

FULL RESERVE STUDY

Newington Community Association



Springfield, Virginia

June 27, 2019



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Long-term thinking. Everyday commitment.

Newington Community Association
Springfield, Virginia

Dear Board of Directors of Newington Community Association:

At the direction of the Board that recognizes the need for proper reserve planning, we have conducted a *Full Reserve Study* of Newington Community Association in Springfield, Virginia and submit our findings in this report. The effective date of this study is the date of our visual, noninvasive inspection, June 27, 2019.

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

An ongoing review by the Board and an Update of this Reserve Study are necessary to ensure an equitable funding plan since a Reserve Study is a snapshot in time. We recommend the Board budget for an Update to this Reserve Study in two- to three-years. We look forward to continuing to help Newington Community 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 August 1, 2019 by

Reserve Advisors, Inc.

Visual Inspection and Report by: Aime V. Mbakop

Review by: 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: Newington Community Association (Newington)

Location: Springfield, Virginia

Reference: 140052

Property Basics: Newington Community Association is a master association which is responsible for the common elements shared by 609 homes. The common elements of the Association were built in 1972.

Reserve Components Identified: 42 Common Reserve Components and 20 Streets Reserve Components.

Inspection Date: June 27, 2019. We conducted the original Reserve Study on April 24, 2014.

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 **Common Funding Plan** recognizes these threshold funding years in 2037 and 2047 due to replacement of the pool structure and the asphalt pavement at location I, Respectively. Our recommended **Streets Funding Plan** recognizes these threshold funding years in 2022 and 2042 due to replacement of the asphalt pavement at location A.

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

- Current and future local costs of replacement
- 1.7% anticipated annual rate of return on invested reserves
- 2.6% 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.

Cash Status of Common Reserve Fund:

- \$92,095 as of May 31, 2019
- 2019 budgeted Reserve Contributions of \$37,363

Cash Status of Streets Reserve Fund:

- \$360,318 as of May 31, 2019
- 2019 budgeted Reserve Contributions of \$83,412

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:

- Crack repair, patch and seal coat application at the asphalt pavement
- Replacement of the chain link fence at the parking area at the pool house
- Repairs and partial replacements at the pool concrete deck
- Repaving of the asphalt pavement at locations D, E, and F
- Repairs and partial replacements at the concrete sidewalks



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

- Phased increases of approximately \$28,000 from 2020 through 2022
- Inflationary increases from 2023 through 2037
- Decrease to \$95,000 by 2038 due to fully funding for replacement of pool structure
- Inflationary increases through 2049, the limit of this study's Cash Flow Analysis
- Initial adjustment in Reserve Contributions of \$28,037 represents an average quarterly increase of \$11.51 per homeowner and about a four percent (4.4%) adjustment in the 2019 total Operating Budget of \$634,340.

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

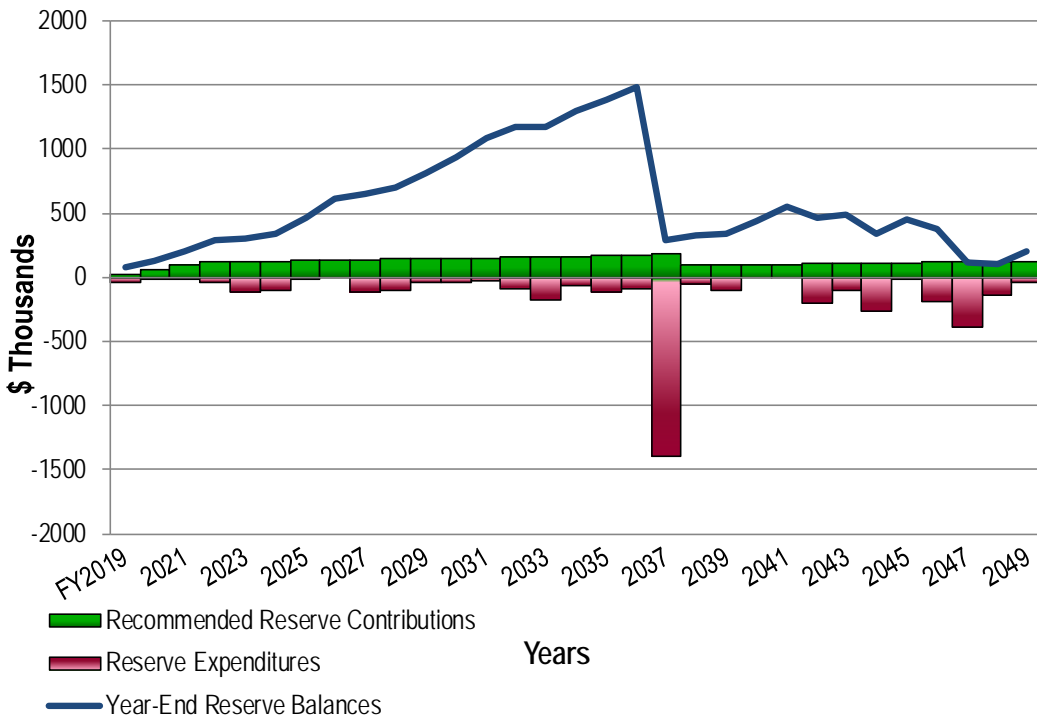
- Phased increases of approximately \$16,000 from 2020 through 2022
- Decrease to \$87,500 by 2023 due to fully funding for replacement of asphalt pavement at location A
- Inflationary increases through 2049, the limit of this study's Cash Flow Analysis
- Initial adjustment in Reserve Contributions of \$15,988 represents an average quarterly increase of \$6.56 per homeowner and about a three percent (2.5%) adjustment in the 2019 total Operating Budget of \$634,340.



Newington

Recommended Common Reserve Funding Table and Graph

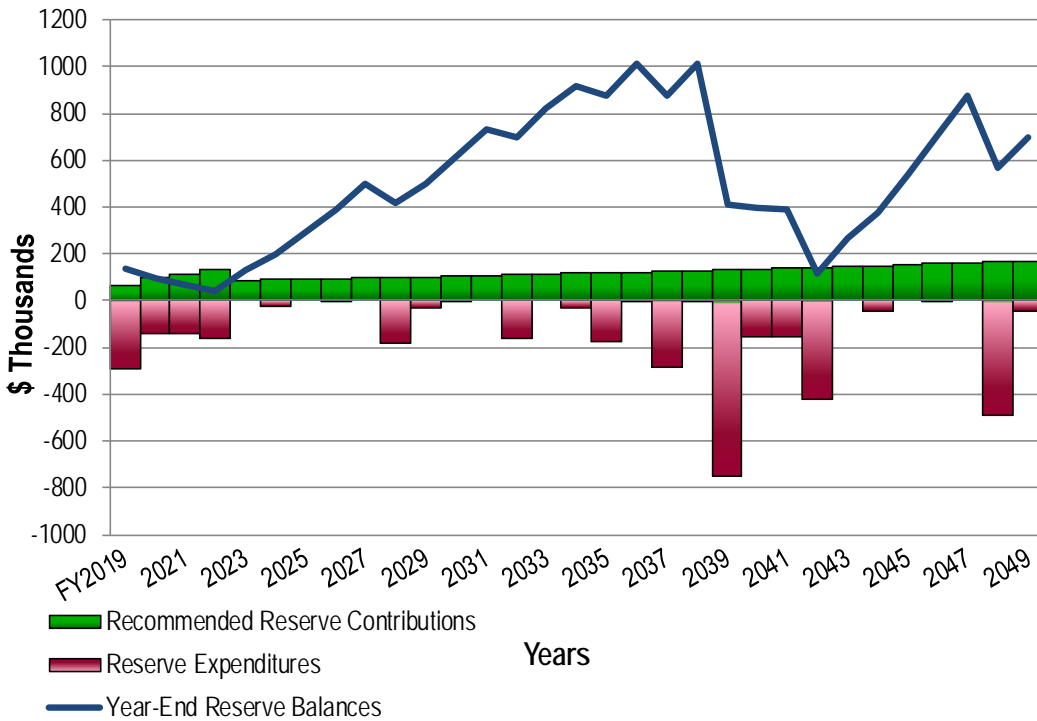
Year	Reserve Contributions (\$)	Reserve Balances (\$)	Year	Reserve Contributions (\$)	Reserve Balances (\$)	Year	Reserve Contributions (\$)	Reserve Balances (\$)
2020	65,400	125,236	2030	149,100	942,986	2040	100,000	441,821
2021	93,400	205,550	2031	153,000	1,086,427	2041	102,600	552,804
2022	121,400	294,782	2032	157,000	1,172,804	2042	105,300	470,201
2023	124,600	308,199	2033	161,100	1,176,330	2043	108,000	487,391
2024	127,800	339,176	2034	165,300	1,299,745	2044	110,800	341,779
2025	131,100	464,804	2035	169,600	1,384,011	2045	113,700	453,240
2026	134,500	608,349	2036	174,000	1,487,846	2046	116,700	383,414
2027	138,000	648,794	2037	178,500	289,411	2047	119,700	121,641
2028	141,600	699,723	2038	95,000	333,821	2048	122,800	107,414
2029	145,300	814,221	2039	97,500	335,271	2049	126,000	199,935





Newington
Recommended Streets Reserve Funding Table and Graph

Year	Reserve Contributions (\$)	Reserve Balances (\$)	Year	Reserve Contributions (\$)	Reserve Balances (\$)	Year	Reserve Contributions (\$)	Reserve Balances (\$)
2020	99,400	93,424	2030	104,800	613,797	2040	135,400	398,849
2021	115,400	68,939	2031	107,500	732,645	2041	138,900	392,919
2022	131,400	42,100	2032	110,300	695,720	2042	142,500	115,566
2023	87,500	131,059	2033	113,200	821,709	2043	146,200	264,973
2024	89,800	197,028	2034	116,100	918,094	2044	150,000	375,936
2025	92,100	293,260	2035	119,100	878,732	2045	153,900	537,535
2026	94,500	391,325	2036	122,200	1,014,034	2046	157,900	702,199
2027	97,000	495,802	2037	125,400	873,626	2047	162,000	877,513
2028	99,500	420,021	2038	128,700	1,015,245	2048	166,200	565,433
2029	102,100	502,036	2039	132,000	408,709	2049	170,500	700,055





2. RESERVE STUDY REPORT

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

Newington Community Association

Springfield, Virginia

and submit our findings in this report. The effective date of this study is the date of our visual, noninvasive inspection, June 27, 2019.

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. 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:

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

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

- Culvert, Concrete, Along Walking Path, Location 2A (also known as the “Triple Culvert”, replaced in 2003)
- Electrical Systems, Common
- Foundations, Pool House
- Structural Frames, Pool House
- Windows and Doors, Pool House, Previously Replaced

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

- General Maintenance to the Common Elements
- Expenditures less than \$6,000 (These relatively minor expenditures have a limited effect on the recommended Reserve Contributions.)
- Baseball Field (excludes fences)
- Basketball Backboards, Goals and Poles
- Bridge, Wood, Walking Path Location 2A
- Crack repairs and Patching, Asphalt Walking Paths
- Electrical System, Pool House
- Fences, Wood, Open Rail, Near Moline Place
- Fences, Wood, Stockade, Near Pool House
- Floor Coverings, Rubber, Pool House
- Furnishings, Pool House
- Gate, Metal, Pool House Access Drive
- Landscape
- Light Fixtures, Pool House
- Office Equipment, Pool House
- Paint Finishes, Touch Up
- Railings, Metal, Staircase at Pool House and Atop Concrete Retaining Walls, Paint Finishes and Repairs
- Retaining Walls, Timber
- Security System, Pool House

- Sealants, Window and Door Perimeters, Pool House
- Shutters, Vinyl, Interim Replacement
- Soccer Goals
- Tennis Courts, Nets and Standards
- Walls, Masonry, Pool House, Inspections and Repairs
- Other Repairs normally funded through the Operating Budget

Certain items have been 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:

- Homes and Lots

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

- Asphalt Pavement Systems, DeLong Drive, Lodge Court, Northumberland Road, Godolphin Drive, Finlay Court and Cushing Court (includes pavement and concrete curbs and gutters) (Fairfax County)
- Asphalt Pavement, Walking Paths, Cross County Trail (Fairfax County)
- Catch Basins (Fairfax County)
- Concrete Sidewalks, Along DeLong Drive, Lodge Court, Northumberland Road, Godolphin Drive, Finlay Court, Cushing Court and Rolling Road (Fairfax County)
- Light Poles and Fixtures, Along Streets (Dominion Power Company)
- Mailbox Stations (United States Postal Service)
- Pipes, Subsurface Utilities

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
- 2019 local cost of replacement
 - Per unit
 - Per phase
 - Replacement of total quantity
- Total future costs of replacement 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

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***.

Common
RESERVE EXPENDITURES

Newington
Community Association
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Explanatory Notes:

- 1) **2.6%** is the estimated Inflation Rate for estimating Future Replacement Costs.
- 2) FY2019 is Fiscal Year beginning January 1, 2019 and ending December 31, 2019.

Line Item	Total Quantity	Per Phase Quantity	Units	Reserve Component Inventory	Estimated 1st Year of Event	Life Analysis, Years		Costs, \$				RUL = 0 FY2019	1 2020	2 2021	3 2022	4 2023	5 2024	6 2025	7 2026	8 2027	9 2028	10 2029	11 2030	12 2031	13 2032	14 2033	15 2034	
						Useful	Remaining	Unit (2019)	Per Phase (2019)	Total (2019)	30-Year Total (Inflated)																	
Property Site Elements																												
4.021	5,350	5,350	Square Yards	Asphalt Pavement, Location I, Crack Repair, Patch and Seal Coat (2019 is Planned)	2019	3 to 5	0	1.70	9,095	9,095	88,205	20,000				10,078											12,376	
4.061	5,350	5,350	Square Yards	Asphalt Pavement, Location I, Mill and Overlay	2027	15 to 20	8	14.50	77,575	77,575	95,258								95,258									
4.063	5,350	5,350	Square Yards	Asphalt Pavement, Location I, Total Replacement	2047	15 to 20	28	30.00	160,500	160,500	329,307																	
4.080	800	800	Square Yards	Asphalt Pavement, Total Replacement, Walking Paths, Location 1A	2036	15 to 20	17	25.00	20,000	20,000	30,941																	
4.081	1,750	1,750	Square Yards	Asphalt Pavement, Total Replacement, Walking Paths, Location 1B (Incl. Basketball Court)	2028	15 to 20	9	25.00	43,750	43,750	142,609										55,119							
4.082	910	910	Square Yards	Asphalt Pavement, Total Replacement, Walking Paths, Location 2A, 2010	2028	15 to 20	9	25.00	22,750	22,750	74,157										28,662							
4.083	1,690	1,690	Square Yards	Asphalt Pavement, Total Replacement, Walking Paths, Location 2A, 2015	2033	15 to 20	14	26.00	43,940	43,940	62,939																62,939	
4.084	680	680	Square Yards	Asphalt Pavement, Total Replacement, Walking Paths, Location 2B	2029	15 to 20	10	25.00	17,000	17,000	56,855											21,975						
4.220	860	860	Linear Feet	Fences, Chain Link, Baseball Field	2037	to 25	18	22.00	18,920	18,920	30,031																	
4.221	420	420	Linear Feet	Fences, Chain Link, Pool House Parking Area (2019 is Planned)	2019	to 25	0	29.00	12,180	12,180	35,318	12,180																
4.620	1,200	1,200	Square Feet	Pavers, Masonry	2033	to 25	14	19.50	23,400	23,400	33,518																33,518	
4.660	1	1	Allowance	Playground Equipment, Location 1	2035	15 to 20	16	21,000.00	21,000	21,000	31,665																	
4.661	1	1	Allowance	Playground Equipment, Location 2	2035	15 to 20	16	18,000.00	18,000	18,000	27,141																	
4.662	1	1	Allowance	Playground Equipment, Location 3	2036	15 to 20	17	17,000.00	17,000	17,000	26,300																	
4.663	1	1	Allowance	Playground Equipment, Location 4	2035	15 to 20	16	13,000.00	13,000	13,000	19,602																	
4.664	1	1	Allowance	Playground Equipment, Location 5	2036	15 to 20	17	24,000.00	24,000	24,000	37,129																	
4.733	290	290	Linear Feet	Railings, Metal	2021	to 35	2	52.00	15,080	15,080	15,874			15,874														
4.735	1,350	1,350	Square Feet	Retaining Wall, Concrete, Inspection and Capital Repairs, Replacement	2020	10 to 15	1	12.75	17,213	17,213	74,389		17,660														24,030	
4.736	1,350	1,350	Square Feet	Retaining Wall, Concrete, Replacement	2042	to 75	23	70.00	94,500	94,500	170,538																	
4.800	1	1	Allowance	Signage, Entrance Monuments, Renovation	2024	15 to 20	5	7,000.00	7,000	7,000	21,257						7,959											
4.820	1	1	Allowance	Site Furniture, Benches and Trash Receptacles	2024	15 to 25	5	16,500.00	16,500	16,500	50,104						18,759											
4.830	1,610	1,610	Square Yards	Tennis Courts, Color Coat	2028	4 to 6	9	9.00	14,490	14,490	89,438										18,256						20,755	
4.840	480	480	Linear Feet	Tennis Courts, Fence	2042	to 25	23	30.00	14,400	14,400	25,987																	
4.860	1,610	1,610	Square Yards	Tennis Courts, Surface Replacement	2023	to 25	4	41.00	66,010	66,010	212,105						73,147											
Pool House Elements																												
5.450	1	1	Allowance	HVAC Equipment (Incl. Domestic Water Heater)	2022	15 to 20	3	14,000.00	14,000	14,000	38,500					15,000												
5.500	1	1	Allowance	Interior, Renovation, Complete	2033	to 20	14	42,000.00	42,000	42,000	60,161																60,161	
5.510	1	1	Each	Interior, Renovation, Partial	2023	to 10	4	10,500.00	10,500	10,500	31,076																11,635	
5.580	1	1	Allowance	Pipes, Water, Waste and Vent	2044	to 75+	25	10,000.00	10,000	10,000	19,000																	
5.600	18	18	Squares	Roof Assembly, Asphalt Shingles	2023	15 to 20	4	490.00	8,820	8,820	26,100						9,770											
5.620	1	1	Each	Staircase	2030	to 35	11	6,700.00	6,700	6,700	8,886																8,886	
5.790	1,550	1,550	Square Feet	Walls, Siding, Vinyl (Incl. Shutters)	2044	to 40	25	6.00	9,300	9,300	17,667																	
5.800	320	107	Square Feet	Windows and Doors, Phased	2045	to 40	26 to 30+	43.00	4,587	13,760	8,940																	
Pool Elements																												
6.200	8,800	8,800	Square Feet	Concrete Deck, Inspections, Partial Replacements and Repairs (2019 is Planned)	2019	8 to 12	0	1.50	13,200	13,200	80,829	13,200															17,063	
6.300	6,600	6,600	Square Feet	Cover, Vinyl	2022	6 to 8	3	3.00	19,800	19,800	119,484																26,259	
6.400	790	790	Linear Feet	Fences, Chain Link	2032	to 25	13	26.00	20,540	20,540	28,676																	28,676

**Common
RESERVE EXPENDITURES**

**Newington
Community Association
Springfield, Virginia**

Line Item	Total Quantity	Per Phase Quantity	Units	Reserve Component Inventory	Estimated 1st Year of Event	Life Analysis, Years		Costs, \$			16 2035	17 2036	18 2037	19 2038	20 2039	21 2040	22 2041	23 2042	24 2043	25 2044	26 2045	27 2046	28 2047	29 2048	30 2049
						Useful	Remaining	Unit (2019)	Per Phase (2019)	Total (2019)															
Property Site Elements																									
4.021	5,350	5,350	Square Yards	Asphalt Pavement, Location I, Crack Repair, Patch and Seal Coat (2019 is Planned)	2019	3 to 5	0	1.70	9,095	9,095	88,205	13,714			15,197				16,840						
4.061	5,350	5,350	Square Yards	Asphalt Pavement, Location I, Mill and Overlay	2027	15 to 20	8	14.50	77,575	77,575	95,258														
4.063	5,350	5,350	Square Yards	Asphalt Pavement, Location I, Total Replacement	2047	15 to 20	28	30.00	160,500	160,500	329,307												329,307		
4.080	800	800	Square Yards	Asphalt Pavement, Total Replacement, Walking Paths, Location 1A	2036	15 to 20	17	25.00	20,000	20,000	30,941	30,941													
4.081	1,750	1,750	Square Yards	Asphalt Pavement, Total Replacement, Walking Paths, Location 1B (Incl. Basketball Court)	2028	15 to 20	9	25.00	43,750	43,750	142,609												87,490		
4.082	910	910	Square Yards	Asphalt Pavement, Total Replacement, Walking Paths, Location 2A, 2010	2028	15 to 20	9	25.00	22,750	22,750	74,157												45,495		
4.083	1,690	1,690	Square Yards	Asphalt Pavement, Total Replacement, Walking Paths, Location 2A, 2015	2033	15 to 20	14	26.00	43,940	43,940	62,939														
4.084	680	680	Square Yards	Asphalt Pavement, Total Replacement, Walking Paths, Location 2B	2029	15 to 20	10	25.00	17,000	17,000	56,855												34,880		
4.220	860	860	Linear Feet	Fences, Chain Link, Baseball Field	2037	to 25	18	22.00	18,920	18,920	30,031		30,031												
4.221	420	420	Linear Feet	Fences, Chain Link, Pool House Parking Area (2019 is Planned)	2019	to 25	0	29.00	12,180	12,180	35,318									23,138					
4.620	1,200	1,200	Square Feet	Pavers, Masonry	2033	to 25	14	19.50	23,400	23,400	33,518														
4.660	1	1	Allowance	Playground Equipment, Location 1	2035	15 to 20	16	21,000.00	21,000	21,000	31,665	31,665													
4.661	1	1	Allowance	Playground Equipment, Location 2	2035	15 to 20	16	18,000.00	18,000	18,000	27,141	27,141													
4.662	1	1	Allowance	Playground Equipment, Location 3	2036	15 to 20	17	17,000.00	17,000	17,000	26,300	26,300													
4.663	1	1	Allowance	Playground Equipment, Location 4	2035	15 to 20	16	13,000.00	13,000	13,000	19,602	19,602													
4.664	1	1	Allowance	Playground Equipment, Location 5	2036	15 to 20	17	24,000.00	24,000	24,000	37,129	37,129													
4.733	290	290	Linear Feet	Railings, Metal	2021	to 35	2	52.00	15,080	15,080	15,874														
4.735	1,350	1,350	Square Feet	Retaining Wall, Concrete, Inspection and Capital Repairs, Replacement	2020	10 to 15	1	12.75	17,213	17,213	74,389									32,699					
4.736	1,350	1,350	Square Feet	Retaining Wall, Concrete, Replacement	2042	to 75	23	70.00	94,500	94,500	170,538							170,538							
4.800	1	1	Allowance	Signage, Entrance Monuments, Renovation	2024	15 to 20	5	7,000.00	7,000	7,000	21,257									13,298					
4.820	1	1	Allowance	Site Furniture, Benches and Trash Receptacles	2024	15 to 25	5	16,500.00	16,500	16,500	50,104									31,345					
4.830	1,610	1,610	Square Yards	Tennis Courts, Color Coat	2028	4 to 6	9	9.00	14,490	14,490	89,438			23,598					26,829						
4.840	480	480	Linear Feet	Tennis Courts, Fence	2042	to 25	23	30.00	14,400	14,400	25,987							25,987							
4.860	1,610	1,610	Square Yards	Tennis Courts, Surface Replacement	2023	to 25	4	41.00	66,010	66,010	212,105													138,958	
Pool House Elements																									
5.450	1	1	Allowance	HVAC Equipment (Incl. Domestic Water Heater)	2022	15 to 20	3	14,000.00	14,000	14,000	38,500			23,500											
5.500	1	1	Allowance	Interior, Renovation, Complete	2033	to 20	14	42,000.00	42,000	42,000	60,161														
5.510	1	1	Each	Interior, Renovation, Partial	2023	to 10	4	10,500.00	10,500	10,500	31,076								19,441						
5.580	1	1	Allowance	Pipes, Water, Waste and Vent	2044	to 75+	25	10,000.00	10,000	10,000	19,000									19,000					
5.600	18	18	Squares	Roof Assembly, Asphalt Shingles	2023	15 to 20	4	490.00	8,820	8,820	26,100								16,330						
5.620	1	1	Each	Staircase	2030	to 35	11	6,700.00	6,700	6,700	8,886														
5.790	1,550	1,550	Square Feet	Walls, Siding, Vinyl (Incl. Shutters)	2044	to 40	25	6.00	9,300	9,300	17,667									17,667					
5.800	320	107	Square Feet	Windows and Doors, Phased	2045	to 40	26 to 30+	43.00	4,587	13,760	8,940											8,940			
Pool Elements																									
6.200	8,800	8,800	Square Feet	Concrete Deck, Inspections, Partial Replacements and Repairs (2019 is Planned)	2019	8 to 12	0	1.50	13,200	13,200	80,829				22,056										28,510
6.300	6,600	6,600	Square Feet	Cover, Vinyl	2022	6 to 8	3	3.00	19,800	19,800	119,484			32,245									39,595		
6.400	790	790	Linear Feet	Fences, Chain Link	2032	to 25	13	26.00	20,540	20,540	28,676														

Common
RESERVE EXPENDITURES

Newington
Community Association
Springfield, Virginia

Explanatory Notes:

- 1) **2.6%** is the estimated Inflation Rate for estimating Future Replacement Costs.
- 2) FY2019 is Fiscal Year beginning January 1, 2019 and ending December 31, 2019.

Line Item	Total Quantity	Per Phase Quantity	Units	Reserve Component Inventory	Estimated 1st Year of Event	Life Analysis, Years		Costs, \$				RUL = 0 FY2019	1 2020	2 2021	3 2022	4 2023	5 2024	6 2025	7 2026	8 2027	9 2028	10 2029	11 2030	12 2031	13 2032	14 2033	15 2034	
						Useful	Remaining	Unit (2019)	Per Phase (2019)	Total (2019)	30-Year Total (Inflated)																	
6.500	4	1	Allowance	Furniture, Phased	2023	to 12	4 to 16	10,500.00	10,500	42,000	113,176				11,635				12,893						14,288			
6.580	8	8	Each	Light Poles and Fixtures	2032	to 25	13	2,000.00	16,000	16,000	22,300																22,300	
6.600	2	1	Allowance	Mechanical Equipment, Phased	2025	to 15	6 to 13	10,500.00	10,500	21,000	65,449							12,248									14,659	
6.800	6,100	6,100	Square Feet	Pool Finish, Plaster, Main Pool	2024	8 to 12	5	7.00	42,700	42,700	192,418						48,547											62,754
6.801	500	500	Square Feet	Pool Finish, Plaster, Wading Pool	2029	8 to 12	10	7.00	3,500	3,500	17,931																4,524	
6.802	660	660	Linear Feet	Pool Finish, Tile	2024	15 to 25	5	36.00	23,760	23,760	72,151						27,014											
6.900	6,600	6,600	Square Feet	Structure and Deck, Total Replacement	2037	to 60	18	130.00	858,000	858,000	1,361,883																	
Anticipated Expenditures, By Year											\$4,065,294	45,380	17,660	15,874	36,385	116,265	102,279	12,248	0	108,151	102,037	43,562	35,145	26,664	89,665	177,373	62,754	

Common
RESERVE EXPENDITURES

Newington
Community Association
Springfield, Virginia

Line Item	Total Quantity	Per Phase Quantity	Units	Reserve Component Inventory	Estimated 1st Year of Event	Life Analysis, Years		Costs, \$				16 2035	17 2036	18 2037	19 2038	20 2039	21 2040	22 2041	23 2042	24 2043	25 2044	26 2045	27 2046	28 2047	29 2048	30 2049	
						Useful	Remaining	Unit (2019)	Per Phase (2019)	Total (2019)	30-Year Total (Inflated)																
6.500	4	1	Allowance	Furniture, Phased	2023	to 12	4 to 16	10,500.00	10,500	42,000	113,176	15,832			17,544				19,441					21,543			
6.580	8	8	Each	Light Poles and Fixtures	2032	to 25	13	2,000.00	16,000	16,000	22,300																
6.600	2	1	Allowance	Mechanical Equipment, Phased	2025	to 15	6 to 13	10,500.00	10,500	21,000	65,449			17,544									20,998				
6.800	6,100	6,100	Square Feet	Pool Finish, Plaster, Main Pool	2024	8 to 12	5	7.00	42,700	42,700	192,418									81,117							
6.801	500	500	Square Feet	Pool Finish, Plaster, Wading Pool	2029	8 to 12	10	7.00	3,500	3,500	17,931				5,848												7,559
6.802	660	660	Linear Feet	Pool Finish, Tile	2024	15 to 25	5	36.00	23,760	23,760	72,151									45,137							
6.900	6,600	6,600	Square Feet	Structure and Deck, Total Replacement	2037	to 60	18	130.00	858,000	858,000	1,361,883			1,361,883													
Anticipated Expenditures, By Year											\$4,065,294	107,954	94,370	1,391,914	55,843	101,689	0	0	196,525	98,881	263,401	8,940	193,578	385,730	138,958	36,069	

RESERVE FUNDING PLAN

Common

CASH FLOW ANALYSIS

Newington

Community Association

Springfield, Virginia

Individual Reserve Budgets & Cash Flows for the Next 30 Years

	FY2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Reserves at Beginning of Year (Note 1)	92,095	75,802	125,236	205,550	294,782	308,199	339,176	464,804	608,349	648,794	699,723	814,221	942,986	1,086,427	1,172,804	1,176,330
Total Recommended Reserve Contributions (Note 2)	28,023	65,400	93,400	121,400	124,600	127,800	131,100	134,500	138,000	141,600	145,300	149,100	153,000	157,000	161,100	165,300
Plus Estimated Interest Earned, During Year (Note 3)	1,064	1,694	2,788	4,217	5,082	5,456	6,776	9,045	10,596	11,366	12,760	14,810	17,105	19,042	19,799	20,869
Less Anticipated Expenditures, By Year	(45,380)	(17,660)	(15,874)	(36,385)	(116,265)	(102,279)	(12,248)	0	(108,151)	(102,037)	(43,562)	(35,145)	(26,664)	(89,665)	(177,373)	(62,754)
Anticipated Reserves at Year End	<u>\$75,802</u>	<u>\$125,236</u>	<u>\$205,550</u>	<u>\$294,782</u>	<u>\$308,199</u>	<u>\$339,176</u>	<u>\$464,804</u>	<u>\$608,349</u>	<u>\$648,794</u>	<u>\$699,723</u>	<u>\$814,221</u>	<u>\$942,986</u>	<u>\$1,086,427</u>	<u>\$1,172,804</u>	<u>\$1,176,330</u>	<u>\$1,299,745</u>

(continued)

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

	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049
Reserves at Beginning of Year	1,299,745	1,384,011	1,487,846	289,411	333,821	335,271	441,821	552,804	470,201	487,391	341,779	453,240	383,414	121,641	107,414
Total Recommended Reserve Contributions	169,600	174,000	178,500	95,000	97,500	100,000	102,600	105,300	108,000	110,800	113,700	116,700	119,700	122,800	126,000
Plus Estimated Interest Earned, During Year	22,620	24,205	14,979	5,253	5,639	6,550	8,383	8,622	8,071	6,989	6,701	7,052	4,257	1,931	2,590
Less Anticipated Expenditures, By Year	(107,954)	(94,370)	(1,391,914)	(55,843)	(101,689)	0	0	(196,525)	(98,881)	(263,401)	(8,940)	(193,578)	(385,730)	(138,958)	(36,069)
Anticipated Reserves at Year End	<u>\$1,384,011</u>	<u>\$1,487,846</u>	<u>\$289,411</u>	<u>\$333,821</u>	<u>\$335,271</u>	<u>\$441,821</u>	<u>\$552,804</u>	<u>\$470,201</u>	<u>\$487,391</u>	<u>\$341,779</u>	<u>\$453,240</u>	<u>\$383,414</u>	<u>\$121,641</u>	<u>\$107,414</u>	<u>\$199,935</u>
			(NOTE 5)										(NOTE 5)		(NOTE 4)

Explanatory Notes:

- 1) Year 2019 starting reserves are as of May 31, 2019; FY2019 starts January 1, 2019 and ends December 31, 2019.
- 2) Reserve Contributions for 2019 are the remaining budgeted 3 quarters; 2020 is the first year of recommended contributions.
- 3) 1.7% is the estimated annual rate of return on invested reserves; 2019 is a partial year of interest earned.
- 4) Accumulated year 2049 ending reserves consider the need to fund for replacement of the walking paths and pool plaster shortly after 2049, and the age, size, overall condition and complexity of the property.
- 5) Threshold Funding Years (reserve balance at critical point).

Common
FIVE-YEAR OUTLOOK

Newington
Community Association
Springfield, Virginia

Line Item	Reserve Component Inventory	RUL = 0 FY2019	1 2020	2 2021	3 2022	4 2023	5 2024
<u>Property Site Elements</u>							
4.021	Asphalt Pavement, Location I, Crack Repair, Patch and Seal Coat (2019 is Planned)	20,000				10,078	
4.221	Fences, Chain Link, Pool House Parking Area (2019 is Planned)	12,180					
4.733	Railings, Metal			15,874			
4.735	Retaining Wall, Concrete, Inspection and Capital Repairs, Replacement		17,660				
4.800	Signage, Entrance Monuments, Renovation						7,959
4.820	Site Furniture, Benches and Trash Receptacles						18,759
4.860	Tennis Courts, Surface Replacement					73,147	
<u>Pool House Elements</u>							
5.450	HVAC Equipment (Incl. Domestic Water Heater)				15,000		
5.510	Interior, Renovation, Partial					11,635	
5.600	Roof Assembly, Asphalt Shingles					9,770	
<u>Pool Elements</u>							
6.200	Concrete Deck, Inspections, Partial Replacements and Repairs (2019 is Planned)	13,200					
6.300	Cover, Vinyl				21,385		
6.500	Furniture, Phased					11,635	
6.800	Pool Finish, Plaster, Main Pool						48,547
6.802	Pool Finish, Tile						27,014
Anticipated Expenditures, By Year		45,380	17,660	15,874	36,385	116,265	102,279

Streets
RESERVE EXPENDITURES

Newington
Community Association
Springfield, Virginia

Explanatory Notes:

- 1) **2.6%** is the estimated Inflation Rate for estimating Future Replacement Costs.
- 2) **FY2019** is Fiscal Year beginning January 1, 2019 and ending December 31, 2019.

Line Item	Total Quantity	Per Phase Quantity	Units	Reserve Component Inventory	Estimated 1st Year of Event	Life Analysis, Years		Costs, \$				RUL = 0 FY2019	1 2020	2 2021	3 2022	4 2023	5 2024	6 2025	7 2026	8 2027	9 2028	10 2029	11 2030	12 2031	13 2032	14 2033	15 2034
						Useful	Remaining	Unit (2019)	Per Phase (2019)	Total (2019)	30-Year Total (Inflated)																
Property Site Elements																											
4.020	52,650	2,633	Square Yards	Asphalt Pavement, Locations A Through H, Crack Repair and Patch, Phased	2020	3 to 5	1 to 30+	0.70	1,843	36,855	41,629		1,891		1,990		2,095		2,205		2,322		2,444		2,573		2,708
4.040	6,400	6,400	Square Yards	Asphalt Pavement, Location A, Mill and Overlay	2022	15 to 20	3	14.50	92,800	92,800	100,228				100,228												
4.041	6,400	6,400	Square Yards	Asphalt Pavement, Location A, Total Replacement	2042	15 to 20	23	30.00	192,000	192,000	346,490																
4.042	4,900	4,900	Square Yards	Asphalt Pavement, Location B, Mill and Overlay	2032	15 to 20	13	14.50	71,050	71,050	99,193														99,193		
4.044	7,050	7,050	Square Yards	Asphalt Pavement, Location C, Mill and Overlay	2028	15 to 20	9	14.50	102,225	102,225	128,790										128,790						
4.045	7,050	7,050	Square Yards	Asphalt Pavement, Location C, Total Replacement	2048	15 to 20	29	30.00	211,500	211,500	445,229																
4.046	5,350	5,350	Square Yards	Asphalt Pavement, Location D, Mill and Overlay (2019 is Planned)	2019	15 to 20	0	18.50	98,975	98,975	98,975	98,975															
4.047	5,350	5,350	Square Yards	Asphalt Pavement, Total Replacement	2039	15 to 20	20	30.00	160,500	160,500	268,177																
4.048	8,250	8,250	Square Yards	Asphalt Pavement, Location E, Mill and Overlay (2019 is Planned)	2019	15 to 20	0	18.50	152,625	152,625	152,625	152,625															
4.049	8,250	8,250	Square Yards	Asphalt Pavement, Total Replacement	2039	15 to 20	20	30.00	247,500	247,500	413,545																
4.050	5,100	5,100	Square Yards	Asphalt Pavement, Location F, Brandeis Way, Mill and Overlay	2035	15 to 20	16	14.50	73,950	73,950	111,505																
4.052	3,150	3,150	Square Yards	Asphalt Pavement, Location F, Lemoyne Lane, Mill and Overlay	2040	15 to 20	21	14.50	45,675	45,675	78,302																
4.053	3,150	3,150	Square Yards	Asphalt Pavement, Location F, Lemoyne Lane, Total Replacement	2020	15 to 20	1	30.00	94,500	94,500	96,957	96,957															
4.054	4,300	4,300	Square Yards	Asphalt Pavement, Location G, Gwynedd Way, Mill and Overlay	2037	15 to 20	18	14.50	62,350	62,350	98,967																
4.056	3,100	3,100	Square Yards	Asphalt Pavement, Location G, Remaining, Mill and Overlay	2041	15 to 20	22	14.50	44,950	44,950	79,063																
4.057	3,100	3,100	Square Yards	Asphalt Pavement, Location G, Remaining, Total Replacement	2021	15 to 20	2	30.00	93,000	93,000	97,899		97,899														
4.058	5,100	5,100	Square Yards	Asphalt Pavement, Location H, Mill and Overlay	2037	15 to 20	18	14.50	73,950	73,950	117,379																
4.110	25,700	595	Linear Feet	Concrete Curbs and Gutters, Partial (2019 is Planned)	2019	to 65	0 to 30+	33.00	19,635	848,100	372,353	19,635	20,146	20,669	21,207						24,738				27,412		
4.140	81,400	2,155	Square Feet	Concrete Sidewalks, Partial (2019 is Planned)	2019	to 65	0 to 30+	10.00	21,550	814,000	534,812	21,550	22,110	22,685	23,275		24,501				27,150	27,856			30,086		31,671
4.350	350	350	Linear Feet	Guard Rails, Metal, Euclid Way	2022	to 35	3	33.00	11,550	11,550	12,475					12,475											
Anticipated Expenditures, By Year										\$3,694,593	292,785	141,104	141,253	159,175	0	26,596	0	2,205	0	183,000	27,856	2,444	0	159,264	0	34,379	

Streets
RESERVE EXPENDITURES

**Newington
Community Association**
Springfield, Virginia

Line Item	Total Quantity	Per Phase Quantity	Units	Reserve Component Inventory	Estimated 1st Year of Event	Life Analysis, Years		Costs, \$				16 2035	17 2036	18 2037	19 2038	20 2039	21 2040	22 2041	23 2042	24 2043	25 2044	26 2045	27 2046	28 2047	29 2048	30 2049
						Useful	Remaining	Unit (2019)	Per Phase (2019)	Total (2019)	30-Year Total (Inflated)															
Property Site Elements																										
4.020	52,650	2,633	Square Yards	Asphalt Pavement, Locations A Through H, Crack Repair and Patch, Phased	2020	3 to 5	1 to 30+	0.70	1,843	36,855	41,629		2,851		3,001		3,159		3,325		3,501		3,685		3,879	
4.040	6,400	6,400	Square Yards	Asphalt Pavement, Location A, Mill and Overlay	2022	15 to 20	3	14.50	92,800	92,800	100,228															
4.041	6,400	6,400	Square Yards	Asphalt Pavement, Location A, Total Replacement	2042	15 to 20	23	30.00	192,000	192,000	346,490							346,490								
4.042	4,900	4,900	Square Yards	Asphalt Pavement, Location B, Mill and Overlay	2032	15 to 20	13	14.50	71,050	71,050	99,193															
4.044	7,050	7,050	Square Yards	Asphalt Pavement, Location C, Mill and Overlay	2028	15 to 20	9	14.50	102,225	102,225	128,790															
4.045	7,050	7,050	Square Yards	Asphalt Pavement, Location C, Total Replacement	2048	15 to 20	29	30.00	211,500	211,500	445,229														445,229	
4.046	5,350	5,350	Square Yards	Asphalt Pavement, Location D, Mill and Overlay (2019 is Planned)	2019	15 to 20	0	18.50	98,975	98,975	98,975															
4.047	5,350	5,350	Square Yards	Asphalt Pavement, Total Replacement	2039	15 to 20	20	30.00	160,500	160,500	268,177					268,177										
4.048	8,250	8,250	Square Yards	Asphalt Pavement, Location E, Mill and Overlay (2019 is Planned)	2019	15 to 20	0	18.50	152,625	152,625	152,625															
4.049	8,250	8,250	Square Yards	Asphalt Pavement, Total Replacement	2039	15 to 20	20	30.00	247,500	247,500	413,545					413,545										
4.050	5,100	5,100	Square Yards	Asphalt Pavement, Location F, Brandeis Way, Mill and Overlay	2035	15 to 20	16	14.50	73,950	73,950	111,505	111,505														
4.052	3,150	3,150	Square Yards	Asphalt Pavement, Location F, Lemoyne Lane, Mill and Overlay	2040	15 to 20	21	14.50	45,675	45,675	78,302						78,302									
4.053	3,150	3,150	Square Yards	Asphalt Pavement, Location F, Lemoyne Lane, Total Replacement	2020	15 to 20	1	30.00	94,500	94,500	96,957															
4.054	4,300	4,300	Square Yards	Asphalt Pavement, Location G, Gwynedd Way, Mill and Overlay	2037	15 to 20	18	14.50	62,350	62,350	98,967			98,967												
4.056	3,100	3,100	Square Yards	Asphalt Pavement, Location G, Remaining, Mill and Overlay	2041	15 to 20	22	14.50	44,950	44,950	79,063						79,063									
4.057	3,100	3,100	Square Yards	Asphalt Pavement, Location G, Remaining, Total Replacement	2021	15 to 20	2	30.00	93,000	93,000	97,899															
4.058	5,100	5,100	Square Yards	Asphalt Pavement, Location H, Mill and Overlay	2037	15 to 20	18	14.50	73,950	73,950	117,379			117,379												
4.110	25,700	595	Linear Feet	Concrete Curbs and Gutters, Partial (2019 is Planned)	2019	to 65	0 to 30+	33.00	19,635	848,100	372,353	29,607		31,166		32,808	33,661	34,536	35,434						41,334	
4.140	81,400	2,155	Square Feet	Concrete Sidewalks, Partial (2019 is Planned)	2019	to 65	0 to 30+	10.00	21,550	814,000	534,812	32,494		34,206		36,008	36,944	37,904	38,890		40,938					46,544
4.350	350	350	Linear Feet	Guard Rails, Metal, Euclid Way	2022	to 35	3	33.00	11,550	11,550	12,475															
Anticipated Expenditures, By Year											\$3,694,593	173,606	2,851	281,718	3,001	750,538	152,066	151,503	424,139	0	44,439	0	3,685	0	490,442	46,544

RESERVE FUNDING PLAN

Streets

CASH FLOW ANALYSIS

Newington

Community Association

Springfield, Virginia

Individual Reserve Budgets & Cash Flows for the Next 30 Years

	FY2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Reserves at Beginning of Year (Note 1)	360,318	133,218	93,424	68,939	42,100	131,059	197,028	293,260	391,325	495,802	420,021	502,036	613,797	732,645	695,720	821,709
Total Recommended Reserve Contributions (Note 2)	62,559	99,400	115,400	131,400	87,500	89,800	92,100	94,500	97,000	99,500	102,100	104,800	107,500	110,300	113,200	116,100
Plus Estimated Interest Earned, During Year (Note 3)	3,126	1,910	1,368	936	1,459	2,765	4,132	5,770	7,477	7,719	7,771	9,405	11,348	12,039	12,789	14,664
Less Anticipated Expenditures, By Year	(292,785)	(141,104)	(141,253)	(159,175)	0	(26,596)	0	(2,205)	0	(183,000)	(27,856)	(2,444)	0	(159,264)	0	(34,379)
Anticipated Reserves at Year End	<u>\$133,218</u>	<u>\$93,424</u>	<u>\$68,939</u>	<u>\$42,100</u>	<u>\$131,059</u>	<u>\$197,028</u>	<u>\$293,260</u>	<u>\$391,325</u>	<u>\$495,802</u>	<u>\$420,021</u>	<u>\$502,036</u>	<u>\$613,797</u>	<u>\$732,645</u>	<u>\$695,720</u>	<u>\$821,709</u>	<u>\$918,094</u>

(NOTE 5)

(continued)

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

	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049
Reserves at Beginning of Year	918,094	878,732	1,014,034	873,626	1,015,245	408,709	398,849	392,919	115,566	264,973	375,936	537,535	702,199	877,513	565,433
Total Recommended Reserve Contributions	119,100	122,200	125,400	128,700	132,000	135,400	138,900	142,500	146,200	150,000	153,900	157,900	162,000	166,200	170,500
Plus Estimated Interest Earned, During Year	15,144	15,953	15,910	15,920	12,002	6,806	6,673	4,286	3,207	5,402	7,699	10,449	13,314	12,162	10,666
Less Anticipated Expenditures, By Year	(173,606)	(2,851)	(281,718)	(3,001)	(750,538)	(152,066)	(151,503)	(424,139)	0	(44,439)	0	(3,685)	0	(490,442)	(46,544)
Anticipated Reserves at Year End	<u>\$878,732</u>	<u>\$1,014,034</u>	<u>\$873,626</u>	<u>\$1,015,245</u>	<u>\$408,709</u>	<u>\$398,849</u>	<u>\$392,919</u>	<u>\$115,566</u>	<u>\$264,973</u>	<u>\$375,936</u>	<u>\$537,535</u>	<u>\$702,199</u>	<u>\$877,513</u>	<u>\$565,433</u>	<u>\$700,055</u>

(NOTE 5)

(NOTE 4)

Explanatory Notes:

- 1) Year 2019 starting reserves are as of May 31, 2019; FY2019 starts January 1, 2019 and ends December 31, 2019.
- 2) Reserve Contributions for 2019 are the remaining budgeted 3 quarters; 2020 is the first year of recommended contributions.
- 3) 1.7% is the estimated annual rate of return on invested reserves; 2019 is a partial year of interest earned.
- 4) Accumulated year 2049 ending reserves consider the need to fund for replacement of the asphalt pavement shortly after 2049, and the age, size, overall condition and complexity of the property.
- 5) Threshold Funding Years (reserve balance at critical point).

Streets
FIVE-YEAR OUTLOOK

**Newington
Community Association**
Springfield, Virginia

Line Item	Reserve Component Inventory	RUL = 0 FY2019	1 2020	2 2021	3 2022	4 2023	5 2024
<u>Property Site Elements</u>							
4.020	Asphalt Pavement, Locations A Through H, Crack Repair and Patch, Phased		1,891		1,990		2,095
4.040	Asphalt Pavement, Location A, Mill and Overlay				100,228		
4.046	Asphalt Pavement, Location D, Mill and Overlay (2019 is Planned)	98,975					
4.048	Asphalt Pavement, Location E, Mill and Overlay (2019 is Planned)	152,625					
4.053	Asphalt Pavement, Location F, Lemoyne Lane, Total Replacement		96,957				
4.057	Asphalt Pavement, Location G, Remaining, Total Replacement			97,899			
4.110	Concrete Curbs and Gutters, Partial (2019 is Planned)	19,635	20,146	20,669	21,207		
4.140	Concrete Sidewalks, Partial (2019 is Planned)	21,550	22,110	22,685	23,275		24,501
4.350	Guard Rails, Metal, Euclid Way				12,475		
Anticipated Expenditures, By Year		292,785	141,104	141,253	159,175	0	26,596

4. RESERVE COMPONENT DETAIL

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

COMMON ELEMENTS

Property Site Elements

Asphalt Pavement, Crack Repair, Patch and Seal Coat

Line Item: 4.021

Quantity: Approximately 5,350 square yards comprising access drives and parking areas near the pool area; we refer to this pavement as Location I.

History: Unknown; the Association plans to conduct repairs to the pavement including patching, crack repair, seal coat, and striping in 2019.

Condition: Fair overall with cracks and previous repairs evident

Useful Life: Three- to five-years

Component Detail Notes: Proposals for seal coat applications should include crack repairs and patching. 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.

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost includes an allowance for crack repairs and patching of up to two percent (2%) of the pavement. The cost for pavement repairs in 2019 is based on information provided by Management.

Asphalt Pavement, Repaving

Line Items: 4.061 and 4.063

Quantity: Approximately 5,350 square yards comprising access drives and parking areas near the pool area; we refer to this pavement as Location I.

History: Unknown; the Association plans to conduct repairs to the pavement including patching, crack repair, seal coat, and striping in 2019.

Condition: Fair overall with cracks, patches, and previous repairs evident



Asphalt pavement parking area; we note cracks and previous repairs



Asphalt pavement access drive; we note patches



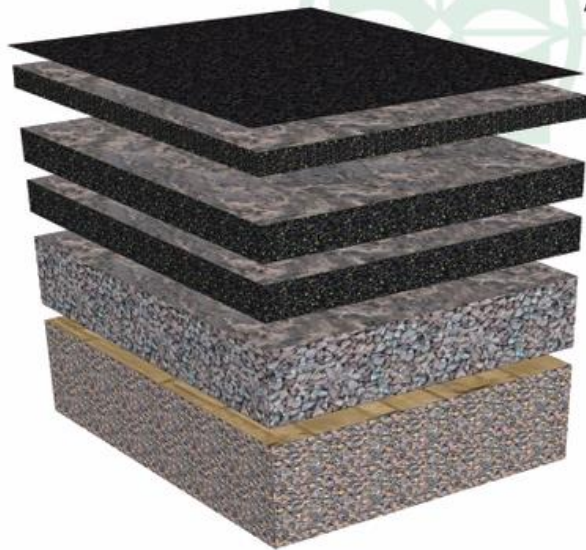
Asphalt pavement cracks and previous repairs



Asphalt pavement cracks and previous repairs

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

Component Detail Notes: The initial installation of asphalt uses at least two lifts, or two separate applications of asphalt, over the base course. The first lift is the binder course. The second lift is the wearing course. The wearing course comprises a finer aggregate for a smoother more watertight finish. The following diagram depicts the typical components although it may not reflect the actual configuration at Newington:



ASPHALT DIAGRAM

Sealcoat or Wearing Surface

Asphalt Overlay Not to Exceed 1.5 inch Thickness per Lift or Layer

Original Pavement Inspected and milled until sound pavement is found, usually comprised of two layers

Compacted Crushed Stone or Aggregate Base

Subbase of Undisturbed Native Soils Compacted to 95% dry density

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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 overlayment method for initial repaving followed by the total replacement method for subsequent repaving at Location I at Newington.

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

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

Asphalt Pavement, Repaving, Walking Paths

Line Items: 4.080 - 4.084

Quantity, History, and Condition: The Association maintains approximately 5,830 square yards of asphalt walking paths throughout the community. The diagram below depicts the asphalt walking path locations, which reflect walking path locations

designated from a 2009 report titled “Asphalt Trail Repair and Restoration, and Associated Trail Drainage Improvements” and provided by *Community Association Engineering*:



The table below depicts asphalt walking path locations, quantities, histories, and conditions:

Location	Quantity (Square Yards)	History	Condition
1A	800	Replaced in 2018	Good overall
1B	1,750	Replaced in 2010	Good to fair overall with cracks and partial replacements
2A, 2010	910	Replaced in 2010	Good to fair overall with cracks
2A, 2015	1,690	Replaced in 2015	Good to fair overall with cracks
2B	680	Replaced in 2011	Good to fair overall with cracks



Walking path at Location 1B



Walking path at Location 1B partial replacement; we note cracks



Walking path at Location 1A



Walking path at Location 2A



Walking path at Location 2A



Walking path cracks at Location 2A



Walking path at Location 2B



Walking path cracks at Location 2B

Useful Life: The need to maintain a safe pedestrian surface results in a useful life of 10- to 15-years

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 repairs and partial replacements at the concrete bridge located at Location 2A.

Fences, Chain Link

Line Items: 4.220 and 4.221

Quantity: Approximately 1,280 linear feet including 860 linear feet located at the baseball field along Northumberland Road, and 420 linear feet at the pool house parking area. This quantity includes the baseball backstop.

History: The fences at the baseball field were replaced in 2012. The fences at the pool house parking area date to 1991. The Association plans to replace the fences at the pool house parking area in 2019.

Condition: The chart below depicts the locations and conditions of the fences:

Location	Condition
Baseball Field	Good to fair overall
Pool house parking area	Poor overall with rust and deterioration



Chain link fence at the baseball field



**Chain link fence at the pool house parking area;
we note rust**



**Chain link fence at the pool house parking area
rust**

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. Our cost of replacement of the pool house parking area fence is based on information provided by Management.

Pavers, Masonry

Line Item: 4.620

Quantity: Approximately 1,200 square feet at the mailbox stations throughout the community

History: Installed in 2013.

Condition: Good to fair overall; we note vegetation growth



Pavers; we note vegetation growth

Useful Life: 15- to 20-years

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 complete replacement of the pavers. We suggest the Association conduct interim resetting and replacement of minor areas of pavers as normal maintenance, funded from the operating budget.

Playground Equipment

Line Items: 4.660 – 4.664

Quantity: The Association maintains five playgrounds throughout the community. See the diagram on the “**Streets – Asphalt Pavement, Repaving**” narrative for the exact locations of each set of playground equipment.

History: Replaced from 2015 to 2016

Condition: Good overall



Playground equipment at Location 1



Playground equipment at Location 2



Playground equipment at Location 3



Playground equipment at Location 3



Playground equipment at Location 4



Playground equipment at Location 5

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.

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.

Railings, Metal

Line Item: 4.733

Quantity: Approximately 290 linear feet located atop the concrete retaining walls near Matisse Way

History: Unknown; the Association plans to replace the railings by 2021

Condition: Fair overall with rust and finish deterioration



Railings



Railings finish deterioration



Railings rust

Useful Life: Up to 35 years

Priority/Criticality: Per Board discretion

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

Retaining Walls, Concrete

Line Items: 4.735 and 4.736

Quantity: Approximately 1,350 square feet located near Matisse Way; the retaining walls include an applied coating at the exposed surfaces.

History: Original; the coating applications are an unknown age

Condition: Fair overall with cracks and deterioration evident



Concrete retaining wall; we note coating cracks



Concrete retaining wall cracks and finish deterioration



Concrete retaining wall coating deterioration



Concrete retaining wall deterioration

Useful Life: Up to 75 years. However, we recommend the Association plan for inspections and capital repairs every 10- to 15-years to forestall deterioration.

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 inspections and capital repairs includes an allowance for an inspection, coating, repairs, and partial replacement of up to ten percent (10%).

Signage, Entrance Monuments

Line Item: 4.800

Quantity: The Association maintains five entrance monuments throughout the community.

History: Unknown

Condition: Good to fair overall with fastener rust and efflorescence evident



Entrance monument



Entrance monument fasteners rust



Entrance monument efflorescence

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. The signage includes the following elements:

- Landscape
- Letters, metal
- Masonry
- Sign, wood

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 repointing and repairs to the masonry and replacement of the remaining components listed above.

Site Furniture

Line Item: 4.820

Quantity:

- Benches
- Trash receptacles

History: Unknown

Condition: Good to fair overall

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 1,610 square yards comprising two tennis courts

History: Replaced in 2015

Condition: Fair overall with discoloration



Tennis Courts



Tennis Courts discoloration

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 480 linear feet

History: Replaced in 2017

Condition: Good overall



Tennis court fence

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, Surface

Line Item: 4.860

Quantity: Approximately 1,610 square yards of asphalt comprising two tennis courts

History: Dates to 1991. At Management request, we defer replacement of the tennis courts surface to 2023.

Condition: Fair overall

Useful Life: Up to 25 years

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.

Pool House Elements



Pool house front elevation

HVAC Equipment

Line Item: 5.450

Quantity, History, and Condition: The pool house HVAC (heating, ventilating, and air conditioning) equipment includes the following:

- Two condensing units with cooling capacities of 2.5-tons each date to 2005 and are reported in good to fair condition
- Two *Goodman* gas-fired forced air furnaces with heating capacities of 32-MBH (thousand British Thermal Units per hour) each date to 2005 and are reported in good to fair condition
- One *Select State* domestic water heater with a capacity of 4,500-watts and 80-gallons dates to 2012 and is reported in good condition



Pool house condensing unit

Useful Life: 15- to 20-years

Component Detail Notes: A split system air conditioner consists of an outside condensing unit, an interior evaporator coil, refrigerant lines and an interior gas furnace. The condensing units have cooling capacities of 2.5-tons each and the interior units have heating capacities of 32-MBH (thousand British Thermal Units per hour) each.

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. The condensing unit may require replacement prior to replacement of the related interior forced air unit. For purposes of this Reserve Study, we assume coordination of replacement of the interior forced air unit, evaporator coil, refrigerant lines and exterior condensing unit.

Interior Renovations

Line Items: 5.500 and 5.510

History: The Association conducts pool house interior renovations as needed

Condition: Good overall



Pool house office



Pool house meeting room



Pool house restroom

Useful Life: Complete interior renovation every 20 years and partial interior renovations every 10 years

Component Detail Notes: The pool house interior comprises approximately 1,300 square feet of finished area which includes:

- Acoustical tile ceiling finishes
- Cabinets and countertops
- Carpet and vinyl floor coverings
- Paint finishes on the walls and ceilings
- Plumbing fixtures, including toilets and partitions
- Light fixtures including exit and emergency lights

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. The complete renovation should include replacement of all the interior components listed above and the partial renovations should include the following:

- Application of paint finish to all surfaces
- Replacement of the carpet

Pipes, Water, Waste and Vent

Line Item: 5.580

Quantity and Condition: The Association is responsible for maintenance and replacement of the piping systems arranged in vertical and horizontal segments at the pool house. These pipes comprise the following:

- Domestic Cold Water
- Domestic Hot Water Supply and Return

- Vent Plumbing Fixtures
- Sanitary Waste Disposal

The exact locations and conditions of the pipes were not ascertained due to the nature of their location and the non-invasive nature of our inspection. Management informs us that the pipes in the pool house are in good overall condition without a history of leaks or partial pipe replacements.

Useful Life: Up to and likely beyond 75 years

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. The Association should budget an amount in the annual operating budget for minor pipe repairs and replacements. We recommend the Association budget an allowance of \$10,000, plus inflation to replace the pool house pipes by 2044.

Roof Assembly, Asphalt Shingles

Line Item: 5.600

Quantity: Approximately 18 squares¹ of asphalt shingles and approximately 240 linear feet of gutters and downspouts comprise the pool house roof

History: Date to 2005

Condition: Fair overall with discoloration evident



Asphalt shingle roof assembly



Asphalt shingle roof discoloration

Useful Life: 15- to 20-years

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

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.

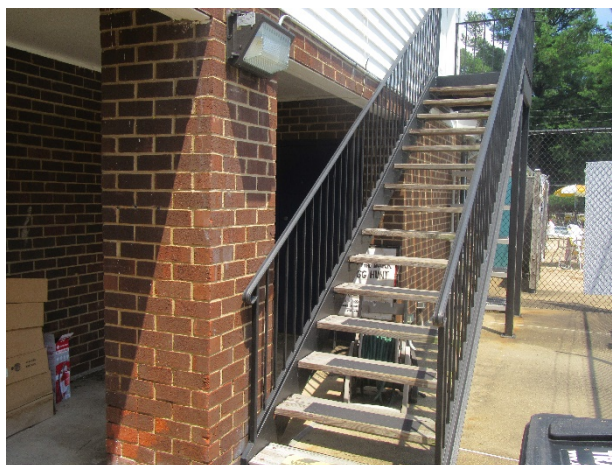
Staircase

Line Item: 5.620

Quantity: One staircase located at the rear of the clubhouse.

History: Installed in 2005

Condition: Good to fair overall; we note minor wood rot and fastener rust



Staircase; we note minor wood rot and fastener rust

Useful Life: Up to 35 years with proper maintenance.

Component Detail Notes: Staircase construction includes the following:

- Metal railings and frame
- Pressure treated wood treads and landing

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. Proper maintenance should include the following activities funded through the operating budget:

- Inspections to identify and correct any unsafe conditions
- Securing of loose fasteners and replacement of deteriorated fasteners
- Replacement of deteriorated wood components

Walls, Siding, Vinyl

Line Item: 5.790

Quantity: Approximately 1,550 square feet of the exterior walls; this quantity includes soffit and fascia.

History: Date to 2005

Condition: Good overall



Vinyl siding

Useful Life: Up to 40 years

Component Detail Notes: The siding at the pool house at Newington consists of the following:

- Clapboard double four-inch profile
- J-channel trim at window and door perimeters, and other penetrations
- Water-vapor permeable building paper protects the pool house

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

VINYL SIDING DETAIL



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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.

Windows and Doors

Line Item: 5.800

Quantity: Approximately 320 square feet

History: The Association replaced the windows and doors in three phases starting in 2005, continuing in 2012, and concluding in 2017

Condition: Good overall



Pool house door

Useful Life: Up to 35 years

Priority/Criticality: Not recommended to defer

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

Pool Elements



Pool



Wading pool

Concrete Deck

Line Item: 6.200

Quantity: Approximately 8,800 square feet

History: Original; the year of last repairs and partial replacements is unknown.

Condition: Good to fair overall with cracks and previous repairs evident



Pool concrete deck cracks



Pool concrete deck crack



Pool concrete deck cracks



Pool concrete deck previous repairs

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.

Component Detail Notes: We recommend the Association budget for the following:

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

Cover, Vinyl

Line Item: 6.300

Quantity: Approximately 6,600 square feet

History: Replaced in 2014

Condition: Reported satisfactory

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, Chain Link

Line Item: 6.400

Quantity: Approximately 790 linear feet

History: Installed in 2011

Condition: Good overall



Chain link fence



Chain link fence

Useful Life: Up to 25 years

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:

- Bench
- Chairs
- Diving board
- Grills
- Ladders
- Lane divider
- Life guard chairs
- Lounges
- Picnic tables
- Tables
- Umbrellas

History: The Association replaced a portion of the furniture in 2019

Condition: Good overall



Pool furniture



Picnic tables; we note minor finish deterioration

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.

Light Poles and Fixtures

Line Item: 6.580

Quantity: The Association uses 16 metal light fixtures atop eight metal poles to illuminate the pool area.

History: Unknown

Condition: Good to fair overall



Light pole and fixtures

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.

Mechanical Equipment

Line Item: 6.600

Quantity:

- Automatic chlorinator
- Controls
- Filters
- Interconnected pipe, fittings and valves
- Pump

History: The Association replaced a portion the pool mechanical equipment in 2011 and replaced the pumps in 2018.

Condition: Reported satisfactory



Pool mechanical equipment



Pool mechanical equipment

Useful Life: Up to 15 years

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

Line Items: 6.800 - 6.802

Quantity: Approximately 6,600 square feet of plaster based on the horizontal surface area and approximately 660 linear feet of tile

History: Association replaced the plaster finish at the main pool in 2014. The Association replaced the plaster finish at the wading pool in 2019. The tile is at an unknown age.

Condition: The plaster finish at the wading pool is in good overall condition. The plaster finish at the main pool is in good to fair condition with stains and cracks evident.



Stains at the main pool



Plaster finish cracks at the main pool

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

Component Detail Notes: Removal and replacement 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

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.

Structures and Decks

Line Item: 6.900

Quantity: Approximately 6,600 square feet of horizontal surface area

History: Original

Conditions: Visually appear in good condition. The concrete floor and walls have a plaster finish. This finish makes it difficult to thoroughly inspect the concrete structure 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 Newington 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.

STREET ELEMENTS

Asphalt Pavement, Crack Repair, Patch and Seal Coat

Line Item: 4.020

Quantity, History, and Condition: Approximately 52,650 square yards comprising streets and parking areas throughout the community; see the table on the “**Asphalt Pavement, Repaving**” narrative for detailed quantities, histories, and conditions.

Useful Life: Three- to five-years

Component Detail Notes: Proposals for seal coat applications should include crack repairs and patching. 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.

Priority/Criticality: Per Board discretion

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




Asphalt Pavement, Repaving

Line Items: 4.040 - 4.058

Quantity, History, and Condition: Approximately 52,650 square yards comprising streets and parking areas throughout the community; the Association plans to repave the streets at locations D and E in 2019. The diagram below depicts the asphalt pavement locations maintained by the Association (Locations A through I, surrounded by red lines), asphalt street pavement maintained by Fairfax County (depicted by black lines), and playground area locations from 1 through 5 (depicted with yellow stars). See the following narrative, “**Playground Equipment**” for more information regarding the playground areas.



LEGEND

-  = Asphalt Pavement Locations Maintained by the Association
-  = Asphalt Street Pavement Maintained by Fairfax County
-  = Playground Area Locations

The table below depicts asphalt pavement locations, street names, quantities by location, last seal coat applications, last repaving events, and conditions:

Location	Street	Quantity by Location (Square Yards)	Last Seal Coat	Last Repaving	Condition
A	Matisse way	6,380	1999	1992	Fair overall with cracks and deterioration
	Red Ash Court		1999	1992	Fair overall with cracks and deterioration
B	Durer Court	4,920	n/a	2012	Good to fair overall with minor cracks
C	Moline Place	7,050	n/a	2008	Fair overall with previous repairs and deterioration
D	Euclide Way	5,340	2002	1994	Fair overall with cracks and deterioration
	Getty Court		2002	1994	Fair overall with minor cracks
E	Luce Court	8,230	2004	1989	Fair to poor with cracks and deterioration
	Rowanta Way		1999	1992	Fair overall with cracks and deterioration
	Eucalyptus Court		1999	1992	Fair overall with cracks and vehicular fluid stains
	Dampier Court		1999	1992	Fair to poor with cracks and deterioration
F	Lemoyne Lane	8,210	2004	1989	Poor with extensive cracks and deterioration
	Brandeis Way		n/a	2015	Good with minor cracks
G	Marconi Court	7420	2002	1995	Fair to poor with cracks and deterioration
	Gwynedd Way		2005	2017	Good overall
	Jenner Court		2005	1995	Fair to poor with cracks and deterioration
H	Kitchener Court	5,090	n/a	2017	Good overall
	Brainerd Court		n/a	2017	Good overall



Asphalt pavement at Brandeis Way; we note minor cracks



Asphalt pavement at Brainerd Court



Asphalt pavement at Gwynedd Way



Asphalt pavement cracks and deterioration at Jenner Court



Asphalt pavement cracks and deterioration at Jenner Court



Asphalt pavement cracks at Marconi Court



Asphalt pavement deterioration at Marconi Court



Asphalt pavement cracks at Lemoyne Lane



Asphalt pavement cracks at Lemoyne Lane



Asphalt pavement cracks at Luce Court; we note previous repairs



Asphalt pavement deterioration at Luce Court



Asphalt pavement cracks at Rowanta Way



Asphalt pavement deterioration at Rowanta Way



Asphalt pavement cracks at Matisse Way



Asphalt pavement deterioration at Matisse Way



Asphalt pavement cracks at Eucalyptus Court



Asphalt pavement vehicular fluid stains at Eucalyptus Way



Asphalt pavement cracks at Dampier Court



Asphalt pavement deterioration at Dampier Court



Asphalt pavement cracks at Red Ash Court



Asphalt pavement deterioration at Red Ash Court



Asphalt pavement previous repairs at Moline Place



Asphalt pavement deterioration at Moline Place



Asphalt pavement cracks at Euclid Way



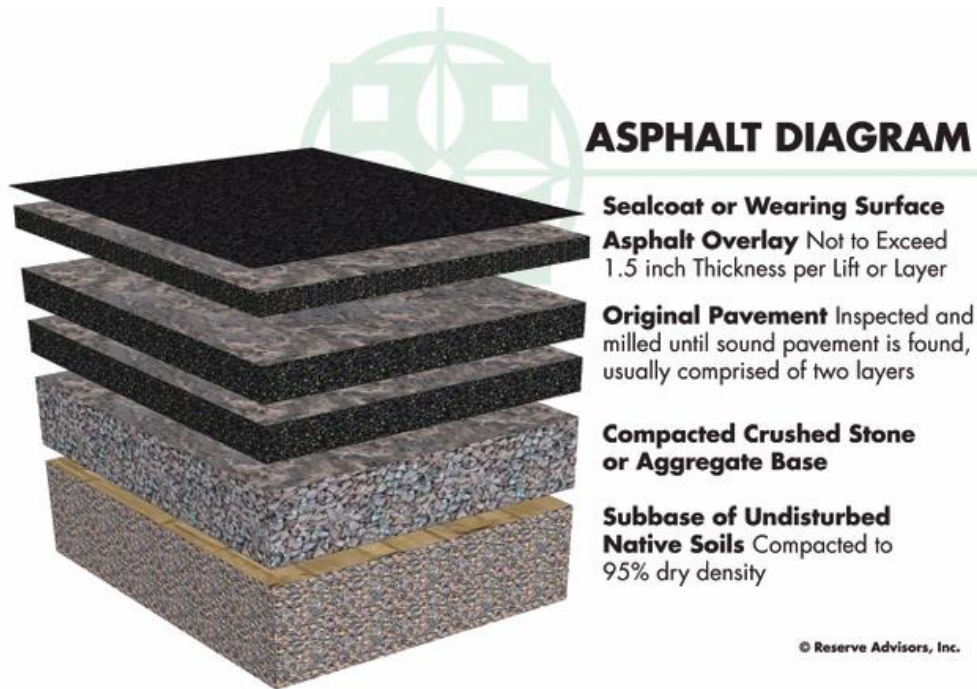
Asphalt pavement deterioration at Euclid Way



Asphalt pavement at Getty Court; we note minor cracks

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

Component Detail Notes: The initial installation of asphalt uses at least two lifts, or two separate applications of asphalt, over the base course. The first lift is the binder course. The second lift is the wearing course. The wearing course comprises a finer aggregate for a smoother more watertight finish. The following diagram depicts the typical components although it may not reflect the actual configuration at Newington:



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 for initial repaving followed by the total replacement method for subsequent repaving at Newington.

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

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost for milling and overlayment includes area patching of up to ten percent (10%). Due to insufficient reserve funds for the total replacement method of repaving at locations D and E, we recommend the Association conduct a mill and overlayment with area patching of up to thirty-three percent (33%) at locations D and E in 2019.

Concrete Curbs and Gutters

Line Item: 4.110

Quantity: Approximately 25,700 linear feet throughout the community

Condition: Good to fair overall with cracks, partial replacements, and deterioration evident



Concrete curb and gutter



Curb and gutter cracks and deterioration



Curb crack



Concrete curb and gutter crack

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

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 7,735 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 81,400 square feet

Condition: Good to fair overall with spalling, cracks, partial replacements, and settlement evident



Concrete sidewalk partial replacements



Concrete sidewalk spall



Concrete sidewalk cracks



Concrete sidewalk settlement

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

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 36,635 square feet of concrete

sidewalks, or forty-five percent (45%) of the total, will require replacement during the next 30 years.

Guard Rails

Line Item: 4.350

Quantity: Approximately 350 linear feet located along Euclid Way

History: Original

Condition: Fair overall



Guard rails

Useful Life: Up to 35 years

Priority/Criticality: Per Board discretion

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.

Newington 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 quarterly 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 Community Associations Institute (CAI) and the Association of Professional Reserve Analysts (APRA) fulfilling the requirements of a "Level I Full Reserve Study." These standards require a Reserve Component to have a "predictable remaining Useful Life." Estimating Remaining Useful Lives and Reserve Expenditures beyond 30 years is often indeterminate. Long-Lived Property Elements are necessarily excluded from this analysis. We considered the following factors in our analysis:

- The Cash Flow Method to compute, project and illustrate the 30-year Reserve Funding Plan
- 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 Springfield,

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.

Virginia at an annual inflation rate³. Isolated or regional markets of greater construction (development) activity may experience slightly greater rates of inflation for both construction materials and labor.

- The past and current maintenance practices of Newington 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.

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



6. CREDENTIALS

HISTORY AND DEPTH OF SERVICE

Founded in 1991, Reserve Advisors, Inc. 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 principals are founders of Community Associations Institute's (CAI) Reserve Committee that developed national standards for reserve study providers. One of our principals 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 the 2,600,000-square foot 98-story Trump International Hotel and Tower in Chicago. 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.

QUALIFICATIONS
THEODORE J. SALGADO
Principal Owner

CURRENT CLIENT SERVICES

Theodore J. Salgado is a co-founder of Reserve Advisors, Inc., which is dedicated to serving community associations, city and country clubs, religious organizations, educational facilities, and public and private entities throughout the United States. He is responsible for the production, management, review, and quality assurance of all reserve studies, property inspection services and consulting services for a nationwide portfolio of more than 6,000 clients. Under his direction, the firm conducts reserve study services for community associations, apartment complexes, churches, hotels, resorts, office towers and vintage architecturally ornate buildings.



PRIOR RELEVANT EXPERIENCE

Before founding Reserve Advisors with John P. Poehlmann in 1991, Mr. Salgado, a professional engineer registered in the State of Wisconsin, served clients for over 15 years through American Appraisal Associates, the world's largest full service valuation firm. Mr. Salgado conducted facilities analyses of hospitals, steel mills and various other large manufacturing and petrochemical facilities and casinos.

He has served clients throughout the United States and in foreign countries, and frequently acted as project manager on complex valuation, and federal and state tax planning assignments. His valuation studies led to negotiated settlements on property tax disputes between municipalities and property owners.

Mr. Salgado has authored articles on the topic of reserve studies and facilities maintenance. He also co-authored Reserves, an educational videotape produced by Reserve Advisors on the subject of Reserve Studies and maintaining appropriate reserves. Mr. Salgado has also written in-house computer applications manuals and taught techniques relating to valuation studies.

EXPERT WITNESS

Mr. Salgado has testified successfully before the Butler County Board of Tax Revisions in Ohio. His depositions in pretrial discovery proceedings relating to reserve studies of Crestview Estates Condominium Association in Wauconda, Illinois, Rivers Point Row Property Owners Association, Inc. in Charleston, South Carolina and the North Shore Club Associations in South Bend, Indiana have successfully assisted the parties in arriving at out of court settlements.

EDUCATION - Milwaukee School of Engineering - B.S. Architectural Engineering

PROFESSIONAL AFFILIATIONS/DESIGNATIONS

American Association of Cost Engineers - Past President, Wisconsin Section

Association of Construction Inspectors - Certified Construction Inspector

Association of Professional Reserve Analysts - Past President & Professional Reserve Analyst (PRA)

Community Associations Institute - Member and Volunteer Leader of multiple chapters

Concordia Seminary, St. Louis - Member, National Steering Committee

Milwaukee School of Engineering - Member, Corporation Board

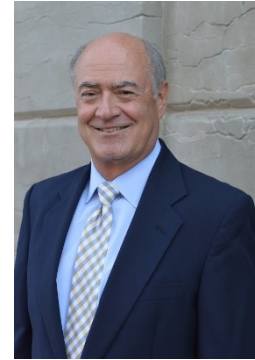
Professional Engineer, Wisconsin (1982) and North Carolina (2014)

Ted continually maintains his professional skills through American Society of Civil Engineers, ASHRAE, Association of Construction Inspectors, and continuing education to maintain his professional engineer licenses.



**JOHN P. POEHLMANN, RS
Principal**

John P. Poehlmann is a co-founder of Reserve Advisors, Inc. He is responsible for the finance, accounting, marketing, and overall administration of Reserve Advisors, Inc. He also regularly participates in internal Quality Control Team Reviews of Reserve Study reports.



Mr. Poehlmann directs corporate marketing, including business development, advertising, press releases, conference and trade show exhibiting, and electronic marketing campaigns. He frequently speaks throughout the country at seminars and workshops on the benefits of future planning and budgeting for capital repairs and replacements of building components and other assets.

PRIOR RELEVANT EXPERIENCE

Mr. Poehlmann served on the national Board of Trustees of Community Associations Institute. An international organization, Community Associations Institute (CAI) is a nonprofit 501(c)(3) trade association created in 1973 to provide education and resources to America's 335,000 residential condominium, cooperative and homeowner associations and related professionals and service providers.

He is a founding member of the Institute's Reserve Committee. The Reserve Committee developed national standards and the Reserve Specialist (RS) Designation Program for Reserve Study providers. Mr. Poehlmann has authored numerous articles on the topic of Reserve Studies, including Reserve Studies for the First Time Buyer, Minimizing Board Liability, Sound Association Planning Parallels Business Concepts, and Why Have a Professional Reserve Study. He is also a contributing author in Condo/HOA Primer, a book published for the purpose of sharing a wide background of industry knowledge to help boards in making informed decisions about their communities.

INDUSTRY SERVICE AWARDS

CAI Wisconsin Chapter Award
CAI National Rising Star Award
CAI Michigan Chapter Award

EDUCATION

University of Wisconsin-Milwaukee - Master of Science Management
University of Wisconsin - Bachelor of Business Administration

PROFESSIONAL AFFILIATIONS

Community Associations Institute (CAI) - Founding member of Reserve Committee; former member of National Board of Trustees; Reserve Specialist (RS) designation; Member of multiple chapters

Association of Condominium, Townhouse, & Homeowners Associations (ACTHA) – member



AIME V. MBAKOP
Responsible Advisor

CURRENT CLIENT SERVICES

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

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

Governor's Grove Condominium Association, Inc. - An upscale residential property located in Williamsburg, Virginia, these three-story condominium buildings contain 100 units. The property includes multiple styles of exterior building elements, a clubhouse, a pool, and a retention pond.

Charlestown Meadows Community Association - Located in Malvern, Pennsylvania, this community comprises 191 townhomes in 50 buildings. The Association maintains various common elements including a tennis court, a controlled access clubhouse, a pool, and walking paths.

Linton at Ballenger Community Association, Inc. - This planned unit development consist of a combination of 180 single family homes and 249 townhomes. Residents enjoy common elements including a pedestrian bridge, ponds, multiple playground equipment, a controlled access clubhouse including a fitness center, and a pool comprising a picnic area.

Batson Creek Estates Community Association, Inc. - Located in Frankford, Delaware, this community features a clubhouse including a fitness center, a pool, and an outdoor fire pit area. The Community contains 110 single family homes. The Association maintains a number of common elements including storm water management systems, irrigation system, and a pool house.

Inlet Cove Homeowners Association, Inc. - Located in Fort Belvoir, Virginia, this planned unit development was built in 2001 and comprises 256 homes. The community features a clubhouse and a pool. Additional components of the community include large retaining walls, a volleyball court, and multiple monuments.

Brookfield Homeowners Association, Inc. - This master planned community of 253 single family homes and 263 townhomes is located in Falling Waters, West Virginia. The community features an extensive boat ramp, multiple pavilions, and controlled access gates. The Association is responsible for a number of additional common elements including 17 miles of asphalt pavement.

Lords Landing Village Condominium - Located in Upper Marlboro, Maryland, these two and three-story condominiums were built from 1987 to 1992 and contain 200 units in 21 buildings. The Association is responsible for various common elements including multiple styles of exterior building elements and breezeways.

PRIOR RELEVANT EXPERIENCE

Before joining Reserve Advisors, Mr. Mbakop worked for the United States Patent and Trademark Office in Alexandria Virginia, where he was working as a patent examiner. Mr. Mbakop attended the School of Engineering and Applied Science at the University of the District of Columbia where he attained his Bachelor of Science degree in Electrical Engineering.

EDUCATION

University of the District of Columbia - B.S. Electrical Engineering

PROFESSIONAL AFFILIATION

Engineer in Training (E.I.T.) – District of Columbia



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, Inc. 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. Several advisors and a Principal of Reserve Advisors, Inc. hold Senior Memberships with ACI.

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

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

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

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

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

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

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

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

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