

Armfield Farm

Homeowners Association

September 20, 2023 • Chantilly, VA

RESERVE STUDY

A dark grey rectangular sign with a white border, mounted on a stone wall. The sign features the text "Armfield Farm" in a white serif font. In the background, there are trees and a house with white siding and green shutters.

Armfield Farm



Armfield Farm Homeowners Association
Chantilly, Virginia

Dear Board of Directors of Armfield Farm Homeowners Association:

At the direction of the Board that recognizes the need for proper reserve planning, we have conducted a *Reserve Study* of Armfield Farm Homeowners Association in Chantilly, Virginia and submit our findings in this report. The effective date of this study is the date of our visual, noninvasive inspection, September 20, 2023.

This *Reserve Study* exceeds the Association of Professional Reserve Analysts (APRA) standards fulfilling the requirements of a “Level II 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. We recommend the Board budget for an Update to this Reserve Study in two- to three-years. We look forward to continuing to help Armfield Farm Homeowners Association 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 November 10, 2023 by

Reserve Advisors, LLC

Visual Inspection and Report by: Benjamin Guggeis
Review by: Nicholas R. Julia, RS¹, Regional Engineering Manager
Alan M. Ebert, RS, PRA², Director of Quality Assurance



¹ 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.

² 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>.



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1. RESERVE STUDY EXECUTIVE SUMMARY

Client: Armfield Farm Homeowners Association (Armfield Farm)

Location: Chantilly, Virginia

Reference: 130204

Property Basics: Armfield Farm Homeowners Association is responsible for the common elements shared by 470 single family homes. The community was built from 1985 to 1992.

Reserve Components Identified: 42 Reserve Components.

Inspection Date: September 20, 2023. We conducted previous inspections in 2013 and 2018.

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 2045 due to the replacement of the pool structure and deck.

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
- 2.0% 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:

- \$284,241 as of September 30, 2023
- 2023 budgeted Reserve Contributions of \$141,312

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:

- Repairs and repaving of the asphalt parking area and walking paths
- Replacement of the Springhaven Drive basketball court surface
- Replacement of the Playground Equipment at Clary Sage Drive and Pool House
- Coating applications to the Beach Down Drive basketball court
- Replacement of the vinyl pool covers
- Replacement of the wood bridge
- Partial replacement of the concrete curbs and gutters at the pool house parking area
- Renovation to the entrance monument at Bellerose Drive and Lees Corner Road
- Partial replacement of the site furniture
- Replacement of the water heater at the pool house
- Repairs and partial replacement of the concrete pool deck
- Replacement of the pool plaster
- Coating applications to the tennis courts
- Paint applications and partial replacement of the fiber cement siding at the pool house
- Replacement of the shade structures at the pool area

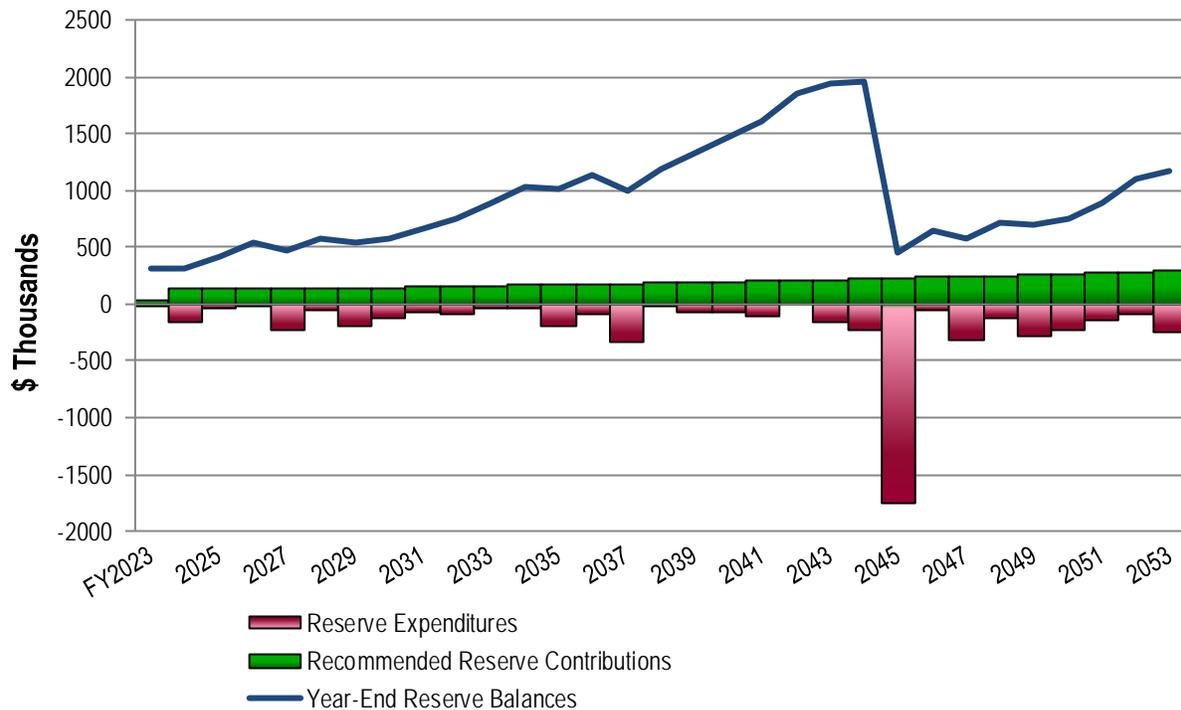


Recommended Reserve Funding: We recommend the following in order to achieve a stable and equitable Cash Flow Methodology Funding Plan:

- Stable contributions of \$141,300 from 2024 through 2029
- Inflationary increases from 2030 through 2053, the limit of this study's Cash Flow Analysis
- 2024 Reserve Contribution of \$141,300 is equivalent to an average monthly contribution of \$25.05 per homeowner.

Armfield Farm
Recommended Reserve Funding Table and Graph

Year	Reserve Contributions (\$)	Reserve Balances (\$)	Year	Reserve Contributions (\$)	Reserve Balances (\$)	Year	Reserve Contributions (\$)	Reserve Balances (\$)
2024	141,300	304,797	2034	163,800	1,024,850	2044	220,100	1,961,132
2025	141,300	424,000	2035	168,700	1,019,363	2045	226,700	453,929
2026	141,300	547,326	2036	173,800	1,132,199	2046	233,500	641,434
2027	141,300	475,575	2037	179,000	998,084	2047	240,500	577,411
2028	141,300	574,969	2038	184,400	1,180,498	2048	247,700	718,766
2029	141,300	537,585	2039	189,900	1,323,329	2049	255,100	699,682
2030	145,500	570,714	2040	195,600	1,470,310	2050	262,800	743,917
2031	149,900	664,084	2041	201,500	1,602,643	2051	270,700	892,684
2032	154,400	750,550	2042	207,500	1,844,271	2052	278,800	1,096,920
2033	159,000	882,078	2043	213,700	1,936,522	2053	287,200	1,162,747





2. RESERVE STUDY REPORT

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

Armfield Farm Homeowners Association

Chantilly, Virginia

and submit our findings in this report. The effective date of this study is the date of our visual, noninvasive inspection, September 20, 2023.

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 Homeowners 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 Homeowners
- 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:

- Armfield Farm responsibility
- Limited useful life expectancies
- Predictable remaining useful life expectancies
- Replacement cost above a minimum threshold

Long-Lived Property Elements – These 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
- Foundation, Pool House
- Inlet/Outlet Structures, Concrete, Storm Water Management System
- Irrigation System (2019)
- Pipes, Interior Building, Domestic Water, Sanitary Waste, Pool House
- Pipes, Subsurface Utilities, Pool House
- Structural Frame, Pool House
- Tennis Courts, Concrete, Surface Replacement (2023)
- Walls, Fiber Cement Siding, Pool House (Including Privacy Walls at Rear Rest Room Entrances) (2015 and 2019)

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 \$4,000 (These relatively minor expenditures have a limited effect on the recommended Reserve Contributions.)
- Asphalt Walking Paths, Crack Repair and Patching
- Baseball Backstop, Chain-Link, Clary Sage Drive
- Basketball Hoops
- Bridge, Wood, Interim Deck Board Replacement, Paint Finishes, and Repairs
- Catch Basins, Landscape
- Decorative Wall, Stone, Pool House
- Landscape
- Light Fixtures, Pool House Exterior
- Paint Finishes, Touch Up
- Playgrounds, Interim Replacements
- Retaining Walls, Timber, Walking Path at North Perimeter
- Security Camera, Pool House
- Shade Structures, Interim Canvas Replacements
- Soccer Nets
- Sporting Area, Wood, Pool House
- Tennis Courts, Standards
- Tennis Courts, Windscreens, Interim Replacements
- Volleyball Court

- Walls, Masonry, Pool House, Inspections and Repairs
- Other Repairs normally funded through the Operating Budget



Decorative stone wall



Timber retaining wall



Sporting area



Volleyball court

Homeowners' Responsibility - Items designated as the responsibility of the homeowners to repair or replace at their cost. Property Maintained by Homeowners, including items billed back to Homeowners, relates to unit:

- Homes and Lots

Others' Responsibility - Items designated as the responsibility of others to repair or replace. Property Maintained by Others relates to:

- Street System, to Include Catch Basins, Curbs, Gutters and Sidewalks (Fairfax County)
- Creek (Fairfax County)
- Light Poles and Fixtures (Fairfax County)
- Pipes, Subsurface Utilities, Mains (Fairfax County)
- Vending Machine (Leased)

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
- 2023 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

Armfield Farm Homeowners Association Chantilly, Virginia

Explanatory Notes:

- 1) **3.0%** is the estimated Inflation Rate for estimating Future Replacement Costs.
- 2) FY2023 is Fiscal Year beginning January 1, 2023 and ending December 31, 2023.

Line Item	Total Quantity	Per Phase Quantity	Units	Reserve Component Inventory	Estimated 1st Year of Event	Life Analysis, Years		Costs, \$			Percentage of Future Expenditures	RUL = 0 FY2023	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033	11 2034	12 2035	13 2036	14 2037	15 2038	
						Useful	Remaining	Unit (2023)	Per Phase (2023)	Total (2023)																		
Property Site Elements																												
4.020	1,850	1,850	Square Yards	Asphalt Pavement, Crack Repair, Patch, Seal Coat and Striping (2023 Planned)	2023	3 to 5	0	2.60	4,810	4,810	0.8%	4,810							6,093								6,858	
4.040	1,850	1,850	Square Yards	Asphalt Pavement, Mill and Overlay, Parking Area	2027	15 to 20	4	17.50	32,375	32,375	1.8%				36,438													
4.080	5,600	1,867	Square Yards	Asphalt Pavement, Walking Paths, Total Replacement, Phased	2027	15 to 20	4 to 12	26.50	49,467	148,400	7.2%				55,675				62,663								70,528	
4.090	460	460	Square Yards	Basketball Court, Color Coat, Beach Down Drive	2025	4 to 6	2	10.50	4,830	4,830	0.7%		5,124					5,940									6,886	
4.091	520	520	Square Yards	Basketball Court, Color Coat, Springhaven Drive	2030	4 to 6	7	10.50	5,460	5,460	0.6%							6,715									7,785	
4.092	460	460	Square Yards	Basketball Court, Surface Replacement, Beach Down Drive	2040	to 25	17	64.00	29,440	29,440	0.9%																	
4.093	520	520	Square Yards	Basketball Court, Surface Replacement, Springhaven Drive (Near Term Planned)	2024	to 25	1	64.00	33,280	33,280	1.9%	34,278																
4.094	280	280	Linear Feet	Basketball Courts, Fences	2043	to 25	20	46.00	12,880	12,880	0.4%																	
4.095	1	1	Allowance	Bridge, Wood	2026	to 30	3	14,000.00	14,000	14,000	0.3%				15,298													
4.110	1,000	150	Linear Feet	Concrete Curbs and Gutters, Partial	2027	to 65	4 to 30+	36.00	5,400	36,000	0.3%				6,078													
4.140	5,200	420	Square Feet	Concrete Sidewalks, Partial	2029	to 65	6 to 30+	11.50	4,830	59,800	0.7%						5,767									6,686		
4.286	250	250	Linear Feet	Fences, Wood, Split Rail	2040	to 25	17	29.00	7,250	7,250	0.2%																	
4.660	1	1	Allowance	Playground Equipment, Clary Sage Drive	2024	15 to 20	1	30,000.00	30,000	30,000	1.6%	30,900																
4.661	1	1	Allowance	Playground Equipment, Pool House	2024	15 to 20	1	91,000.00	91,000	91,000	4.7%	93,730																
4.662	1	1	Allowance	Playground Equipment, Springhaven Drive, North	2030	15 to 20	7	90,000.00	90,000	90,000	5.6%							110,689										
4.663	1	1	Allowance	Playground Equipment, Springhaven Drive, South	2032	15 to 20	9	40,000.00	40,000	40,000	2.6%									52,191								
4.800	1	1	Allowance	Signage, Entrance Monuments, Renovation, Centerville Road and Armfield Farm Drive	2039	15 to 20	16	3,000.00	3,000	3,000	0.1%																	
4.801	1	1	Allowance	Signage, Entrance Monuments, Renovation, Bellerose Drive and Lees Corner Road	2027	15 to 20	4	10,000.00	10,000	10,000	0.6%				11,255													
4.802	1	1	Allowance	Signage, Entrance Monuments, Renovation, Springhaven Drive and Lees Corner Road	2035	15 to 20	12	13,300.00	13,300	13,300	0.3%																18,963	
4.803	1	1	Allowance	Signage, Renovation, Bokel Drive (Incl. Well Structure)	2029	15 to 20	6	13,900.00	13,900	13,900	0.8%							16,597										
4.820	3	1	Allowance	Site Furniture, Phased	2027	15 to 25	4 to 16	6,100.00	6,100	18,300	0.9%				6,866							8,198						
4.830	1,440	1,440	Square Yards	Tennis Courts, Color Coat	2028	4 to 6	5	10.50	15,120	15,120	2.8%						17,528					20,320					23,556	
4.840	460	460	Linear Feet	Tennis Courts, Fence	2043	to 25	20	46.00	21,160	21,160	0.7%																	
4.850	11	11	Each	Tennis Courts, Light Poles and Fixtures	2048	to 25	25	3,800.00	41,800	41,800	1.6%																	
Pool House Elements																												
5.180	250	125	square feet	Doors, Entrances, Phased	2026	to 30	3 to 10	90.00	11,250	22,500	0.5%				12,293												15,119	
5.240	220	220	Linear Feet	Gutters and Downspouts, Aluminum	2029	15 to 20	6	10.00	2,200	2,200	0.1%							2,627										
5.700	1,800	1,800	Square Feet	Paint Finishes, Interior	2029	8 to 12	6	1.80	3,240	3,240	0.3%							3,869										
5.800	1	1	Allowance	Rest Room, Renovation	2029	to 25	6	42,000.00	42,000	42,000	2.5%							50,150										
5.820	20	20	Squares	Roofs, Asphalt Shingles	2029	15 to 20	6	510.00	10,200	10,200	0.6%							12,179										
5.840	1	1	Allowance	Walls, Siding, Fiber Cement, Paint Finishes	2028	8 to 10	5	6,000.00	6,000	6,000	0.5%						6,956										9,076	
5.940	1	1	Each	Water Heater	2027	12 to 15	4	4,000.00	4,000	4,000	0.4%				4,502													
Pool Elements																												
6.200	9,700	9,700	Square Feet	Concrete Deck, Inspections, Partial Replacements and Repairs	2027	8 to 12	4	2.00	19,400	19,400	0.9%					21,835											29,344	
6.300	5,700	5,700	Square Feet	Covers, Vinyl	2025	6 to 8	2	4.00	22,800	22,800	3.4%		24,189							29,749								
6.400	780	780	Linear Feet	Fence, Aluminum	2036	to 25	13	59.00	46,020	46,020	1.2%																67,582	
6.500	2	1	Allowance	Furniture, Phased	2029	to 12	6 to 12	58,500.00	58,500	117,000	9.2%							69,852									83,407	
6.550	5	5	Each	Light Poles and Fixtures	2029	to 25	6	2,800.00	14,000	14,000	0.3%							16,717										
6.600	2	1	Allowance	Mechanical Equipment, Phased	2029	to 15	6 to 13	10,000.00	10,000	20,000	1.2%							11,941								14,685		
6.800	5,300	5,300	Square Feet	Pool Finishes, Plaster	2027	8 to 12	4	13.50	71,550	71,550	3.4%				80,530												108,226	
6.801	1,300	1,300	Linear Feet	Pool Finishes, Tile and Coping	2037	15 to 25	14	70.00	91,000	91,000	2.5%																137,646	
6.870	4	2	Each	Shade Structures, Phased	2028	to 15	5 to 11	12,000.00	24,000	48,000	2.8%						27,823										33,222	
6.900	5,300	5,300	Square Feet	Structures and Deck, Total Replacement	2045	to 60	22	170.00	901,000	901,000	31.0%																	
6.980	1	1	Each	Water Slide	2037	15 to 20	14	33,000.00	33,000	33,000	0.9%																49,915	
Anticipated Expenditures, By Year (\$5,566,198 over 30 years)												4,810	158,908	29,313	27,591	223,179	52,307	189,699	123,344	68,756	81,940	43,637	39,908	194,427	82,267	334,207	23,556	

RESERVE FUNDING PLAN

CASH FLOW ANALYSIS

Armfield Farm
Homeowners Association
Chantilly, Virginia

Individual Reserve Budgets & Cash Flows for the Next 30 Years

		FY2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Reserves at Beginning of Year	(Note 1)	284,241	316,256	304,797	424,000	547,326	475,575	574,969	537,585	570,714	664,084	750,550	882,078	1,024,850	1,019,363	1,132,199	998,084
Total Recommended Reserve Contributions	(Note 2)	35,328	141,300	141,300	141,300	141,300	141,300	141,300	145,500	149,900	154,400	159,000	163,800	168,700	173,800	179,000	184,400
Estimated Interest Earned, During Year	(Note 3)	1,497	6,149	7,216	9,617	10,128	10,401	11,015	10,973	12,226	14,006	16,165	18,880	20,240	21,303	21,092	21,570
Anticipated Expenditures, By Year		(4,810)	(158,908)	(29,313)	(27,591)	(223,179)	(52,307)	(189,699)	(123,344)	(68,756)	(81,940)	(43,637)	(39,908)	(194,427)	(82,267)	(334,207)	(23,556)
Anticipated Reserves at Year End		<u>\$316,256</u>	<u>\$304,797</u>	<u>\$424,000</u>	<u>\$547,326</u>	<u>\$475,575</u>	<u>\$574,969</u>	<u>\$537,585</u>	<u>\$570,714</u>	<u>\$664,084</u>	<u>\$750,550</u>	<u>\$882,078</u>	<u>\$1,024,850</u>	<u>\$1,019,363</u>	<u>\$1,132,199</u>	<u>\$998,084</u>	<u>\$1,180,498</u>

(continued)

Individual Reserve Budgets & Cash Flows for the Next 30 Years, Continued

		2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
Reserves at Beginning of Year		1,180,498	1,323,329	1,470,310	1,602,643	1,844,271	1,936,522	1,961,132	453,929	641,434	577,411	718,766	699,682	743,917	892,684	1,096,920
Total Recommended Reserve Contributions		189,900	195,600	201,500	207,500	213,700	220,100	226,700	233,500	240,500	247,700	255,100	262,800	270,700	278,800	287,200
Estimated Interest Earned, During Year		24,790	27,660	30,425	34,128	37,434	38,591	23,911	10,845	12,068	12,833	14,044	14,293	16,204	19,699	22,373
Anticipated Expenditures, By Year		(71,859)	(76,279)	(99,592)	0	(158,883)	(234,081)	(1,757,814)	(56,840)	(316,591)	(119,178)	(288,228)	(232,858)	(138,137)	(94,263)	(243,746)
Anticipated Reserves at Year End		<u>\$1,323,329</u>	<u>\$1,470,310</u>	<u>\$1,602,643</u>	<u>\$1,844,271</u>	<u>\$1,936,522</u>	<u>\$1,961,132</u>	<u>\$453,929</u>	<u>\$641,434</u>	<u>\$577,411</u>	<u>\$718,766</u>	<u>\$699,682</u>	<u>\$743,917</u>	<u>\$892,684</u>	<u>\$1,096,920</u>	<u>\$1,162,747</u>

(NOTE 5)

(NOTE 4)

Explanatory Notes:

- 1) Year 2023 starting reserves are as of September 30, 2023; FY2023 starts January 1, 2023 and ends December 31, 2023.
- 2) Reserve Contributions for 2023 are the remaining budgeted 3 months; 2024 is the first year of recommended contributions.
- 3) 2.0% is the estimated annual rate of return on invested reserves; 2023 is a partial year of interest earned.
- 4) Accumulated year 2053 ending reserves consider the age, size, overall condition and complexity of the property.
- 5) Threshold Funding Year (reserve balance at critical point).

RESERVE EXPENDITURES**Armfield Farm
Homeowners Association
Chantilly, Virginia**

Line Item	Reserve Component Inventory	RUL = 0 FY2023	1 2024	2 2025	3 2026	4 2027	5 2028
<u>Property Site Elements</u>							
4.020	Asphalt Pavement, Crack Repair, Patch, Seal Coat and Striping (2023 Planned)	4,810					
4.040	Asphalt Pavement, Mill and Overlay, Parking Area					36,438	
4.080	Asphalt Pavement, Walking Paths, Total Replacement, Phased					55,675	
4.090	Basketball Court, Color Coat, Beach Down Drive			5,124			
4.093	Basketball Court, Surface Replacement, Springhaven Drive (Near Term Planned)	34,278					
4.095	Bridge, Wood				15,298		
4.110	Concrete Curbs and Gutters, Partial					6,078	
4.660	Playground Equipment, Clary Sage Drive	30,900					
4.661	Playground Equipment, Pool House	93,730					
4.801	Signage, Entrance Monuments, Renovation, Bellerose Drive and Lees Corner Road					11,255	
4.820	Site Furniture, Phased					6,866	
4.830	Tennis Courts, Color Coat						17,528
<u>Pool House Elements</u>							
5.180	Doors, Entrances, Phased				12,293		
5.840	Walls, Siding, Fiber Cement, Paint Finishes						6,956
5.940	Water Heater					4,502	
<u>Pool Elements</u>							
6.200	Concrete Deck, Inspections, Partial Replacements and Repairs					21,835	
6.300	Covers, Vinyl			24,189			
6.800	Pool Finishes, Plaster					80,530	
6.870	Shade Structures, Phased						27,823
Anticipated Expenditures, By Year (\$5,566,198 over 30 years)		4,810	158,908	29,313	27,591	223,179	52,307

4. RESERVE COMPONENT DETAIL

The Reserve Component Detail of this *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.*

Property Site Elements

Asphalt Pavement, Parking Area, Repaving

Line Items: 4.020 and 4.040

Quantity: Approximately 1,850 square yards at the pool house parking areas. This quantity includes the catch basins.

History: The Association likely conducted repairs in 2019 and plans to conduct repairs in 2023.

Condition: Fair overall with cracks, repairs, root intrusion, concrete damage and collar damage evident.



Pavement overview



Catch basin



Asphalt cracks and repairs



Cracks and repairs



Crack repairs



Root intrusion



Concrete damage – Note: catch basin

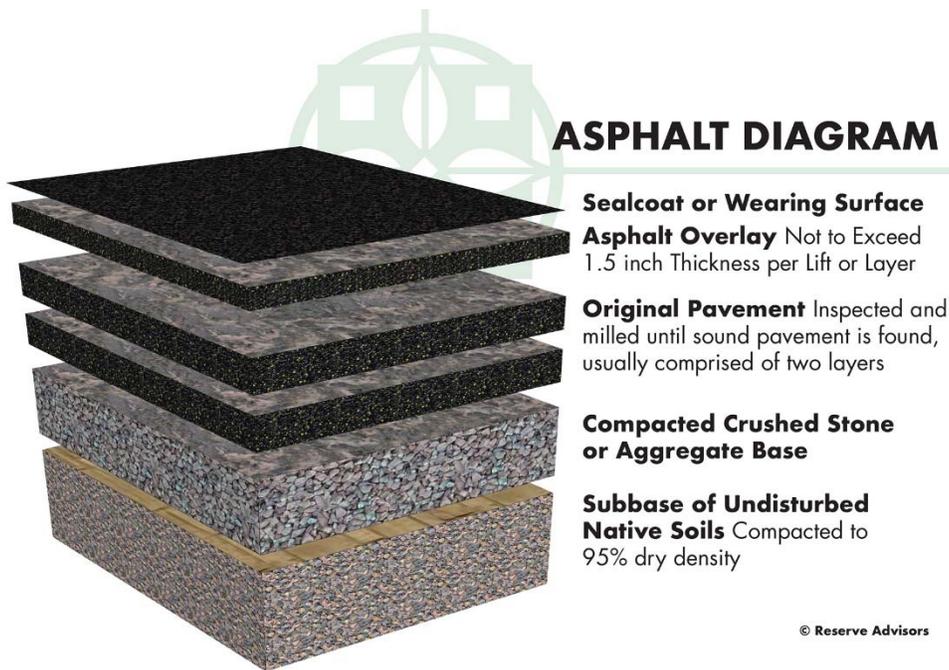


Concrete and collar damage – Note: catch basin

Useful Life: 15- to 20-years with the benefit of crack repair, patch, seal coat, and striping events every 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.

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 Armfield Farm:



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 Armfield Farm.

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 includes an allowance for crack repairs and patching of up to two percent (2%) of the pavement. Our cost for milling and overlayment includes area patching of up to ten percent (10%).

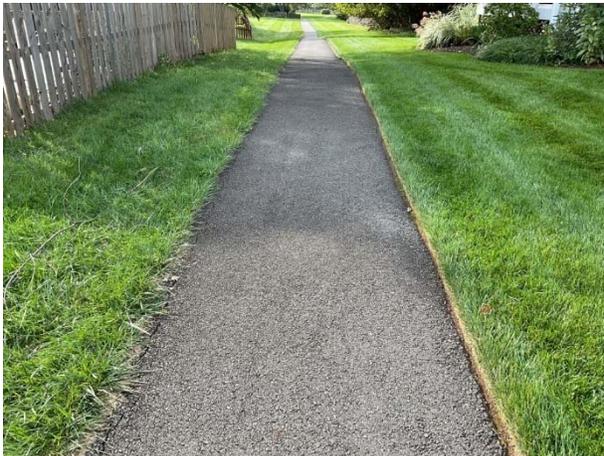
Asphalt Pavement, Repaving, Walking Paths

Line Item: 4.080

Quantity: Approximately 5,600 square yards throughout the community.

History: The Association repaved the walking paths between 2011 through 2020.

Condition: Varying from good to fair overall with cracks, root intrusion, undermining and edge deterioration evident.



Walking path overview



Asphalt cracks – Note: between Kew Garden Court and Beech Down Drive



Asphalt cracks – Note: between Kew Garden Court and Beech Down Drive



Asphalt cracks – Note: adjacent to soccer field



Root intrusion – Note: adjacent to Beech Down Drive basketball court



Undermining – Note: Clary Sage Drive



Undermining – Note: Clary Sage Drive



Edge deterioration

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

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

Basketball Courts

Line Items: 4.090 through 4.093

Quantity: Approximately 460 square yards on pavement coated in pro-cushion comprise one basketball court at Beach Down Drive and 520 square yards of pavement comprise one basketball court at Springhaven Drive.

History: The Association replaced the surface at Beach Down Drive with a pro-cushion surface in 2020 and plans to replace the court at Springhaven Drive with a pro-cushion surface in the near term.

Condition: The court at Beach Down Drive is in good to fair overall condition with isolated damage and cracks evident. The surface at Springhaven Drive is in fair to poor overall condition with cracks and surface deterioration evident.



Basketball court overview – Note: Beach Down Drive



Basketball court overview – Note: Springhaven Drive



Surface damage – Note: *Beach Down Drive*



Surface crack – Note: *Beach Down Drive*



Pavement cracks – Note: *Springhaven Drive*



Surface deterioration and cracks



Surface deterioration and cracks

Useful Life: Up to 25 years for replacement of the surface with the benefit of color coat applications and repairs every four- to six-years

Preventative Maintenance Notes: Prior to the application of the color coat, the Association should require the contractor to rout and fill all cracks with hot emulsion. This deters water infiltration and further deterioration of the asphalt playing surface. We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
 - Inspect and repair large cracks, trip hazards and possibly safety hazards
 - Verify gate and fencing is secure
 - Verify lighting is working properly if applicable
 - Inspect and repair standards and windscreens as needed

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 surface replacement is based on information provided by the Association.

Basketball Courts, Fences

Line Item: 4.094

Quantity: Approximately 280 linear feet at the basketball courts at Beach Down Drive and Springhaven Drive.

History: The Association replaced the fences in 2018.

Condition: Good to fair overall with rust, displaced post and overgrowth evident.



Fence overview



Fence rust



Displaced post



Overgrowth

Useful Life: Up to 25 years

Priority/Criticality: Per Board discretion

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

Bridge, Wood

Line Item: 4.095

Quantity: One wood bridge located at the walking path adjacent to Clary Sage Drive.

History: Unknown age

Condition: Fair overall with wood split, damage, deterioration, loose boards and erosion evident. We recommend conducting further inspections in the near term to ensure erosion is not causing structural instability at the bridge.



Wood bridge



Wood split



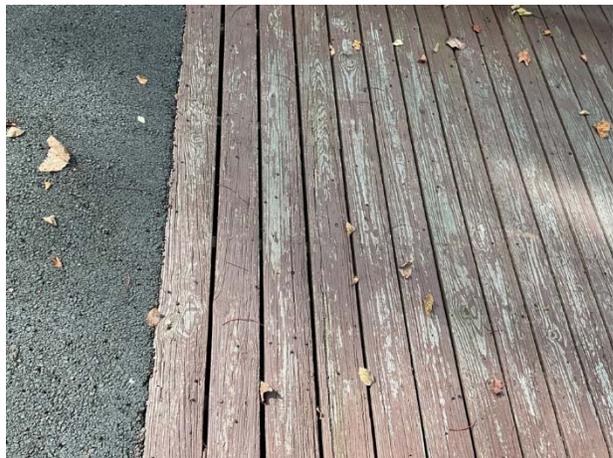
Wood split



Wood split and damage



Wood deterioration



Paint deterioration



Loose board



Errosion

Useful Life: Up to 30 years for replacement

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 budgeting for interim deck board replacement, repairs, paint applications and cleaning through the operating budget. We recommend getting the area affected by erosion inspected by an independent professional engineer to confirm the structural integrity of the surface.

Concrete Curbs and Gutters

Line Item: 4.110

Quantity: Approximately 1,000 linear feet at the pool house parking area.

Condition: Good to fair overall with cracks, heave and settlement evident.



Curb and gutter overview



Concrete crack



Concrete crack



Concrete heave



Settlement

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:
 - 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 300 linear feet of curbs and gutters, or thirty percent (30%) of the total, will require replacement during the next 30 years.

Concrete Sidewalks

Line Item: 4.140

Quantity: Approximately 5,200 square feet at the pool house.

Condition: Good to fair overall with cracks evident.



Concrete sidewalk



Concrete crack



Concrete crack

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:
 - 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 2,100 square feet of concrete sidewalks, or approximately forty percent (40.4%) of the total, will require replacement during the next 30 years.

Fences, Wood, Split Rail

Line Item: 4.286

Quantity: Approximately 250 linear feet at the walking path adjacent to Clary Sage Drive and Bokel Drive.

History: The Association likely replaced the fences within the last three years.

Condition: Good to fair overall with leaning sections evident.



Fence overview



Leaning section

Useful Life: Up to 25 years

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

- Annually:
 - Inspect and repair loose sections, and damage
 - Repair leaning sections and clear vegetation from fence areas which could cause damage

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. The Association should anticipate periodic partial replacements funded through the operating budget due to the non-uniform nature of wood deterioration.

Playground Equipment

Line Items: 4.660 through 4.663

Quantity: Playground equipment includes the following elements:

- Playsets and swings
- Wood safety surface and border

History/Condition: The replacement schedule and conditions are noted below:

Location	Year of Replacement	Condition
Pool House	1999	Fair to poor overall with extensive finish deterioration and rust evident
Clary Sage Drive	2003	Fair to poor overall with finish deterioration, rust, stains, dented equipment, faded equipment wood deterioration, exposed border fasteners and mulch depletion evident
Springhaven Drive, North	2012	Fair overall with finish deterioration and rust evident
Springhaven Drive, South	2012	Good to fair overall with finish deterioration and rust evident



Playground equipment – *Note: pool house*



Playground equipment – *Note: pool house*



Playground equipment – Note: *Clary Sage Drive*



Playground equipment – Note: *Clary Sage Drive*



Playground equipment – Note: *Springhaven Drive, North*



Playground equipment – Note: *Springhaven Drive, South*



Finish deterioration and rust – Note: *pool house*



Finish deterioration and rust – Note: *pool house*



Finish deterioration and fastener rust – Note: pool house



Rust – Note: pool house



Finish deterioration – Note: pool house



Finish deterioration and rust – Note: Clary Sage Drive



Stains and dented equipment – Note: Clary Sage Drive



Faded equipment – Note: Clary Sage Drive



Wood deterioration and exposed border fasteners
– *Note: Clary Sage Drive*



Wood deterioration – *Note: Clary Sage Drive*



Mulch depletion – *Note: Clary Sage Drive*



Finish deterioration and rust – *Note: Springhaven Drive, North*



Finish deterioration – *Note: Springhaven Drive, North*



Finish deterioration and rust – *Note: Springhaven Drive, South*

Useful Life: 15- to 20-years

Component Detail Notes: Safety is the major purpose for maintaining playground equipment. We recommend an annual inspection of the playground equipment to identify and repair as normal maintenance loose connections and fasteners or damaged elements. We suggest the Association learn more about the specific requirements of playground equipment at PlaygroundSafety.org. We recommend the use of a specialist for the design or replacement of the playground equipment environment.

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

- Annually:
 - Inspect and repair loose connections and fasteners or damaged elements
 - Inspect for safety hazards and adequate coverage of ground surface cover

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 include an allowance in the unit cost for replacement of the safety surface and border.

Signage, Entrance Monuments

Line Items: 4.800 through 4.803

Quantity/Condition: The property identification signage includes the following elements:

Location	Components	Condition
Centerville Road and Armfield Farm Drive	<ul style="list-style-type: none"> ·Landscaping ·Light fixtures ·Masonry, brick ·Signs, concrete 	Good to fair overall with mortar deterioration, masonry cracks and damage evident
Springhaven Drive and Lees Corner Road	<ul style="list-style-type: none"> ·Landscaping ·Light fixtures ·Masonry, stone ·Signs, composite 	Good to fair overall with mortar cracks evident
Bellerose Drive and Lees Corner Road	<ul style="list-style-type: none"> ·Fence, wood rail ·Landscaping ·Light fixtures ·Masonry, brick ·Signs, composite ·Solar Panel 	Fair overall with masonry damage, wood damage, wood split and finish deterioration evident
Bokel Drive and Lees Corner Road	<ul style="list-style-type: none"> ·Landscaping ·Fence, wood picket ·Light fixtures ·Masonry, brick ·Sign, composite ·Well structure 	Fair overall with wood split, finish deterioration and shingle lift evident

History: The wood fences at Bellerose Drive were replaced along with installation of a solar panel in 2011. The composite signs at Springhaven Drive and Bokel Drive were likely replaced in 2016 and the concrete signs at Centerville Road and Armfield Farm Drive were replaced in 2019.



Entrance monument overview – Note:
Centerville Road and Armfield Farm Drive



Entrance monument overview – Note:
Springhaven Drive and Lees Corner Road



Entrance monument – Note: Bellerose Drive and Lees Corner Road



Solar panel – Note: Bellerose Drive and Lees Corner Road



Signage – Note: Bokel Drive and Lees Corner Road



Well Structure – Note: Bokel Drive and Lees Corner Road



Mortar deterioration and masonry cracks– Note: Centerville Road and Armfield Farm Drive



Mortar deterioration – Note: Centerville Road and Armfield Farm Drive



Masonry damage – Note: Centerville Road and Armfield Farm Drive



Mortar cracks – Note: Springhaven Drive and Lees Corner Road



Masonry damage – Note: Bellerose Drive and Lees Corner Road



Masonry damage – Note: Bellerose Drive and Lees Corner Road



Masonry damage – Note: Bellerose Drive and Lees Corner Road



Wood damage – Note: Bellerose Drive and Lees Corner Road



Wood split – Note: Bellerose Drive and Lees Corner Road



Finish deterioration – Note: Bellerose Drive and Lees Corner Road



Wood split – Note: Bokel Drive and Lees Corner Road



Wood split – Note: Bokel Drive and Lees Corner Road



Wood split and finish deterioration – Note: Bokel Drive and Lees Corner Road



Shingle lift– Note: Bokel Drive and Lees Corner Road



Finish deterioration – *Note: Bokel Drive and Lees Corner Road*



Finish deterioration – *Note: Bokel Drive and Lees Corner Road*

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:
 - Inspect and repair damage, vandalism and loose components
 - Verify lighting is working properly
 - 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 and replacement of the remaining components listed above.

Site Furniture

Line Item: 4.820

Quantity: The site furniture throughout the community consists of the following:

- Bicycle racks
- Benches
- Picnic tables
- Trash receptacles

History: Various ages

Condition: Varying from good to fair overall with damage, rust and finish deterioration evident.



Benches



Benches



Bench



Picnic tables



Trash receptacle



Bicycle rack



Damage and rust – Note: pool house playground



Finish deterioration and rust – Note: picnic table



Finish deterioration and rust



Damage



Finish deterioration – *Note: Clary Sage Drive playground*

Useful Life: 15- to 25-years

Priority/Criticality: Per Board discretion

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

Tennis Courts, Color Coat

Line Item: 4.830

Quantity: Approximately 1,440 square yards comprising two tennis courts.

History: The Association replaced the surface with concrete in 2023.

Condition: Good to fair overall with scuffs evident.



Tennis court overview



Scuffs

Useful Life: Four- to six-years

Component Detail Notes: Prior to the application of the color coat, the Association should require the contractor to rout and fill all cracks with hot emulsion. This deters water infiltration and further deterioration of the asphalt playing surface.

Priority/Criticality: Not recommended to defer

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

Tennis Courts, Fence

Line Item: 4.840

Quantity: Approximately 460 linear feet at the tennis court.

History: Replaced in 2018.

Condition: Good to fair overall with isolated loose links evident.



Fence and windscreen overview



Loose link

Useful Life: Up to 25 years

Priority/Criticality: Per Board discretion

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

Tennis Courts, Light Poles and Fixtures

Line Item: 4.850

Quantity: 11 light poles with 16 fixtures at the tennis courts.

History: The Association replaced the light poles and fixtures in 2023 and installed additional light poles and fixtures in 2023.

Condition: Good overall



Light pole and fixture overview



Light pole and fixture overview

Useful Life: Up to 25 years

Priority/Criticality: Per Board discretion

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

Pool House Elements



Pool house front elevation overview



Pool house side elevation overview



Pool house rear elevation overview

Doors, Entrances

Line Item: 5.180

Quantity: Approximately 250 square feet comprise the entrance doors.

History: Unknown ages

Condition: Varying from good to fair overall with rust evident at the rear entrance doors.



Front entrance door



Rear entrance doors



Mechanical equipment doors



Entrance door rust – Note: rear entrance door



Entrance door rust – Note: rear entrance door

Useful Life: Up to every 30 years

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

- Annually:
 - Inspect and repair any damage, base corrosion or alignment issues
 - Replace deteriorated hardware and loose weather stripping
 - Periodic touch-up paint finish applications as needed

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.

Gutters and Downspouts, Aluminum

Line Item: 5.240

Quantity: Approximately 220 linear feet of aluminum five-inch seamless gutters and two-inch by three-inch downspouts.

History: Replaced in 2009

Condition: Good to fair overall with damaged gutters evident.



Gutter and downspout overview



Damaged gutters

Useful Life: 15- to 20-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. The useful life of gutters and downspouts coincides with that of the sloped roofs. Coordinated replacement 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 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
 - 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.

Paint Finishes

Line Item: 5.700

Quantity: Approximately 1,800 square feet on the walls and ceilings at the interior of the pool house.

History: Unknown history of paint applications.

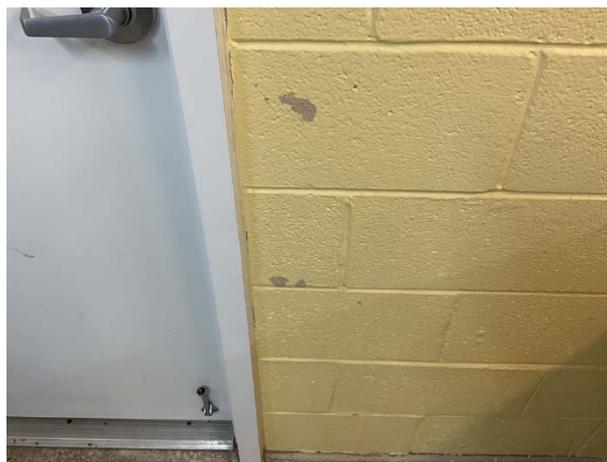
Condition: Good to fair overall with paint deterioration evident.



Paint application overview



Mural



Paint deterioration

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 Rooms

Line Item: 5.800

Quantity: The Association maintains two rest rooms which consist of the following components:

- Changing station
- Drinking fountain
- Foot wash stations
- Floors, concrete
- Light fixtures
- Partition walls
- Plumbing fixtures (including foot wash stations)
- Wall coverings, tile

History: The Association replaced the sinks, light fixtures, floor coatings and expanded the tile wall coverings in 2015, and installed two foot wash stations in 2019 at the picnic area.

Condition: Good to fair overall with mold and rust evident.



Shower cubicles



Plumbing fixtures



Drinking fountain



Foot wash station



Tile overview



Mold



Rust

Useful Life: Renovation up to 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 budgeting for interim floor coating applications and plumbing fixture replacement through the operating budget. Our cost includes the following:

- Coating applications to the floors
- Replacement of the furnishings
- Replacement of the light fixtures
- Replacement of the plumbing fixtures
- Replacement of the tile

We recommend budgeting for cleaning the mold through the operating budget.

Roofs, Asphalt Shingles

Line Item: 5.820

Quantity: Approximately 20 squares¹ at the pool house.

History: The roof was replaced in 2009.

Condition: Good to fair overall with damaged shingles, curled shingles and staining evident. Management and the Board do not report a history of leaks.



Damaged shingle



Curled and stained shingles

Useful Life: 15- to 20-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 pipe

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

- Soffit, round hood and ridge vents
- Lack metal drip edge at roof perimeters (this condition increases likelihood of water infiltration)
- Enclosed half 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.

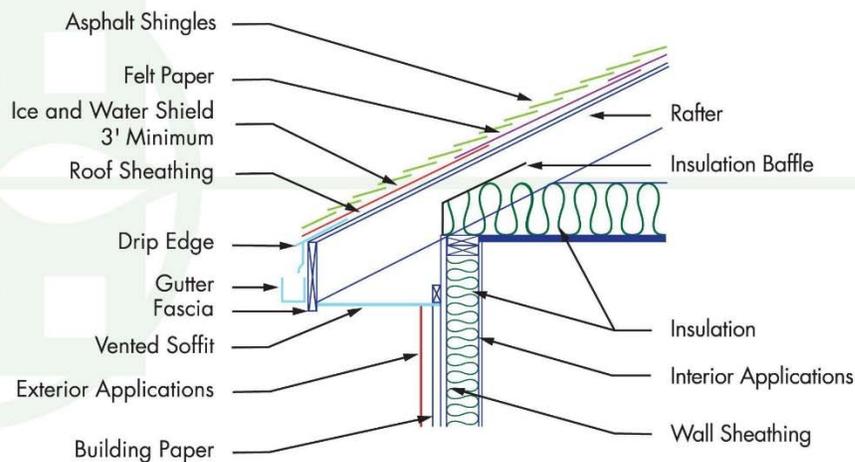
The vents should be clear of debris and not blocked from above by attic insulation. If the soffit vents are blocked from above, installation of polystyrene vent spaces or baffles between the roof joists at these locations can ensure proper ventilation.

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 Armfield Farm:

ROOF SCHEMATIC



© Reserve Advisors

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
 - Implement repairs as needed if issues are reoccurring

- 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.

Walls, Siding, Fiber Cement

Line Item: 5.840

Quantity: Approximately 590 square feet of fiber cement siding comprises the exterior walls. This quantity includes the wood trim.

History: The exterior fiber cement walls were replaced in 2015 and the fiber cement privacy walls were replaced in 2019.

Condition: The siding was in good overall condition. The trim was in fair to poor overall condition with deterioration evident.



Fiber cement siding



Fiber cement privacy walls



Trim deterioration



Trim deterioration



Trim deterioration

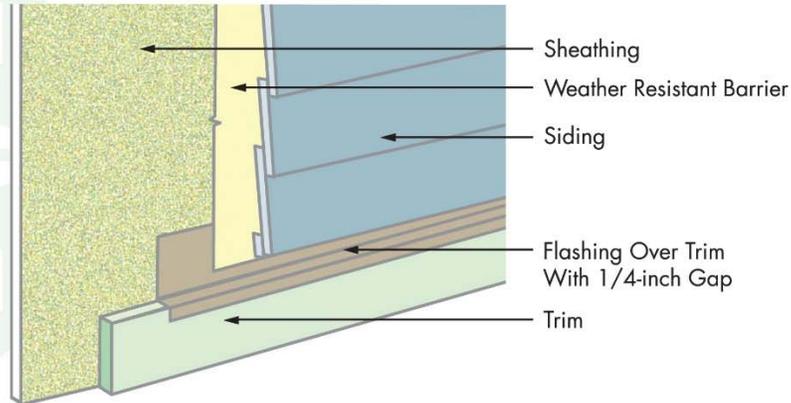
Useful Life: With the benefit of periodic maintenance, applications of this type of material can have a useful life of up to 50 years. This useful life is based on a high grade pre-finish applied in the factory. This useful life is also dependent upon paint applications and partial replacements up to every 8- to 10-years.

Component Detail Notes: Fiber cement siding is made from a combination of cement, sand and cellulose fiber. Manufacturing of the siding utilizes a steam curing process to increase strength and dimensional stability. The siding is also manufactured in layers forming a sheet of desired thickness. A wood grain imprint is typically applied to the exposed surface. Fiber cement siding offers many advantages over other types of siding. These advantages include:

- Capable of withstanding salt spray and ultraviolet rays
- Dimensional stability (will not buckle or warp as easily as other materials)
- Paint applications last longer compared to wood siding
- Resistant to insects, birds and fire

The following diagram details a typical fiber cement siding system at the interface with other building components although it may not reflect the actual configuration at Armfield Farm:

FIBER CEMENT SIDING DETAIL



© Reserve Advisors

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

- Annually:
 - Inspect and repair damage, loose boards and finish stains
 - Periodic pressure cleaning at areas with organic growth
 - Touch-up paint finish applications as needed and sealing of butt joints and field cut end joints

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 anticipate the following during each paint application cycle:

- Paint finish application
- Replacement of up to one percent (1.0%) of the fiber cement siding
- Replacement of up to eight percent (8.0%) 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 cracks, delamination and deterioration impair the ability of the material to prevent water infiltration.)

Water Heater

Line Item: 5.940

Quantity: One 120 gallon A.O. Smith electric heater.

History: The water heater was replaced in 2014.

Condition: Reported satisfactory



Water heater

Useful Life: 12- to 15-years

Component Detail Notes: The heater has an input capacity of 61-MBH (thousand British Thermal Units per hour) to generate domestic hot water.

Preventative Maintenance Notes: We recommend the Association obtain and adhere to the manufacturer's recommended maintenance plan. We also recommend the Association maintain a maintenance contract with a qualified professional. 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:

- Weekly:
 - Inspect for leaking water around boilers
 - Check temperature readings
 - Verify vent is unobstructed
 - Conduct boiler blowdown to minimize corrosion and remove suspended solids in system
 - Clean pilot and burner assemblies

- Monthly:
 - Check water and pressure levels
 - Check controls and switches for proper operating
 - Check and inspect condensate drain
 - Check all gaskets for tight sealing
- Annually:
 - Conduct full inspection of burners and flues
 - Clean and inspect tubes to reduce scaling
 - Inspect any pressure relief valves
 - Inspect electrical terminals and controls

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 includes an allowance for replacement of controls.

Pool Elements



Pool overview



Wading pool overview

Concrete Deck

Line Item: 6.200

Quantity: Approximately 9,700 square feet.

History: The Association replaced the entire concrete deck in 2017. This included an expansion of the concrete surface.

Condition: Good to fair overall with isolated cracks evident.



Concrete deck overview



Concrete crack

Useful Life: The useful life of a concrete pool deck is up to 60 years or more with timely repairs. We recommend the Association conduct inspections, partial replacements and repairs to the deck every 8- to 12-years.

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

- Semi-annually:
 - Inspect and repair large cracks, trip hazards, and possible safety hazards
 - Inspect and repair pool coping for cracks, settlement, heaves or sealant deterioration
 - Repair concrete spalling
 - Schedule periodic pressure cleanings as needed

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 budget for the following per event:

- Selective cut out and replacements of up to ten percent (10%) of concrete
- Crack repairs as needed
- Mortar joint repairs
- Caulk replacement

Covers, Vinyl

Line Item: 6.300

Quantity: Approximately 5,700 square feet

History: Replaced both covers in 2017.

Condition: Good to fair overall with tears evident.



Cover overview



Cover tears – Note: main pool

Useful Life: Six- to eight-years

Priority/Criticality: Per Board discretion

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

Fences, Aluminum

Line Item: 6.400

Quantity: Approximately 780 linear feet at the pool areas.

History: The Association installed the fences in 2011 and expanded sections in 2017 around the light polls and shade structures.

Condition: Good to fair overall with finish deterioration evident.



Fence overview



Finish deterioration

Useful Life: Up to 25 years

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

- Annually:
 - Inspect and repair loose fasteners or sections, and damage
 - Repair leaning sections and clear vegetation from fence areas which could cause damage

Priority/Criticality: Not recommended to defer

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

Furniture

Line Item: 6.500

Quantity: The pool furniture includes the following:

- Chairs
- Grills
- Lounges
- Tables
- Ladders and life safety equipment

History: Replaced in 2017.

Condition: Varying from good to fair overall with finish deterioration and rust evident.



Furniture overview



Furniture overview



Grills



Finish deterioration



Umbrella base rust

Useful Life: Up 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. We recommend interim re-strapping, refinishing, cushion replacements, reupholstering and other repairs to the furniture as normal maintenance to maximize its useful life.

Light Poles and Fixtures

Line Item: 6.550

Quantity: Five metal poles with light fixtures.

History: Unknown ages

Condition: Fair overall with finish deterioration and rust evident.



Light pole and fixture overview



Finish deterioration and rust



Finish deterioration and rust

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:
 - Inspect and repair broken or dislodged fixtures, and leaning or damaged poles
 - Replaced burned out bulbs as needed

Priority/Criticality: Per Board discretion

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

Mechanical Equipment

Line Item: 6.600

Quantity: The mechanical equipment includes the following:

- Automatic chlorinators and controls
- Interconnected pipe, fittings and valves
- Pumps and filters

History: Varying ages. The main pool filters were replaced in 2010 and the wading pool pump and filter were replaced in 2022.

Condition: Reported satisfactory



Pool mechanical equipment



Pool filters



Mechanical equipment



Automatic chlorinator

Useful Life: Up to 15 years

Preventative Maintenance Notes: We recommend the Association maintain a maintenance contract with a qualified professional and follow the manufacturer's specific recommended maintenance and local, state and/or federal inspection guidelines.

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. Failure of the pool mechanical equipment as a single event is unlikely. Therefore, we include replacement of up to fifty percent (50%) of the equipment per event. We consider interim replacement of motors and minor repairs as normal maintenance.

Pool Finishes, Plaster and Tile and Coping

Line Items: 6.800 and 6.801

Quantity: 5,300 square feet of plaster based on the horizontal surface area and approximately 1,300 linear feet of tile and coping.

History: The Association replaced the plaster and tile in 2017 and the coping in 2019.

Condition: Good overall as reported to us by the Association

Useful Life: 8- to 12-years for the plaster and 15- to 25-years for the tile and coping

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

- Semi-annually:
 - Inspect and patch areas of significant plaster delamination, coping damage and structure cracks

- Inspect main drain connection and anti-entrapment covers, pressure test circulation piping and valves
- Test handrails and safety features for proper operation

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 budget for full tile replacement every other plaster replacement event. Removal and replacement of the finish provides the opportunity to inspect the pool structures and to allow for partial repairs of the underlying concrete surfaces as needed. To maintain the integrity of the pool structures, we recommend the Association budget for the following:

- Removal and replacement of the plaster finishes
- Partial replacements of the scuppers and coping as needed
- Replacement of tiles as needed
- Replacement of joint sealants as needed
- Concrete structure repairs as needed

Shade Structure

Line Item: 6.870

Quantity: Four shade structures at the pool area.

History: The two shade structure adjacent to the wading pool were installed in 2008 and the two adjacent to the main pool were installed in 2016.

Condition: The structures at the wading pool is in fair overall condition with finish deterioration and rust evident. The structure at the main pool is in good to fair overall condition.



Shade structure overview – Note: wading pool



Shade structure overview – Note: main pool



Rust – Note: wading pool



Finish deterioration and rust – Note: wading pool

Useful Life: Up to every 15 years

Priority/Criticality: Per Board discretion

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

Structures and Deck

Line Item: 6.900

Quantity: Approximately 5,300 square feet of horizontal surface area

History: The structure is original

Conditions: Visually appear in good condition. The concrete floors and walls have a plaster finish. This finish makes it difficult to thoroughly inspect the concrete structures during a noninvasive visual inspection.

Useful Life: Up to 60 years

Component Detail Notes: The need to replace a pool structure depends on the condition of the concrete structure, the condition of the embedded or concealed water circulation piping, possible long term uneven settlement of the structure, and the increasing cost of repair and maintenance. Deterioration of any one of these component systems could result in complete replacement of the pool. For example, deferral of a deteriorated piping system could result in settlement and cracks in the pool structure. This mode of failure is more common as the system ages and deterioration of the piping system goes undetected. For reserve budgeting purposes, we recommend Armfield Farm plan to replace the following components:

- Concrete deck
- Pool structures

- Subsurface piping

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.

Water Slide

Line Item: 6.980

Quantity: The Association maintains one water slide

History: Installed in 2018

Conditions: Good to fair overall with base rust evident.



Water slide overview



Base rust

Useful Life: Replacement every 15- to 20-years

Component Detail Notes: Safety is the major purpose for maintaining the water slide. We recommend an annual inspection of the water slide to identify and repair as normal maintenance loose connections and fasteners or damaged elements. We recommend the use of a specialist for the design or replacement of the water slide environment.

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

- Weekly:
 - Inspect and repair loose connections and fasteners or damaged elements. Check handrails for stability.
 - Inspect for safety hazards

- Annually:
 - Drain all lines if applicable
 - Clean with non-abrasive cleaner and wax as needed
 - Reseal joints as needed

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.

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 two- to 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.

Armfield Farm 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 Homeowners 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 standards¹ set forth by the Association of Professional Reserve Analysts (APRA) fulfilling the requirements of a "Level II Reserve Study Update." 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
- Local² 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 Chantilly, Virginia at an annual inflation rate³. Isolated or regional markets of greater

¹ Identified in the APRA "Standards - Terms and Definitions" and the CAI "Terms and Definitions".

² See Credentials for additional information on our use of published sources of cost data.

³ Derived from Marshall & Swift, historical costs and the Bureau of Labor Statistics.

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

- The past and current maintenance practices of Armfield Farm 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.

Benjamin G. Guggeis
Engineer, Northeast Region
Responsible Advisor

CURRENT CLIENT SERVICES

Benjamin G. Guggeis, a Mechanical Engineer, is an Advisor for Reserve Advisors, LLC. Mr. Guggeis is responsible for 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 and Transition Study Reports for apartments, high rises, condominiums, townhomes, and homeowner associations.



The following is a partial list of clients served by Benjamin Guggeis demonstrating his breadth of experiential knowledge of community associations in construction and related buildings systems.

Eagle's Pointe Homeowners Association – Located in Woodbridge Virginia, this community consists of 1,052 single family homes. Residents enjoy an extensive clubhouse accompanied by two pools and exercise room, as well as any of 16 playgrounds and exercise stations located throughout the community. The property also features a plethora of retaining walls, totaling over 40,000 square feet.

Council of Unit Owners of Mutual 14 Condominium of Rossmoor, Inc. – Located in Silver Springs, Maryland, this community built in 1977 consists of 193 units comprising a combination of condominiums and townhomes. Residents of the condominiums have access to carport parking areas directly adjacent to the buildings along with concrete and metal structural catwalks at each elevation accessible via both stairwells and elevators.

Boca Grande Condominium – Located in Ocean City, Maryland, this midrise built in 1973 consists of five stories adjacent to the Atlantic Ocean. Each unit contains private balconies or patios overlooking the beach.

South Village Homeowners Association – Located in Chantilly, Virginia, this community consists of 429 units comprising a combination of single family homes and townhomes. Residents enjoy a beautiful park with a large fountain centerpiece surrounded by paver patios and paths, pergolas and monuments. Along with a private pool, three playgrounds, two tennis courts and a single basketball court, residents have plenty to enjoy on site.

Thompson Creek Town Home Association – Located in Stevensville, Maryland, this community consists of 54 units in eight buildings. A portion of the community is responsible for maintaining a wood dock at their marina. The community shares responsibility of maintenance and replacement for their pool, clubhouse, and site components with the neighboring Association.

PRIOR RELEVANT EXPERIENCE

Before joining Reserve Advisors, LLC, Mr. Guggeis attended West Virginia University's Benjamin M. Statler College of Engineering and Mineral Resources in Morgantown, West Virginia where he attained his Bachelor of Science degree in Mechanical Engineering. His work outside of the classroom involved concrete construction, aiding in both construction and repairs for residential and commercial properties and a mechanic on Black Hawk helicopters working on both mechanical and electrical systems of the aircraft.

EDUCATION

West Virginia University - B.S. Mechanical Engineering

NICHOLAS R. JULIA, RS
Regional Engineering Manager, Northeast Region

CURRENT CLIENT SERVICES

Nicholas R. Julia, a Civil Engineer, is an Advisor for Reserve Advisors, LLC. Mr. Julia is responsible for the inspection and analysis of the condition of clients' property, 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 Analysis and Capital Replacement Forecast services and the preparation of Reserve Study Reports for condominiums, townhomes and homeowner associations. Nicholas Julia often serves as Quality Assurance Reviewer for all types of developments to ensure our reports maintain the level of quality which is expected of our firm.



The following is a partial list of clients served by Nicholas Julia demonstrating his breadth of experiential knowledge of community associations in construction and related buildings systems.

One Park Crest Condominium is an upscale 19-story high rise building located in McLean, Virginia just outside of Washington, D.C. Residents enjoy an 18th floor club room and outdoor pool. The building also contains an exercise room, library, professionally decorated lobby and underground parking.

The Maryland Club is an exclusive club located in the heart of Baltimore, Maryland. The elegant white marble main building dates back to 1892. The club contains squash courts, a banquet area, a dining hall, and a professional kitchen amongst many other amenities.

Town of St. Michaels, a scenic town located on the Eastern Shore of Maryland. The town includes an administrative building, police station, public works garage and offices, and a historic log cabin. The municipality also maintains the asphalt pavement streets throughout the town, multiple parks, two water towers and a complex arsenic removal water treatment system.

One Loudoun Neighborhood Association is an upscale planned unit development comprising townhomes and single family homes located in Ashburn, Virginia. The property includes a high-end clubhouse with over 12,000 square feet of interior space including a gymnasium and yoga studio. The property also includes walking trails, multiple playgrounds, a tennis court, sports court, and a pool.

3883 Connecticut Avenue Condominium is a 10-story midrise located in Washington, D.C. The building was constructed in 2002 and contains luxurious amenities including an elevated outdoor pool on the 8th floor, party room, exercise facility and an underground parking garage.

Lake Petersburg Association This man-made lake community of 380 single family homes is located in Petersburg, Illinois. Components of the property include a community boat launch, dock, three tennis courts, a basketball court, two maintenance buildings, an office, and vehicular equipment. The Association also maintains an earthen dam on the far side of the lake.

PRIOR RELEVANT EXPERIENCE

Before joining Reserve Advisors, Mr. Julia attended Marquette University in Milwaukee, Wisconsin where he attained his Bachelor of Science degree in Civil Engineering. His studies focused on transportation engineering and construction management engineering.

EDUCATION

Marquette University - B.S. Civil Engineering

PROFESSIONAL AFFILIATIONS / DESIGNATIONS

Engineer in Training (E.I.T.) – Washington D.C.
Reserve Specialist (RS) - Community Association Institute

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:

Association of Construction Inspectors, (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.

American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., (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.

Community Associations Institute, (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.

Marshall & Swift / Boeckh, (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 *local* 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 Armfield Farm 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) Armfield Farm 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 subject property. The purpose of our energy benchmarking services is to track, collect and summarize the subject property's energy consumption over time for your use in comparison with other buildings of similar size and establishing a performance baseline for your planning of long-term energy efficiency goals.

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. Our energy benchmarking services with respect to the subject property is limited to collecting energy and utility data and summarizing such data in the form of an Energy Star Portfolio Manager Report or any other similar report, and hereby expressly excludes any recommendations with respect to the results of such energy benchmarking services or the accuracy of the energy information obtained from utility companies and other third-party sources with respect to the subject property. The reserve report and any energy benchmarking report (i.e., any Energy Star Portfolio Manager Report) (including any subsequent revisions thereto pursuant to the terms hereof, collectively, the "Report") are based upon a "snapshot in time" at the moment of inspection. RA may note visible physical defects in the Report. The inspection is made by employees generally familiar with real estate and building construction. Except to the extent readily apparent to RA, RA cannot and shall not opine on the structural integrity of or other physical defects in the property under any circumstances. Without limitation to the foregoing, RA cannot and shall not opine on, nor is RA responsible for, the property's conformity to specific governmental code requirements for fire, building, earthquake, occupancy or otherwise.

RA is not responsible for conditions that have changed between the time of inspection and the issuance of the Report. RA does not provide invasive testing on any mechanical systems that provide energy to the property, nor can RA opine on any system components that are not easily accessible during the inspection. 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 vapor, water, oil, gas, coal, or other subsurface mineral and use rights or such hidden conditions, and RA assumes no responsibility for any such conditions. The Report contains opinions of estimated replacement costs or deferred maintenance expenses and remaining useful lives, which are neither a guarantee of the actual costs or expenses of replacement or deferred maintenance nor a guarantee of remaining useful lives of any property element.

RA assumes, without independent verification, the accuracy of all data provided to it. Except to the extent resulting from RA's willful misconduct in connection with the performance of its obligations under this agreement, you agree to indemnify, defend, and hold RA and its affiliates, officers, managers, employees, agents, successors and assigns (each, an "RA Party") harmless from and against (and promptly reimburse each RA Party for) any and all losses, claims, actions, demands, judgments, orders, damages, expenses or liabilities, including, without limitation, reasonable attorneys' fees, asserted against or to which any RA Party may become subject in connection with this engagement, including, without limitation, as a result of any false, misleading or incomplete information which RA relied upon that was 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 or to whom you provided the Report. NOTWITHSTANDING ANY OTHER PROVISION HEREIN TO THE CONTRARY, THE AGGREGATE LIABILITY (IF ANY) OF RA WITH RESPECT TO THIS AGREEMENT AND RA'S OBLIGATIONS HEREUNDER IS LIMITED TO THE AMOUNT OF THE FEES ACTUALLY RECEIVED BY RA FROM YOU FOR THE SERVICES AND REPORT PERFORMED BY RA UNDER THIS AGREEMENT, WHETHER ARISING IN CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY OR OTHERWISE. YOUR REMEDIES SET FORTH HEREIN ARE EXCLUSIVE AND ARE YOUR SOLE REMEDIES FOR ANY FAILURE OF RA TO COMPLY WITH ITS OBLIGATIONS HEREUNDER OR OTHERWISE. RA SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR EXEMPLARY DAMAGES OF ANY KIND, INCLUDING, BUT NOT LIMITED TO, ANY LOST PROFITS AND LOST SAVINGS, LOSS OF USE OR INTERRUPTION OF BUSINESS, HOWEVER CAUSED, WHETHER ARISING IN CONTRACT, TORT (INCLUDING NEGLIGENCE), BREACH OF WARRANTY, STRICT LIABILITY OR OTHERWISE, EVEN IF RA HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT WILL RA BE LIABLE FOR THE COST OF PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES. RA DISCLAIMS ALL REPRESENTATIONS AND WARRANTIES WHATSOEVER, EXPRESS OR IMPLIED OR OF ANY NATURE, WITH REGARD TO THE SERVICES AND THE REPORT, INCLUDING, WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Report - RA will complete the services in accordance with the Proposal. The Report represents a valid opinion of RA's findings and recommendations with respect to the reserve study and is deemed complete. RA will consider any additional information made available to RA within 6 months of issuing the Report and issue a revised Report based on such additional information if a timely request for a revised Report is made by you. 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. RA reserves the right to, and you acknowledge and agree that RA may, use any data provided by you in connection with the services, or gathered as a result of providing such services, including in connection with creating and issuing any Report, in a de-identified and aggregated form for RA's business purposes.

Your Obligations - You agree to provide us access to the subject property for an 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. Additionally, you agree to provide historical replacement schedules, utility bills and historical energy usage files that RA requests and deems necessary to complete the energy benchmarking services, and you agree to provide any utility release(s) reasonably requested by RA permitting RA to obtain any such data and/or information from any utility representative or other third party. 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 the Report is limited to only the purpose stated herein. You acknowledge that RA is the exclusive owner of all intellectual property rights in and relating to the Report. You hereby acknowledge that any use or reliance by you on the Report for any unauthorized purpose is at your own risk and that you will be liable for the consequences of any unauthorized use or distribution of the Report. Use or possession of the Report by any unauthorized third party is prohibited. 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 the Report in its entirety to the following third parties: members of your organization (including your directors, officers, tenants and prospective purchasers), your accountants, attorneys, financial institutions and property managers who need to review the information contained herein, and any other third party who has a right to inspect the Report under applicable law including, but not limited to, any government entity or agency, or any utility companies. Without the written consent of RA, you shall not disclose the Report to any other third party. By engaging our services, you agree that the Report contains intellectual property developed (and owned solely) by RA and agree that you will not reproduce or distribute the Report **to any party that conducts reserve studies without the written consent of RA**.

RA will include (and you hereby agree that RA may include) your name in our client lists. RA reserves the right to use (and you hereby agree that RA may 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 - If reserve study and energy benchmarking services are performed by RA, then the retainer payment is due upon execution of this agreement and prior to the inspection by RA, and any balance is due net 30 days from the Report shipment date. If only energy benchmarking services are performed by RA, then the retainer payment is due upon execution of this agreement and any balance is due net 30 days from the Report shipment date. In any case, any balance remaining 30 days after delivery of the Report shall accrue an interest charge of 1.5% per month. Unless this agreement is earlier terminated by RA in the event you breach or otherwise fail to comply with your obligations under this agreement, RA's obligations under this agreement shall commence on the date you execute and deliver this agreement and terminate on the date that is 6 months from the date of delivery of the Report by RA. Notwithstanding anything herein to the contrary, each provision that by its context and nature should survive the expiration or early termination of this agreement shall so survive, including, without limitation, any provisions with respect to payment, intellectual property rights, limitations of liability and governing law.

Miscellaneous – Neither party shall be liable for any failures or delays in performance due to fire, flood, strike or other labor difficulty, act of God, act of any governmental authority, riot, embargo, fuel or energy shortage, pandemic, wrecks or delays in transportation, or due to any other cause beyond such party's reasonable control; provided, however, that you shall not be relieved from your obligations to make any payment(s) to RA as and when due hereunder. In the event of a delay in performance due to any such cause, the time for completion or date of delivery will be extended by a period of time reasonably necessary to overcome the effect of such delay. You may not assign or otherwise transfer this agreement, in whole or in part, without the prior written consent of RA. RA may freely assign or otherwise transfer this agreement, in whole or in part, without your prior consent. This agreement shall be governed by the laws of the State of Wisconsin without regard to any principles of conflicts of law that would apply the laws of another jurisdiction. Any dispute with respect to this agreement shall be exclusively venued in Milwaukee County Circuit Court or in the United States District Court for the Eastern District of Wisconsin. Each party hereto agrees and hereby waives the right to a trial by jury in any action, proceeding or claim brought by or on behalf of the parties hereto with respect to any matter related to this agreement.