

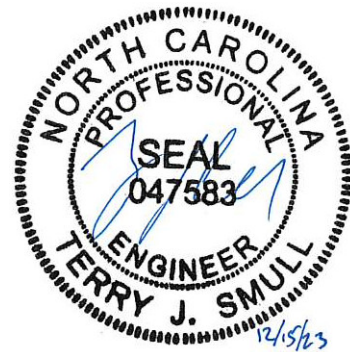
**PREPARED FOR:**

**SOUTHERN VILLAGE HOMEOWNERS  
ASSOCIATION  
CHAPEL HILL, NC**

**MANAGED BY:  
MILL HOUSE PROPERTIES**

**REVISION #1  
DECEMBER 15, 2023**

**FULL RESERVE STUDY  
with Site Inspection**



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# INTRODUCTIONS

Southern Village Homeowners Association authorized Giles Flythe Engineers to perform a Full Reserve Study for the Southern Village HOA community located in Chapel Hill, NC. The purpose of the reserve study is to assist the association in planning for future capital repair expenses. A reserve study is an important tool for an association to adequately fund capital reserve accounts through regular annual reserve contributions. Adequately funded capital reserve accounts reduce the need to defer capital repairs, collect special assessments or borrow funds for capital repair projects.

A community association typically has certain responsibilities as described in the association governing documents. These responsibilities often include maintaining common areas and other components. An association, as a non-profit organization, will typically have two general asset cash accounts including an operating account and a reserve account. The operating account is funded from regular budgeted assessments and is used to fund routine operating expenses that occur on a predictable cycle, typically monthly or up to annually. The reserve account is funded from regular contributions and is primarily used to fund non-annual capital repair expenses.

The focus of the reserve study is on the reserve account. We have projected capital repair expenses over a term of thirty years. The capital repair expenses are limited to those components for which the association is responsible for maintaining. Capital repair expense estimates include an expected useful life and remaining useful life of the components to develop a projected schedule for capital repairs over the term. After developing a schedule of capital repairs over the term, we completed a cash flow analysis forecasting reserve account balances over the term and provided funding recommendations as needed. Capital repair expense estimates and funding estimates are most reliable in the first portion of the term. Updating a reserve study every three to five years will mitigate the impacts of variation in repair costs, component wear, inflation and reserve funding over time.

Capital reserve funding recommendations are provided to address funding principles including providing sufficient funds required, a stable reserve contribution rate over the term, an equitable contribution rate over the term, and fiscal responsibility. The reserve study is intended to assist the association in developing budgeted reserve contributions.

The report includes a narrative section which describes the scope of the reserve study, a discussion of observations and capital repair allocations, a general description of capital repairs and a description of our cash flow analysis and funding recommendations. The report appendices include the capital reserve analysis with tables detailing an itemized list of capital repair expenses, an itemized list of expenses by year and our cash flow analysis. A photo log is provided and includes a representative sample of our observations. The report includes multiple sections with information presented in various forms and should, therefore, be read in its entirety.

## EXECUTIVE SUMMARY

The Southern Village Homeowners Association is a community located in Chapel Hill, NC off of Brookgreen Drive. The community is comprised of both single-family homes and townhomes, and they are responsible for several parks, alleyways, stormwater ponds, and other common site elements. This study focuses on those common site elements only, and buildings are not included within this report.

The association has responsibility for the common site improvements, including the asphalt paving and concrete curbing in the private alleyways, concrete aprons leading to the private alleyways, walking paths, four stormwater control measures (SCMs, or ponds), and other common area drainage systems. Amenities include eight pocket parks, some of which include pergola structures, playgrounds, and additional landscaped areas. *Note, the association holds separate accounts for the common site elements and the paved alleyways. We have provided separate appendices for the common site elements (pocket parks, walking paths, stormwater systems, etc.) in Appendix A, and for the alleyways (pavement and curbing) in Appendix B.*

The common areas and grounds are generally in good to fair condition. Based on our evaluation, the current level of funding does not maintain a positive balance through the term of this study. We have provided recommendations for annual reserve contribution schedules that are intended in the long term to provide a reserve balance over a minimum threshold balance. We generally recommend a threshold balance of at least an average year of capital repair expenditures. A more detailed analysis of the reserve fund has been provided in Appendices A and B.

### Common Site Elements Reserves

- **Alternative 1:** Beginning in 2024, increase the annual reserve contribution rate to \$45,000. Then, beginning in 2025, increase the annual reserve contribution rate by 3% every year through 2029. In addition to the above increases, a special assessment in the amount of \$140,000 will be required in 2024 to assist with the upcoming pond repair projects. This alternative is projected to maintain a positive balance through the term of this study. **Note however, this alternative will dip slightly below our recommended threshold balance in 2024. Additionally, we do not typically recommend special assessments. However, due to current funding constraints, an assessment is recommended in this instance to account for the upcoming large expenditures and to not overinflate the annual reserve contribution. Ensure all upcoming costs are finalized prior to setting the starting contribution rate and special assessment in 2024.**
- **Alternative 2:** Beginning in 2024, increase the annual reserve contribution rate to \$51,000. Thereafter, maintain the same annual reserve contribution rate every year throughout the term. In addition to the above increase, a special assessment in the amount of \$140,000 will be required in 2024 to assist with the upcoming pond repair projects. This alternative is projected to maintain a positive balance through the term of this study. **Note, we do not typically recommend special assessments. However, due to current funding constraints, an assessment is recommended in this instance to account for the upcoming large expenditures and to not overinflate the annual reserve contribution. Ensure all upcoming costs are fixed prior to finalizing an amount for a special assessment.**

- **Alternative 3:** Beginning in 2024, increase the annual reserve contribution rate to \$25,000. Thereafter, increase the annual reserve contribution rate by 7% every year through 2040. In addition to the above increases, a special assessment in the amount of \$175,000 will be required in 2024 to assist with the upcoming pond repair projects. This alternative is projected to maintain a positive balance through the term of this study. **Note, we do not typically recommend special assessments. However, due to current funding constraints, an assessment is recommended in this instance to account for the upcoming large expenditures and to not overinflate the annual reserve contribution. Ensure all upcoming costs are fixed prior to finalizing an amount for a special assessment.**

### **Alleyways Reserves**

- **Alternative 1:** Beginning in 2024, increase the annual reserve contribution rate to \$48,000. Then, beginning in 2026, increase the annual reserve contribution rate by \$5,000 every other year through 2034. This alternative is projected to maintain a positive balance through the term of this study.
- **Alternative 2:** Beginning in 2024, increase the annual reserve contribution rate to \$55,000. Thereafter, increase the annual reserve contribution rate by 3% every year through 2030. This alternative is projected to maintain a positive balance through the term of this study.

Some significant expenditures are expected over the term of the study. Some of the more notable examples are listed below:

- Repair/resurface asphalt alleyways
- Major repairs/dredging of stormwater ponds
- Replace common area fencing
- Replace components of pocket parks

Additional capital expenditures are anticipated over the term of this study. Those items that will require repair or replacement are discussed later in this report.

## PURPOSE & SCOPE

We have completed this study to estimate capital repair expenses the association is responsible for over the term of the study and provide a cash flow analysis and capital reserve funding plan. This study is intended to assist the association in determining the allocation requirements into the reserve fund which are projected to meet future anticipated capital expenditures for the community.

This report estimates capital repair expenses for the community thirty years into the future. Variations in capital repair expense forecasts due to the quality of maintenance, weather and other events may occur. Over time, age, premature deterioration, or other factors may necessitate the addition of assets into the reserve study. Additionally, fluctuations in material and labor costs beyond assumed inflation rates may also affect the accuracy of the forecasts. Therefore, a reserve study should be routinely updated, typically on a three to five-year cycle to provide the most accurate assessment of needs and financial obligations of the community.

This study has been performed according to the scope as generally defined by Southern Village Homeowners Association, Giles Flythe Engineers Inc., and the standards of the Community Associations Institute. The findings and recommendations are based on interviews with the community's management personnel; a review of available documents; and a limited visual inspection of the components maintained by the association.

The Cash Flow Method of calculating reserves has been utilized, whereby contributions to the reserve fund are designed to offset the variable annual expenditures. Funding alternates are recommended which are intended in the long term to provide a reserve balance over a minimum threshold balance. We generally recommend a threshold balance of at least an average year of capital repair expenditures. This minimum threshold balance will help offset the risk of fluctuations in labor and material costs and component wear. Note that under certain circumstances to accommodate restricted budgets, projected balances may be below the threshold balance for a short period of time.

To determine which components should be included in this analysis, we used the following guidelines:

- The component must be maintained by the association.
- The component must have an estimated remaining useful life within the term of this study.
- The funding for the repair should be from the reserve account, not through an annual operating budget or other maintenance contracts.
- The cost of the capital repair must be significant enough to not be reasonably funded from an annual operating budget.

### What is a reserve study?

A reserve study is a long-term capital budget planning tool which compares the current reserve fund of an organization to future capital repairs and replacements.

A reserve study is a tool to help identify and prepare for major repair and replacement projects for a community.

It is recommended that a reserve study be performed every five years to ensure that communities are saving the necessary funds for capital repairs and improvements.

Our process for completing the reserve study includes:

1. Reviewing information provided including governing documents, association financial statements, and information on previous or planned capital repairs.
2. Reviewing available information on the property as needed. This may include plat maps, tax records, historical aerial photographs, available site, and building plans.
3. Conducting a visual inspection of the property. This may include interviewing association representatives during the inspection.
4. Developing an inventory of components to be included in the reserve study.
5. Predicting their remaining service life and, approximating how frequently they will require repair or replacement.
6. Estimating repair or replacement costs (in current dollars) for each capital item.
7. Develop a cash flow analysis adjusting for inflation and return on invested monies to determine the adequacy of current reserve funding plans.
8. Develop funding recommendations with specific reserve contribution recommendations for each year of the term.

The statements in this report are opinions about the present condition of the areas inspected within the community. Our inspection is limited to a visual ground level inspection and we did not remove any surface materials, perform any testing, or move any furnishings. This study is not an exhaustive technical evaluation or building code compliance review. For additional limitations, see Conclusion and Limitations.

## Standards of Reference

The following definitions are provided as a standard of reference:

*Excellent:* Component or system is in “as new” condition, requiring no rehabilitation and should perform in accordance with expected performance.

*Good:* Component or system is sound and performing its function, although it may show signs of normal wear and tear. Some minor rehabilitation work may be required.

*Fair:* Component or system falls into one or more of the following categories: a) Evidence of previous repairs not in compliance with commonly accepted practice, b) Workmanship not in compliance with commonly accepted standards, c) Component or system is obsolete, d) Component or system approaching the end of expected performance. Repair or replacement is required to prevent further deterioration or to prolong expected life.

*Poor:* Component or system has either failed or cannot be relied upon to continue performing its original function as a result of having exceeded its expected performance, excessive deferred maintenance, or state of disrepair. The present condition could contribute to or cause the deterioration of other adjoining elements or systems. Repair or replacement is required.

*Adequate:* A component or system is of a capacity that is defined as enough for what is required, sufficient, suitable, and/or conforms to standard construction practices.

# SOURCES OF INFORMATION

## Date of Inspection

Onsite inspection of the property occurred on October 26, 2023.

## Interviews

We interviewed the following people in connection with this study:

- Michelle Johnson, Mill House Properties, Director of HOA Operations

## Documents

The following documents were made available to us and reviewed:

- Orange County tax records
- Association financial information
- Recent and planned capital repair projects

## Cost Estimates

- Our internal data files on similar projects
- Local contractor estimates for similar projects
- R.S. Means Construction Cost Estimating Data



## DESCRIPTION

The Southern Village Homeowners Association is a community located in Chapel Hill, NC off of Brookgreen Drive. The community is comprised of both single-family homes and townhomes, and they are responsible for several parks, alleyways, stormwater ponds, and other common site elements. This study focuses on those common site elements only, and buildings are not included within this report.

The association has responsibility for the common site improvements, including the asphalt paving and concrete curbing in the private alleyways, concrete aprons leading to the private alleyways, walking paths, four stormwater control measures (SCMs, or ponds), and other common area drainage systems. Amenities include eight pocket parks, some of which include pergola structures, playgrounds, and additional landscaped areas. ***Note, the association holds separate accounts for the common site elements and the paved alleyways. We have provided separate appendices for the common site elements (pocket parks, walking paths, stormwater systems, etc.) in Appendix A, and for the alleyways (pavement and curbing) in Appendix B.***

The streets in the community are paved with asphalt, and stormwater flows towards drop inlets in the low points. The main streets throughout the community are maintained by the municipality, and the alleyways are maintained by the association. Underground stormwater pipe networks generally carry the runoff toward one of the four stormwater control measures (ponds) throughout the community and off site.

Eight (8) pocket parks are located throughout the community of varying age and composition. The parks include playgrounds, landscaping, pergolas, and other features. The parks are labeled throughout this report as the following:

- Central Park (west of Brookgreen Drive)
- Highgrove Park (intersection of Highgrove Drive and Hillspring Lane)
- Market Park (intersection of Winston Ridge Drive and Newell Street)
- Calderon Park (intersection of Overlake Drive and Calderon Drive)
- Meeting Street Park (between Meeting Street and Eastgreen Drive alleyways)
- Arlen Park (intersection of Parkside Circle and Greenview Drive)
- Brookgreen/Edgewater Park (intersection of Edgewater Circle and Brookgreen Drive)
- Fan Branch Park (intersection of Graylyn Drive and Edgewater Circle)

## OBSERVATIONS

The following key observations were made about the current condition of the more significant and costly common elements of the property.

### Site Improvements

The main streets and curbing in the community are located in public rights of way and are assumed to be maintained by the municipality. However, the alleyways at the rears of the buildings are privately maintained by the association. Per the community manager, the alleyways behind Edgewater Condos, 900-1020 Highgrove Drive, between Westside Drive and Nolen Lane, and between Nolen Lane and Glade Street are maintained by the Town of Chaple Hill, and we have not included them in this study. The private asphalt paving is in generally fair condition and mostly original to construction, with the exception of the alley south of Parkside Circle, which appeared to be relatively new. Sections of fatigue cracking and ponding due to settlement were observed, such as at the rear-right of 102 Hillspring Lane. Additionally, the catch basins to the rear of 124-126 Hillspring Lane were at the same relative elevation as the surrounding grade, which likely leads to runoff bypassing the inlets. Significant fatigue was also observed behind 309 Glade Street. A pothole was also observed to the rear of 200 Parkside Circle.

In the sections of pavement that develop more advanced fatigue as the community ages, full depth repairs will likely be required, and some areas of previous patching were observed while on site. These types of repairs would typically include saw cutting and removing sections of paving, repairing the base course/sub-grade as needed, and installing new 4" thick asphalt paving. We have allocated funds for full depth repairs of sections of the paving on a 7-year cycle beginning in 2025, prior to the crack fill and seal coat applications discussed below. The allocation represents approximately 2.5% of the total pavement in the community every 7 years.

Typically, we recommend the application of an oil resistant sealant to all asphalt paved surfaces on an approximately 7-year cycle. At this same time, all cracks should be properly filled, patched, and sealed. We have allocated funds to reseal all of the pavement in 2025 on an approximately 7-year cycle, after the full depth repairs discussed above are completed.

Asphalt paving in a residential setting is generally expected to last approximately 20-30 years, after which time we recommend resurfacing the pavement. For the asphalt alleyways, we recommend milling the old pavement, performing repairs to inadequate areas of subgrade, and installing an approximately 2"-3" thick layer of new asphalt. We have provided funds to mill and resurface the asphalt south of Edgewater Circle (less the Parkside Circle alleyway) in 2032, the asphalt alleyways north of Edgewater Circle in 2036, and the asphalt alleyway south of Parkside Circle in 2048, each on an approximately 25-year cycle. Note, resurfacing of the first two phases could likely be completed sooner, though we have delayed full resurfacing due to funding constraints.

We assume the association is responsible for maintaining the concrete aprons leading to the private alleyways, and the sections of concrete curb/gutter along select private alleyways. The concrete aprons and curbing/gutter

were in generally fair condition, with sections of cracking observed. As the community ages, cracking and settlement will continue to develop and worsen in concrete surfaces. We have allocated funds for periodic repairs and/or replacement of concrete surfaces (flatwork and curbing), as required, and have assumed that 5% of the surfaces will require maintenance every 8 years beginning in 2027. Repairs may include grinding to reduce unevenness at cracking or saw-cutting, removing and replacing sections of the concrete. We have assumed isolated areas of upheaval or possible trip hazards would be repaired through an annual maintenance budget in the interim.

***Note that a separate reserve account appears to be held for the items related to the private alleyways discussed above. Therefore, we have provided a separate analysis for these items as shown in Appendix B.***

Drainage systems maintained by the HOA are assumed to be limited to the storm sewers in the private easements and the small networks around the amenities. The underground pipe networks receive flow from the landscaped and paved areas in the open spaces and homesites, eventually discharging into one of the adjacent retention ponds (SCMs). The swales tend to accumulate sediment that settles out during storm events and will need to be periodically removed and re-graded. Exposed slopes will also require occasional repairs, and we recommend inspecting a portion of the private storm sewers on an annual basis using funds from a maintenance budget. We observed erosion around a catch basin along the Chapel Hill grit walking path near the area of the tennis courts. We have allocated funds to repair the drainage systems on an approximately 5-year cycle beginning in 2028. Repairs will likely include retrenching of swales to improve flow, adding rip rap or vegetation to stabilize exposed or steep areas (mostly in the areas of the detention ponds), installing french drains, or other types of minor drainage systems.

We noted a total of 4 SCMs (ponds) consisting of wet ponds located throughout the community. The ponds north of Highgrove Drive and southeast of Parkside Circle have significant sediment accumulation at the inlets. Significant erosion was also observed downstream of the outlet pipe from the pond north of Highgrove Drive. Algae growth was observed in the pond east of Brookgreen Drive, and the vegetation was overgrown around the pond southeast of Parkside Circle. In addition to our observations, the community manager provided a quote for work to the ponds that included, dredging and replacing two outlet pipes. We have provided an allocation of funds in 2024 and 2025 to complete these pond repairs, based on the schedule provided by the community manager. Per the provided schedule, work was anticipated to be completed in 2023 at Ponds #3 and #4. However, per the community manager, the work has yet to be completed, so we assume it will be completed in 2024. Work is also scheduled for the outlet pipe of Pond #2 and dredging at Pond #3 in 2024, and dredging at Pond #1 in 2025. Note, a special assessment will be required in order to fund these repairs according to the provided timeframe due to current funding constraints and the significant cost of repairs. More details are provided in the Reserve Fund Analysis and Appendix A of this report.

After the repairs above and over time, sediment and silts will flow from the streets and landscaped areas into the storm sewer systems where they will be deposited in the stormwater ponds. As the sediment accumulates, the SCMs will be in jeopardy of failing the annual inspection by not performing according to the intended design. In addition, drought and other natural stresses will cause the plantings to die and require replacement. We have provided an allocation of funds to remove sediment and replace rip rap, as necessary, in all of the

SCMs on an approximately 20-year cycle, beginning in 2044. Note, costs and timeframes for this type of work will vary significantly depending on environmental factors, staging, and the scope of work required.

Note that the repairs described above are not inclusive of the annual maintenance tasks typically performed by a stormwater pond maintenance professional. We recommend the association maintain a contract for annual maintenance items for the ponds including inspections of embankments, nuisance control, debris and litter removal, inlet and outlet maintenance, and inspections. The association should ensure that the ponds conform to all applicable regulations at all times.

Wood split-rail fencing is installed along the eastern perimeter of Central Park and around the pond south of Aberdeen Drive. The fencing appeared to be in generally good condition and recently installed. This type of fencing typically provides a useful life of approximately 15-20 years prior to replacement. We have provided an allocation of funds to replace the split-rail fencing on an approximately 18-year cycle beginning in 2039. We assume isolated areas of damage will be repaired using funds from an annual maintenance budget in the interim.

Wood timber stairs are installed at the southeast end of Central Park and across the street leading towards the SCM on the eastern side of Brookgreen Drive. Per historical aerial imagery, the stairs appear to have been installed around 2019. We anticipate the timbers to provide a useful life of approximately 25-30 years prior to replacement. We have provided an allocation of funds to replace the wood timber stairs in 2045.

A walking path extends around Central Park and along the SCM to the east of Brookgreen Drive comprised of Chapel Hill grit. Similarly, a Chapel Hill grit path is installed around the pond south of Aberdeen Drive. The paths are approximately 5'-6' wide, though they are washed out in some areas of concentrated flow. This type of path is susceptible to washout and will require replenishment on an approximately 3- to 5-year cycle. We have provided an allocation of funds to replenish the Chapel Hill grit walking paths on an approximately 4-year cycle beginning in 2025. Note, short sections of wood timber walls line portions of the walking path at Central Park. Minor leaning and deterioration were observed in the timbers. Due to the limited quantity, we assume replacement of deteriorated sections of timbers will be completed at the time of replenishment, or using funds from an annual maintenance budget, as needed.

Masonry walls extend throughout the community that are comprised of stone. Minor cracking was observed in sections, such as in the stairs at Highgrove Park and in the monument at the pond south of Aberdeen Drive. Over time, additional cracking and settlement is likely to occur. We have provided an allowance of funds to repoint sections of the walls, as needed, on an approximately 5-year cycle beginning in 2026.

Landscaping throughout the community is assumed to be funded by an annual maintenance budget, and we have not included funds for repairs in this study.

## **Mechanical, Electrical, and Plumbing**

The stormwater ponds south of Aberdeen Drive and east of Brookgreen Drive each contain two aerators/bubblers that will require periodic replacement. We have provided an allocation of funds to replace the bubblers in these ponds on an approximately 7-year cycle beginning in 2029.

The association is likely responsible for buried utility piping within the private alleyways and drainage easements. These systems likely are primarily comprised of drainage piping and infrastructure. Over time, the systems may require repairs due to tree root growth and natural deterioration. We recommend inspecting the systems periodically using a video borescope and flushing as needed. We have provided a contingency of funds for repairs to underground utility systems on an approximately 20-year cycle beginning in 2039. Note, timeframes and costs for these types of projects can vary significantly depending on environmental factors and the scope of work required.

## **Amenities**

Amenities owned and maintained by the association include a basketball court, soccer field, and several pocket parks with furnishings, pergola structures, fencing, and playground equipment.

A basketball court is located adjacent to the parking area at the Southern Village clubhouse and Central Park. The court is comprised of an asphalt base with a polyester fabric membrane finish. Maintenance of the court will include resurfacing on an approximately 5-year cycle and full reconstruction on an approximately 20- to 25-year cycle. Resurfacing is comprised of repairing cracks and filling depressions/birdbaths with a polyester fabric membrane, a finish color coat, and painting the lines. The court appeared to be in generally good condition, and we anticipate resurfacing on an approximately 5-year cycle beginning in 2028. Re-construction will consist of pulverizing the existing asphalt surface and blending it with the subgrade (potentially adding cement for stabilization), installing a new 2" asphalt layer, applying multiple coats of resurfacer and finish coats, and painting the lines. Funds for re-construction have been allocated in 2043. The funds allocated for reconstruction include resurfacing of the court and replacement of the two hoops.

Central Park includes a soccer field with two goals. Over time, the goals will wear and require replacement. We have provided an allocation of funds to replace the soccer goals on an approximately 20-year cycle beginning in 2042. Replacement of the nets will likely be required in the interim, which we assume will be completed using funds from an annual maintenance budget. Note, deterioration of the equipment is highly dependent upon use.

Highgrove Park is located at the intersection of Highgrove Drive and Hillspring Lane. Stone masonry stairs lead to the park, which includes a PlayMart play structure, a swing set, bike racks, wood benches, a picnic table, and wood timber surrounds. The playground equipment was in generally good condition. We have provided an allocation of funds to replace the playground equipment, including benches, tables, timbers, etc., on an approximately 25-year cycle beginning in 2033.

Market Park is located at the intersection of Winston Ridge Drive and Newell Street. The park includes a wooden playset with climbing and slide features, swings, spring-riders, monkey bars, benches, picnic tables, and a wood picket fence surround. The ground of the play area is covered with sand. The fence and wood play structure should be periodically painted to prolong the useful life, and we assume this will be completed using funds from an annual maintenance budget. However, as the equipment ages, the play structures and surrounding fencing will require replacement. We have provided an allocation of funds to replace the Market Park playground equipment on an approximately 25-year cycle beginning in 2031. We have assumed the fencing will be replaced at the same time due to age and for ease of access.

Calderon Park is located at the intersection of Overlake Drive and Calderon Drive. The park includes benches, a picnic table, chairs, brick flatwork, and short sections of fencing. We have provided an allocation of funds to make repairs/replacements to the fencing, furniture, and brick flatwork in the park, as needed, on an approximately 15-year cycle beginning in 2028.

Meeting Street Park is located to the rear of 112 Meeting Street. The park includes a climbing/slide structure and two wood benches. The benches were relatively aged, and we assume they will be replaced, as needed, using funds from an annual maintenance budget. We have provided an allocation of funds to replace the climbing/slide structure on an approximately 25-year cycle beginning in 2034.

Arlen Park is located near the intersection of Parkside Circle and Greenview Drive. The park includes a natural walking path with benches and a cemetery. We assume maintenance of the trails and replacement of the bench will be funded from a general landscaping budget, as needed.

Fan Branch Park (Graylyn Park) is located at the intersection of Graylyn Drive and Edgewater Circle. The park includes a split-rail fence surround with previous repairs observed, two pergola structures, a swing set, one separate climbing structure, one combination slide/climbing structure, two hammocks, two picnic tables, a bench, and chairs. The equipment generally appeared to be in good to fair condition. We assume repairs will be made to the split rail fence using funds from a general operating budget, as needed. We have provided an allocation of funds to replace the play equipment (swings, climbing structures), pergolas, and benches/picnic tables on an approximately 25-year cycle beginning in 2038.

A new park is currently under construction at the intersection of Brookgreen Drive and Edgewater Circle. The park includes a pergola structure, benches, a picnic table, chairs, and brick flatwork. A concrete platform was poured on the east side of Brookgreen Drive. We have provided an allocation of funds to replace the pergola structure, replace furnishings, and repair the brick flatwork, as needed, on an approximately 25-year cycle beginning in 2048.

Other common area benches, picnic tables, swing benches, and chairs are located throughout the community, such as around the pond south of Aberdeen Drive, near the soccer field, and along the Chapel Hill grit walking paths. Portions of these furnishings will require replacement periodically, depending on use, materials, and weather exposure. We have provided an allocation of funds to replace portions of the common area furnishings on an approximately 10-year cycle beginning in 2029.



## RESERVE FUND ANALYSIS

We have performed a cash flow analysis projecting balances in the reserve account over the term of this study. We have included estimated capital repair expenses detailed in the first several pages of Appendix A. We have included tables and graphs depicting current funding levels along with recommended funding alternatives.

The financial projections include an assumed inflation rate and average return on invested funds noted on the first page of the appendices. The inflation rate adjustment is noted at the bottom of the annual expense page, and the return on invested funds is noted in the existing funding level and funding alternative cash flow tables.

The software utilized to analyze the reserve funds was developed by Giles Flythe Engineers, Inc. in cooperation with a technology consultancy. The software and our analysis system have been extensively reviewed by leading community association and non-profit certified public accountants.

The capital repairs listed were derived from the initial request for proposal, discussions with association representatives, our informal review of governing documents and our site inspection. The association should confirm that the items listed are, in fact, the responsibility of the association and appropriate to fund from the reserve account.

Appendix A includes the following:

1. The Project Summary page that lists pertinent details specific to the association, the terms of the analysis and summarizes total over term expenses and recommended threshold balance.
2. The Expense Projection page that itemizes the capital repairs by category, illustrates our cost estimating by unit and provides estimated useful life and remaining useful life of each item.
3. The Annual Expense Projection pages that populate the capital repairs over the term of the study. This page includes a total adjusted for inflation at the bottom of the pages.
4. The Itemized Funding Analysis page provides a summary of the capital expenditures over the term and a graph breaking down the portion of the capital repairs into each category – Site Improvements, Mechanical/Electrical/Plumbing Systems, and Amenities.
5. The Current Funding Projection page provides a table and graph illustrating our cash flow analysis assuming the association maintains the current level of reserve contributions over the term of this study. The table includes projected reserve account balances, contributions, return on invested funds and capital repair expenses for each year of the term of this study.
6. The Funding Alternative pages each provide a table and graph illustrating our cash flow analysis assuming the association implements one of our funding recommendations detailed below.

Common Areas Reserve Funding Rate:	\$0 per year
Common Areas Reserve Balance:	\$50,000 (Estimated 2024 starting balance)
Alleyways Reserve Funding Rate:	\$0 per year
Alleyways Reserve Balance:	\$333,634 (Estimated 2024 starting balance)

Note that based on our cash flow analysis, maintaining the current funding level is not projected to maintain a positive/healthy balance over the term. We have included recommended funding alternatives to your current reserve-funding program and recommend that the board adopt an alternative that best reflects the objectives of the community. We have provided recommendations for annual reserve contribution schedules that are intended in the long term to provide a reserve balance over a minimum threshold balance. We generally recommend a threshold balance of at least an average year of capital repair expenditures. Our funding recommendations are as follows:

### **Common Site Elements Reserves**

- **Alternative 1:** Beginning in 2024, increase the annual reserve contribution rate to \$45,000. Then, beginning in 2025, increase the annual reserve contribution rate by 3% every year through 2029. In addition to the above increases, a special assessment in the amount of \$140,000 will be required in 2024 to assist with the upcoming pond repair projects. This alternative is projected to maintain a positive balance through the term of this study. **Note however, this alternative will dip slightly below our recommended threshold balance in 2024. Additionally, we do not typically recommend special assessments. However, due to current funding constraints, an assessment is recommended in this instance to account for the upcoming large expenditures and to not overinflate the annual reserve contribution. Ensure all upcoming costs are finalized prior to setting the starting contribution rate and special assessment in 2024.**
- **Alternative 2:** Beginning in 2024, increase the annual reserve contribution rate to \$51,000. Thereafter, maintain the same annual reserve contribution rate every year throughout the term. In addition to the above increase, a special assessment in the amount of \$140,000 will be required in 2024 to assist with the upcoming pond repair projects. This alternative is projected to maintain a positive balance through the term of this study. **Note, we do not typically recommend special assessments. However, due to current funding constraints, an assessment is recommended in this instance to account for the upcoming large expenditures and to not overinflate the annual reserve contribution. Ensure all upcoming costs are fixed prior to finalizing an amount for a special assessment.**
- **Alternative 3:** Beginning in 2024, increase the annual reserve contribution rate to \$25,000. Thereafter, increase the annual reserve contribution rate by 7% every year through 2040. In addition to the above increases, a special assessment in the amount of \$175,000 will be required in 2024 to assist with the upcoming pond repair projects. This alternative is projected to maintain a positive balance through the term of this study. **Note, we do not typically recommend special assessments. However, due to current funding constraints, an assessment is recommended in this instance to account for the upcoming large expenditures and to not overinflate the annual reserve contribution. Ensure all upcoming costs are fixed prior to finalizing an amount for a special assessment.**



### **Alleyways Reserves**

- **Alternative 1:** Beginning in 2024, increase the annual reserve contribution rate to \$48,000. Then, beginning in 2026, increase the annual reserve contribution rate by \$5,000 every other year through 2034. This alternative is projected to maintain a positive balance through the term of this study.
- **Alternative 2:** Beginning in 2024, increase the annual reserve contribution rate to \$55,000. Thereafter, increase the annual reserve contribution rate by 3% every year through 2030. This alternative is projected to maintain a positive balance through the term of this study.

The reserve study is focused on the capital reserve account and budgeted contributions to reserves. The recommendations above are solely attributed to the annual reserve contributions. The association likely has many line items in the annual operating budget that should also be periodically adjusted as part of an annual budgeting process.

The capital repair/replacement cost estimates we have developed are based on current dollars. Our reserve study does include an adjustment for inflation and an assumed rate of return on invested funds.

## PREVENTATIVE MAINTENANCE

Preventative maintenance is a critical aspect affecting a property's life cycle costs and structural safety. It is encouraged that every property owner has a preventative maintenance plan prepared. The reserve study is not to be considered a preventative maintenance plan. A preventative maintenance plan should incorporate all applicable common elements, not just those components included within the reserve study.

Any information provided by the client regarding ongoing maintenance or repair being performed with any component has been noted within the notes for that component. We can only be aware of preventative maintenance plans or programs that have been disclosed by the client. Note that an audit or evaluation of any maintenance plan or maintenance contract is outside the scope of the services of this project.

In some states and municipalities, periodic structural inspection reports are required for certain types of buildings. This periodic inspection report is critical to assist the reserve study provider in incorporating necessary corrective maintenance costs and timing. We recommend the association complete any and all required structural inspections and reports and have assumed these reports would be made available for our review during the reserve study.

We have assumed repairs under a dollar value of approximately \$3,000 would be funded as part of an annual maintenance budget. These repairs were not included in the funding allocations of this reserve study, unless otherwise noted. We have assumed other component repairs/replacements would be funded from an annual maintenance budget as noted in the report.

## CONCLUSION & LIMITATIONS

We have provided reserve funding recommendations based on our analysis of the association-maintained components, estimated capital repair costs over the term and the current funding levels. Further detail of the reserve fund analysis is provided in Appendix A.

The physical analysis portion of this reserve study was completed through a limited visual inspection. The visual inspection was completed from ground level unless otherwise specified. The visual inspection is generally limited to readily accessible and visible common areas that would likely require capital repair activities over the term. However, in some instances a representative sample inspection may be performed. Measurement of components is completed by a combination of field measurements, aerial imagery measuring tools and take-offs from construction drawings as available. Unless specifically noted, the components included in this study have an anticipated remaining useful life within 30-years from the time the field observations used in preparing the study was performed.

Note that this inspection does not include removing surface materials, excavation or any testing. The inspection does not include riparian buffers or other protected common areas. Buried utility components and other concealed components were not inspected as part of this analysis and we cannot be responsible for the condition of components not inspected.

The observations described in this study are valid on the date of the investigation and have been made under the conditions noted in the report. We prepared this study for the exclusive use of Southern Village Homeowners Association. No other party should rely on the information in this report without consent. If another individual or party relies on this study, they shall indemnify and hold Giles Flythe Engineers Inc. harmless for any damages, losses, or expenses they may incur as a result of its use. This study is not to be considered a warranty of condition, and no warranty is implied. The appendices are an integral part of this report and must be included in any review. The Reserve Specialist shall incur no civil liability for performing the physical or financial portions of a reserve study performed in accordance with CAI standards.

Members of the Giles Flythe Engineers team working on this reserve study are not members of, or otherwise associated with, the association. Giles Flythe Engineers has disclosed any other involvement with the association that could result in conflicts of interest.

Information provided by the representatives of the association regarding financial, physical, quantity, or historical issues, will be deemed reliable by Giles Flythe Engineers. The reserve balance presented in the Reserve Study is based upon information provided and was not audited. Information provided about reserve projects will be considered reliable. Any on-site inspection should not be considered a project audit or quality inspection. Giles Flythe Engineers is not aware of any additional material issues which, if not disclosed, would cause a distortion of the association's situation.

This reserve study is partially a reflection of information provided to us. The reserve study is assembled for the association's use and is not intended to be used for the purpose of performing an audit, quality/forensic

analyses or background checks of historical records. Structural integrity evaluations are not included in the reserve study unless otherwise noted. The financial information provided, including starting balances and budgeted contribution rates are deemed reliable and have not been audited. Further, this study should not be considered a building code compliance analysis. The purpose of this study is to provide the association with a financial tool and is not to be considered an exhaustive technical or engineering evaluation which would consist of a broader scope of work. Except as noted in the report, we have not relied on the validity of prior reserve studies performed by other firms.

We have provided estimated costs of capital repairs. These costs are based on our general knowledge of the construction industry. We have relied on standard sources as needed, such as Means Building Construction Cost Data and estimates reviewed by Giles Flythe Engineers on similar projects. We have performed no design work or other engineering analysis as part of this study, nor have we obtained competitive quotations or estimates from contractors. Actual repair costs can vary due to a variety of factors. We cannot be responsible for the specific cost estimates provided.

This report has been prepared and reviewed by a professional engineer (PE) and reserve specialist (RS) on our staff.

If you have any questions about this reserve study, please feel free to contact us. Thank you for the opportunity to serve you.

Respectfully submitted,



Terry J. Smull, PE, RS  
Project Manager  
Giles Flythe Engineers, Inc.

**APPENDIX A: COMMON AREAS RESERVE FUND PROJECTION**

**Southern Village Homeowners Association - Common Areas Reserves**

City/state location:	Chapel Hill, NC
Date of inspection:	10/26/2023
Number of units:	1
Term of study (years):	30
Beginning Year of Term	2024
Estimated starting reserve account balance:	\$50,000
Current annual reserve contribution rate:	\$0
Assumed inflation rate:	4.00%
Assumed rate of return on invested funds:	1.50%
<b>Total over term capital expenditure (un-inflated):</b>	<b>\$959,740</b>
<b>Total over term capital expenditure with inflation:</b>	<b>\$1,630,856</b>
<b>Recommended threshold reserve balance: (Average annual capital expenditure)</b>	<b>\$54,362</b>



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ENGINEERS

## EXPENSE ESTIMATES

Capital Item Description	Quantity	Unit	Unit Cost	Total Cost Per Cycle	Estimated Useful Life (years)	Estimated Remaining Life (years)	Notes
<b>Site Improvements</b>							
Common area drainage improvements	1	LS	\$10,000.00	\$10,000	5	4	
Dredging/major repairs to stormwater ponds - near term Phase 1	1	LS	\$187,100.00	\$187,100	60	0	Pond 2 outlet pipe, Pond 3 outlet pipe, Pond 3 dredging, Pond 4 dredging
Dredging/major repairs to stormwater ponds - near term Phase 2	1	LS	\$25,000.00	\$25,000	60	1	Pond 1 dredging
Dredging/major repairs to all stormwater ponds - future	1	LS	\$150,000.00	\$150,000	20	20	All ponds
Replace wood split-rail fencing at Central Park	1,120	LF	\$22.00	\$24,640	18	15	
Replace wood timber stairs at Central Park and SCM	1	LS	\$15,000.00	\$15,000	25	21	
Replenish Chapel Hill grit walking paths	1,200	SY	\$5.00	\$6,000	4	1	Central Park, Brookgreen SCM, and Aberdeen SCM
Allowance to repoint sections of stone walls	1	LS	\$7,500.00	\$7,500	5	2	
<b>Mechanical, Electrical, Plumbing Systems</b>							
Replace stormwater pond aerators	4	EA	\$5,000.00	\$20,000	7	5	
Contingency for underground utility repairs	1	LS	\$20,000.00	\$20,000	20	15	
<b>Amenities</b>							
Resurface basketball court	1	LS	\$5,000.00	\$5,000	5	4	
Reconstruct basketball court	1	LS	\$25,000.00	\$25,000	25	19	Includes new hoops and resurfacing
Replace soccer goals	2	EA	\$2,500.00	\$5,000	20	18	
Replace Highgrove Park playground equipment	1	LS	\$60,000.00	\$60,000	25	9	
Replace Market Park playground equipment and fencing	1	LS	\$55,000.00	\$55,000	25	7	
Repairs to brick, fencing, and furniture in Calderon Park	1	LS	\$5,000.00	\$5,000	15	4	
Replace Meeting Street Park playground equipment	1	LS	\$30,000.00	\$30,000	25	10	
Replace Fan Branch Park playground equipment	1	LS	\$50,000.00	\$50,000	25	14	
Replace pergola and furnishings, and repair brick flatwork at Brookgreen/Edgewater Park	1	LS	\$30,000.00	\$30,000	25	24	
Allowance to replace common area benches, picnic tables, swing benches, etc.	1	LS	\$5,000.00	\$5,000	10	5	

SY: Square Yard SF: Square Feet LF: Linear Feet SQ: Roofing Square  
EA: Each LS: Lump Sum SYS: System

## ANNUAL EXPENSE PROJECTION

Description	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
<b>Site Improvements</b>										
Common area drainage improvements					\$10,000					\$10,000
Dredging/major repairs to stormwater ponds - near term Phase 1	\$187,100									
Dredging/major repairs to stormwater ponds - near term Phase 2		\$25,000								
Dredging/major repairs to all stormwater ponds - future										
Replace wood split-rail fencing at Central Park										
Replace wood timber stairs at Central Park and SCM										
Replenish Chapel Hill grit walking paths		\$6,000				\$6,000				\$6,000
Allowance to repoint sections of stone walls			\$7,500					\$7,500		
<b>Building Exterior</b>										
N/A										
<b>Building Interior</b>										
N/A										
<b>Mechanical, Electrical, Plumbing Systems</b>										
Replace stormwater pond aerators						\$20,000				
Contingency for underground utility repairs										
<b>Amenities</b>										
Resurface basketball court					\$5,000					\$5,000
Reconstruct basketball court										
Replace soccer goals										
Replace Highgrove Park playground equipment										\$60,000
Replace Market Park playground equipment and fencing								\$55,000		
Repairs to brick, fencing, and furniture in Calderon Park					\$5,000					
Replace Meeting Street Park playground equipment										
Replace Fan Branch Park playground equipment										
Replace pergola and furnishings, and repair brick flatwork at Brookgreen/Edgewater Park										
Allowance to replace common area benches, picnic tables, swing benches, etc.						\$5,000				
<b>Totals</b>	<b>\$187,100</b>	<b>\$31,000</b>	<b>\$7,500</b>	<b>\$0</b>	<b>\$20,000</b>	<b>\$31,000</b>	<b>\$0</b>	<b>\$62,500</b>	<b>\$0</b>	<b>\$81,000</b>
<b>Totals including inflation:</b>	<b>\$187,100</b>	<b>\$32,240</b>	<b>\$8,112</b>	<b>\$0</b>	<b>\$23,397</b>	<b>\$37,716</b>	<b>\$0</b>	<b>\$82,246</b>	<b>\$0</b>	<b>\$115,288</b>



## ANNUAL EXPENSE PROJECTION

Description	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
<b>Site Improvements</b>										
Common area drainage improvements					\$10,000					\$10,000
Dredging/major repairs to stormwater ponds - near term Phase 1										
Dredging/major repairs to stormwater ponds - near term Phase 2										
Dredging/major repairs to all stormwater ponds - future										
Replace wood split-rail fencing at Central Park						\$24,640				
Replace wood timber stairs at Central Park and SCM										
Replenish Chapel Hill grit walking paths				\$6,000				\$6,000		
Allowance to repoint sections of stone walls			\$7,500					\$7,500		
<b>Building Exterior</b>										
N/A										
<b>Building Interior</b>										
N/A										
<b>Mechanical, Electrical, Plumbing Systems</b>										
Replace stormwater pond aerators			\$20,000							\$20,000
Contingency for underground utility repairs						\$20,000				
<b>Amenities</b>										
Resurface basketball court					\$5,000					
Reconstruct basketball court										\$25,000
Replace soccer goals								\$5,000		
Replace Highgrove Park playground equipment										
Replace Market Park playground equipment and fencing										
Repairs to brick, fencing, and furniture in Calderon Park										\$5,000
Replace Meeting Street Park playground equipment	\$30,000									
Replace Fan Branch Park playground equipment					\$50,000					
Replace pergola and furnishings, and repair brick flatwork at Brookgreen/Edgewater Park										
Allowance to replace common area benches, picnic tables, swing benches, etc.						\$5,000				
<b>Totals</b>	<b>\$30,000</b>	<b>\$0</b>	<b>\$27,500</b>	<b>\$6,000</b>	<b>\$65,000</b>	<b>\$49,640</b>	<b>\$0</b>	<b>\$13,500</b>	<b>\$5,000</b>	<b>\$60,000</b>
<b>Totals including inflation:</b>	<b>\$44,407</b>	<b>\$0</b>	<b>\$44,028</b>	<b>\$9,990</b>	<b>\$112,559</b>	<b>\$89,399</b>	<b>\$0</b>	<b>\$26,297</b>	<b>\$10,129</b>	<b>\$126,411</b>

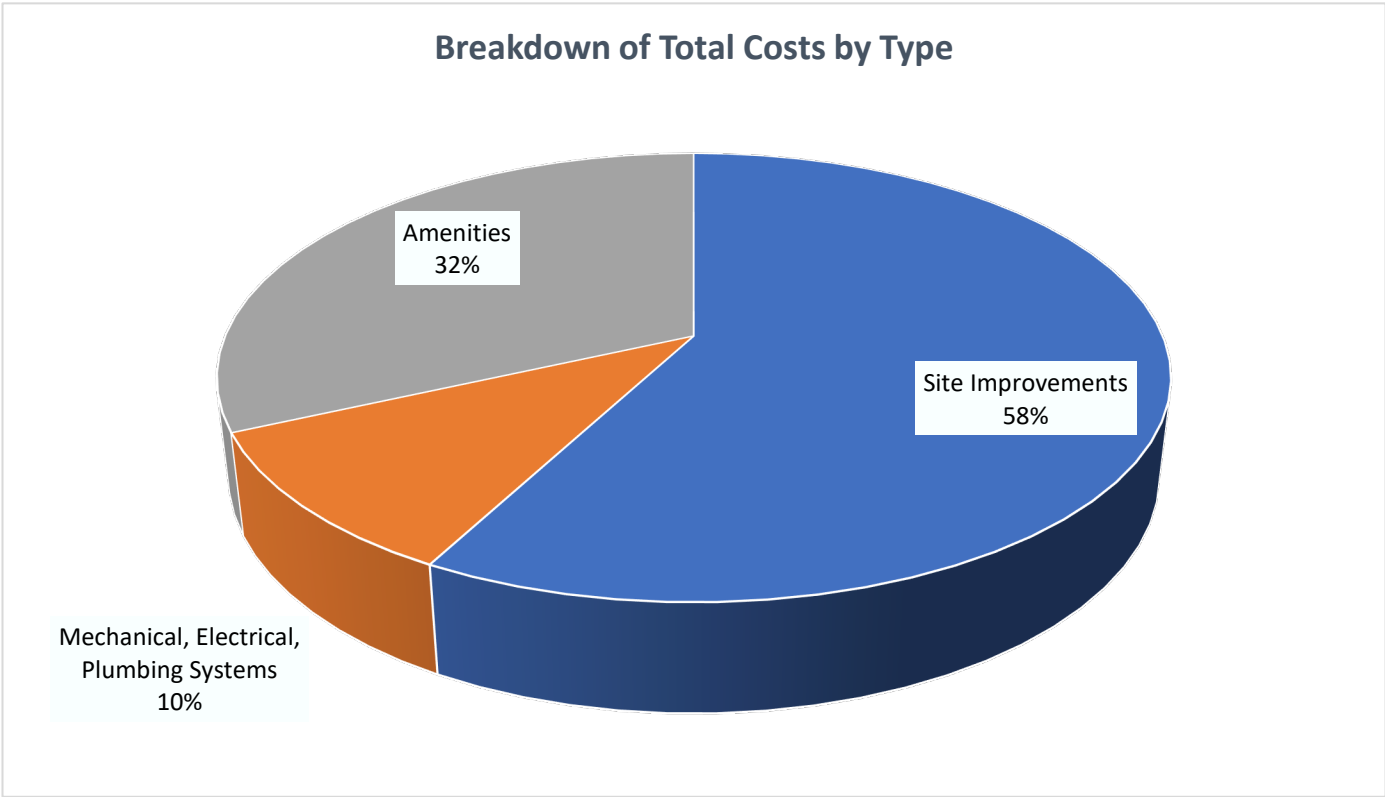
## ANNUAL EXPENSE PROJECTION

Description	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
<b>Site Improvements</b>										
Common area drainage improvements					\$10,000					\$10,000
Dredging/major repairs to stormwater ponds - near term Phase 1										
Dredging/major repairs to stormwater ponds - near term Phase 2										
Dredging/major repairs to all stormwater ponds - future	\$150,000									
Replace wood split-rail fencing at Central Park										
Replace wood timber stairs at Central Park and SCM		\$15,000								
Replenish Chapel Hill grit walking paths		\$6,000				\$6,000				\$6,000
Allowance to repoint sections of stone walls			\$7,500					\$7,500		
<b>Building Exterior</b>										
N/A										
<b>Building Interior</b>										
N/A										
<b>Mechanical, Electrical, Plumbing Systems</b>										
Replace stormwater pond aerators							\$20,000			
Contingency for underground utility repairs										
<b>Amenities</b>										
Resurface basketball court					\$5,000					\$5,000
Reconstruct basketball court										
Replace soccer goals										
Replace Highgrove Park playground equipment										
Replace Market Park playground equipment and fencing										
Repairs to brick, fencing, and furniture in Calderon Park										
Replace Meeting Street Park playground equipment										
Replace Fan Branch Park playground equipment										
Replace pergola and furnishings, and repair brick flatwork at Brookgreen/Edgewater Park					\$30,000					
Allowance to replace common area benches, picnic tables, swing benches, etc.							\$5,000			
<b>Totals</b>	<b>\$150,000</b>	<b>\$21,000</b>	<b>\$7,500</b>	<b>\$0</b>	<b>\$45,000</b>	<b>\$11,000</b>	<b>\$20,000</b>	<b>\$7,500</b>	<b>\$0</b>	<b>\$21,000</b>
<b>Totals including inflation:</b>	<b>\$328,668</b>	<b>\$47,854</b>	<b>\$17,774</b>	<b>\$0</b>	<b>\$115,349</b>	<b>\$29,324</b>	<b>\$55,449</b>	<b>\$21,625</b>	<b>\$0</b>	<b>\$65,492</b>

**EXPENSE SUMMARY**

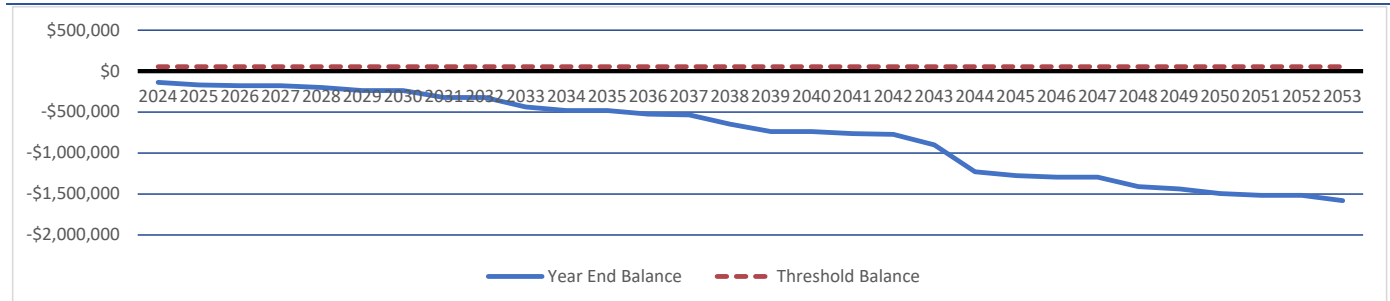


Total over term capital expenditure (un-inflated)	\$959,740
Total over term capital expenditure with inflation:	\$1,630,856
Average estimated annual capital expenditure with inflation:	\$54,362
Current Reserve Account Balance	\$50,000
Full Funding Balance	\$372,771
Percent Funded	13.41%



## Current Funding Analysis

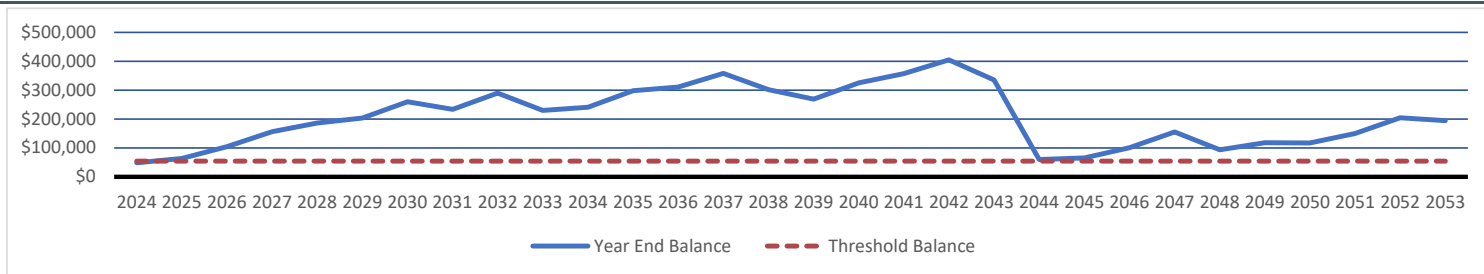
Year	Starting Balance	Reserve Account Contribution	Average Per Unit/Month	Return on Investments	Repair Expenses	Special Assessments	Year End Balance
2024	\$50,000	\$0	\$0.00	\$0	\$187,100	\$0	-\$137,100
2025	-\$137,100	\$0	\$0.00	\$0	\$32,240	0	-\$169,340
2026	-\$169,340	\$0	\$0.00	\$0	\$8,112	0	-\$177,452
2027	-\$177,452	\$0	\$0.00	\$0	\$0	0	-\$177,452
2028	-\$177,452	\$0	\$0.00	\$0	\$23,397	0	-\$200,849
2029	-\$200,849	\$0	\$0.00	\$0	\$37,716	0	-\$238,565
2030	-\$238,565	\$0	\$0.00	\$0	\$0	0	-\$238,565
2031	-\$238,565	\$0	\$0.00	\$0	\$82,246	0	-\$320,811
2032	-\$320,811	\$0	\$0.00	\$0	\$0	0	-\$320,811
2033	-\$320,811	\$0	\$0.00	\$0	\$115,288	0	-\$436,099
2034	-\$436,099	\$0	\$0.00	\$0	\$44,407	0	-\$480,507
2035	-\$480,507	\$0	\$0.00	\$0	\$0	0	-\$480,507
2036	-\$480,507	\$0	\$0.00	\$0	\$44,028	0	-\$524,535
2037	-\$524,535	\$0	\$0.00	\$0	\$9,990	0	-\$534,526
2038	-\$534,526	\$0	\$0.00	\$0	\$112,559	0	-\$647,085
2039	-\$647,085	\$0	\$0.00	\$0	\$89,399	0	-\$736,483
2040	-\$736,483	\$0	\$0.00	\$0	\$0	0	-\$736,483
2041	-\$736,483	\$0	\$0.00	\$0	\$26,297	0	-\$762,780
2042	-\$762,780	\$0	\$0.00	\$0	\$10,129	0	-\$772,909
2043	-\$772,909	\$0	\$0.00	\$0	\$126,411	0	-\$899,320
2044	-\$899,320	\$0	\$0.00	\$0	\$328,668	0	-\$1,227,989
2045	-\$1,227,989	\$0	\$0.00	\$0	\$47,854	0	-\$1,275,843
2046	-\$1,275,843	\$0	\$0.00	\$0	\$17,774	0	-\$1,293,617
2047	-\$1,293,617	\$0	\$0.00	\$0	\$0	0	-\$1,293,617
2048	-\$1,293,617	\$0	\$0.00	\$0	\$115,349	0	-\$1,408,966
2049	-\$1,408,966	\$0	\$0.00	\$0	\$29,324	0	-\$1,438,290
2050	-\$1,438,290	\$0	\$0.00	\$0	\$55,449	0	-\$1,493,739
2051	-\$1,493,739	\$0	\$0.00	\$0	\$21,625	0	-\$1,515,365
2052	-\$1,515,365	\$0	\$0.00	\$0	\$0	0	-\$1,515,365
2053	-\$1,515,365	\$0	\$0.00	\$0	\$65,492	0	-\$1,580,856



## Funding Alternative 1 - Increase to \$45,000 in 2024, then by 3% every year through 2029, with assessment

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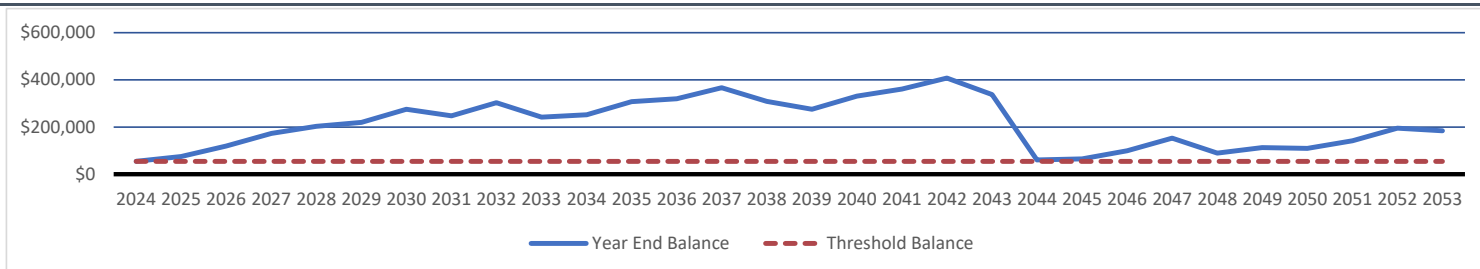
Year	Starting Balance	Reserve Account Contribution	Average Per Month	Return on Investments	Repair Expenses	Special Assessments	Year End Balance
2024	\$50,000	\$45,000	\$3,750.00	\$719	\$187,100	\$140,000	\$48,619
2025	\$48,619	\$46,350	\$3,862.50	\$941	\$32,240	\$0	\$63,669
2026	\$63,669	\$47,741	\$3,978.38	\$1,549	\$8,112	\$0	\$104,847
2027	\$104,847	\$49,173	\$4,097.73	\$2,310	\$0	\$0	\$156,330
2028	\$156,330	\$50,648	\$4,220.66	\$2,754	\$23,397	\$0	\$186,335
2029	\$186,335	\$52,167	\$4,347.28	\$3,012	\$37,716	\$0	\$203,798
2030	\$203,798	\$52,167	\$4,347.28	\$3,839	\$0	\$0	\$259,805
2031	\$259,805	\$52,167	\$4,347.28	\$3,446	\$82,246	\$0	\$233,172
2032	\$233,172	\$52,167	\$4,347.28	\$4,280	\$0	\$0	\$289,619
2033	\$289,619	\$52,167	\$4,347.28	\$3,397	\$115,288	\$0	\$229,896
2034	\$229,896	\$52,167	\$4,347.28	\$3,565	\$44,407	\$0	\$241,221
2035	\$241,221	\$52,167	\$4,347.28	\$4,401	\$0	\$0	\$297,789
2036	\$297,789	\$52,167	\$4,347.28	\$4,589	\$44,028	\$0	\$310,517
2037	\$310,517	\$52,167	\$4,347.28	\$5,290	\$9,990	\$0	\$357,984
2038	\$357,984	\$52,167	\$4,347.28	\$4,464	\$112,559	\$0	\$302,056
2039	\$302,056	\$52,167	\$4,347.28	\$3,972	\$89,399	\$0	\$268,797
2040	\$268,797	\$52,167	\$4,347.28	\$4,814	\$0	\$0	\$325,779
2041	\$325,779	\$52,167	\$4,347.28	\$5,275	\$26,297	\$0	\$356,925
2042	\$356,925	\$52,167	\$4,347.28	\$5,984	\$10,129	\$0	\$404,947
2043	\$404,947	\$52,167	\$4,347.28	\$4,961	\$126,411	\$0	\$335,664
2044	\$335,664	\$52,167	\$4,347.28	\$887	\$328,668	\$0	\$60,050
2045	\$60,050	\$52,167	\$4,347.28	\$965	\$47,854	\$0	\$65,329
2046	\$65,329	\$52,167	\$4,347.28	\$1,496	\$17,774	\$0	\$101,218
2047	\$101,218	\$52,167	\$4,347.28	\$2,301	\$0	\$0	\$155,686
2048	\$155,686	\$52,167	\$4,347.28	\$1,388	\$115,349	\$0	\$93,892
2049	\$93,892	\$52,167	\$4,347.28	\$1,751	\$29,324	\$0	\$118,486
2050	\$118,486	\$52,167	\$4,347.28	\$1,728	\$55,449	\$0	\$116,932
2051	\$116,932	\$52,167	\$4,347.28	\$2,212	\$21,625	\$0	\$149,687
2052	\$149,687	\$52,167	\$4,347.28	\$3,028	\$0	\$0	\$204,882
2053	\$204,882	\$52,167	\$4,347.28	\$2,873	\$65,492	\$0	\$194,431



## Funding Alternative 2 - Increase to \$51,000 in 2024 and maintain annually, with 2024 assessment



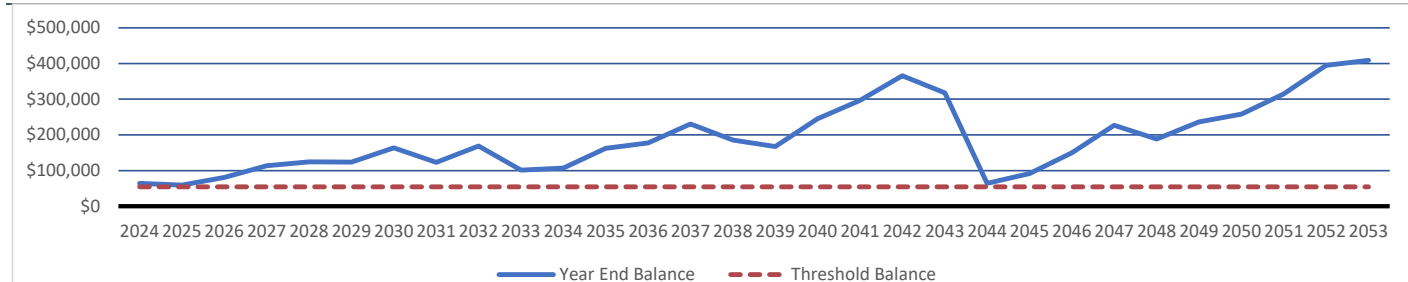
Year	Starting Balance	Reserve Account Contribution	Average Per Month	Return on Investments	Repair Expenses	Special Assessments	Year End Balance
2024	\$50,000	\$51,000	\$4,250.00	\$809	\$187,100	\$140,000	\$54,709
2025	\$54,709	\$51,000	\$4,250.00	\$1,102	\$32,240	\$0	\$74,571
2026	\$74,571	\$51,000	\$4,250.00	\$1,762	\$8,112	\$0	\$119,220
2027	\$119,220	\$51,000	\$4,250.00	\$2,553	\$0	\$0	\$172,774
2028	\$172,774	\$51,000	\$4,250.00	\$3,006	\$23,397	\$0	\$203,382
2029	\$203,382	\$51,000	\$4,250.00	\$3,250	\$37,716	\$0	\$219,916
2030	\$219,916	\$51,000	\$4,250.00	\$4,064	\$0	\$0	\$274,980
2031	\$274,980	\$51,000	\$4,250.00	\$3,656	\$82,246	\$0	\$247,390
2032	\$247,390	\$51,000	\$4,250.00	\$4,476	\$0	\$0	\$302,866
2033	\$302,866	\$51,000	\$4,250.00	\$3,579	\$115,288	\$0	\$242,156
2034	\$242,156	\$51,000	\$4,250.00	\$3,731	\$44,407	\$0	\$252,480
2035	\$252,480	\$51,000	\$4,250.00	\$4,552	\$0	\$0	\$308,032
2036	\$308,032	\$51,000	\$4,250.00	\$4,725	\$44,028	\$0	\$319,729
2037	\$319,729	\$51,000	\$4,250.00	\$5,411	\$9,990	\$0	\$366,150
2038	\$366,150	\$51,000	\$4,250.00	\$4,569	\$112,559	\$0	\$309,160
2039	\$309,160	\$51,000	\$4,250.00	\$4,061	\$89,399	\$0	\$274,822
2040	\$274,822	\$51,000	\$4,250.00	\$4,887	\$0	\$0	\$330,709
2041	\$330,709	\$51,000	\$4,250.00	\$5,331	\$26,297	\$0	\$360,744
2042	\$360,744	\$51,000	\$4,250.00	\$6,024	\$10,129	\$0	\$407,639
2043	\$407,639	\$51,000	\$4,250.00	\$4,983	\$126,411	\$0	\$337,212
2044	\$337,212	\$51,000	\$4,250.00	\$893	\$328,668	\$0	\$60,436
2045	\$60,436	\$51,000	\$4,250.00	\$954	\$47,854	\$0	\$64,536
2046	\$64,536	\$51,000	\$4,250.00	\$1,466	\$17,774	\$0	\$99,228
2047	\$99,228	\$51,000	\$4,250.00	\$2,253	\$0	\$0	\$152,481
2048	\$152,481	\$51,000	\$4,250.00	\$1,322	\$115,349	\$0	\$89,455
2049	\$89,455	\$51,000	\$4,250.00	\$1,667	\$29,324	\$0	\$112,797
2050	\$112,797	\$51,000	\$4,250.00	\$1,625	\$55,449	\$0	\$109,973
2051	\$109,973	\$51,000	\$4,250.00	\$2,090	\$21,625	\$0	\$141,438
2052	\$141,438	\$51,000	\$4,250.00	\$2,887	\$0	\$0	\$195,325
2053	\$195,325	\$51,000	\$4,250.00	\$2,712	\$65,492	\$0	\$183,546



**Funding Alternative 3 - Increase to \$25,000 in 2024, then by 7% annually through 2040, with 2024 assessment**



Year	Starting Balance	Reserve Account Contribution	Average Per Month	Return on Investments	Repair Expenses	Special Assessments	Year End Balance
2024	\$50,000	\$25,000	\$2,083.33	\$944	\$187,100	\$175,000	\$63,844
2025	\$63,844	\$26,750	\$2,229.17	\$875	\$32,240	\$0	\$59,229
2026	\$59,229	\$28,623	\$2,385.21	\$1,196	\$8,112	\$0	\$80,935
2027	\$80,935	\$30,626	\$2,552.17	\$1,673	\$0	\$0	\$113,235
2028	\$113,235	\$32,770	\$2,730.83	\$1,839	\$23,397	\$0	\$124,447
2029	\$124,447	\$35,064	\$2,921.98	\$1,827	\$37,716	\$0	\$123,621
2030	\$123,621	\$37,518	\$3,126.52	\$2,417	\$0	\$0	\$163,557
2031	\$163,557	\$40,145	\$3,345.38	\$1,822	\$82,246	\$0	\$123,277
2032	\$123,277	\$42,955	\$3,579.55	\$2,493	\$0	\$0	\$168,725
2033	\$168,725	\$45,961	\$3,830.12	\$1,491	\$115,288	\$0	\$100,890
2034	\$100,890	\$49,179	\$4,098.23	\$1,585	\$44,407	\$0	\$107,246
2035	\$107,246	\$52,621	\$4,385.11	\$2,398	\$0	\$0	\$162,265
2036	\$162,265	\$56,305	\$4,692.07	\$2,618	\$44,028	\$0	\$177,160
2037	\$177,160	\$60,246	\$5,020.51	\$3,411	\$9,990	\$0	\$230,827
2038	\$230,827	\$64,463	\$5,371.95	\$2,741	\$112,559	\$0	\$185,472
2039	\$185,472	\$68,976	\$5,747.98	\$2,476	\$89,399	\$0	\$167,525
2040	\$167,525	\$73,804	\$6,150.34	\$3,620	\$0	\$0	\$244,949
2041	\$244,949	\$73,804	\$6,150.34	\$4,387	\$26,297	\$0	\$296,843
2042	\$296,843	\$73,804	\$6,150.34	\$5,408	\$10,129	\$0	\$365,926
2043	\$365,926	\$73,804	\$6,150.34	\$4,700	\$126,411	\$0	\$318,019
2044	\$318,019	\$73,804	\$6,150.34	\$947	\$328,668	\$0	\$64,102
2045	\$64,102	\$73,804	\$6,150.34	\$1,351	\$47,854	\$0	\$91,402
2046	\$91,402	\$73,804	\$6,150.34	\$2,211	\$17,774	\$0	\$149,644
2047	\$149,644	\$73,804	\$6,150.34	\$3,352	\$0	\$0	\$226,799
2048	\$226,799	\$73,804	\$6,150.34	\$2,779	\$115,349	\$0	\$188,034
2049	\$188,034	\$73,804	\$6,150.34	\$3,488	\$29,324	\$0	\$236,001
2050	\$236,001	\$73,804	\$6,150.34	\$3,815	\$55,449	\$0	\$258,171
2051	\$258,171	\$73,804	\$6,150.34	\$4,655	\$21,625	\$0	\$315,005
2052	\$315,005	\$73,804	\$6,150.34	\$5,832	\$0	\$0	\$394,642
2053	\$394,642	\$73,804	\$6,150.34	\$6,044	\$65,492	\$0	\$408,998



**APPENDIX B: ALLEYWAYS RESERVE FUND PROJECTION**



**Southern Village Homeowners Association - Alleyways Reserves**

City/state location:	Chapel Hill, NC
Date of inspection:	10/26/2023
Number of units:	1
Term of study (years):	30
Beginning Year of Term	2024
Estimated starting reserve account balance:	\$333,634
Current annual reserve contribution rate:	\$0
Assumed inflation rate:	4.00%
Assumed rate of return on invested funds:	1.50%
<b>Total over term capital expenditure (un-inflated):</b>	<b>\$1,276,800</b>
<b>Total over term capital expenditure with inflation:</b>	<b>\$2,294,352</b>
<b>Recommended threshold reserve balance: (Average annual capital expenditure)</b>	<b>\$76,478</b>



GILES FLYTHE  
ENGINEERS

## EXPENSE ESTIMATES

Capital Item Description	Quantity	Unit	Unit Cost	Total Cost Per Cycle	Estimated Useful Life (years)	Estimated Remaining Life (years)	Notes
<b>Site Improvements</b>							
Crack fill, seal coat, stripe asphalt paving	20,900	SY	\$4.00	\$83,600	7	1	
Full depth repairs to sections of asphalt paving	520	SY	\$55.00	\$28,600	7	1	Approx. 2.5% of total
Mill and resurface asphalt paving Phase 1	9,200	SY	\$34.00	\$312,800	25	8	Alleyways south of Edgewater Circle (less Parkside alley)
Mill and resurface asphalt paving Phase 2	8,300	SY	\$34.00	\$282,200	25	12	Alleyways north of Edgewater Circle
Mill and resurface asphalt paving Phase 3	3,400	SY	\$34.00	\$115,600	25	24	Alleyway south of Parkside Circle
Repair sections of concrete flatwork	60	SY	\$125.00	\$7,500	8	3	Approx. 5% every 8 years
Repair sections of concrete gutter in private alleys	60	SY	\$50.00	\$3,000	8	3	Approx. 5% every 8 years

ANNUAL EXPENSE PROJECTION



Description	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Site Improvements										
Crack fill, seal coat, stripe asphalt paving		\$83,600							\$46,800	
Full depth repairs to sections of asphalt paving		\$28,600							\$28,600	
Mill and resurface asphalt paving Phase 1									\$312,800	
Mill and resurface asphalt paving Phase 2										
Mill and resurface asphalt paving Phase 3										
Repair sections of concrete flatwork				\$7,500						
Repair sections of concrete gutter in private alleys				\$3,000						
Totals	\$0	\$112,200	\$0	\$10,500	\$0	\$0	\$0	\$0	\$388,200	\$0
Totals including inflation:	\$0	\$116,688	\$0	\$11,811	\$0	\$0	\$0	\$0	\$531,279	\$0

## ANNUAL EXPENSE PROJECTION



Description	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
<b>Site Improvements</b>										
Crack fill, seal coat, stripe asphalt paving						\$83,600				
Full depth repairs to sections of asphalt paving						\$28,600				
Mill and resurface asphalt paving Phase 1										
Mill and resurface asphalt paving Phase 2			\$282,200							
Mill and resurface asphalt paving Phase 3										
Repair sections of concrete flatwork		\$7,500								\$7,500
Repair sections of concrete gutter in private alleys		\$3,000								\$3,000
<b>Totals</b>	<b>\$0</b>	<b>\$10,500</b>	<b>\$282,200</b>	<b>\$0</b>	<b>\$0</b>	<b>\$112,200</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$10,500</b>
<b>Totals including inflation:</b>	<b>\$0</b>	<b>\$16,164</b>	<b>\$451,811</b>	<b>\$0</b>	<b>\$0</b>	<b>\$202,066</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$22,122</b>

## ANNUAL EXPENSE PROJECTION



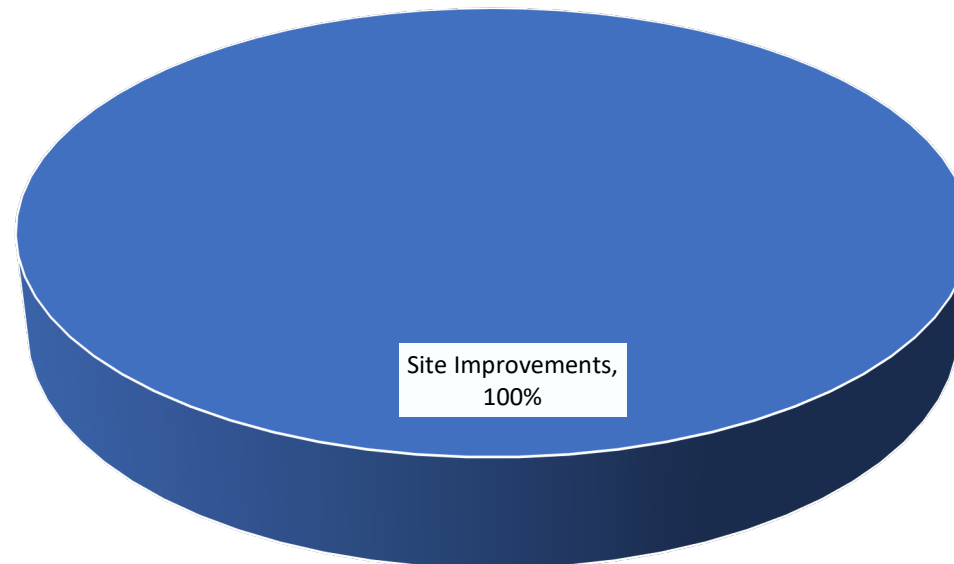
	Description	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
<b>Site Improvements</b>											
	Crack fill, seal coat, stripe asphalt paving			\$83,600							\$83,600
	Full depth repairs to sections of asphalt paving			\$28,600							\$28,600
	Mill and resurface asphalt paving Phase 1										
	Mill and resurface asphalt paving Phase 2										
	Mill and resurface asphalt paving Phase 3					\$115,600					
	Repair sections of concrete flatwork								\$7,500		
	Repair sections of concrete gutter in private alleys								\$3,000		
	<b>Totals</b>	<b>\$0</b>	<b>\$0</b>	<b>\$112,200</b>	<b>\$0</b>	<b>\$115,600</b>	<b>\$0</b>	<b>\$0</b>	<b>\$10,500</b>	<b>\$0</b>	<b>\$112,200</b>
	<b>Totals including inflation:</b>	<b>\$0</b>	<b>\$0</b>	<b>\$265,905</b>	<b>\$0</b>	<b>\$296,318</b>	<b>\$0</b>	<b>\$0</b>	<b>\$30,275</b>	<b>\$0</b>	<b>\$349,913</b>

## EXPENSE SUMMARY



Total over term capital expenditure (un-inflated)	\$1,276,800
Total over term capital expenditure with inflation:	\$2,294,352
Average estimated annual capital expenditure with inflation:	\$76,478
Current Reserve Account Balance	\$333,634
Full Funding Balance	\$466,806
Percent Funded	71.47%

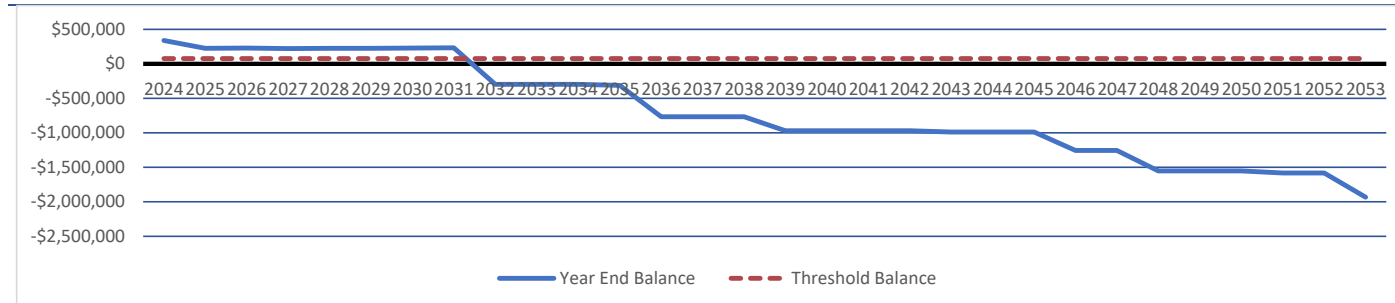
Breakdown of Total Costs by Type



## Current Funding Analysis



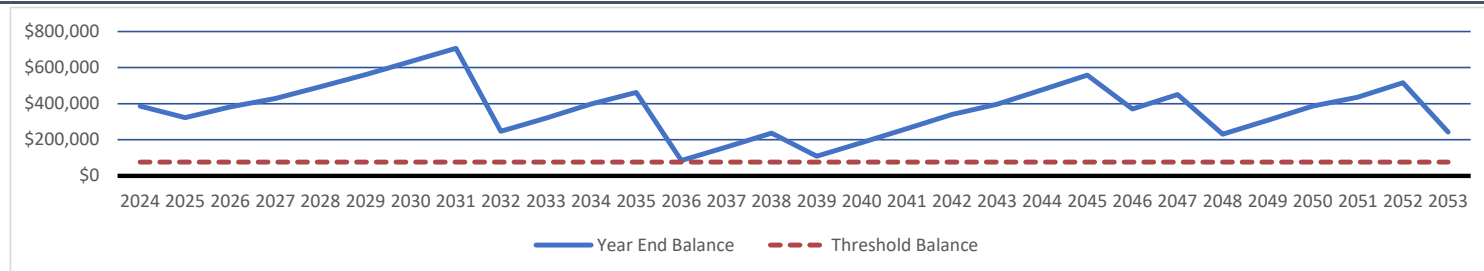
Year	Starting Balance	Reserve Account Contribution	Average Per Month	Return on Investments	Repair Expenses	Special Assessments	Year End Balance
2024	\$333,634	\$0	\$0.00	\$5,005	\$0	\$0	\$338,639
2025	\$338,639	\$0	\$0.00	\$3,329	\$116,688	0	\$225,280
2026	\$225,280	\$0	\$0.00	\$3,379	\$0	0	\$228,659
2027	\$228,659	\$0	\$0.00	\$3,253	\$11,811	0	\$220,101
2028	\$220,101	\$0	\$0.00	\$3,302	\$0	0	\$223,402
2029	\$223,402	\$0	\$0.00	\$3,351	\$0	0	\$226,753
2030	\$226,753	\$0	\$0.00	\$3,401	\$0	0	\$230,154
2031	\$230,154	\$0	\$0.00	\$3,452	\$0	0	\$233,607
2032	\$233,607	\$0	\$0.00	\$0	\$531,279	0	-\$297,672
2033	-\$297,672	\$0	\$0.00	\$0	\$0	0	-\$297,672
2034	-\$297,672	\$0	\$0.00	\$0	\$0	0	-\$297,672
2035	-\$297,672	\$0	\$0.00	\$0	\$16,164	0	-\$313,836
2036	-\$313,836	\$0	\$0.00	\$0	\$451,811	0	-\$765,647
2037	-\$765,647	\$0	\$0.00	\$0	\$0	0	-\$765,647
2038	-\$765,647	\$0	\$0.00	\$0	\$0	0	-\$765,647
2039	-\$765,647	\$0	\$0.00	\$0	\$202,066	0	-\$967,713
2040	-\$967,713	\$0	\$0.00	\$0	\$0	0	-\$967,713
2041	-\$967,713	\$0	\$0.00	\$0	\$0	0	-\$967,713
2042	-\$967,713	\$0	\$0.00	\$0	\$0	0	-\$967,713
2043	-\$967,713	\$0	\$0.00	\$0	\$22,122	0	-\$989,835
2044	-\$989,835	\$0	\$0.00	\$0	\$0	0	-\$989,835
2045	-\$989,835	\$0	\$0.00	\$0	\$0	0	-\$989,835
2046	-\$989,835	\$0	\$0.00	\$0	\$265,905	0	-\$1,255,740
2047	-\$1,255,740	\$0	\$0.00	\$0	\$0	0	-\$1,255,740
2048	-\$1,255,740	\$0	\$0.00	\$0	\$296,318	0	-\$1,552,058
2049	-\$1,552,058	\$0	\$0.00	\$0	\$0	0	-\$1,552,058
2050	-\$1,552,058	\$0	\$0.00	\$0	\$0	0	-\$1,552,058
2051	-\$1,552,058	\$0	\$0.00	\$0	\$30,275	0	-\$1,582,333
2052	-\$1,582,333	\$0	\$0.00	\$0	\$0	0	-\$1,582,333
2053	-\$1,582,333	\$0	\$0.00	\$0	\$349,913	0	-\$1,932,246



## Funding Alternative 1 - Increase to \$48,000 in 2024, then by \$5,000 every other year through 2034



Year	Starting Balance	Reserve Account Contribution	Average Per Month	Return on Investments	Repair Expenses	Special Assessments	Year End Balance
2024	\$333,634	\$48,000	\$4,000.00	\$5,725	\$0	\$0	\$387,359
2025	\$387,359	\$48,000	\$4,000.00	\$4,780	\$116,688	\$0	\$323,451
2026	\$323,451	\$53,000	\$4,416.67	\$5,647	\$0	\$0	\$382,097
2027	\$382,097	\$53,000	\$4,416.67	\$6,349	\$11,811	\$0	\$429,636
2028	\$429,636	\$58,000	\$4,833.33	\$7,315	\$0	\$0	\$494,950
2029	\$494,950	\$58,000	\$4,833.33	\$8,294	\$0	\$0	\$561,244
2030	\$561,244	\$63,000	\$5,250.00	\$9,364	\$0	\$0	\$633,608
2031	\$633,608	\$63,000	\$5,250.00	\$10,449	\$0	\$0	\$707,057
2032	\$707,057	\$68,000	\$5,666.67	\$3,657	\$531,279	\$0	\$247,435
2033	\$247,435	\$68,000	\$5,666.67	\$4,732	\$0	\$0	\$320,167
2034	\$320,167	\$73,000	\$6,083.33	\$5,898	\$0	\$0	\$399,064
2035	\$399,064	\$73,000	\$6,083.33	\$6,839	\$16,164	\$0	\$462,739
2036	\$462,739	\$73,000	\$6,083.33	\$1,259	\$451,811	\$0	\$85,186
2037	\$85,186	\$73,000	\$6,083.33	\$2,373	\$0	\$0	\$160,559
2038	\$160,559	\$73,000	\$6,083.33	\$3,503	\$0	\$0	\$237,062
2039	\$237,062	\$73,000	\$6,083.33	\$1,620	\$202,066	\$0	\$109,616
2040	\$109,616	\$73,000	\$6,083.33	\$2,739	\$0	\$0	\$185,356
2041	\$185,356	\$73,000	\$6,083.33	\$3,875	\$0	\$0	\$262,231
2042	\$262,231	\$73,000	\$6,083.33	\$5,028	\$0	\$0	\$340,259
2043	\$340,259	\$73,000	\$6,083.33	\$5,867	\$22,122	\$0	\$397,005
2044	\$397,005	\$73,000	\$6,083.33	\$7,050	\$0	\$0	\$477,055
2045	\$477,055	\$73,000	\$6,083.33	\$8,251	\$0	\$0	\$558,306
2046	\$558,306	\$73,000	\$6,083.33	\$5,481	\$265,905	\$0	\$370,882
2047	\$370,882	\$73,000	\$6,083.33	\$6,658	\$0	\$0	\$450,540
2048	\$450,540	\$73,000	\$6,083.33	\$3,408	\$296,318	\$0	\$230,630
2049	\$230,630	\$73,000	\$6,083.33	\$4,554	\$0	\$0	\$308,185
2050	\$308,185	\$73,000	\$6,083.33	\$5,718	\$0	\$0	\$386,902
2051	\$386,902	\$73,000	\$6,083.33	\$6,444	\$30,275	\$0	\$436,071
2052	\$436,071	\$73,000	\$6,083.33	\$7,636	\$0	\$0	\$516,708
2053	\$516,708	\$73,000	\$6,083.33	\$3,597	\$349,913	\$0	\$243,392

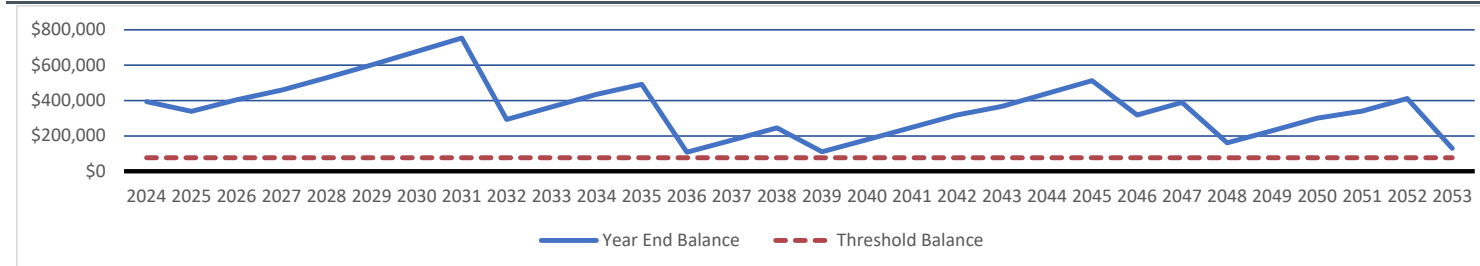




## Funding Alternative 2 - Increase to \$55,000 in 2024, then by 3% per year through 2030



Year	Starting Balance	Reserve Account Contribution	Average Per Month	Return on Investments	Repair Expenses	Special Assessments	Year End Balance
2024	\$333,634	\$55,000	\$4,583.33	\$5,830	\$0	\$0	\$394,464
2025	\$394,464	\$56,650	\$4,720.83	\$5,016	\$116,688	\$0	\$339,442
2026	\$339,442	\$58,350	\$4,862.46	\$5,967	\$0	\$0	\$403,758
2027	\$403,758	\$60,100	\$5,008.33	\$6,781	\$11,811	\$0	\$458,828
2028	\$458,828	\$61,903	\$5,158.58	\$7,811	\$0	\$0	\$528,542
2029	\$528,542	\$63,760	\$5,313.34	\$8,885	\$0	\$0	\$601,186
2030	\$601,186	\$65,673	\$5,472.74	\$10,003	\$0	\$0	\$676,862
2031	\$676,862	\$65,673	\$5,472.74	\$11,138	\$0	\$0	\$753,673
2032	\$753,673	\$65,673	\$5,472.74	\$4,321	\$531,279	\$0	\$292,388
2033	\$292,388	\$65,673	\$5,472.74	\$5,371	\$0	\$0	\$363,432
2034	\$363,432	\$65,673	\$5,472.74	\$6,437	\$0	\$0	\$435,542
2035	\$435,542	\$65,673	\$5,472.74	\$7,276	\$16,164	\$0	\$492,326
2036	\$492,326	\$65,673	\$5,472.74	\$1,593	\$451,811	\$0	\$107,780
2037	\$107,780	\$65,673	\$5,472.74	\$2,602	\$0	\$0	\$176,055
2038	\$176,055	\$65,673	\$5,472.74	\$3,626	\$0	\$0	\$245,354
2039	\$245,354	\$65,673	\$5,472.74	\$1,634	\$202,066	\$0	\$110,595
2040	\$110,595	\$65,673	\$5,472.74	\$2,644	\$0	\$0	\$178,912
2041	\$178,912	\$65,673	\$5,472.74	\$3,669	\$0	\$0	\$248,254
2042	\$248,254	\$65,673	\$5,472.74	\$4,709	\$0	\$0	\$318,636
2043	\$318,636	\$65,673	\$5,472.74	\$5,433	\$22,122	\$0	\$367,619
2044	\$367,619	\$65,673	\$5,472.74	\$6,499	\$0	\$0	\$439,792
2045	\$439,792	\$65,673	\$5,472.74	\$7,582	\$0	\$0	\$513,047
2046	\$513,047	\$65,673	\$5,472.74	\$4,692	\$265,905	\$0	\$317,507
2047	\$317,507	\$65,673	\$5,472.74	\$5,748	\$0	\$0	\$388,927
2048	\$388,927	\$65,673	\$5,472.74	\$2,374	\$296,318	\$0	\$160,657
2049	\$160,657	\$65,673	\$5,472.74	\$3,395	\$0	\$0	\$229,724
2050	\$229,724	\$65,673	\$5,472.74	\$4,431	\$0	\$0	\$299,828
2051	\$299,828	\$65,673	\$5,472.74	\$5,028	\$30,275	\$0	\$340,254
2052	\$340,254	\$65,673	\$5,472.74	\$6,089	\$0	\$0	\$412,016
2053	\$412,016	\$65,673	\$5,472.74	\$1,917	\$349,913	\$0	\$129,693



**APPENDIX C: PROJECT PHOTOGRAPHS**

**Description**

Typical asphalt paved  
alleyways with previous  
repairs

**Photo No.**  
**1**



**Description**

Ponding in alleyway rear  
of 102 Hillspring Lane

**Photo No.**  
**2**



**Description**

Fatigue cracking rear of  
309 Glade Street

**Photo No.**  
**3**



**Description**

Newer pavement in alley  
south of Parkside Circle

**Photo No.**  
**4**





**Description**

Pothole rear of 200  
Parkside Circle

**Photo No.**  
**5**



**Description**

Typical concrete apron  
leading to alleyways;  
minor cracking

**Photo No.**  
**6**



**Description**

Typical curbing/gutter in  
select alleyways

**Photo No.**  
**7**



**Description**

Erosion around catch  
basin along walking path  
near tennis courts

**Photo No.**  
**8**





**Description**

Typical stormwater  
pond; north of  
Highgrove Drive

**Photo No.**  
**9**



**Description**

Sedimentation at inlet of  
Highgrove Drive pond

**Photo No.**  
**10**





**Description**

Erosion downstream of  
outlet of Highgrove  
Drive pond

**Photo No.  
11**



**Description**

Pond east of Brookgreen  
Drive with bubblers;  
minor algae growth

**Photo No.  
12**





**Description**

Sediment at Parkside  
Circle pond inlet

**Photo No.**  
**13**



**Description**

View of pond south of  
Aberdeen Drive

**Photo No.**  
**14**



**Description**

View of timber stairs at  
Central Park walkway



**Photo No.**  
**15**

**Description**

Minor washout in  
Chapel Hill grit walking  
path



**Photo No.**  
**16**



**Description**

Leaning timbers along  
Chapel Hill grit walking  
path

**Photo No.**  
**17**



**Description**

Typical wood split-rail  
fencing; Central Park

**Photo No.**  
**18**



**Description**

Typical stone masonry walls; minor cracking in stairs at Highgrove Park

**Photo No.**  
**19**



**Description**

Cracking in monument at Aberdeen Drive pond

**Photo No.**  
**20**





**Description**

View of basketball court; surface in good condition

**Photo No.**  
**21**



**Description**

View of soccer goals

**Photo No.**  
**22**



**Description**

Highgrove Park

**Photo No.**  
**23**



**Description**

Market Park fencing

**Photo No.**  
**24**





**Description**

Market Park play structure

**Photo No.**  
**25**



**Description**

Calderon Park

**Photo No.**  
**26**





**Description**

Meeting Street Park

**Photo No.**  
**27**



**Description**

Arlen Park

**Photo No.**  
**28**





**Description**

Fan Branch Park

**Photo No.**  
**29**



**Description**

Brookgreen/Edgewater  
Park

**Photo No.**  
**30**



**Description**

Typical swing structure  
at Aberdeen Drive pond

**Photo No.**  
**31**

