



MASON & MASON
CAPITAL RESERVE ANALYSTS, INC.



(Final Report, Revised November 28, 2017)

**Condition Assessment
&
Reserve Fund Plan
2017**

NEW MARK COMMONS

Rockville, Maryland



Prepared for:
The Board of Directors



MASON & MASON
CAPITAL RESERVE ANALYSTS, INC.



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November 28, 2017

Mr. David Schwartzman, Secretary/Treasurer
New Mark Commons Homeowners Association
P. O. Box 4206
Rockville, Maryland 20849

RE: **CONDITION ASSESSMENT AND RESERVE FUND PLAN 2017**
New Mark Commons Homeowners Association
(Final Report, Revised November 28, 2017)
Rockville, Maryland
Project No. 8364

Dear Mr. Schwartzman:

Mason & Mason Capital Reserve Analysts, Inc. has completed the report for New Mark Commons.

The final report reflects changes, directed in a phone conversation of November 28, 2017.

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

Sincerely,

Mason & Mason Capital Reserve Analysts, Inc.

Levi K. Mason, 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 New Mark Commons' Reserve Fund Plan. 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 **39%** funded through 2016. **See Paragraph 3.1. Our goal is to become fully funded by the end of the 20-year period (2036).**

In order to achieve this goal, the Association should:

- **Step increase the annual contribution beginning in 2018 by \$50,000 for each of 4 years. This represents a 2018 increase from \$73,919 to \$123,919.**
- **After the 4-year stepped increase, contributions can be reduced to \$213,210 in 2022 followed by annual adjustments of 2.50% to reflect inflation.**

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: New Mark Commons Homeowners Association is comprised of 384 residences (approximately half townhomes and half single-family homes) located at Maryland Avenue and I-270 in Rockville, Maryland. The community was constructed between 1967 and 1985. Five private parking courts, 100 to 184 New Mark Esplanade, 200 to 342 New Mark Esplanade, 400 to 406 New Mark Esplanade, 500 to 522 New Mark Esplanade, and 800 to 902 New Mark Esplanade are within the community. Tegner Court and Way are also located within the community however, they are on public streets with public sidewalks. The common elements of the community include asphalt driveways and parking areas, concrete sidewalks, curbs and gutters, and street signage in the townhome areas, retaining walls, fencing, entrance signage, storm water drainage system and a 3.3-acre pond with a fountain, a tot lot, two tennis courts, a basketball court, footpaths, a footbridge, a picnic area, clubhouse exteriors, interiors, MEP, furnishings, finishes, fixtures, and shower rooms, and the pool complex. The street layout includes concrete sidewalks, curbs and gutters, and 53 parking bays providing 406 spaces.

We are providing the Condition Assessment and Reserve Fund Plan based on Proposal Acceptance Agreement No. 8364 dated August 9, 2017. 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 New Mark Commons Homeowners Association and we therefore do not have any conflicts of interest that would bias this report. Information provided by New Mark Commons Homeowners Association 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.

Levi K Mason, R. S. conducted the field evaluation for this report on September 18 and 19, 2017. The weather was clear and the temperature was approximately 80 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 fair to good, but well-maintained condition. The community is celebrating its 50th anniversary in 2017 and while the community has been well cared for and clearly loved, the common components are somewhat dated despite having been maintained to an exceedingly high level. We have developed a fairly aggressive series of expenditures with the aim of improving the overall condition of New Mark Commons, while minimizing the financial impact on unit owners. The historic contributions to reserves have been quite low and it is important to understand that even without the relatively aggressive improvement plan, increases to reserves are required to prevent further deterioration of the common components and subsequent lower property values. We have prioritized projects and where possible have scheduled improvements using a phased approach to help make the improvements more manageable in terms of logistics and to minimize inconvenience to homeowners. Restorations, replacement projects, and repairs scheduled over the next five years include:

- Full asphalt restoration projects on all parking courts and the pool parking lot.
- Major repair and improvement and trip hazard remediation of concrete sidewalks, curbs and gutters, concrete stairs, and the pool deck.
- The replacement of all pressure-treated retaining walls
- The repair of all damaged brick retaining walls
- The replacement of all deficient pressure-treated timber components, including curbing, stairs, railings, split rail fencing, and the pond wharfs.
- A large-scale storm water management project, including erosion remediation and prevention and the installation of a small storm water management pond.
- A refurbishment of the community center bathroom/shower rooms with the replacement of deficient doors and frames.
- A major lake dredging project.

In order to accomplish these improvements, financially, the Association requires an increase in contributions to reserves. We have stepped the increases over four years to minimize the impact on individual homeowners, but have established a sufficient contribution schedule to eventually achieve the fully funded goal by the end of the 20-year period.

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, the Asphalt Pavement Report in Section 7, and the Pressure-treated Timber Retaining Wall Report in Section 8, 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**, was **\$513,056**. 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 **\$3,408,183**.

2.2 Current Funding Analysis, Cash Flow Method (Table 3): The 2017 annual contribution to reserves has been set at **\$73,919 with a presumed 2.5% annual increase**. At this level, the total for all annual contributions for the twenty-year period would be **\$1,888,236**, and the total interest income is projected to be **\$11,421**. **This funding results in the depletion of the reserve fund by 2020.**

2.3 Alternative Funding Analysis, Cash Flow Method (Table 3.1): This stepped plan provides the annual contributions necessary to maintain balances more consistent with the **fully funded goal by increasing the annual contribution to \$123,919 in 2018, \$173,919 in 2019, \$223,919 in 2020, \$273,919 in 2021**. After the stepped increases, annual contributions can be reduced to **\$213,210**, and then providing an annual escalation factor of **2.50%**, to reflect inflation thereafter. **This alternative allows for a gradual increase over time after the initial series of stepped increases, a reduction, and addresses generational equity issues.** The total for all annual contributions for the twenty-year period would be **\$4,692,858**, and the total interest income is projected to be **\$170,678**. **The fully funded balance in 2036 is \$1,968,409.**

2.4 Funding Analysis, Component Method (Table 4): This method of funding would require variable annual contributions, averaging **\$228,466** over the twenty-year period. The total for all annual contributions would be **\$4,569,327**, and the total interest income is projected to be **\$294,209**. **The fully funded balance in 2036 is \$1,968,409.** 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 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 edgemoil 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 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.

6.6 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.

6.7 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.

6.8 Concrete Pool Deck: Cast-in-place concrete, slab-on-grade pool deck sections, which have large cracks, should be removed and replaced periodically to prevent water infiltration behind the pool structure. Minor cracks can be routed and sealed to extend the service life of the deck. In some instances, a breathable cementitious coating can be applied to improve the surface appearance and extend the surface life.

6.9 Metal Handrailings: Metal handrailings 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 handrailings.

6.10 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.

6.11 Tennis Court Restoration: Court surface overlays are usually required when settlement of the sub-base causes cracks to appear at the surface. Direct overlays usually allow any cracks to migrate (reflective cracking) to the new surface. A technique to eliminate this problem is to separate the old surface from the new surface with a layer of fine marble dust. This allows the two surfaces to move independently and results in a more stable top surface. Since net tension is the most common cause of court damage, homeowners should be advised that tension on the nets should be released when not in use, and nets should not be over-tensioned when in use. Net post footings can be repaired or replaced without overlaying the court. In this region, tennis courts usually give about fifteen to twenty years of service before a restoration is necessary. Some courts fail much sooner and some last much longer depending upon initial construction and site preparation. Cut and fill sites are much more prone to settlement issues. It is prudent to plan for overlay now because of the large expense involved if required. Good maintenance practices, including frequent sweeping, periodic color coating of the surface, and proper tensioning of the net cable can extend the service life of tennis courts.

6.12 Tennis Court Color Coat: Color coating extends the life of the surface if cracking and other surface problems are not present. An average five-year life for color coating is scheduled, except within a year or two of scheduled surface overlay. Any cracking around net post footings should be sealed to prevent moisture infiltration.

6.13 Chain Link Fencing: Very little maintenance is necessary for chain link fencing and gates. Periodic removal of encroaching vegetation should be performed to prevent damage to components. Damaged components should be repaired or replaced. Rusted fencing components may be painted to improve appearance.

6.14 Tree Trimming, Removal, and Replacement: As communities age, trees, both native and planted, may become problematic if periodic care is not accomplished. Trees may become damaged by weather or disease, or they may outsize their location. Proper, diligent tree trimming may alleviate future problems with regard to damage to adjacent structures. Proper tree trimming also helps maintain a healthy tree and may reduce windage in inclement weather. Proper tree trimming should not be confused with the common practice of topping, which produces, not only an unattractive tree, but also an unhealthy one due to weakening of the root structure. Tree root damage of asphalt footpaths and sidewalks is also a common problem. The best solution is re-routing the adjacent structure, if possible, to prevent future damage. If re-routing is not possible, tree roots causing the damage may be pruned back when replacement of the damaged component is accomplished. The practice of moderate mulching is beneficial for trees. However, repeated mulching against the tree trunk, year after year, without removal of the old mulch can eventually kill trees by trapping moisture against the bark, allowing fungi and insects to easily infiltrate the tree. Mulch should be placed around trees to the drip line, but should not be touching the bark.

6.15 Composite Shingle Roofs: Roofs and attic spaces should be inspected annually for damage and leaks. During the attic inspection, check to make sure that mechanical ventilation systems, such as bathroom exhaust fans and dryer ducts, are routed through the roof and not discharging into the attic space. Loose or missing shingles should be replaced on a regular basis. Signs of deflected roof sheathing or discoloration of the sheathing are indicative of moisture problems and should be investigated. It is important to ensure that proper ventilation is occurring at the soffit vents and that insulation is not obstructing the airflow. If attic ventilation appears to be inadequate, the installation of ridge vents and/or through-the-roof mechanical vents is usually a cost-effective way of extending the useful service life of the sheathing. Roof penetrations, such as plumbing vents, are a major source of leaks. During the inspection, these areas should be checked carefully for signs of leakage or rotten sheathing. Gutters and downspouts should be inspected annually. Loose, damaged, or leaking sections should be secured, repaired, or replaced. All gutters should be kept clean of leaf material and debris. Clogged downspouts should be cleared. In areas where gutters collect fallen leaves, gutters should have screens installed. Downspouts should be directed away from buildings. Erosion can be minimized by the use of properly located splash blocks or plastic flexible tubing. In all cases, water should be directed away from building foundations. Splash blocks must be properly placed, and flexible plastic extensions require diligent maintenance.

6.16 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 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.

6.17 Pool Structure: The swimming pools are in-ground, cast-in-place concrete structures. Most outdoor pools of this type, in this area, require a major renovation between twenty and forty years of age. The service life is dependent upon initial construction and site preparation. Pools built on a cut and fill site are more prone to have settlement issues. It is prudent to plan for structural renovation now because of the large expense involved if required. Core samples should be taken periodically, as the pool ages, to determine the condition of the gunnite and concrete. Water infiltration will weaken the concrete and early detection can prevent higher repair costs.

6.18 Pool White Coat: Pool white coating seals the pool surface and helps prevent water infiltration into the structure of the pool. White coat generally has a service life of 7 to 10 years. Prior to white coating, the old surface must be cleaned and sandblasted or acidized to prepare the surface to accept the new white coat. Surfaces adjacent to all fittings, lap lane tiles, waterline tiles, and lights must be prepared by chipping the surface so that the new plaster feathers in around the edges. Any damaged tiles or coping or loose or hollow plaster in the pool shell should be removed and repaired prior to white coating. Sometimes a bond coat will be applied to increase adhesion. White coating should be done on a dry day when temperatures will remain above freezing. The pool should be refilled immediately, the filter system started, and the surface brushed frequently for several days to prevent residue buildup, which creates a rough surface. Eggshell cracking is part of the curing process of white coat and is not indicative of problems. Pool covers help extend the life of the white coat by preventing seasonal damage and discoloration, which may require acid treatments to maintain appearance.

6.19 Pool Coping: The coping around the pool perimeter is standard commercial bullnose cast stone, bedded and grouted to the pool structure. In order to extend the useful life of the pool structure and adjacent pool deck, it is important to keep the coping sections watertight. This will prevent water from infiltrating beneath the pool structure, which, if not controlled may cause damage during freeze/thaw cycles. Sealant should be applied between the pool coping and the pool deck. Deteriorated or separated sealant should be removed completely before new sealant is applied. Any loose, cracked, or "hollow" copings should be re-bedded or replaced annually as part of the long-term preventative maintenance required for pools. Deteriorated or cracked mortar between coping tiles or below the coping tiles at the pool structure should be diligently repaired.

6.20 Brick Component Tuckpointing & Repair: Brick components 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 indicate water infiltration and should be investigated. Water infiltration problems are usually initiated at the top of an improperly sealed coping. Eliminating the infiltration of water into the structure 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 component. 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 brick to prevent damage. As brick components 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. 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 $\frac{3}{4}$ -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.

6.21 Lake Dredging: There are a number of pond maintenance issues such as shoreline stabilization, chemical applications for weed control, bacterial improvement to control algae, surface aerators, diffusers, dredging, beaver control, and mosquito control, all of which may be required at some time over the life of a pond. Lake bathymetric studies should be conducted periodically. This would provide a baseline for comparison in future years for sedimentation buildup and detail the operating issues and long-term costs for maintaining the system.

7. ASPHALT PAVEMENT REPORT

Street Name	Year	Cost \$	Total SY Asphalt Pavement	SY Full-Depth Repairs	Linear Footage Cracks	Parking Spaces	Parking Bays
C.S. Parking Lot	2022	\$36,700	1,406	7	1,000	42	4
C.S. Drivelane	2022	\$3,100	106	0	0	0	0
100-184	2020	\$104,605	3,775	813	4,700	92	11
200-342	2018	\$105,317	4,658	551	13,000	136	18
400-406	2022	\$7,716	268	0	142	4	2
500-522	2018	\$32,677	1,135	368	4,000	24	7
800-902	2020	\$88,915	3,445	311	5,500	108	11
TOTALS		\$379,030.00	14,793	2050	28,342	406	53

8. PRESSURE-TREATED TIMBER RETAINING WALLS REPORT

Wall Location	Area Square Feet	Percent of Total Area	Description of Condition	Projected Date of Replacement
Pool Parking Lot	818	13.1	Fair condition	2021
Basketball Court	340	3.9	Fair to good condition	2027
Both sides of AFP near pool	26	.05	Fair to good condition	2027
Adjacent to pool	170	2.8	Fair to good condition	2027
876 NME	472	7.6	Very poor condition	2019
818 NME	730	12.8	Very poor condition	2019
314 NME	252	4	Very poor condition	2019
246 NME	1,304	20.9	Very poor condition	2019
Lake bulkhead	475	7.6	Poor condition with undercutting	2021
110 NME	1,380	23.1	Poor condition heavy deflection	2021
100 NME	256	4.1	Poor condition deflection	2021
TOTALS	6,223	100		

NME= New Mark Esplanade
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** **Cycles, Percentage, and Cost** repeat as itemized above. Although not shown on the tables, Through **16** 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.

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18
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 ASPHALT COMPONENTS																
1.1	Asphalt Restoration Project, Community Center	1,468	SY	\$25.00	\$36,700	20	2022	100%	\$41,523	2042	100%	\$68,040				The depth of the pavement could not be visually determined. The pavement appears to be original or an older second-cycle overlay and in generally good condition. The asphalt restoration project includes full milling and replacement with 2" of new asphalt. Core samples should be taken to determine the depth and condition of the sub-base and pavements prior to restoration. The costs include striping of the parking areas. The cost used does not include replacement of inadequate sub-base.
1.2	Asphalt Full-Depth Repair Allowance, Community Center	1	LS	\$3,100.00	\$3,100	5	2027	25%	\$992	2032	50%	\$2,245	2037	75%	\$3,810	A small amount of deflected pavement (approximately 7 square yards), indicative of sub-base damage, was observed in one location. A moderate amount of random longitudinal and transverse cracking (approximately 1,000 linear feet) were observed throughout the parking lot. Repairs are essential in order to maximize the service life of the pavement. Full-depth repairs and crack filling are scheduled progressively every five years throughout the study period. See the Asphalt Pavement Report, Section 7, for additional details.
1.3	Asphalt Restoration Project, Community Center Driveway	107	SY	\$25.00	\$2,675	20	2022	100%	\$3,027	2042	100%	\$4,959				The depth of the pavement could not be visually determined. The pavement appears to be a second-cycle overlay and in good condition. The asphalt restoration project includes full milling and replacement with 2" of new asphalt. Core samples should be taken to determine the depth and condition of the sub-base and pavements prior to restoration. The cost used does not include replacement of inadequate sub-base.
1.4	Asphalt Repair Allowance, Community Center Driveway	1	LS	\$500.00	\$500	5	2027	100%	\$640	2032	100%	\$724	2037	100%	\$819	No deflected or cracked pavement was observed. As the pavement ages, repairs are essential in order to maximize the service life of the pavement. Full-depth repairs and crack filling are scheduled progressively every five years throughout the study period. See the Asphalt Pavement Report, Section 7, for additional details.
1.5	Asphalt Restoration Project, 100-184	3,775	SY	\$27.71	\$104,605	20	2020	100%	\$112,648	2040	100%	\$184,588				The pavement appears to be an older second-cycle overlay and in generally fair condition. Large areas of deflective cracking, and transverse and lateral cracking, indicative of sub-base damage were observed on all driveways. The asphalt restoration project includes full milling and replacement with 2" of new asphalt on all driveways. Core samples should be taken to determine the depth and condition of the sub-base and pavements prior to restoration. The costs include striping of the parking areas. The cost used does not include replacement of inadequate sub-base. Cost is based on the proposal by A.B. Veirs and Sons, Inc.
1.6	Asphalt Repair Allowance, 100-184	1	LS	\$8,000.00	\$8,000	5	2025	25%	\$2,437	2030	50%	\$5,514	2035	75%	\$9,358	A large amount of deflected pavement (approximately 813 square yards), indicative of sub-base damage, was observed. A large amount of random longitudinal and transverse cracking (approximately 4,700 linear feet) was observed throughout the community. After restoration, repairs are essential in order to maximize the service life of the pavement. Full-depth repairs and crack filling are scheduled progressively every five years throughout the study period. See the Asphalt Pavement Report, Section 7, for additional details.
1.7	Asphalt Restoration Project, 200-342	4,658	SY	\$22.61	\$105,317	20	2018	100%	\$107,950	2038	100%	\$176,889				The pavement appears and was reported to be original and in generally very poor condition. Large areas of deflective cracking, and transverse and lateral cracking, indicative of sub-base damage were observed on all driveways. The asphalt restoration project includes full milling and replacement with 2" of new asphalt on all driveways. Core samples should be taken to determine the depth and condition of the sub-base and pavements prior to restoration. Cost is based on the proposal by A.B. Veirs and Sons, Inc.
1.8	Asphalt Repair Allowance, 200-342	1	LS	\$10,000.00	\$10,000	5	2023	25%	\$2,899	2028	50%	\$6,560	2033	75%	\$11,134	A large amount of deflected pavement (approximately 551 square yards), indicative of sub-base damage, was observed. A large amount of random longitudinal and transverse cracking (approximately 13,000 linear feet) were observed throughout the community. After restoration, repairs are essential in order to maximize the service life of the pavement. Full-depth repairs and crack filling are scheduled progressively every five years throughout the study period. See the Asphalt Pavement Report, Section 7, for additional details.
1.9	Asphalt Restoration Project, 400-406	268	SY	\$28.79	\$7,716	20	2022	100%	\$8,730	2042	100%	\$14,305				The pavement appears to be a second-cycle overlay and in generally good condition. The asphalt restoration project includes full milling and replacement with 2" of new asphalt on all driveways. Core samples should be taken to determine the depth and condition of the sub-base and pavements prior to restoration.
1.10	Asphalt Repair Allowance, 400-406	1	LS	\$600.00	\$600	5	2027	100%	\$768	2032	100%	\$869	2037	100%	\$983	No deflected or cracked pavement was observed. As the pavement ages, repairs are essential in order to maximize the service life of the pavement. Full-depth repairs and crack filling are scheduled progressively every five years throughout the study period. See the Asphalt Pavement Report, Section 7, for additional details.
1.11	Asphalt Restoration Project, 500-522	1,135	SY	\$28.79	\$32,677	20	2018	100%	\$33,494	2038	100%	\$54,883				The pavement was reported to be original and in very poor condition. Utility projects have repeatedly cut and replaced large sections of the asphalt. Large areas of deflected cracking, indicative of sub-base damage were observed on all driveways. The asphalt restoration project includes full milling and replacement with 2" of new asphalt. Cost is based on the proposal by A.B. Veirs and Sons, Inc.
1.12	Asphalt Repair Allowance, 500-522	1	LS	\$2,400.00	\$2,400	5	2023	25%	\$696	2028	50%	\$1,575	2033	75%	\$2,672	A relatively large amount of deflected pavement (approximately 368 square yards), indicative of sub-base damage, was observed. A large amount of random longitudinal and transverse cracking (approximately 4,000 linear feet) were observed throughout the community. After restoration, repairs are essential in order to maximize the service life of the pavement. Full-depth repairs and crack filling are scheduled progressively every five years throughout the study period. See the Asphalt Pavement Report, Section 7, for additional details.

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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	18
1.13	Asphalt Restoration Project, 800-902	3,445	SY	\$25.81	\$88,915	20	2020	100%	\$95,752	2040	100%	\$156,901				The pavement ranges from good to poor condition with large areas of repair having been conducted in 2014 by O'Leary's Asphalt, Inc. The original sections have large areas of deflected cracking, indicative of sub-base damage. The asphalt restoration project includes full milling and replacement with 2" of new asphalt. Cost is based on the proposal by A.B. Veirs and Sons, Inc.
1.14	Asphalt Repair Allowance, 800-902	1	LS	\$7,300.00	\$7,300	5	2025	25%	\$2,224	2030	50%	\$5,032	2035	75%	\$8,539	A moderate amount of deflected pavement (approximately 311 square yards), indicative of sub-base damage, was observed in two locations. A large amount of random longitudinal and transverse cracking (approximately 5,500 linear feet) were observed throughout the community. After restoration, repairs are essential in order to maximize the service life of the pavement. Full-depth repairs and crack filling are scheduled progressively every five years throughout the study period. See the Asphalt Pavement Report, Section 7, for additional details.
1.15	Asphalt Footpaths Repair & Replacement Allowance	1,859	SY	\$37.11	\$68,987	5	2020	25%	\$18,573	2025	25%	\$21,014	2030	25%	\$23,775	Asphalt footpaths generally 4', 5', 6', or 10' in width provide access between sections of the community. The footpaths are in generally good condition and have been extensively repaired over the years. However, we observed areas of deflection, subsidence, and root damage, which should be repaired before the deficiencies become hazardous to pedestrians. We have scheduled 25% of the footpath to be replaced every five years such that full replacement is accomplished every 20-years, which is a typical service life. The footpath repair projects are scheduled to coincide with other asphalt projects to promote cost efficiencies.
2 CONCRETE COMPONENTS																
2.1	Concrete Sidewalks & Steps	22,848	SF	\$8.50	\$194,208	5	2018	21.60%	\$42,998	2023	3%	\$6,757	2028	3%	\$7,645	Concrete sidewalks, generally 4' wide, are present on one or both sides of streets within the community. Their thickness could not be visually determined. Sidewalk condition is generally fair to good with many sections (133) significantly cracked, settled or heaving between sections observed. We calculate 2,128 square feet of deficient sidewalk, or about 9% of the total surface area. The scheduled replacement rate of 21.6% for 2018 was generated by A.B. Veirs and includes all observed deficiencies and some large scale sidewalk improvement projects, mostly concentrated on 800-902 NME. The cost used in this report reflects that used in the A.B. Veirs proposal. 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. The Board should be aware that repairs to small quantities of concrete may be more costly because of the difficulty of attracting competitive bids for small projects, which may not meet contractor minimums. Any trip hazards or hazardous surface deficiencies should be addressed as soon as practicable to prevent personal injury.
2.2	Concrete Curbs & Gutters	11,014	LF	\$34.00	\$374,476	5	2018	14%	\$53,737	2023	2%	\$8,686	2028	2%	\$9,827	The driveways and parking bays are lined with standard-profile, cast-in-place, concrete curbs. The curbs are generally in good condition. A.B. Veirs reports that 1,551 linear feet of curbs require replacement either due to damage or as part of a replacement project, which will be conducted in 800-902 NME to relieve the current height differential between the sidewalks and the street level. We have used the proposed cost provided by A.B. Veirs in our calculations. As curbs age, cracks, vehicle impact damage, and settlement should be anticipated. Cyclic repairs are scheduled as full replacement at one time is not appropriate or anticipated. Concrete are scheduled to coincide with other concrete components to promote cost efficiencies.
2.3	Cast Concrete Steps	768	LF	\$100.00	\$76,800	20	2018	9%	\$7,085	2028	10%	\$10,077	2038	10%	\$12,899	Cast-in-place concrete steps are constructed within the community providing access at grade differentials. These appear to be in generally good condition. The project's 2018 expenditure was provided by A.B. Veirs. Cyclic repairs are scheduled as full replacement at one time is not appropriate or anticipated. Concrete repairs are scheduled to coincide with other concrete components to promote cost efficiencies. Any settlement or surface-defect trip hazards should be repaired as soon as observed to prevent personal injury.
2.4	Concrete Driveway Aprons	2,639	SF	\$10.50	\$27,710	20	2022	14%	\$4,389	2042	14%	\$7,192				Concrete driveway aprons provide access to the parking courts and the pool parking lot. Most aprons appear to be in good serviceable condition. A few cracks and some settlement were observed. Cyclic repairs are scheduled as full replacement at one time is not appropriate or anticipated. Concrete repairs are scheduled to coincide with other concrete components to promote cost efficiencies. The Board should be aware that repairs to small quantities of concrete may be more costly because of the difficulty of attracting competitive bids for small projects, which may not meet contractor minimums. Any settlement or surface-defect trip hazards should be repaired as soon as observed to prevent personal injury.
2.5	Concrete Pool Deck	10,139	SF	\$11.50	\$116,599	10	2018	20%	\$23,903	2028	100%	\$152,987	2038	20%	\$39,167	The pool deck is cast-in-place concrete on grade and is generally in fair to poor condition. We calculated approximately 843 linear feet of filled and unfilled cracking. We understand that the deck failed a recent inspection and will require some replacement sections before opening in spring 2018. We have scheduled a repair project in advance with full replacement to coincide with the pool restoration project, scheduled mid to late-term. Concrete repairs are scheduled to coincide with other concrete components to promote cost efficiencies. Any settlement or surface-defect trip hazards should be repaired as soon as observed to prevent personal injury.
3 SITE FEATURES																
3.1	Entrance Monument Repair Allowance	1	LS	\$2,500.00	\$2,500	5	2020	100%	\$2,692	2025	100%	\$3,046	2030	100%	\$3,446	An ornamental cast concrete structure with redwood details is installed at the norther entrance. The monument is heavily constructed and should provide an indefinite service life if the timber components are cleaned and treated periodically.

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18
3.2	Modular Block Retaining Wall	1,455	SF	\$50.00	\$72,750	30	2052	100%	\$172,651							Modular block retaining walls are constructed at grade differentials and at the lake. They differ in age but are all in like-new condition with no deflection or deterioration observed. Modular block retaining walls may achieve a long service life if vegetation is properly controlled to prevent root damage. The walls may be rebuilt when necessary, new geotextile fabric installed, and the undamaged blocks re-used.
3.3	Stone Retaining Walls Replacement Allowance	1	LS	\$8,400.00	\$8,400	30	2045	100%	\$16,771							Low stone walls with flagstone coping are installed integral to the new cast concrete steps at the lake. The walls appear to be in new condition with no deficiencies observed.
3.4	Pressure-Treated Timber Retaining Walls	6,223	SF	\$45.00	\$280,035	20	2019	45.30%	\$133,278	2021	47.90%	\$148,062	2027	4%	\$14,339	Pressure-treated wood retaining walls are constructed throughout the community at grade differentials. They range in condition from good to poor. We observed deflection and deterioration. We have scheduled replacements according to the apparent age and condition of each wall. See the Pressure-Treated Timber Retaining Wall Report, Section 8.
3.5	Cast Concrete Retaining Wall	861	SF	\$60.00	\$51,660	60	2037	100%	\$84,651							A heavily constructed cast concrete retaining wall is constructed adjacent to the pool parking lot and provides soil retention for the basketball court. The wall is in good condition with no deficiencies observed.
3.6	Brick Retaining Walls Tuckpointing & Repair Allowance	697	SF	\$50.00	\$34,850	10	2018	10%	\$3,572	2028	10%	\$4,573	2038	10%	\$5,853	Brick retaining walls are constructed at grade differentials in seven locations. The walls are in generally good condition, though all walls have some level of deficiency. We have scheduled a repair project near-term.
3.7	Pressure-Treated Timber Replacement Allowance, Miscellaneous Components	1	LS	\$23,114.00	\$23,114	5	2018	25%	\$5,923	2019	25%	\$6,071	2020	25%	\$6,223	This category includes 885 linear feet of timber curbing (all curbing under 24" in height), 101 linear feet of custom benches, two wharfs, various wooden steps, split rail fencing at the tot lot, the pressure-treated timber components of the footbridge, and 36 wooded bollards. All components are dated and somewhat deteriorated. As such we have scheduled the replacement of all timber components over the next four years, after which, we have scheduled repair projects as needed for the duration of the study period.
3.8	Tot Lot & Outdoor Furniture Allowance	1	LS	\$20,800.00	\$20,800	20	2032	100%	\$30,125	2052	100%	\$49,363				A tot lot is located adjacent to the tennis court. Equipment consists of wood and plastic borders, a swing set, metal benches, trash receptacles, and a coated steel post play module with 16 posts and plastic climbing equipment and plastic slides. All equipment appears to be in good condition. Preventive maintenance, as outlined in Preventive Maintenance section of the report, will improve appearance and extend the service lives of tot lot components. 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.
3.9	Chain Link Fencing	1,978	LF	\$25.27	\$49,984	20	2033	100%	\$74,202	2053	100%	\$121,588				Various types of chain link fencing, varying in height is installed along Monroe Street and the adjacent apartment complex. The fencing has repeatedly been repaired by Long Fence. The fencing was recently repaired for \$8,289 and is in excellent condition.
3.10	Spillway Fencing	20	LF	\$50.00	\$1,000	20	2032	100%	\$1,448	2052	100%	\$2,373				Aluminum fencing is installed across the lake spillway. The fencing is in excellent condition. The concrete bulkhead on which the fencing is installed appears to be deteriorating somewhat and should be repaired under operations.
3.11	Metal Handrailings Replacement Allowance	454	LF	\$22.50	\$10,215	5	2018	11%	\$1,152	2023	15%	\$1,777	2028	15%	\$2,010	Most steps are equipped with metal handrailings installed in imbedded post pockets. Most railings appear to be in good condition and Action Fabricators & Erectors has maintained and replaced them over the years on an as needed basis. This category includes 44 linear feet of wood railing, which has been scheduled for replacement with metal near-term.
3.12	Light Poles & Fixtures Replacement Allowance	43	EA	\$3,100.00	\$133,300	20	2027	100%	\$170,635	2047	100%	\$279,606				Pre-finished aluminum light poles, generally 10' high, with globe or modern lantern fixtures provide illumination for the streets and common areas. They appear to be in generally good condition. This includes the telephone pole equipped with RAB light fixtures. The fixtures were not observed illuminated. No problems were reported with lighting.
3.13	Tennis Court Restoration	1	EA	\$25,000.00	\$25,000	20	2032	100%	\$36,207	2052	100%	\$59,330				The tennis court appears to be in generally good condition and was reported to have been restored in 2012, though this was not confirmed. The color coat appears to be in good condition. However, it was reported that Bishops Tennis, Inc. repaired the tennis court in July of 2016 for a price of \$1,915. We observed evidence of a crack patching project that was poorly executed and should be properly repaired. No deflection or cracks were observed at the base of the net post footings. Since net tension is the most common cause of court damage, homeowners should be advised that tension on the nets should be released when not in use, and nets should not be over-tensioned when in use. The service life of the tennis courts is dependent on preventative maintenance being performed as outlined in the Preventive Maintenance section of the report.
3.14	Tennis Court Color Coat	1	EA	\$6,500.00	\$6,500	5	2018	10%	\$666	2022	100%	\$7,354	2027	100%	\$8,321	The tennis court color coat is in generally good condition though we quantified about 30 linear feet of cracking. Tennis court color coat seals the surface of the tennis courts and helps prevent water infiltration into the court structure. Color coat generally has a five-year service life.

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18
3.15	Tennis Court Fencing	452	LF	\$28.75	\$12,995	35	2032	100%	\$18,821	2067	100%	\$44,665				Ten-foot-high, vinyl-coated chain link fencing is installed around the perimeter of the tennis court. It appears to be in good condition and we observed several contracts from Long Fence, with tennis court fencing repairs listed. We have scheduled the fencing replacement to coincide with the tennis court restoration project near-term.
3.16	Basketball Court Restoration	1	LS	\$7,000.00	\$7,000	20	2021	100%	\$7,727	2041	100%	\$12,661				The basketball court appears to be in serviceable condition with only about 75 linear feet of cracking observed. However, the court is constructed on a cut and fill site with about a third of its surface having been constructed on soils retained by a cast concrete retaining wall. We observed a moderate amount of settlement in the retained soils, resulting in transverse cracking. Unfortunately this condition is likely to worsen over time and future restoration projects may require complete removal of the court for backfilling. We have scheduled the project mid-term.
3.17	Basketball Court Color Coat	1	LS	\$3,500.00	\$3,500	5	2021	100%	\$3,863	2026	100%	\$4,371	2031	100%	\$4,945	The basketball color coat appears to be in generally older but good condition with the exception of the settlement cracking detailed above. Court color coat seals the surface of the basketball court and helps prevent water infiltration into the court structure. Color coat generally has a five-year service life.
3.18	Basketball Goals	2	EA	\$2,500.00	\$5,000	30	2041	100%	\$9,044							Two basketball goals mounted on metal standards are installed at the basketball court. They appear to be in good condition.
3.19	Basketball Court Fencing	123	LF	\$25.27	\$3,108	30	2041	100%	\$5,622	2076	100%	\$13,342				6' vinyl coated chain link fencing is installed above the cast concrete retaining wall adjacent to the basketball court. The fencing was installed by Long Fence in 2012 for \$3,176.00. The fencing appears to be in very good condition.
3.20	Storm Water Drainage System Allowance	1	LS	\$150,000.00	\$150,000	7	2018	100%	\$153,750	2025	10%	\$18,276	2036	10%	\$23,980	Storm water drainage is provided by concrete yard drains, curb drop inlets, rip rap flumes, ditches, wet weather streams, underground structures discharging into an approximately 2.82 acre lake with a fountain, concrete overflow riser, an earthen impoundment structure and a concrete spillway. We understand that storm water drainage expenditures have been expensive and on going. Though storm water drainage systems are a long life component and catastrophic failure is not anticipated, it is prudent to plan for localized repairs and repairs to ancillary damage as the system ages. This category may also be used to address localized erosion issues such as will be addressed in 2018 in four locations, where erosion has been problematic. A detailed approach has been developed by Earthman Design Group, LLC. The remediation of these four locations, 338 NME, 300-314 NME, 276 NME, and 500-522 NME will be developed and overseen by Earthman for a cost of \$24,950. Actual construction costs may be as high as \$125,000. This section should be updated with actual project costs when more information is available.
3.21	Lake Bathymetric Study	1	LS	\$3,978.00	\$3,978	20	2035	100%	\$6,204	2055	100%	\$10,167				Significant maintenance and liability costs may be associated with the Lake. A Bathymetric Study was conducted by Solitude Lake Management, LLC in 2015. This category is to fund future studies, which will be required throughout the service life of the Lake.
3.22	Lake Dredging	1	LS	\$300,000.00	\$300,000	12	2021	100%	\$331,144	2033	100%	\$445,352	2045	100%	\$598,949	It was reported that approximately \$300,000 was spent in 2004 on lake dredging and other improvements. There are a number of lake maintenance issues such as shoreline stabilization, chemical applications for weed control, bacterial improvement to control algae, surface aerators, diffusers, dredging, beaver control, and mosquito control, all of which may be required at some time over the life of a Lake. We understand that Solitude Lake Management manages the Lake and conducted a Bathymetric Study in 2015. This will provide a baseline for comparison in future years for sedimentation buildup and detail the operating issues and long term costs for maintaining the system. At Management's request we have scheduled a dredging project to be completed near to mid-term based on the cost of the previous project. Management provided the schedule for the project.
4 COMMUNITY CENTER EXTERIOR COMPONENTS																
4.1	Re-Roofing Project, Community Center	1	LS	\$16,602.80	\$16,603	20	2036	100%	\$26,542	2056	100%	\$43,492				The 8/12 pitched roof has composite shingles. We understand that Rimel Roofing installed new shingles in November of 2016 for a cost of \$16,602.80. We observed no deteriorated shingles or deflection of the roof sheathing. Pre-finished aluminum gutters and downspouts are installed at all proper roof terminations. Downspouts appear to be properly directed away from building foundations. All components appear to be in good condition. Re-roofing projects include replacement of shingles, deteriorated sheathing, and gutters and downspouts.
4.2	Re-Roofing Project, Garage	1	LS	\$5,175.00	\$5,175	25	2030	100%	\$7,134	2060	100%	\$14,964				The flat roof of the garage was observed to be built-up-roofing with ballast. The roofing was observed to be appropriately pitched to prevent Lake, and adequately sized scuppers were observed. The roofing appears to be in good condition. No leaking was reported.
4.3	Windows	266	SF	\$40.00	\$10,640	30	2030	100%	\$14,667	2060	100%	\$30,766				This includes all windows throughout the community center. The windows are fixed pane and in good condition for their age. No broken seals were observed. Because the window are fixed, they should provide a very long service life.
4.4	Composite Deck & Railing	1	LS	\$6,750.00	\$6,750	30	2030	100%	\$9,305	2060	100%	\$19,518				The community center is constructed with an elevated deck with railing system. The deck consists of newer composite decking on pressure-treated timber framing. The decking appears to be newer and the framing appears to be in good condition and is partially protected by the roofing system.
4.5	Exterior Trim Replacement Allowance	1	LS	\$5,000.00	\$5,000	10	2021	25%	\$1,380	2026	25%	\$1,561	2031	25%	\$1,766	Extensive painted wood trim occurs at some windows, doors, soffits, rake boards, chimneys, balconies, and entrances. It is in generally very good condition. Replacements are scheduled at five-year intervals to coincide with repainting projects.

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18
4.6	Garage Door	1	LS	\$1,500.00	\$1,500	30	2027	100%	\$1,920	2057	100%	\$4,028				A single aluminum manually operated garage door is installed in the garage. No problems with operation were reported.
4.7	Sliding Glass Doors	8	EA	\$1,400.00	\$11,200	20	2034	100%	\$17,042	2054	100%	\$27,926				Newer double paned sliding glass doors are installed throughout the community center building. The doors appear to be in very good condition with no problems reported or observed.
4.8	Metal Doors Replacement Allowance	9	EA	\$1,200.00	\$10,800	30	2022	22%	\$2,688	2032	22%	\$3,441	2042	22%	\$4,405	This category includes all exterior and interior metal doors of the community center building and garage. All doors appear to be in dated but serviceable condition. Doors are generally replaced as individual units become damaged or deteriorated. Doors in a wet or chlorine environment generally have a shorter than average service life. We have budgeted an allowance to address replacement of damaged or deteriorated doors throughout the study period.
5 COMMUNITY CENTER INTERIOR COMPONENTS																
5.1	Wood/Composite Doors Replacement Allowance	14	EA	\$750.00	\$10,500	10	2018	50%	\$5,381	2031	25%	\$3,709	2041	25%	\$4,748	This category includes all wooden or composite exterior and interior doors of the community center building and garage. The doors appear to range in condition from good to poor with some damage and general deterioration observed. We observed several steel door frames, which are severely rusted and should be replaced. Doors are generally replaced as individual units become damaged or deteriorated. At Management's request, we have budgeted an allowance near-term to address replacement of damaged or deteriorated doors.
5.2	Wood Flooring Refinishing Allowance	1,728	SF	\$6.60	\$11,405	10	2027	100%	\$14,599	2037	100%	\$18,688	2047	100%	\$23,922	The community center is constructed with finished hardwood flooring in very good condition. This allowance is for refinishing the flooring periodically throughout the study period.
5.3	Kitchen Modernization	1	LS	\$10,000.00	\$10,000	25	2027	100%	\$12,801	2047	100%	\$20,976				This category includes an electric range and hood, a stainless steel sink, two refrigerator, and the kitchen wall-mounted and base-mounted millwork. All components appear to be in good or serviceable condition.
5.4	Ceramic Tile	108	SF	\$14.00	\$1,512	25	2018	25%	\$387	2043	100%	\$2,873				The kitchen is constructed with builder grade ceramic tile. Several tiles were observed to be damaged and should be replaced near-term.
5.5	Furnishings Allowance	1	LS	\$3,600.00	\$3,600	5	2022	25%	\$1,018	2027	25%	\$1,152	2032	25%	\$1,303	This category includes chairs, tables, and miscellaneous cabinetry located within the garage and community center.
6 MECHANICAL, ELECTRICAL, & PLUMBING																
6.1	HVAC Split-Systems	1	EA	\$14,000.00	\$14,000	15	2028	100%	\$18,369	2043	100%	\$26,604				Twin Carrier split HVAC systems, with a total cooling capacity of 10 tons provide cooling to the community center. The air handlers are elevated in an open space and were not able to be closely inspected, but appear to be in good and fully operational condition. The condensing units are located behind the building and are both Carrier Model # 24ANA76A300. The Serial #s are 0207E1241 and 0407E02696. The systems are newer and in good condition.
6.2	Furnaces	1	LS	\$8,460.00	\$8,460	15	2031	100%	\$11,954	2046	100%	\$17,313				The community center is heated with two Carrier 59SC2B080S21 twin gas furnaces totaling 160,000 BTUs. The serial numbers were not visible. The systems were installed in October of 2016 by M.P. Energy Services, Inc. for a cost of \$8,460.
6.3	Interior & Exterior Lighting & Fans	1	EA	\$8,650.00	\$8,650	20	2027	100%	\$11,073	2047	100%	\$18,144				This category includes, illuminated exit/emergency lights, ceiling-mounted light fixtures, wall-mounted sconces, building-mounted exterior fixtures, exhaust fans, and ceiling fans. All lighting appears to be in good condition. Replacement timing and cost is generally discretionary.
6.4	Water Heater	1	EA	\$9,084.00	\$9,084	20	2035	100%	\$14,168	2055	100%	\$23,216				Domestic hot water is provided to the shower rooms by a State Industries, Inc., commercial natural gas, Model SBD81199NE 118, Serial 1527M000767, 81-gallon, water heater. The unit was installed by Associates Plumbing, Inc. in August 2015 for a price of \$9,084.25.
6.5	Electrical Modernization Allowance	1	LS	\$10,000.00	\$10,000	60	2027	100%	\$12,801	2087	100%	\$56,321				Management reported that the Association is responsible for 14 individual electrical systems metered separately. All systems were reported to be fully functional. A Preventive maintenance program should be conducted every three years by a licensed electrician. That maintenance involves inspection of all switchgear, panelboards and connections, cleaning (where required), thermographic scans, and retorquing connections. (It is important to note that arcing failures occur where connections have loosened as a result of thermal cycling.) Eventually, parts attrition, and obsolescence will require this equipment to be replaced.
6.6	Plumbing Fixtures & Ancillary Components Modernization Allowance	1	LS	\$12,610.00	\$12,610	20	2019	100%	\$13,248	2039	100%	\$21,709				This category consists of sinks, commodes, urinals, showers, and partitions of the shower rooms and the drinking fountain. This category should be used to address the replacement of individual components as needed, or as a larger bath/shower room renovation project. We understand that new restroom partitions were installed by MD Partitions, Inc. in May of 2013 for \$2,155. Management reported that a renovation project will be conducted near-term.
6.7	Lake Fountain	1	LS	\$2,168.00	\$2,168	10	2024	100%	\$2,577	2034	100%	\$3,299	2044	100%	\$4,223	A fountain provides aeration to the lake. It appeared to be operating properly at the time of the site evaluation. Fountains generally have a short service life due to continuous duty and clogging. They generally require frequent maintenance. We understand that Solitude Lake Management installed a new system in April 2014 for \$2,168.
7 POOL FACILITY																

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	DISCUSSION
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	18
7.1	Pool Restoration Project	5,016	SF	\$52.00	\$260,832	30	2029	100%	\$350,790	2059	100%	\$735,806				The swimming pools are in-ground, cast-in-place concrete structures. Most outdoor pools of this type, in this area, require a major renovation between twenty-five and forty years of age. The restoration might include beam re-construction, plumbing replacement/remediation, removal and replacement of the white coat, waterline tiles, coping, and sealants. It is prudent to plan for structural renovation now because of the large expense involved if required. This project should also include ADA upgrades. We understand that the pool received \$67,180 worth of work in July of 2013 by Continental Pools, Inc., which included white coat, new coping, calking, waterline tiles, and new main pool filters.
7.2	Pool White Coat	5,016	SF	\$6.36	\$31,902	7	2020	100%	\$34,355	2036	100%	\$51,000	2043	100%	\$60,623	The pools were closed and covered for the season. We understand that the pools were coated in July of 2013 for \$31,880. Pool white coating seals the pool surface and helps prevent water infiltration into the structure of the pool. White coat generally has a service life of five to seven years. Management provided the budget and timing for the projects.
7.3	Pool Coping	395	LF	\$56.96	\$22,499	3	2020	5%	\$1,211	2023	5%	\$1,305	2027	5%	\$1,440	The pool was covered and we did not observed the copings. We have scheduled an allowance throughout the study period to address replacements of cracked, loose, or "hollow" tiles. Diligent maintenance of the soft joint sealant will prevent water infiltration behind the pool shell, which, if not controlled, will cause freeze/thaw damage.
7.4	Pool Fencing	1	LS	\$45,000.00	\$45,000	25	2037	100%	\$73,738	2062	100%	\$136,706				The pool is equipped with coated aluminum fencing of different heights. The fencing appears to be in very good condition.
7.6	Pool Furniture Allowance	1	LS	\$15,200.70	\$15,201	10	2022	50%	\$8,599	2027	50%	\$9,729	2032	50%	\$11,008	This category includes aluminum-frame and vinyl webbing lounges, chairs, and trash receptacles, fiberglass and metal tables, and umbrellas. All furniture was stored for the season and appears to be in good condition. We have budgeted an allowance throughout the study period to replace a percentage of the furniture as necessary. Re-webbing of damaged pieces periodically may extend the service life of the entire set of furniture.
7.7	Pool Perimeter Equipment	1	LS	\$24,998.00	\$24,998	30	2018	10%	\$2,562	2029	100%	\$33,620	2049	100%	\$55,090	Pool perimeter equipment consists of lifeguard stands, stainless steel ladders, stainless steel handrail, an awning, a diving board, and an ADA hoist. All visible components appear to be in good condition. At Management's request we have scheduled an expenditure to address an issue with the diving board stand. However, we do not have a comprehensive understanding of the deficiency.
7.8	Fifteen-Year Pool Pump & Filtration Equipment	1	LS	\$15,000.00	\$15,000	15	2025	100%	\$18,276	2040	100%	\$26,469				The main pool is served by a Marathon Electric, 10hp bronze pump and strainer assembly and is filtered by four Pentair Clean & Clear Plus Cartridge Filters. The pump and strainer appear to be in older but serviceable condition. The filter equipment is in like-new condition having been installed in July 2013 by Continental. Chlorination is accomplished by a Blue-White peristaltic chemical feeder. The equipment is in like-new condition. The system was decommissioned for the season.
7.9	Ten-Year Pool Pump, Filtration, & Chlorination Equipment	1	LS	\$2,500.00	\$2,500	10	2025	50%	\$1,523	2035	100%	\$3,899	2045	100%	\$4,991	The wading pool is served by a 1 horsepower Hayward Super Pump and plastic strainer assembly and is filtered by one Pentair Clean & Clear permanent media filter. The equipment is very good condition. Chlorination is accomplished by a single peristaltic chemical feeder of undetermined brand. The system was decommissioned for the season.
7.10	Pool Covers	5,600	SF	\$2.50	\$14,000	10	2025	100%	\$17,058	2035	100%	\$21,835	2045	100%	\$27,951	The pools were covered for the season with nylon mesh covers, which appear to be in good condition. A pool cover may extend the service life of the white coat and reduce overall maintenance costs.

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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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 TOTAL EXPENDITURES	
	1.7	Asphalt Restoration Project, 200-342	\$105,317	\$107,950		
	1.11	Asphalt Restoration Project, 500-522	\$32,677	\$33,494		
	2.1	Concrete Sidewalks & Steps	\$41,949	\$42,998		
	2.2	Concrete Curbs & Gutters	\$52,427	\$53,737		
	2.3	Cast Concrete Steps	\$6,912	\$7,085		
	2.5	Concrete Pool Deck	\$23,320	\$23,903		
	3.6	Brick Retaining Walls Tuckpointing & Repair Allow	\$3,485	\$3,572		
	3.7	Pressure-Treated Timber Replacement Allowance,	\$5,779	\$5,923		
	3.11	Metal Handrailings Replacement Allowance	\$1,124	\$1,152		
	3.14	Tennis Court Color Coat	\$650	\$666		
	3.20	Storm Water Drainage System Allowance	\$150,000	\$153,750		
	5.1	Wood/Composite Doors Replacement Allowance	\$5,250	\$5,381		
	5.4	Ceramic Tile	\$378	\$387		
	7.7	Pool Perimeter Equipment	\$2,500	\$2,562		
					\$442,560	
2019					2019 TOTAL EXPENDITURES	
	3.4	Pressure-Treated Timber Retaining Walls	\$126,856	\$133,278		
	3.7	Pressure-Treated Timber Replacement Allowance,	\$5,779	\$6,071		
	6.6	Plumbing Fixtures & Ancillary Components Moder	\$12,610	\$13,248		
					\$152,597	
2020					2020 TOTAL EXPENDITURES	
	1.5	Asphalt Restoration Project, 100-184	\$104,605	\$112,648		
	1.13	Asphalt Restoration Project, 800-902	\$88,915	\$95,752		
	1.15	Asphalt Footpaths Repair & Replacement Allowan	\$17,247	\$18,573		
	3.1	Entrance Monument Repair Allowance	\$2,500	\$2,692		
	3.7	Pressure-Treated Timber Replacement Allowance,	\$5,779	\$6,223		
	7.2	Pool White Coat	\$31,902	\$34,355		
	7.3	Pool Coping	\$1,125	\$1,211		
					\$271,455	
2021					2021 TOTAL EXPENDITURES	
	3.4	Pressure-Treated Timber Retaining Walls	\$134,137	\$148,062		
	3.7	Pressure-Treated Timber Replacement Allowance,	\$5,779	\$6,378		
	3.16	Basketball Court Restoration	\$7,000	\$7,727		
	3.17	Basketball Court Color Coat	\$3,500	\$3,863		
	3.22	Lake Dredging	\$300,000	\$331,144		
	4.5	Exterior Trim Replacement Allowance	\$1,250	\$1,380		
					\$498,554	
2022					2022 TOTAL EXPENDITURES	
	1.1	Asphalt Restoration Project, Community Center	\$36,700	\$41,523		
	1.3	Asphalt Restoration Project, Community Center D	\$2,675	\$3,027		
	1.9	Asphalt Restoration Project, 400-406	\$7,716	\$8,730		
	2.4	Concrete Driveway Aprons	\$3,879	\$4,389		
	3.14	Tennis Court Color Coat	\$6,500	\$7,354		
	4.8	Metal Doors Replacement Allowance	\$2,376	\$2,688		
	5.5	Furnishings Allowance	\$900	\$1,018		
	7.6	Pool Furniture Allowance	\$7,600	\$8,599		
					\$77,328	

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1	2	3	4	5	6	7
2023						2023
	1.8	Asphalt Repair Allowance, 200-342	\$2,500	\$2,899	TOTAL EXPENDITURES	
	1.12	Asphalt Repair Allowance, 500-522	\$600	\$696		
	2.1	Concrete Sidewalks & Steps	\$5,826	\$6,757		
	2.2	Concrete Curbs & Gutters	\$7,490	\$8,686		
	3.11	Metal Handrailings Replacement Allowance	\$1,532	\$1,777		
	7.3	Pool Coping	\$1,125	\$1,305		
						\$22,119
2024						2024
	6.7	Lake Fountain	\$2,168	\$2,577	TOTAL EXPENDITURES	
					\$2,577	
2025						2025
	1.6	Asphalt Repair Allowance, 100-184	\$2,000	\$2,437	TOTAL EXPENDITURES	
	1.14	Asphalt Repair Allowance, 800-902	\$1,825	\$2,224		
	1.15	Asphalt Footpaths Repair & Replacement Allowan	\$17,247	\$21,014		
	3.1	Entrance Monument Repair Allowance	\$2,500	\$3,046		
	3.20	Storm Water Drainage System Allowance	\$15,000	\$18,276		
	7.8	Fifteen-Year Pool Pump & Filtration Equipment	\$15,000	\$18,276		
	7.9	Ten-Year Pool Pump, Filtration, & Chlorination Eqi	\$1,250	\$1,523		
	7.10	Pool Covers	\$14,000	\$17,058		
						\$83,853
2026						2026
	3.7	Pressure-Treated Timber Replacement Allowance,	\$2,311	\$2,887	TOTAL EXPENDITURES	
	3.17	Basketball Court Color Coat	\$3,500	\$4,371		
	4.5	Exterior Trim Replacement Allowance	\$1,250	\$1,561		
					\$8,819	
2027						2027
	1.2	Asphalt Full-Depth Repair Allowance, Community	\$775	\$992	TOTAL EXPENDITURES	
	1.4	Asphalt Repair Allowance, Community Center Driv	\$500	\$640		
	1.10	Asphalt Repair Allowance, 400-406	\$600	\$768		
	3.4	Pressure-Treated Timber Retaining Walls	\$11,201	\$14,339		
	3.12	Light Poles & Fixtures Replacement Allowance	\$133,300	\$170,635		
	3.14	Tennis Court Color Coat	\$6,500	\$8,321		
	4.6	Garage Door	\$1,500	\$1,920		
	5.2	Wood Flooring Refinishing Allowance	\$11,405	\$14,599		
	5.3	Kitchen Modernization	\$10,000	\$12,801		
	5.5	Furnishings Allowance	\$900	\$1,152		
	6.3	Interior & Exterior Lighting & Fans	\$8,650	\$11,073		
	6.5	Electrical Modernization Allowance	\$10,000	\$12,801		
	7.3	Pool Coping	\$1,125	\$1,440		
	7.6	Pool Furniture Allowance	\$7,600	\$9,729		
						\$261,210
2028						2028
	1.8	Asphalt Repair Allowance, 200-342	\$5,000	\$6,560	TOTAL EXPENDITURES	
	1.12	Asphalt Repair Allowance, 500-522	\$1,200	\$1,575		
	2.1	Concrete Sidewalks & Steps	\$5,826	\$7,645		
	2.2	Concrete Curbs & Gutters	\$7,490	\$9,827		
	2.3	Cast Concrete Steps	\$7,680	\$10,077		
	2.5	Concrete Pool Deck	\$116,599	\$152,987		
	3.6	Brick Retaining Walls Tuckpointing & Repair Allo	\$3,485	\$4,573		
	3.11	Metal Handrailings Replacement Allowance	\$1,532	\$2,010		
	6.1	HVAC Split-Systems	\$14,000	\$18,369		
					\$213,623	

Reserve Fund Plan for
NEW MARK COMMONS HOMEOWNERS ASSOCIATION
 Rockville, Maryland

CALENDAR OF EXPENDITURES

TABLE 2
 2017 Through 2036

YEAR	COMPONENT NO.	COMPONENT	PRESENT COST 2017	FUTURE COST (INFLATED)	TOTAL ANNUAL EXPENDITURES	ACTION
1	2	3	4	5	6	7
2029					2029	
	7.1	Pool Restoration Project	\$260,832	\$350,790	TOTAL EXPENDITURES	
	7.7	Pool Perimeter Equipment	\$24,998	\$33,620		
					\$384,410	
2030					2030	
	1.6	Asphalt Repair Allowance, 100-184	\$4,000	\$5,514	TOTAL EXPENDITURES	
	1.14	Asphalt Repair Allowance, 800-902	\$3,650	\$5,032		
	1.15	Asphalt Footpaths Repair & Replacement Allowan	\$17,247	\$23,775		
	3.1	Entrance Monument Repair Allowance	\$2,500	\$3,446		
	4.2	Re-Roofing Project, Garage	\$5,175	\$7,134		
	4.3	Windows	\$10,640	\$14,667		
	4.4	Composite Deck & Railing	\$6,750	\$9,305		
	7.3	Pool Coping	\$1,125	\$1,551		
					\$70,424	
2031					2031	
	3.7	Pressure-Treated Timber Replacement Allowance,	\$2,311	\$3,266	TOTAL EXPENDITURES	
	3.17	Basketball Court Color Coat	\$3,500	\$4,945		
	4.5	Exterior Trim Replacement Allowance	\$1,250	\$1,766		
	5.1	Wood/Composite Doors Replacement Allowance	\$2,625	\$3,709		
	6.2	Furnaces	\$8,460	\$11,954		
					\$25,640	
2032					2032	
	1.2	Asphalt Full-Depth Repair Allowance, Community	\$1,550	\$2,245	TOTAL EXPENDITURES	
	1.4	Asphalt Repair Allowance, Community Center Dri	\$500	\$724		
	1.10	Asphalt Repair Allowance, 400-406	\$600	\$869		
	3.8	Tot Lot & Outdoor Furniture Allowance	\$20,800	\$30,125		
	3.10	Spillway Fencing	\$1,000	\$1,448		
	3.13	Tennis Court Restoration	\$25,000	\$36,207		
	3.15	Tennis Court Fencing	\$12,995	\$18,821		
	4.8	Metal Doors Replacement Allowance	\$2,376	\$3,441		
	5.5	Furnishings Allowance	\$900	\$1,303		
	7.6	Pool Furniture Allowance	\$7,600	\$11,008		
					\$106,191	
2033					2033	
	1.8	Asphalt Repair Allowance, 200-342	\$7,500	\$11,134	TOTAL EXPENDITURES	
	1.12	Asphalt Repair Allowance, 500-522	\$1,800	\$2,672		
	2.1	Concrete Sidewalks & Steps	\$5,826	\$8,649		
	2.2	Concrete Curbs & Gutters	\$7,490	\$11,118		
	3.9	Chain Link Fencing	\$49,984	\$74,202		
	3.11	Metal Handrailings Replacement Allowance	\$1,532	\$2,275		
	3.22	Lake Dredging	\$300,000	\$445,352		
	7.3	Pool Coping	\$1,125	\$1,670		
					\$557,071	
2034					2034	
	4.7	Sliding Glass Doors	\$11,200	\$17,042	TOTAL EXPENDITURES	
	6.7	Lake Fountain	\$2,168	\$3,299		
					\$20,341	

Reserve Fund Plan for
NEW MARK COMMONS HOMEOWNERS ASSOCIATION
 Rockville, Maryland

CALENDAR OF EXPENDITURES

TABLE 2
 2017 Through 2036



YEAR	COMPONENT NO.	COMPONENT	PRESENT COST 2017	FUTURE COST (INFLATED)	TOTAL ANNUAL EXPENDITURES	ACTION
1	2	3	4	5	6	7
2035					2035	
	1.6	Asphalt Repair Allowance, 100-184	\$6,000	\$9,358	TOTAL EXPENDITURES	
	1.14	Asphalt Repair Allowance, 800-902	\$5,475	\$8,539		
	1.15	Asphalt Footpaths Repair & Replacement Allowan	\$17,247	\$26,899		
	3.1	Entrance Monument Repair Allowance	\$2,500	\$3,899		
	3.21	Lake Bathymetric Study	\$3,978	\$6,204		
	6.4	Water Heater	\$9,084	\$14,168		
	7.9	Ten-Year Pool Pump, Filtration, & Chlorination Eqi	\$2,500	\$3,899		
	7.10	Pool Covers	\$14,000	\$21,835		
					\$94,802	
2036					2036	
	3.7	Pressure-Treated Timber Replacement Allowance,	\$2,311	\$3,695	TOTAL EXPENDITURES	
	3.17	Basketball Court Color Coat	\$3,500	\$5,595		
	3.20	Storm Water Drainage System Allowance	\$15,000	\$23,980		
	4.1	Re-Roofing Project, Community Center	\$16,603	\$26,542		
	4.5	Exterior Trim Replacement Allowance	\$1,250	\$1,998		
	7.2	Pool White Coat	\$31,902	\$51,000		
	7.3	Pool Coping	\$1,125	\$1,798		
					\$114,609	

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
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CURRENT FUNDING ANALYSIS
CASH FLOW METHOD
TABLE 3



Beginning Reserve Fund Balance: **513,056** Annual Contribution To Reserves: **73,919** Contribution Percentage Increase: **2.50%** Annual Inflation Factor: **2.50%** Annual Interest Income Factor: **1.00%**

In Dollars

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	3,076,562	513,056	73,919	5,556	0	592,531
2018	3,153,477	592,531	75,767	3,963	442,560	229,701
2019	3,232,313	229,701	77,661	1,902	152,597	156,667
2020	3,313,121	156,667	79,603	0	271,454	(35,184)
2021	3,395,949	(35,184)	81,593	0	498,554	(452,146)
2022	3,480,848	(452,146)	83,633	0	77,328	(445,841)
2023	3,567,869	(445,841)	85,723	0	22,120	(382,238)
2024	3,657,066	(382,238)	87,866	0	2,577	(296,948)
2025	3,748,493	(296,948)	90,063	0	83,854	(290,739)
2026	3,842,205	(290,739)	92,315	0	8,819	(207,243)
2027	3,938,260	(207,243)	94,623	0	261,210	(373,831)
2028	4,036,717	(373,831)	96,988	0	213,623	(490,466)
2029	4,137,634	(490,466)	99,413	0	384,410	(775,463)
2030	4,241,075	(775,463)	101,898	0	70,424	(743,989)
2031	4,347,102	(743,989)	104,446	0	25,640	(665,183)
2032	4,455,780	(665,183)	107,057	0	106,191	(664,317)
2033	4,567,174	(664,317)	109,733	0	557,072	(1,111,656)
2034	4,681,354	(1,111,656)	112,477	0	20,341	(1,019,521)
2035	4,798,387	(1,019,521)	115,288	0	94,801	(999,033)
2036	4,918,347	(999,033)	118,171	0	114,608	(995,471)

STUDY PERIOD TOTALS

1,888,236 **11,421** **3,408,183**

Reserve Fund Plan for
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 ASSOCIATION**
 Rockville, Maryland

**ALTERNATIVE FUNDING ANALYSIS
 CASH FLOW METHOD
 HYBRID APPROACH
 TABLE 3.1**



Beginning Reserve Fund Balance: **513,056** Annual Contribution To Reserves: **73,919** Contribution Percentage Increase: **2.50%** Annual Inflation Factor: **2.50%** Annual Interest Income Factor: **1.00%**

In Dollars

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	3,076,562	513,056	73,919	5,556	0	592,531
2018	3,153,477	592,531	123,919	4,225	442,560	278,115
2019	3,232,313	278,115	173,919	2,911	152,597	302,348
2020	3,313,121	302,348	223,919	2,781	271,454	257,594
2021	3,395,949	257,594	273,919	1,371	498,554	34,331
2022	3,480,848	34,331	213,210	1,084	77,328	171,296
2023	3,567,869	171,296	218,540	2,788	22,120	370,504
2024	3,657,066	370,504	224,004	4,925	2,577	596,856
2025	3,748,493	596,856	229,604	6,789	83,854	749,394
2026	3,842,205	749,394	235,344	8,759	8,819	984,678
2027	3,938,260	984,678	241,227	9,786	261,210	974,481
2028	4,036,717	974,481	247,258	9,974	213,623	1,018,090
2029	4,137,634	1,018,090	253,439	9,519	384,410	896,639
2030	4,241,075	896,639	259,775	10,037	70,424	1,096,028
2031	4,347,102	1,096,028	266,270	12,318	25,640	1,348,976
2032	4,455,780	1,348,976	272,927	14,459	106,191	1,530,170
2033	4,567,174	1,530,170	279,750	13,870	557,072	1,266,717
2034	4,681,354	1,266,717	286,743	14,173	20,341	1,547,293
2035	4,798,387	1,547,293	293,912	16,627	94,801	1,763,031
2036	4,918,347	1,763,031	301,260	18,726	114,608	1,968,409

STUDY PERIOD TOTALS

4,692,858

170,678

3,408,183

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
**NEW MARK COMMONS HOMEOWNERS
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Rockville, Maryland

**FUNDING ANALYSIS
COMPONENT METHOD**
TABLE 4



Beginning Reserve Fund Balance:

In Dollars **513,056**

Component Number	COMPONENT	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
3.15	Tennis Court Fencing	909	909	909	909	909	909	909	909	909	909	909	909	909	909	909	1,065	1,065	1,065	1,065	1,065	
3.16	Basketball Court Restoration	1,332	1,332	1,332	1,332	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	
3.17	Basketball Court Color Coat	786	786	786	786	852	852	852	852	852	964	964	964	964	964	1,091	1,091	1,091	1,091	1,091	1,234	
3.18	Basketball Goals	305	305	305	305	305	305	305	305	305	305	305	305	305	305	305	305	305	305	305	305	
3.19	Basketball Court Fencing	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	
3.20	Storm Water Drainage System Allowance	102,632	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,061	2,061	2,061	2,061	2,061	2,061	2,061	2,061	2,061	2,061	2,061	3,930	
3.21	Lake Bathymetric Study	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	459	459	
3.22	Lake Dredging	60,267	60,267	60,267	60,267	34,917	34,917	34,917	34,917	34,917	34,917	34,917	34,917	34,917	34,917	34,917	34,917	34,917	46,959	46,959	46,959	46,959
4 COMMUNITY CENTER EXTERIOR COMPONENTS																						
4.1	Re-Roofing Project, Community Center	1,241	1,241	1,241	1,241	1,241	1,241	1,241	1,241	1,241	1,241	1,241	1,241	1,241	1,241	1,241	1,241	1,241	1,241	1,241	1,964	
4.2	Re-Roofing Project, Garage	402	402	402	402	402	402	402	402	402	402	402	402	402	428	428	428	428	428	428	428	
4.3	Windows	826	826	826	826	826	826	826	826	826	826	826	826	826	879	879	879	879	879	879	879	
4.4	Composite Deck & Railing	605	605	605	605	605	605	605	605	605	605	605	605	605	558	558	558	558	558	558	558	
4.5	Exterior Trim Replacement Allowance	235	235	235	235	304	304	304	304	304	344	344	344	344	344	390	390	390	390	390	441	
4.6	Garage Door	137	137	137	137	137	137	137	137	137	137	115	115	115	115	115	115	115	115	115	115	
4.7	Sliding Glass Doors	861	861	861	861	861	861	861	861	861	861	861	861	861	861	861	861	861	1,261	1,261	1,261	
4.8	Metal Doors Replacement Allowance	369	369	369	369	369	327	327	327	327	327	327	327	327	327	327	419	419	419	419	419	
5 COMMUNITY CENTER INTERIOR COMPONENTS																						
5.1	Wood/Composite Doors Replacement Allowance	3,665	267	267	267	267	267	267	267	267	267	267	267	267	267	267	451	451	451	451	451	451
5.2	Wood Flooring Refinishing Allowance	1,388	1,388	1,388	1,388	1,388	1,388	1,388	1,388	1,388	1,388	1,776	1,776	1,776	1,776	1,776	1,776	1,776	1,776	1,776	1,776	
5.3	Kitchen Modernization	937	937	937	937	937	937	937	937	937	937	947	947	947	947	947	947	947	947	947	947	
5.4	Ceramic Tile	256	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	
5.5	Furnishings Allowance	199	199	199	199	199	225	225	225	225	225	254	254	254	254	254	288	288	288	288	288	
6 MECHANICAL, ELECTRICAL, & PLUMBING																						
6.1	HVAC Split-Systems	1,408	1,408	1,408	1,408	1,408	1,408	1,408	1,408	1,408	1,408	1,408	1,643	1,643	1,643	1,643	1,643	1,643	1,643	1,643	1,643	
6.2	Furnaces	773	773	773	773	773	773	773	773	773	773	773	773	773	773	1,069	1,069	1,069	1,069	1,069	1,069	
6.3	Interior & Exterior Lighting & Fans	911	911	911	911	911	911	911	911	911	911	819	819	819	819	819	819	819	819	819	819	
6.4	Water Heater	718	718	718	718	718	718	718	718	718	718	718	718	718	718	718	718	718	718	1,048	1,048	
6.5	Electrical Modernization Allowance	901	901	901	901	901	901	901	901	901	901	685	685	685	685	685	685	685	685	685	685	
6.6	Plumbing Fixtures & Ancillary Components	4,483	4,483	980	980	980	980	980	980	980	980	980	980	980	980	980	980	980	980	980	980	
6.7	Lake Fountain	313	313	313	313	313	313	313	314	314	314	314	314	314	314	314	314	314	401	401	401	
7 POOL FACILITY																						
7.1	Pool Restoration Project	21,226	21,226	21,226	21,226	21,226	21,226	21,226	21,226	21,226	21,226	21,226	21,226	21,024	21,024	21,024	21,024	21,024	21,024	21,024	21,024	
7.2	Pool White Coat	8,754	8,754	8,754	2,938	2,938	2,938	2,938	2,938	2,938	2,938	2,938	2,938	2,938	2,938	2,938	2,938	2,938	2,938	2,938	8,357	
7.3	Pool Coping	398	398	398	428	428	428	353	353	353	353	509	509	509	548	548	548	548	590	590	636	
7.4	Pool Fencing	2,872	2,872	2,872	2,872	2,872	2,872	2,872	2,872	2,872	2,872	2,872	2,872	2,872	2,872	2,872	2,872	2,872	2,872	2,872	2,872	
7.6	Pool Furniture Allowance	1,677	1,677	1,677	1,677	1,677	1,897	1,897	1,897	1,897	1,897	2,146	2,146	2,146	2,146	2,146	2,428	2,428	2,428	2,428	2,428	

Reserve Fund Plan for
**NEW MARK COMMONS HOMEOWNERS
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Rockville, Maryland

**FUNDING ANALYSIS
COMPONENT METHOD**
TABLE 4



Beginning Reserve Fund Balance:

In Dollars **513,056**

Component Number	COMPONENT	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
7.7	Pool Perimeter Equipment	1,709	2,890	2,890	2,890	2,890	2,890	2,890	2,890	2,890	2,890	2,890	2,890	2,487	2,487	2,487	2,487	2,487	2,487	2,487	2,487
7.8	Fifteen-Year Pool Pump & Filtration Equipment	1,789	1,789	1,789	1,789	1,789	1,789	1,789	1,789	1,635	1,635	1,635	1,635	1,635	1,635	1,635	1,635	1,635	1,635	1,635	1,635
7.9	Ten-Year Pool Pump, Filtration, & Chlorination	168	168	168	168	168	168	168	168	371	371	371	371	371	371	371	371	371	371	474	474
7.10	Pool Covers	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	2,075	2,075	2,075	2,075	2,075	2,075	2,075	2,075	2,075	2,075	2,657	2,657
ANNUAL COMPONENT CONTRIBUTION TOTALS		555,162	298,419	323,569	286,123	183,422	179,395	180,767	180,768	182,665	182,891	198,893	190,304	189,699	191,900	192,636	194,615	210,205	210,692	214,428	222,774

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	513,056	1,076,388	944,682	1,126,902	1,154,447	851,909	963,509	1,132,817	1,323,371	1,436,469	1,625,965	1,581,063	1,574,662	1,396,800	1,533,351	1,716,798	1,823,526	1,496,120	1,702,646	1,840,543
PLUS ANNUAL COMPONENT CONTRIBUTION	555,162	298,419	323,569	286,123	183,422	179,395	180,767	180,768	182,665	182,891	198,893	190,304	189,699	191,900	192,636	194,615	210,205	210,692	214,428	222,774
CAPITAL EXPENDITURES	0	442,560	152,597	271,454	498,554	77,328	22,120	2,577	83,854	8,819	261,210	213,623	384,410	70,424	25,640	106,191	557,072	20,341	94,801	114,608
SUBTOTAL	1,068,218	932,247	1,115,654	1,141,571	839,315	953,976	1,122,156	1,311,008	1,422,182	1,610,541	1,563,648	1,557,744	1,379,951	1,518,276	1,700,347	1,805,222	1,476,659	1,686,471	1,822,273	1,948,709
PLUS INTEREST INCOME @ 1.00%	8,170	12,435	11,248	12,875	12,594	9,533	10,662	12,362	14,287	15,424	17,415	16,917	16,850	15,075	16,451	18,304	19,461	16,175	18,270	19,700
FULLY FUNDED RESERVE FUND BALANCE	1,076,388	944,682	1,126,902	1,154,447	851,909	963,509	1,132,817	1,323,371	1,436,469	1,625,965	1,581,063	1,574,662	1,396,800	1,533,351	1,716,798	1,823,526	1,496,120	1,702,646	1,840,543	1,968,409

PERCENT FUNDED FOR CURRENT CYCLE	39%
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TOTAL EXPENDITURES	3,408,183
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TOTAL CONTRIBUTIONS	4,569,327
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STUDY PERIOD TOTAL INTEREST	294,209
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AVERAGE ANNUAL CONTRIBUTION	228,466
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**PHOTOGRAPHS
WITH
DESCRIPTIVE
NARRATIVES**



MASON & MASON
CAPITAL RESERVE ANALYSTS, INC.



PHOTO #1

The asphalt throughout the community center parking lot and all five courts is in generally fair to poor condition with wide area cracking and deflection. The asphalt has been maintained throughout its service life and according to Management has far exceeded its projected service life.



PHOTO #2

At Management's request, we have developed a phased approach according to the rate of deficiency, such that all driveways and parking bays are restored by 2022. The rates of deficiency and projected restoration costs were developed by A.B Veirs & Sons Paving, Inc.



PHOTO #3

The asphalt footpaths are in generally good condition and have been repaired over the years. However, we observed some shoulder deflection and tree root damage, which should be addressed at some point. We have scheduled the worst 25% of the footpaths to be replaced every five years such that full replacement is accomplished during the 20-year projected service life.



PHOTO #4

We have scheduled a large-scale repair and replacement project, which should include the replacement of all major sidewalk deficiencies, as well as improve the overall safety of the sidewalk network. The rate and deficiency and cost projections were developed by A.B. Veirs.



PHOTO #5

The concrete pool deck is nearing the end of its service life and has failed a recent inspection. Due to financial constraints, we have scheduled a repair project rather than full replacement in 2018. A full replacement project has been scheduled to coincide with the pool renovation and modernization project mid-term.

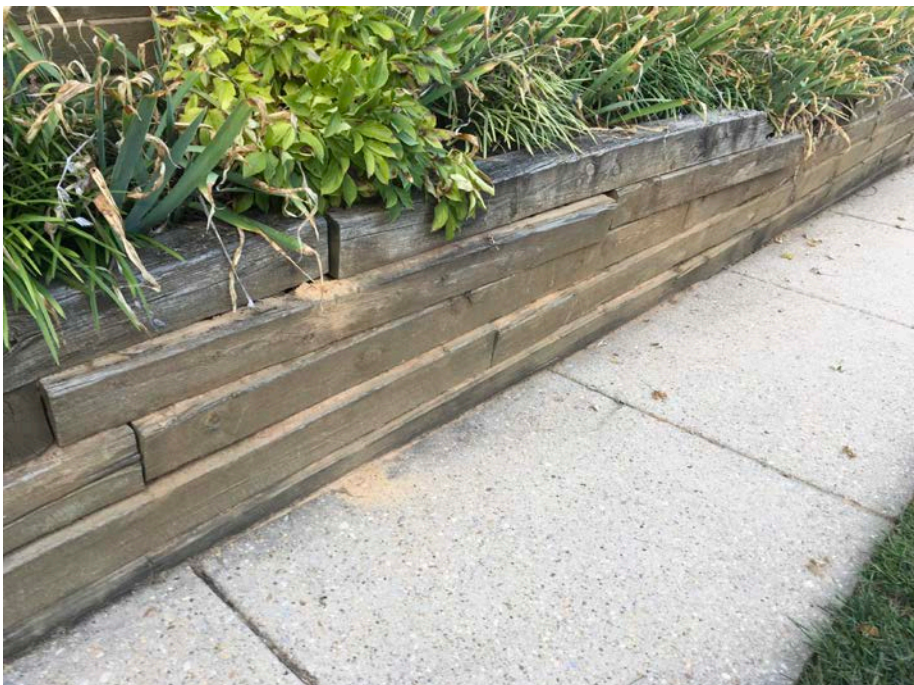


PHOTO #6

The pressure-treated timber retaining walls are in generally very poor condition. We have scheduled all walls to be replaced over the next four years.



PHOTO #7

We have scheduled the replacement of all miscellaneous pressure-treated timber components over the next four years. This category includes the wharfs, curbing, benches, split rail fencing, and bollards.



PHOTO #8

The light poles and fixtures throughout the site are maintained in-house and appear to be in serviceable condition. No problems were reported with the various lighting system.



PHOTO #9

Erosion has been a problem in four locations. We understand that a storm water management system and erosion remediation project has been scheduled for 2018, and will be managed and designed by Earthman Design Group, LLC. The project is expected to exceed \$129,000.



PHOTO #10
The pond and ancillary components appear to be in generally good condition and well managed. Approximately \$300,000 was spent on the pond in 2004. It is critical that the association be funding reserves at adequate levels as it is likely that future dredging and other pond related issues will result in a similar expenditure within the next 30 years.



PHOTO #11
The asphalt shingle roofing was replaced in 2016 and appears to be in excellent condition with no deficiencies observed.

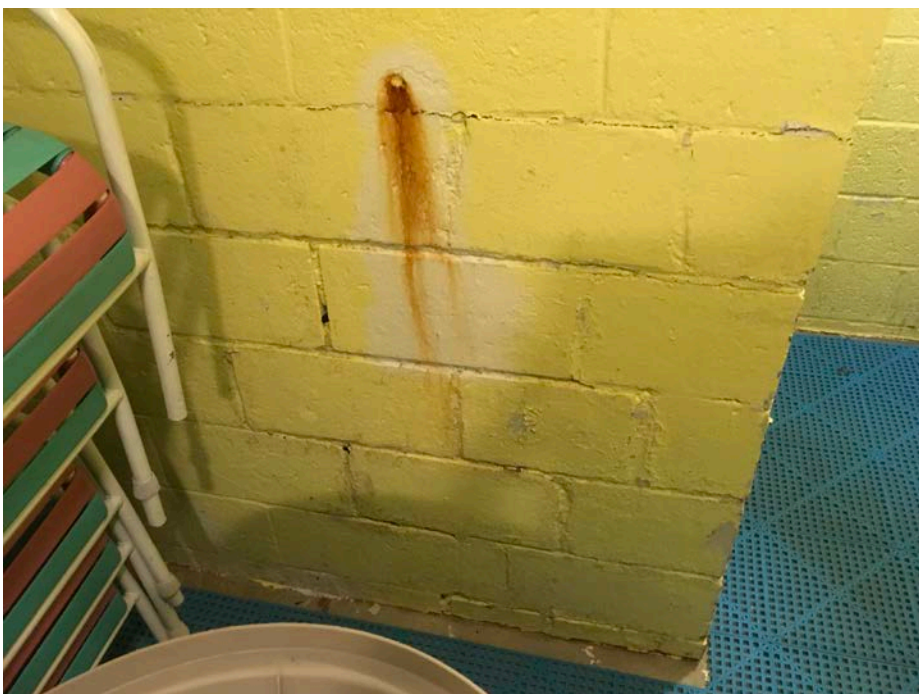


PHOTO #12
The bathrooms and shower rooms are in generally dated condition. We have scheduled a refurbishment project near-term to update the interior components and replace damaged and deteriorated doors.

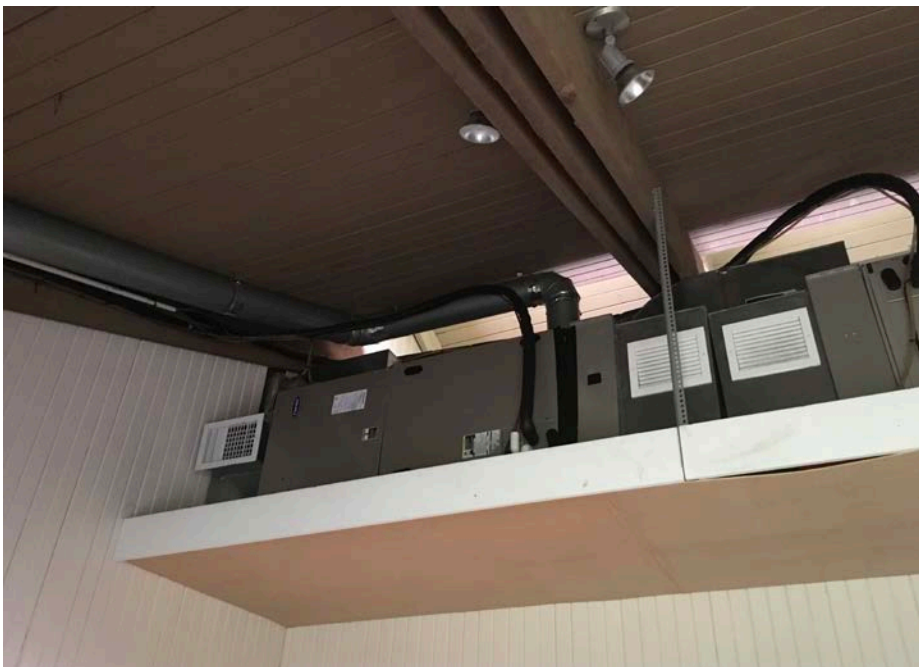


PHOTO #13
The HVAC and furnace systems were newer, very well installed, and fully operational during the evaluation.

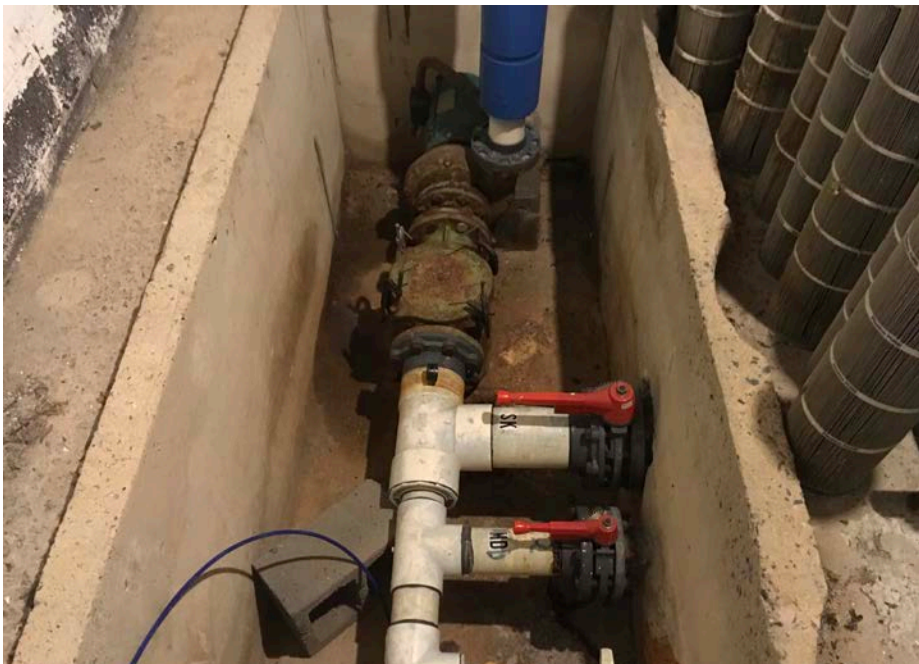


PHOTO #14
The pool water filtration systems for the main pool and wading pools were reported to be in good working order, though the main pool pump and strainer assembly appear to be somewhat dated. We have scheduled a replacement project after a typical service life.



PHOTO #15
The pool was covered for the season. However, it was reported that the pool was coated, received new coping, caulk, and water line tile in 2013. We have scheduled a pool modernization project mid-term, which should include the replacement of the pool deck, ancillary equipment, and modern ADA accommodations. The pool was reported to be in good condition.