# Hearthstone of Ellicott Mills Condominium, Inc.

Ellicott City, MD • July 28, 2022







Reserve Advisors, LLC 735 N. Water Street, Suite 175 Milwaukee, WI 53202

Hearthstone of Ellicott Mills Condominium, Inc. Ellicott City, Maryland

Dear Board of Directors of Hearthstone of Ellicott Mills Condominium, Inc.:

At the direction of the Board that recognizes the need for proper reserve planning, we have conducted a *Full Reserve Study* of Hearthstone of Ellicott Mills Condominium, Inc. in Ellicott City, Maryland and submit our findings in this report. The effective date of this study is the date of our visual, noninvasive inspection, July 28, 2022.

This *Full Reserve Study* exceeds the Association of Professional Reserve Analysts (APRA) standards fulfilling the requirements of a "Level I Full Reserve Study."

An ongoing review by the Board and an Update of this Reserve Study are necessary to ensure an equitable funding plan since a Reserve Study is a snapshot in time. We recommend the Board budget for an Update to this Reserve Study in two- to three-years. We look forward to continuing to help Hearthstone of Ellicott Mills Condominium, Inc. plan for a successful future.

As part of our long-term thinking and everyday commitment to our clients, we are available to answer any questions you may have regarding this study.

Respectfully submitted on February 13, 2023 by

Reserve Advisors, LLC

Visual Inspection and Report by: Jon R. Walker, RS<sup>1</sup> and Tim C. Yachnik Review by: Alan M. Ebert, RS, PRA<sup>2</sup>, Director of Quality Assurance



<sup>1</sup> RS (Reserve Specialist) is the reserve provider professional designation of the Community Associations Institute (CAI) representing America's more than 300,000 condominium, cooperative and homeowners associations.

<sup>2</sup> PRA (Professional Reserve Analyst) is the professional designation of the Association of Professional Reserve Analysts. Learn more about APRA at http://www.apra-usa.com.







Long-term thinking. Everyday commitment.



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# **1.RESERVE STUDY EXECUTIVE SUMMARY**

**Client:** Hearthstone of Ellicott Mills Condominium, Inc. (Hearthstone of Ellicott Mills) **Location:** Ellicott City, Maryland **Reference:** 220018

**Property Basics:** Hearthstone of Ellicott Mills Condominium, Inc. is a townhome style development which consists of 35 units in eight buildings. The community was built in 2004.

Reserve Components Identified: 24 Reserve Components.

Inspection Date: July 28, 2022.

**Funding Goal:** The Funding Goal of this Reserve Study is to maintain reserves above an adequate, not excessive threshold during one or more years of significant expenditures. Our recommended Funding Plan recognizes this threshold funding year in 2029 due to completion of the replacement of the asphalt shingle roofs, gutters and downspouts. In addition, the **Reserve Funding Plan** recommends 2052 year end accumulated reserves of approximately \$809,300. We judge this amount of accumulated reserves in 2052 necessary to fund the likely replacement of the roofs, gutters and downspouts after 2052. Future replacement costs beyond the next 30 years for the replacement of the roofs, gutters and downspouts are likely to more than double the current cost of replacement. These future needs, although beyond the limit of the Cash Flow Analysis of this Reserve Study, are reflected in the amount of accumulated 2052 year end reserves.

**Methodology:** We use the Cash Flow Method to compute the Reserve Funding Plan. This method offsets future variable Reserve Expenditures with existing and future stable levels of reserve funding. Our application of this method also considers:

- Current and future local costs of replacement
- 1.3% anticipated annual rate of return on invested reserves
- 3.0% future Inflation Rate for estimating Future Replacement Costs

**Sources for** *Local* **Costs of Replacement**: Our proprietary database, historical costs and published sources, i.e., R.S. Means, Incorporated.

#### Unaudited Cash Status of Reserve Fund:

- \$432,397 as of March 31, 2022
- 2022 budgeted Reserve Contributions of \$34,860
- A potential deficit in reserves might occur by 2044 based upon continuation of the most recent annual reserve contribution of \$34,860 and the identified Reserve Expenditures.

**Project Prioritization:** We note anticipated Reserve Expenditures for the next 30 years in the **Reserve Expenditures** tables and include a **Five-Year Outlook** table following the **Reserve Funding Plan** in Section 3. We recommend the Association prioritize the following projects in the next five years based on the conditions identified:

- Inspections and capital repairs to the catch basins
- Paint finish application to the trim at each building
- Inspections and capital repairs to the exterior masonry walls
- Crack repair, patch and seal coat application to the asphalt pavement streets and parking areas



**Recommended Reserve Funding:** We recommend the following in order to achieve a stable and equitable Cash Flow Methodology Funding Plan:

- Phased increases of approximately \$4,100 from 2023 through 2025
- Inflationary increases through 2052, the limit of this study's Cash Flow Analysis
- Initial adjustment in Reserve Contributions of \$4,140 represents an average monthly increase of \$9.86 per unit owner and about a four percent (3.7%) adjustment in the 2022 total Operating Budget of \$111,920.

| Year | Reserve<br>Contributions (\$) | Reserve<br>Balances (\$) | Year | Reserve<br>Contributions (\$) | Reserve<br>Balances (\$) | Year | Reserve<br>Contributions (\$) | Reserve<br>Balances (\$) |
|------|-------------------------------|--------------------------|------|-------------------------------|--------------------------|------|-------------------------------|--------------------------|
| 2023 | 39,000                        | 451,669                  | 2033 | 59,700                        | 260,515                  | 2043 | 80,200                        | 742,632                  |
| 2024 | 43,100                        | 500,921                  | 2034 | 61,500                        | 325,801                  | 2044 | 82,600                        | 618,750                  |
| 2025 | 47,200                        | 554,940                  | 2035 | 63,300                        | 384,451                  | 2045 | 85,100                        | 489,274                  |
| 2026 | 48,600                        | 611,070                  | 2036 | 65,200                        | 455,073                  | 2046 | 87,700                        | 569,582                  |
| 2027 | 50,100                        | 554,614                  | 2037 | 67,200                        | 498,911                  | 2047 | 90,300                        | 442,466                  |
| 2028 | 51,600                        | 310,467                  | 2038 | 69,200                        | 527,966                  | 2048 | 93,000                        | 478,550                  |
| 2029 | 53,100                        | 96,413                   | 2039 | 71,300                        | 484,335                  | 2049 | 95,800                        | 526,094                  |
| 2030 | 54,700                        | 138,696                  | 2040 | 73,400                        | 564,508                  | 2050 | 98,700                        | 632,275                  |
| 2031 | 56,300                        | 188,905                  | 2041 | 75,600                        | 647,938                  | 2051 | 101,700                       | 727,936                  |
| 2032 | 58,000                        | 231,139                  | 2042 | 77,900                        | 709,772                  | 2052 | 104,800                       | 809,289                  |

# Hearthstone of Ellicott Mills

Recommended Reserve Funding Table and Graph





# 2.RESERVE STUDY REPORT

At the direction of the Board that recognizes the need for proper reserve planning, we have conducted a *Full Reserve Study* of

#### Hearthstone of Ellicott Mills Condominium, Inc.

#### Ellicott City, Maryland

and submit our findings in this report. The effective date of this study is the date of our visual, noninvasive inspection, July 28, 2022.

We present our findings and recommendations in the following report sections and spreadsheets:

- Identification of Property Segregates all property into several areas of responsibility for repair or replacement
- **Reserve Expenditures** Identifies reserve components and related quantities, useful lives, remaining useful lives and future reserve expenditures during the next 30 years
- Reserve Funding Plan Presents the recommended Reserve Contributions and year-end Reserve Balances for the next 30 years
- **Five-Year Outlook** Identifies reserve components and anticipated reserve expenditures during the first five years
- **Reserve Component Detail -** Describes the reserve components, includes photographic documentation of the condition of various property elements, describes our recommendations for repairs or replacement, and includes detailed solutions and procedures for replacements for the benefit of current and future board members
- **Methodology** Lists the national standards, methods and procedures used to develop the Reserve Study
- **Definitions** Contains definitions of terms used in the Reserve Study, consistent with national standards
- **Professional Service Conditions** Describes Assumptions and Professional Service Conditions
- Credentials and Resources



# **IDENTIFICATION OF PROPERTY**



Our investigation includes Reserve Components or property elements as set forth in your Declaration. The Expenditure tables in Section 3 list the elements contained in this study. Our analysis begins by segregating the property elements into several areas of responsibility for repair and replacement.

Our process of identification helps assure that future boards and the management team understand whether reserves, the operating budget or Unit Owners fund certain replacements and assists in preparation of the annual budget. We derive these segregated classes of property from our review of the information provided by the Association and through conversations with Management and the Board. These classes of property include:

- Reserve Components
- Long-Lived Property Elements
- Operating Budget Funded Repairs and Replacements
- Property Maintained by Unit Owners
- Property Maintained by Others

We advise the Board conduct an annual review of these classes of property to confirm its policy concerning the manner of funding, i.e., from reserves or the operating budget. The Reserve Study identifies Reserve Components as set forth in your Declaration or which were identified as part of your request for proposed services. Reserve Components are defined by CAI as property elements with:



- Hearthstone of Ellicott Mills responsibility
- Limited useful life expectancies
- Predictable remaining useful life expectancies
- Replacement cost above a minimum threshold

Long-Lived Property Elements may not have predictable Remaining Useful Lives or their replacement may occur beyond the 30-year scope of the study. The operating budget should fund infrequent repairs. Funding untimely or unexpected replacements from reserves will necessitate increases to Reserve Contributions. Periodic updates of this Reserve Study will help determine the merits of adjusting the Reserve Funding Plan. We identify the following Long-Lived Property Elements as excluded from the 30-year Reserve Expenditures at this time.

- Electrical Systems, Common
- Foundations
- Pipes, Common, Clubhouse
- Pipes, Subsurface Utilities
- Structural Frames

The operating budget provides money for the repair and replacement of certain Reserve Components. The Association may develop independent criteria for use of operating and reserve funds. For purposes of calculating appropriate Reserve Contributions, we identify the following list of Operating Budget Funded Repairs and Replacements:

- General Maintenance to the Common Elements
- Expenditures less than \$2,500 (These relatively minor expenditures have a limited effect on the recommended Reserve Contributions.)
- Catch Basins, Landscape
- Furnishings, Clubhouse
- HVAC, Through-Wall Unit, Clubhouse
- Kitchen Appliances, Clubhouse, Interim Replacements
- Landscape, General Maintenance
- Light Fixtures, Exterior, Clubhouse
- Light Fixtures, Interior, Clubhouse
- Paint Finishes, Touch Up
- Signage, Street Identification and Traffic Management
- Stormwater Management, Rip Rap Interim Replenishment
- Water Heater, Clubhouse
- Other Repairs normally funded through the Operating Budget





Signage

Landscape catch basin

Certain items have been designated as the responsibility of the unit owners to repair or replace at their cost. Property Maintained by Unit Owners, including items billed back to Unit Owners, relates to unit:

- Decks and Rear Patios Including Roof Coverings Added by Unit Owners
- Electrical Systems (Including Circuit Protection Panels)
- Exterior Light Fixtures
- Heating, Ventilating and Air Conditioning (HVAC) Units
- Interiors
- Pipes (Within Units)
- Privacy Fences
- Railings, Front Entrances
- Windows and Doors Including Garage Doors and Operators





Privacy fence

Deck

Certain items have been designated as the responsibility of others to repair or replace. Property Maintained by Others relates to:

- Light Poles and Fixtures (Baltimore Gas and Electric)
- Sidewalks, Along Waterloo Road (Municipality)



Light pole and fixture



# **3.RESERVE EXPENDITURES and FUNDING PLAN**

The tables following this introduction present:

#### **Reserve Expenditures**

- Line item numbers
- Total quantities
- Quantities replaced per phase (in a single year)
- Reserve component inventory
- Estimated first year of event (i.e., replacement, application, etc.)
- Life analysis showing
  - useful life
  - remaining useful life
- 2022 local cost of replacement
  - Per unit
  - Per phase
  - Replacement of total quantity
- Percentage of future expenditures anticipated during the next 30 years
- Schedule of estimated future costs for each reserve component including inflation

#### **Reserve Funding Plan**

- Reserves at the beginning of each year
- Total recommended reserve contributions
- Estimated interest earned from invested reserves
- · Anticipated expenditures by year
- Anticipated reserves at year end
- Predicted reserves based on current funding level

#### **Five-Year Outlook**

- Line item numbers
- Reserve component inventory of only the expenditures anticipated to occur within the first five years
- Schedule of estimated future costs for each reserve component anticipated to occur within the first five years

The purpose of a Reserve Study is to provide an opinion of reasonable annual Reserve Contributions. Prediction of exact timing and costs of minor Reserve Expenditures typically will not significantly affect the 30-year cash flow analysis. Adjustments to the times and/or costs of expenditures may not always result in an adjustment in the recommended Reserve Contributions.

Financial statements prepared by your association, by you or others might rely in part on information contained in this section. For your convenience, we have provided an electronic data file containing the tables of **Reserve Expenditures** and **Reserve Funding Plan**.

#### **RESERVE EXPENDITURES**

#### Hearthstone of Ellicott Mills Condominium, Inc.

Explanatory Notes:

1) 3.0% is the estimated Inflation Rate for estimating Future Replacement Costs. 2) FY2022 is Fiscal Year beginning January 1, 2022 and ending December 31, 2022.

Ellicott City, Maryland Estimated Life Analysis, Costs, \$ Percentage Total Per Phase Total of Future RUL = 0 Line Unit 1st Year of Years Per Phase 1 2 3 4 5 6 Item Quantity Quantity Units **Reserve Component Inventory** Event Useful Remaining (2022) (2022) (2022) Expenditures FY2022 2023 2024 2025 2026 2027 2028 20 Exterior Building Elements 1.240 4,050 2,025 Linear Feet Gutters and Downspouts, Aluminum, Phased 2028 20 to 25 6 to 7 8.50 17,213 34,425 2.1% 20,553 21 211,944 1.280 710 355 Squares Roofs, Asphalt Shingles, Phased 2028 20 to 25 6 to 7 500.00 177,500 355,000 22.1% 218 1 460 40 40 Fach Roofs, Metal 2039 to 40 17 1,500.00 60.000 60.000 5.1% 1.560 159 159 Pairs Shutters, Vinyl 2029 to 20 7 155.00 24,645 24,645 4.4% 1.820 2,100 2,100 Square Feet Walls, Masonry, Inspections and Repairs 2023 8 to 12 2.00 4,200 4,200 0.9% 4,326 1 7.00 112,350 1.860 32,100 16,050 Square Feet Walls, Siding, Vinyl, Phased 2044 to 40 22 to 23 224,700 22.5% 1.905 1 Allowance Walls Trim Paint Finishes 2023 1 20 000 00 9.5% 20 600 23.881 4 to 6 20,000 20,000 1.980 160 160 Square Feet Windows and Doors, Common, Clubhouse 2039 to 35 17 45.00 7,200 7,200 0.6% Interior Clubhouse Elements 2.200 70 70 Square Yards Floor Coverings, Carpet 8 to 12 4,550 1.2% 5,433 2028 6 65.00 4.550 2.520 22,687 1 Allowance Kitchen, Renovation 2028 19.000.00 19.000 19,000 1.2% 1 to 25 6 2.800 2,300 2,300 Square Feet Paint Finishes 2028 8 to 12 6 2.00 4,600 4,600 1.2% 5,493 2.899 1 Allowance Rest Room, Fixtures 2028 to 20 6 2,500.00 2,500 2,500 0.2% 2,985 Property Site Elements 4.020 3,700 3,700 Square Yards Asphalt Pavement, Crack Repair, Patch, and Seal Coat 2023 3 to 5 1 1.70 6,290 6,290 3.0% 4,500 4.040 3,350 3,350 Square Yards Asphalt Pavement, Mill and Overlay, Streets 2027 15 to 20 16.50 55,275 55,275 9.2% 64,079 5 4.080 350 350 Square Yards Asphalt Pavement, Walking Path, Total Replacement 10,752 2027 15 to 20 26.50 9,275 9,275 1.6% 5 4.100 9 9 Each Catch Basins, Inspections and Capital Repairs (2022 is Completed, 2023 is Planned) 2022 8,550 **2.0%** 14,500 7,200 15 to 20 0 950.00 8.550 4.110 2,400 420 Linear Feet Concrete Curbs and Gutters, Partial 2027 to 65 5 to 30+ 14,910 85,200 2.5% 17,285 35.50 4.120 7,600 380 Square Feet Concrete Driveways, Partial 2027 to 65 5 to 30+ 15.00 5,700 114,000 3.0% 6,608 4.140 6,800 455 Square Feet Concrete Sidewalks, Partial (2022 is Completed Repairs) 2022 to 65 0 to 30+ 10.00 4,550 68,000 **2.7%** 4,777 5,275 4.170 1,960 260 Square Feet Concrete Stairs and Stoops, Partial 2027 to 65 5 to 30+ 1.3% 6.028 20.00 5 200 39,200 1 Allowance 4.330 2030 5.000.00 5.000 5.000 0.3% 1 Gates to 25 8 Mailbox Stations 4.600 3 3 Each 2030 to 25 8 2,000.00 6,000 6,000 0.4% 4.800 1 Allowance Signage, Entrance Monument, Renovation 2028 15 to 20 7,000.00 7,000 7,000 1.2% 8,358 6 4.805 1 Allowance Stormwater Management, Inspections and Capital Repairs (Incl. Dredging and Spillway) 2027 3 to 5 5 3,500.00 3,500 3,500 1.9% 4,057

Anticipated Expenditures, By Year (\$1,944,775 over 30 years)

19,277 36,626 0 0 0 114,084 301,334 269

| 7<br>)29 | 8<br>2030 | 9<br>2031 | 10<br>2032 | 11<br>2033 | 12<br>2034 | 13<br>2035 | 14<br>2036 | 15<br>2037 |
|----------|-----------|-----------|------------|------------|------------|------------|------------|------------|
| 160      |           |           |            |            |            |            |            |            |
| 3,303    |           |           |            |            |            |            |            |            |
| ,310     |           |           |            |            |            |            |            |            |
|          |           |           |            | 5,814      |            |            |            |            |
|          |           |           |            | 27,685     |            |            |            |            |
|          |           |           |            |            |            |            |            |            |
|          |           |           |            |            |            |            |            |            |
|          |           |           |            |            |            |            |            |            |
|          |           |           |            |            |            |            |            |            |
|          |           |           |            |            |            |            |            |            |
|          |           |           |            |            |            |            |            |            |
|          |           | 8,207     |            |            |            | 9,237      |            |            |
|          |           |           |            |            |            |            |            |            |
|          |           |           |            |            |            |            |            |            |
|          |           |           | 7 660      |            |            |            |            | 8 880      |
|          |           |           | 6,115      |            |            |            |            | 7,089      |
|          |           |           |            |            |            |            |            | 8,101      |
|          | 6,334     |           |            |            |            |            |            |            |
|          | 7,601     |           |            |            |            |            |            |            |
|          |           |           | 4,704      |            |            |            |            | 5,453      |
| ,782     | 13,935    | 8,207     | 18,479     | 33,499     | 0          | 9,237      | 0          | 29,523     |

#### **RESERVE EXPENDITURES**

#### Hearthstone of Ellicott Mills

Condominium, Inc. Ellicott City, Maryland

|       |        |       |                   | Ellicon City, Maryland   | -                       |                        |                    |           |                        |         |                         |        |         |      |      |        |        |         |         |        |         |        |        |      |        |        |
|-------|--------|-------|-------------------|--|-------------------------|------------------------|--------------------|-----------|------------------------|---------|-------------------------|--------|---------|------|------|--------|--------|---------|---------|--------|---------|--------|--------|------|--------|--------|
| Line  | Total  | Per   | Phase             |  | Estimated<br>1st Year o | l Life <i>l</i><br>f γ | Analysis,<br>'ears | Unit      | Costs, \$<br>Per Phase | Total   | Percentage<br>of Future | 16     | 17      | 18   | 19   | 20     | 21     | 22      | 23      | 24     | 25      | 26     | 27     | 28   | 29     | 30     |
| Item  | Quanti | ty Qu | antity Units      | Reserve Component Inventory  | Event                   | Useful                 | Remaining          | (2022)    | (2022)                 | (2022)  | Expenditures            | 2038   | 2039    | 2040 | 2041 | 2042   | 2043   | 2044    | 2045    | 2046   | 2047    | 2048   | 2049   | 2050 | 2051   | 2052   |
|       |        |       |                   | Exterior Building Elements   |                         |                        |                    |           |                        |         |                         |        |         |      |      |        |        |         |         |        |         |        |        |      |        |        |
| 1.240 | 4,0    | 050   | 2,025 Linear Feet | Gutters and Downspouts, Aluminum, Phased   | 2028                    | 20 to 25               | 6 to 7             | 8.50      | 17,213                 | 34,425  | 5 <b>2.1%</b>           |        |         |      |      |        |        |         |         |        |         |        |        |      |        |        |
| 1.280 | 7      | 710   | 355 Squares       | Roofs, Asphalt Shingles, Phased  | 2028                    | 20 to 25               | 6 to 7             | 500.00    | 177,500                | 355,000 | <b>22.1%</b>            |        |         |      |      |        |        |         |         |        |         |        |        |      |        |        |
| 1.460 |        | 40    | 40 Each           | Roofs, Metal   | 2039                    | to 40                  | 17                 | 1,500.00  | 60,000                 | 60,000  | 5.1%                    |        | 99,171  |      |      |        |        |         |         |        |         |        |        |      |        |        |
| 1.560 | 1      | 159   | 159 Pairs         | Shutters, Vinyl  | 2029                    | to 20                  | 7                  | 155.00    | 24,645                 | 24,645  | 5 4.4%                  |        |         |      |      |        |        |         |         |        |         |        | 54,744 |      |        |        |
| 1.820 | 2,1    | 100   | 2,100 Square Fee  | Walls, Masonry, Inspections and Repairs  | 2023                    | 8 to 12                | 1                  | 2.00      | 4,200                  | 4,200   | 0.9%                    |        |         |      |      |        | 7,813  |         |         |        |         |        |        |      |        |        |
| 1.860 | 32,1   | 100 · | 16,050 Square Fee | t Walls, Siding, Vinyl, Phased   | 2044                    | to 40                  | 22 to 23           | 7.00      | 112,350                | 224,700 | 22.5%                   |        |         |      |      |        |        | 215,274 | 221,732 |        |         |        |        |      |        |        |
| 1.905 |        | 1     | 1 Allowance       | Walls, Trim, Paint Finishes  | 2023                    | 4 to 6                 | 1                  | 20,000.00 | 20,000                 | 20,000  | <b>9.5%</b>             | 32,094 |         |      |      |        | 37,206 |         |         |        |         | 43,132 |        |      |        |        |
| 1.980 | 1      | 160   | 160 Square Fee    | t Windows and Doors, Common, Clubhouse   | 2039                    | to 35                  | 17                 | 45.00     | 7,200                  | 7,200   | 0.6%                    |        | 11,901  |      |      |        |        |         |         |        |         |        |        |      |        |        |
|       |        |       |                   |  |                         |                        |                    |           |                        |         |                         |        |         |      |      |        |        |         |         |        |         |        |        |      |        |        |
|       |        |       |                   | Interior Clubhouse Elements  |                         |                        |                    |           |                        |         |                         |        |         |      |      |        |        |         |         |        |         |        |        |      |        |        |
| 2.200 |        | 70    | 70 Square Yar     | ds Floor Coverings, Carpet   | 2028                    | 8 to 12                | 6                  | 65.00     | 4,550                  | 4,550   | 0 <b>1.2%</b>           | 7,301  |         |      |      |        |        |         |         |        |         | 9,812  |        |      |        |        |
| 2.520 |        | 1     | 1 Allowance       | Kitchen, Renovation  | 2028                    | to 25                  | 6                  | 19,000.00 | 19,000                 | 19,000  | 0 <b>1.2%</b>           |        |         |      |      |        |        |         |         |        |         |        |        |      |        |        |
| 2.800 | 2,3    | 300   | 2,300 Square Fee  | t Paint Finishes   | 2028                    | 8 to 12                | 6                  | 2.00      | 4,600                  | 4,600   | 0 <b>1.2%</b>           | 7,382  |         |      |      |        |        |         |         |        |         | 9,920  |        |      |        |        |
| 2.899 |        | 1     | 1 Allowance       | Rest Room, Fixtures  | 2028                    | to 20                  | 6                  | 2,500.00  | 2,500                  | 2,500   | 0.2%                    |        |         |      |      |        |        |         |         |        |         |        |        |      |        |        |
|       |        |       |                   |  |                         |                        |                    |           |                        |         |                         |        |         |      |      |        |        |         |         |        |         |        |        |      |        |        |
|       |        |       |                   | Property Site Elements   |                         |                        |                    |           |                        |         |                         |        |         |      |      |        |        |         |         |        |         |        |        |      |        |        |
| 4.020 | 3,7    | 700   | 3,700 Square Yar  | ds Asphalt Pavement, Crack Repair, Patch, and Seal Coat                              | 2023                    | 3 to 5                 | 1                  | 1.70      | 6,290                  | 6,290   | 3.0%                    |        | 10,396  |      |      |        | 11,701 |         |         |        |         |        |        |      | 14,823 |        |
| 4.040 | 3,3    | 350   | 3,350 Square Yar  | ds Asphalt Pavement, Mill and Overlay, Streets                                       | 2027                    | 15 to 20               | 5                  | 16.50     | 55,275                 | 55,275  | 5 <b>9.2%</b>           |        |         |      |      |        |        |         |         |        | 115,734 |        |        |      |        |        |
| 4.080 | 3      | 350   | 350 Square Yar    | ds Asphalt Pavement, Walking Path, Total Replacement                                 | 2027                    | 15 to 20               | 5                  | 26.50     | 9,275                  | 9,275   | 5 <b>1.6%</b>           |        |         |      |      |        |        |         |         |        | 19,420  |        |        |      |        |        |
| 4.100 |        | 9     | 9 Each            | Catch Basins, Inspections and Capital Repairs (2022 is Completed, 2023 is Planned)   | 2022                    | 15 to 20               | 0                  | 950.00    | 8,550                  | 8,550   | 2.0%                    |        |         |      |      |        |        |         |         |        | 17,902  |        |        |      |        |        |
| 4.110 | 2,4    | 400   | 420 Linear Feet   | Concrete Curbs and Gutters, Partial  | 2027                    | to 65                  | 5 to 30+           | 35.50     | 14,910                 | 85,200  | <b>2.5%</b>             |        |         |      |      |        |        |         |         |        | 31,218  |        |        |      |        |        |
| 4.120 | 7,6    | 600   | 380 Square Fee    | t Concrete Driveways, Partial  | 2027                    | to 65                  | 5 to 30+           | 15.00     | 5,700                  | 114,000 | 3.0%                    |        |         |      |      | 10,295 |        |         |         |        | 11,935  |        |        |      |        | 13,835 |
| 4.140 | 6,8    | 800   | 455 Square Fee    | t Concrete Sidewalks, Partial (2022 is Completed Repairs)                            | 2022                    | to 65                  | 0 to 30+           | 10.00     | 4,550                  | 68,000  | 2.7%                    |        |         |      |      | 8,218  |        |         |         |        | 9,527   |        |        |      |        | 11,044 |
| 4.170 | 1,9    | 960   | 260 Square Fee    | t Concrete Stairs and Stoops, Partial  | 2027                    | to 65                  | 5 to 30+           | 20.00     | 5,200                  | 39,200  | 0 1.3%                  |        |         |      |      |        |        |         |         |        | 10,888  |        |        |      |        |        |
| 4.330 |        | 1     | 1 Allowance       | Gates  | 2030                    | to 25                  | 8                  | 5,000.00  | 5,000                  | 5,000   | 0.3%                    |        |         |      |      |        |        |         |         |        |         |        |        |      |        |        |
| 4.600 |        | 3     | 3 Each            | Mailbox Stations   | 2030                    | to 25                  | 8                  | 2,000.00  | 6,000                  | 6,000   | 0.4%                    |        |         |      |      |        |        |         |         |        |         |        |        |      |        |        |
| 4.800 |        | 1     | 1 Allowance       | Signage, Entrance Monument, Renovation   | 2028                    | 15 to 20               | 6                  | 7,000.00  | 7,000                  | 7,000   | 1.2%                    |        |         |      |      |        |        |         |         | 14,230 |         |        |        |      |        |        |
| 4.805 |        | 1     | 1 Allowance       | Stormwater Management, Inspections and Capital Repairs (Incl. Dredging and Spillway) | 2027                    | 3 to 5                 | 5                  | 3,500.00  | 3,500                  | 3,500   | 0 1.9%                  |        |         |      |      | 6,321  |        |         |         |        | 7,328   |        |        |      |        | 8,495  |
|       |        |       |                   | Anticipated Expenditures, By Year (\$1,944,775 over 30 years)                        |                         |                        |                    |           |                        |         |                         | 46,777 | 121,468 | 0    | 0    | 24,834 | 56,720 | 215,274 | 221,732 | 14,230 | 223,952 | 62,864 | 54,744 | 0    | 14,823 | 33,374 |
|       |        |       |                   |  |                         |                        |                    |           |                        |         |                         |        |         |      |      |        |        |         |         |        |         |        |        |      |        |        |

# **RESERVE FUNDING PLAN**

| CASH FLOW ANALYSIS                                 |          |                  |                  |                  |                  |                  |                  |                  |                             |                  |                  |                  |                  |                  |                  |                  |                  |
|--|----------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Hearthstone of Ellicott Mills                      |          |                  |                  |                  |                  |                  |                  |                  |                             |                  |                  |                  |                  |                  |                  |                  |                  |
| Condominium, Inc.                                  |          | <u>lı</u>        | ndividual Rese   | erve Budgets     | & Cash Flows     | s for the Next   | <u> 30 Years</u> |                  |                             |                  |                  |                  |                  |                  |                  |                  |                  |
| Ellicott City, Maryland                            |          | FY2022           | 2023             | 2024             | 2025             | 2026             | 2027             | 2028             | 2029                        | 2030             | 2031             | 2032             | 2033             | 2034             | 2035             | 2036             | 2037             |
| Reserves at Beginning of Year                      | (Note 1) | 432,397          | 443,514          | 451,669          | 500,921          | 554,940          | 611,070          | 554,614          | 310,467                     | 96,413           | 138,696          | 188,905          | 231,139          | 260,515          | 325,801          | 384,451          | 455,073          |
| Total Recommended Reserve Contributions            | (Note 2) | 26,145           | 39,000           | 43,100           | 47,200           | 48,600           | 50,100           | 51,600           | 53,100                      | 54,700           | 56,300           | 58,000           | 59,700           | 61,500           | 63,300           | 65,200           | 67,200           |
| Estimated Interest Earned, During Year             | (Note 3) | 4,249            | 5,781            | 6,152            | 6,819            | 7,530            | 7,528            | 5,587            | 2,628                       | 1,518            | 2,116            | 2,713            | 3,175            | 3,786            | 4,587            | 5,422            | 6,161            |
| Anticipated Expenditures, By Year                  |          | (19,277)         | (36,626)         | 0                | 0                | 0                | (114,084)        | (301,334)        | (269,782)                   | (13,935)         | (8,207)          | (18,479)         | (33,499)         | 0                | (9,237)          | 0                | (29,523)         |
| Anticipated Reserves at Year End                   | -        | <u>\$443,514</u> | <u>\$451,669</u> | <u>\$500,921</u> | <u>\$554,940</u> | <u>\$611,070</u> | <u>\$554,614</u> | <u>\$310,467</u> | <u>\$96,413</u><br>(NOTE 5) | <u>\$138,696</u> | <u>\$188,905</u> | <u>\$231,139</u> | <u>\$260,515</u> | <u>\$325,801</u> | <u>\$384,451</u> | <u>\$455.073</u> | <u>\$498,911</u> |
| Predicted Reserves based on 2022 funding level of: | \$34,860 | 443,514          | 447,502          | 488,406          | 529,842          | 571,817          | 499,512          | 237,800          | 4,442                       | 25,561           | 52,720           | 69,893           | 72,171           | 108,196          | 135,392          | 172,239          | 179,850          |

| (continued)  |          | Individual Reserve Budgets & Cash Flows for the Next 30 Years, Continued |                  |                  |                  |                  |                  |                          |                  |                  |                  |                  |                  |                  |                  |                              |
|--|----------|--|------------------|------------------|------------------|------------------|------------------|--------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------------------|
|  |          | 2038   | 2039             | 2040             | 2041             | 2042             | 2043             | 2044                     | 2045             | 2046             | 2047             | 2048             | 2049             | 2050             | 2051             | 2052                         |
| Reserves at Beginning of Year                      |          | 498,911  | 527,966          | 484,335          | 564,508          | 647,938          | 709,772          | 742,632                  | 618,750          | 489,274          | 569,582          | 442,466          | 478,550          | 526,094          | 632,275          | 727,936                      |
| Total Recommended Reserve Contributions            |          | 69,200   | 71,300           | 73,400           | 75,600           | 77,900           | 80,200           | 82,600                   | 85,100           | 87,700           | 90,300           | 93,000           | 95,800           | 98,700           | 101,700          | 104,800                      |
| Estimated Interest Earned, During Year             |          | 6,632  | 6,537            | 6,773            | 7,830            | 8,768            | 9,380            | 8,792                    | 7,156            | 6,838            | 6,536            | 5,948            | 6,488            | 7,481            | 8,784            | 9,927                        |
| Anticipated Expenditures, By Year                  |          | (46,777)   | (121,468)        | 0                | 0                | (24,834)         | (56,720)         | (215,274)                | (221,732)        | (14,230)         | (223,952)        | (62,864)         | (54,744)         | 0                | (14,823)         | (33,374)                     |
| Anticipated Reserves at Year End                   |          | <u>\$527,966</u>   | <u>\$484,335</u> | <u>\$564,508</u> | <u>\$647,938</u> | <u>\$709,772</u> | <u>\$742,632</u> | <u>\$618,750</u>         | <u>\$489,274</u> | <u>\$569,582</u> | <u>\$442,466</u> | <u>\$478,550</u> | <u>\$526,094</u> | <u>\$632,275</u> | <u>\$727,936</u> | <u>\$809,289</u><br>(NOTE 4) |
| Predicted Reserves based on 2022 funding level of: | \$34,860 | 170,194  | 85,236           | 121,431          | 158,096          | 170,242          | 150,453          | <b>(</b> 29,178 <b>)</b> | (217,644)        |                  |                  |                  |                  |                  |                  |                              |

#### Explanatory Notes:

1) Year 2022 starting reserves are as of March 31, 2022; FY2022 starts January 1, 2022 and ends December 31, 2022.

2) Reserve Contributions for 2022 are the remaining budgeted 9 months; 2023 is the first year of recommended contributions.

*3)* 1.3% is the estimated annual rate of return on invested reserves; 2022 is a partial year of interest earned.

4) Accumulated year 2052 ending reserves consider the need to fund for replacement of the roofs, gutters and downspouts shortly after 2052, and the age, size, overall condition and complexity of the property.

*5)* Threshold Funding Year (reserve balance at critical point).

# **FIVE-YEAR OUTLOOK**

#### Hearthstone of Ellicott Mills

Condominium, Inc.

Ellicott City, Maryland

| Line<br>Item | Reserve Component Inventory  | RUL = 0<br>FY2022 | 1<br>2023 | 2<br>2024 | 3<br>2025 | 4<br>2026 | 5<br>2027 |
|--------------|--|-------------------|-----------|-----------|-----------|-----------|-----------|
|              | Exterior Building Elements   |                   |           |           |           |           |           |
| 1.820        | Walls, Masonry, Inspections and Repairs  |                   | 4,326     |           |           |           |           |
| 1.905        | Walls, Trim, Paint Finishes  |                   | 20,600    |           |           |           |           |
|              |  |                   |           |           |           |           |           |
|              | Property Site Elements   |                   |           |           |           |           |           |
| 4.020        | Asphalt Pavement, Crack Repair, Patch, and Seal Coat                                 |                   | 4,500     |           |           |           |           |
| 4.040        | Asphalt Pavement, Mill and Overlay, Streets  |                   |           |           |           |           | 64,079    |
| 4.080        | Asphalt Pavement, Walking Path, Total Replacement                                    |                   |           |           |           |           | 10,752    |
| 4.100        | Catch Basins, Inspections and Capital Repairs (2022 is Completed, 2023 is Planned)   | 14,500            | 7,200     |           |           |           |           |
| 4.110        | Concrete Curbs and Gutters, Partial  |                   |           |           |           |           | 17,285    |
| 4.120        | Concrete Driveways, Partial  |                   |           |           |           |           | 6,608     |
| 4.140        | Concrete Sidewalks, Partial (2022 is Completed Repairs)                              | 4,777             |           |           |           |           | 5,275     |
| 4.170        | Concrete Stairs and Stoops, Partial  |                   |           |           |           |           | 6,028     |
| 4.805        | Stormwater Management, Inspections and Capital Repairs (Incl. Dredging and Spillway) |                   |           |           |           |           | 4,057     |
|              | Anticipated Expenditures, By Year (\$1,944,775 over 30 years)                        | 19,277            | 36,626    | 0         | 0         | 0         | 114,084   |



# **4.RESERVE COMPONENT DETAIL**

The Reserve Component Detail of this *Full Reserve Study* includes enhanced solutions and procedures for select significant components. This section describes the Reserve Components, documents specific problems and condition assessments, and may include detailed solutions and procedures for necessary capital repairs and replacements for the benefit of current and future board members. We advise the Board use this information to help define the scope and procedures for repair or replacement when soliciting bids or proposals from contractors. *However, the Report in whole or part is not and should not be used as a design specification or design engineering service.* 

# **Exterior Building Elements**



**Building front elevation** 

**Building side elevation** 



**Building rear elevation** 



#### **Gutters and Downspouts, Aluminum**

#### *Line Item:* 1.240

**Quantity:** Approximately 4,050 linear feet of aluminum gutters and downspouts. This quantity includes the gutters and downspouts located at the clubhouse.

*History:* Original; The Association has discussed possible future plans to upgrade the size of the gutters and downspouts at the time of replacement based on reported operational deficiencies. Future updates to this study will consider the need for updated costs and timing based on future information.

**Condition:** Good to fair overall. The Association should plan to coordinate the replacement of gutters and downspouts with the adjacent roofs. This will result in the most economical unit price and minimize the possibility of damage to other roof components as compared to separate replacements.





Gutters and downspout





Downspout



**Gutters and downspouts** 





Gutter

Useful Life: 20- to 25-years

**Component Detail Notes:** The size of the gutter is determined by the roof's watershed area, a roof pitch factor and the rainfall intensity number of the Association's region. We recommend sloping gutters 1/16 inch per linear foot and providing fasteners a maximum of every three feet.

Downspouts can drain 100 square feet of roof area per one square inch of downspout cross sectional area. We recommend the use of downspout extensions and splash blocks at the downspout discharge to direct storm water away from the foundations.

*Preventative Maintenance Notes:* We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Semi-annually:
  - Clean out debris and leaves that collect in the gutters
  - o Repair and refasten any loose gutter fasteners
  - Repair and seal any leaking seams or end caps
  - Verify downspouts discharge away from foundations

*Priority/Criticality:* Defer only upon opinion of independent professional or engineer

*Expenditure Detail Notes:* Expenditure timing and costs are depicted in the *Reserve Expenditures* table in Section 3.

# Roofs, Asphalt Shingles

*Line Item:* 1.280

*Quantity:* Approximately 710 *squares*<sup>1</sup> of asphalt shingles. This quantity includes the roof of the clubhouse.

<sup>1</sup> We quantify the roof area in squares where one square is equal to 100 square feet of surface area.



**History:** Original; The Association has conducted roof repairs at a limited quantity of units to address leaks in recent years. The Association should conduct inspections of the roofs annually funded through the operating Budget. *Note: In 2022, the Association conducted an inspection by* Walter Brown Roofing *to assess the overall condition of each roof section. Based on the findings of the roof report and noted conditions, we defer replacement of the roofs until 2028.* 

**Condition:** Varying conditions from good to fair overall with periodic previous repairs, curled shingles and granular loss evident from our visual inspection from the ground. Management and the Board reports a limited history of leaks and accelerated deterioration at the units along the west side of Evening Sky Court.



**Roof overview** 

**Roofs overview** 



**Roofs overview** 



Roof overview - Note granular loss







Granular loss

**Roof overview** 



Roof overview- Note previous repairs

**Roof overview** 



**Roof overview- Note previous repairs** 

Useful Life: 20- to 25-years

Component Detail Notes: The existing roof assembly comprises the following:



- Laminate architectural shingles
- Boston style ridge caps
- Rubber seal with metal base boot flashing at waste pipes
- Metal drip edge
- Enclosed full weaved valleys

Insulation and ventilation are two major components of a sloped roof system. Together, proper insulation and ventilation help to control attic moisture and maintain an energy efficient building. Both insulation and ventilation prevent moisture buildup which can cause wood rot, mold and mildew growth, warp sheathing, deteriorate shingles, and eventually damage building interiors. Sufficient insulation helps to minimize the quantity of moisture that enters the attic spaces and adequate ventilation helps to remove any moisture that enters the attic spaces. These two roof system components also help to reduce the amount of energy that is required to heat and cool a building. Proper attic insulation minimizes heat gain and heat loss between the residential living spaces and attic spaces. This reduces energy consumption year-round. Proper attic ventilation removes excessive heat from attic spaces that can radiate into residential living spaces and cause air conditioners to work harder. Properly installed attic insulation and ventilation work together to maximize the useful life of sloped roof systems.

The vents should be clear of debris and not blocked from above by attic insulation. If the soffit vents are blocked from above, installation of polystyrene vent spaces or baffles between the roof joists at these locations can ensure proper ventilation.

Certain characteristics of condition govern the times of replacement. Replacement of an asphalt shingle roof becomes necessary when there are multiple or recurring leaks and when the shingles begin to cup, curl and lift. These conditions are indications that the asphalt shingle roof is near the end of its useful life. Even if the shingles are largely watertight, the infiltration of water in one area can lead to permanent damage to the underlying roof sheathing. This type of deterioration requires replacement of saturated sections of sheathing and greatly increases the cost of roof replacement. Roof leaks may occur from interrelated roof system components, i.e., flashings. Therefore, the warranty period, if any, on the asphalt shingles, may exceed the useful life of the roof system.

Warranties are an indication of product quality and are not a product guarantee. Asphalt shingle product warranties vary from 20- to 50-years and beyond. However, the scope is usually limited to only the material cost of the shingles as caused by manufacturing defects. Warranties may cover defects such as thermal splitting, granule loss, cupping, and curling. Labor cost is rarely included in the remedy so if roof materials fail, the labor to tear off and install new shingles is extra. Other limitations of warranties are exclusions for "incidental and consequential" damages resulting from age, hurricanes, hail storms, ice dams, severe winds, tornadoes, earthquakes, etc. There are some warranties which offer no dollar limit for replacement at an additional cost (effectively an insurance policy) but again these warranties also have limits and may not cover all damages other than a product defect. We recommend a review of the manufacturers' warranties as part of the evaluation of competing proposals to replace a roof system. This evaluation should identify the current costs of remedy if the roof were to fail in the near future. A comparison



of the costs of remedy to the total replacement cost will assist in judging the merits of the warranties.

The following cross-sectional schematic illustrates a typical asphalt shingle roof system although it may not reflect the actual configuration at Hearthstone of Ellicott Mills:



Contractors use one of two methods for replacement of sloped roofs, either an overlayment or a tear-off. Overlayment is the application of new shingles over an existing roof. However, there are many disadvantages to overlayment including hidden defects of the underlying roof system, absorption of more heat resulting in accelerated deterioration of the new and old shingles, and an uneven visual appearance. Therefore, we recommend only the tear-off method of replacement. The tear-off method of replacement includes removal of the existing shingles, flashings if required and underlayments.

The Association should plan to coordinate the replacement of gutters and downspouts with the adjacent roofs. This will result in the most economical unit price and minimize the possibility of damage to other roof components as compared to separate replacements.

**Preventative Maintenance Notes:** We recommend the Association maintain a service and inspection contract with a qualified professional and record all documentation of repairs conducted. We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

• Annually:



- Record any areas of water infiltration, flashing deterioration, damage or loose shingles
- o Implement repairs as needed if issues are reoccurring
- o Trim tree branches that are near or in contact with roof
- As-needed:
  - Ensure proper ventilation and verify vents are clear of debris and not blocked from attic insulation

*Priority/Criticality:* Defer only upon opinion of independent professional or engineer

*Expenditure Detail Notes:* Expenditure timing and costs are depicted in the *Reserve Expenditures* table in Section 3.

# Roofs, Metal

*Line Item:* 1.460

*Quantity:* Approximately 40 roofs comprising approximately 45 square feet of metal each located at the front and side elevations of the buildings.

#### *History:* Original

*Condition:* Good to fair overall with minor stains and wear evident from our visual inspection from the ground. Management and the Board do not report a history of leaks



Metal roof

Metal roof





Metal roof- Note minor stains

Useful Life: Up to 40 years

**Preventative Maintenance Notes:** We recommend the Association maintain a service and inspection contract with a qualified professional and record all documentation of repairs conducted. We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
  - Record any areas of water infiltration, flashing deterioration, damage or loose fasteners
  - o Implement repairs as needed if issues are reoccurring
  - Ensure proper ventilation and verify vents are clear of debris and not blocked from attic insulation
  - Clear valleys of debris
  - Periodic cleaning at areas with organic growth

*Priority/Criticality:* Defer only upon opinion of independent professional or engineer

*Expenditure Detail Notes:* Expenditure timing and costs are depicted in the *Reserve Expenditures* table in Section 3.

#### Shutters, Vinyl

*Line Item:* 1.560

*Quantity:* 159 pairs of decorative raised panel vinyl shutters. This quantity includes the shutters located at the clubhouse.

*History:* Original; The Association repainted all the vinyl shutters approximately eight years ago.

*Condition:* Good to fair overall.





Vinyl shutters

Vinyl shutters

Useful Life: Up to 20 years

*Preventative Maintenance Notes:* We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- As-needed:
  - Inspect and repair loose fasteners and damaged shutters

Priority/Criticality: Per Board discretion

*Expenditure Detail Notes:* Expenditure timing and costs are depicted in the *Reserve Expenditures* table in Section 3.

#### Walls, Masonry

Line Item: 1.820

Quantity: Approximately 2,100 square feet of masonry comprises the exterior walls

History: Original

*Condition:* Good to fair overall with lintel deterioration and mortar deterioration evident.







Masonry walls overview







Lintel deterioration

Lintel deterioration



Lintel deterioration



Mortar deterioration





Mortar deterioration

**Useful Life:** We advise a complete inspection of the masonry and related masonry repairs every 8- to 12-years to forestall deterioration.

**Component Detail Notes:** Common types of masonry deterioration include efflorescence, spalling, joint deterioration and cracking. The primary cause of efflorescence, cracks and face spall is water infiltration, therefore prevention of water infiltration is the principal concern for the maintenance of masonry applications.

Repointing is a process of raking and cutting out defective mortar to a depth of not less than ½ inch nor more than ¾ inch and replacing it with new mortar. Face grouting is the process of placing mortar over top of the existing mortar. We advise against face grouting because the existing, often deteriorated mortar does not provide a solid base for the new mortar. New mortar spalls at face grouted areas will likely occur. One purpose of a mortar joint is to protect the masonry by relieving stresses within the wall caused by expansion, contraction, moisture migration and settlement. Repointed mortar joints are more effective if the mortar is softer and more permeable than the masonry units, and no harder or less permeable than the existing mortar. The masonry contractor should address these issues within the proposed scope of work.

We recommend an inspection, partial repair and replacement of the steel lintels. Lintels are structural supports or beams above windows and doors. Fatigued lintels also allow the direct penetration of storm water into the wall assembly. These inspections should locate areas of rust on the lintels and cracks or other structural damage to the walls around lintels. The contractor should remove any areas of rust, prime and paint these lintels. Paint protects and maximizes the remaining useful life of the lintels and therefore the exterior wall systems. Structural damage can eventually lead to costly replacements of lintels and surrounding wall systems. The following diagram details a typical metal lintel and weep system and may not reflect the actual configuration at the Association:



*Priority/Criticality:* Defer only upon opinion of independent professional or engineer

*Expenditure Detail Notes:* Expenditure timing and costs are depicted in the *Reserve Expenditures* table in Section 3. Our cost includes the following activities:

- Complete inspection of the masonry
- Repointing of up to five percent (5%) of the masonry
- Replacement of a limited amount of the masonry (The exact amount of area in need of replacement will be discretionary based on the actual future conditions and the desired appearance.)
- Replacement/flashing installation at up to one percent (1%) of the metal lintels
- Paint applications to the metal lintels (approximately 300 linear feet)
- Replacement of up to twenty-five percent (25%) of the sealants at the window and door perimeters

# Walls, Siding, Vinyl

#### Line Item: 1.860

**Quantity:** Approximately 32,100 square feet of beaded profile vinyl siding comprises the exterior walls. This quantity includes the soffit and fascia as well as the vinyl siding located at the clubhouse.

History: Original



*Condition:* Good to fair overall with minor wear, warp and organic growth, most notably at the clubhouse.



Vinyl siding overview- Note organic growth and wear



Vinyl siding overview



Vinyl siding overview- Note minor warp



Vinyl siding overview



Vinyl soffits and fascia



Vinyl siding overview





Damaged soffit and fascia

Vinyl siding overview

Useful Life: Up to 40 years

**Component Detail Notes:** The siding at Hearthstone of Ellicott Mills consists of the following:

- Beaded profile
- J-channel trim at window and door perimeters, and other penetrations
- Water-vapor permeable building paper protects the buildings

The following diagram details the use of building wrap in a vinyl siding system:





The Association should install new vinyl siding as recommended by the *Vinyl Institute, Inc.* The vinyl siding should be installed over a continuous weather resistant barrier and properly integrated flashing around all penetrations. Fasteners used should include aluminum, galvanized steel or other corrosion-resistant fasteners. Siding panels should overlap by approximately one inch. Joints should be staggered so that no two courses are aligned vertically, unless separated by at least three courses. The siding should not be caulked where the siding meets trim accessories, such as J-channel, or at overlap joints. J-channel should be installed a minimum of ½ inch off of roof lines.

*Preventative Maintenance Notes:* We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
  - Inspect and repair loose siding, warping or damage from wind driven objects or lawn care equipment
  - Periodically clean siding as necessary at areas of organic growth.
    A non-abrasive household cleaner or manufacturer specified vinyl siding cleaner will remove more intense stains. We do not recommend pressure cleaning at vinyl siding due to the siding's brittle nature.

*Priority/Criticality:* Defer only upon opinion of independent professional or engineer

*Expenditure Detail Notes:* Expenditure timing and costs are depicted in the *Reserve Expenditures* table in Section 3.

# Walls, Trim, Paint Finishes

#### *Line Item:* 1.905

**Quantity:** The Association maintains the paint finishes at the trim located at the bumpouts, windows and doors at each of the buildings. *Note: Per the direction of the Board, we include paint finishes to the front entrance doors themselves while excluding paint finishes to the garage doors as those finishes are reportedly maintained by the individual unit owners. Relating to the garage doors, our estimate of cost includes only a paint finish application to the perimeter trim.* 

*History:* Unknown exact age of most recent paint finish application.

*Condition:* Good to fair overall with finish deterioration and wear, most notably at the front entrance doors and associated trim.





Trim overview







Trim overview

Painted door overview- Note deterioration

**Useful Life:** Four- to six-years

**Component Detail Notes:** Correct and complete preparation of the surface before application of the paint finish maximizes the useful life of the paint finish and surface. The contractor should remove all loose, peeled or blistered paint before application of the new paint finish. The contractor should then power wash the surface to remove all dirt or chalking of the prior paint finish.

*Priority/Criticality:* Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We accelerated the occurrence of the event due to conversations with the Board. We assume the following activities per event:

- Paint finish applications
- Replacement of 460 square feet, or up to five percent (5%), of the trim (The exact amount of material in need of replacement will depend on the actual future conditions and desired appearance. We recommend replacement



wherever holes, cracks and deterioration impair the ability of the material to prevent water infiltration.)

• Replacement of sealants as needed

# Windows and Doors, Common, Clubhouse

*Line Item:* 1.980

Quantity: Approximately 160 square feet of windows and doors located at the clubhouse.

History: Unknown exact ages; likely original to community construction.

*Condition:* Good to fair overall.



Common door

Common windows and door

Useful Life: Up to 35 years

**Component Detail Notes:** Properly designed window and door assemblies anticipate the penetration of some storm water beyond the gaskets. This infiltrated storm water collects in an internal drainage system and drains, or exits, the frames through weep holes. These weep holes can become clogged with dirt or if a sealant is applied, resulting in trapped storm water. However, as window frames, gaskets and sealants deteriorate, leaks into the interior can result. The windows and door will eventually need replacement or major capital repairs to prevent water infiltration and damage from wind driven rain.

The thermal efficiencies of the window and door assemblies are affected by their design and construction components. These components include glazings, thickness of air space between glazings, low-conductivity gas, tinted coatings, low-e coatings and thermal barriers. The Association should thoroughly investigate these component options at the time of replacement. Some manufacturers may include these components as part of the standard product and other manufacturers may consider these components as options for an additional cost. Hearthstone of Ellicott Mills should review the specifications provided by the manufacturers to understand the thermal design and construction components of the proposed assemblies.



*Preventative Maintenance Notes:* We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
  - o Inspect and repair loose weather stripping and/or lock damage
  - o Inspect for broken glass and damaged screens
  - o Record instances of water infiltration, trapped moisture or leaks
- As-needed:
  - Verify weep holes are unobstructed and not blocked with dirt or sealant, if applicable
  - Replace damaged or deteriorated sliding glass rollers, if applicable

*Priority/Criticality:* Defer only upon opinion of independent professional or engineer

*Expenditure Detail Notes:* Expenditure timing and costs are depicted in the *Reserve Expenditures* table in Section 3.

# **Interior Building Elements**

#### Floor Coverings, Carpet

Line Item: 2.200

**Quantity:** Approximately 70 square yards of carpet (Contractor measurements will vary from the actual floor area due to standard roll lengths, patterns and installation waste.)

History: Original

Condition: Good to fair overall.



Carpet floor coverings

Useful Life: 8- to 12-years



Priority/Criticality: Per Board discretion

*Expenditure Detail Notes:* Expenditure timing and costs are depicted in the *Reserve Expenditures* table in Section 3.

#### **Kitchen**

Line Item: 2.520

Quantity: Components of the kitchen include:

- Approximately 70 square yards of tile floor coverings located at the kitchen. This quantity includes the tile located at the rest room.
- Appliances
- Wood cabinets and laminate countertops
- Light fixtures

History: Original

Condition: Good to fair overall.



Kitchen cabinets and countertops



**Kitchen fixtures** 





Kitchen overview

**Tile floor coverings** 

Useful Life: Renovation every 25 years

Priority/Criticality: Per Board discretion

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We recommend the Associations budgets for interim replacements of the kitchen appliances as needed through the operating budget.

# **Paint Finishes**

Line Item: 2.800

*Quantity:* Approximately 2,300 square feet on the walls and ceiling at the clubhouse.

History: Original

Condition: Good to fair overall.



Paint finish overview



Paint finish overview



Useful Life: 8- to 12-years

Priority/Criticality: Per Board discretion

*Expenditure Detail Notes:* Expenditure timing and costs are depicted in the *Reserve Expenditures* table in Section 3.

#### **Rest Room**

Line Item: 2.900

Quantity: The rest room components include:

- Light fixtures
- Plumbing fixtures

History: Original

Condition: Good to fair overall.



Rest room overview

**Rest room fixtures** 

Useful Life: Replacement up to every 15- to 20- years

Priority/Criticality: Per Board discretion

*Expenditure Detail Notes:* Expenditure timing and costs are depicted in the *Reserve Expenditures* table in Section 3.

# **Property Site Elements**

# Asphalt Pavement, Crack Repair, Patch, and Seal Coat

*Line Item:* 4.020



**Quantity:** The Association maintains approximately 3,700 square yards of asphalt pavement. This quantity comprises 3,350 square yards of asphalt pavement at the streets and 350 square yards of asphalt pavement at the walking path.

*History:* Unknown exact age. The Association is budgeted for minor repairs to the pavement in the remainder of 2022. It's informed that this expenditure will likely be funded outside of Reserves and is therefore excluded from the Reserve Study. Furthermore, the Board informs of near-term plans to apply a seal coat to the pavement in approximately 2023.

*Condition:* Good to fair overall with previous repairs and patches evident.

**Useful Life:** Three- to five-years

**Component Detail Notes:** Proposals should include mechanically routing and filling all cracks with hot emulsion. Repairs should also include patching at areas exhibiting settlement, potholes, or excessive cracking. The contractor should only apply seal coat applications after repairs are completed. A seal coat does not bridge or close cracks, therefore, unrepaired cracks render the seal coat applications useless. These activities minimize the damaging effects of vehicle fluids, maintain a uniform and positive appearance, and maximize the useful life of the pavement.

Priority/Criticality: Per Board discretion

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost includes an allowance for crack repairs and patching of up to two percent (2%) of the pavement.

# **Asphalt Pavement, Repaving**

*Line Item:* 4.040

Quantity: Approximately 3,350 square yards of asphalt pavement at the streets

*History:* Original

*Condition:* Good to fair overall with previous repairs and patches evident.







Asphalt pavement street overview- Note cracks

Asphalt pavement- Note previous repairs



Asphalt pavement street overview- Note cracks



Asphalt pavement street overview



Asphalt pavement street overview- Note previous repairs

Useful Life: 15- to 20-years with the benefit of timely crack repairs and patching

**Component Detail Notes:** The initial installation of asphalt uses at least two lifts, or two separate applications of asphalt, over the base course. The first lift is the binder course.



The second lift is the wearing course. The wearing course comprises a finer aggregate for a smoother more watertight finish. The following diagram depicts the typical components although it may not reflect the actual configuration at Hearthstone of Ellicott Mills:



The manner of repaving is either a mill and overlay or total replacement. A mill and overlay is a method of repaving where cracked, worn and failed pavement is mechanically removed or milled until sound pavement is found. A new layer of asphalt is overlaid atop the remaining base course of pavement. Total replacement includes the removal of all existing asphalt down to the base course of aggregate and native soil followed by the application of two or more new lifts of asphalt. We recommend mill and overlayment on asphalt pavement that exhibits normal deterioration and wear. We recommend total replacement of asphalt pavement that exhibits severe deterioration, inadequate drainage, pavement that has been overlaid multiple times in the past or where the configuration makes overlayment not possible. Based on the apparent visual condition and configuration of the asphalt pavement, we recommend the mill and overlay method of repaving at Hearthstone of Ellicott Mills.

*Preventative Maintenance Notes:* We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
  - Inspect for settlement, large cracks and trip hazards, and ensure proper drainage
  - Repair areas which could cause vehicular damage such as potholes
- As needed:
  - Perform crack repairs and patching



*Priority/Criticality:* Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost for milling and overlayment includes area patching of up to ten percent (10%).

# Asphalt Pavement, Repaving, Walking Paths

Line Item: 4.080

*Quantity:* Approximately 350 square yards of pavement located behind the units on the south side of Water Grove Lane.

*History:* Original

Condition: Good to fair overall.



Walking path cracks

Walking path cracks



Walking path settlement



**Useful Life:** 15- to 20-years with the benefit of timely crack repairs and patching, and the need to maintain a safe pedestrian surface

*Priority/Criticality:* Defer only upon opinion of independent professional or engineer

*Expenditure Detail Notes:* Expenditure timing and costs are depicted in the *Reserve Expenditures* table in Section 3.

# **Catch Basins**

*Line Item:* 4.100

*Quantity:* Nine catch basins<sup>2</sup>

*History:* The Association reports that the catch basins were inspected in 2022. The Association repaired a majority of the catch basins in 2022 for a cost of \$14,500 and are planning to repair the remaining catch basins in 2023. Future updates to this study will consider the need for updated cost and timing if new information becomes available.

**Condition:** Good to fair overall with isolated settlement evident. We noted deteriorated masonry structures within the catch basins as noted by the recent catch basin inspection report.



Catch basin



Catch basin

<sup>2</sup> We utilize the terminology catch basin to refer to all storm water collection structures including curb inlets.





Catch basin

Catch basin settlement

**Useful Life:** The useful life of catch basins is up to 65 years. However, achieving this useful life usually requires interim capital repairs or partial replacements every 15- to 20-years.

*Component Detail Notes:* Erosion causes settlement around the collar of catch basins. Left unrepaired, the entire catch basin will shift and need replacement.

*Preventative Maintenance Notes:* We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
  - o Inspect and repair any settlement and collar cracks
  - Ensure proper drainage and inlets are free of debris
  - If property drainage is not adequate in heavy rainfall events, typically bi-annual cleaning of the catch basins is recommended

*Priority/Criticality:* Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We recommend the Association plan for inspections and capital repairs to the catch basins in conjunction with repaving. Our estimates of costs for near-term rebuilding of the catch basins is based on information provided by the Association.

# **Concrete Curbs and Gutters**

*Line Item:* 4.110

Quantity: Approximately 2,400 linear feet of concrete curbs and gutters.

*Condition:* Good to fair overall with isolated cracks evident.





Concrete curb and gutter





Concrete curb and gutter

Concrete curb and gutter

Useful Life: Up to 65 years although interim deterioration of areas is common

*Preventative Maintenance Notes:* We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
  - o Inspect and repair major cracks, spalls and trip hazards
  - Mark with orange safety paint prior to replacement or repair
  - Repair or perform concrete leveling in areas in immediate need of repair or possible safety hazard

Priority/Criticality: Per Board discretion

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We estimate that up to 840 linear feet of curbs and gutters, or thirty-five percent (35%) of the total, will require replacement during the next 30 years.



# **Concrete Driveways**

#### *Line Item:* 4.120

*Quantity:* Approximately 7,600 square feet of concrete driveways.

**Condition:** Good to fair overall with isolated cracks, delamination and scaling evident.





**Concrete driveway** 

**Concrete driveways** 



**Concrete driveways** 



**Concrete driveway** 





**Driveway deterioration located at Unit 4926** 

**Driveway cracks** 



**Driveway cracks** 

Useful Life: Up to 65 years although interim deterioration of areas is common

*Preventative Maintenance Notes:* We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
  - o Inspect and repair major cracks, spalls and trip hazards
  - o Mark with orange safety paint prior to replacement or repair
  - Repair or perform concrete leveling in areas in immediate need of repair or possible safety hazard

#### Priority/Criticality: Per Board discretion

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We estimate that up to 2,280 square feet of concrete driveways, or thirty percent (30%) of the total, will require replacement during the next 30 years.



# **Concrete Sidewalks**

#### *Line Item:* 4.140

Quantity: Approximately 6,800 square feet of concrete sidewalks.

*History:* The Association contracted with Concrete Slap Jacking in September 2022 to repair over 20 areas within the community to level the concrete and remove trip hazards and other repairs to the concrete at a cost of \$4,777.

*Condition:* Good to fair overall with isolated cracks and spalling evident.



Concrete sidewalk



Sidewalk cracks



Concrete sidewalk

Sidewalk spalls

Useful Life: Up to 65 years although interim deterioration of areas is common

*Preventative Maintenance Notes:* We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
  - o Inspect and repair major cracks, spalls and trip hazards



- Mark with orange safety paint prior to replacement or repair
- Repair or perform concrete leveling in areas in immediate need of repair or possible safety hazard

Priority/Criticality: Per Board discretion

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We estimate that up to 2,730 square feet of concrete sidewalks, or forty percent (40.1%) of the total, will require replacement during the next 30 years.

# **Concrete Stairs and Stoops**

*Line Item:* 4.170

**Quantity:** The Association maintains total of approximately 1,960 square feet of concrete stairs and stoops leading up to each unit. *Note: We exclude the railings as those elements are maintained by the individual unit owner.* 

Condition: Good to fair overall.



Concrete stairs and stoop

Concrete stairs and stoop

Useful Life: Up to 65 years although interim deterioration of areas is common

*Preventative Maintenance Notes:* We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
  - o Inspect and repair major cracks, spalls and trip hazards
  - o Mark with orange safety paint prior to replacement or repair
  - Repair or perform concrete leveling in areas in immediate need of repair or possible safety hazard

Priority/Criticality: Per Board discretion



**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We recommend the Association plan for replacement of up to 780 square feet, or approximately forty percent (40.1%) of the total, during the next 30 years.

#### Gates

Line Item: 4.330

*Quantity:* The Association maintains one emergency gate system servicing the west entrance of the community.

*History:* Unknown exact age.

Condition: Good to fair overall condition



Metal gate

Useful Life: Up to 25 years

**Preventative Maintenance Notes:** We recommend the Association obtain and adhere to the manufacturer's recommended maintenance plan. The required preventative maintenance may vary in frequency and scope based on the unit's age, operational condition, or changes in technology. We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Semi-annually:
  - Ensure gates operate freely
  - o Inspect for any wear, rust and loose fasteners
  - Inspect and correct tension in belts and chains, and lubricate hinges and chains as necessary

*Priority/Criticality:* Not recommended to defer



*Expenditure Detail Notes:* Expenditure timing and costs are depicted in the *Reserve Expenditures* table in Section 3.

# **Mailbox Stations**

Line Item: 4.600

Quantity: Three stations

*History:* Original; The Association repainted the mailbox stations in 2020.

Condition: Good to fair overall



Mailbox stations

Mailbox stations

Useful Life: Up to 25 years

*Preventative Maintenance Notes:* We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- As-needed:
  - o Inspect and repair damage, vandalism, and finish deterioration
  - Verify posts are anchored properly

Priority/Criticality: Per Board discretion

*Expenditure Detail Notes:* Expenditure timing and costs are depicted in the *Reserve Expenditures* table in Section 3.

# Signage, Entrance Monument

*Line Item:* 4.800



**Quantity:** The Association maintains one entrance monument located at the intersection of Water Grove Lane and Waterloo Road comprising approximately 36 square feet of masonry, custom signage and landscaping

*History:* Original; The Association has the entrance monument cleaned annually.

*Condition:* Good to fair overall.



**Entrance monument** 

Entrance monument

Useful Life: 15- to 20-years

**Component Detail Notes:** Community signage contributes to the overall aesthetic appearance of the property to owners and potential buyers. Renovation or replacement of community signs is often predicated upon the desire to "update" the perceived identity of the community rather than for utilitarian concerns. Therefore, the specific times for replacement or renovation are discretionary.

*Preventative Maintenance Notes:* We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
  - o Inspect and repair damage, vandalism and loose components
  - Verify lighting is working properly
  - o Touch-up paint finish applications if applicable

Priority/Criticality: Per Board discretion

*Expenditure Detail Notes:* Expenditure timing and costs are depicted in the *Reserve Expenditures* table in Section 3. Our cost for renovation includes repairs to the stone wall, replacement of the signage, and an allowance for landscaping.

#### **Stormwater Management**

*Line Item:* 4.805



*Quantity:* The Association maintains a wet retention pond comprising approximately 540 square yards of surface area, rip rap and a concrete spillway.

*History:* Extensive repairs conducted in 2022 which included dredging in the area around the main inlet by 4915 Evening Sky Court, removal of the rip-rap rocks and cleaning of the substrata underneath and replacement of the rocks. Additionally, the landscaped areas immediately adjacent to the rocks were re-seeded. The County inspects the stormwater management pond every three years to ensure compliance with County standards.

*Condition:* Good to fair overall with sediment build-up and algae blooms evident.



**Minor shoreline erosion** 



Pond overview



Pond overview



Pond overview





Rip rap

Concrete spillway



**Concrete spillway** 

**Useful Life:** Based on the visual condition, we recommend the Association anticipate the need for capital repairs to the stormwater management up to every three- to five-years.

**Component Detail Notes:** The gradual build-up of natural debris, including tree leaves, branches and silt, may eventually change the topography of areas of the storm water management area. Silt typically accumulates at inlets, outlets and areas of shoreline erosion. Sediment removal of ponds becomes necessary if this accumulation alters the quality of pond water or the functionality of the ponds as storm water management structures. Sediment removal is the optimal but also the most capital intensive method of pond management. Excavation equipment used for sediment removal includes clamshells, draglines and suction pipe lines. Sediment removal can also include shoreline regrading. Regrading includes removal of collapsed and eroded soil, and redefining the shoreline.

*Preventative Maintenance Notes:* We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

• Annually:



- Inspect and remediate shoreline erosion and areas of sediment accumulation
- Clear and remove debris and vegetation overgrowth at pond edges, and inlet and outlet structures
- Inspect for algae blooms and remedy as needed through a chemical treatment program or aeration

Priority/Criticality: Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our estimate of cost for inspections and capital repairs includes partial replacement and augmentation of the rip rap, partial replacement and repairs of the concrete spillway, and an inspection of the retention pond. Our estimate is based on historical information provided by the Association.

# **Reserve Study Update**

An ongoing review by the Board and an Update of this Reserve Study are necessary to ensure an equitable funding plan since a Reserve Study is a snapshot in time. Many variables change after the study is conducted that may result in significant overfunding or underfunding the reserve account. Variables that may affect the Reserve Funding Plan include, but are not limited to:

- Deferred or accelerated capital projects based on Board discretion
- Changes in the interest rates on reserve investments
- Changes in the *local* construction inflation rate
- Additions and deletions to the Reserve Component Inventory
- The presence or absence of maintenance programs
- Unusually mild or extreme weather conditions
- Technological advancements

Periodic updates incorporate these variable changes since the last Reserve Study or Update. We recommend the Board budget for an Update to this Reserve Study in twoto three-years. Budgeting for an Update demonstrates the Board's objective to continue fulfilling its fiduciary responsibility to maintain the commonly owned property and to fund reserves appropriately.



# 5.METHODOLOGY

Reserves for replacement are the amounts of money required for future expenditures to repair or replace Reserve Components that wear out before the entire facility or project wears out. Reserving funds for future repair or replacement of the Reserve Components is also one of the most reliable ways of protecting the value of the property's infrastructure and marketability.

Hearthstone of Ellicott Mills can fund capital repairs and replacements in any combination of the following:

- 1. Increases in the operating budget during years when the shortages occur
- 2. Loans using borrowed capital for major replacement projects
- 3. Level monthly reserve assessments annually adjusted upward for inflation to increase reserves to fund the expected major future expenditures
- 4. Special assessments

We do not advocate special assessments or loans unless near term circumstances dictate otherwise. Although loans provide a gradual method of funding a replacement, the costs are higher than if the Association were to accumulate reserves ahead of the actual replacement. Interest earnings on reserves also accumulate in this process of saving or reserving for future replacements, thereby defraying the amount of gradual reserve collections. We advocate the third method of *Level Monthly Reserve Assessments* with relatively minor annual adjustments. The method ensures that Unit Owners pay their "fair share" of the weathering and aging of the commonly owned property each year. Level reserve assessments preserve the property and enhance the resale value of the homes.

This Reserve Study is in compliance with and exceeds the National standards<sup>1</sup> set forth by the Association of Professional Reserve Analysts (APRA) fulfilling the requirements of a "Level I Full Reserve Study." These standards require a Reserve Component to have a "predictable remaining Useful Life." Estimating Remaining Useful Lives and Reserve Expenditures beyond 30 years is often indeterminate. Long-Lived Property Elements are necessarily excluded from this analysis. We considered the following factors in our analysis:

- The Cash Flow Method to compute, project and illustrate the 30-year Reserve Funding Plan
- Local<sup>2</sup> costs of material, equipment and labor
- Current and future costs of replacement for the Reserve Components
- Costs of demolition as part of the cost of replacement
- Local economic conditions and a historical perspective to arrive at our estimate of long-term future inflation for construction costs in Ellicott City, Maryland at an annual inflation rate<sup>3</sup>. Isolated or regional markets of

<sup>&</sup>lt;sup>1</sup> Identified in the APRA "Standards - Terms and Definitions" and the CAI "Terms and Definitions".

<sup>&</sup>lt;sup>2</sup> See Credentials for additional information on our use of published sources of cost data.

<sup>&</sup>lt;sup>3</sup> Derived from Marshall & Swift, historical costs and the Bureau of Labor Statistics.



greater construction (development) activity may experience slightly greater rates of inflation for both construction materials and labor.

- The past and current maintenance practices of Hearthstone of Ellicott Mills and their effects on remaining useful lives
- Financial information provided by the Association pertaining to the cash status of the reserve fund and budgeted reserve contribution
- The anticipated effects of appreciation of the reserves over time in accord with a return or yield on investment of your cash equivalent assets. (We did not consider the costs, if any, of Federal and State Taxes on income derived from interest and/or dividend income).
- The Funding Plan excludes necessary operating budget expenditures. It is our understanding that future operating budgets will provide for the ongoing normal maintenance of Reserve Components.

Updates to this Reserve Study will continue to monitor historical facts and trends concerning the external market conditions.



# **6.CREDENTIALS**

#### **HISTORY AND DEPTH OF SERVICE**

Founded in 1991, Reserve Advisors is the leading provider of reserve studies, insurance appraisals, developer turnover transition studies, expert witness services, and other engineering consulting services. Clients include community associations, resort properties, hotels, clubs, non-profit organizations, apartment building owners, religious and educational institutions, and office/commercial building owners in 48 states, Canada and throughout the world.

The **architectural engineering consulting firm** was formed to take a leadership role in helping fiduciaries, boards, and property managers manage their property like a business with a long-range master plan known as a Reserve Study.

Reserve Advisors employs the **largest staff of Reserve Specialists** with bachelor's degrees in engineering dedicated to Reserve Study services. Our founders are also founders of Community Associations Institute's (CAI) Reserve Committee that developed national standards for reserve study providers. One of our founders is a Past President of the Association of Professional Reserve Analysts (APRA). Our vast experience with a variety of building types and ages, on-site examination and historical analyses are keys to determining accurate remaining useful life estimates of building components.

**No Conflict of Interest** - As consulting specialists, our **independent opinion** eliminates any real or perceived conflict of interest because we do not conduct or manage capital projects.

#### TOTAL STAFF INVOLVEMENT

Several staff members participate in each assignment. The responsible advisor involves the staff through a Team Review, exclusive to Reserve Advisors, and by utilizing the experience of other staff members, each of whom has served hundreds of clients. We conduct Team Reviews, an internal quality assurance review of each assignment, including: the inspection; building component costing; lifing; and technical report phases of the assignment. Due to our extensive experience with building components, we do not have a need to utilize subcontractors.

#### **OUR GOAL**

To help our clients fulfill their fiduciary responsibilities to maintain property in good condition.

#### VAST EXPERIENCE WITH A VARIETY OF BUILDINGS

Reserve Advisors has conducted reserve studies for a multitude of different communities and building types. We've analyzed thousands of buildings, from as small as a 3,500-square foot day care center to a 2,600,000-square foot 98-story highrise. We also routinely inspect buildings with various types of mechanical systems such as simple electric heat, to complex systems with air handlers, chillers, boilers, elevators, and life safety and security systems.

We're familiar with all types of building exteriors as well. Our well-versed staff regularly identifies optimal repair and replacement solutions for such building exterior surfaces such as adobe, brick, stone, concrete, stucco, EIFS, wood products, stained glass and aluminum siding, and window wall systems.

#### **OLD TO NEW**

Reserve Advisors' experience includes ornate and vintage buildings as well as modern structures. Our specialists are no strangers to older buildings. We're accustomed to addressing the unique challenges posed by buildings that date to the 1800's. We recognize and consider the methods of construction employed into our analysis. We recommend appropriate replacement programs that apply cost effective technologies while maintaining a building's character and appeal.



#### JON R. WALKER, RS Engineer, Northeast Region Responsible Advisor

#### **CURRENT CLIENT SERVICES**

Jon R. Walker, an Engineer, is an Advisor for Reserve Advisors. Mr. Walker is responsible for the inspection and analysis of the condition of clients' properties, and recommending engineering solutions to prolong the lives of the components. He also forecasts capital expenditures for the repair and/or replacement of the property components and prepares technical reports on assignments. He is responsible for conducting Life Cycle Cost Analyses and Capital Replacement Forecast services and the preparation of Reserve Study Reports for condominiums, townhomes, planned unit developments and homeowner associations.

The following is a partial list of clients served by Jon Walker demonstrating the breadth of experiential knowledge of community associations in construction and related systems.



- Jefferson Chase Condominium is a four-building condominium-style community located in Frederick Maryland that features construction elements that date back to 1955. Jefferson Chase utilizes a variety of unique amenities including a fitness center, outdoor picnic and grilling area, and playground. The community also features a wide-ranging collection of exterior building elements including modified bitumen and EPDM flat roofs, concrete balconies, and masonry.
- **The Ponds at Chesterbrook** are located in the Northwest suburbs of Philadelphia, Pennsylvania. The community is home to 48 units across 15 buildings that range in styles from condominiums and townhomes to lofts and single family homes. Constructed in 1983, The Ponds contain a variety of stone masonry chimneys in addition to two ponds.
- Parker House Located in downtown Washington, D.C., this well-known six-story midrise dates back to 1928. Converted to condominiums in 1978, Parker House now services 55 units and lay in the heart of the Wakefield neighborhood. The mid-rise features a unique blend of masonry and limestone exteriors and decorative terrazzo interior lobby floor coverings.
- Quaker Hill Condominium Built in 1991, Quaker Hill is located within the Taylor Run neighborhood in Alexandria, Virginia. The large midrise contains various unique elements including elevated and on-grade breezeways, hydraulic elevators, balconies, terraces, and large concrete retaining walls.
- **King James Landing** is a waterfront community built in 1987 and located in Annapolis, Maryland. Residents enjoy a marina that backs up to Back Creek Harbor, a service waterway to the Chesapeake Bay. King James Landing represents a wide range of exterior styles and time periods within the attached-home style community. Features of King James Landing include a gate entry system, retaining walls, wood decks, bulkheads, and docks.

#### PRIOR RELEVANT EXPERIENCE

Before joining Reserve Advisors, Mr. Walker attended Virginia Tech University in Blacksburg, Virginia where he attained his Bachelor of Science degree in Aerospace Engineering. His studies largely focused on application of the principles of science and mathematics to develop cost-effective solutions to technical problems.

#### **EDUCATION**

Virginia Tech University – B.S. Aerospace Engineering



#### ALAN M. EBERT, P.E., PRA, RS Director of Quality Assurance

#### **CURRENT CLIENT SERVICES**

Alan M. Ebert, a Professional Engineer, is the Director of Quality Assurance for Reserve Advisors. Mr. Ebert is responsible for the management, review and quality assurance of reserve studies. In this role, he assumes the responsibility of stringent report review analysis to assure report accuracy and the best solution for Reserve Advisors' clients.

Mr. Ebert has been involved with thousands of Reserve Study assignments. The following is a partial list of clients served by Alan Ebert demonstrating his breadth of experiential knowledge of community associations in construction and related buildings systems.



#### Brownsville Winter Haven Located in Brownsville, Texas, this unique

homeowners association contains 525 units. The Association maintains three pools and pool houses, a community and management office, landscape and maintenance equipment, and nine irrigation canals with associated infrastructure.

- **Rosemont Condominiums** This unique condominium is located in Alexandria, Virginia and dates to the 1940's. The two mid-rise buildings utilize decorative stone and brick masonry. The development features common interior spaces, multi-level wood balconies and common asphalt parking areas.
- Stillwater Homeowners Association Located in Naperville, Illinois, Stillwater Homeowners Association maintains four tennis courts, an Olympic sized pool and an upscale ballroom with commercial-grade kitchen. The community also maintains three storm water retention ponds and a detention basin.
- **Birchfield Community Services Association** This extensive Association comprises seven separate parcels which include 505 townhome and single family homes. This Community Services Association is located in Mt. Laurel, New Jersey. Three lakes, a pool, a clubhouse and management office, wood carports, aluminum siding, and asphalt shingle roofs are a few of the elements maintained by the Association.
- **Oakridge Manor Condominium Association** Located in Londonderry, New Hampshire, this Association includes 104 units at 13 buildings. In addition to extensive roads and parking areas, the Association maintains a large septic system and significant concrete retaining walls.
- **Memorial Lofts Homeowners Association** This upscale high rise is located in Houston, Texas. The 20 luxury units include large balconies and decorative interior hallways. The 10-story building utilizes a painted stucco facade and TPO roof, while an on-grade garage serves residents and guests.

#### PRIOR RELEVANT EXPERIENCE

Mr. Ebert earned his Bachelor of Science degree in Geological Engineering from the University of Wisconsin-Madison. His relevant course work includes foundations, retaining walls, and slope stability. Before joining Reserve Advisors, Mr. Ebert was an oilfield engineer and tested and evaluated hundreds of oil and gas wells throughout North America.

#### **EDUCATION**

University of Wisconsin-Madison - B.S. Geological Engineering

#### PROFESSIONAL AFFILIATIONS/DESIGNATIONS

Professional Engineering License – Wisconsin, North Carolina, Illinois, Colorado Reserve Specialist (RS) - Community Associations Institute Professional Reserve Analyst (PRA) - Association of Professional Reserve Analysts



# RESOURCES

Reserve Advisors utilizes numerous resources of national and local data to conduct its Professional Services. A concise list of several of these resources follows:

<u>Association of Construction Inspectors</u>, (ACI) the largest professional organization for those involved in construction inspection and construction project management. ACI is also the leading association providing standards, guidelines, regulations, education, training, and professional recognition in a field that has quickly become important procedure for both residential and commercial construction, found on the web at www.iami.org.

<u>American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.</u>, (ASHRAE) the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., devoted to the arts and sciences of heating, ventilation, air conditioning and refrigeration; recognized as the foremost, authoritative, timely and responsive source of technical and educational information, standards and guidelines, found on the web at www.ashrae.org. Reserve Advisors actively participates in its local chapter and holds individual memberships.

<u>Community Associations Institute</u>, (CAI) America's leading advocate for responsible communities noted as the only national organization dedicated to fostering vibrant, responsive, competent community associations. Their mission is to assist community associations in promoting harmony, community, and responsible leadership.

<u>Marshall & Swift / Boeckh.</u> (MS/B) the worldwide provider of building cost data, co-sourcing solutions, and estimating technology for the property and casualty insurance industry found on the web at www.marshallswift.com.

**R.S. Means CostWorks**, North America's leading supplier of construction cost information. As a member of the Construction Market Data Group, Means provides accurate and up-to-date cost information that helps owners, developers, architects, engineers, contractors and others to carefully and precisely project and control the cost of both new building construction and renovation projects found on the web at www.rsmeans.com.

Reserve Advisors' library of numerous periodicals relating to reserve studies, condition analyses, chapter community associations, and historical costs from thousands of capital repair and replacement projects, and product literature from manufacturers of building products and building systems.



# 7. DEFINITIONS

Definitions are derived from the standards set forth by the Community Associations Institute (CAI) representing America's 305,000 condominium and homeowners associations and cooperatives, and the Association of Professional Reserve Analysts, setting the standards of care for reserve study practitioners.

- **Cash Flow Method** A method of calculating Reserve Contributions where contributions to the reserve fund are designed to offset the variable annual expenditures from the reserve fund. Different Reserve Funding Plans are tested against the anticipated schedule of reserve expenses until the desired funding goal is achieved.
- **Component Method** A method of developing a Reserve Funding Plan with the total contribution is based on the sum of the contributions for individual components.
- **Current Cost of Replacement** That amount required today derived from the quantity of a *Reserve Component* and its unit cost to replace or repair a Reserve Component using the most current technology and construction materials, duplicating the productive utility of the existing property at current *loca*/market prices for *materials, labor* and manufactured equipment, contractors' overhead, profit and fees, but without provisions for building permits, overtime, bonuses for labor or premiums for material and equipment. We include removal and disposal costs where applicable.
- **Fully Funded Balance** The Reserve balance that is in direct proportion to the fraction of life "used up" of the current Repair or Replacement cost similar to Total Accrued Depreciation.
- **Funding Goal (Threshold)** The stated purpose of this Reserve Study is to determine the adequate, not excessive, minimal threshold reserve balances.
- Future Cost of Replacement Reserve Expenditure derived from the inflated current cost of replacement or current cost of replacement as defined above, with consideration given to the effects of inflation on local market rates for materials, labor and equipment.
- **Long-Lived Property Component** Property component of Hearthstone of Ellicott Mills responsibility not likely to require capital repair or replacement during the next 30 years with an unpredictable remaining Useful Life beyond the next 30 years.
- **Percent Funded** The ratio, at a particular point of time (typically the beginning of the Fiscal Year), of the actual (or projected) Reserve Balance to the Fully Funded Balance, expressed as a percentage.
- **Remaining Useful Life** The estimated remaining functional or useful time in years of a *Reserve Component* based on its age, condition and maintenance.
- **Reserve Component** Property elements with: 1) Hearthstone of Ellicott Mills responsibility; 2) limited Useful Life expectancies; 3) predictable Remaining Useful Life expectancies; and 4) a replacement cost above a minimum threshold.
- **Reserve Component Inventory** Line Items in **Reserve Expenditures** that identify a *Reserve Component*.
- **Reserve Contribution** An amount of money set aside or *Reserve Assessment* contributed to a *Reserve Fund* for future *Reserve Expenditures* to repair or replace *Reserve Components*.
- **Reserve Expenditure** Future Cost of Replacement of a Reserve Component.
- Reserve Fund Status The accumulated amount of reserves in dollars at a given point in time, i.e., at year end.
- **Reserve Funding Plan** The portion of the Reserve Study identifying the *Cash Flow Analysis* and containing the recommended Reserve Contributions and projected annual expenditures, interest earned and reserve balances.
- **Reserve Study** A budget planning tool that identifies the current status of the reserve fund and a stable and equitable Funding Plan to offset the anticipated future major common area expenditures.

**Useful Life** - The anticipated total time in years that a *Reserve Component* is expected to serve its intended function in its present application or installation.



# 8. PROFESSIONAL SERVICE CONDITIONS

**Our Services -** Reserve Advisors, LLC (RA) performs its services as an independent contractor in accordance with our professional practice standards and its compensation is not contingent upon our conclusions. The purpose of our reserve study is to provide a budget planning tool that identifies the current status of the reserve fund, and an opinion recommending an annual funding plan to create reserves for anticipated future replacement expenditures of the property.

Our inspection and analysis of the subject property is limited to visual observations, is noninvasive and is not meant to nor does it include investigation into statutory, regulatory or code compliance. RA inspects sloped roofs from the ground and inspects flat roofs where safe access (stairs or ladder permanently attached to the structure) is available. The report is based upon a "snapshot in time" at the moment of inspection. RA may note visible physical defects in our report. The inspection is made by employees generally familiar with real estate and building construction but in the absence of invasive testing RA cannot opine on, nor is RA responsible for, the structural integrity of the property including its conformity to specific governmental code requirements for fire, building, earthquake, and occupancy, or any physical defects that were not readily apparent during the inspection.

RA is not responsible for conditions that have changed between the time of inspection and the issuance of the report. RA does not investigate, nor assume any responsibility for any existence or impact of any hazardous materials, such as asbestos, urea-formaldehyde foam insulation, other chemicals, toxic wastes, environmental mold or other potentially hazardous materials or structural defects that are latent or hidden defects which may or may not be present on or within the property. RA does not make any soil analysis or geological study as part of its services; nor does RA investigate water, oil, gas, coal, or other subsurface mineral and use rights or such hidden conditions. RA assumes no responsibility for any such conditions. The Report contains opinions of estimated costs and remaining useful lives which are neither a guarantee of the actual costs of replacement nor a guarantee of remaining useful lives of any property element.

RA assumes, without independent verification, the accuracy of all data provided to it. You agree to indemnify and hold RA harmless against and from any and all losses, claims, actions, damages, expenses or liabilities, including reasonable attorneys' fees, to which we may become subject in connection with this engagement, because of any false, misleading or incomplete information which we have relied upon supplied by you or others under your direction, or which may result from any improper use or reliance on the Report by you or third parties under your control or direction. Your obligation for indemnification and reimbursement shall extend to any director, officer, employee, affiliate, or agent of RA. Liability of RA and its employees, affiliates, and agents for errors and omissions, if any, in this work is limited to the amount of its compensation for the work performed in this engagement.

**Report -** RA completes the services in accordance with the Proposal. The Report represents a valid opinion of RA's findings and recommendations and is deemed complete. RA, however, considers any additional information made available to us within 6 months of issuing the Report if a timely request for a revised Report is made. RA retains the right to withhold a revised Report if payment for services was not tendered in a timely manner. All information received by RA and all files, work papers or documents developed by RA during the course of the engagement shall remain the property of RA and may be used for whatever purpose it sees fit.

Your Obligations - You agree to provide us access to the subject property for an on-site visual inspection You agree to provide RA all available, historical and budgetary information, the governing documents, and other information that we request and deem necessary to complete the Report. You agree to pay actual attorneys' fees and any other costs incurred to collect on any unpaid balance for RA's services.

Use of Our Report and Your Name - Use of this Report is limited to only the purpose stated herein. You hereby acknowledge that any use or reliance by you on the Report for any unauthorized purpose is at your own risk and you shall hold RA harmless from any consequences of such use. Use by any unauthorized third party is unlawful. The Report in whole or in part *is not and cannot be used* as a design specification for design engineering purposes or as an appraisal. You may show our Report in its entirety to the following third parties: members of your organization, your accountant, attorney, financial institution and property manager who need to review the information contained herein. Without the written consent of RA, you shall not disclose the Report to any other third party. The Report contains intellectual property developed by RA and *shall not be reproduced or distributed to any party that conducts reserve studies without the written consent of RA.* 

RA will include your name in our client lists. RA reserves the right to use property information to obtain estimates of replacement costs, useful life of property elements or otherwise as RA, in its sole discretion, deems appropriate.

**Payment Terms, Due Dates and Interest Charges -** Retainer payment is due upon authorization and <u>prior to inspection</u>. <u>The balance is due net 30 days from the report shipment date.</u> Any balance remaining 30 days after delivery of the Report shall accrue an interest charge of 1.5% per month. Any litigation necessary to collect an unpaid balance shall be venued in Milwaukee County Circuit Court for the State of Wisconsin.