MASON & MASON
CAPITAL RESERVE ANALYSTS, INC.

MEMBER OF community ASSOCIATIONS INSTITUTE

Condition Assessment
&
Reserve Fund Plan Update
2017
WHITES MILL

Warrenton, Virginia

Prepared for:
The Board of Directors
&
Austin Realty Management & Investments, Inc.

MASON & MASON
CAPITAL RESERVE ANALYSTS, INC.

MEMBER OF community ASSOCIATIONS INSTITUTE

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September 27, 2016

Ms. Cynthia du Busc, CMCA, AMS, Certified Principal
Austin Realty Management & Investments, Inc.
10 Rock Pointe Lane
Warrenton, Virginia 20186

RE: **CONDITION ASSESSMENT AND RESERVE FUND PLAN UPDATE 2017**
Whites Mill Homeowners' Association
Warrenton, Virginia
Project No. 8189

Dear Ms. Du Busc:

Mason & Mason Capital Reserve Analysts, Inc. has completed the report for Whites Mill.

As outlined in our proposal, the report is being submitted to you and the Board of Directors for review and comment. A review of the Summary of Key Issues iii, and Sections 1 and 2 will provide you with our findings and financial analyses. We will be happy to meet with the Board to help them fully understand the issues. If no changes are necessary, please consider this version the final report. If changes are requested, Mason & Mason will make the revisions and re-issue the report. We encourage the Board to complete this process expeditiously and will support the effort.

We genuinely appreciate the opportunity to work with you and the Association.

Sincerely,

Mason & Mason Capital Reserve Analysts, Inc.

James G. Mason III, R. S.
Vice President

James G. Mason, R. S.
Principal

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FOREWORD

PLEASE READ THIS FIRST

This report contains information the Board requires to fulfill its fiduciary responsibilities with respect to the financial health of the Association. Even if you are already familiar with the concepts of capital reserve planning, it requires some study. The information in this report is vital to your Association's financial health. Unless you understand it, your Association may not follow it. This may lead to underfunding and financial stress at some time in the future.

Our years of experience providing reserve analysis to both first-time and multi-update return clients have compelled us to develop a logical funding approach, which is based on generational equity and fairness to common-interest property owners that helps ensure realistic reserve funding levels.

Our approach is neither standard, nor is it necessarily easy to understand without first becoming familiar with some basic concepts. Section 3 explains these concepts in more detail. We want you to understand them because a well-informed Association makes the best decisions for its common-property owners.

SUMMARY OF KEY ISSUES

Different readers will look for different things from this report. Perhaps the *homeowner* will just be looking for the high points. A *prospective buyer* may be looking at the general financial condition of the Association's reserves. A *Board member* should probe deeper in order to understand the financial tools that will be helpful in fulfilling their fiduciary responsibilities to the Association.

The Summary of Key Issues presents a recapitulation of the most important findings of Whites Mill's Reserve Fund Plan Update. Each is discussed in greater detail in the body of the report. We encourage the reader to "go deeper" into the report, and we have written it in a way that's understandable to a first-time reader.

Analyzing the capital reserves reveals that:

> The reserve fund is approximately **fully** funded through 2016. **See Paragraph 3.1**. **This is a significant improvement from past years. Our goal is to maintain fully funded status by the end of the 20-year period (2036).**

In order to achieve this goal, the Association should:

- Increase the annual contribution in **2017** from **$10,150** to **$12,796**, and plan on annual increases of **2.5%** to reflect inflation thereafter.
- This represents an increase from **$5.35** to **$6.74** (a net increase of **$1.39**) per residential unit, per month (based on 158 homes).

Supporting data are contained in the body of this report, and we encourage the reader to take the time to understand it.

VISUAL EVALUATION METHODOLOGY

The first step in the process is collection of specific data on each of your community's commonly-held components. This information includes quantity and condition of each included component. We collect most of this data during the on-site field survey. When this information is not available in the field, we may obtain it by discussion with those knowledgeable through management or service activities.

The field survey or condition assessment is visual and non-invasive. We don't perform destructive testing to uncover hidden conditions; perform operational testing of mechanical, electrical, plumbing, fire and life safety protection; or perform code compliance analysis.

We make no warranty that every defect has been identified. Our scope of work doesn't include an evaluation of moisture penetration, mold, indoor air quality, or other environmental issues. While we may identify safety hazards observed during the course of the field survey, this report shouldn't be considered a safety evaluation of components.

Replacement costs are sometimes based on published references, such as R. S. Means. However, our opinions of replacement costs usually include removal and disposal and are usually based on experience with similar projects including information provided by local contractors and reported client experience. Actual construction costs can vary significantly due to seasonal considerations, material availability, labor, economy of scale, and other factors beyond our control.

Projected useful service lives are based on statistical data and our opinion of their current visual condition. No guarantee of component service life expectancies is expressed or implied and none should be inferred by this report. Your actual experience in replacing components may differ significantly from the projections in the report, because of conditions beyond our control or that were not visually apparent at the time of the survey.

1. INTRODUCTION

1.1 Background: Whites Mill Homeowners' Association is comprised of 158 single-family homes, located on Academy Hill Road in Warrenton, Virginia. The community was constructed circa 2006. The streets and sidewalks throughout the community are public. The Association is responsible for the asphalt footpaths, entrance monuments, fencing, street signage, the tot lot, and the storm water detention/retention ponds.

We are providing the Condition Assessment and Reserve Fund Plan based on Proposal Acceptance Agreement No. 8189 dated August 11, 2016. Our services are subject to all terms and conditions specified therein.

Mason & Mason did not review the declarations, covenants, or other organization documents pertaining to the establishment and governance of the Homeowners Association. Ultimately, the establishment, management, and expenditure of reserves are within the discretion of the Association and its Board of Directors pursuant to their organizational documents and subject to the laws of the applicable jurisdiction. We are not otherwise financially associated with the Management Company or the Association, and we therefore do not have any conflicts of interest that would bias this report. Information provided by Management is deemed reliable. This report is not intended to be an audit or a forensic investigation. This report is not a mandate, but is intended to be a guide for future planning.

Mason & Mason provided a Level I Condition Assessment and Reserve Fund Plan for Whites Mill in 2012. This report is a Level II Update of the previous report and includes a new condition assessment. All common components were visually observed. Measurements and quantities were generally accepted from the previous report except where changes have occurred. The update report is a stand-alone document and reference to the previous report should not be necessary.

James G. Mason III, R. S. conducted the field evaluation for this report on September 15, 2016. The weather was clear and the temperature was approximately 82 degrees F. Precipitation had not occurred for several days prior to the site visit. The pavements, walkways, and grounds were generally dry and clean of debris.

1.2 Principal Findings: The common assets appear to be in overall much improved condition. The community is now reaching a ten-year benchmark in terms of replacement of major systems. The asphalt footpaths are in continuing good condition. Management informed us that the footpaths were seal coated in recent years, which in conjunction with the crack filling, will help to extend the paths service lives, and improve appearance. A minor amount of cracking was observed, but nothing of significance. If any future slippage or tripping hazards exist on the paths, the community should not delay repair to prevent pedestrian injury.

Several new projects have been completed since our last visit to Whites Mill. The left side entrance monument has received a community name sign to match the right side. The metal railing attached to the stone retaining wall has been removed. Aluminum fencing has been constructed by Northern Virginia Fence Company to replace the metal railing at the retaining wall, one section constructed at the tot lot, and all remaining split-rail fencing has been removed and replaced with new aluminum fencing. This includes the fencing around the storm water retention pond.

We have measured all fencing and included this quantity in the update. Although this fencing costs more initially, the benefits outweigh the costs, where the service life of metal fencing more than doubles the service life of the wood fencing, including its maintenance. The community has also installed custom metal posts and signs at each street, which has much improved the neighborhood aesthetics.

The tot lot components were all removed, including the wood border. A new wood border, small retaining wall, and the overall footprint of the tot lot was greatly expanded. New equipment includes two spring toys, a see-saw, and a large play module.

Management provided us with all of the invoices for the new components, which includes fencing, entrance signage, street signage, and the tot lot work, and we have used those costs in the update.

The community is also doing an excellent job of cleaning up both of the storm water retention and detention ponds. The upper and lower ponds have had all vegetation removed and only grass remains.

Currently, the reserve fund requires a reasonable single increase to get to the point where annual inflationary adjustments will achieve the fully funded goal at the end of

In order to maintain the physical attributes that preserve property values and provide a safe environment for occupants and guests, a series of capital expenditures should be anticipated. Consequently, we have scheduled near-, mid-, and late-term restoration and replacement projects based on anticipated need from our experience with similar properties.

Generally, our approach is to group appropriately related component replacement items into projects. This creates a more realistic model and allows a grouping time line that is more convenient to schedule and logical to accomplish. Please see the Table 1 Discussion, Column 17, for specific information.

2. FINANCIAL ANALYSIS

We track the annual inflation rate among our clients based on their reported costs for typical services. A 3.5% annual rate reflects their general pre-recession experience. However, currently we are seeing somewhat lower rates and we are using 2.5%. Interest income has dropped substantially, and many smaller Associations and Condominiums are reduced to savings accounts or certificates of deposit, which are yielding 1% or less. Unlike reserves, interest income is taxable, so this further reduces the net gain. It is prudent to keep a close watch on the economy and be ready to respond by updating the reserve fund plan as economic changes dictate.

2.1 Calculation Basics: The Association is on a calendar fiscal year. Management reported that the un-audited reserve fund balance, including cash and securities, as of **December 31, 2016,** is projected to be **$123,232**. We have used a **1.00%** annual interest income factor and a **2.50%** inflation factor in our calculations. The total expenditures for the twenty-year period for both the **Cash Flow Method** and **Component Method** are projected to be **$206,231**.

2.2 Current Funding Analysis, Cash Flow Method (Table 3): The 2016 annual contribution to reserves has been set at **$10,150 with a presumed 2.5% annual increase**. At this level, the total for all annual contributions for the twenty-year period would be **$259,278**, and the total interest income is projected to be **$32,092**. **This funding results in unrealistically low balances throughout the twenty-year period and never achieves the fully-funded goal.**

2.3 Alternative Funding Analysis, Cash Flow Method, Hybrid Approach (Table 3.1): This plan provides the annual contributions necessary to maintain balances more consistent with the **fully funded goal by increasing the annual contribution to $12,796 in 2017 and providing an annual escalation factor of 2.50%, matching inflation thereafter. This plan allows for a gradual increase over time after the initial increase, and addresses generational equity issues.** The total for all annual contributions for the twenty-year period would be **$326,868**, and the total interest income is projected to be **$38,743**. The **fully funded** balance in **2036** is **$282,612.**

2.4 Funding Analysis, Component Method (Table 4): This method of funding would require variable annual contributions, averaging **$16,249** over the twenty-year period. The total for all annual contributions would be **$324,977**, and the total interest income is projected to be **$40,634**. The **fully funded** balance in **2036** is **$282,612**. The Component Method model considers the current reserve fund balance in computing individual component contributions for current cycles.

3. METHODS OF FUNDING

Once the data are compiled, our proprietary software produces two distinct funding methods. These are the **Component Method and Cash Flow Method**. Each of these methods is used in analyzing your Association's reserve status and each plays a role in the Board's decision on how to fund reserves. While we provide the guidance, the choice of funding method is ultimately the prerogative of the Board. Considering the vulnerability of the Association's assets, its risk tolerance, and its ability to fund contributions, the Board should decide how the Association will fund its reserves and at what level.

3.1 Component Method: As reserve analysts, we recognize the value of Component Method calculations as they address both future replacement costs and the time remaining to fund them. **This is the foundation of the savings concept. You will see the term "fully funded." This simply means you are on schedule, in any given year, to accrue sufficient funds by the component's replacement date. It does not mean you must have 100% of the funds ahead of time.** Simplified Example: A component projected to cost $1,000 at the end of its 10-year life cycle would require a $100 annual contribution in each of the 10 years. As long as you follow this contribution plan, the component is "fully funded."

Prior to determining the actual required annual contribution, a complex calculation apportions the existing reserve fund to each component. Each component's remaining unfunded balance forms the basis for the required contribution going forward.

Funds set aside for replacement of individual components are not normally used for the replacement of other components, even though the funds reside in the same bank account. In rare cases where a reserve fund is actually overfunded, $0 will be displayed on the Component Method tables, indicating that the component is fully funded for that cycle.

While the time basis for the report is a 20-year period, the Component Method allows for inclusion of long-life components that may require replacement after the specified period. **This allows for funding of long-life components contemporaneously, which is fundamentally fair if they are serving the current owners. This is in contrast to saying "if it doesn't require replacement within our 20-year period, we're going to ignore it."**

Due to replacement cycle time and cost differentials, the Component Method typically results in annual contribution fluctuations, which often makes it difficult for a Board to implement. **However, its guidance is essential and invaluable for understanding funding liabilities and making informed recommendations.** Table 4 shows these calculations, as well as projects interest income, expenses with inflation, and yearly balances, which will be "fully funded."

3.2 Cash Flow Method: The Cash Flow Method is easier to implement. It is a simple 20-year spread sheet that includes the starting balance, current contribution, interest income, inflation rate, projected expenses, and resulting yearly balances. The Cash Flow Method pools the contributions allocated to each of the Association's common components into a single "account."

Table 3 shows these calculations. This table reflects the information you provided on your reserve fund balance and current contribution. It also shows projected yearly positive or negative balances. **The Cash Flow Method doesn't include replacement funding for anything beyond the 20-year period, thus leaving a potential shortfall in funding and failing to address generational equity if not specifically set to do so.** It doesn't provide any real guidance beyond the basic information. There are several variations on cash flow goals such as Threshold Funding (just enough to stay positive) and Percentage Funding (a predetermined level based on some arbitrary percentage), but these schemes don't address the reality of fully funding, and typically are just a way of passing the obligation on to the next generation.

3.3 Hybrid Approach: Please note that this is not a method, rather a way (approach) for us to utilize the Cash Flow Method, while insuring the appropriate funding levels are achieved long-term. Our Hybrid Approach uses the projected fully funded balance at the end of the 20-year period from Table 4 as a funding goal. We then set up Cash Flow funding plans. Table 3 is your "*where we are now*" Cash Flow spreadsheet modeling your reserve balance and current contribution. Table 3.1 (and possibly others) provides alternative(s) to this that meet the fully funded goal from Table 4.

We usually establish a new Cash Flow contribution that requires only small annual inflationary increases to reach the fully funded goal at the end of the 20-year period. This has the added effect of establishing a funding plan that addresses inflation. The contribution in the first year, adjusted for inflation, is equal to the contribution in the last year, based on inflated dollars (future value of money). This approach will also allow underfunded Associations the time to catch up, mitigating undue hardships. It balances the risk of temporary underfunding with the benefit of consistent predictable increasing contributions. The combination of the Component and Cash Flow Methods (Hybrid Approach) provides the advantages of both methods.

4. RESERVE PROGRAMMING

The Mason & Mason proprietary software used to produce the financial tables (Tables 1 through 4) have been under continual refinement for over a decade. It is unique in the industry as it provides comprehensive modeling through Microsoft Access and Excel that addresses the many challenges of reserve funding, allows analysts and clients to run "what if" scenarios, provides an easy to understand matrix of views and functions, and is easily provided to clients through e-mail.

4.1 Interest Income on Reserve Funds: Most Associations invest at least part of their reserve funds. Small Associations may simply use a savings account or certificates of deposit, while large Associations may have multiple investments with short-, medium-, and long-term instruments. One issue that is difficult to quantify is the percentage of funds invested. Some Associations invest a fairly substantial portion, while others hold back due to current cash outflow obligations. Some Associations do not reinvest the investment proceeds in their reserves; rather they divert the cash into their operations fund. We do not agree with this approach as it has the effect of requiring additional reserve contributions to make up for the difference. There is also the issue of changing rates over the 20-year period. In the recent past we have seen large swings in relatively short time periods. While reserve funds are not usually taxable by the IRS, the investment income generated by the reserve fund is taxable in most

situations. Even with all these potential pitfalls, investment income still represents a substantial source of additional funds and for this reason should not be ignored. There is no way to make "one size fits all" with any accuracy for the individual Association. Our approach to this dilemma is to use lower approximations that compensate for less than 100% of funds invested. We feel this is still better than not recognizing it, and periodic updates allow for adjustments based on experience. The rate can be set at any level, including zero, for Associations desiring to not recognize interest. **The rate should reflect, as accurately as possible, the actual composite rate of return on all securities and other instruments of investment including allowances for taxes.**

The interest income displayed on Table 3 and Table 4 is the summation of the beginning reserve fund interest accrual and the interest earned on the contributions minus the interest lost by withdrawing the capital expenditures. This method of calculation, while not exact, approximates the averages of the three principal components of a reserve fund for each twelve-month period.

4.2 Future Replacement Costs (Inflation): Inflation is a fact of life. In order to replicate future financial conditions as accurately as possible, inflation on replacement costs should be recognized. The financial tables have been programmed to calculate inflation based upon a pre-determined rate. This rate can be set at any level, including zero. **A plan that doesn't include inflation is a 1-year plan, and any data beyond that first year won't reflect reality.**

4.3 Simultaneous Funding: This is a method of calculating funding for multiple replacement cycles of a single component over a period of time from the same starting date. Simple Example: Funding for a re-roofing project, while, at the same time, funding for a second, subsequent re-roofing project. This method serves a special purpose if multiple-phase projects are all near-term, but will result in higher annual contribution requirements and leads to generational equity issues otherwise. We use this type of programming only in special circumstances.

4.4 Sequential Funding: This is a method of calculating funding for multiple replacement cycles of a single component over a period of time where each funding cycle begins when the previous cycle ends. Simple Example: Funding for the second re-roofing project begins after the completion of the initial re-roofing project. This method of funding appears to be fundamentally equitable. We use this type of programming except in special circumstances.

4.5 Normal Replacement: Components are scheduled for complete replacement at the end of their useful service lives. Simple Example: An entrance sign is generally replaced all at once.

4.6 Cyclic Replacement: Components are replaced in stages over a period of time. Simple Example: Deficient sidewalk panels are typically replaced individually as a small percentage, rather than the complete system.

4.7 Minor Components: A minimum component value is usually established for inclusion in the reserve fund. Components of insignificant value in relation to the scale of the Association shouldn't be included and should be deferred to the operations budget. A small Association might exclude components with aggregate values less than $1,000, while a large Association might exclude components with aggregate values of less than $10,000. Including many small components tends to over complicate the plan and doesn't provide any relative value or utility.

4.8 Long Life Components: Almost all Associations have some components with long or very long useful service lives typically ranging between thirty and sixty years. Traditionally, this type of component has been ignored completely. Simple Example: Single replacement components such as entrance monuments should be programmed for full replacement at their statistical service life. This allows for all common property owners to pay their fair share during the time the component serves them. This also has the added effect of reducing the funding burden significantly as it is carried over many years.

4.9 Projected Useful Service Life: Useful service lives of components are established using construction industry standards and our local experience as a guideline. Useful service lives can vary greatly due to initial quality and installation, inappropriate materials, maintenance practices or lack thereof, environment, parts attrition, and obsolescence. By visual observation, the projected useful service life may be shortened or extended due to the present condition. The projected useful service life is not a mandate, but a guideline, for anticipating when a component will require replacement and how many years remain to fund it.

4.10 Generational Equity: As the term applies to reserves, it is the state of fairness between and over the generations relating to responsibility for assets you are utilizing during your time of ownership. It is neither reasonable, nor good business to defer current liabilities to future owners. This practice is not only unfair; it can also have a very negative impact on future property values.

5. UPDATING THE RESERVE FUND PLAN

A reserve fund plan should be periodically updated to remain a viable planning tool. Changing financial conditions and widely varying aging patterns of components dictate that revisions should be undertaken periodically from one to five years, depending upon the complexity of the common assets and the age of the community. Weather, which is unpredictable, plays a large part in the aging process.

Full Updates (Level II) include a site visit to observe current conditions. These updates include adjustments to the component inventory, replacement schedules, annual contributions, balances, replacement costs, inflation rates, and interest income.

We encourage Associations that are undergoing multiple simultaneous or sequential costly restoration projects (usually high rise buildings) to perform Level III Administrative Updates. Administrative updates do not include a condition assessment. They are accomplished by comparing original projections with actual experience during the interim period as reported by Management. These updates can be performed annually and include adjustments to the replacement schedules, contributions, balances, replacement costs, inflation rates, and interest income. The Level III Administrative Update can be a cost-effective way of keeping current between Level II Full Update cycles. Full Updates (Level II) and Administrative Updates (Level III) help to ensure the integrity of the reserve fund plan.

6. PREVENTIVE MAINTENANCE

The following preventive maintenance practices are suggested to assist the Association in the development of a routine maintenance program. The recommendations are not to be considered the only maintenance required, but should be included in an overall program. The development of a maintenance checklist and an annual condition survey will help extend the useful service lives of the Association's assets.

This section includes best maintenance practices or life-extension maintenance for many, but not necessarily all, components in the report. Items for which no maintenance is necessary, appropriate or beyond the purview of this report are not included in this section. We typically include them for townhomes and garden condominiums while mid- and high-rise buildings are generally too complex.

6.1 Asphalt Footpaths: Transverse and longitudinal cracks should be cleaned of debris and plant growth (lanced) and filled with a rubberized asphaltic compound to prevent water infiltration. Cracks and deflection of the asphalt pavement can develop in the areas where tree roots cross the path. Tree roots should be removed and damaged areas repaired. An additional maintenance issue with footpaths is vegetation control. In areas where vegetation encroaches on the paths, both underfoot and overhead, visibility is reduced and personal injury can occur from low-growing branches. Vegetation control should be accomplished on a regular basis under the maintenance budget for safety considerations and to extend the useful service life of the pavement.

6.2 Brick Entrance Monument: Brick monuments should be inspected periodically for step cracks in the mortar and shear cracks through the brick and mortar, indicating settlement problems. Signs of efflorescence on the brick face and mortar or spalling brick faces should be investigated. Efflorescence, a residue of fine white crystals resulting from salts leaching from the mortar, serves as a warning that water is infiltrating the structure. Water infiltration problems are usually initiated at the top of an improperly sealed coping. Eliminating the infiltration of water into the monument from the coping can be accomplished by various methods, depending on the brick detail. Installation of a metal coping is sometimes a cost-effective method of solving these problems and extending the life of the brick structure. Sealing of brick surfaces with breathable coatings will also extend the useful service life of the brick. All vegetation, such as vines or tree limbs should be kept clear of the monument to prevent damage. As brick components age, depending upon the initial quality of the mortar and the long-term environment of the monument, mortar joints may deteriorate. This condition can be corrected by tuckpointing. Applying soft sealants to the deteriorated joints or to cover up mortar joint cracks is not recommended. Deteriorated or cracked mortar joints should be repaired by cutting damaged material ¾-inch deep with a diamond blade masonry saw. The void should then be filled with new mortar and the joints struck to match the original work.

6.3 Stone Retaining Wall Repair: Stone retaining walls should be inspected periodically for cracks indicating settlement problems. All vegetation, such as vines, tree limbs, and tree roots should be kept clear of the stone wall to prevent damage. As stone retaining walls age, depending upon the initial quality of the mortar and the long-term environment of the wall, mortar joints may deteriorate. This condition can be corrected by tuckpointing. Deteriorated or cracked mortar should be removed, and the void should then be filled with new mortar. Major settlement cracks or deflection may require the rebuilding of that section of the wall.

6.4 Metal Fencing: Metal fencing should be periodically straightened, loose connections repaired, cleaned of rust, primed, and painted to maintain appearance and extend the useful service life. Bases should be periodically cleaned and sealed to prevent moisture infiltration, which will cause damage to the concrete in freeze/thaw cycles. Welding new bases to replace deteriorated bases is a viable alternative to replacing fencing.

6.5 Street Signs: Standard painted metal street signs generally require very little maintenance over their useful service life. Signage tends to fade due to environmental exposure. Periodic cleaning of rust and repainting the posts will maintain appearance. There is little that can be done with the signs except to replace them periodically. Out of plumb posts should be straightened.

6.6 Tot Lot Equipment and Outdoor Furniture: Little maintenance is necessary on the newer style, pre-finished or painted metal play modules other than periodic safety inspections and repair, re-finishing, or replacement of any worn or damaged components. Bare wood components, both non-treated and pressure-treated, generally will achieve a greater useful service life and improved appearance if preventative maintenance is performed. Periodic pressure washing and sealing with wood preservative is recommended on all wood components. Rough edges and splinters should be sanded prior to sealing. Damaged or deteriorated wood components should be replaced as necessary. Generally, securing or repairing wood components with screws will provide a better fastening method than nails. Tot lot equipment should be inspected frequently for loose components, rough edges, splinters and safety hazards. Tot lot borders should be leveled periodically, and protruding border anchors should be made flush with the timber surface.

6.7 Storm Water Retention Ponds: Vegetation control in ponds and on adjacent banks is required to prevent root damage to the earthen structures. Sedimentation problems can result in dredging requirements to maintain capacity of the pond in the long term. Pond sediment levels should be monitored to establish the rate over a multi-year period. The information would be helpful in determining future reserve funding for dredging if found to be necessary. Inflow and outflow structures should be periodically inspected for damage, leaks, or deterioration, and cleaned of debris to prevent clogging.

COMPONENT DATA AND ASSET REPLACEMENT SCHEDULE
TABLE 1 EXPLANATION

This table lists the common assets included in the reserve fund plan and provides details of the replacement schedules. A narrative discussion is provided adjacent to each component. Photo references and maintenance protocol reference numbers are also provided. An explanation of each column in the table follows:

Column **1** **Component No.** is consistent throughout all tables.

Column **2** **Component** is a brief description of the component.

Column **3** **Quantity** of the component studied, which may be an exact number, a rough estimate, or simply a (1) if the expenditure forecast is a lump sum allowance for replacement of an unquantified component.

Column **4** **Unit of Measurement** used to quantify the component:

SY = Square Yards
SF = Square Feet
LF = Linear Feet
EA = Each
LS = Lump Sum
PR = Pair
CY = Cubic Yards

Column **5** **Unit Cost** used to calculate the required expenditure. This unit cost includes removal of existing components and installation of new components, including materials, labor, and overhead and profit for the contractor.

Column **6** **Total Asset Base** is the total value of common assets included in the study in current dollars. In addition to capital assets, this figure includes one cycle of maintenance liability.

Column **7** **Typical Service Life (Yrs) or Cycle** is the typical life expectancy of similar components in average conditions or the length of years between replacement cycles, and does not necessarily reflect the conditions observed during the field evaluation. This number is furnished for reference and is not necessarily computed in the system.

Column **8** **1st Cycle Year** is the scheduled year of the first projected replacement or repair.

Column **9** **Percentage of Replacement** is the percentage of component value to be replaced in the first replacement cycle.

Column **10** **Cost for 1st Cycle** is the future cost (with inflation) of the replacement. It is the product of Column 6 times Column 9 in future dollars.

Column **11** **2nd Cycle Year** is the scheduled year of the second projected replacement or repair. If a second cycle is not listed, it is because the first cycle is beyond the end of the study.

Column **12** **Percentage of Replacement** is the percentage of component value to be replaced in the second replacement cycle. This can vary from the percentage of the first cycle for various reasons, such as the increased age of a component may require a larger amount of repair.

Columns **13** Through **16** **Cycles, Percentage, and Cost** repeat as itemized above. Although not shown on the tables, the cycles continue throughout the study period and beyond.

Column **17** **Discussion** is the description and observed condition of the component and the methodology employed in the decision-making process. Includes the photo reference, **(Photo #1, #2, etc.)** and Maintenance Protocol reference numbers **(7.1, 7.2 etc.)** if applicable.

Reserve Fund Plan for WHITES MILL HOMEOWNERS' ASSOCIATION Warrenton, Virginia

COMPONENT DATA AND ASSET REPLACEMENT SCHEDULE TABLE 1

2017 Through 2036

MASON & MASON CAPITAL RESERVE ANALYSTS, INC.
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Component No.	Component	Quantity	Unit of Measurement	Unit Cost	Total Asset Base	Typical Service or Cycle Life in Yrs	1st Cycle Year	Percentage of Replacement	Cost For 1st Cycle	2nd Cycle Year	Percentage of Replacement	Cost For 2nd Cycle	3rd Cycle Year	Percentage of Replacement	Cost For 3rd Cycle	DISCUSSION
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1 ASPHALT COMPONENTS																
1.1	Asphalt Footpaths	2,134	SY	$36.00	$76,824	15	2023	100%	$89,092	2038	100%	$129,032				Asphalt footpaths generally 6' and 10' in width are constructed from 7644 Movern Lane, leading to the public park, and from 7697 Movern Lane through the center of the community. The footpaths are in generally continuing good condition, and recent seal coating has been accomplished on both paths. We observed minor edge cracking and one area of deflection. Future subsidence cracking should be repaired by crack filling under the operations budget to prevent water infiltration and subsequent damage. Trip hazards should be addressed as soon as observed to prevent personal injury.
2 SITE FEATURES																
2.1	Brick Entrance Monuments	1	LS	$19,000.00	$19,000	40	2046	100%	$38,882							Four brick and mortar monuments are constructed at the entrances to the community on Academy Hill Road. Each monument is approximately four feet in height by three feet wide. They are constructed with standard running brickwork, and each one has a cast concrete cap. One monument on Movern Lane has a 2' x 2' cast concrete name sign embedded in the brickwork. A second name sign was recently installed on the opposing monument. The sign was manufactured and installed by Carousel Signs & Designs, Inc. circa 2016. All brick and mortar appear to be in continuing good condition with no deteriorated mortar, cracked mortar or brick, or spalled brick faces observed. With periodic maintenance performed under the operations budget, the monuments should provide a long service life.
2.2	Stone Retaining Wall	200	SF	$97.00	$19,400	40	2045	100%	$38,732							A mortared stone retaining wall is constructed near the top of the asphalt footpath near 7679 Movern Lane. It appears to be in continuing good condition with no cracking or deteriorated mortar observed. The community should schedule periodic tuckpointing at the top of the wall. The steel railing was removed from the wall and a new larger section of fencing was installed behind it. The previous post pockets should be filled with mortar to prevent water infiltration into the wall resulting in freeze/thaw damage.
2.3	Metal Fencing	1,548	LF	$22.00	$34,056	30	2045	100%	$67,993							Painted aluminum fencing, 4' high is secured in the ground, behind the stone retaining wall along the footpath and at each area where the wood split-rail fencing was removed. This includes new fencing installed at both ponds and at the tot lot. All fencing was installed around 2014. With proper, diligent maintenance, including cleaning of peeling paint, priming, painting, and repairing deteriorated areas by welding replacement parts, this fencing may be reusable and may provide a very long service life. Pricing is based on invoices provided by Management.
2.4	Street Signage	1	LS	$12,000.00	$12,000	15	2030	100%	$16,542	2045	100%	$23,958				The community had approximately 13 custom signs installed throughout Whites Mill by Mid-Atlantic Mailbox, Inc. circa 2014. The signs included stop, speed limit, county markings, and street names. These are heavy duty, 'breakaway' signs with black paint, some with ball finales. They are in excellent condition and are a nice addition to the community. Pricing is based on invoices provided by Management.
2.5	Tot Lot & Outdoor Furniture	1	LS	$40,000.00	$40,000	15	2032	100%	$57,932	2047	100%	$83,903				One tot lot is located at the center of the community. The tot lot was completely renovated circa 2015. Equipment now consists of 243 linear feet of wood borders with a small retaining wall, one bench, one trash can, two spring toys, a see-saw, and a Carrot Crop, 16 post play structure with three slides. All equipment appears to be in new condition. One end of the see-saw was not seated properly, which should be repaired. Frequent, periodic safety checks of all components should be conducted to prevent personal injury. Replacement costs are based on replacement with U.S. Consumer Product Safety Commission (CPSC)-compliant play modules, and based on invoices provided by management.
2.6	Storm Water Drainage System Allowance	1	LS	$11,000.00	$11,000	7	2020	100%	$11,846	2027	100%	$14,081	2034	100%	$16,738	Storm water drainage is provided by concrete yard drains, curb drop inlets, and underground structures, leading storm water offsite. One storm water detention pond is located at the center of the community near the asphalt footpath and has a round concrete and metal drainage riser. The vegetation has been removed and the community should continue to keep it clear. A larger retention pond is constructed between Movern Lane and Mill Pond Court. We understand that this pond was originally constructed as a dry pond. But, due to water being produced, possibly from a spring, the lower pond is considered a retention pond. We suggest that the community have the wet pond evaluated by an environmental engineer. This pond appears to be healthy, but may require aeration in the future. We understand that responsibility for some or parts of the system may rest with local government. Though storm water drainage systems are a long life component and catastrophic failure is not anticipated, it is prudent for the community to plan for localized repairs and repairs to ancillary damage, even if a public entity has primary responsibility. This category may also be used to address localized erosion issues.

CALENDAR OF EXPENDITURES
TABLE 2 EXPLANATION

This table is a yearly plan of action of replacements and costs. A description of the columns in the table follows:

Column **1** **Year** is the year of the projected replacement and expenditure.

Column **2** **Component No.** itemizes the components and is consistent throughout the tables.

Column **3** **Component** is a brief description of the component.

Column **4** **Present Cost** is the cost for the cycle in today's dollars.

Column **5** **Future Cost (Inflated)** is the cost for the cycle in future dollars.

Column **6** **Total Annual Expenditures** gives the total expenditures by year.

Column **7** **Action** is an area provided for the Board to make notations as to action taken on each component.

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Reserve Fund Plan for
WHITES MILL HOMEOWNERS' ASSOCIATION
Warrenton, Virginia

CALENDAR OF EXPENDITURES
TABLE 2
2017 Through 2036

MASON & MASON
CAPITAL RESERVE ANALYSTS, INC.
www.masonreserves.com 800-776-6980 Fax 800-776-6408

YEAR	COMPONENT NO.	COMPONENT	PRESENT COST 2017	FUTURE COST (INFLATED)	TOTAL ANNUAL EXPENDITURES	ACTION
1	2	3	4	5	6	7
2017					2017	
					NO EXPENDITURES	
2018					2018	
					NO EXPENDITURES	
2019					2019	
					NO EXPENDITURES	
2020					2020	
	2.6	Storm Water Drainage System Allowance	$11,000	$11,846	TOTAL EXPENDITURES	
					$11,846	
2021					2021	
					NO EXPENDITURES	
2022					2022	
					NO EXPENDITURES	
2023					2023	
	1.1	Asphalt Footpaths	$76,824	$89,092	TOTAL EXPENDITURES	
					$89,092	
2024					2024	
					NO EXPENDITURES	
2025					2025	
					NO EXPENDITURES	
2026					2026	
					NO EXPENDITURES	
2027					2027	
	2.6	Storm Water Drainage System Allowance	$11,000	$14,081	TOTAL EXPENDITURES	
					$14,081	
2028					2028	
					NO EXPENDITURES	
2029					2029	
					NO EXPENDITURES	
2030					2030	
	2.4	Street Signage	$12,000	$16,542	TOTAL EXPENDITURES	
					$16,542	
2031					2031	
					NO EXPENDITURES	
2032					2032	
	2.5	Tot Lot & Outdoor Furniture	$40,000	$57,932	TOTAL EXPENDITURES	
					$57,932	
2033					2033	
					NO EXPENDITURES	
2034					2034	
	2.6	Storm Water Drainage System Allowance	$11,000	$16,738	TOTAL EXPENDITURES	
					$16,738	
2035					2035	
					NO EXPENDITURES	
2036					2036	
					NO EXPENDITURES	

CURRENT FUNDING ANALYSIS CASH FLOW METHOD
TABLE 3.0 EXPLANATION

and, if applicable,

ALTERNATIVE FUNDING ANALYSIS CASH FLOW METHOD
TABLE 3.1, 3.2, 3,3 (etc.) EXPLANATION

Table 3.0 shows the financial picture over the twenty-year study period, using the current annual contribution and the reserve fund balance reported at the beginning of the study year. If the results of the study indicate a need to increase the annual contribution to maintain adequate balances throughout the study period, Table 3.1, and possibly, 3.2 will be provided for consideration. Alternatives might also be provided if a community is over-funded and desires to adjust the annual contribution downward.

Alternative funding may be achieved by increasing the annual contribution to a fixed yearly amount or by applying an annual escalation factor to increase contributions over time, or a combination of both methods. An inflation factor and interest income factor may be included in the calculations on this page.

A description of the columns in the table follows:

Column **1** **Year**

Column **2** **Total Asset Base** of all common capital assets included in the reserve fund with costs adjusted for inflation.

Column **3** **Beginning Reserve Fund Balance** is the reserve fund balance after all activity in the prior year is completed.

Column **4** **Annual Contribution,** on Table 3, is the amount contributed annually to the reserve fund as reported by the Board of Directors. On the Alternative Funding Analysis tables (3.1, 3.2, etc.), the annual contribution is projected to maintain positive balances throughout the study period.

Column **5** **Interest Income,** which is indicated in the heading of the table, is applied to the reserve fund balance and is accrued monthly throughout each year after the yearly expenditures are deducted. The interest income percentage may be varied to reflect actual experience of the community investments.

Column **6** **Capital Expenditures** are annual totals of expenditures for each year of the study period adjusted by the inflation percentage listed in the heading of the table.

Column **7** **Ending Reserve Fund Balance** is the result of the beginning reserve fund balance plus the annual contribution, plus interest income, less capital expenditures for the year.

Reserve Fund Plan for
WHITES MILL HOMEOWNERS' ASSOCIATION
Warrenton, Virginia

CURRENT FUNDING ANALYSIS
CASH FLOW METHOD
TABLE 3

MASON & MASON
CAPITAL RESERVE ANALYSTS, INC.
www.masonreserves.com 800-776-6980 Fax 800-776-6408

In Dollars	Beginning Reserve Fund Balance:	Annual Contribution To Reserves:	Contribution Percentage Increase:	Annual Inflation Factor:	Annual Interest Income Factor:
	123,232	10,150	2.50%	2.50%	1.00%

YEAR	TOTAL ASSET BASE	BEGINNING RESERVE FUND BALANCE	ANNUAL CONTRIBUTION	INTEREST INCOME	CAPITAL EXPENDITURES	ENDING RESERVE FUND BALANCE
1	2	3	4	5	6	7
2017	212,280	123,232	10,150	1,293	0	134,675
2018	217,587	134,675	10,404	1,409	0	146,488
2019	223,027	146,488	10,664	1,530	0	158,682
2020	228,602	158,682	10,930	1,589	11,846	159,355
2021	234,317	159,355	11,204	1,662	0	172,221
2022	240,175	172,221	11,484	1,793	0	185,497
2023	246,180	185,497	11,771	1,444	89,092	109,620
2024	252,334	109,620	12,065	1,167	0	122,852
2025	258,643	122,852	12,367	1,301	0	136,520
2026	265,109	136,520	12,676	1,440	0	150,637
2027	271,736	150,637	12,993	1,507	14,081	151,056
2028	278,530	151,056	13,318	1,590	0	165,964
2029	285,493	165,964	13,651	1,741	0	181,356
2030	292,630	181,356	13,992	1,808	16,542	180,614
2031	299,946	180,614	14,342	1,892	0	196,848
2032	307,445	196,848	14,700	1,743	57,932	155,359
2033	315,131	155,359	15,068	1,643	0	172,069
2034	323,009	172,069	15,444	1,722	16,738	172,497
2035	331,084	172,497	15,831	1,819	0	190,147
2036	339,361	190,147	16,226	1,998	0	208,372
STUDY PERIOD TOTALS			259,278	32,092	206,231	

Reserve Fund Plan for
WHITES MILL HOMEOWNERS' ASSOCIATION
Warrenton, Virginia

ALTERNATIVE FUNDING ANALYSIS
CASH FLOW METHOD
HYBRID APPROACH
TABLE 3.1

MASON & MASON
CAPITAL RESERVE ANALYSTS, INC.
www.masonreserves.com 800-776-6980 Fax 800-776-6408

In Dollars	Beginning Reserve Fund Balance:	Annual Contribution To Reserves:	Contribution Percentage Increase:	Annual Inflation Factor:	Annual Interest Income Factor:
	123,232	10,150	2.50%	2.50%	1.00%

YEAR	TOTAL ASSET BASE	BEGINNING RESERVE FUND BALANCE	ANNUAL CONTRIBUTION	INTEREST INCOME	CAPITAL EXPENDITURES	ENDING RESERVE FUND BALANCE
1	2	3	4	5	6	7
2017	212,280	123,232	12,796	1,308	0	137,335
2018	217,587	137,335	13,116	1,451	0	151,902
2019	223,027	151,902	13,444	1,599	0	166,945
2020	228,602	166,945	13,780	1,688	11,846	170,567
2021	234,317	170,567	14,124	1,790	0	186,481
2022	240,175	186,481	14,477	1,952	0	202,911
2023	246,180	202,911	14,839	1,636	89,092	130,294
2024	252,334	130,294	15,210	1,392	0	146,896
2025	258,643	146,896	15,591	1,560	0	164,047
2026	265,109	164,047	15,980	1,735	0	181,762
2027	271,736	181,762	16,380	1,839	14,081	185,899
2028	278,530	185,899	16,789	1,959	0	204,648
2029	285,493	204,648	17,209	2,149	0	224,006
2030	292,630	224,006	17,639	2,256	16,542	227,360
2031	299,946	227,360	18,080	2,382	0	247,823
2032	307,445	247,823	18,532	2,276	57,932	210,699
2033	315,131	210,699	18,996	2,220	0	231,914
2034	323,009	231,914	19,471	2,345	16,738	236,992
2035	331,084	236,992	19,957	2,489	0	259,438
2036	339,361	259,438	20,456	2,717	0	282,612
STUDY PERIOD TOTALS			326,868	38,743	206,231	

FULLY FUNDED BALANCE GOAL

FUNDING ANALYSIS COMPONENT METHOD
TABLE 4 EXPLANATION

Table 4 is a yearly list of annual contributions toward each component, which must be made to achieve 100% funding. The reserve fund balance is the balance at the beginning of the study year. The beginning reserve fund balance is applied, proportionately, to each component prior to calculating the yearly contribution for each component. Future costs (inflation) are factored into the replacement cycles. The annual contribution for each year is calculated in the bottom row of the study labeled **Annual Component Contribution Totals.** Interest and inflation are calculated at the same annual rates as the Cash Flow Method (Table 3).

Column **1**	**Component Number** is consistent throughout the tables.
Column **2**	**Component** is a brief description of the component.
Columns **3 - 22**	**Years** lists the annual contribution amount toward each component throughout the twenty-year study period, which is totaled at the bottom of the component table.

COMPONENT METHOD SUMMARY

The component method summary computes the beginning reserve fund balance, the annual component contribution, the annual expenditures, and interest income. It then provides the ending reserve fund balance for each year of the study.

Reserve Fund Plan for
WHITES MILL HOMEOWNERS' ASSOCIATION
Warrenton, Virginia

FUNDING ANALYSIS
COMPONENT METHOD
TABLE 4

MASON & MASON
CAPITAL RESERVE ANALYSTS, INC.
www.masonreserves.com 800-776-6980 Fax 800-776-6408

Beginning Reserve Fund Balance:

In Dollars **123,232**

Component Number	COMPONENT	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
1 ASPHALT COMPONENTS																					
1.1	Asphalt Footpaths	7,818	7,818	7,818	7,818	7,818	7,818	7,970	7,970	7,970	7,970	7,970	7,970	7,970	7,970	7,970	7,970	7,970	7,970	7,970	7,970
2 SITE FEATURES																					
2.1	Brick Entrance Monuments	627	627	627	627	627	627	627	627	627	627	627	627	627	627	627	627	627	627	627	627
2.2	Stone Retaining Wall	650	650	650	650	650	650	650	650	650	650	650	650	650	650	650	650	650	650	650	650
2.3	Metal Fencing	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142
2.4	Street Signage	647	647	647	647	647	647	647	647	647	647	647	647	647	1,480	1,480	1,480	1,480	1,480	1,480	1,480
2.5	Tot Lot & Outdoor Furniture	1,942	1,942	1,942	1,942	1,942	1,942	1,942	1,942	1,942	1,942	1,942	1,942	1,942	1,942	1,942	5,182	5,182	5,182	5,182	5,182
2.6	Storm Water Drainage System Allowance	2,111	2,111	2,111	1,941	1,941	1,941	1,941	1,941	1,941	1,941	2,307	2,307	2,307	2,307	2,307	2,307	2,307	2,743	2,743	2,743
ANNUAL COMPONENT CONTRIBUTION TOTALS		14,937	14,937	14,937	14,767	14,767	14,767	14,919	14,919	14,919	14,919	15,285	15,285	15,285	16,118	16,118	19,358	19,358	19,794	19,794	19,794

COMPONENT METHOD SUMMARY	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
BEGINNING RESERVE FUND BALANCE	123,232	139,488	155,908	172,492	177,226	193,854	210,648	138,673	155,066	171,624	188,348	191,527	208,819	226,285	228,222	246,720	210,730	232,310	237,807	260,098
PLUS ANNUAL COMPONENT CONTRIBUTION	14,937	14,937	14,937	14,767	14,767	14,767	14,919	14,919	14,919	14,919	15,285	15,285	15,285	16,118	16,118	19,358	19,358	19,794	19,794	19,794
CAPITAL EXPENDITURES	0	0	0	11,846	0	0	89,092	0	0	0	14,081	0	0	16,542	0	57,932	0	16,738	0	0
SUBTOTAL	138,169	154,425	170,845	175,413	191,993	208,621	136,475	153,592	169,985	186,543	189,552	206,812	224,104	225,861	244,340	208,146	230,088	235,366	257,601	279,892
PLUS INTEREST INCOME @ 1.00%	1,319	1,482	1,647	1,813	1,861	2,028	2,197	1,474	1,639	1,805	1,975	2,007	2,181	2,361	2,380	2,584	2,222	2,441	2,497	2,720
FULLY FUNDED RESERVE FUND BALANCE	139,488	155,908	172,492	177,226	193,854	210,648	138,673	155,066	171,624	188,348	191,527	208,819	226,285	228,222	246,720	210,730	232,310	237,807	260,098	282,612

PERCENT FUNDED FOR CURRENT CYCLE	133%	TOTAL EXPENDITURES	206,231	TOTAL CONTRIBUTIONS	324,977	STUDY PERIOD TOTAL INTEREST	40,634	AVERAGE ANNUAL CONTRIBUTION	16,249

FULLY FUNDED BALANCE GOAL

PHOTOGRAPHS
WITH
DESCRIPTIVE NARRATIVES

MASON & MASON
CAPITAL RESERVE ANALYSTS, INC.

PHOTO #1
The asphalt footpaths are in continuing good condition. Only a very minor amount of deflected pavement was observed.

PHOTO #2
The footpaths have been crack filled in the past and recently seal coated. A minor amount of non-filled longitudinal and transverse cracking was observed.

PHOTO #3
A community name sign has been installed on the left entrance monument since our previous site visit.

PHOTO #4
The right side community name sign is in fair to continuing good condition. Minor deterioration was observed of the sign, but the monuments are in continuing good condition.

PHOTO #5
The stone and mortar retaining wall is in continuing good condition. The metal railing installed on this wall has been removed. Tuckpointing of the top of this wall should continue.

PHOTO #6
Metal fencing, installed by Northern Virginia Fence Company has replaced the metal railing at the retaining wall.

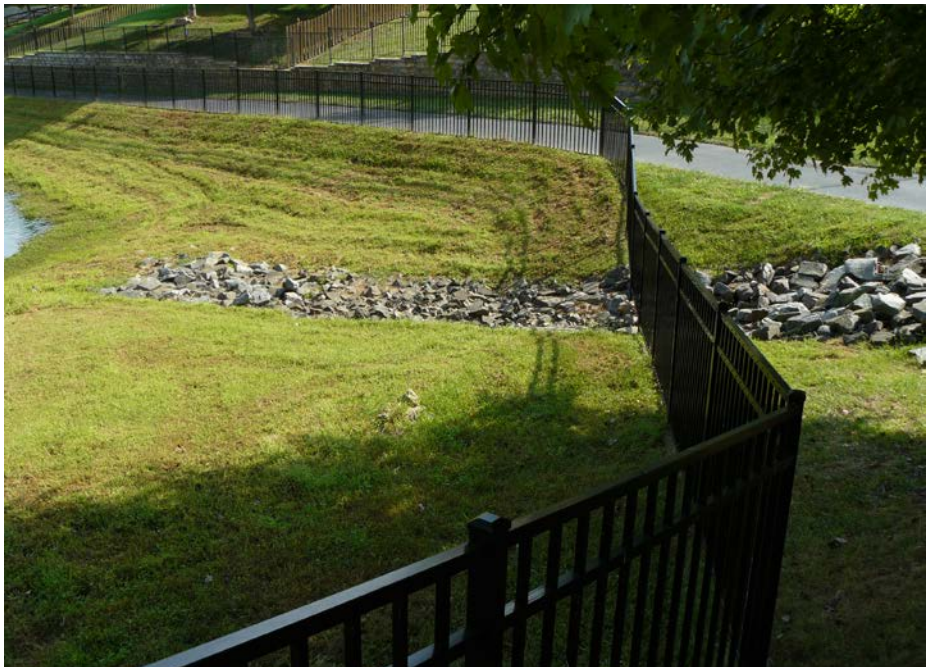

PHOTO #7
All pressure-treated wood fencing has been replaced by metal fencing throughout the community, which is a much-improved alternative, and should provide a long service life.

PHOTO #8
All posts and signs have been replaced with custom poles and signs about 2014.

PHOTO #9
The tot lot has been completely renovated in recent years. This included replacement of the wood border, retaining wall, and addition of spring toys, see-saw, and the new play module. The wood chip base appears to be an adequate depth.

PHOTO #10
The see-saw leg is deflected, requiring repair. Once put into place, a bolt or pin should be added to secure the legs.

PHOTO #11
The storm water retention pond appears to be in continuing good condition. It is being properly mowed and vegetation is under control.

PHOTO #12
One area of erosion was observed next to the storm drain between the detention pond and Movern Lane, which should be repaired.