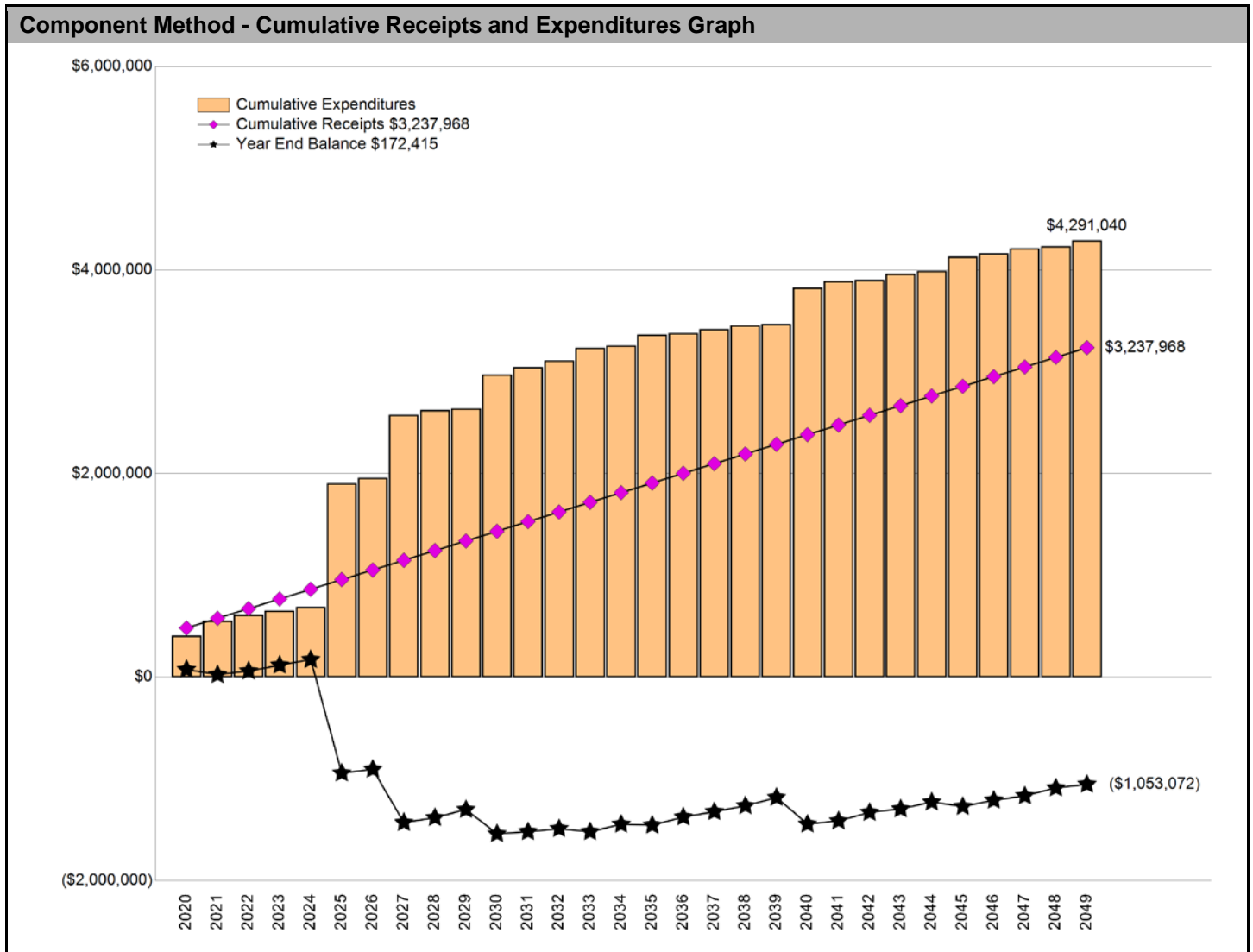
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## COMPONENT METHOD

**\$89,631** | **COMPONENT METHOD RECOMMENDED ANNUAL FUNDING OF REPLACEMENT RESERVES IN THE STUDY YEAR, 2020.**

\$18.96 Per unit (average), recommended monthly funding of Replacement Reserves

General. The Component Method (also referred to as the Full Funded Method) is a very conservative mathematical model developed by HUD in the early 1980s. Each of the 90 Projected Replacements listed in the Replacement Reserve Inventory is treated as a separate account. The Beginning Balance is allocated to each of the individual accounts, as is all subsequent funding of Replacement Reserves. These funds are "locked" in these individual accounts and are not available to fund other Projected Replacements. The calculation of Recommended Annual Funding of Replacement Reserves is a multi-step process outlined in more detail on Page CM.2.



**COMPONENT METHOD (CONT.)**

- **Current Funding Objective.** A Current Funding Objective is calculated for each of the Projected Replacements listed in the Replacement Reserve Inventory. Replacement Cost is divided by the Normal Economic Life to determine the nominal annual contribution. The Remaining Economic Life is then subtracted from the Normal Economic Life to calculate the number of years that the nominal annual contribution should have been made. The two values are then multiplied to determine the Current Funding Objective. This is repeated for each of the 90 Projected Replacements. The total, \$2,515,012, is the Current Funding Objective.

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

- **Funding Percentage.** The Funding Percentage is calculated by dividing the Beginning Balance (\$393,516) by the Current Funding Objective (\$2,515,012). At Amberfield HOA the Funding Percentage is 15.6%
- **Allocation of the Beginning Balance.** The Beginning Balance is divided among the 90 Projected Replacements in the Replacement Reserve Inventory. The Current Funding Objective for each Projected Replacement is multiplied by the Funding Percentage and these funds are then "locked" into the account of each item.

*If we relate this calculation back to our fence example, it means that the Association has not accumulated \$800 in Reserves (the Funding Objective), but rather at 15.6 percent funded, there is \$125 in the account for the fence.*

- **Annual Funding.** The Recommended Annual Funding of Replacement Reserves is then calculated for each Projected Replacement. The funds allocated to the account of the Projected Replacement are subtracted from the Replacement Cost. The result is then divided by the number of years until replacement, and the result is the annual funding for each of the Projected Replacements. The sum of these is \$89,631, the Component Method Recommended Annual Funding of Replacement Reserves in the Study Year (2020).

*In our fence example, the \$125 in the account is subtracted from the \$1,000 Total Replacement Cost and divided by the 2 years that remain before replacement, resulting in an annual deposit of \$437. Next year, the deposit remains \$437, but in the third year, the fence is replaced, and the annual funding adjusts to \$100.*

- **Adjustment to the Component Method for interest and inflation.** The calculations in the Replacement Reserve Analysis do not account for interest earned on Replacement Reserves, inflation, or a constant annual increase in Annual Funding of Replacement Reserves. The Component Method is a very conservative method and if the Analysis is updated regularly, adequate funding will be maintained without the need for adjustments.

<b>Component Method Data - Years 1 through 30</b>										
Year	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Beginning Balance	\$393,516									
Recommended Annual Funding	\$89,631	\$94,994	\$94,994	\$94,994	\$94,994	\$94,994	\$94,994	\$94,994	\$94,994	\$94,994
Expenditures	\$408,115	\$145,240	\$60,002	\$37,481	\$39,870	\$1,210,319	\$57,501	\$618,640	\$46,842	\$15,231
Year End Balance	\$75,032	\$24,786	\$59,778	\$117,291	\$172,415	(\$942,910)	(\$905,417)	(\$1,429,064)	(\$1,380,912)	(\$1,301,148)
Cumulative Expenditures	\$408,115	\$553,355	\$613,357	\$650,837	\$690,707	\$1,901,026	\$1,958,527	\$2,577,167	\$2,624,009	\$2,639,240
Cumulative Receipts	\$483,147	\$578,141	\$673,135	\$768,128	\$863,122	\$958,116	\$1,053,110	\$1,148,104	\$1,243,098	\$1,338,091
Year	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Recommended Annual Funding	\$94,994	\$94,994	\$94,994	\$94,994	\$94,994	\$94,994	\$94,994	\$94,994	\$94,994	\$94,994
Expenditures	\$332,847	\$75,094	\$65,171	\$125,224	\$21,572	\$103,676	\$15,040	\$42,434	\$37,241	\$12,940
Year End Balance	(\$1,539,001)	(\$1,519,101)	(\$1,489,278)	(\$1,519,509)	(\$1,446,087)	(\$1,454,768)	(\$1,374,815)	(\$1,322,255)	(\$1,264,502)	(\$1,182,448)
Cumulative Expenditures	\$2,972,086	\$3,047,180	\$3,112,351	\$3,237,575	\$3,259,147	\$3,362,823	\$3,377,863	\$3,420,297	\$3,457,538	\$3,470,478
Cumulative Receipts	\$1,433,085	\$1,528,079	\$1,623,073	\$1,718,067	\$1,813,061	\$1,908,054	\$2,003,048	\$2,098,042	\$2,193,036	\$2,288,030
Year	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049
Recommended Annual Funding	\$94,994	\$94,994	\$94,994	\$94,994	\$94,994	\$94,994	\$94,994	\$94,994	\$94,994	\$94,994
Expenditures	\$356,561	\$63,601	\$11,800	\$60,394	\$27,071	\$139,415	\$32,802	\$52,131	\$17,024	\$59,764
Year End Balance	(\$1,444,015)	(\$1,412,622)	(\$1,329,428)	(\$1,294,828)	(\$1,226,905)	(\$1,271,326)	(\$1,209,135)	(\$1,166,271)	(\$1,088,301)	(\$1,053,072)
Cumulative Expenditures	\$3,827,039	\$3,890,639	\$3,902,439	\$3,962,833	\$3,989,904	\$4,129,319	\$4,162,121	\$4,214,252	\$4,231,276	\$4,291,040
Cumulative Receipts	\$2,383,024	\$2,478,017	\$2,573,011	\$2,668,005	\$2,762,999	\$2,857,993	\$2,952,986	\$3,047,980	\$3,142,974	\$3,237,968



**2020 - COMPONENT METHOD CATEGORY FUNDING REPORT**

Each of the 90 Projected Replacements included in the Amberfield HOA Replacement Reserve Inventory has been assigned to one of the 3 categories listed in TABLE CM1 below. This calculated data is a summary of data provided in the Three-Year Replacement Funding Report and Replacement Reserve Inventory. The accuracy of this data is dependent upon many factors including the following critical financial data:

- A Beginning Balance of \$393,516 as of the first day of the Study Year, January 1, 2020.
- Total reserve funding (including the Beginning Balance) of \$483,147 in the Study Year.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.
- All Projected Replacements scheduled in the Replacement Reserve Inventory in 2020 being accomplished in 2020 at a cost of \$408,115.

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

2020 - COMPONENT METHOD CATEGORY FUNDING - TABLE CM1							
CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2020 BEGINNING BALANCE	2020 RESERVE FUNDING	2020 PROJECTED REPLACEMENTS	2020 END OF YEAR BALANCE
SITE ITEMS - Page 1	5 to 35 years	0 to 25 years	\$279,491	\$37,461	\$22,806	\$228,299	\$7,863
RETAINING WALL	20 to 100 years	1 to 25 years	\$1,807,190	\$262,786	\$18,256		\$281,042
SITE ITEMS - Page 3	1 to 40 years	0 to 39 years	\$207,635	\$21,559	\$13,697	\$61,960	\$16,836
RECREATION ITEMS - Page 1	5 to 20 years	0 to 3 years	\$47,960	\$6,157	\$2,344	\$24,960	\$4,386
RECREATION ITEMS - Page 2	1 to 100 years	0 to 40 years	\$485,777	\$46,531	\$29,076	\$87,896	\$56,251
POOL AREA MECHANICAL, PLUMBING, & ELECTRICAL - Page 1	15 to 60 years	0 to 25 years	\$96,540	\$9,359	\$3,452	\$5,000	\$11,691



**2021 - COMPONENT METHOD CATEGORY FUNDING REPORT**

Each of the 90 Projected Replacements included in the Amberfield HOA Replacement Reserve Inventory has been assigned to one of the 3 categories listed in TABLE CM2 below. This calculated data is a summary of data provided in the Three-Year Replacement Funding Report and Replacement Reserve Inventory. The accuracy of this data is dependent upon many factors including the following critical financial data:

- Replacement Reserves on Deposit totaling \$75,032 on January 1, 2021.
- Total reserve funding (including the Beginning Balance) of \$578,141 from 2020 to 2021.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.
- All Projected Replacements scheduled in the Replacement Reserve Inventory in 2021 being accomplished in 2021 at a cost of \$145,240.

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

2021 - COMPONENT METHOD CATEGORY FUNDING - TABLE CM2								
CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2021 BEGINNING BALANCE	2021 RESERVE FUNDING	2021 PROJECTED REPLACEMENTS	2021 END OF YEAR BALANCE	
SITE ITEMS - Page 1	5 to 35 years	1 to 24 years	\$279,491	\$7,863	\$22,855		\$30,718	
RETAINING WALL	20 to 100 years	0 to 24 years	\$1,807,190	\$281,042	\$18,256	\$102,000	\$281,664	
SITE ITEMS - Page 3	1 to 40 years	0 to 38 years	\$207,635	\$16,836	\$15,340	\$6,000	\$26,177	
RECREATION ITEMS - Page 1	5 to 20 years	2 to 19 years	\$47,960	\$4,386	\$4,870		\$8,508	
RECREATION ITEMS - Page 2	1 to 100 years	0 to 99 years	\$485,777	\$56,251	\$30,361	\$37,240	\$70,565	
POOL AREA MECHANICAL, PLUMBING, & ELECTRICAL - Page 1	15 to 60 years	4 to 24 years	\$96,540	\$11,691	\$3,312		\$15,003	

**2022 - COMPONENT METHOD CATEGORY FUNDING REPORT**

Each of the 90 Projected Replacements included in the Amberfield HOA Replacement Reserve Inventory has been assigned to one of the 3 categories listed in TABLE CM3 below. This calculated data is a summary of data provided in the Three-Year Replacement Funding Report and Replacement Reserve Inventory. The accuracy of this data is dependent upon many factors including the following critical financial data:

- Replacement Reserves on Deposit totaling \$24,786 on January 1, 2022.
- Total reserve funding (including the Beginning Balance) of \$673,135 from 2021 to 2022.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.
- All Projected Replacements scheduled in the Replacement Reserve Inventory in 2022 being accomplished in 2022 at a cost of \$60,002.

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

2022 - COMPONENT METHOD CATEGORY FUNDING - TABLE CM3							
CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2022 BEGINNING BALANCE	2022 RESERVE FUNDING	2022 PROJECTED REPLACEMENTS	2022 END OF YEAR BALANCE
SITE ITEMS - Page 1	5 to 35 years	0 to 23 years	\$279,491	\$30,718	\$22,855	\$12,120	\$47,922
RETAINING WALL	20 to 100 years	3 to 99 years	\$1,807,190	\$281,664	\$18,256		\$299,919
SITE ITEMS - Page 3	1 to 40 years	-1 to 37 years	\$207,635	\$26,177	\$15,340		\$41,517
RECREATION ITEMS - Page 1	5 to 20 years	1 to 18 years	\$47,960	\$8,508	\$4,870		\$12,630
RECREATION ITEMS - Page 2	1 to 100 years	-1 to 98 years	\$485,777	\$70,565	\$30,361	\$37,282	\$86,701
POOL AREA MECHANICAL, PLUMBING, & ELECTRICAL - Page 1	15 to 60 years	3 to 23 years	\$96,540	\$15,003	\$3,312		\$18,315

TABLE CM4 below details the allocation of the \$393,516 Beginning Balance, as reported by the Association and the \$279,618 of Replacement Reserve Funding calculated by the Component Method from 2020 to 2022, to the 90 Projected Replacements listed in the Replacement Reserve Inventory. These allocations have been made by Chronological Allocation, a method developed by Miller+Dodson Associates, Inc., and outlined on Page CF.1. The accuracy of the allocations is dependent upon many factors including the following critical financial data:

- Replacement Reserves on Deposit totaling \$393,516 on January 1, 2020.
- Replacement Reserves on Deposit totaling \$75,032 on January 1, 2021.
- Replacement Reserves on Deposit totaling \$24,786 on January 1, 2022.
- Total Replacement Reserve funding (including the Beginning Balance) of \$673,135 from 2020 to 2022.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.
- All Projected Replacements scheduled in the Replacement Reserve Inventory from 2020 to 2022 being accomplished as scheduled in the Replacement Reserve Inventory at a cost of \$613,357.

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

COMPONENT METHOD - THREE-YEAR REPLACEMENT FUNDING - TABLE CM4												
Item #	Description of Projected Replacement	Estimated Replacement Costs	Allocation of Beginning Balance	2020 Reserve Funding	2020 Projected Replacements	2020 End of Year Balance	2021 Reserve Funding	2021 Projected Replacements	2021 End of Year Balance	2022 Reserve Funding	2022 Projected Replacements	2022 End of Year Balance
SITE ITEMS -												
1	Entry monuments (concrete with	10,000	401	286		687	286		973	286		1,258
2	Entry monument retaining walls,	1,200	131	120		251	120		371	120	(1,200)	
3	Entry monument lighting, solar	6,000	250	400		650	400		1,050	400		1,450
4	Asphalt pavement, mill & overlay	184,118	28,722	400	(184,118)		9,206		9,206	9,206		18,412
5	Asphalt pavement, seal coat	24,255	3,784	9,206	(24,255)		4,851		4,851	4,851		9,702
6	Parking Space Striping	8,087	1,261	4,851	(8,087)		809		809	809		1,617
7	Concrete walkways (6%)	14,000		2,333		2,333	2,333		4,667	2,333		7,000
8	Concrete curb & gutter, barrier	11,840	1,847	2,333	(11,840)		1,973		1,973	1,973		3,947
9	Concrete driveway apron (6%)	9,072		1,512		1,512	1,512		3,024	1,512		4,536
10	Small masonry walls, repoint	3,360	328	420		748	420		1,168	420	(3,360)	
11	Flagstone & paver patio areas,	7,560	737	945		1,682	945		2,627	945	(7,560)	
SITE ITEMS - RETAINING WALL												
12	Retaining wall, PTL (installed in	1,590		80		80	80		159	80		239
13	Stone masonry wall, Blazing Star	8,000	437	200		637	200		837	200		1,037
14	Phase 2.1 retaining wall	540,000	79,186	5,400		84,586	5,400		89,986	5,400		95,386
15	Phase 2.1 design, bidding, and	10,800	1,584	108		1,692	108		1,800	108		1,908
16	Phase 2.1 construction phase	540,000	79,186	5,400		84,586	5,400		89,986	5,400		95,386
17	Phase 2.2 retaining wall	54,000	7,750	540		8,290	540		8,830	540		9,370
18	Phase 2.2 design, bidding, and	10,800	1,550	108		1,658	108		1,766	108		1,874
19	Phase 2.2 construction phase	540,000	77,501	5,400		82,901	5,400		88,301	5,400		93,701
20	Phase 3 retaining wall construction	90,000	13,759	900		14,659	900	(90,000)		900		900
21	Phases 3 design, bidding, and	2,000	306	20		326	20	(2,000)		20		20
22	Phases 3 construction phase	10,000	1,529	100		1,629	100	(10,000)		100		100
SITE ITEMS -												
23	Fence, 4' steel w/ 3 rails & pickets	24,570		614		614	614		1,229	614		1,843
24	Fence, 6' PTL, horizontal slat,	18,750	1,316	938		2,254	938		3,191	938		4,129
25	Fence, 6' PTL, shadow box,	7,125	500	356		856	356		1,213	356		1,569
26	Fence, wood split, 3 rails	35,960	5,610	356	(35,960)		2,397		2,397	2,397		4,795
27	Fence & other wood/metal	6,000	936	2,397	(6,000)		6,000	(6,000)		6,000		6,000
28	Storm water management (10%	20,000	3,120	6,000	(20,000)		2,000		2,000	2,000		4,000
29	Street name signs	5,800	620	166		786	166		952	166		1,118
30	Road signs (e.g. No Parking)	8,250	772	550		1,322	550		1,872	550		2,422
31	Mailbox clusters	81,180	8,684	2,319		11,003	2,319		13,323	2,319		15,642
RECREATION ITEMS -												
32	Roofing, asphalt shingles	14,960	2,334		(14,960)		748			748		
33	Pool house painting, exterior	9,500	889	950		1,839	950		2,789	950		3,739
34	Pool house painting, interior	9,500	889	950		1,839	950		2,789	950		3,739
35	Pool house floor coating	4,000	485	222		708	222		930	222		1,152
36	Pool house restoration allowance	10,000	1,560	222	(10,000)		2,000		2,000	2,000		4,000

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

Item #	Description of Projected Replacement	Estimated Replacement Costs	Allocation of Beginning Balance	2020 Reserve Funding	2020 Projected Replacements	2020 End of Year Balance	2021 Reserve Funding	2021 Projected Replacements	2021 End of Year Balance	2022 Reserve Funding	2022 Projected Replacements	2022 End of Year Balance
RECREATION ITEMS -												
37	Pool deck, concrete (20%)	28,520	4,449		(28,520)		285			285		
38	Pool deck, concrete (20%)	28,520	4,316	285		4,601	285		4,886	285	(28,520)	
39	Pool deck, concrete (20%)	28,520	4,227	285		4,512	285		4,797	285		5,082
40	Pool deck, concrete (20%)	28,520	4,138	285		4,423	285		4,708	285		4,993
41	Pool deck, concrete (20%)	28,520	4,049	285		4,334	285		4,619	285		4,904
42	Pool shell repair	30,000	3,744	3,000		6,744	3,000	(30,000)		3,000		3,000
43	Swimming pool, whitecoat	28,820	4,496	3,000	(28,820)		2,882		2,882	2,882		5,764
44	Swimming pool coping, 5%	600	94	2,882	(600)	2,376	600	(600)	2,376	600		2,976
45	Swimming pool waterline tile (6x6)	2,250	351	600	(2,250)		225		225	225		450
46	Fence, 6' decorative, steel	24,300	682	486		1,168	486		1,654	486		2,140
47	Lifeguard chair, mounted	12,000	842	600		1,442	600		2,042	600		2,642
48	Pool grab rails (3 sets)	1,800	42	90		132	90		222	90		312
49	Pool furniture allowance	4,000	624	90	(4,000)		4,000	(4,000)		4,000		4,000
50	Tennis court, asphalt overlay	73,080	5,016	2,923		7,939	2,923		10,863	2,923		13,786
51	Tennis court, color coat	15,120	590	1,890		2,480	1,890		4,370	1,890		6,260
52	Tennis court, posts & footings	3,200	150	160		310	160		470	160		630
53	Tennis court, nets	750		150		150	150		300	150		450
54	Tennis court fence, 10' vinyl coated	13,500	1,123	300		1,423	300		1,723	300		2,023
55	MP court, asphalt overlay	19,500	3,042	300	(19,500)		975		975	975		1,950
56	Tot lot play structure, large (Lazy	25,080	1,043	1,672		2,715	1,672		4,387	1,672		6,059
57	Tot lot border PLT (Lazy Hollow	2,904	30	194		224	194		417	194		611
58	Tot lot surfacing, wood chips (Lazy	2,847		949		949	949		1,898	949	(2,847)	
59	Picnic table, PTL wood & metal	520	81	949	(520)	510	35		545	35		579
60	Picnic table, plastic & metal (Lazy	1,000	42	67		108	67		175	67		242
61	Tot lot play structure, 3 platforms/2	25,080	1,043	1,672		2,715	1,672		4,387	1,672		6,059
62	Tot lot 48" beanstalk climber	2,500		167		167	167		333	167		500
63	Tot lot arch-frame swing, 2 bay, 4	3,400	141	227		368	227		595	227		821
64	Picnic table, plastic & metal (Narrow	1,000	42	67		108	67		175	67		242
65	Tot lot border, PLT (Narrow Leaf	2,640	357	176		533	176	(2,640)		176		176
66	Tot lot surfacing, wood chips	4,875		1,625		1,625	1,625		3,250	1,625	(4,875)	
67	Tot lot play structure, custom	25,080	522	1,672		2,194	1,672		3,866	1,672		5,538
68	Tot lot border, PLT (Fleece Flower	3,520	73	235		308	235		543	235		777
69	Tot lot surfacing, wood chips	2,126	332		(2,126)		709			709		
70	Picnic tables, wood & metal (Fleece	1,560	243	709	(1,560)		104		104	104		208
71	Tot lot arch-frame swing, 1 bay, 2	2,550	53	170		223	170		393	170		563
72	Tot lot border, PLT (Leafcup Rd.)	1,320	14	88		102	88		190	88		278
73	Tot lot surfacing, wood chips	1,755	91	585		676	585		1,261	585		1,846
74	Picnic tables, wood & wood/metal	1,040	130	69		199	69		268	69	(1,040)	
75	Community message board and	800	50	40		90	40		130	40		170
76	Dog waste stations	2,660	270	133		403	133		536	133		669
POOL AREA MECHANICAL,												
77	Electric switchgear	8,500	961	213		1,174	213		1,386	213		1,599
78	Water heater, commercial electric,	6,500	135	433		569	433		1,002	433		1,435
79	Domestic water piping	16,000	2,122	400		2,522	400		2,922	400		3,322
80	Wastewater piping	10,000	884	167		1,051	167		1,217	167		1,384
81	Plumbing fixtures	8,400	844	187		1,031	187		1,218	187		1,404
82	Main pool pump	8,500	477	340		817	340		1,157	340		1,497
83	Wading pool pump	5,000	780	340	(5,000)		200		200	200		400
84	Main pool filter, sand (30")	4,500	421	300		721	300		1,021	300		1,321
85	Wading pool filter	900	28	60		88	60		148	60		208
86	Pool area site light, 10' fiberglass	15,600	1,669	446		2,114	446		2,560	446		3,006
87	Pool area site light, standard single	5,200	365	260		625	260		885	260		1,145
88	Pool house interior lights	3,240	371	108		479	108		587	108		695
89	Pool house exterior lights	2,000	168	77		245	77		322	77		399
90	Security camera system	2,200	133	122		256	122		378	122		500

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## **1. COMMON INTEREST DEVELOPMENTS - AN OVERVIEW**

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

The growth of Community Associations has been explosive. In 1965, there were only 500 Community Associations in the United States. According to the 1990 U.S. Census, there were 130,000 Community Associations. The Community Associations Institute (CAI), a national trade association, estimates in 2018 that there were more than 347,000 communities with over 73.5 million residents.

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

## **2. REPLACEMENT RESERVE STUDY**

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

**Replacement Reserve Study Introduction.** The introduction provides a description of the property, reviews the intent of the Replacement Reserve Study, and lists documents and site evaluations upon which the Replacement Reserve Study is based.

**Section A Replacement Reserve Analysis.** Many components owned by the Association have a limited life and require periodic replacement. Therefore, it is essential the Association have a financial plan that provides funding for the timely replacement of these components in order to protect the safety, appearance, and value of the community. In conformance with American Institute of Certified Public Accountant guidelines, a Replacement Reserve Analysis evaluates the current funding of Replacement Reserves as reported by the Association and recommends annual funding of Replacement Reserves by two generally accepted accounting methods, the Cash Flow Method, and the Component Method. Miller+Dodson provides a replacement reserve recommendation based on the Cash Flow Method in Section A, and the Component Method in the Appendix of the report.

**Section B Replacement Reserve Inventory.** The Replacement Reserve Inventory lists the commonly owned components within the community that require periodic replacement using funding from Replacement Reserves.

The Replacement Reserve Inventory also provides information about components excluded from the Replacement Reserve Inventory whose replacement is not scheduled for funding from Replacement Reserves. Replacement Reserve Inventory includes estimates of the normal economic life and the remaining economic life for those components whose replacement is scheduled for funding from Replacement Reserves.

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

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

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

### **3. METHODS OF ANALYSIS**

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

**Cash Flow Method.** The Cash Flow Method is sometimes referred to as the "Pooling Method." It calculates the minimum constant annual contribution to reserves (Minimum Annual Deposit) required to meet projected expenditures without allowing total reserves on hand to fall below the specified minimum level in any year.

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

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

The Component Method treats each item in the replacement schedule as an individual line item budget. Generally, the Minimum Annual Contribution to Reserves is higher when calculated by the Component Method. The mathematical model for this method works as follows:

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

### **4. REPLACEMENT RESERVE STUDY DATA**

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

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

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

## 5. DEFINITIONS

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

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

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

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

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

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

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

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

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

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

**Estimated Initial Replacement.** For a Cyclic Replacement Item (see above), the number of years until the replacement cycle is expected to begin. Estimated Replacement Cycle. For a Cyclic Replacement Item, the number of years over which the remainder of the component's replacement occurs.

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

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

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

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

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

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



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

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

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

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

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

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

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

<b>ea</b>	each	<b>ls</b>	lump sum	<b>sy</b>	square yard
<b>ft or lf</b>	linear foot	<b>pr</b>	pair	<b>cy</b>	cubic yard
<b>sf</b>	square foot				

What is a Reserve Study?  
Who are we?



<https://youtu.be/m4BcOE6q3Aw>

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



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

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



<https://youtu.be/pYSMZ013VjQ>

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



<https://youtu.be/Qx8WHB9Cgnc>

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



<https://youtu.be/ZfBoAEhtf3E>

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



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

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



<https://youtu.be/aARD1B1Oa3o>

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



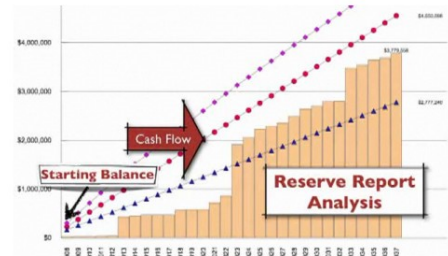
<https://youtu.be/diZfM1IyJYU>

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?



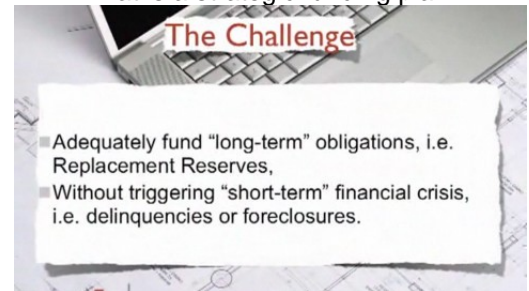
<https://youtu.be/SePdWVDvHWI>

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



<https://youtu.be/W8CDLwRlv68>

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



<https://youtu.be/hIxV9X1tlcA>

