MASON & MASON
CAPITAL RESERVE ANALYSTS, INC.

MEMBER OF community ASSOCIATIONS INSTITUTE

Condition Assessment
&
Reserve Fund Plan Update
2020
Jackson Oak

Burke, Virginia

Prepared for:
The Board of Trustees
Burke Centre Conservancy

MASON & MASON
CAPITAL RESERVE ANALYSTS, INC.

MEMBER OF community ASSOCIATIONS INSTITUTE

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March 19, 2020

Mr. Bob Bray, Finance Administrator
Burke Centre Conservancy
6060 Burke Centre Parkway
Burke, Virginia 22015-3702

RE: CONDITION ASSESSMENT AND RESERVE FUND PLAN UPDATE 2020
Jackson Oak Cluster
Burke, Virginia
Project No. 8903#10

Dear Mr. Bray:

Mason & Mason Capital Reserve Analysts, Inc. has completed the report for Jackson Oak.

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 Cluster.

Sincerely,

Mason & Mason Capital Reserve Analysts, Inc.

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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 Jackson Oak Cluster'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 2019. This is a significant improvement from past years. Our goal is to maintain fully funded status through the end of the 20-year period (2039).

To maintain fully funded status, the Board should:

- Reduce the annual contribution in 2021 from $16,207 to $10,997, followed by annual adjustments of 1.0% thereafter.
- This represents a reduction from $12.39 to $8.41 (a net reduction of $3.98) per residence, per month (based on 109 Townhomes).

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 are 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: Jackson Oak Cluster is comprised of 109 townhomes within 17 buildings located on Jackson Oak Court, Oak Bucket Court, and Oak Ladder off Oak Green Way (Route 6437) in Burke, Virginia. The community was constructed circa 1980. The street layout includes concrete sidewalks, curbs and gutters, and 24 parking bays providing 242 spaces. Site features include retaining walls and a storm water drainage system.

We are providing the Condition Assessment and Reserve Fund Plan Update based on Proposal Acceptance Agreement No. 8903#10 dated October 9, 2019. 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 Cluster. Ultimately, the establishment, management, and expenditure of reserves are within the discretion of the Cluster and its Board of Directors pursuant to their organizational documents and subject to the laws of the applicable jurisdiction. We are not financially associated with Burke Centre Conservancy Management or the Cluster, and 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 Jackson Oak Cluster in 2006, and Level II Updates in 2010 and 2015. This report is an additional Level II Update 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 Mach 3, 2020. The sky was clear, and the temperature was approximately 60 degrees F. Precipitation had not occurred for several days prior to the site visit. The pavements and grounds were generally dry and clean of debris.

1.2 Principal Findings: The common assets appear to be in overall continuing good condition. The community is now reaching a 40-year benchmark in terms of replacement of major systems. The asphalt drivelanes and parking bays appear to have been restored about 2015/2016 and are in overall very good condition. No deflected pavement and only a minor amount of longitudinal and transverse cracking was observed. The asphalt appears to be holding up well in this cluster. Appropriately, pavement maintenance, including full-depth repairs, crack filling, and seal coating has not been accomplished since restoration, and should be initiated in the next year or so. Proper pavement maintenance may help this asphalt to not only reach the typical service life, but may allow the service to be extended. The next pavement restoration project should include full width profile milling and new compacted asphalt.

A typical quantity of deficient concrete sidewalk panels and curbs and gutter sections were observed, requiring near-term repair. The liability and costs associated with personal injury lawsuits resulting primarily from sidewalk and curb tripping hazards are too great to defer repair. It is our opinion that deficiencies, which pose a hazard to pedestrians should be corrected as soon as practicable.

The wood retaining walls and the storm water drainage system range from fair to continuing good condition.

Currently, the reserve fund requires a slight reduction followed by minimal annual adjustments in contributions to maintain fully funded status through to the end of twenty years.

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 timeline that is more convenient to schedule and logical to accomplish. Please see the Table 1 Discussion, Column 18, and the Asphalt Pavement Report in Section 7, for specific information.

2. FINANCIAL ANALYSIS

We track the annual inflation rate among our clients based on their reported costs for typical services. The average rate of inflation since the 2008 recession has been 1.46% according to the U.S. Labor Department and is similar in our experience with clients. Substantially higher inflation rates have not materialized since then. So, we are using a 2% annual rate of inflation in our calculations. Interest income has also remained low since 2008, and many smaller Associations and Condominiums are earning less than 2% on savings accounts. So, we are using a 1.5% interest income rate of return in our calculations. However, unlike reserves, interest income is taxable, which may reduce the net gain even further. We anticipate increasingly volatile economic conditions near to mid-term. 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 Cluster is on a calendar fiscal year. Management reported that the audited reserve fund balance, including cash and securities, as of December 31, 2019, was $123,513. We have used 2.00% annual inflation and 1.50% annual interest income in our calculations. The total expenditures for the twenty-year period for both the Cash Flow Method and Component Method are projected to be $312,127.

2.2 Current Funding Analysis, Cash Flow Method (Table 3): The 2020 annual contribution to reserves has been set at $16,207 with a presumed 2.0% annual increase. At this level, the total for all annual contributions for the twenty-year period would be $393,787, and the total interest income is projected to be $63,380. This funding results in unnecessarily high balances throughout the twenty-year period and over funds the reserves.

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 reducing the annual contribution to $10,997 in 2021 and providing a 1.0% annual adjustment thereafter. This plan allows for a gradual increase over time after the initial reduction and addresses generational equity issues. The total for all annual contributions for the twenty-year period would be $245,066, and the total interest income is projected to be $42,620. The fully funded balance in 2039 is $99,072.

2.4 Funding Analysis, Component Method (Table 4): This method of funding would require variable annual contributions, averaging $12,443 over the twenty-year period. The total for all annual contributions would be $248,854, and the total interest income is projected to be $38,832. The fully funded balance in 2039 is $99,072. 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 ensuring 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 Pavement: Pavement maintenance is the routine work performed to keep a pavement, subjected to normal traffic and the ordinary forces of nature, as close as possible to its as-constructed condition. Asphalt overlays may be used to correct both surface deficiencies and structural deficiencies. Surface deficiencies in asphalt pavement usually are corrected by thin resurfacing, but structural deficiencies require overlays designed on factors such as pavement properties and traffic loading. Any needed full-depth repairs and crack filling should be accomplished prior to overlaying. The edgemill and overlay process includes milling the edges of the pavement at the concrete gutter and feathering the depth of cut toward the center of the drive lane. Milling around meter heads and utility features is sometimes required. The typical useful life for an asphalt overlay is twenty years.

6.2 Asphalt Seal Coating: The purpose is to seal and add new life to a roadway surface. It protects the existing pavement but does not add significant structural strength. A surface treatment can range from a single, light application of emulsified asphalt as a "fog" seal, to a multiple-surface course made up of alternate applications of asphalt and fine aggregate. Seal coating of all asphalt pavements should be performed at approximately six-year intervals, or approximately twice during the service life of the asphalt pavement. Seal coating more often is generally not cost-effective. The material used should be impervious to petroleum products and should be applied after crack filling, oil-spot cleaning, and full-depth repairs have been accomplished. Seal coating is a cost-effective way of extending the life of asphaltic concrete pavement. Seal coating is generally not scheduled for up to five years after an asphalt restoration project.

6.3 Asphalt Full-Depth Repairs: In areas where significant alligator cracking, potholes, or deflection of the pavement surface develops, the existing asphalt surface should be removed to the stone base course and the pavement section replaced with new asphalt. Generally, this type of failure is directly associated with the strength of the base course. When the pavement is first constructed, the stone base consists of a specific grain size distribution that provides strength and rigidity to the pavement section. Over time, the stone base course can become contaminated with fine-grained soil particles from the supporting soils beneath the base course. The most positive repair to such an area is to remove the contaminated base course and replace it with new base stone to the design depth. It is appropriate to perform these types of repairs immediately prior to asphalt restoration projects. Generally, this type of repair should not be required for approximately five years after an asphalt restoration project.

6.4 Asphalt Crack Filling: Cracks that develop throughout the life of the asphalt should be thoroughly cleaned of plant growth and debris (lanced) and then filled with a rubberized asphalt crack sealant. If the crack surfaces are not properly prepared, the sealant will not adhere. Crack filling should be accomplished every three to six years to prevent infiltration of water through the asphalt into the sub-grade, causing damage to the road base. It is appropriate to perform these types of repairs immediately prior to edgemill and overlay. Generally, this type of repair should not be required for approximately five years after an edgemill and overlay project.

6.5 Concrete Sidewalks: When sidewalks are cracked or scaled or sections have settled, the resulting differential or “tripping hazard” can present a liability problem for the Association if personal injury should occur as a result. Tripping hazards should be repaired expeditiously to promote safety and prevent liability problems for the community. Generally, where practical and appropriate, concrete element repairs and replacements are scheduled in the same years to promote cost efficiencies. Replacements are usually scheduled in cycles because the necessity of full replacement at one time is unlikely. Typically, damaged or differentially settled sections can be removed by saw cutting or jack hammer and re-cast. Concrete milling of the differential surfaces is sometimes an appropriate, cost-effective alternative to re-casting. Skim coating is not an effective repair for scaled or settled concrete surfaces and, over time, will usually worsen the problem.

6.6 Concrete Curbs and Gutters: Vehicle impacts, differential settlement, construction damage, and cracking and spalling of the concrete will eventually result in the need for replacement of some curb sections. A typical damaged or settled section, usually 10 feet in length, will be removed by saw cutting or jack hammer and re-cast. Replacements are scheduled in cycles because the necessity of full replacement at one time is unlikely.

6.7 Bare Wood 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, warped, 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.

7. ASPHALT PAVEMENT REPORT

Street Name	Total SY Asphalt Pavement	SY Full-Depth Repairs	Linear Footage Cracks	Parking Spaces	Parking Bays
Jackson Oak Court	6,050	0	46	148	14
Oak Bucket Court	1,275	0	79	34	4
Oak Ladder Court	2,683	0	51	60	6
TOTALS	10,008	0	176	242	24

All quantities approximate

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 18	**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
10. JACKSON OAK CLUSTER
Burke, Virginia

COMPONENT DATA AND ASSET REPLACEMENT SCHEDULE
TABLE 1
2020 Through 2039

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	18
1 ASPHALT COMPONENTS																
1.1	Asphalt Restoration Project	10,008	SY	$10.00	$100,080	18	2033	100%	$129,464	2051	100%	$184,907				This component includes three asphalt drivelanes and the parking bays of the Cluster. Neither the depth nor the sub-base of the pavement could be visually determined. It appears that the pavement was restored circa 2015/2016 and is in continuing good condition. The pavement is holding up well, as we did not observe any deflected asphalt on any of the three streets. The next restoration project includes full profile milling and new compacted asphalt. Core sampling should be used to determine the depth and condition of the sub-base and pavement prior to restoration. Costs include striping, but not replacement of any inadequate sub-base.
1.2	Asphalt Seal Coat	10,008	SY	$1.05	$10,508	6	2021	100%	$10,719	2027	100%	$12,071	2039	100%	$15,309	Appropriately, the pavement does not appear to have been seal coated since the last restoration project. Seal coating may help prevent water infiltration into the sub-base through micro-cracks, but is largely a cosmetic issue. To help improve curb appeal after repairs, we have scheduled seal coating projects every six years, except in the year of the pavement restoration project when it is not necessary. Crack filling and full-depth repairs should be completed prior to application to achieve maximum benefit from the seal coating. Seal coating projects include re-striping. It should be understood that coal-tar based seal coating products have been banned from use in many localities throughout the country due to heavy contamination of ground water.
1.3	Asphalt Repair Allowance	1	LS	$15,000.00	$15,000	6	2021	20%	$3,060	2027	50%	$8,615	2033	100%	$19,404	No deflected pavement (indicative of sub-base damage), but about 176 linear feet of longitudinal or transverse cracking was observed. Repairs are essential in order to achieve the projected remaining service life of the pavement. Full-depth repairs and crack filling are scheduled every six years throughout the study period, including the year of the asphalt restoration project. See the Asphalt Pavement Report, Section 7, for additional details.
2 CONCRETE COMPONENTS																
2.1	Concrete Sidewalks & Steps	12,582	SF	$10.00	$125,820	5	2020	3%	$3,775	2025	3%	$4,167	2030	3%	$4,601	Concrete sidewalks, generally 4' and 6' wide, are present on one or both sides of the streets within the Cluster. Their thickness could not be visually determined. They are in continuing good condition. About 272 square feet (less than 2.1% of the total area) is either cracked, settled or heaved between sections. We have not scheduled replacement of all sections with lesser surface defects. Severely scaled sections will tend to deteriorate more quickly over time and should be replaced in each replacement cycle. Cyclic repairs are scheduled, as full replacement at one time is not appropriate or anticipated. Concrete repairs are scheduled to coincide with work on other concrete components to take advantage of economies of scale in packaging concrete restoration work. Any trip hazards or hazardous surface deficiencies should be addressed as soon as practicable to prevent personal injury.
2.2	Concrete Curbs & Gutters	4,954	LF	$26.50	$131,281	5	2020	2%	$2,626	2025	2%	$2,899	2030	2%	$3,201	The drivelanes and parking bays are lined with standard-profile, cast-in-place, concrete curbs and gutters. They are in continuing good condition with about 40 linear feet of transverse cracks or settlement observed. Minor chips usually do not justify replacement. Cyclic repairs are scheduled, as full replacement at one time is not appropriate or anticipated. Curb repairs are scheduled to coincide with work on other concrete components to maximize economies of scale. Any trip hazards or hazardous surface deficiencies should be addressed as soon as practicable to prevent personal injury.
3 SITE FEATURES																
3.1	Wood Retaining Wall	145	SF	$32.00	$4,640	20	2024	100%	$5,022	2044	100%	$7,463				One 23' by 4' wood retaining wall on Jackson Oak Court and an approximate 3' by 12' wood retaining wall on Oak Ladder Court are constructed within the Cluster. The walls range from fair to generally continuing good condition.
3.2	Storm Water Drainage System Allowance	1	LS	$12,000.00	$12,000	5	2024	100%	$12,989	2029	100%	$14,341	2034	100%	$15,834	Storm water drainage is provided by concrete yard drains, curb drop inlets, and underground structures, leading storm water offsite. 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. This line item addresses potential storm water collection, drainage, and erosion issues throughout the study period and does not represent a single expense or action already identified as necessary.
4 ENGINEERING																
4.1	Cyclic Updates	1	LS	$2,671.00	$2,671	5	2020	100%	$2,671	2025	100%	$2,949	2030	100%	$3,256	At the direction of Management, we have included an allowance to cover the cost of future updates, which are performed on a five-year basis.

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
10. JACKSON OAK CLUSTER
Burke, Virginia

CALENDAR OF EXPENDITURES
TABLE 2
2020 Through 2039

YEAR	COMPONENT NO.	COMPONENT	PRESENT COST 2020	FUTURE COST (INFLATED)	TOTAL ANNUAL EXPENDITURES	ACTION
1	2	3	4	5	6	7
2020					2020	
	2.1	Concrete Sidewalks & Steps	$3,775	$3,775	TOTAL EXPENDITURES	
	2.2	Concrete Curbs & Gutters	$2,626	$2,626		
	4.1	Cyclic Updates	$2,671	$2,671		
					$9,071	
2021					2021	
	1.2	Asphalt Seal Coat	$10,508	$10,719	TOTAL EXPENDITURES	
	1.3	Asphalt Repair Allowance	$3,000	$3,060		
					$13,779	
2022					2022	
					NO EXPENDITURES	
2023					2023	
					NO EXPENDITURES	
2024					2024	
	3.1	Wood Retaining Wall	$4,640	$5,022	TOTAL EXPENDITURES	
	3.2	Storm Water Drainage System Allowance	$12,000	$12,989		
					$18,012	
2025					2025	
	2.1	Concrete Sidewalks & Steps	$3,775	$4,167	TOTAL EXPENDITURES	
	2.2	Concrete Curbs & Gutters	$2,626	$2,899		
	4.1	Cyclic Updates	$2,671	$2,949		
					$10,015	
2026					2026	
					NO EXPENDITURES	
2027					2027	
	1.2	Asphalt Seal Coat	$10,508	$12,071	TOTAL EXPENDITURES	
	1.3	Asphalt Repair Allowance	$7,500	$8,615		
					$20,686	
2028					2028	
					NO EXPENDITURES	
2029					2029	
	3.2	Storm Water Drainage System Allowance	$12,000	$14,341	TOTAL EXPENDITURES	
					$14,341	
2030					2030	
	2.1	Concrete Sidewalks & Steps	$3,775	$4,601	TOTAL EXPENDITURES	
	2.2	Concrete Curbs & Gutters	$2,626	$3,201		
	4.1	Cyclic Updates	$2,671	$3,256		
					$11,058	
2031					2031	
					NO EXPENDITURES	
2032					2032	
					NO EXPENDITURES	
2033					2033	
	1.1	Asphalt Restoration Project	$100,080	$129,464	TOTAL EXPENDITURES	
	1.3	Asphalt Repair Allowance	$15,000	$19,404		
					$148,868	
2034					2034	
	3.2	Storm Water Drainage System Allowance	$12,000	$15,834	TOTAL EXPENDITURES	
					$15,834	
2035					2035	
	2.1	Concrete Sidewalks & Steps	$3,775	$5,080	TOTAL EXPENDITURES	
	2.2	Concrete Curbs & Gutters	$2,626	$3,534		

Reserve Fund Plan for
10. JACKSON OAK CLUSTER
Burke, Virginia

CALENDAR OF EXPENDITURES
TABLE 2
2020 Through 2039

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

YEAR	COMPONENT NO.	COMPONENT	PRESENT COST 2020	FUTURE COST (INFLATED)	TOTAL ANNUAL EXPENDITURES	ACTION
1	2	3	4	5	6	7
	4.1	Cyclic Updates	$2,671	$3,595		
					$12,209	
2036					2036	
					NO EXPENDITURES	
2037					2037	
					NO EXPENDITURES	
2038					2038	
					NO EXPENDITURES	
2039					2039	
	1.2	Asphalt Seal Coat	$10,508	$15,309	TOTAL EXPENDITURES	
	1.3	Asphalt Repair Allowance	$3,750	$5,463		
	3.2	Storm Water Drainage System Allowance	$12,000	$17,482		
					$38,254	

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.
Column 8	**Balance to Asset Base Ratio**, expressed as a percentage, is the ratio between the ending reserve fund balance and the total asset base for that year. The ratio is useful to the analysts in understanding general financial condition, but there is no standard ratio as each community's condition and complexity varies.

Reserve Fund Plan for
10. JACKSON OAK CLUSTER
Burke, 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:
123,513	16,207	2.00%	2.00%	1.50%

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
2020	0	123,513	16,207	1,924	9,072	132,572
2021	0	132,572	16,531	2,025	13,779	137,349
2022	0	137,349	16,862	2,212	0	156,423
2023	0	156,423	17,199	2,503	0	176,125
2024	0	176,125	17,543	2,657	18,011	178,313
2025	0	178,313	17,894	2,758	10,015	188,950
2026	0	188,950	18,252	3,003	0	210,204
2027	0	210,204	18,617	3,158	20,686	211,294
2028	0	211,294	18,989	3,346	0	233,629
2029	0	233,629	19,369	3,570	14,341	242,227
2030	0	242,227	19,756	3,730	11,058	254,655
2031	0	254,655	20,151	4,011	0	278,817
2032	0	278,817	20,554	4,379	0	303,750
2033	0	303,750	20,965	3,547	148,868	179,394
2034	0	179,394	21,385	2,755	15,834	187,700
2035	0	187,700	21,812	2,914	12,209	200,217
2036	0	200,217	22,249	3,206	0	225,671
2037	0	225,671	22,694	3,594	0	251,959
2038	0	251,959	23,148	3,994	0	279,101
2039	0	279,101	23,611	4,097	38,254	268,554
STUDY PERIOD TOTALS			393,787	63,380	312,127	

Reserve Fund Plan for
10. JACKSON OAK CLUSTER
Burke, 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:
123,513	16,207	1.00%	2.00%	1.50%

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
2020	0	123,513	16,207	1,924	9,072	132,572
2021	0	132,572	10,997	1,980	13,779	131,770
2022	0	131,770	11,107	2,081	0	144,958
2023	0	144,958	11,218	2,281	0	158,457
2024	0	158,457	11,330	2,339	18,011	154,115
2025	0	154,115	11,444	2,340	10,015	157,883
2026	0	157,883	11,558	2,479	0	171,920
2027	0	171,920	11,674	2,523	20,686	165,431
2028	0	165,431	11,790	2,595	0	179,817
2029	0	179,817	11,908	2,696	14,341	180,080
2030	0	180,080	12,027	2,728	11,058	183,777
2031	0	183,777	12,148	2,875	0	198,800
2032	0	198,800	12,269	3,103	0	214,172
2033	0	214,172	12,392	2,124	148,868	79,819
2034	0	79,819	12,516	1,179	15,834	77,680
2035	0	77,680	12,641	1,177	12,209	79,288
2036	0	79,288	12,767	1,302	0	93,357
2037	0	93,357	12,895	1,515	0	107,768
2038	0	107,768	13,024	1,734	0	122,525
2039	0	122,525	13,154	1,646	38,254	99,072
STUDY PERIOD TOTALS			245,066	42,620	312,127	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
10. JACKSON OAK CLUSTER
Burke, 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 **123,513**

Component Number	COMPONENT	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
1 ASPHALT COMPONENTS																					
1.1	Asphalt Restoration Project	1,396	1,396	1,396	1,396	1,396	1,396	1,396	1,396	1,396	1,396	1,396	1,396	1,396	8,943	8,943	8,943	8,943	8,943	8,943	8,943
1.2	Asphalt Seal Coat	1,647	1,921	1,921	1,921	1,921	1,921	1,921	1,164	1,164	1,164	1,164	1,164	1,164	1,164	1,164	1,164	1,164	1,164	1,164	2,744
1.3	Asphalt Repair Allowance	470	1,371	1,371	1,371	1,371	1,371	1,371	3,089	3,089	3,089	3,089	3,089	3,089	870	870	870	870	870	870	1,959
2 CONCRETE COMPONENTS																					
2.1	Concrete Sidewalks & Steps	1,382	802	802	802	802	886	886	886	886	886	978	978	978	978	978	1,080	1,080	1,080	1,080	1,080
2.2	Concrete Curbs & Gutters	961	558	558	558	558	616	616	616	616	616	680	680	680	680	680	751	751	751	751	751
3 SITE FEATURES																					
3.1	Wood Retaining Wall	189	189	189	189	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320
3.2	Storm Water Drainage System Allowance	488	488	488	488	2,760	2,760	2,760	2,760	2,760	3,048	3,048	3,048	3,048	3,048	3,365	3,365	3,365	3,365	3,365	3,715
4 ENGINEERING																					
4.1	Cyclic Updates	978	568	568	568	568	627	627	627	627	627	692	692	692	692	692	764	764	764	764	764
ANNUAL COMPONENT CONTRIBUTION TOTALS		7,511	7,293	7,293	7,293	9,696	9,897	9,897	10,858	10,858	11,146	11,367	11,367	11,367	16,695	17,012	17,257	17,257	17,257	17,257	20,276

COMPONENT METHOD SUMMARY	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
BEGINNING RESERVE FUND BALANCE	123,513	123,879	119,323	128,478	137,771	131,616	133,567	145,562	138,021	151,052	150,230	152,900	166,669	180,647	51,338	53,430	59,426	77,722	96,293	115,146
PLUS ANNUAL COMPONENT CONTRIBUTION	7,511	7,293	7,293	7,293	9,696	9,897	9,897	10,858	10,858	11,146	11,367	11,367	11,367	16,695	17,012	17,257	17,257	17,257	17,257	20,276
CAPITAL EXPENDITURES	9,072	13,779	0	0	18,011	10,015	0	20,686	0	14,341	11,058	0	0	148,868	15,834	12,209	0	0	0	38,254
SUBTOTAL	121,952	117,393	126,616	135,771	129,456	131,498	143,464	135,734	148,879	147,857	150,539	164,267	178,036	48,474	52,516	58,478	76,683	94,979	113,550	97,168
PLUS INTEREST INCOME @ 1.50%	1,927	1,931	1,862	2,000	2,160	2,069	2,098	2,287	2,173	2,372	2,362	2,402	2,610	2,865	914	948	1,038	1,315	1,595	1,905
FULLY FUNDED RESERVE FUND BALANCE	123,879	119,323	128,478	137,771	131,616	133,567	145,562	138,021	151,052	150,230	152,900	166,669	180,647	51,338	53,430	59,426	77,722	96,293	115,146	99,072

FULLY FUNDED BALANCE

PERCENT FUNDED FOR CURRENT CYCLE	217%
TOTAL EXPENDITURES	312,127
TOTAL CONTRIBUTIONS	248,854
STUDY PERIOD TOTAL INTEREST	38,832
AVERAGE ANNUAL CONTRIBUTION	12,443