

LEVEL 2 REPLACEMENT RESERVE REPORT FY 2023 LONGHILL GATE HOMEOWNERS ASSOCIATION, INC.

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LONGHILL GATE HOMEOWNERS ASSOCIATION, INC.



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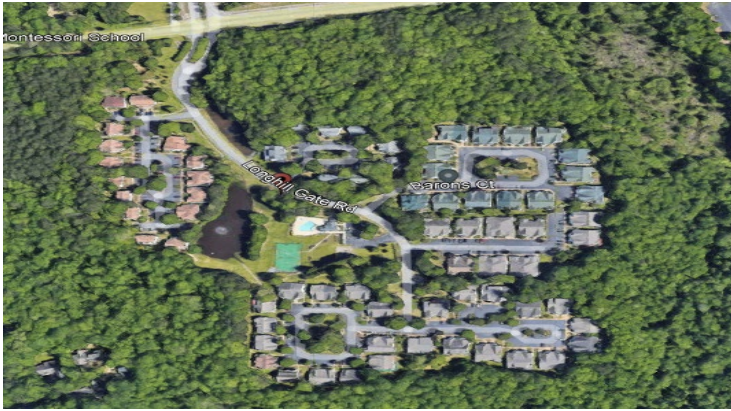
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REPLACEMENT RESERVE REPORT

LONGHILL GATE HOMEOWNERS ASSOCIATION, INC.

WILLIAMSBURG, VIRGINIA
October 17, 2022



Description. Longhill Gate Homeowners Association, Inc. is a Homeowner's Association located in Williamsburg, Virginia. The community consists of Duplex Buildings and a Pool House containing 142 units. The survey examined the common elements of the property, including:

- Entry Monument, Signage
- Roadways and Parking Areas
- Sidewalks
- Fencing, Site Lighting, and Mailbox Clusters
- Stormwater Management, Pond, and Fountains
- Exterior Main Pool, Tot Lot, Tennis Court, and Picnic Areas
- Clubhouse Building Exteriors, Interiors, and Systems

EXECUTIVE SUMMARY

This Reserve Study has been prepared for the Longhill Gate Homeowners Association, Inc. for the Fiscal Year 2023 covering the period from January 1, 2023 to December 31, 2023. The Replacement Reserves Starting Balance as of January 1, 2023 are proposed to be \$75,400. The reported Current Annual Funding for Reserves is \$51,120. The Recommended Annual Reserve Funding level for 2023 is \$132,974.

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

If, after that review, the Reserve Study still recommends a substantial increase in the Annual Reserve Funding, MillerDodson can work with the Board to develop a Strategic Funding Plan to ramp up the Funding levels incrementally.

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

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Section B

Replacement Reserve Inventory

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

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

Level of Service. This study has been performed as a Level 2 Update with Site Visit/On-Site Review as defined by the Community Associations Institute's, National Reserve Study Standards. As such, the component inventory is based on the study that was performed by DMA Reserves in 2019. This inventory was adjusted to reflect changes provided by the Community Manager and/or the Board of Directors, or adjustments made based on the site visit and visual assessment performed by the Analyst. The analysis, including fund status and funding plan, is developed from the adjusted inventory.

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

Purpose. The purpose of this Replacement Reserve Study is to provide Longhill Gate Homeowners Association, Inc. (hereinafter called the Association) with an inventory of the common community facilities and infrastructure components that require periodic replacement. The Study includes a general view of the condition of these items and an effective financial plan to fund projected periodic replacements.

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

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

- The Request for Proposal submitted and executed by the Association.
- Miller+Dodson performed a visual evaluation on October 17, 2022 to determine a remaining useful life and replacement cost for the commonly owned elements of this facility.
- This study contains additional recommendations to address inflation for the Cash Flow Method only. For this recommendation, Miller+Dodson uses the Producers Price Index (PPI), which gauges inflation in manufacturing and construction. Please see page A5 for further details.

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

Acknowledgment. Miller+Dodson Associates would like to acknowledge the assistance and input of Kimberly Mills, Property Manager and Pete Davis BOD who provided very helpful insight into the current operations of the property.

Analyst's Credentials. Bill Conner, RS holds a Bachelor of Science Degree in Economics from James Madison University. He has over forty years of experience in inspection services, residential construction, commercial construction, and architectural woodwork. Bill has personally inspected and evaluated over 3,000 properties and managed the inspection of many more throughout the eastern United States. Currently, Bill resides near Richmond, Virginia and is a reserve analyst for MillerDodson Associates.

Respectfully Submitted,



Bill Conner

William (Bill) J. Conner, Jr., RS

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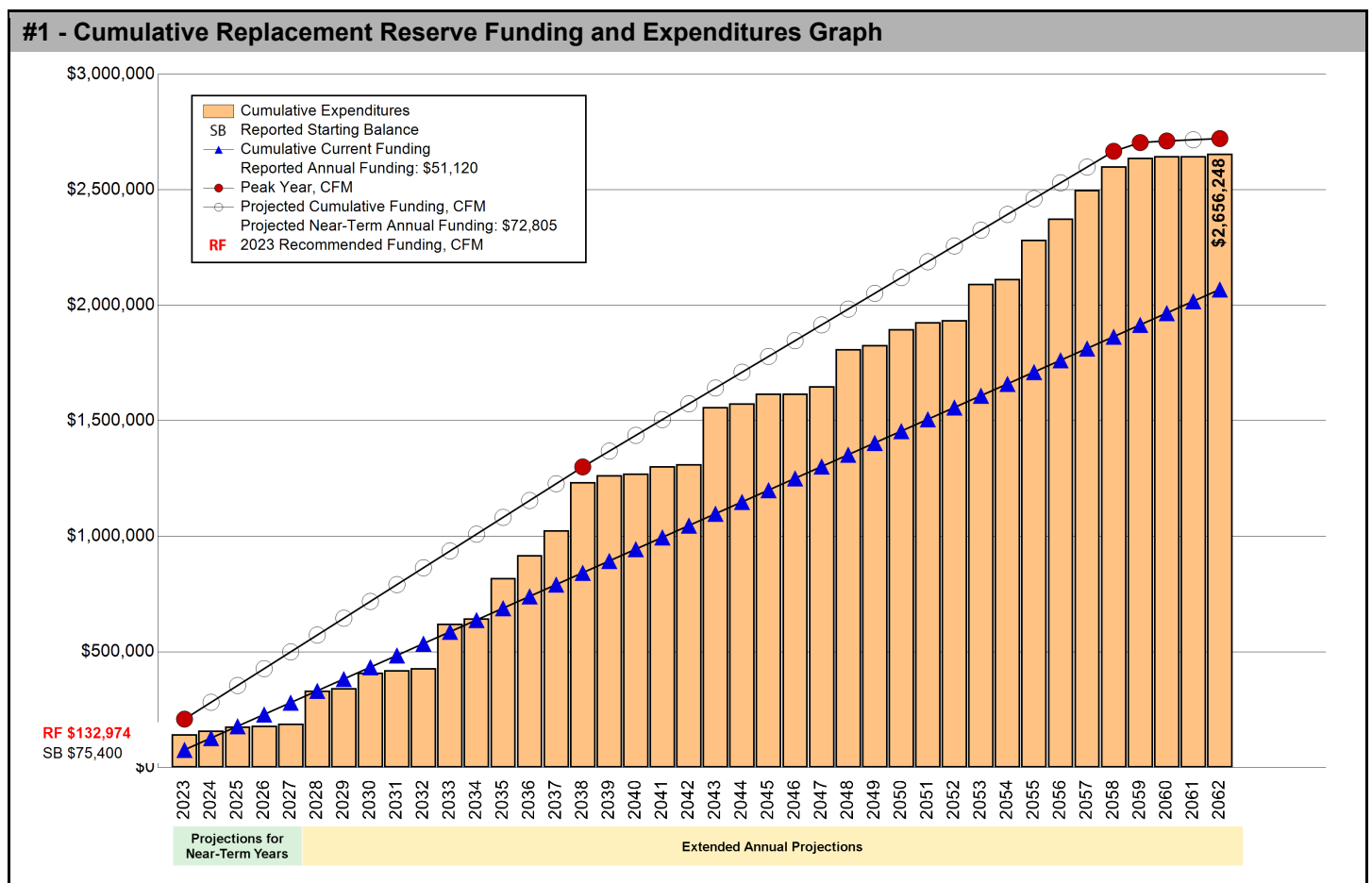
SECTION A - FINANCIAL ANALYSIS

The Longhill Gate Homeowners Association, Inc. Replacement Reserve Analysis uses the Cash Flow Method (CFM) to calculate Replacement Reserve funding for the periodic replacement of the 84 Projected Replacements identified in the Replacement Reserve Inventory.

\$132,974 **RECOMMENDED REPLACEMENT RESERVE FUNDING FOR THE STUDY YEAR, 2023**
\$78.04 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.

Longhill Gate Homeowners Association, Inc. reports a Starting Balance of \$75,400 and Annual Funding totaling \$51,120, which is inadequate to fund projected replacements starting in 2023. See Page A.3 for a more detailed evaluation.



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

If, after that review, the Reserve Study still recommends a substantial increase in the Annual Reserve Funding, MillerDodson can work with the Board to develop a Strategic Funding Plan to ramp up the Funding levels incrementally.

REPLACEMENT RESERVE ANALYSIS - GENERAL INFORMATION

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

2023 | STUDY YEAR

The Association reports that their accounting year begins on January 1, and the Study Year, the first year evaluated by the Replacement Reserve Analysis, begins on January 1, 2023.

40 Years | STUDY PERIOD

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

\$75,400 | STARTING BALANCE

The Association reports Replacement Reserves on Deposit totaling \$75,400 at the start of the Study Year.

Level Two | LEVEL OF SERVICE

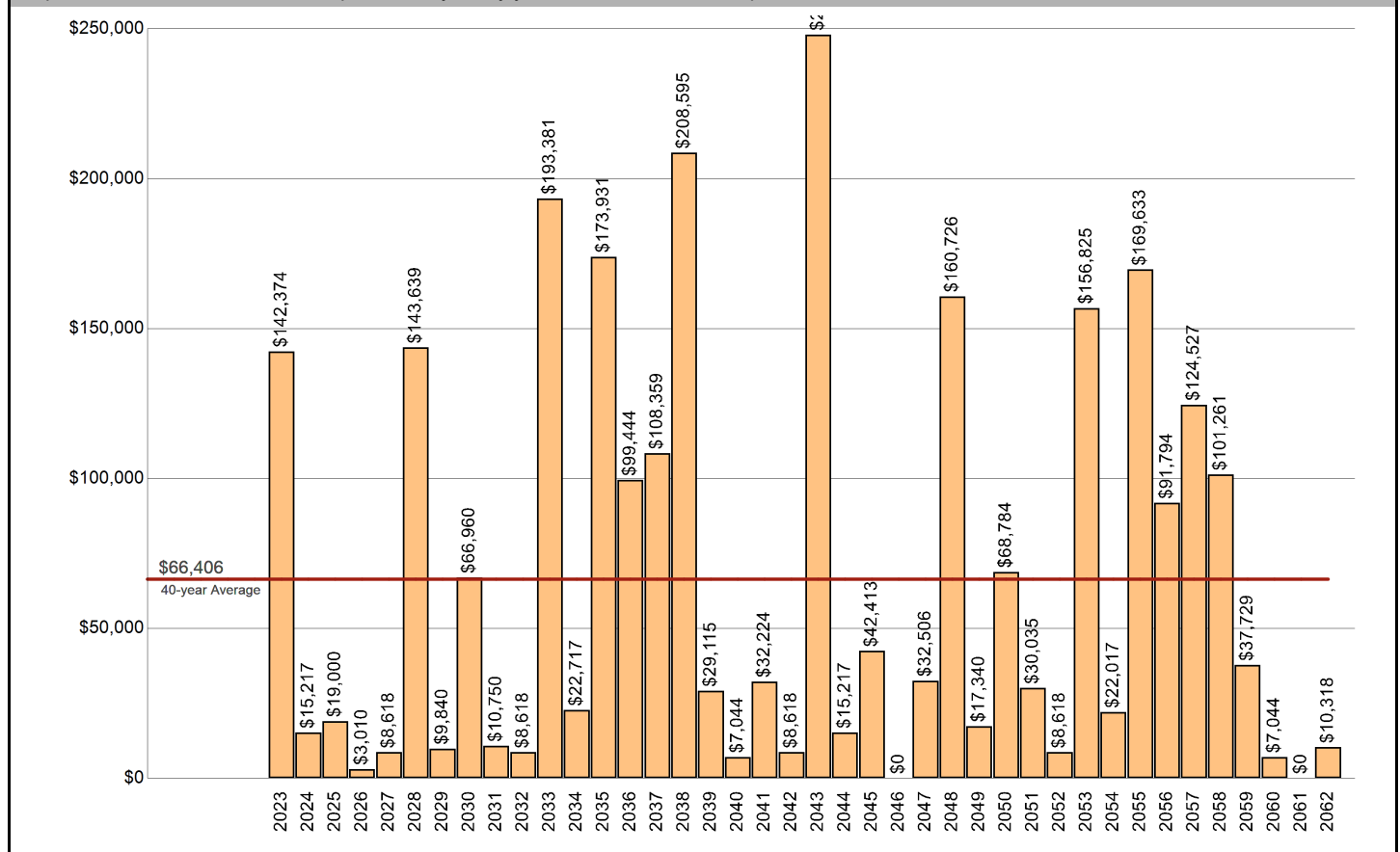
The Replacement Reserve Inventory has been developed in compliance with the National Reserve Study Standards for a Level Two Study, as defined by the Community Associations Institute (CAI).

\$2,656,248 | REPLACEMENT RESERVE INVENTORY - PROJECTED REPLACEMENTS

The Longhill Gate Homeowners Association, Inc. Replacement Reserve Inventory identifies 84 items that will require periodic replacement, that are to be funded from Replacement Reserves. We estimate the cost of these replacements will be \$2,656,248 over the 40-year Study Period. The Projected Replacements are divided into 5 major categories starting on Page B.3. Pages B.1-B.2 provide detailed information on the Replacement Reserve Inventory.

#2 - Annual Expenditures for Projected Replacements Graph

This graph shows annual expenditures for Projected Replacements over the 40-year Study Period. The red line shows the average annual expenditure of \$66,406. Section C provides a year by year Calendar of these expenditures.



UPDATING OF THE FUNDING PLAN

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

UPDATING OF THE REPLACEMENT RESERVE STUDY

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

ANNUAL EXPENDITURES AND CURRENT FUNDING

The annual expenditures that comprise the \$2,656,248 of Projected Expenditures over the 40-year Study Period and the impact of the Association continuing to fund Replacement Reserves at the current level are detailed in Table 3.

#3 - Table of Annual Expenditures and Current Funding Data - Years 1 through 40										
Year	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Starting Balance	\$75,400									
Projected Replacements	(\$142,374)	(\$15,217)	(\$19,000)	(\$3,010)	(\$8,618)	(\$143,639)	(\$9,840)	(\$66,960)	(\$10,750)	(\$8,618)
Annual Deposit	\$51,120	\$51,120	\$51,120	\$51,120	\$51,120	\$51,120	\$51,120	\$51,120	\$51,120	\$51,120
End of Year Balance	(\$15,854)	\$20,049	\$52,169	\$100,279	\$142,781	\$50,263	\$91,543	\$75,703	\$116,073	\$158,575
Cumulative Expenditures	(\$142,374)	(\$157,591)	(\$176,591)	(\$179,601)	(\$188,219)	(\$331,857)	(\$341,697)	(\$408,657)	(\$419,407)	(\$428,025)
Cumulative Receipts	\$126,520	\$177,640	\$228,760	\$279,880	\$331,000	\$382,120	\$433,240	\$484,360	\$535,480	\$586,600
Year	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Projected Replacements	(\$193,381)	(\$22,717)	(\$173,931)	(\$99,444)	(\$108,359)	(\$208,595)	(\$29,115)	(\$7,044)	(\$32,224)	(\$8,618)
Annual Deposit	\$51,120	\$51,120	\$51,120	\$51,120	\$51,120	\$51,120	\$51,120	\$51,120	\$51,120	\$51,120
End of Year Balance	\$16,314	\$44,717	(\$78,094)	(\$126,418)	(\$183,657)	(\$341,132)	(\$319,127)	(\$275,051)	(\$256,155)	(\$213,653)
Cumulative Expenditures	(\$621,406)	(\$644,123)	(\$818,054)	(\$917,498)	(\$1,025,857)	(\$1,234,452)	(\$1,263,567)	(\$1,270,611)	(\$1,302,835)	(\$1,311,453)
Cumulative Receipts	\$637,720	\$688,840	\$739,960	\$791,080	\$842,200	\$893,320	\$944,440	\$995,560	\$1,046,680	\$1,097,800
Year	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052
Projected Replacements	(\$248,009)	(\$15,217)	(\$42,413)		(\$32,506)	(\$160,726)	(\$17,340)	(\$68,784)	(\$30,035)	(\$8,618)
Annual Deposit	\$51,120	\$51,120	\$51,120	\$51,120	\$51,120	\$51,120	\$51,120	\$51,120	\$51,120	\$51,120
End of Year Balance	(\$410,541)	(\$374,638)	(\$365,931)	(\$314,811)	(\$296,198)	(\$405,804)	(\$372,024)	(\$389,688)	(\$368,603)	(\$326,101)
Cumulative Expenditures	(\$1,559,461)	(\$1,574,678)	(\$1,617,091)	(\$1,617,091)	(\$1,649,598)	(\$1,810,324)	(\$1,827,664)	(\$1,896,448)	(\$1,926,483)	(\$1,935,101)
Cumulative Receipts	\$1,148,920	\$1,200,040	\$1,251,160	\$1,302,280	\$1,353,400	\$1,404,520	\$1,455,640	\$1,506,760	\$1,557,880	\$1,609,000
Year	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062
Projected Replacements	(\$156,825)	(\$22,017)	(\$169,633)	(\$91,794)	(\$124,527)	(\$101,261)	(\$37,729)	(\$7,044)		(\$10,318)
Annual Deposit	\$51,120	\$51,120	\$51,120	\$51,120	\$51,120	\$51,120	\$51,120	\$51,120	\$51,120	\$51,120
End of Year Balance	(\$431,806)	(\$402,702)	(\$521,215)	(\$561,889)	(\$635,297)	(\$685,437)	(\$672,046)	(\$627,970)	(\$576,850)	(\$536,048)
Cumulative Expenditures	(\$2,091,926)	(\$2,113,942)	(\$2,283,575)	(\$2,375,369)	(\$2,499,897)	(\$2,601,157)	(\$2,638,886)	(\$2,645,930)	(\$2,645,930)	(\$2,656,248)
Cumulative Receipts	\$1,660,120	\$1,711,240	\$1,762,360	\$1,813,480	\$1,864,600	\$1,915,720	\$1,966,840	\$2,017,960	\$2,069,080	\$2,120,200

EVALUATION OF CURRENT FUNDING

The evaluation of Current Funding (Starting Balance of \$75,400 & annual funding of \$51,120), 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 84 Projected Replacements identified in the Replacement Reserve Inventory and that the Association will continue Annual Funding of \$51,120 throughout the 40-year Study Period.

Annual Funding of \$51,120 is approximately 38 percent of the \$132,974 recommended Annual Funding calculated by the Cash Flow Method for 2023, the Study Year.

See the Executive Summary for the Current Funding Statement.

CASH FLOW METHOD FUNDING

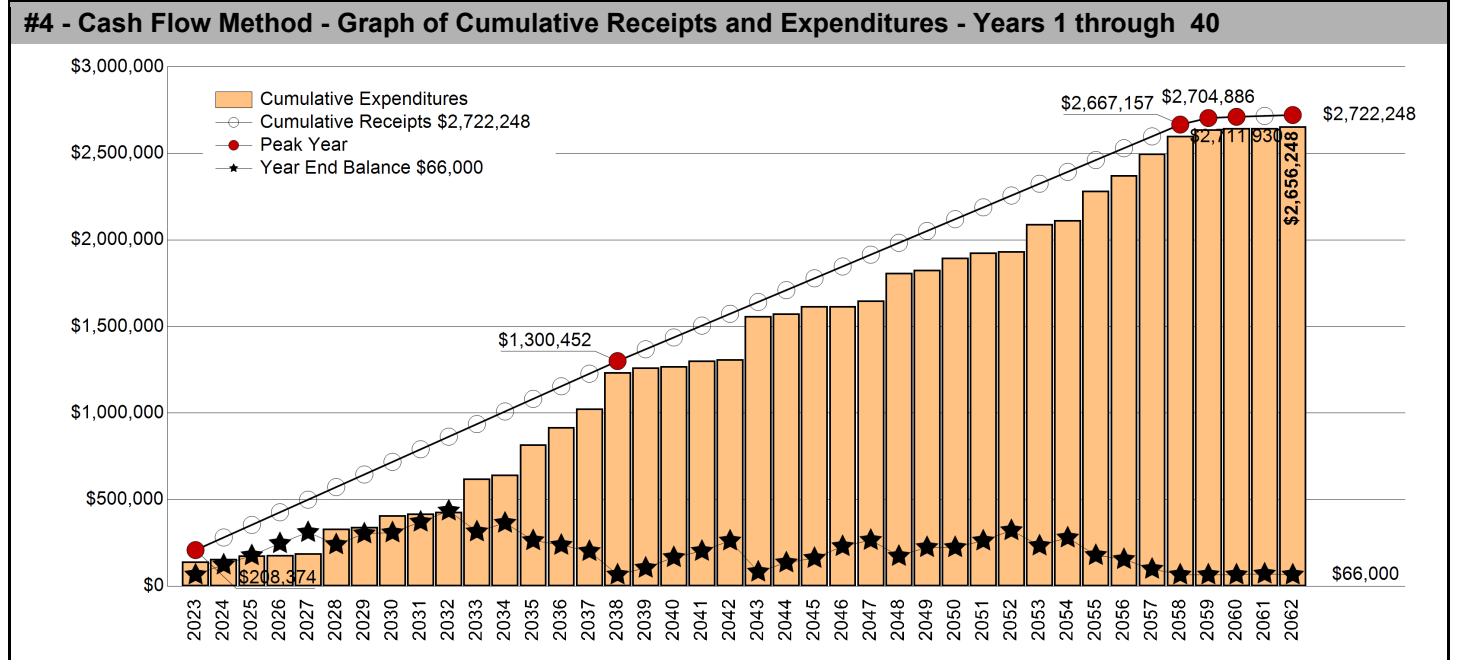
\$132,974

RECOMMENDED REPLACEMENT RESERVE FUNDING FOR 2023

\$78.04 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 2023 with Replacement Reserves on Deposit dropping to the Minimum Balance after the completion of \$142,374 of replacements from 2023 to 2023. Recommended funding is projected to decline from \$132,974 in 2023 to \$72,805 in 2024. Peak Years are identified in Chart 4 and Table 5.
- **Threshold (Minimum Balance).** The calculations assume a Minimum Balance of \$66,000 will always be held in reserve, which is calculated by rounding the 12-month 40-year average annual expenditure of \$66,406 as shown on Graph #2.
- **Cash Flow Method Study Period.** Cash Flow Method calculates funding for \$2,656,248 of expenditures over the 40-year Study Period. It does not include funding for any projects beyond 2062 and in 2062, the end of year balance will always be the Minimum Balance.



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

Year	1st Peak - 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Starting Balance	\$75,400									
Projected Replacements	(\$142,374)	(\$15,217)	(\$19,000)	(\$3,010)	(\$8,618)	(\$143,639)	(\$9,840)	(\$66,960)	(\$10,750)	(\$8,618)
Annual Deposit	\$132,974	\$72,805	\$72,805	\$72,805	\$72,805	\$72,805	\$72,805	\$72,805	\$72,805	\$72,805
End of Year Balance	\$66,000	\$123,588	\$177,393	\$247,189	\$311,376	\$240,543	\$303,508	\$309,353	\$371,408	\$435,596
Cumulative Expenditures	(\$142,374)	(\$157,591)	(\$176,591)	(\$179,601)	(\$188,219)	(\$331,857)	(\$341,697)	(\$408,657)	(\$419,407)	(\$428,025)
Cumulative Receipts	\$208,374	\$281,179	\$353,984	\$426,790	\$499,595	\$572,400	\$645,205	\$718,010	\$790,816	\$863,621
Year	2033	2034	2035	2036	2037	2nd Peak - 2038	2039	2040	2041	2042
Projected Replacements	(\$193,381)	(\$22,717)	(\$173,931)	(\$99,444)	(\$108,359)	(\$208,595)	(\$29,115)	(\$7,044)	(\$32,224)	(\$8,618)
Annual Deposit	\$72,805	\$72,805	\$72,805	\$72,805	\$72,805	\$72,805	\$68,335	\$68,335	\$68,335	\$68,335
End of Year Balance	\$315,020	\$365,108	\$263,982	\$237,343	\$201,790	\$66,000	\$105,220	\$166,512	\$202,622	\$262,340
Cumulative Expenditures	(\$621,406)	(\$644,123)	(\$818,054)	(\$917,498)	(\$1,025,857)	(\$1,234,452)	(\$1,263,567)	(\$1,270,611)	(\$1,302,835)	(\$1,311,453)
Cumulative Receipts	\$936,426	\$1,009,231	\$1,082,036	\$1,154,841	\$1,227,647	\$1,300,452	\$1,368,787	\$1,437,122	\$1,505,458	\$1,573,793
Year	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052
Projected Replacements	(\$248,009)	(\$15,217)	(\$42,413)		(\$32,506)	(\$160,726)	(\$17,340)	(\$68,784)	(\$30,035)	(\$8,618)
Annual Deposit	\$68,335	\$68,335	\$68,335	\$68,335	\$68,335	\$68,335	\$68,335	\$68,335	\$68,335	\$68,335
End of Year Balance	\$82,667	\$135,785	\$161,708	\$230,043	\$265,872	\$173,480	\$224,476	\$224,027	\$262,327	\$262,340
Cumulative Expenditures	(\$1,559,461)	(\$1,574,678)	(\$1,617,091)	(\$1,617,091)	(\$1,649,598)	(\$1,810,324)	(\$1,827,664)	(\$1,896,448)	(\$1,926,483)	(\$1,935,101)
Cumulative Receipts	\$1,642,128	\$1,710,463	\$1,778,799	\$1,847,134	\$1,915,469	\$1,983,805	\$2,052,140	\$2,120,475	\$2,188,810	\$2,257,146
Year	2053	2054	2055	2056	2057	3rd Peak - 2058	4th Peak - 2059	5th Peak - 2060	2061	6th Peak - 2062
Projected Replacements	(\$156,825)	(\$22,017)	(\$169,633)	(\$91,794)	(\$124,527)	(\$101,261)	(\$37,729)	(\$7,044)		(\$10,318)
Annual Deposit	\$68,335	\$68,335	\$68,335	\$68,335	\$68,335	\$68,335	\$37,729	\$7,044	\$5,159	\$5,159
End of Year Balance	\$233,555	\$279,874	\$178,576	\$155,117	\$98,925	\$66,000	\$66,000	\$66,000	\$71,159	\$66,000
Cumulative Expenditures	(\$2,091,926)	(\$2,113,942)	(\$2,283,575)	(\$2,375,369)	(\$2,499,897)	(\$2,601,157)	(\$2,638,886)	(\$2,645,930)	(\$2,645,930)	(\$2,656,248)
Cumulative Receipts	\$2,325,481	\$2,393,816	\$2,462,151	\$2,530,487	\$2,598,822	\$2,667,157	\$2,704,886	\$2,711,930	\$2,717,089	\$2,722,248

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.

\$132,974 2023 - CASH FLOW METHOD RECOMMENDED FUNDING

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

\$77,538 2024 - INFLATION ADJUSTED FUNDING

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

- Replacement Reserves on Deposit totaling \$66,000 on January 1, 2024.
- All 2023 Projected Replacements listed on Page C.2 accomplished at a cost to Replacement Reserves less than \$142,374.
- Construction Cost Inflation of 6.50 percent in 2023.

The \$77,538 inflation adjusted funding in 2024 is a 6.50 percent increase over the non-inflation adjusted funding of \$72,805.

\$82,577 2025 - INFLATION ADJUSTED FUNDING

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

- Replacement Reserves on Deposit totaling \$130,612 on January 1, 2025.
- All 2024 Projected Replacements listed on Page C.2 accomplished at a cost to Replacement Reserves less than \$15,523.
- Construction Cost Inflation of 6.50 percent in 2024.

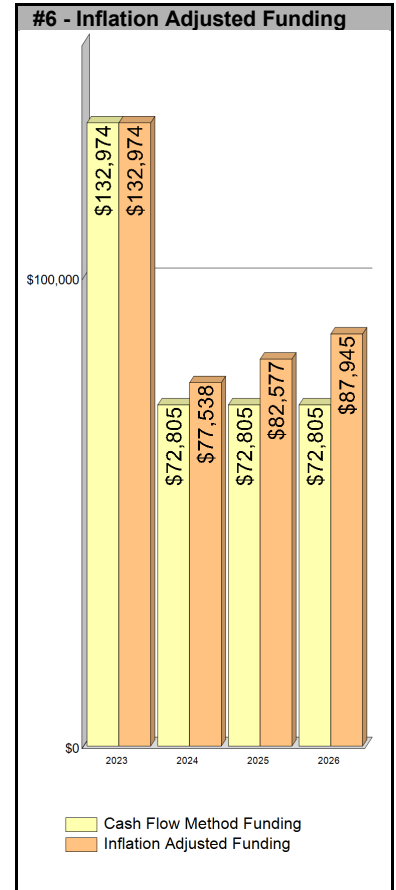
The \$82,577 inflation adjusted funding in 2025 is a 13.42 percent increase over the non-inflation adjusted funding of \$72,805.

\$87,945 2026 - INFLATION ADJUSTED FUNDING

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

- Replacement Reserves on Deposit totaling \$133,426 on January 1, 2026.
- All 2025 Projected Replacements listed on Page C.2 accomplished at a cost to Replacement Reserves less than \$21,550.
- Construction Cost Inflation of 6.50 percent in 2025.

The \$87,945 inflation adjusted funding in 2026 is a 20.79 percent increase over the non-inflation adjusted funding of \$72,805.



Year Four and Beyond

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

Inflation Adjustment

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

Interest on Reserves

The recommended funding calculations do not account for interest earned on Replacement Reserves. In 2023, based on a 1.00 percent interest rate, we estimate the Association may earn \$707 on an average balance of \$70,700, \$983 on an average balance of \$98,306 in 2024, and \$1,320 on \$132,019 in 2025. The Association may elect to attribute 100 percent of the earned interest to Reserves, resulting in a reduction in the 2023 funding from \$132,974 to \$132,267 (a 0.53 percent reduction), \$77,538 to \$76,554 in 2024 (a 1.26 percent reduction), and \$82,577 to \$81,257 in 2025 (a 1.59 percent reduction).

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SECTION B - REPLACEMENT RESERVE INVENTORY

- **PROJECTED REPLACEMENTS.** Longhill Gate Homeowners Association, Inc. - Replacement Reserve Inventory identifies 84 items which are Projected Replacements and the periodic replacements of these items are scheduled for funding from Replacement Reserves. The Projected Replacements have an estimated one-time replacement cost of \$1,177,418. Cumulative Replacements totaling \$2,656,248 are scheduled in the Replacement Reserve Inventory over the 40-year Study Period. Cumulative Replacements include those components that are replaced more than once during the period of the study.

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

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

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

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

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

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

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

- **CATEGORIES.** The 84 items included in the Longhill Gate Homeowners Association, Inc. Replacement Reserve Inventory are divided into 5 major categories. Each category is printed on a separate page, beginning on page B.3.
- **LEVEL OF SERVICE.** This Replacement Reserve Inventory has been developed in compliance with the standards established for a Level Two Update, as defined by the National Reserve Study Standards, established in 1998 by Community Associations Institute, which states:

This study has been performed as a Level 2 Update with Site Visit/On-Site Review as defined by the Community Associations Institute's, National Reserve Study Standards. As such, the component inventory is based on the study that was performed by DMA Reserves in 2019. This inventory was adjusted to reflect changes provided by the Community Manager and/or the Board of Directors, or adjustments made based on the site visit and visual assessment performed by the Analyst. The analysis, including fund status and funding plan, is developed from the adjusted inventory.

REPLACEMENT RESERVE INVENTORY - GENERAL INFORMATION (CONT'D)

- **INVENTORY DATA.** Each of the 84 Projected Replacements listed in the Replacement Reserve Inventory includes the following data:
 - Item Number.** The Item Number is assigned sequentially and is intended for identification purposes only.
 - Item Description.** We have identified each item included in the Inventory. Additional information may be included in the Comments section at the bottom of each page of the Inventory.
 - Units.** We have used standard abbreviations to identify the number of units including SF-square feet, LF-lineal feet, SY-square yard, LS-lump sum, EA-each, and PR-pair. Non-standard abbreviations are noted in the Comments section at the bottom of the page.
 - Number of Units.** The methods used to develop the quantities are discussed in "Level of Service" above.
 - Unit Replacement Cost.** We use four sources to develop the unit cost data shown in the Inventory; actual replacement cost data provided by the client, information provided by local contractors and suppliers, industry standard estimating manuals, and a cost database we have developed based upon our detailed interviews with contractors and service providers who are specialists in their respective lines of work.
 - Normal Economic Life (Years).** The number of years that a new and properly installed item should be expected to remain in service.
 - Remaining Economic Life (Years).** The estimated number of years before an item will need to be replaced. In "normal" conditions, this could be calculated by subtracting the age of the item from the Normal Economic Life of the item, but only rarely do physical assets age "normally". Some items may have longer or shorter lives depending on many factors such as environment, initial quality of the item, maintenance, etc.
 - Total Replacement Cost.** This is calculated by multiplying the Unit Replacement Cost by the Number of Units.
- **PARTIAL FUNDING.** Items may have been included in the Replacement Reserve Inventory at less than 100 percent of their full quantity and/or replacement cost. This is done on items that will never be replaced in their entirety, but which may require periodic replacements over an extended period of time. The assumptions that provide the basis for any partial funding are noted in the Comments section.
- **REMAINING ECONOMIC LIFE GREATER THAN 40 YEARS.** The calculations do not include funding for initial replacements beyond 40 years. These replacements are included in this Study for tracking and evaluation. They should be included for funding in future Studies, when they enter the 40-year window.
- **ACCURACY OF THE ANALYSIS.** The accuracy of the Replacement Reserve Analysis is dependent upon expenditures from Replacement Reserves being made ONLY for the 84 Projected Replacements specifically listed in the Replacement Reserve Inventory. The inclusion/exclusion of items from the Replacement Reserve Inventory is discussed on Page B.1.

SITE ITEMS PROJECTED REPLACEMENTS					NEL- Normal Economic Life (yrs) REL- Remaining Economic Life (yrs)		
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)
1	Entrance monument, composite sign	sf	56	\$130.00	25	10	\$7,280
2	Signs, other	ea	7	\$430.00	25	3	\$3,010
3	Asphalt pavement, mill and overlay Sloan Square	sy	2,800	\$22.05	20	7	\$61,740
4	Asphalt pavement, seal coat Sloan Square	sy	2,800	\$1.98	5	12	\$5,544
5	Asphalt pavement, Clubhouse Parking	sy	1,128	\$22.05	20	5	\$24,872
6	Asphalt pavement, seal coat, Clubhouse Parking	sy	1,128	\$1.98	5	10	\$2,233
7	Asphalt pavement, mill and overlay Highgate Green	sy	4,400	\$22.05	20	14	\$97,020
8	Asphalt pavement, seal coat Highgate Green	sy	4,400	\$1.98	5	5	\$8,712
9	Asphalt pavement, mill and overlay Chiswick Park	sy	4,163	\$22.05	20	13	\$91,794
10	Asphalt pavement, seal coat Chiswick Park	sy	4,163	\$1.98	5	4	\$8,243
11	Asphalt pavement, mill and overlay Hatton Cross	sy	3,187	\$22.05	20	10	\$70,273
12	Asphalt pavement, seal coat Hatton Cross	sy	3,187	\$1.98	5	none	\$6,310
13	Asphalt pavement, mill and overlay Barons Court	sy	4,853	\$22.05	20	12	\$107,009
14	Asphalt pavement, seal coat Barons Court	sy	4,853	\$1.98	5	none	\$9,609
15	Asphalt pavement, mill and overlay Tower Hill	sy	5,100	\$22.05	20	none	\$112,455
16	Asphalt pavement, seal coat Tower Hill	sy	5,100	\$1.98	5	5	\$10,098
17	Concrete curb and gutter, barrier (6% allowance)	ft	650	\$35.50	6	18	\$23,075
18	Concrete flatwork Clubhouse (6% allowance)	sf	75	\$10.85	6	18	\$814
19	Concrete flatwork exposed aggregate (6%	sf	1,500	\$10.85	6	10	\$16,275
Replacement Costs - Page Subtotal							\$666,367

COMMENTS

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 (\$)
20	Fence, vinyl 2-rail and post, common areas	ft	458	\$18.20	35	18	\$8,336
21	Fence, vinyl board, common areas	ft	56	\$20.50	25	10	\$1,148
22	Fence, PTL, wood stockade	ft	58	\$17.60	20	14	\$1,021
23	Site light, standard single head	ls	1	\$10,750.00	20	8	\$10,750
24	Site light, pole	ls	1	\$16,500.00	35	20	\$16,500
25	Landscape light	ls	1	\$1,500.00	10	7	\$1,500
26	Flood light, building mounted	ea	3	\$280.00	10	15	\$840
27	Pedestal mailbox	ea	12	\$1,980.00	35	5	\$23,760
28	Flagpole	ea	1	\$3,500.00	40	15	\$3,500
29	Irrigation, controller	ea	1	\$1,250.00	10	5	\$1,250
30	Concrete drainage ditches (6% allowance)	ea	291	\$11.50	10	5	\$3,347
31	Stormwater management (10% allowance)	ls	1	\$10,000.00	10	2	\$10,000
32	Stormwater pond dredging large pond (33%	cy	423	\$75.00	20	20	\$31,725
33	Stormwater pond dredging small pond (33%	cy	181	\$75.00	20	20	\$13,575
34	Stormwater (BMP) pond fountain	ea	1	\$3,000.00	20	16	\$3,000
35	Trash grate and outfall covers	ls	1	\$2,500.00	20	10	\$2,500
Replacement Costs - Page Subtotal							\$132,751

COMMENTS

RECREATION ITEMS - POOLS 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 (\$)
36	Swimming pool, structure	sf	1,154	\$90.00	60	15	\$103,860
37	Swimming pool, whitecoat	sf	1,154	\$6.10	10	5	\$7,039
38	Swimming pool, waterline tile (6x6)	ft	150	\$10.75	10	5	\$1,613
39	Swimming pool coping, precast concrete	ft	150	\$29.50	20	15	\$4,425
40	Pool deck, concrete (10% allowance)	sf	580	\$11.50	10	5	\$6,670
41	Pool cover, safety mesh	sf	1,154	\$1.30	12	10	\$1,500
42	Pool pump	ea	1	\$4,150.00	15	10	\$4,150
43	Pool filter	ea	1	\$780.00	15	10	\$780
44	Pool chemical clorination system	ea	1	\$4,200.00	15	10	\$4,200
45	Wading pool, structure	sf	72	\$90.00	60	15	\$6,480
46	Wading pool, whitecoat	sf	72	\$6.10	10	5	\$439
47	Wading pool, waterline tile	ft	30	\$10.75	10	5	\$323
48	Wading pool coping, precast concrete	ft	30	\$29.50	20	15	\$885
49	Wading pool cover, safety mesh	sf	72	\$1.30	12	10	\$94
50	Wading pool pump	ea	1	\$830.00	15	10	\$830
51	Wading pool filter	ea	1	\$780.00	15	10	\$780
52	Pool furniture (allowance)	ls	1	\$2,000.00	5	none	\$2,000
53	Pool fence aluminum with 2 rails and pickets	ft	296	\$36.40	45	25	\$10,774
Replacement Costs - Page Subtotal							\$156,842

COMMENTS							

RECREATION ITEMS - TENNIS COURT AND GAZEBO					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 (\$)
54	Tennis court, asphalt overlay	sf	7,200	\$5.80	20	12	\$41,760
55	Tennis court, color coat (3 coats)	sf	7,200	\$1.20	5	1	\$8,640
56	Tennis court, post and footings	pr	1	\$1,600.00	20	12	\$1,600
57	Tennis court, net	ea	1	\$375.00	5	4	\$375
58	Tennis court fence, galvanized chain link	ft	360	\$28.70	30	10	\$10,332
59	Gazebo structure (Highgate Green)	ls	1	\$30,000.00	40	25	\$30,000
60	Gazebo roofing (Highgate Green)	sf	560	\$4.60	30	10	\$2,576
61	Tot lot surfacing, wood mulch (3")	ls	1	\$1,200.00	5	1	\$1,200
62	Tot lot, play structure, platforms, slides and swings	ea	1	\$15,040.00	15	5	\$15,040
Replacement Costs - Page Subtotal							\$111,523

COMMENTS

EXTERIOR ITEMS - CLUBHOUSE EXTERIOR PROJECTED REPLACEMENTS					NEL- Normal Economic Life (yrs) REL- Remaining Economic Life (yrs)		
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)
63	Roofing, asphalt shingles	sf	1,700	\$4.50	30	13	\$7,650
64	Siding and trim, composite hardboard	sf	1,380	\$7.65	20	5	\$10,557
65	Deck, structure PTL	sf	246	\$18.50	45	20	\$4,551
66	Deck, composite decking	sf	246	\$16.70	30	12	\$4,108
67	Deck/Balcony, vinyl railing	ft	44	\$36.00	30	12	\$1,584
68	Deck sealing	sf	246	\$48.78	5	none	\$12,000
69	Windows	sf	47	\$49.50	40	12	\$2,327
70	Door, single	ea	3	\$1,240.00	25	7	\$3,720
71	Door, double	pr	1	\$2,400.00	35	10	\$2,400
Replacement Costs - Page Subtotal							\$48,897

COMMENTS
Item #68: Deck sealing - Item added per BOD request. Cost provided by BOD.

INTERIOR ITEMS - CLUBHOUSE INTERIOR PROJECTED REPLACEMENTS					NEL- Normal Economic Life (yrs) REL- Remaining Economic Life (yrs)		
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)
72	Interior door and frame, wood, paint grade	ea	4	\$900.00	25	15	\$3,600
73	Flooring, ceramic tile	sf	247	\$37.50	25	15	\$9,263
74	Flooring, carpet	sf	387	\$4.85	10	1	\$1,877
75	Interior lighting, general (allowance)	ls	1	\$1,000.00	21	15	\$1,000
76	Kitchen, remodel (allowance)	ls	1	\$6,800.00	21	10	\$6,800
77	Restroom, renovate (allowance)	ea	2	\$4,600.00	20	10	\$9,200
78	Furnishings (allowance)	ls	1	\$3,500.00	10	1	\$3,500
	Sauna						EXCLUDED
Replacement Costs - Page Subtotal							\$35,239

COMMENTS
Sauna - [10/24/2022] excluded per board

BUILDING SYSTEMS PROJECTED REPLACEMENTS					NEL- Normal Economic Life (yrs) REL- Remaining Economic Life (yrs)		
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)
79	Heat pump, air to air	ea	1	\$7,500.00	15	11	\$7,500
80	Building piping, allowance	ls	1	\$3,100.00	40	15	\$3,100
81	Electric panels and breakers 120 / 240 volt	ea	1	\$3,200.00	40	20	\$3,200
82	Water heater, electric	ea	1	\$1,300.00	15	10	\$1,300
83	Wall mount water fountain	ea	1	\$1,700.00	25	14	\$1,700
84	Golf Cart	ea	1	\$9,000.00	20	2	\$9,000
Replacement Costs - Page Subtotal							\$25,800

COMMENTS	
Item #79: Heat pump, air to air - Heat pump replaced in 2019.	

VALUATION EXCLUSIONS								
Excluded Items								
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)	
	Miscellaneous signage						EXCLUDED	
	Bench						EXCLUDED	
	Picnic table						EXCLUDED	
	Gas grill						EXCLUDED	
	Tot lot border						EXCLUDED	
	Sprinkler head						EXCLUDED	

VALUATION EXCLUSIONS	
Comments	
- Valuation Exclusions. For ease of administration of the Replacement Reserves and to reflect accurately how Replacement Reserves are administered, items with a dollar value less than \$1000 have not been scheduled for funding from Replacement Reserve. Examples of items excluded by Replacement Reserves by this standard are listed above. - The list above exemplifies exclusions by the cited standard(s) and is not intended to be comprehensive.	

LONG-LIFE EXCLUSIONS							
Excluded Items							
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)
	Masonry features						EXCLUDED
	Miscellaneous culverts						EXCLUDED
	Segmental retaining walls						EXCLUDED
	Building foundation(s)						EXCLUDED
	Concrete floor slabs (interior)						EXCLUDED
	Wall, floor, and roof structure						EXCLUDED
	Electrical wiring						EXCLUDED
	Water piping at common facilities						EXCLUDED
	Waste piping at common facilities						EXCLUDED
	Stainless steel pool fixtures						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 (\$)
	All aspects of individual homes						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	
	Water mains and meters						EXCLUDED	
	Sanitary sewers						EXCLUDED	

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

MAINTENANCE AND REPAIR EXCLUSIONS								
Excluded Items								
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)	
	Cleaning of asphalt pavement						EXCLUDED	
	Crack sealing of asphalt pavement						EXCLUDED	
	Painting of curbs						EXCLUDED	
	Striping of parking spaces						EXCLUDED	
	Landscaping and site grading						EXCLUDED	
	Exterior painting						EXCLUDED	
	Interior painting						EXCLUDED	
	Janitorial service						EXCLUDED	
	Repair services						EXCLUDED	
	Capital improvements						EXCLUDED	

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

GOVERNMENT EXCLUSIONS							
Excluded Items							
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)
	Government, roadways and parking						EXCLUDED
	Government, sidewalks and curbs						EXCLUDED
	Government, stormwater management						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.	

IRRIGATION SYSTEM EXCLUSIONS								
Excluded Items								
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)	
	Subsurface irrigation pipe						EXCLUDED	
	Subsurface irrigation valve						EXCLUDED	
	Subsurface irrigation control wiring						EXCLUDED	
	Irrigation system electrical service						EXCLUDED	
	Irrigation system enclosures						EXCLUDED	

IRRIGATION SYSTEM EXCLUSIONS	
Comments	
Irrigation System Exclusions. We have assumed that the maintenance, repair, and periodic replacement of the components of the extensive irrigation systems at the property will not be funded from Replacement Reserves. These systems should be inspected each spring when the systems are brought online and again each fall when they are winterized. Repair(s) and or replacement(s) should be made in conjunction with these semiannual inspections.	

SECTION C - CALENDAR OF PROJECTED ANNUAL REPLACEMENTS

GENERAL STATEMENT. The 84 Projected Replacements in the Longhill Gate Homeowners Association, Inc. Replacement Reserve Inventory whose replacement is scheduled to be funded from Replacement Reserves are broken down on a year-by-year basis, beginning on Page C.2.

REPLACEMENT RESERVE ANALYSIS AND INVENTORY POLICIES, PROCEDURES, AND ADMINISTRATION

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

PROJECTED REPLACEMENTS

Item	2023 - Study Year	\$	Item	2024 - YEAR 1	\$
12	Asphalt pavement, seal coat Hatton Cross	\$6,310	55	Tennis court, color coat (3 coats)	\$8,640
14	Asphalt pavement, seal coat Barons Court	\$9,609	61	Tot lot surfacing, wood mulch (3")	\$1,200
15	Asphalt pavement, mill and overlay Tower Hill	\$112,455	74	Flooring, carpet	\$1,877
52	Pool furniture (allowance)	\$2,000	78	Furnishings (allowance)	\$3,500
68	Deck sealing	\$12,000			
Total Scheduled Replacements		\$142,374	Total Scheduled Replacements		\$15,217
Item	2025 - YEAR 2	\$	Item	2026 - YEAR 3	\$
31	Stormwater management (10% allowance)	\$10,000	2	Signs, other	\$3,010
84	Golf Cart	\$9,000			
Total Scheduled Replacements		\$19,000	Total Scheduled Replacements		\$3,010

PROJECTED REPLACEMENTS

2027 - YEAR 4			2028 - YEAR 5		
Item		\$	Item		\$
10	Asphalt pavement, seal coat Chiswick Park	\$8,243	5	Asphalt pavement, Clubhouse Parking	\$24,872
57	Tennis court, net	\$375	8	Asphalt pavement, seal coat Highgate Green	\$8,712
			12	Asphalt pavement, seal coat Hatton Cross	\$6,310
			14	Asphalt pavement, seal coat Barons Court	\$9,609
			16	Asphalt pavement, seal coat Tower Hill	\$10,098
			27	Pedestal mailbox	\$23,760
			29	Irrigation, controller	\$1,250
			30	Concrete drainage ditches (6% allowance)	\$3,347
			37	Swimming pool, whitecoat	\$7,039
			38	Swimming pool, waterline tile (6x6)	\$1,613
			40	Pool deck, concrete (10% allowance)	\$6,670
			46	Wading pool, whitecoat	\$439
			47	Wading pool, waterline tile	\$323
			52	Pool furniture (allowance)	\$2,000
			62	Tot lot, play structure, platforms, slides and swings	\$15,040
			64	Siding and trim, composite hardboard	\$10,557
			68	Deck sealing	\$12,000
Total Scheduled Replacements		\$8,618	Total Scheduled Replacements		\$143,639

2029 - YEAR 6			2030 - YEAR 7		
Item		\$	Item		\$
55	Tennis court, color coat (3 coats)	\$8,640	3	Asphalt pavement, mill and overlay Sloan Square	\$61,740
61	Tot lot surfacing, wood mulch (3")	\$1,200	25	Landscape light	\$1,500
			70	Door, single	\$3,720
Total Scheduled Replacements		\$9,840	Total Scheduled Replacements		\$66,960

PROJECTED REPLACEMENTS

Item	2031 - YEAR 8	\$	Item	2032 - YEAR 9	\$
23	Site light, standard single head	\$10,750	10	Asphalt pavement, seal coat Chiswick Park	\$8,243
			57	Tennis court, net	\$375
Total Scheduled Replacements		\$10,750	Total Scheduled Replacements		\$8,618

Item	2033 - YEAR 10	\$	Item	2034 - YEAR 11	\$
1	Entrance monument, composite sign	\$7,280	55	Tennis court, color coat (3 coats)	\$8,640
6	Asphalt pavement, seal coat, Clubhouse Parking	\$2,233	61	Tot lot surfacing, wood mulch (3")	\$1,200
8	Asphalt pavement, seal coat Highgate Green	\$8,712	74	Flooring, carpet	\$1,877
11	Asphalt pavement, mill and overlay Hatton Cross	\$70,273	78	Furnishings (allowance)	\$3,500
12	Asphalt pavement, seal coat Hatton Cross	\$6,310	79	Heat pump, air to air	\$7,500
14	Asphalt pavement, seal coat Barons Court	\$9,609			
16	Asphalt pavement, seal coat Tower Hill	\$10,098			
19	Concrete flatwork exposed aggregate (6% allowance)	\$16,275			
21	Fence, vinyl board, common areas	\$1,148			
35	Trash grate and outfall covers	\$2,500			
41	Pool cover, safety mesh	\$1,500			
42	Pool pump	\$4,150			
43	Pool filter	\$780			
44	Pool chemical chlorination system	\$4,200			
49	Wading pool cover, safety mesh	\$94			
50	Wading pool pump	\$830			
51	Wading pool filter	\$780			
52	Pool furniture (allowance)	\$2,000			
58	Tennis court fence, galvanized chain link	\$10,332			
60	Gazebo roofing (Highgate Green)	\$2,576			
68	Deck sealing	\$12,000			
71	Door, double	\$2,400			
76	Kitchen, remodel (allowance)	\$6,800			
77	Restroom, renovate (allowance)	\$9,200			
82	Water heater, electric	\$1,300			
Total Scheduled Replacements		\$193,381	Total Scheduled Replacements		\$22,717

PROJECTED REPLACEMENTS

Item	2035 - YEAR 12	\$
4	Asphalt pavement, seal coat Sloan Square	\$5,544
13	Asphalt pavement, mill and overlay Barons Court	\$107,009
31	Stormwater management (10% allowance)	\$10,000
54	Tennis court, asphalt overlay	\$41,760
56	Tennis court, post and footings	\$1,600
66	Deck, composite decking	\$4,108
67	Deck/Balcony, vinyl railing	\$1,584
69	Windows	\$2,327
Total Scheduled Replacements		\$173,931

Item	2036 - YEAR 13	\$
9	Asphalt pavement, mill and overlay Chiswick Park	\$91,794
63	Roofing, asphalt shingles	\$7,650
Total Scheduled Replacements		\$99,444

Item	2037 - YEAR 14	\$
7	Asphalt pavement, mill and overlay Highgate Green	\$97,020
10	Asphalt pavement, seal coat Chiswick Park	\$8,243
22	Fence, PTL, wood stockade	\$1,021
57	Tennis court, net	\$375
83	Wall mount water fountain	\$1,700
Total Scheduled Replacements		\$108,359

Item	2038 - YEAR 15	\$
6	Asphalt pavement, seal coat, Clubhouse Parking	\$2,233
8	Asphalt pavement, seal coat Highgate Green	\$8,712
12	Asphalt pavement, seal coat Hatton Cross	\$6,310
14	Asphalt pavement, seal coat Barons Court	\$9,609
16	Asphalt pavement, seal coat Tower Hill	\$10,098
26	Flood light, building mounted	\$840
28	Flagpole	\$3,500
29	Irrigation, controller	\$1,250
30	Concrete drainage ditches (6% allowance)	\$3,347
36	Swimming pool, structure	\$103,860
37	Swimming pool, whitecoat	\$7,039
38	Swimming pool, waterline tile (6x6)	\$1,613
39	Swimming pool coping, precast concrete	\$4,425
40	Pool deck, concrete (10% allowance)	\$6,670
45	Wading pool, structure	\$6,480
46	Wading pool, whitecoat	\$439
47	Wading pool, waterline tile	\$323
48	Wading pool coping, precast concrete	\$885
52	Pool furniture (allowance)	\$2,000
68	Deck sealing	\$12,000
72	Interior door and frame, wood, paint grade	\$3,600
73	Flooring, ceramic tile	\$9,263
75	Interior lighting, general (allowance)	\$1,000
80	Building piping, allowance	\$3,100
Total Scheduled Replacements		\$208,595

PROJECTED REPLACEMENTS

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PROJECTED REPLACEMENTS

Item	2043 - YEAR 20	\$
6	Asphalt pavement, seal coat, Clubhouse Parking	\$2,233
8	Asphalt pavement, seal coat Highgate Green	\$8,712
12	Asphalt pavement, seal coat Hatton Cross	\$6,310
14	Asphalt pavement, seal coat Barons Court	\$9,609
15	Asphalt pavement, mill and overlay Tower Hill	\$112,455
16	Asphalt pavement, seal coat Tower Hill	\$10,098
24	Site light, pole	\$16,500
32	Stormwater pond dredging large pond (33% allowance)	\$31,725
33	Stormwater pond dredging small pond (33% allowance)	\$13,575
52	Pool furniture (allowance)	\$2,000
62	Tot lot, play structure, platforms, slides and swings	\$15,040
65	Deck, structure PTL	\$4,551
68	Deck sealing	\$12,000
81	Electric panels and breakers 120 / 240 volt	\$3,200
Total Scheduled Replacements		\$248,009

Item	2044 - YEAR 21	\$
55	Tennis court, color coat (3 coats)	\$8,640
61	Tot lot surfacing, wood mulch (3")	\$1,200
74	Flooring, carpet	\$1,877
78	Furnishings (allowance)	\$3,500
Total Scheduled Replacements		\$15,217

Item	2045 - YEAR 22	\$
4	Asphalt pavement, seal coat Sloan Square	\$5,544
19	Concrete flatwork exposed aggregate (6% allowance)	\$16,275
31	Stormwater management (10% allowance)	\$10,000
41	Pool cover, safety mesh	\$1,500
49	Wading pool cover, safety mesh	\$94
84	Golf Cart	\$9,000
Total Scheduled Replacements		\$42,413

Item	2046 - YEAR 23	\$
No Scheduled Replacements		

PROJECTED REPLACEMENTS

Item	2047 - YEAR 24	\$	Item	2048 - YEAR 25	\$
10	Asphalt pavement, seal coat Chiswick Park	\$8,243	5	Asphalt pavement, Clubhouse Parking	\$24,872
17	Concrete curb and gutter, barrier (6% allowance)	\$23,075	6	Asphalt pavement, seal coat, Clubhouse Parking	\$2,233
18	Concrete flatwork Clubhouse (6% allowance)	\$814	8	Asphalt pavement, seal coat Highgate Green	\$8,712
57	Tennis court, net	\$375	12	Asphalt pavement, seal coat Hatton Cross	\$6,310
			14	Asphalt pavement, seal coat Barons Court	\$9,609
			16	Asphalt pavement, seal coat Tower Hill	\$10,098
			26	Flood light, building mounted	\$840
			29	Irrigation, controller	\$1,250
			30	Concrete drainage ditches (6% allowance)	\$3,347
			37	Swimming pool, whitecoat	\$7,039
			38	Swimming pool, waterline tile (6x6)	\$1,613
			40	Pool deck, concrete (10% allowance)	\$6,670
			42	Pool pump	\$4,150
			43	Pool filter	\$780
			44	Pool chemical chlorination system	\$4,200
			46	Wading pool, whitecoat	\$439
			47	Wading pool, waterline tile	\$323
			50	Wading pool pump	\$830
			51	Wading pool filter	\$780
			52	Pool furniture (allowance)	\$2,000
			53	Pool fence aluminum with 2 rails and pickets	\$10,774
			59	Gazebo structure (Highgate Green)	\$30,000
			64	Siding and trim, composite hardboard	\$10,557
			68	Deck sealing	\$12,000
			82	Water heater, electric	\$1,300
Total Scheduled Replacements		\$32,506	Total Scheduled Replacements		\$160,726
Item	2049 - YEAR 26	\$	Item	2050 - YEAR 27	\$
55	Tennis court, color coat (3 coats)	\$8,640	3	Asphalt pavement, mill and overlay Sloan Square	\$61,740
61	Tot lot surfacing, wood mulch (3")	\$1,200	4	Asphalt pavement, seal coat Sloan Square	\$5,544
79	Heat pump, air to air	\$7,500	25	Landscape light	\$1,500
Total Scheduled Replacements		\$17,340	Total Scheduled Replacements		\$68,784

PROJECTED REPLACEMENTS

Item	2051 - YEAR 28	\$
2	Signs, other	\$3,010
19	Concrete flatwork exposed aggregate (6% allowance)	\$16,275
23	Site light, standard single head	\$10,750
Total Scheduled Replacements		\$30,035

Item	2052 - YEAR 29	\$
10	Asphalt pavement, seal coat Chiswick Park	\$8,243
57	Tennis court, net	\$375
Total Scheduled Replacements		\$8,618

Item	2053 - YEAR 30	\$
6	Asphalt pavement, seal coat, Clubhouse Parking	\$2,233
8	Asphalt pavement, seal coat Highgate Green	\$8,712
11	Asphalt pavement, mill and overlay Hatton Cross	\$70,273
12	Asphalt pavement, seal coat Hatton Cross	\$6,310
14	Asphalt pavement, seal coat Barons Court	\$9,609
16	Asphalt pavement, seal coat Tower Hill	\$10,098
17	Concrete curb and gutter, barrier (6% allowance)	\$23,075
18	Concrete flatwork Clubhouse (6% allowance)	\$814
35	Trash grate and outfall covers	\$2,500
52	Pool furniture (allowance)	\$2,000
68	Deck sealing	\$12,000
77	Restroom, renovate (allowance)	\$9,200
Total Scheduled Replacements		\$156,825

Item	2054 - YEAR 31	\$
55	Tennis court, color coat (3 coats)	\$8,640
61	Tot lot surfacing, wood mulch (3")	\$1,200
74	Flooring, carpet	\$1,877
76	Kitchen, remodel (allowance)	\$6,800
78	Furnishings (allowance)	\$3,500
Total Scheduled Replacements		\$22,017

PROJECTED REPLACEMENTS

Item	2055 - YEAR 32	\$
4	Asphalt pavement, seal coat Sloan Square	\$5,544
13	Asphalt pavement, mill and overlay Barons Court	\$107,009
31	Stormwater management (10% allowance)	\$10,000
54	Tennis court, asphalt overlay	\$41,760
56	Tennis court, post and footings	\$1,600
70	Door, single	\$3,720
Total Scheduled Replacements		\$169,633

Item	2056 - YEAR 33	\$
9	Asphalt pavement, mill and overlay Chiswick Park	\$91,794
Total Scheduled Replacements		\$91,794

Item	2057 - YEAR 34	\$	Item	2058 - YEAR 35	\$	
7	Asphalt pavement, mill and overlay Highgate Green	\$97,020	1	Entrance monument, composite sign	\$7,280	
10	Asphalt pavement, seal coat Chiswick Park	\$8,243	6	Asphalt pavement, seal coat, Clubhouse Parking	\$2,233	
19	Concrete flatwork exposed aggregate (6% allowance)	\$16,275	8	Asphalt pavement, seal coat Highgate Green	\$8,712	
22	Fence, PTL, wood stockade	\$1,021	12	Asphalt pavement, seal coat Hatton Cross	\$6,310	
41	Pool cover, safety mesh	\$1,500	14	Asphalt pavement, seal coat Barons Court	\$9,609	
49	Wading pool cover, safety mesh	\$94	16	Asphalt pavement, seal coat Tower Hill	\$10,098	
57	Tennis court, net	\$375	21	Fence, vinyl board, common areas	\$1,148	
			26	Flood light, building mounted	\$840	
			29	Irrigation, controller	\$1,250	
			30	Concrete drainage ditches (6% allowance)	\$3,347	
			37	Swimming pool, whitecoat	\$7,039	
			38	Swimming pool, waterline tile (6x6)	\$1,613	
			39	Swimming pool coping, precast concrete	\$4,425	
			40	Pool deck, concrete (10% allowance)	\$6,670	
			46	Wading pool, whitecoat	\$439	
			47	Wading pool, waterline tile	\$323	
			48	Wading pool coping, precast concrete	\$885	
			52	Pool furniture (allowance)	\$2,000	
			62	Tot lot, play structure, platforms, slides and swings	\$15,040	
			68	Deck sealing	\$12,000	
Total Scheduled Replacements			\$124,527	Total Scheduled Replacements		\$101,261

PROJECTED REPLACEMENTS

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SECTION D - CONDITION ASSESSMENT

General Comments. Miller+Dodson Associates conducted a Reserve Study at Longhill Gate Homeowners Association, Inc. in October 2022. Longhill Gate Homeowners Association, Inc. 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.

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

General Condition Statements.

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

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

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

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

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

SITE ITEMS

Entry Monument and Signage. The Association maintains an entry monument with wood posts and a synthetic sign as well as other neighborhood street signs. These are in good condition. Other small miscellaneous signs are not considered in this study and should be replaced using other funds.



Asphalt Pavement. The Association is responsible for the roadways and clubhouse parking areas within the community. Other roadways (Longhill) are maintained by the City, County, or other municipality. In general, the Association's asphalt pavements are in varying conditions from good to poor. We understand Tower Hill will be the next road asphalt replaced. We have included funding for asphalt replacement on an incremental basis according to the current road conditions.



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 the bearing soils beneath. Over time, water will erode the base and accelerate the deterioration of the asphalt pavement. If cracks extend to the base and bearing materials, remove the damaged areas, and replace defective materials. As a part of normal maintenance, clean and fill all other cracks.
- **Alligatoring.** There are multiple locations where the asphalt has developed a pattern of cracking known as alligatoring. The primary cause of alligatoring is an unstable base. Once these cracks extend through the asphalt, they will allow water to penetrate to the base, accelerating the rate of deterioration, and eventually leading to potholes. The only solution is to remove the defective asphalt, compact the base, and install new base materials and asphalt.

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

As a rule of thumb, asphalt should be overlaid when approximately 5% of the surface area is cracked or otherwise deteriorated. The normal service life of asphalt pavement is typically 18 to 20 years.

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

- **Cleaning.** Long-term exposure to oil or gas breaks down asphalt. Because this asphalt pavement is generally not used for long-term parking, it is unlikely that frequent cleaning will be necessary. When necessary, spill areas should be cleaned or patched if deterioration has penetrated the asphalt. This is a maintenance activity, and we have assumed that it will not be funded from Reserves.
- **Crack Repair.** All cracks should be repaired with an appropriate compound to prevent water infiltration through the asphalt into the base. This repair should be done annually. Crack repair is normally considered a maintenance activity and is not funded 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 product is paint. They coat the surface of the asphalt, and they are minimally effective. However, the newer coating materials, such as those from Total Asphalt Management, Asphalt Restoration Technologies, Inc., and others, are penetrating. They are engineered, so to speak, to 're-moisturize' the pavement. Asphalt pavement is intended to be flexible. Over time, the volatile chemicals in the pavement dry, the pavement becomes brittle, and degradation follows in the forms of cracking and potholes. Re-moisturizing the pavement can return its flexibility and extend the life of the pavement.

Concrete Work. The concrete work includes the community curb and gutter and sidewalks. The clubhouse and pool flatwork are covered in the recreational section of this report. We have modeled for curb replacement when the asphalt pavement is overlaid. The overall condition of the concrete work is good. Some cracking was noted.



The standards we use for recommending replacement are as follows:

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

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

Fencing. The Association maintains various types of fencing which appears to be in good condition. Fencing systems have a large number of configurations and finishes that can usually be repaired as a maintenance activity by replacing individual components as they become damaged or weathered.



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

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.

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

Aluminum 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.

Chain link fencing can have a useful life of 40 years or more. Periodic weed control may be required to protect and maintain the fence.

Site Lighting. The Association is responsible for the operation of the site lighting. This includes pole lights as well as ground and wall mounted lighting. The lights were not on at the time of our site visit, but we understand they remain in good operating condition.

This study assumes the 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.



Additionally, new technology such as LED and LIFI, among others, is considered. The Association should consider factors such as environmental sustainability, longevity, and cost when they look at the replacement of their lighting.

Mailboxes. Cluster mailboxes are located throughout the community and are in good condition.



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.

Underground and above ground utilities. The Association is responsible for the underground and above ground utility maintenance and replacement, including surface water control ditches and piping.



Engineering drawings were not used in the determination of these components. Instead, we have provided an estimate of the approximate replacement costs based on our experience with other facilities of similar size and configuration. The inspection and evaluation of underground lines and structures are beyond the scope of work for this study.

Stormwater Ponds. The community is served by two stormwater (BMP) ponds which appear to be in good condition.



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

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

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

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

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

Based on our understanding, we recommend the following:

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

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

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

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

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

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

Minimum Inspection Checklist for Ponds:

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

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

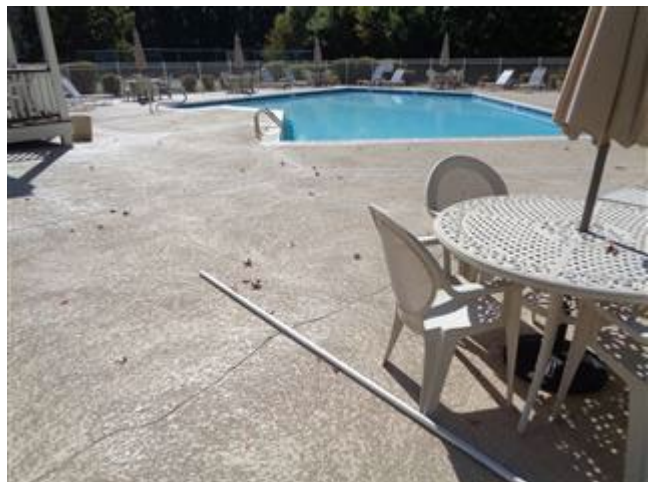
Please note that the periodic removal of overgrown vegetation from the pond is considered a maintenance activity and has not been reserved for or included in this study.

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

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

RECREATION ITEMS

Swimming Pool. The community operates an outdoor pool and wading pool of concrete construction. The pools appeared to be in good condition. We did note some cracking in the concrete pool decking.





- Pool Shell. The shell for the swimming pool is in good condition.
- Pool Deck. The pool has a concrete deck. The overall condition of the deck is good with some cracking but no major settlement or trip hazards.
- Whitecoat. The pool whitecoat is in good condition. We have assumed a service life of eight to ten years for the pool whitecoat.
- Waterline Tile. The waterline tile is in good condition. We have assumed that the waterline tile will be replaced or restored when the pool is whitecoated.
- Coping. The pool is edged with masonry concrete coping. The coping is in good condition.
- Pump and Filter System. The pump and filter system is in good operating condition.
- Pool Fence. The swimming pool is enclosed by a metal fence that is in good condition.
- Pool furniture. The furniture appears to be in good condition. It has been re-strapped or replaced incrementally.

Tennis Court. The community maintains a single tennis court. The overall condition of the court is good. We understand it was resurfaced recently but we did note some surface cracking. These should be sealed to prevent water penetration and further deterioration.

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 net posts will be replaced when the asphalt pavement is replaced.



Gazebo. The Association maintains a large wood gazebo with an asphalt shingle roof in the Cheswick Park area. This remains in good condition.



Tot Lot. The community maintains one tot lot. This includes play structures and a wood chip surface. The facility is in generally good condition with minor wear in relation to age. The wood chip surface is displaced or missing in spots.



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

Information 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 website at www.mdareserves.com/resources/links/recreation.

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

EXTERIOR ITEMS

Building Roofing. The clubhouse and attached shed dimensional asphalt shingle roofing are in good condition with no reported leaking or other problems.



Asphalt shingle roofs can have a useful life of 20 to 40 years depending on the weight and quality of the shingle. Weathered, curled, and missing shingles are all indications that the shingles may be nearing the end of their useful life.

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

Siding and Trim. The clubhouse exterior siding, wood trim, windows, and doors are in good condition with the exception of the composition siding on the wall beside the HVAC unit. Deterioration was noted there.



Wooden exterior materials are typically repaired as needed during normal painting cycles. Painting cycles for wooden exteriors vary between five and ten years depending on the grade of wood and the quality of the materials and finish work. In this study, we have modeled for an incremental wood material replacement to coincide with the painting cycle of the facility.

Hardboard materials are constructed from wood fiber, wax, and resins that are compressed under heat and pressure. Many of these types of materials have a history of problems and premature failure. As the hardboard material ages, some of the compression is relieved, resulting in localized swelling. Water can enter these swollen areas, accelerating the degradation process, and resulting in delamination, and blistering. Once damaged, the hardboard material cannot be repaired. Additionally, the Association may discover that there is significant damage to the underlying sheathing and building structure if the damaged hardboard has allowed moisture to gain access to these underlying elements over a long period. Structural repairs and latent damage are not accounted for in this study.

As an alternative to high-maintenance materials, the Association may want to consider replacements using low maintenance synthetic or cementitious materials.

Deck. The wood deck and railing at the clubhouse is in good condition.

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



INTERIOR ITEMS

Clubhouse interior The clubhouse interior is in good condition. Some wear is apparent but is consistent with age and use. The sauna is not in use and is not intended to be returned to use per BOD. We have included funding for refurbishments on an incremental basis.



BUILDING SYSTEMS

Mechanical The heating ventilation and air conditioning (HVAC) of the facility are reported to be in good operating condition. The heat pump was replaced in 2019. Detailed inspection and testing of these systems is beyond the scope of this study. The water heater, electrical and plumbing are all in good condition at this time.



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

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

End of Condition Assessment

1. COMMON INTEREST DEVELOPMENTS - AN OVERVIEW

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

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

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

2. REPLACEMENT RESERVE STUDY

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

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

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

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

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

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

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

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

3. METHODS OF ANALYSIS

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

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

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

4. REPLACEMENT RESERVE STUDY DATA

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

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

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

5. DEFINITIONS

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

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

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

Component Analysis. See Component Method, above.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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What is a Reserve Study?
Who are we?



<https://youtu.be/m4BcOE6q3Aw>

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



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

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



<https://youtu.be/pYSMZ013VjQ>

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



<https://youtu.be/Qx8WHB9Cgnc>

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



<https://youtu.be/ZfBoAEhtf3E>

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



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

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



<https://youtu.be/aARD1B1Oa3o>

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



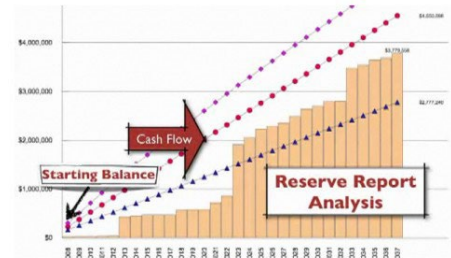
<https://youtu.be/diZfM1lyJYU>

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



<https://youtu.be/qCeVJhFf9ag>

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



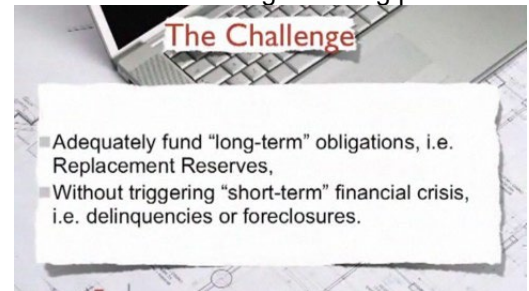
<https://youtu.be/SePdwVDvHWI>

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



<https://youtu.be/W8CDLwRlv68>

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



<https://youtu.be/hlxV9X1tlcA>

