

PREPARED FOR:

**SAMPLE PROPERTY OWNERS
ASSOCIATION
CITY, STATE**

MANAGED BY:
SAMPLE MANAGEMENT

SAMPLE

**FULL RESERVE
STUDY**

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SAMPLE

INTRODUCTIONS

SAMPLE Property Owners Association authorized Giles Flythe Engineers to perform a Full Reserve Study for the SAMPLE community located in City, State. 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 twenty 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 fiscally responsible. 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 SAMPLE Property Owners Association is a private residential community comprised of single-family home sites situated on private streets in along SAMPLE Drive and Sample Lane in City, State. Based on a review of historical aerials, it appears development began in approximately 2006-2007.

The association has responsibility for common area site improvements and systems. The most significant site improvements include the private streets, entrance gates, concrete sidewalks and curbing, common area drainage systems and piping, and stormwater ponds.

The buildings, common areas and site improvements are generally in good to fair condition. Based on our evaluation, maintaining the current level of funding is **not** projected to maintain a positive balance through the term of this study. We have provided recommendations for annual reserve contribution schedules that provide sufficient funding to meet capital expenditure requirements in the next twenty years, in summary as follows:

- **Alternative 1:** Beginning in 2020, increase the annual reserve contribution by \$12,000 every other year for the next 10 years. This alternative is projected to maintain a positive balance through the term of this study.
- **Alternative 2:** Beginning in 2019, increase the reserve contribution by 10% each year for the next 12 years. This alternative is projected to maintain a positive balance through the term of this study.

A more detailed analysis of the reserve fund has been provided in Appendix A.

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

- Repair and resurface asphalt paved private streets
- Dredging/repairs to stormwater ponds
- Repairs to concrete sidewalks and curbing
- Repair of entrance gates and access control/security systems

Additional, less significant, 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 twenty 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 SAMPLE Property Owners 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 designed to achieve at minimum a Baseline Funding goal by maintaining a positive balance for the term of the study. We have also included a threshold funding goal which provides a minimum reserve account over the term. The minimum balance is typically calculated by determining the total over term forecasted expenses and dividing by the length of the term in years. This minimum threshold balance will help offset the risk of fluctuations in labor and material costs and component wear.

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 2018 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 resent 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 DATE

Interviews

We interviewed the following people in connection with this study:

- John Doe, Sample Management, Community Manager
- Board members during site inspection

Documents

The following documents were made available to us and reviewed:

- Any County tax records
- Association Governing Documents
- Information including contracts and invoices on previous capital repair projects
- Plat map and Water, Sanitary Sewer and Drainage As-Built Plans
- Association financial statements

Cost Estimates

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

DESCRIPTION

The SAMPLE Property Owners Association is a private residential community comprised of single-family home sites situated on private streets in along SAMPLE Drive and Sample Lane in City, State. Based on a review of historical aerials, it appears development began in approximately 2006-2007.

The association has responsibility for common area site improvements and systems. The most significant site improvements include the private streets, entrance gates, concrete sidewalks and curbing, common area drainage systems and piping, and stormwater ponds.

The private streets are asphalt paved with most sections of streets including concrete curbing along the edges of pavement. Drainage systems include curb inlets and inlets in landscaped areas generally discharging into the three ponds. The association is fully responsible for the maintenance of 2 of the ponds and has a shared maintenance agreement with regard to a 3rd pond.

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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 streets and parking areas throughout the community are asphalt paved and maintained by the Association. The asphalt paving appears to generally be of original construction with minimal repairs completed since original construction. In addition to the private streets within the neighborhood, the association is reportedly responsible for maintaining the section of SAMPLE Drive between SAMPLE Court and the entry gate. Note that this section of road is labeled as a Public road on the plat map provided. Prior to completing any repair work on this section of street and corresponding curbing and sidewalks, we recommend confirming with the municipality that it is in fact a private street to be maintained by the association. The SC Dot GIS page indicates it is not a DOT maintained road, however, it may be the responsibility of the municipality or county.

We observed longitudinal cracking developing in many areas of the paving. No significant areas of fatigue cracking, pot holes, depressions or other significant evidence of sub-grade/base course failure were observed in the asphalt paving. The provided paving evaluation and geo-technical report indicates an average asphalt paving thickness of approximately 3" and an aggregate base course thickness of approximately 10". The provided paving evaluation recommends resurfacing the asphalt paving section between the front gate and SAMPLE Court in the near term. The provided paving evaluation recommends a crack fill and seal coat application in the near term to the asphalt paving. We have allocated funds for resurfacing this section of paving on a 20-year cycle beginning in 2022 (noted as Phase 1 on the spreadsheets). We have allocated funds for crack filling and seal coating this section of paving on a 5-year cycle beginning in 2024 (2-years after resurfacing). We have allocated funds for crack filling and seal coating the remaining sections of asphalt paving on a 5-year cycle beginning in 2019 (noted as phase 2 on the worksheets). Assuming crack filling and seal coating are completed in the interim, we estimate the asphalt paving within the community to have a remaining useful life of approximately 10-15 years. We have allocated funds to resurface these sections of asphalt paving in 2031. Resurfacing would include milling and removing the top 1.5" of asphalt paving, completing full depth repairs of sections of asphalt paving as needed and installing a new 1.5" layer of asphalt paving over all the paved areas.

The asphalt paving is bordered by concrete curb and gutter in all areas except a small section near the rear entrance to the community. The concrete curb and gutter generally appeared to be in good condition with sections of minor cracking and upheaval/settlement developing. We also noted isolated areas of spalling in the concrete curb and gutter. It is likely that over time, sections of the concrete curbing will require replacement due to differential settlement and spalling. We have allocated funds to replace approximately 2.5% of the total amount of concrete curb and gutter on a 5-year cycle beginning in 2021. Replacement would include saw-cutting to remove sections of curbing and installing new curbing.

Concrete sidewalks are installed on both sides of the private streets throughout the majority of the community. The concrete sidewalks are approximately 5-feet in width and generally appeared to be in good condition. Limited areas of minor cracking and upheaval/settlement were observed. It is likely that due to differential settlement and possible heaving due to tree root growth, sections of the concrete sidewalks will require periodic replacement. We have allocated funds to replace approximately 2.5% of the total amount of concrete sidewalks on a 5-year cycle beginning in 2021. Replacement would include saw-cutting and removing sections of sidewalks and replacing with new 4" thick poured and finished concrete. We have assumed that any trip hazards due to unevenness would be repaired by grinding sections as needed in the interim.

Common area drainage systems in the community are predominately comprised of curb inlets along the roadway leading to buried reinforced concrete piping that discharges into the ponds. We did not inspect the buried piping. The common area drainage systems generally appeared to be in adequate condition with no significant sink holes or erosion concerns observed. While storm sewer systems generally have an expected useful life greater than the term of this study, we have provided funds for inspecting sections of the buried stormwater piping at a rate of approximately 25% of the piping every 5 years beginning in 2023. This would likely include video borescope or other video inspection systems of sections of the piping. We have allocated funds for common area drainage improvements also on a 5-year cycle beginning in 2023. Common area drainage improvements would likely include cleaning/hydrojetting buried piping to remove debris, repairing sections of concrete piping, re-trenching common area swales and other erosion control measures.

The association is responsible for maintaining ponds in the community as follows; Pond 1 located at the western side of the community, Pond 2 located between SAMPLE Lane and SAMPLE Drive and Pond 3 located on the eastern edge of the community adjacent to a neighboring property. The association has a shared maintenance agreement for Pond 3 and our fund allocations have assumed a 50% share of maintenance costs. We recommend the association maintain a contract with a stormwater pond maintenance company to include routine inspections and maintenance of pipe inlets, the riser outlet structure, discharge pipe and the shoreline/embankments. The association should ensure that the ponds meet all applicable municipal requirements for maintaining stormwater ponds. It is likely that over time the ponds will require dredging to removed accumulated sediment. To better predict dredging frequency and sediment removal volume, we recommend periodic sediment mapping to assess variations in sediment levels. We have allocated funds for sediment mapping of all three ponds on a 3-year cycle beginning in 2019.

Pond 1 is a wet pond with fed by 3 reinforced concrete pipe inlets. A concrete riser is located at the earthen dam adjacent to SAMPLE Drive and includes primary outlet, wood sluice gate comprised of 2" thick slats and an overflow with debris rack on top of the riser. The riser leads to a reinforced concrete pipe that extends under SAMPLE Drive and discharges into a wetland common area between/behind homes on SAMPLE Drive. The bottom wood slat in the concrete riser appeared to be rotted with a significant void with water actively spilling through during our inspection. The damaged wood slats should be replaced to allow proper water levels to be maintained in the pond. We have assumed this would be funded through an annual maintenance budget. We observed excessive woody vegetation overgrowth at the pond outlet behind the homes on the south side of SAMPLE Drive. This excessive vegetation should be removed to prevent obstruction in water flow at the outlet. We have assumed this would be funded from an annual maintenance

budget. We have allocated funds for major repairs the pond including dredging to remove sediment on a 30-year cycle beginning in 2038.

Pond 2 is a wet pond with fed by 6 reinforced concrete pipe inlets according to the as-built plans, however, not all pipe inlets were visible (likely below water line). A concrete riser is located at the earthen dam adjacent to SAMPLE Drive and includes primary outlet, wood sluice gate comprised of 2" thick slats and an overflow with debris rack on top of the riser. The riser leads to a reinforced concrete pipe that extends under SAMPLE Lane and discharges into a wetland common area between/behind homes. We observed excessive woody vegetation overgrowth at the pond outlet. This excessive vegetation should be removed to prevent obstruction in water flow at the outlet. We have assumed this would be funded from an annual maintenance budget. We have allocated funds for major repairs the pond including dredging to remove sediment on a 30-year cycle beginning in 2038.

Pond 3 is part of a shared maintenance agreement with adjacent properties. Pond 3 is comprised of a wet pond with reinforced concrete pipe inlets with an overflow grassed and stone rip rap reinforced spillway on the earthen dam that leads to an old pond that appears to have existed long before development based on a review of historical aerials. This old pond includes a small earthen dam with old outlet structure that feeds into wetland areas. We have allocated funds for major repairs the pond including dredging to remove sediment on a 30-year cycle beginning in 2038. We have assumed the association would be responsible for ½ of the total cost of the major repair work.

The primary entrance to the community is located on SAMPLE Drive at a traffic circle. Note that there are entrance signs at the corner of SAMPLE Drive and 76th Ave North that are reportedly maintained by the master association. The primary entrance includes two small monuments with a stucco exterior insulation finishing system (EIFS) cladding. The stucco appeared to be in fair to poor condition with areas of deterioration observed. We have allocated funds to repair these two small monuments on a 10-year cycle beginning in 2019. Repairs would include repairing damaged areas of stucco and painting the monuments. The main entrance also includes automatic gates, security cameras, landscape lighting and irrigation systems. The rear entrance on Bryant Street includes lift arm gates with cameras. We have allocated funds for repairing these mechanical systems as noted in the Mechanical section below.

The association maintains the street and stops signs in the community. The signs are comprised of painted metal poles with signs. The street sign poles are in need of repainting and we have assumed this would be funded from an annual maintenance budget. We have allocated funds to replace the street signs on a 30 year cycle beginning in 2038.

The association is responsible for maintaining common area trees in the community. Several areas of streets trees are growing and partially blocking street lights in the community. We have provided an allocation of funds for tree trimming, removal and replacement on a 10-year cycle beginning in 2019.

The street lights in the community are maintained by the utility provider.

Mechanical Systems

The main entrance to the community includes automatic gate systems that were being refurbished during the inspection. The metal gate structures are being repaired and painted, new Faac controllers and detection loops are being installed to allow independent operation of the gates. The rear gate includes lift arm style automatic gates. The gates are being retrofitted with a new card readers and cards. A new card reader is being installed at the rear gate along with a new control panel. The entrance gate CCTV surveillance systems are being upgraded to include 5 new cameras, a network video recorder and a 55" monitor installed in the guard house.

The actual gate operator motors are not being replaced as part of this project and are functioning adequately. We have allocated funds for repairing the gate operator motors on a 10-year cycle beginning in 2021. We have allocated funds for future access control system refurbishment on a 12-year cycle beginning in 2030. We have also allocated fund for updating/refurbishing the CCTV surveillance systems on a 5-year cycle beginning in 2024.

The main entrance includes a landscape lighting system that has recently been refurbished with LED fixtures. We have allocated funds for future refurbishing of the landscape lighting system on an 8-year cycle beginning in 2026.

The association maintains common area landscape irrigation systems. These systems include a backflow preventer in a vault near the water meter and two Rainbird control panels. It is likely that individual irrigation spray heads will require repair/replacement on an annual basis. We have assumed minor repairs would be completed through an annual maintenance budget. We have allocated funds for substantial repairs of sections of the irrigation system components on a 3-year cycle beginning in 2020. These repairs would include replacing sections of buried supply piping, replacing valves, replacing controllers and replacing the back flow preventer as needed.

The ponds include a total of 3 fountains (one at pond 1 and two at pond 2). We have assumed the fountain at pond 3 is not the responsibility of the association. The pond fountains include meters with breaker panels, control panel and a pump. The control panel at the pond 1 fountain was observed with significant deterioration and will require replacement in the near term and we have allocated funds as such and on a 15-year cycle. The panel at pond 2 appeared to be in good condition and we have allocated funds for its replacement beginning in 2032. The pond fountain pumps will likely be replaced as they fail and the exact age of the pumps is unknown. We have allocated funds to replace 1/3rd of the pumps every 2 years beginning in 2019.

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 of 3.0% and an assumed average return on invested funds of 1.5%. 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, Building Exterior, Building Interior, 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.

Current Reserve Funding Rate: \$40,083 per year

Current Reserve Balance: \$235,328 (projected 2019 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. Our funding recommendations are as follows:

- **Alternative 1:** Beginning in 2020, increase the annual reserve contribution by \$12,000 every other year for the next 10 years. This alternative is projected to maintain a positive balance through the term of this study.
- **Alternative 2:** Beginning in 2019, increase the reserve contribution by 10% each year for the next 12 years. 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 2019 dollars. Our reserve study does include an adjustment for inflation and an assumed rate of return on invested funds.

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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. 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 SAMPLE Property Owners 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.

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. 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.

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.

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,

Kevin R. Giles, RS
Project Manager
Giles Flythe Engineers, Inc.

Robert C. Giles, PE, RS
President
Giles Flythe Engineers, Inc.

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APPENDIX A: RESERVE FUND PROJECTIONS

SAMPLE

PROJECT SUMMARY

SAMPLE Owners Association

City/state location:	Sample Location
Date of inspection:	1/17/2019
Number of units:	91
Term of study (years):	20
Beginning Year of Term	2019
Estimated starting reserve account balance:	\$241,187
Current annual reserve contribution rate:	\$40,083
Assumed inflation rate:	2.00%
Assumed rate of return on invested funds:	1.00%
Total over term capital expenditure (un-inflated):	\$1,108,813
Total over term capital expenditure with inflation:	\$1,477,283
Reccomended threshold reserve balance:(Average annual capital expenditure)	\$73,864

EXPENSE ESTIMATES

Capital Item Description	Quantity	Unit	Unit Cost	Total Cost Per Cycle	Estimated Useful Life (years)	Estimated Remaining Life (years)	Notes
Site Improvements							
Resurface asphalt paving phase	18,650	SY	\$21.00	\$391,650	20	19	
Crack fill, seal coat paving phase 1	18,650	SY	\$4.75	\$88,588	8	0	
Repair sections of concrete curbing	125	LF	\$50.00	\$6,250	5	2	Approx. 1% every 5 years
Repair sections of concrete sidewalks	75	SY	\$115.00	\$8,625	5	2	Approx. 1% every 5 years
Common area drainage improvements	1	LS	\$15,000.00	\$15,000	5	4	
Allocation for storm piping inspections	1,500	LF	\$3.00	\$4,500	5	4	Approx. 25% of total
Repair/dredge stormwater pond 1	1	LS	\$40,000.00	\$40,000	30	19	
Repair/dredge stormwater pond 2	1	LS	\$60,000.00	\$60,000	30	19	
Repair/dredge pond 3	1	LS	\$72,500.00	\$72,500	30	19	50% of total cost
Building Exterior							
Building Interior							
Mechanical, Electrical, Plumbing Systems							
Repair entrance gates, motors	1	LS	\$7,000.00	\$7,000	10	2	
Refurbish access control system	1	LS	\$12,500.00	\$12,500	12	11	
Refurbish/upgrade security camera system	1	LS	\$7,800.00	\$7,800	5	5	
Replace pond fountains	1	EA	\$5,500.00	\$5,500	2	0	1/3rd every 2 years
Replace pond 1 fountain panel	1	LS	\$3,500.00	\$3,500	15	0	
Replace pond 2 fountain panel	1	LS	\$3,500.00	\$3,500	15	13	
Repair landscape irrigation system	1	LS	\$4,500.00	\$4,500	5	1	
Repair landscape lighting system at entrance	1	LS	\$4,000.00	\$4,000	8	7	

Amenities

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

ANNUAL EXPENSE PROJECTION

Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Site Improvements										
Resurface asphalt paving phase										
Crack fill, seal coat paving phase 1	\$88,588								\$88,588	
Repair sections of concrete curbing			\$6,250					\$6,250		
Repair sections of concrete sidewalks			\$8,625					\$8,625		
Common area drainage improvements					\$15,000					\$15,000
Allocation for storm piping inspections					\$4,500					\$4,500
Repair/dredge stormwater pond 1										
Repair/dredge stormwater pond 2										
Repair/dredge pond 3										
Building Exterior										
Building Interior										
Mechanical, Electrical, Plumbing Systems										
Repair entrance gates, motors			\$7,000							
Refurbish access control system										
Refurbish/upgrade security camera system						\$7,800				
Replace pond fountains	\$5,500		\$5,500		\$5,500		\$5,500		\$5,500	
Replace pond 1 fountain panel	\$3,500									
Replace pond 2 fountain panel										
Repair landscape irrigation system		\$4,500					\$4,500			
Repair landscape lighting system at entrance								\$4,000		
Amenities										
Other										
Totals	\$97,588	\$4,500	\$27,375	\$0	\$25,000	\$7,800	\$10,000	\$18,875	\$94,088	\$19,500
Totals including inflation:	\$97,588	\$4,590	\$28,481	\$0	\$27,061	\$8,612	\$11,262	\$21,681	\$110,239	\$23,304

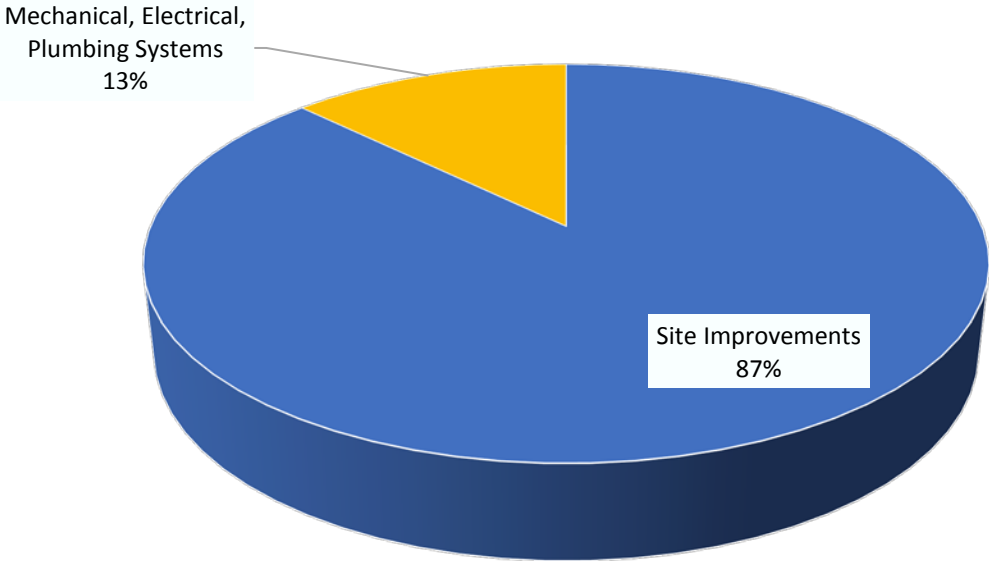
ANNUAL EXPENSE PROJECTION

Description	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Site Improvements										
Resurface asphalt paving phase										\$391,650
Crack fill, seal coat paving phase 1							\$88,588			
Repair sections of concrete curbing			\$6,250					\$6,250		
Repair sections of concrete sidewalks			\$8,625					\$8,625		
Common area drainage improvements					\$15,000					\$15,000
Allocation for storm piping inspections					\$4,500					\$4,500
Repair/dredge stormwater pond 1										\$40,000
Repair/dredge stormwater pond 2										\$60,000
Repair/dredge pond 3										\$72,500
Building Exterior										
Building Interior										
Mechanical, Electrical, Plumbing Systems										
Repair entrance gates, motors			\$7,000							
Refurbish access control system		\$12,500								
Refurbish/upgrade security camera system	\$7,800					\$7,800				
Replace pond fountains	\$5,500		\$5,500		\$5,500		\$5,500		\$5,500	
Replace pond 1 fountain panel						\$3,500				
Replace pond 2 fountain panel				\$3,500						
Repair landscape irrigation system		\$4,500					\$4,500			
Repair landscape lighting system at entrance						\$4,000				
Amenities										
Other										
Totals	\$13,300	\$17,000	\$27,375	\$3,500	\$25,000	\$15,300	\$98,588	\$14,875	\$5,500	\$583,650
Totals including inflation:	\$16,213	\$21,137	\$34,718	\$4,528	\$32,987	\$20,592	\$135,340	\$20,829	\$7,855	\$850,268

EXPENSE SUMMARY

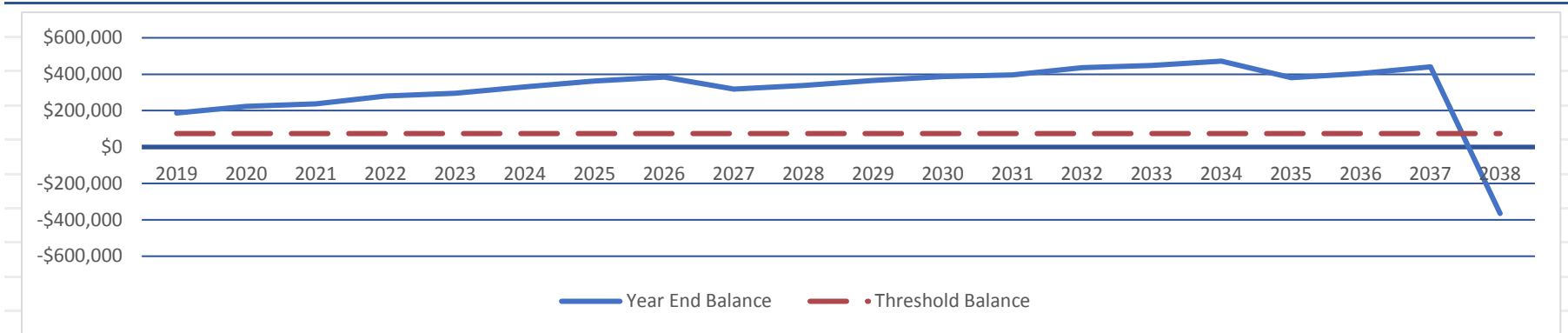
Total over term capital expenditure (un-inflated)	\$1,108,813
Total over term capital expenditure with inflation:	\$1,477,283
Average estimated annual capital expenditure with inflation:	\$73,864
Current Reserve Account Balance	\$241,187
Full Funding Balance	\$204,453
Percent Funded	117.97%

Breakdown of Total Costs by Type



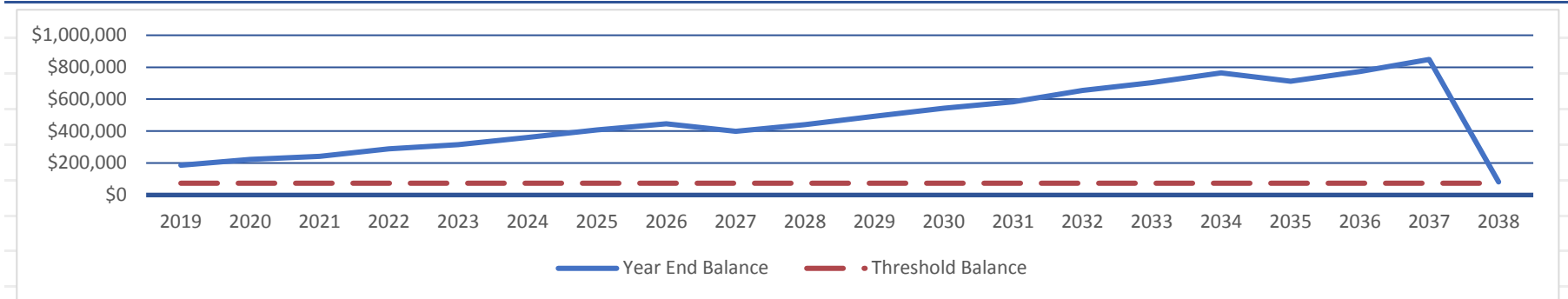
Current Funding Analysis

Year	Starting Balance	Reserve Account Contribution	Average Per Unit/Month	Return on Investments	Repair Expenses	Special Assessments	Year End Balance
2019	\$241,187	\$40,083	\$36.71	\$2,412	\$97,588	\$0	\$186,094
2020	\$186,094	\$40,083	\$36.71	\$1,861	\$4,590	\$0	\$223,448
2021	\$223,448	\$40,083	\$36.71	\$2,234	\$28,481	\$0	\$237,285
2022	\$237,285	\$40,083	\$36.71	\$2,373	\$0	\$0	\$279,741
2023	\$279,741	\$40,083	\$36.71	\$2,797	\$27,061	\$0	\$295,560
2024	\$295,560	\$40,083	\$36.71	\$2,956	\$8,612	\$0	\$329,987
2025	\$329,987	\$40,083	\$36.71	\$3,300	\$11,262	\$0	\$362,108
2026	\$362,108	\$40,083	\$36.71	\$3,621	\$21,681	\$0	\$384,131
2027	\$384,131	\$40,083	\$36.71	\$3,841	\$110,239	\$0	\$317,817
2028	\$317,817	\$40,083	\$36.71	\$3,178	\$23,304	\$0	\$337,774
2029	\$337,774	\$40,083	\$36.71	\$3,378	\$16,213	\$0	\$365,022
2030	\$365,022	\$40,083	\$36.71	\$3,650	\$21,137	\$0	\$387,618
2031	\$387,618	\$40,083	\$36.71	\$3,876	\$34,718	\$0	\$396,859
2032	\$396,859	\$40,083	\$36.71	\$3,969	\$4,528	\$0	\$436,383
2033	\$436,383	\$40,083	\$36.71	\$4,364	\$32,987	\$0	\$447,842
2034	\$447,842	\$40,083	\$36.71	\$4,478	\$20,592	\$0	\$471,812
2035	\$471,812	\$40,083	\$36.71	\$4,718	\$135,340	\$0	\$381,274
2036	\$381,274	\$40,083	\$36.71	\$3,813	\$20,829	\$0	\$404,341
2037	\$404,341	\$40,083	\$36.71	\$4,043	\$7,855	\$0	\$440,612
2038	\$440,612	\$40,083	\$36.71	\$4,406	\$850,268	\$0	-\$365,167



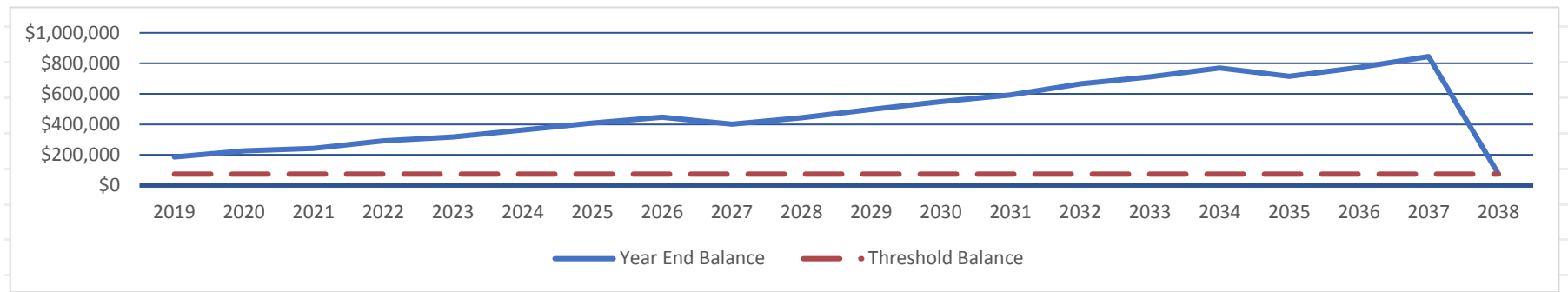
Funding Alternative 1

Year	Starting Balance	Reserve Account Contribution	Average Per Unit/Month	Return on Investments	Repair Expenses	Special Assessments	Year End Balance
2019	\$241,187	\$40,083	\$36.71	\$2,412	\$97,588	\$0	\$186,094
2020	\$186,094	\$40,083	\$36.71	\$1,861	\$4,590	\$0	\$223,448
2021	\$223,448	\$45,083	\$41.28	\$2,234	\$28,481	\$0	\$242,285
2022	\$242,285	\$45,083	\$41.28	\$2,423	\$0	\$0	\$289,791
2023	\$289,791	\$50,083	\$45.86	\$2,898	\$27,061	\$0	\$315,711
2024	\$315,711	\$50,083	\$45.86	\$3,157	\$8,612	\$0	\$360,339
2025	\$360,339	\$55,083	\$50.44	\$3,603	\$11,262	\$0	\$407,764
2026	\$407,764	\$55,083	\$50.44	\$4,078	\$21,681	\$0	\$445,243
2027	\$445,243	\$60,083	\$55.02	\$4,452	\$110,239	\$0	\$399,540
2028	\$399,540	\$60,083	\$55.02	\$3,995	\$23,304	\$0	\$440,314
2029	\$440,314	\$65,083	\$59.60	\$4,403	\$16,213	\$0	\$493,588
2030	\$493,588	\$65,083	\$59.60	\$4,936	\$21,137	\$0	\$542,469
2031	\$542,469	\$70,083	\$64.18	\$5,425	\$34,718	\$0	\$583,259
2032	\$583,259	\$70,083	\$64.18	\$5,833	\$4,528	\$0	\$654,647
2033	\$654,647	\$75,083	\$68.76	\$6,546	\$32,987	\$0	\$703,289
2034	\$703,289	\$75,083	\$68.76	\$7,033	\$20,592	\$0	\$764,813
2035	\$764,813	\$75,083	\$68.76	\$7,648	\$135,340	\$0	\$712,205
2036	\$712,205	\$75,083	\$68.76	\$7,122	\$20,829	\$0	\$773,581
2037	\$773,581	\$75,083	\$68.76	\$7,736	\$7,855	\$0	\$848,545
2038	\$848,545	\$75,083	\$68.76	\$8,485	\$850,268	\$0	\$81,845



Funding Alternative 2

Year	Starting Balance	Reserve Account Contribution	Average Per Unit/Month	Return on Investments	Repair Expenses	Special Assessments	Year End Balance
2019	\$241,187	\$40,083	\$36.71	\$2,412	\$97,588	\$0	\$186,094
2020	\$186,094	\$42,087	\$38.54	\$1,861	\$4,590	\$0	\$225,452
2021	\$225,452	\$44,192	\$40.47	\$2,255	\$28,481	\$0	\$243,418
2022	\$243,418	\$46,401	\$42.49	\$2,434	\$0	\$0	\$292,253
2023	\$292,253	\$48,721	\$44.62	\$2,923	\$27,061	\$0	\$316,836
2024	\$316,836	\$51,157	\$46.85	\$3,168	\$8,612	\$0	\$362,549
2025	\$362,549	\$53,715	\$49.19	\$3,625	\$11,262	\$0	\$408,628
2026	\$408,628	\$56,401	\$51.65	\$4,086	\$21,681	\$0	\$447,434
2027	\$447,434	\$59,221	\$54.23	\$4,474	\$110,239	\$0	\$400,891
2028	\$400,891	\$62,182	\$56.94	\$4,009	\$23,304	\$0	\$443,777
2029	\$443,777	\$65,291	\$59.79	\$4,438	\$16,213	\$0	\$497,293
2030	\$497,293	\$68,556	\$62.78	\$4,973	\$21,137	\$0	\$549,684
2031	\$549,684	\$71,983	\$65.92	\$5,497	\$34,718	\$0	\$592,446
2032	\$592,446	\$71,983	\$65.92	\$5,924	\$4,528	\$0	\$665,827
2033	\$665,827	\$71,983	\$65.92	\$6,658	\$32,987	\$0	\$711,481
2034	\$711,481	\$71,983	\$65.92	\$7,115	\$20,592	\$0	\$769,987
2035	\$769,987	\$71,983	\$65.92	\$7,700	\$135,340	\$0	\$714,331
2036	\$714,331	\$71,983	\$65.92	\$7,143	\$20,829	\$0	\$772,629
2037	\$772,629	\$71,983	\$65.92	\$7,726	\$7,855	\$0	\$844,483
2038	\$844,483	\$71,983	\$65.92	\$8,445	\$850,268	\$0	\$74,644



APPENDIX B: PROJECT PHOTOGRAPHS

SAMPLE