

DRAFT FOR BOARD REVIEW

FULL RESERVE STUDY

*PEBBLE CREEK
DURHAM, NC*

Prepared for:
**PEBBLE CREEK UNIT OWNERS ASSOCIATION
DURHAM, NC
&
COMMUNITY FOCUS OF NC**

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1.0 INTRODUCTION

The Pebble Creek Unit Owners Association authorized Criterium–Giles Engineers to conduct a Reserve Study for the Pebble Creek community located in Durham, North Carolina. Studies of this nature are important to ensure a community has sufficient funds for long-term, periodic capital expenditure requirements. Anticipating large expenditures over an extended period of time through a structured analysis and scheduling process assists the Association in meeting financial requirements without increasing the service fees above permitted maximums, borrowing the funds, or levying special financial assessments to the home owners.

Typically, a community association has two broad cash requirements: the general operating reserves and the capital repair and replacement reserves. In this report, we will focus on those items falling under the capital repair and replacement reserve criteria. We have projected a capital repair and replacement reserve for twenty (20) years. The first ten years are the most reliable. Such a study should be updated every five years.

This report is structured to analyze components of the community for which the Association is responsible and to assess a useful expected life and useful remaining life to those components. The anticipated scheduled repair or replacement of the component and the anticipated expense for the activity are then analyzed in conjunction with the current capital reserves funding program for the community. Funding program recommendations are made with the objective of limiting substantial cash excesses while minimizing financial burdens that can result from significant cash inadequacies.

This report is intended to be used as a tool to determine reserve fund allocation requirements for the community, to manage future Association obligations, and to inform the community of future financial needs in general. The report that follows has been prepared from the perspective of what an owner of this property would benefit from knowing. Some items, beyond those of immediate concern, may be discussed. Therefore, the report should be read in its entirety in order to fully understand all of the information that has been obtained.

2.0 EXECUTIVE SUMMARY

Pebble Creek is a community in Durham, North Carolina that is comprised of 42 condominium units and a clubhouse building. The community is located on the southwest corner of Constitution Drive and American Drive. From our review of Durham County real estate records, the units were built around 1974.

The association has responsibility for the roofs, gutters, siding, rear decks, windows and doors on the condominium buildings. The association is also responsible for maintaining the clubhouse building, tennis courts, swimming pool and associated mechanical equipment and furnishings. Site improvements maintained by the association include the private parking areas/streets, retaining walls, fencing, entrance signage, concrete flatwork and the drainage systems.

The buildings, 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 provide sufficient funding to meet capital expenditure requirements in the next twenty years. 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, seal and resurface asphalt paved surfaces
- Replace building roofs and gutters
- Paint and repair siding and trim

There are, of course, other capital expenditures to be expected over the next twenty years. Those items that will require attention are discussed later in this report.

3.0 PURPOSE & SCOPE

3.1 Purpose

The purpose of this study is to perform a reserve fund analysis and to determine a capital needs plan. It is intended to be used as a tool for the Pebble Creek Unit Owners Association in determining the allocation requirements into the reserve fund in order to meet future anticipated capital expenditures for the community.

This report forecasts obligations for the community twenty years into the future. It should be noted that events might occur that could have an effect on the underlying component or system useful life assumptions used in this study. Likewise, inevitable market fluctuations can have an impact on component or system replacement and repair costs. Therefore, a study such as this should be updated from time to time, usually on a three to five-year cycle, in order to reflect the most accurate needs and obligations of the community.

3.2 Scope

This study has been performed according to the scope as generally defined by Pebble Creek Unit Owners Association, Criterium-Giles Engineers Inc., Community Focus of NC, 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 an investigation of the buildings and site.

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 a "Baseline Funding" goal by maintaining a positive balance for the term of the study.

The guidelines used to determine which physical components within the community are to be included in the component inventory are based on the following general criteria:

1. The component must be a common element, or otherwise noted to be the responsibility of the Association to replace.
2. The component must have an estimated remaining useful life of twenty years or less. As the site ages, additional components may need to be added.
3. The funding for replacement should be from one source only, not funded from another area of the budget or through a maintenance contract.
4. The cost of replacement should be high enough to make it financially unsound to fund it from the operating budget.

Our reserve study analysis included evaluating the following association property:

- **Buildings:** The HOA is responsible for maintenance and replacement of the roofing and gutters, siding and brick veneer, foundations, rear decks, doors and windows, and for maintaining the clubhouse.
- **Mechanical Systems:** It is assumed that the City is responsible for

maintenance of the sanitary sewer and potable waterlines. The Association is responsible for the pool pump and filtration equipment as well as the plumbing, electrical and HVAC equipment serving the clubhouse.

- **Site and Grounds:** The HOA is responsible for asphalt paving on private parking areas, concrete flatwork, retaining walls and fencing, mail kiosks, entrance signage and drainage systems. A pool and tennis courts are also maintained by the association.

The above list was obtained from the site inspection and discussions with the management firm prior to the inspection.

This study estimates the funding levels required for maintaining the long-term viability of the facility. Our approach involves:

1. Examining association managed equipment, building and site facilities.
2. Predicting their remaining service life and, approximating how frequently they will require repair or replacement.
3. Estimating repair or replacement costs (in 2017 dollars) for each capital item.
4. Using data developed in Steps 1, 2 and 3 to project Capital Reserve balances for Years 1 through 20.

The statements in this report are opinions about the present condition of the subject community. They are based on visual evidence available during a diligent investigation of all reasonably accessible areas falling under the responsibility of the Association. We did not remove any surface materials, perform any destructive testing, or move any furnishings. This study is not an exhaustive technical evaluation. Such an evaluation would entail a significantly larger scope than this effort. For additional limitations, see Section 8.0.

3.3 Sources of Information

Onsite inspections of the property occurred on the following date:

- December 22, 2016

The following people were interviewed during our study:

- Josh Lindgren, Community Manager, Community Focus of NC

The following documents were made available to us and reviewed:

- Durham County real estate records
- Financial statements (income/balance sheet)
- Governing documents

We based our cost estimates on some or all of the following:

- R.S. Means
- Our data files on similar projects

- Local contractor estimates

For your reference, the following definitions may be helpful:

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 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. 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.

All ratings are determined by comparison to other buildings of similar age and construction type. Further, some details of workmanship and materials will be examined more closely in higher quality buildings where such details typically become more relevant.

All directions (left, right, rear, etc.), when used, are taken from the viewpoint of an observer standing in front of a building and facing it.

Repair/Replacement Reserves - Non-annual maintenance items that will require significant expenditure over the life of the buildings. Included are items that will reach the end of their estimated useful life during the course of this forecast, or, in the opinion of the investigator, will require attention during that time.

4.0 DESCRIPTION

Pebble Creek is a community in Durham, North Carolina that is comprised of 42 condominium units and a clubhouse building. The community is located on the southwest corner of Constitution Drive and American Drive. From our review of Durham County real estate records, the units were built around 1974.

The association has responsibility for the roofs, gutters, siding, rear decks, windows and doors on the condominium buildings. The association is also responsible for maintaining the clubhouse building, tennis courts,

swimming pool and associated mechanical equipment and furnishings. Site improvements maintained by the association include the private parking areas/streets, retaining walls, fencing, entrance signage, concrete flatwork and the drainage systems.

Seven condominium buildings house 42 condominium style units. The buildings are generally 2 stories. The community also includes a single-story clubhouse building adjacent to the pool and a small pump room building.

The buildings are of wood frame construction with crawl space and basement foundations. Exterior surfaces are primarily comprised of wood T1-11 siding and brick veneer with wood and metal trim components. The building roofs are clad with asphaltic fiberglass shingles with gutters and downspouts discharge stormwater to grade.

Site drainage is provided via landscaped and paved swales that drain towards catch basins in the paved and landscaped areas. These systems direct water flow toward a creek running through the property.

5.0 OBSERVATIONS

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

Site and Grounds

The parking areas and streets throughout the community are asphalt paved and are privately maintained by the Association. The asphalt paving generally appeared to be in fair condition with significant sections of fatigue cracking (alligatoring) and areas of upheaval and potholes developing. Areas of fatigue cracking, upheaval and pot holes will require full depth patching to repair. This would include saw cutting and removing sections of paving, repairing base course/sub-grade as needed and installing new 2" to 4" thick asphalt paving. We have allocated funds for full depth repairs of sections of the paving on a 10 year cycle beginning in 2018.

Completing full depth repairs of sections of the paving will allow time to build fund levels to prepare for and supplement full resurfacing. Full resurfacing would include milling sections of existing paving and installing a new 1.5 – 2" layer of asphalt over all of the existing paving. Milling of areas and full depth repairs will likely be required at time of resurfacing to repair areas of significant cracking/depressions/upheaval and to maintain an adequate drainage profile. We have allocated funds for resurfacing the oldest sections of paving in 2028 (to allow funds to build up).

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, and parking lot re-stripped. We have allocated funds for crack repair, seal coating and re-stripping the pavement beginning in 2018 and on a 7 year cycle.

The association is responsible for maintaining the concrete flatwork consisting of the walkways and sidewalks at the front of each building, around dumpster enclosures, and the concrete pool deck. We noted areas of cracking and upheaval, particularly next to large shade trees. We have allocated funds for periodic repairs and/or replacement of concrete surfaces as required and have assumed that 3% of the surfaces will require maintenance every 8 years beginning in 2025, since the Board is moving forward with flatwork repairs in 2017.

Storm water on the site drains via surface flow or via landscaped swales toward catch basins and inlet pipes in the landscaped areas. The runoff flows toward a creek running through the property.

The swales tend to accumulate sediment that settles out during storm events and will need to be periodically removed and re-graded. In addition, over time, small landscape drainage systems will likely need to be installed in flat areas of the community to address concerns. We also observed bare soils on steep slopes behind the buildings which have moderate erosion. We recommend maintaining adequate soil stabilizing ground cover to reduce erosion concerns. Poor drainage with ponding water was noted at the front of many units. Due to the age of the community, it is expected that the private drainage infrastructure repairs will accelerate. We have allocated funds to repair the drainage systems on a 5 year cycle beginning in 2018. Repairs will likely include retrenching of swales to improve flow, adding rip rap or vegetation to stabilize exposed or steep areas, repairing erosion concerns, extending gutter downspouts to underground systems, installing french drains or other types of minor drainage systems. The modest budget is intended to address the highest priority concerns.

We noted recently installed dampproofing at limited units. While this is important to prevent water intrusion into interior spaces, grading the surface away from the foundation plays an integral role in not only water intrusion, but maintaining a stable structural foundation.

A stained wood pedestrian bridge over the creek connects the two sides of the community and appears to be in good condition. We have included funds to replace the bridge every 25 years beginning in 2029.

We noted irrigation heads in the community, but it is assumed this has been abandoned and have not included funds for repairs.

The entrance signage at the front of the community is a painted wood frame with wood sign and lighting. Though painting should occur out of the operating budget, we have included funds for replacement every 20 years beginning in 2030.

Two mail kiosks serve the community, and generally last for 30-40 years when exposed to the elements. We have included funds to replace the kiosks in 2028.

Common Building Exteriors

The predominant pitched roof surfaces over the buildings are covered in asphaltic fiberglass, 3-tab shingles. Roof surfacing is applied over plywood roof sheathing, and appears to be in fair condition, and looks to have been installed approximately 12-15 years ago. We are unaware of any concerns with current roof leaks. We anticipate minor improvements including replacing vent boots, flashing and drip edge repairs, and gutter repairs will begin to be required in the near term. We have assumed minor repairs would be funded from an annual maintenance budget.

This type of roofing has an expected useful life of approximately 20 years. We strongly recommend that any re-roofing project closely follow procedures outlined by the National Roofing Contractors Association's *Roofing and Waterproofing Manual*. A re-roofing sequence should include removal of the existing roofing material, replacement of any inadequate roof sheathing, replacement of any damaged flashing, and replacement of drip edge components. We have allocated funds to replace the roofs on all of the buildings (including the clubhouse) in 2025 per the Board's direction.

Gutters and downspouts are in generally good to fair condition and should not require replacement until the time of roof replacement, as this component typically provides twenty years of relatively trouble free service. We have included funds for limited replacements of damaged gutters and downspouts in the roof replacement budget.

The buildings throughout the community are clad in brick veneer and wood T1-11 siding. Trim is primarily comprised of wood and sections of metal. Each unit includes a wood-framed front porch and rear deck that is stained. We do not know when the last date of painting occurred, but it appears to be in generally good condition. We have allocated funds for painting and repairs of the siding and trim components on all of the buildings on a 7 year cycle beginning in 2022. The painting/repair cycles should include repairing/replacing damaged sections of siding and trim, repairing deteriorated caulking and flashing, a thorough cleaning and proper surface preparations and the application of a high quality exterior grade paint.

We have included separate funds to paint and repair the clubhouse building at the same time as the condo buildings. Painting would include both sides of the privacy fence around the swimming pool.

Per our review of Section 6(k) of the Declarations, the Association is responsible for maintenance and repair of the decks, exterior doors, and windows. There are large, fixed pane glass windows and exterior sliding glass and metal skin doors. The Board has stated that the windows and doors will be replaced out of the operating budget.

The foundation walls and limited faces of the condominium buildings are clad in concrete masonry units with sections of brick veneer. We observed limited areas of minor cracking in foundation components indicating settlement. Considering the age of the buildings, it is likely that periodic foundation/structural repairs will be required. These repairs may include foundation stabilization with helical piers, installing/repairing foundation

drains and other foundation/structural repairs. Per direction of the Board, we have provided an allocation of funds for structural in 2018, 2020, 2022, 2024, and every 4 years thereafter.

The wood front porches appear to be in generally good condition. While this report is not an engineering evaluation of the decks or structural components of the building, we did note various items that are no longer allowed per current residential code requirements. We noted what appears to be joist cantilevers that are longer than allowed, 4x4 posts that are taller than allowed, and wood rot of the band at unit 4231-C. While minor repairs should occur out of the operating budget, we have included funds to replace the wood front porches in 2037 and rear decks beginning in 2029. If desired, a structural engineer can be consulted to provide a list of all deficiencies.

Common Clubhouse Interior

The clubhouse building includes an open multipurpose room, meeting room, storage room and two bathrooms. The restrooms include a shower, toilet, sink, and standard plumbing fixtures. Cabinetry with cultured marble countertops are located in the bathrooms. Wood cabinets with laminate counters and a stainless steel sink are located in the kitchen. The clubhouse includes tile, carpet, and vinyl flooring. Chairs, tables and upholstered couches and other miscellaneous furnishings are located in the clubhouse.

The Association intends to refurbish the bathrooms in 2017. We have allocated funds based on the most recent costs to refurbish the restrooms at the clubhouse on a 20 year cycle with the next phase projected for in 2037 . This would include replacing plumbing fixtures and cabinetry and countertops in the bathrooms.

We have included funds to replace the cabinetry, countertops, and sink in the kitchen every 30 years beginning in 2021 per the Board's direction.

We have allocated funds to replace the carpet and vinyl flooring in the clubhouse on a 15 year cycle beginning in 2021 per the Board's direction.

We have provided an allocation of funds to replace portions of the furnishings in the clubhouse on a 20 year cycle beginning in 2021 per the Board's direction.

We have assumed interior painting and other minor repairs would be funded from an annual maintenance budget.

Mechanical

The pool pump and filtration equipment is assumed to be located in the wood-framed shed adjacent to the clubhouse which was locked during the inspection. Using our experience with similar communities, we have assumed a 3-horsepower pump and a single sand filter. These items are typically replaced as the fail, and we have provided funds to replace components of the pump and filtration system on a 4 year cycle beginning

in 2019. Repairs will likely include replacing pump and/or motor, replacing sand in the sand filter and other repairs.

The water heater is assumed to be in the attic. Water heaters typically have an expected useful life of approximately 15 years. We have provided funds to replace it in 2026.

The clubhouse is served by (2) Trane 3-1/2 ton capacity, split-system HVAC units that were manufactured in 2004. We have provided funds to replace the HVAC systems at the clubhouse on a 15-year cycle beginning in 2019.

Appliances in the clubhouse include a refrigerator, oven, and microwave. Two water fountains appear to be of significant age. We have included an allowance for replacement of appliances every 12 years beginning in 2021.

It is assumed that the common water and sanitary sewer piping is the responsibility of the City of Durham. The utility services at each unit is assumed to be the responsibility of the individual homeowner, including the exterior mounted fixtures.

Considering the age of the buildings, the condo buildings may include aluminum wiring. Aluminum wiring may present an elevated fire hazard due to wiring failure/corrosion and overheating at multiple connection points around outlets, switches and other fixtures. The Consumer Product Safety Commission recommends permanent repairs including complete replacement of wiring attaching short sections of copper wiring at the ends of aluminum wiring at connection points (“pigtailing”). We have not allocated any funds for replacement of electrical or other utility components in the units.

The Association is responsible for the mechanical, electrical, and plumbing systems at the clubhouse. Major renovations will likely include replacement of ductwork, piping, and electrical panels and wiring due to the age of the building. We have included funds for major repairs and replacement of sections of the M/E/P work in 2028. These funds can also be used to upgrade the light fixtures at the clubhouse.

Amenities

The pool was covered at the time of inspection, and the surface was not visible. Typically, pools should be drained, minor cracks repaired, and recoated (possibly quartz plaster) on an approximately 10-12 year cycle. We have budgeted funds for full resurfacing and tile repairs on a 12-year cycle beginning in 2024.

Pool furniture consisted of metal framed chairs and chaise lounges with exterior fabric. We noted holes in portions of the fabric. The Association intends to replace portions of the furniture in 2017. per the Board’s direction, we have included funds for replacement of a portion of the pool furnishings in 2027 and every 10 years thereafter.

The Loop Loc style pool cover was faded, but we did not note any rips or

tears. These covers are typically replaced every 6-8 years due to the critical nature of the component. We have included funds for replacement in 2019.

The two tennis courts are in poor condition and appear to have been abandoned. Large cracks with vertical displacement were noted in the playing surface. To return to playing condition, the courts would have to be fully reconstructed. It is assumed that the tennis courts will be either removed or repurposed. We have not included funds for further maintenance.

Funding for minor repairs associated with the saunas in the clubhouse should occur from the operating budget.

6.0 RESERVE FUND ANALYSIS

Using software developed by Criterium Engineers and KPMG Peat Marwick, we have analyzed capital reserves draw-down for the projected capital expenditures to determine the amount needed. The following is a projected reserve fund analysis for non-annual items as discussed in the report. This projection takes into consideration a reasonable return on invested moneys and inflation. Please review this thoroughly and let us know of any changes that may be desired.

The intent of this reserve fund projection is to help the Association develop a reserve fund to provide for anticipated repair or replacements of various system components during the next twenty years.

The capital items listed are those that are typically the responsibility of the Association and are derived from a list provided the Association with several items added as a result of the inspection. However, association by-laws vary, and therefore, which components are the responsibilities of the owner and which are the responsibilities of the Association can vary. The Association should confirm that the items listed should be financed by the reserve fund.

This projection provides the following:

- An input sheet that defines all the criteria used for the financial alternatives, including the assumed inflation rate of 3% annually and rate of return on deposited reserve funds of 1.0% annually.
- A table that lists anticipated replacement and/or repair items complete with estimated remaining life expectancies, projected costs of replacement and/or repair, a frequency in years of when these items require replacement and/or repair, and a projection based on this frequency.
- A table and graph that represent end of year balances versus capital expenditures based on your current funding program and reserve balances, and alternatives to your current program. The provided graphs illustrate what effects the funding methods will have over the presented twenty-year period versus the anticipated capital

expenditures.

- Note that based on our developed list of capital items and taking inflation into account; the current funding level is not adequate.
- The Association should bear in mind that unanticipated expenditures can always arise and maintenance of a significant reserve fund balance can be viewed as a way to avoid special assessments.

We have included alternatives to your current reserve funding program and recommend that the board adopt an alternative that best reflects the objectives of the community. In summary they are as follows:

Current Reserve Funding Rate: \$14,450/year; (\$28.67/unit/month) + \$63,000 annual Special Assessment

Current Reserve Balance: \$170,023 (Projected January 2018, per Board, which includes 2017 special assessment)

As the Association has maintained several years of special assessments of \$1,500/unit and the reserve contributions are not projected to decrease below this amount, we are recommending that the Association incorporate the special assessment into their regular dues.

- **Alternative 1:** Increase the annual contribution in 2018 to \$72,000 per year (\$142.86 per unit per month). Then, increase the reserve contribution by \$5,040/year (\$10.00/unit/month) every year for the next 8 years. This alternative is projected to maintain a positive balance through the term of this study.
- **Alternative 2:** Increase the annual contribution in 2018 to \$48,000 per year (\$95.24 per unit per month). Then, increase the annual reserve contribution by 10% each year for the next 10 years. In addition, (1) special assessment in the amount of \$147,000 (\$3,500/unit) is projected to be collected in 2029. This alternative is projected to maintain a positive balance through the term of this study.
- **Alternative 3:** Increase the annual contribution in 2018 to \$96,000 per year (\$190.48 per unit per month) where it is projected to remain for the duration of the 20 year term. This alternative is projected to maintain a positive balance through the term of this study.

Please note that the reserve fund study does not include typical annual maintenance items. Our assumption is that you already have an annual operating budget that provides for these typical, repetitive items. This includes miscellaneous repairs, lawn and grounds maintenance, routine minor painting, etc. We have focused on those significant, non-annual items where careful financial planning is important.

Finally, please note that the estimates we have developed are based on 2017 dollars. Our reserve fund study does adjust for an estimated annual inflation and a given return on investment assuming that the indicated fund balances are maintained.

7.0 CONCLUSION

The alternatives provided above should provide sufficient funding to meet estimated capital expenditures during the next twenty years. Further detail of the reserve fund analysis is provided in Appendix A.

8.0 LIMITATIONS

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 the Pebble Creek Unit Owners Association. Criterium-Giles Engineers Inc. does not intend any other individual or party to rely upon this study without our express written consent. If another individual or party relies on this study, they shall indemnify and hold Criterium-Giles Engineers Inc. harmless for any damages, losses, or expenses they may incur as a result of its use.

This study is limited to the visual observations made during our inspection. We did not remove surface materials, conduct any destructive or invasive testing, move furnishings or equipment, or undertake any digging or excavation. Accordingly, we cannot comment on the condition of systems that we could not see, such as buried structures and utilities, nor are we responsible for conditions that could not be seen or were not within the scope of our services at the time of the investigation. We did not undertake to completely assess the stability of the buildings or the underlying foundation soil since this effort would require excavation and destructive testing. Likewise, this is not a seismic assessment.

We did not investigate the following areas:

- Buried utilities or infrastructure
- Concealed structural members or systems
- Unit interiors

We do not render an opinion on uninvestigated portions of the community.

We did not perform any computations or other engineering analysis as part of this evaluation, nor did we conduct a comprehensive code compliance investigation. 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 Criterium-Giles Engineers team working on this reserve study are not members of, or otherwise associated with the association. Criterium-Giles Engineers has disclosed any other involvement with the association that could result in conflicts of interest.

Information provided by the official representative of the association regarding financial, physical, quantity, or historical issues, will be deemed reliable by Criterium-Giles 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. Criterium-Giles Engineers is not aware of any additional material issues which, if not disclosed, would cause a distortion of the association's situation.

In our Reserve Fund Analysis, we have provided estimated costs. These costs are based on our general knowledge of building systems and the contracting and construction industry. When appropriate, we have relied on standard sources, such as Means Building Construction Cost Data, to develop estimates. However, for items that we have developed costs (e.g.: structural repairs), no standard guide for developing such costs exists. Actual costs can vary significantly, based on the availability of qualified contractors to do the work, as well as many other variables. We cannot be responsible for the specific cost estimates provided.

We have performed no design work as part of this study, nor have we obtained competitive quotations or estimates from contractors as this also is beyond the scope of the project. The actual cost to remedy deficiencies and deferred maintenance items that we have identified may vary significantly from estimates and competitive quotations from contractors.

If you have any questions about this study or the reserve fund analysis, please feel free to contact us. Thank-you for the opportunity to be of assistance to you.

Respectfully submitted,



Christopher A. Flythe, PE, RS
Principal
Criterium-Giles Engineers, Inc.

Appendix A: RESERVE FUND PROJECTIONS

Itemized Worksheet

Capital Item To Be Replaced	Quantity	Unit cost	Reserve Requirement (*)	Beginning Balance	Frequency (yrs**)	Remaining Life (yrs)	Information Source
Site							
full depth asphalt patching	400 SY	\$40.00	\$16,000.00	\$5,390.73	10	0	
mill and resurface asphalt	4,700 SY	\$14.00	\$65,800.00	\$13,301.62	25	10	
seal and stripe parking area	4,700 SY	\$1.50	\$7,050.00	\$2,375.29	7	0	
concrete flatwork repairs	45 SY	\$95.00	\$4,275.00	\$1,440.34	8	0 3% every 8 years	
drainage repairs and improvements	1 LS	\$15,000.00	\$15,000.00	\$5,053.81	5	0	
replace wood pedestrian bridge	225 SF	\$25.00	\$5,625.00	\$1,061.30	25	11	
replace entrance signage	2 EA	\$1,000.00	\$2,000.00	\$269.54	20	12	
replace mail kiosks	2 EA	\$2,400.00	\$4,800.00	\$1,212.91	40	10	
Building Exterior							
replace building roofs	850 SQ	\$265.00	\$225,250.00	\$49,329.38	20	7	
paint and repair siding and trim, decks	42 unit	\$3,100.00	\$130,200.00	\$18,800.17	7	4	
paint and repair clubhouse siding and trim, fence	1 LS	\$5,200.00	\$5,200.00	\$750.85	7	4	
structural repair contingency	1 LS	\$15,000.00	\$15,000.00	\$5,053.81	4	0	
replace wood decks (front)	42 unit	\$2,000.00	\$84,000.00	\$6,792.32	25	19	
replace wood decks (rear)	42 unit	\$4,800.00	\$201,600.00	\$38,036.98	25	11	
Building Interior							
refurbish clubhouse bathrooms	2 EA	\$8,000.00	\$16,000.00	\$269.54	20	19	
refurbish kitchen cabinets/countertops	1 LS	\$20,000.00	\$20,000.00	\$6,064.57	30	3	
replace carpet and vinyl flooring	960 SF	\$4.00	\$3,840.00	\$1,035.02	15	3	
replace furnishings	1 LS	\$5,500.00	\$5,500.00	\$1,575.10	20	3	
Mechanical							
replace components-pool pump and filtration equip	1 LS	\$3,000.00	\$3,000.00	\$758.07	4	1	
replace water heater	1 EA	\$1,000.00	\$1,000.00	\$157.23	15	8	
replace HVAC systems	7 TON	\$1,800.00	\$12,600.00	\$3,962.19	15	1	
replace appliances	1 allow	\$3,000.00	\$3,000.00	\$758.07	12	3	
mechanical/electrical/plumbing contingency	1 cont.	\$15,000.00	\$15,000.00	\$2,526.90	20	10	
Amenities							
resurface pool	1,050 SF	\$15.00	\$15,750.00	\$2,653.25	12	6	
replace pool furniture	1 LS	\$2,000.00	\$2,000.00	\$67.38	10	9	
replace pool cover	1,050 SF	\$4.50	\$4,725.00	\$1,326.62	6	1	
Other							
			Totals	\$884,215.00	\$170,023.00		
			Total Over Term	\$1,362,030.00			

* Costs are typically 10%±

** Reserve study is based on a 20 year projection of non-annual maintenance

Annual Expense By Year

	Year:	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
	Year Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Site																					
full depth asphalt patching		16,000	0	0	0	0	0	0	0	0	0	16,000	0	0	0	0	0	0	0	0	0
mill and resurface asphalt		0	0	0	0	0	0	0	0	0	0	65,800	0	0	0	0	0	0	0	0	0
seal and stripe parking area		7,050	0	0	0	0	0	0	7,050	0	0	0	0	0	0	7,050	0	0	0	0	0
concrete flatwork repairs		4,275	0	0	0	0	0	0	0	4,275	0	0	0	0	0	0	0	4,275	0	0	0
drainage repairs and improvements		15,000	0	0	0	0	15,000	0	0	0	0	15,000	0	0	0	0	15,000	0	0	0	0
replace wood pedestrian bridge		0	0	0	0	0	0	0	0	0	0	0	5,625	0	0	0	0	0	0	0	0
replace entrance signage		0	0	0	0	0	0	0	0	0	0	0	0	2,000	0	0	0	0	0	0	0
replace mail kiosks		0	0	0	0	0	0	0	0	0	0	4,800	0	0	0	0	0	0	0	0	0
Building Exterior																					
replace building roofs		0	0	0	0	0	0	0	225,250	0	0	0	0	0	0	0	0	0	0	0	0
paint and repair siding and trim, decks		0	0	0	0	130,200	0	0	0	0	0	0	130,200	0	0	0	0	0	0	130,200	0
paint and repair clubhouse siding and trim, fence		0	0	0	0	5,200	0	0	0	0	0	0	5,200	0	0	0	0	0	0	5,200	0
structural repair contingency		15,000	0	15,000	0	15,000	0	15,000	0	15,000	0	0	0	15,000	0	0	0	15,000	0	0	0
replace wood decks (front)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	84,000
replace wood decks (rear)		0	0	0	0	0	0	0	0	0	0	0	201,600	0	0	0	0	0	0	0	0
Building Interior																					
refurbish clubhouse bathrooms		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16,000
refurbish kitchen cabinets/countertops		0	0	0	20,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
replace carpet and vinyl flooring		0	0	0	3,840	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,840	0
replace furnishings		0	0	0	5,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mechanical																					
replace components-pool pump and filtration equip		0	3,000	0	0	0	3,000	0	0	0	3,000	0	0	0	3,000	0	0	0	3,000	0	0
replace water heater		0	0	0	0	0	0	0	0	1,000	0	0	0	0	0	0	0	0	0	0	0
replace HVAC systems		0	12,600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12,600	0	0	0
replace appliances		0	0	0	3,000	0	0	0	0	0	0	0	0	0	0	0	3,000	0	0	0	0
mechanical/electrical/plumbing contingency		0	0	0	0	0	0	0	0	0	0	15,000	0	0	0	0	0	0	0	0	0
Amenities																					
resurface pool		0	0	0	0	0	0	15,750	0	0	0	0	0	0	0	0	0	0	0	15,750	0
replace pool furniture		0	0	0	0	0	0	0	0	0	2,000	0	0	0	0	0	0	0	0	0	2,000
replace pool cover		0	4,725	0	0	0	0	0	4,725	0	0	0	0	0	4,725	0	0	0	0	0	4,725
Other																					
Total Costs		57,325	20,325	15,000	32,340	150,400	18,000	30,750	237,025	20,275	5,000	116,600	342,625	17,000	7,725	7,050	18,000	31,875	3,000	154,990	106,725
Total Costs Adjusted For 3% Inflation		57,325	20,935	15,914	35,339	169,277	20,867	36,717	291,511	25,684	6,524	156,701	474,273	24,238	11,344	10,664	28,043	51,150	4,959	263,860	187,143

Reserve Study Worksheet

General Information:

1 Organization: **Pebble Creek**
2 Address: **Constitution Drive**
Durham, NC

3	Number of Units	42
4	Age of Building (in years)	42
5a	Study Period (in years)	20
5b	Normal Fiscal Year starts:	January 1, 2018
5c	Partial Fiscal Year starts:	January 1, 2018
5d	Partial Year Length:	12 months
6	Site Inspection Date	December 22, 2016
7	Reserve Funds at start	\$170,023
8	Rate of Return on invested Reserve Funds (%)	1.0%
9	Inflation Rate (%)	3.0%

10 Current Funding Levels

Existing Funding Levels					
		Total/Month	Total Annual	Per Unit/Month	Per Unit/Year
Reserve Fund Contribution		\$6,454	\$77,450	\$153.67	\$1,844.05
	Years Out		Total Annual	Per Unit	
Planned Special Assessment	0		\$0	\$0	
Balance Computed	(\$140,920)				

11 Alternative Reserve Fund Contribution

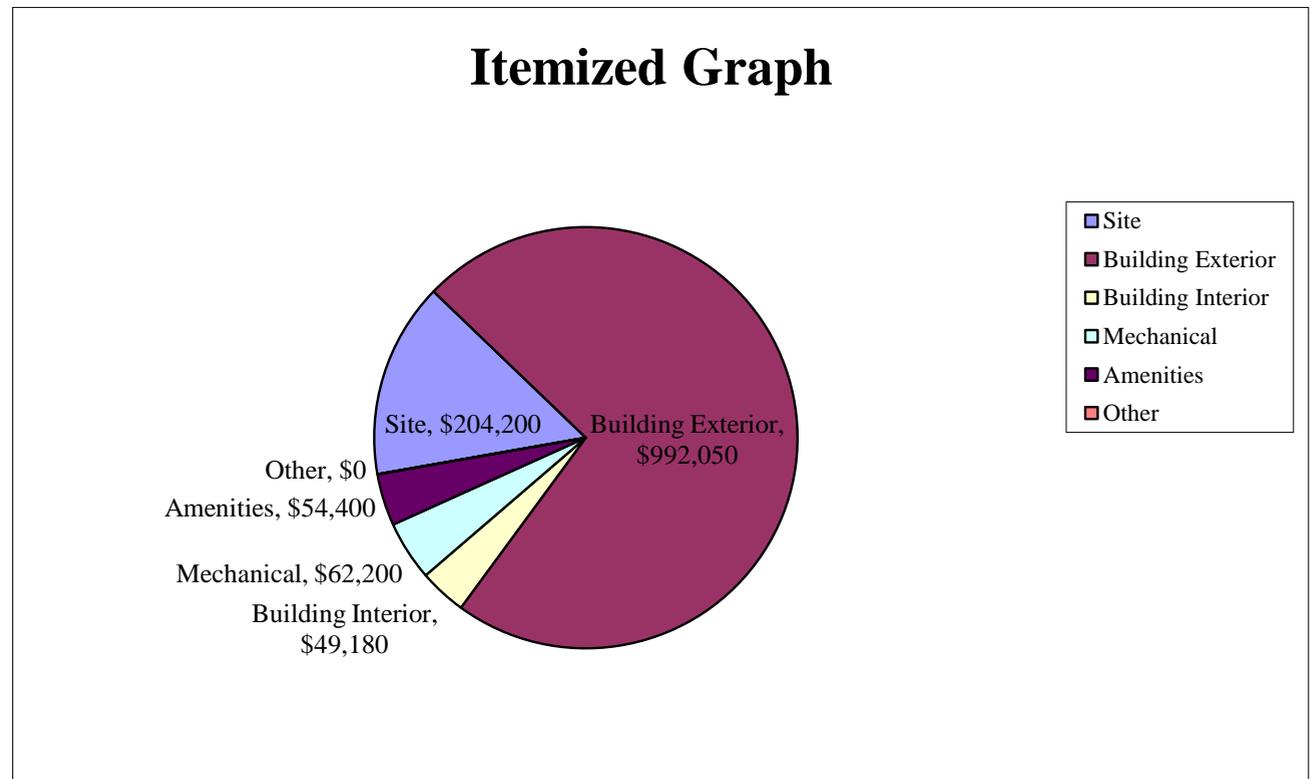
Alternative 1 Level Funding with Steps					
		Total/Month	Total Annual	Per Unit/Month	Per Unit/Year
Monthly Amount, (First Year)		\$6,000	\$72,000	\$142.86	\$1,714.29
Monthly Amount, (Last Year)		\$9,360	\$112,320	\$222.86	\$2,674.29
Balance Required Final Year		\$94,623			
Special Assessments:	Years Out		Total/Year	Per Unit	
First Assessment	0		\$0	\$0	
Second Assessment	0		\$0	\$0	
Balance Computed	\$412,465				

Alternative 2 Escalating Funding at 10% per Year					
		Total/Month	Total Annual	Per Unit/Month	Per Unit/Year
Monthly Amount, (First Year)		\$4,000	\$48,000	\$95.24	\$1,142.86
Monthly Amount, (Last Year)		\$10,375	\$124,500	\$247.02	\$2,964.28
Balance Required Final Year		\$94,623			
Base Escalation %	10.00%				
Special Assessments:	Years Out		Total/Year	Per Unit	
First Assessment	12	Jan 2029	\$147,000	\$3,500	
Second Assessment	0		\$0	\$0	
Balance Computed	\$493,310				

Alternative 3 Escalating Funding with Special Assessments					
		Total/Month	Total Annual	Per Unit/Month	Per Unit/Year
Monthly Amount, (First Year)		\$8,000	\$96,000	\$190.48	\$2,285.71
Monthly Amount, (Last Year)		\$8,000	\$96,000	\$190.48	\$2,285.71
Balance Required Final Year		\$94,623			
Base Escalation %	0.00%				
Special Assessments:	Years Out		Total/Year	Per Unit	
First Assessment	0		\$0	\$0	
Second Assessment	0		\$0	\$0	
Balance Computed	\$265,873				

Itemized Graph

Categories	Totals
Site	\$204,200
Building Exterior	\$992,050
Building Interior	\$49,180
Mechanical	\$62,200
Amenities	\$54,400
Other	\$0
Total	\$1,362,030



Existing Funding Levels



Year	Year Number	Beginning Reserve Fund Balance	Fee Revenue	Special Assessments	Investment Earnings	Capital Expenditures	Ending Balance
2018	1	\$170,023	\$77,450	\$0	\$1,901	\$57,325	\$192,050
2019	2	\$192,050	\$77,450	\$0	\$2,486	\$20,935	\$251,050
2020	3	\$251,050	\$77,450	\$0	\$3,126	\$15,914	\$315,713
2021	4	\$315,713	\$77,450	\$0	\$3,578	\$35,339	\$361,402
2022	5	\$361,402	\$77,450	\$0	\$2,696	\$169,277	\$272,272
2023	6	\$272,272	\$77,450	\$0	\$3,289	\$20,867	\$332,143
2024	7	\$332,143	\$77,450	\$0	\$3,729	\$36,717	\$376,605
2025	8	\$376,605	\$77,450	\$0	\$1,625	\$291,511	\$164,170
2026	9	\$164,170	\$77,450	\$0	\$2,159	\$25,684	\$218,095
2027	10	\$218,095	\$77,450	\$0	\$2,890	\$6,524	\$291,912
2028	11	\$291,912	\$77,450	\$0	\$2,127	\$156,701	\$214,788
2029	12	\$214,788	\$77,450	\$0	\$0	\$474,273	(\$182,035)
2030	13	(\$182,035)	\$77,450	\$0	\$0	\$24,238	(\$128,823)
2031	14	(\$128,823)	\$77,450	\$0	\$0	\$11,344	(\$62,718)
2032	15	(\$62,718)	\$77,450	\$0	\$41	\$10,664	\$4,109
2033	16	\$4,109	\$77,450	\$0	\$535	\$28,043	\$54,051
2034	17	\$54,051	\$77,450	\$0	\$804	\$51,150	\$81,155
2035	18	\$81,155	\$77,450	\$0	\$1,536	\$4,959	\$155,183
2036	19	\$155,183	\$77,450	\$0	\$0	\$263,860	(\$31,228)
2037	20	(\$31,228)	\$77,450	\$0	\$0	\$187,143	(\$140,920)

Existing Funding Levels

Beginning Balance as of start of year beginning Jan 2018: \$170,023

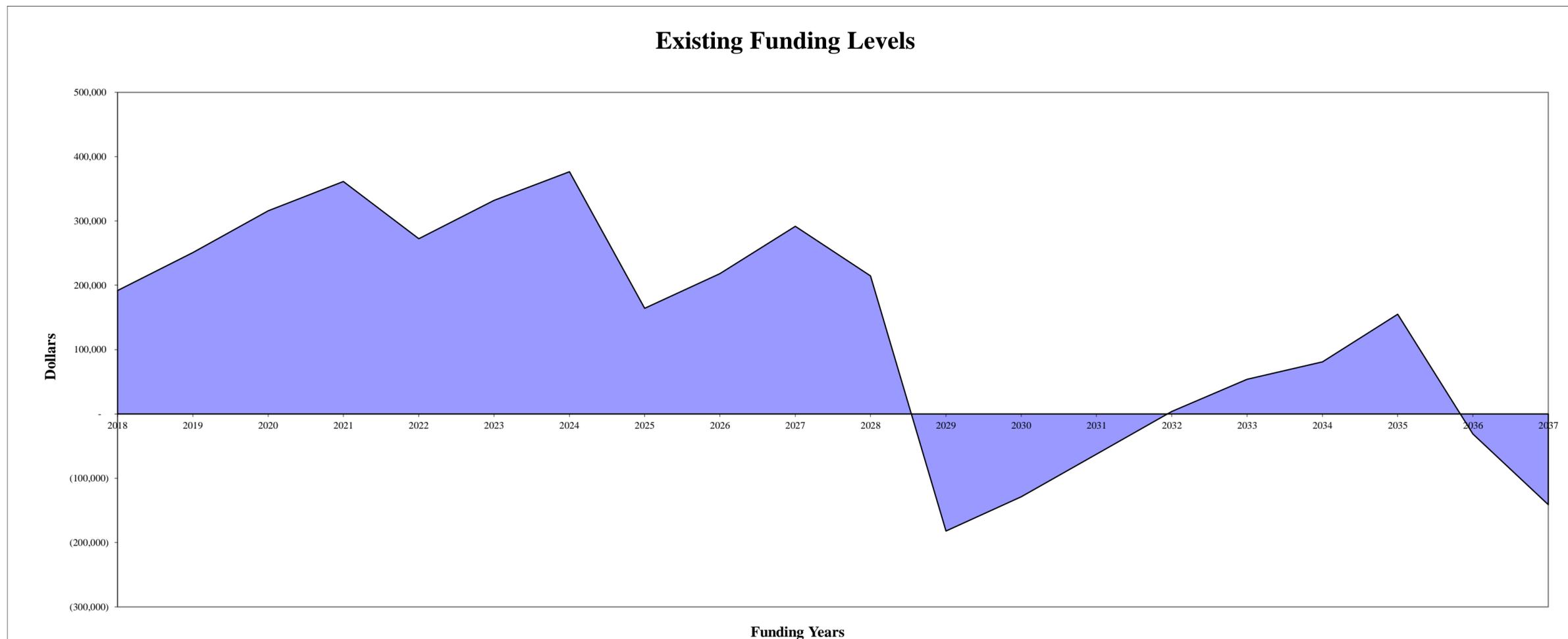
CONTRIBUTIONS	
AMOUNT	
\$77,450.04	per year
\$1,844.05	per unit per year
\$6,454.17	per month
\$153.67	per unit per month

SPECIAL ASSESSMENTS			
Totals			
Per Year	\$0	Per Unit	\$0

Projected Annual Funding and Expenditures:

Year:	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Year Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
End of Year Reserve Fund Balance	192,050	251,050	315,713	361,402	272,272	332,143	376,605	164,170	218,095	291,912	214,788	(182,035)	(128,823)	(62,718)	4,109
Capital Expenditures:	57,325	20,935	15,914	35,339	169,277	20,867	36,717	291,511	25,684	6,524	156,701	474,273	24,238	11,344	10,664
Total Revenue (all sources)	79,352	79,936	80,576	81,028	80,146	80,739	81,179	79,075	79,609	80,340	79,577	77,450	77,450	77,450	77,491

Year:	2033	2034	2035	2036	2037
Year Number:	16	17	18	19	20
End of Year Reserve Fund Balance	54,051	81,155	155,183	(31,228)	(140,920)
Capital Expenditures:	28,043	51,150	4,959	263,860	187,143
Total Revenue (all sources)	77,985	78,254	78,987	77,450	77,450



Alternative 1: Level Funding with Steps



Year	Year Number	Beginning Reserve Fund Balance	Fee Revenue	Special Assessments 1	Special Assessments 2	Investment Earnings	Capital Expenditures	Ending Balance
2018	1	\$170,023	\$72,000	\$0	\$0	\$1,847	\$57,325	\$186,545
2019	2	\$186,545	\$77,040	\$0	\$0	\$2,427	\$20,935	\$245,077
2020	3	\$245,077	\$82,080	\$0	\$0	\$3,112	\$15,914	\$314,356
2021	4	\$314,356	\$87,120	\$0	\$0	\$3,661	\$35,339	\$369,798
2022	5	\$369,798	\$92,160	\$0	\$0	\$2,927	\$169,277	\$295,609
2023	6	\$295,609	\$97,200	\$0	\$0	\$3,719	\$20,867	\$375,661
2024	7	\$375,661	\$102,240	\$0	\$0	\$4,412	\$36,717	\$445,596
2025	8	\$445,596	\$107,280	\$0	\$0	\$2,614	\$291,511	\$263,979
2026	9	\$263,979	\$112,320	\$0	\$0	\$3,506	\$25,684	\$354,121
2027	10	\$354,121	\$112,320	\$0	\$0	\$4,599	\$6,524	\$464,516
2028	11	\$464,516	\$112,320	\$0	\$0	\$4,201	\$156,701	\$424,337
2029	12	\$424,337	\$112,320	\$0	\$0	\$624	\$474,273	\$63,008
2030	13	\$63,008	\$112,320	\$0	\$0	\$1,511	\$24,238	\$152,601
2031	14	\$152,601	\$112,320	\$0	\$0	\$2,536	\$11,344	\$256,112
2032	15	\$256,112	\$112,320	\$0	\$0	\$3,578	\$10,664	\$361,346
2033	16	\$361,346	\$112,320	\$0	\$0	\$4,456	\$28,043	\$450,079
2034	17	\$450,079	\$112,320	\$0	\$0	\$5,112	\$51,150	\$516,361
2035	18	\$516,361	\$112,320	\$0	\$0	\$6,237	\$4,959	\$629,960
2036	19	\$629,960	\$112,320	\$0	\$0	\$4,784	\$263,860	\$483,204
2037	20	\$483,204	\$112,320	\$0	\$0	\$4,084	\$187,143	\$412,465

Alternative 1: Level Funding with Steps

Beginning Balance as of start of year beginning Jan 2018: \$170,023

CONTRIBUTIONS	
FIRST YR	LAST YR
\$72,000.00	\$112,320.00
\$1,714.29	\$2,674.29
\$6,000.00	\$9,360.00
\$142.86	\$222.86

per year
per unit per year
per month
per unit per month

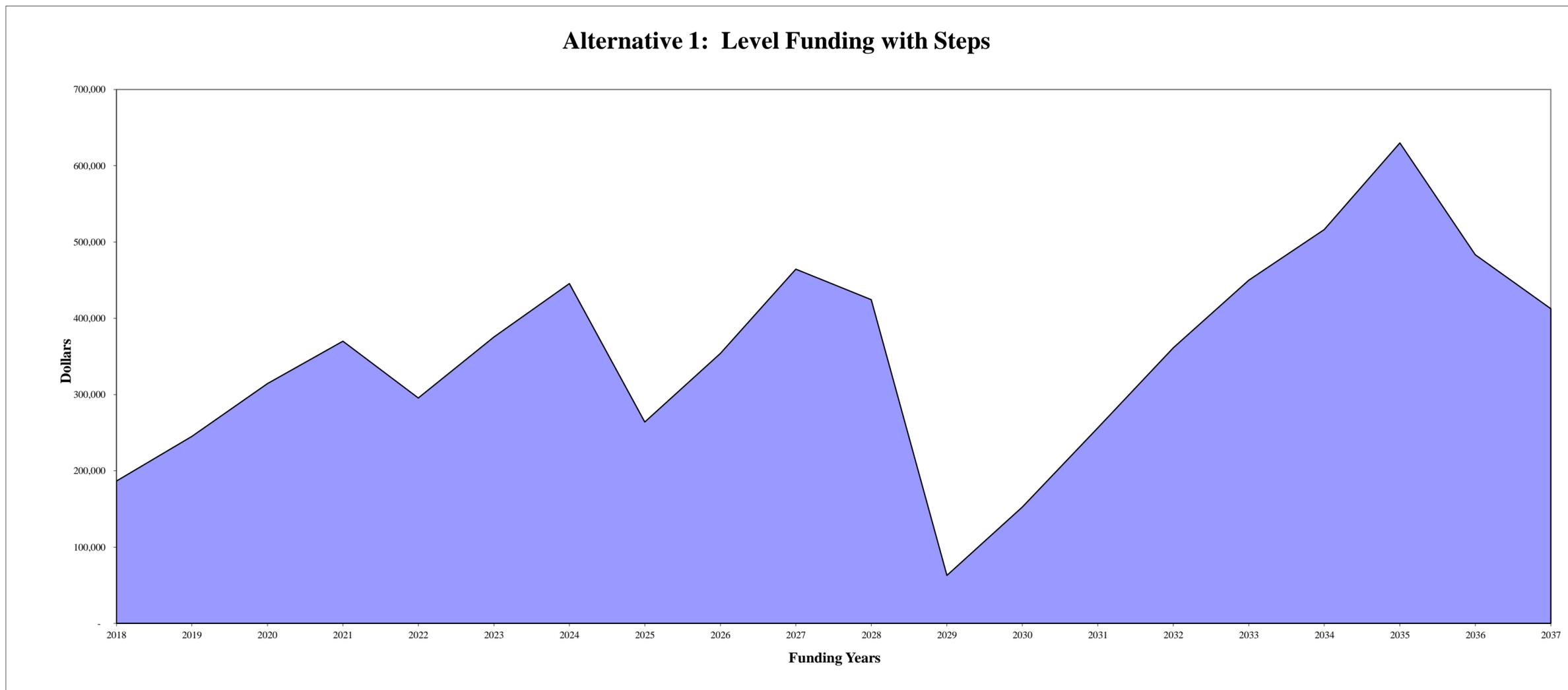
SPECIAL ASSESSMENTS				
First Second	Per Year Per Year	Totals		
		\$0	Per Unit	\$0
		\$0	Per Unit	\$0

SETTINGS (analyzed by year)		
Starting amount (\$):	6000	
Increment by (\$):	420	
Every	1	year
Frequency:	8	time

Projected Annual Funding and Expenditures:

Year:	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Year Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
End of Year Reserve Fund Balance	186,545	245,077	314,356	369,798	295,609	375,661	445,596	263,979	354,121	464,516	424,337	63,008	152,601	256,112	361,346
Capital Expenditures:	57,325	20,935	15,914	35,339	169,277	20,867	36,717	291,511	25,684	6,524	156,701	474,273	24,238	11,344	10,664
Total Revenue (all sources)	73,847	79,467	85,192	90,781	95,087	100,919	106,652	109,894	115,826	116,919	116,521	112,944	113,831	114,856	115,898

Year:	2033	2034	2035	2036	2037
Year Number:	16	17	18	19	20
End of Year Reserve Fund Balance	450,079	516,361	629,960	483,204	412,465
Capital Expenditures:	28,043	51,150	4,959	263,860	187,143
Total Revenue (all sources)	116,776	117,432	118,557	117,104	116,404



Alternative 2: Escalating Funding at 10% per Year



Year	Year Number	Beginning Reserve Fund Balance	Fee Revenue	Special Assessments 1	Special Assessments 2	Investment Earnings	Capital Expenditures	Ending Balance
2018	1	\$170,023	\$48,000	\$0	\$0	\$1,607	\$57,325	\$162,305
2019	2	\$162,305	\$52,800	\$0	\$0	\$1,942	\$20,935	\$196,112
2020	3	\$196,112	\$58,080	\$0	\$0	\$2,383	\$15,914	\$240,661
2021	4	\$240,661	\$63,888	\$0	\$0	\$2,692	\$35,339	\$271,903
2022	5	\$271,903	\$70,277	\$0	\$0	\$1,729	\$169,277	\$174,632
2023	6	\$174,632	\$77,304	\$0	\$0	\$2,311	\$20,867	\$233,380
2024	7	\$233,380	\$85,035	\$0	\$0	\$2,817	\$36,717	\$284,515
2025	8	\$284,515	\$93,538	\$0	\$0	\$865	\$291,511	\$87,408
2026	9	\$87,408	\$102,892	\$0	\$0	\$1,646	\$25,684	\$166,263
2027	10	\$166,263	\$113,181	\$0	\$0	\$2,729	\$6,524	\$275,649
2028	11	\$275,649	\$124,500	\$0	\$0	\$2,434	\$156,701	\$245,883
2029	12	\$245,883	\$124,500	\$147,000	\$0	\$431	\$474,273	\$43,540
2030	13	\$43,540	\$124,500	\$0	\$0	\$1,438	\$24,238	\$145,240
2031	14	\$145,240	\$124,500	\$0	\$0	\$2,584	\$11,344	\$260,979
2032	15	\$260,979	\$124,500	\$0	\$0	\$3,748	\$10,664	\$378,563
2033	16	\$378,563	\$124,500	\$0	\$0	\$4,750	\$28,043	\$479,770
2034	17	\$479,770	\$124,500	\$0	\$0	\$5,531	\$51,150	\$558,651
2035	18	\$558,651	\$124,500	\$0	\$0	\$6,782	\$4,959	\$684,974
2036	19	\$684,974	\$124,500	\$0	\$0	\$5,456	\$263,860	\$551,069
2037	20	\$551,069	\$124,500	\$0	\$0	\$4,884	\$187,143	\$493,310

Alternative 2: Escalating Funding at 10% per Year

Beginning Balance as of start of year beginning Jan 2018: \$170,023

CONTRIBUTIONS	
FIRST YR	LAST YR
\$48,000.00	\$124,499.64 per year
\$1,142.86	\$2,964.28 per unit per year
\$4,000.00	\$10,374.97 per month
\$95.24	\$247.02 per unit per month

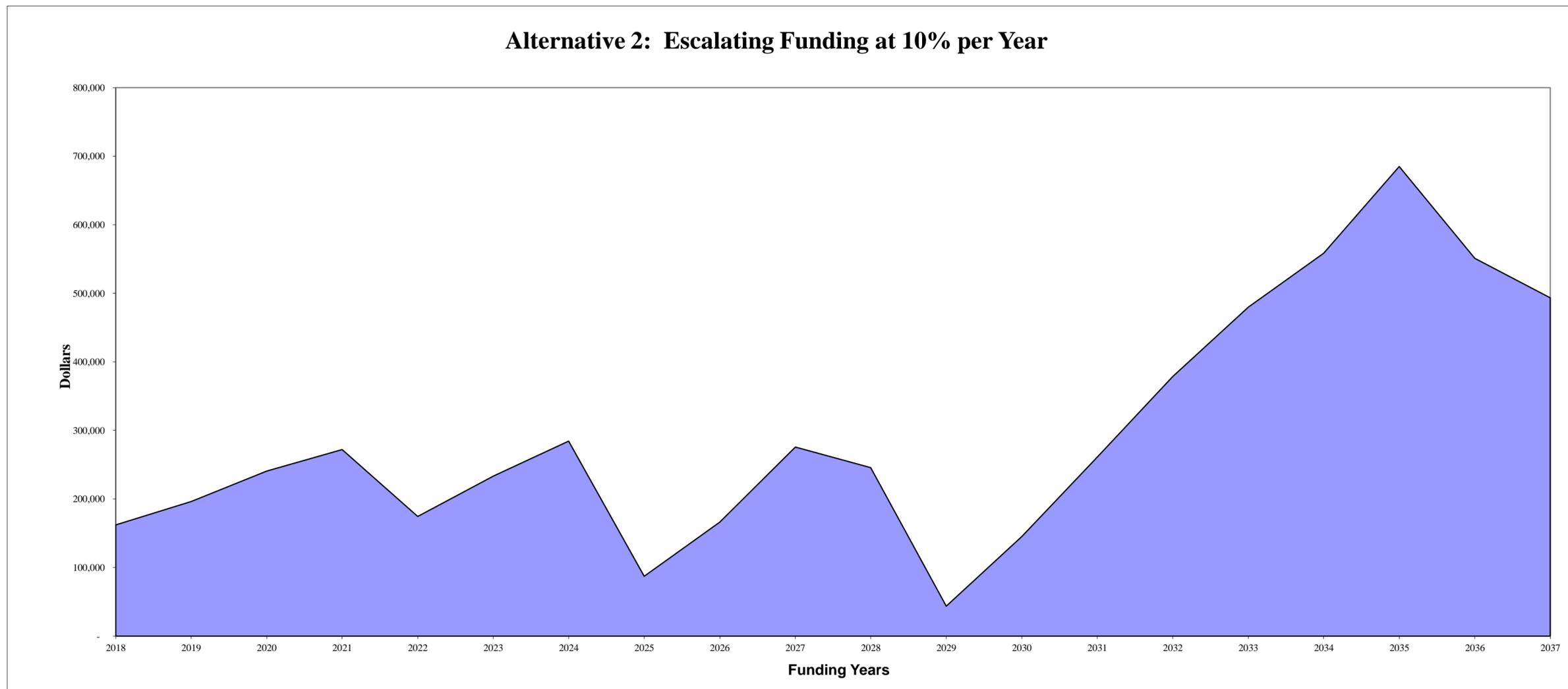
SPECIAL ASSESSMENTS				
		Totals		
First Jan 2029	Per Year	\$147,000	Per Unit	\$3,500
Second	Per Year	\$0	Per Unit	\$0

SETTINGS (analyzed by year)		
Starting amount (\$):	4000	
Increment by (%):	10	
Step (%):		
Every	1	year
Frequency:	10	time

Projected Annual Funding and Expenditures:

Year:	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Year Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
End of Year Reserve Fund Balance	162,305	196,112	240,661	271,903	174,632	233,380	284,515	87,408	166,263	275,649	245,883	43,540	145,240	260,979	378,563
Capital Expenditures:	57,325	20,935	15,914	35,339	169,277	20,867	36,717	291,511	25,684	6,524	156,701	474,273	24,238	11,344	10,664
Total Revenue (all sources)	49,607	54,742	60,463	66,580	72,006	79,615	87,852	94,404	104,538	115,911	126,934	271,931	125,938	127,084	128,248

Year:	2033	2034	2035	2036	2037
Year Number:	16	17	18	19	20
End of Year Reserve Fund Balance	479,770	558,651	684,974	551,069	493,310
Capital Expenditures:	28,043	51,150	4,959	263,860	187,143
Total Revenue (all sources)	129,250	130,031	131,282	129,956	129,384



Alternative 3: Escalating Funding with Special Assessments



Year	Year Number	Beginning Reserve Fund Balance	Fee Revenue	Special Assessments 1	Special Assessments 2	Investment Earnings	Capital Expenditures	Ending Balance
2018	1	\$170,023	\$96,000	\$0	\$0	\$2,087	\$57,325	\$210,785
2019	2	\$210,785	\$96,000	\$0	\$0	\$2,859	\$20,935	\$288,709
2020	3	\$288,709	\$96,000	\$0	\$0	\$3,688	\$15,914	\$372,483
2021	4	\$372,483	\$96,000	\$0	\$0	\$4,331	\$35,339	\$437,476
2022	5	\$437,476	\$96,000	\$0	\$0	\$3,642	\$169,277	\$367,841
2023	6	\$367,841	\$96,000	\$0	\$0	\$4,430	\$20,867	\$447,404
2024	7	\$447,404	\$96,000	\$0	\$0	\$5,067	\$36,717	\$511,754
2025	8	\$511,754	\$96,000	\$0	\$0	\$3,162	\$291,511	\$319,405
2026	9	\$319,405	\$96,000	\$0	\$0	\$3,897	\$25,684	\$393,619
2027	10	\$393,619	\$96,000	\$0	\$0	\$4,831	\$6,524	\$487,926
2028	11	\$487,926	\$96,000	\$0	\$0	\$4,272	\$156,701	\$431,498
2029	12	\$431,498	\$96,000	\$0	\$0	\$532	\$474,273	\$53,757
2030	13	\$53,757	\$96,000	\$0	\$0	\$1,255	\$24,238	\$126,774
2031	14	\$126,774	\$96,000	\$0	\$0	\$2,114	\$11,344	\$213,544
2032	15	\$213,544	\$96,000	\$0	\$0	\$2,989	\$10,664	\$301,869
2033	16	\$301,869	\$96,000	\$0	\$0	\$3,698	\$28,043	\$373,524
2034	17	\$373,524	\$96,000	\$0	\$0	\$4,184	\$51,150	\$422,557
2035	18	\$422,557	\$96,000	\$0	\$0	\$5,136	\$4,959	\$518,735
2036	19	\$518,735	\$96,000	\$0	\$0	\$3,509	\$263,860	\$354,384
2037	20	\$354,384	\$96,000	\$0	\$0	\$2,632	\$187,143	\$265,873

Alternative 3: Escalating Funding with Special Assessments

Beginning Balance as of start of year beginning Jan 2018: \$170,023

CONTRIBUTIONS		
FIRST YR	LAST YR	
\$96,000.00	\$96,000.00	per year
\$2,285.71	\$2,285.71	per unit per year
\$8,000.00	\$8,000.00	per month
\$190.48	\$190.48	per unit per month

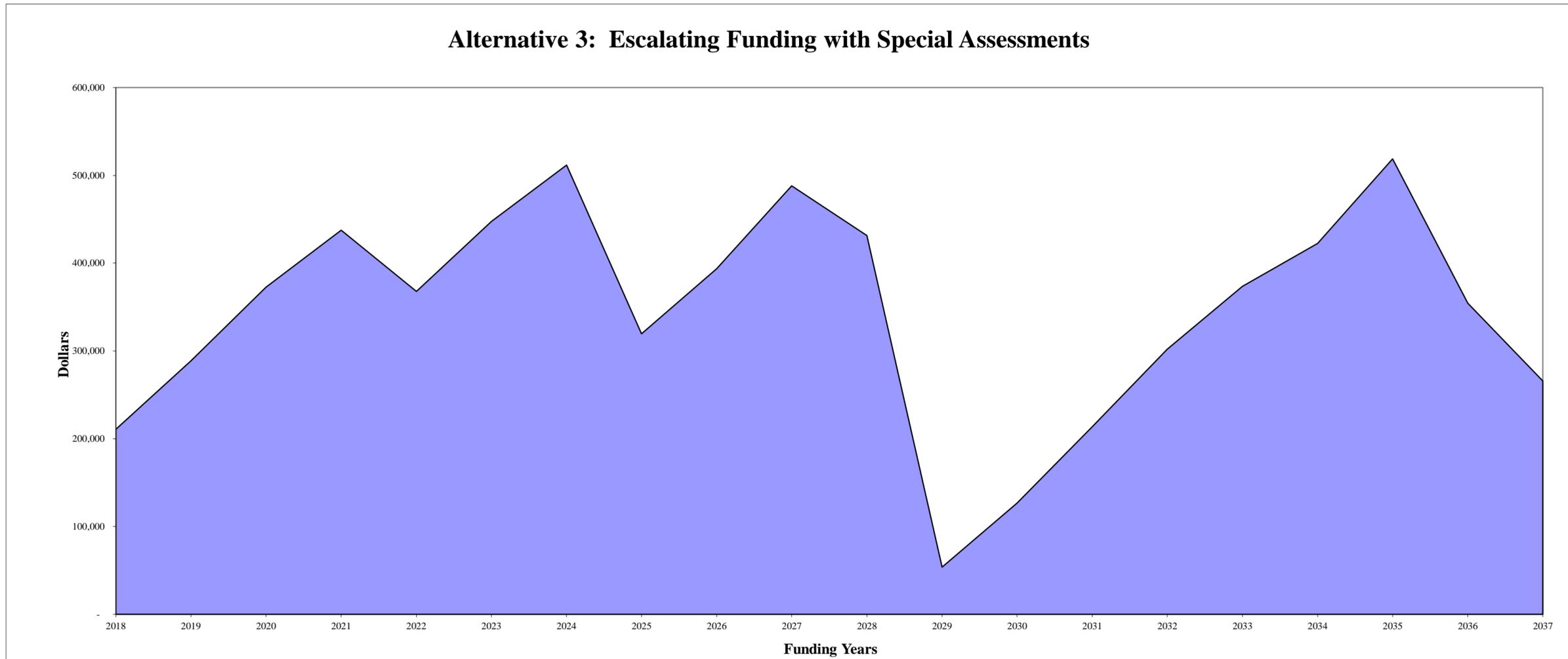
SPECIAL ASSESSMENTS				
First Second	Per Year Per Year	Totals		
		\$0	Per Unit	\$0
		\$0	Per Unit	\$0

SETTINGS (analyzed by year)		
Starting amount (\$):	8000	
Increment by (%):	0	
Step (%):	0	
Every	3	year
Frequency:	3	time

Projected Annual Funding and Expenditures:

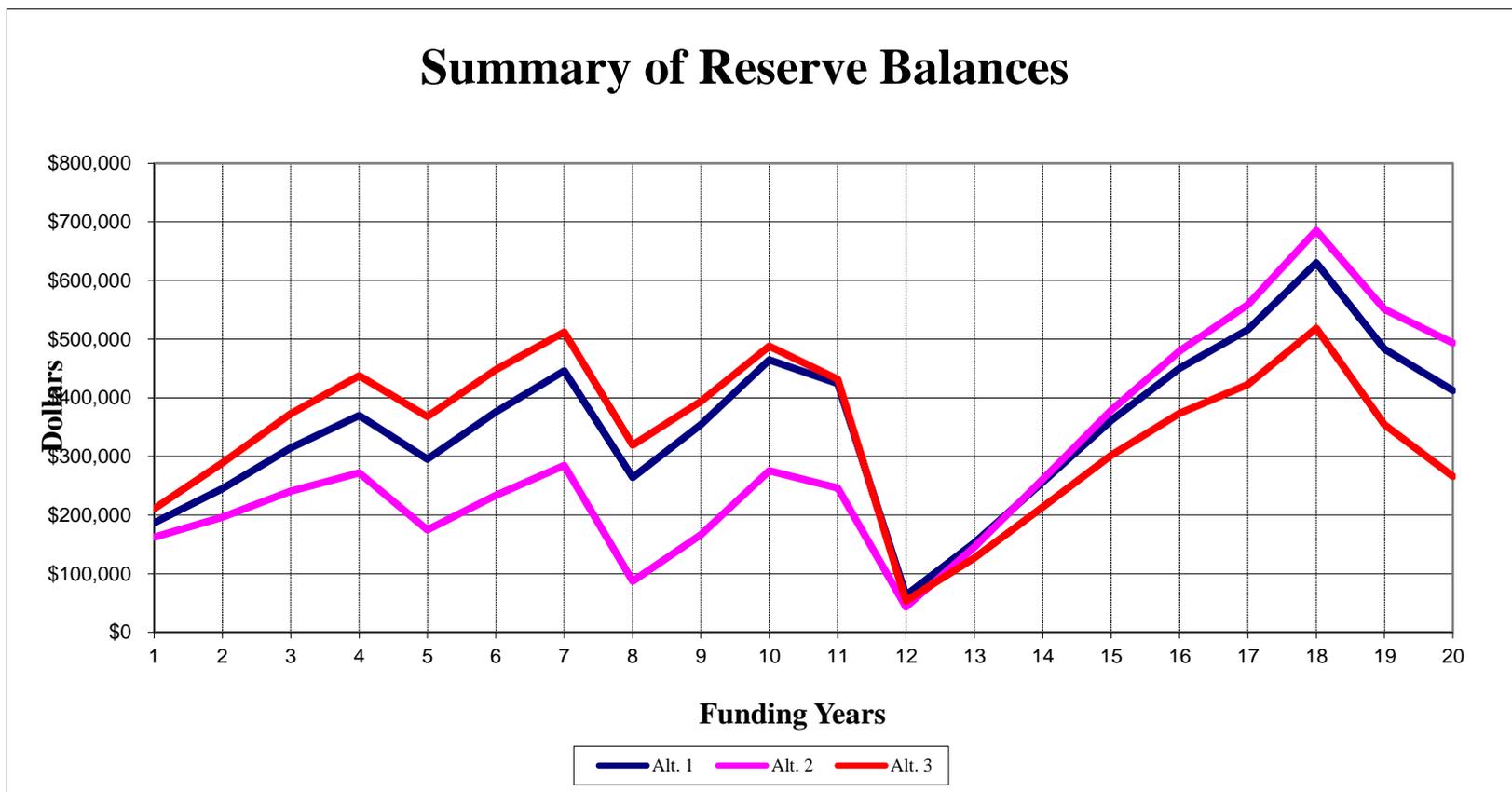
Year:	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Year Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
End of Year Reserve Fund Balance	210,785	288,709	372,483	437,476	367,841	447,404	511,754	319,405	393,619	487,926	431,498	53,757	126,774	213,544	301,869
Capital Expenditures:	57,325	20,935	15,914	35,339	169,277	20,867	36,717	291,511	25,684	6,524	156,701	474,273	24,238	11,344	10,664
Total Revenue (all sources)	98,087	98,859	99,688	100,331	99,642	100,430	101,067	99,162	99,897	100,831	100,272	96,532	97,255	98,114	98,989

Year:	2033	2034	2035	2036	2037
Year Number:	16	17	18	19	20
End of Year Reserve Fund Balance	373,524	422,557	518,735	354,384	265,873
Capital Expenditures:	28,043	51,150	4,959	263,860	187,143
Total Revenue (all sources)	99,698	100,184	101,136	99,509	98,632



Summary of Reserve Balances

<u>Year</u>	<u>Year Number</u>	<u>Yearly Expenditures</u>	<u>Alt. 1</u>	<u>Alt. 2</u>	<u>Alt. 3</u>
2018	1	\$57,325	\$186,545	\$162,305	\$210,785
2019	2	\$20,935	\$245,077	\$196,112	\$288,709
2020	3	\$15,914	\$314,356	\$240,661	\$372,483
2021	4	\$35,339	\$369,798	\$271,903	\$437,476
2022	5	\$169,277	\$295,609	\$174,632	\$367,841
2023	6	\$20,867	\$375,661	\$233,380	\$447,404
2024	7	\$36,717	\$445,596	\$284,515	\$511,754
2025	8	\$291,511	\$263,979	\$87,408	\$319,405
2026	9	\$25,684	\$354,121	\$166,263	\$393,619
2027	10	\$6,524	\$464,516	\$275,649	\$487,926
2028	11	\$156,701	\$424,337	\$245,883	\$431,498
2029	12	\$474,273	\$63,008	\$43,540	\$53,757
2030	13	\$24,238	\$152,601	\$145,240	\$126,774
2031	14	\$11,344	\$256,112	\$260,979	\$213,544
2032	15	\$10,664	\$361,346	\$378,563	\$301,869
2033	16	\$28,043	\$450,079	\$479,770	\$373,524
2034	17	\$51,150	\$516,361	\$558,651	\$422,557
2035	18	\$4,959	\$629,960	\$684,974	\$518,735
2036	19	\$263,860	\$483,204	\$551,069	\$354,384
2037	20	\$187,143	\$412,465	\$493,310	\$265,873



Appendix B: PROJECT PHOTOGRAPHS

Location:
Pebble Creek
Durham, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
December 22, 2016



Description:
Entrance signage

Photo Number
1



Description:
Mail kiosk

Photo Number
2

Location:
Pebble Creek
Durham, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
December 22, 2016



Description:
Dumpster area

Photo Number
3



Description:
Asphalt cracking

Photo Number
4

Location:
Pebble Creek
Durham, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
December 22, 2016



Description:
Fatigue cracking

Photo Number
5



Description:
Typical front of
unit

Photo Number
6

Location:
Pebble Creek
Durham, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
December 22, 2016



Description:
Front of units

Photo Number
7



Description:
roofing

Photo Number
8

Location:
Pebble Creek
Durham, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
December 22, 2016



Description:
Asphalt cracking

Photo Number
9



Description:
Wood bridge to
front of unit

Photo Number
10

Location:
Pebble Creek
Durham, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
December 22, 2016



Description:
Front porch area

Photo Number
11



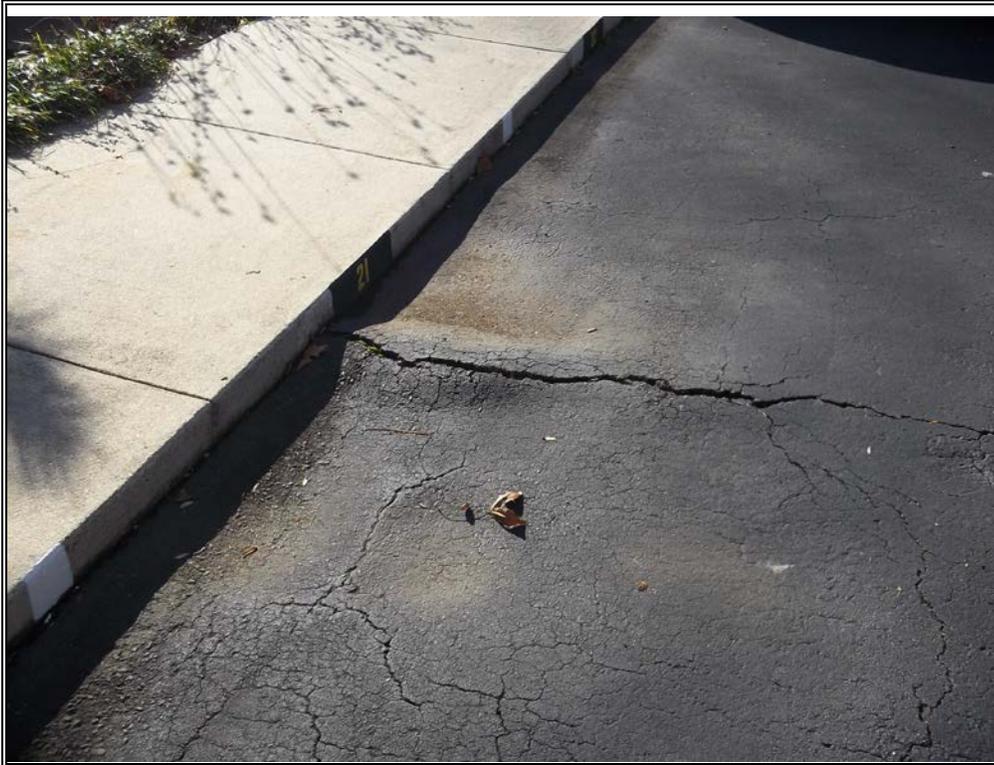
Description:
Spalling of
concrete sidewalk

Photo Number
12

Location:
Pebble Creek
Durham, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
December 22, 2016



Description:
Tree root upheaval

Photo Number
13



Description:
Small landscape
drain at front of
unit

Photo Number
14

Location:
Pebble Creek
Durham, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
December 22, 2016



Description:
Poor drainage
against building

Photo Number
15



Description:
Typical siding

Photo Number
16

Location:
Pebble Creek
Durham, NC

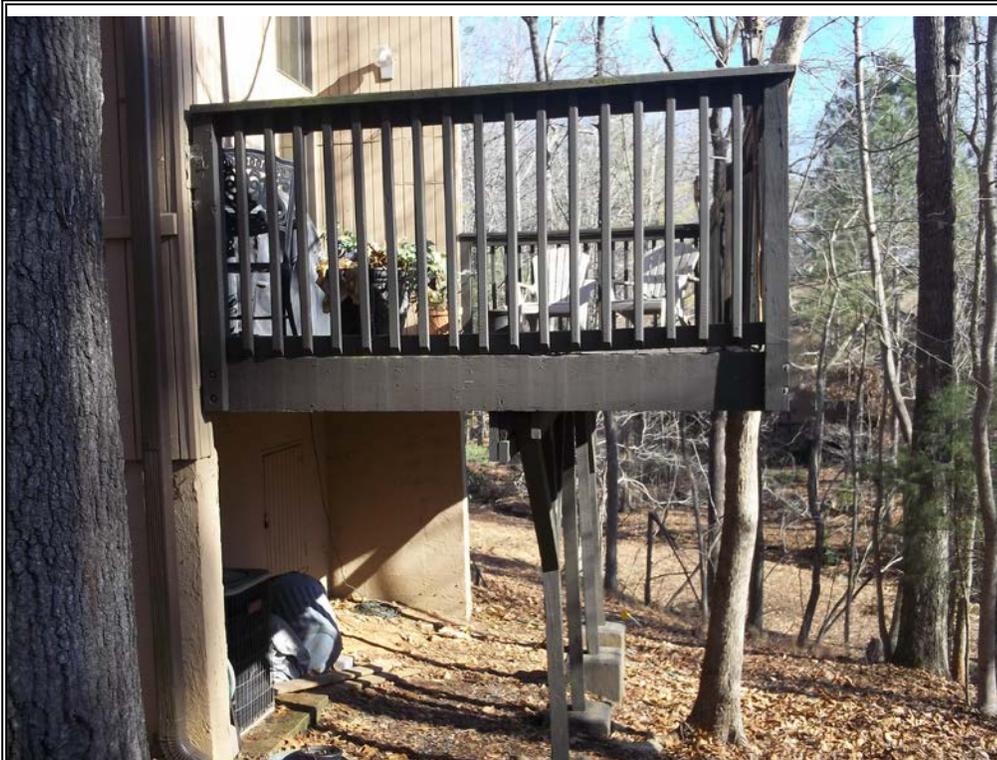
Photo Taken by:
Christopher A. Flythe, PE

Date:
December 22, 2016



Description:
Side elevation

Photo Number
17



Description:
Rear deck

Photo Number
18

Location:
Pebble Creek
Durham, NC

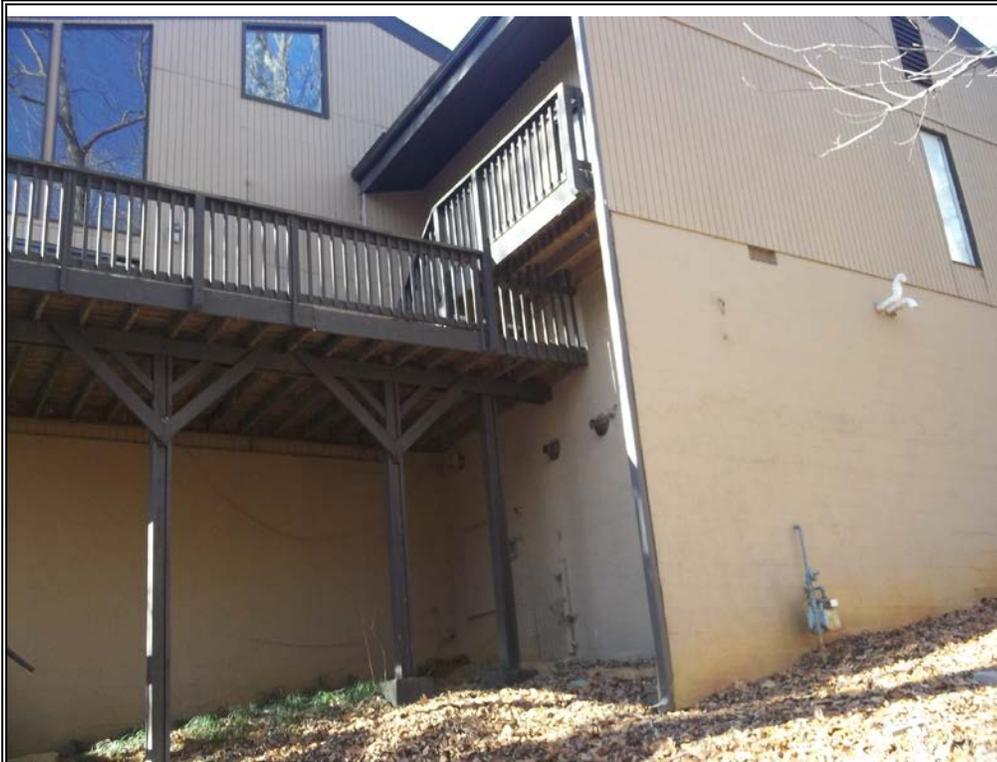
Photo Taken by:
Christopher A. Flythe, PE

Date:
December 22, 2016



Description:
Rotten deck band

Photo Number
19



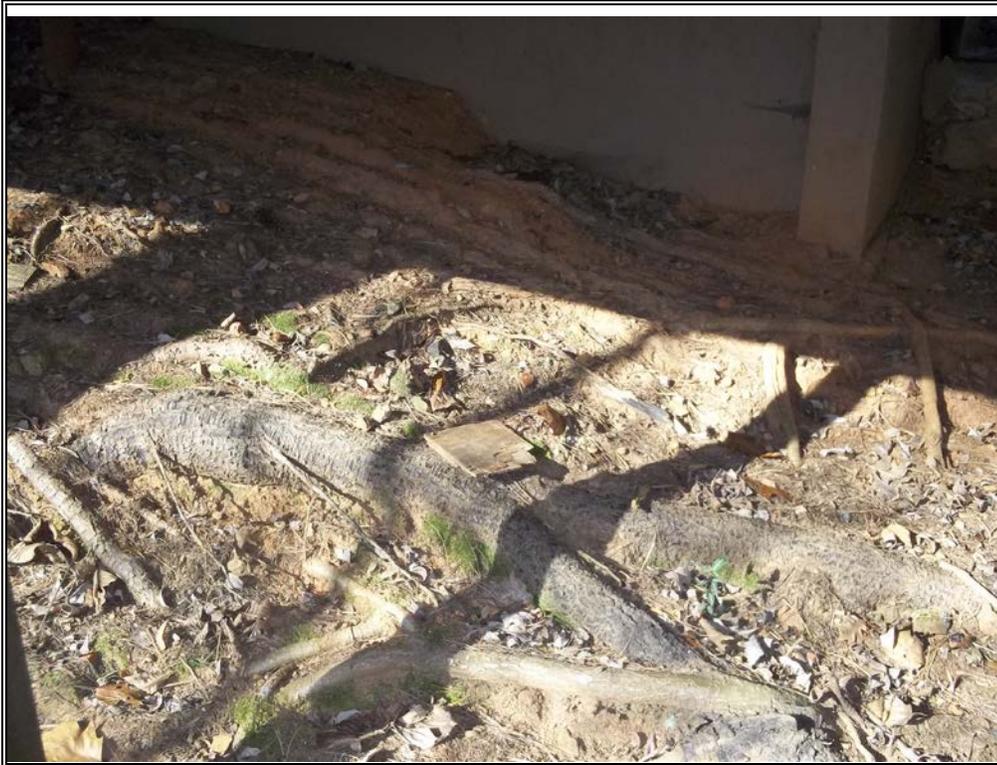
Description:
Tall 4x4 posts at
decks

Photo Number
20

Location:
Pebble Creek
Durham, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
December 22, 2016



Description:

Tree root invasion
at foundations

Photo Number

21



Description:

Foot bridge across
creek

Photo Number

22

Location:
Pebble Creek
Durham, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
December 22, 2016



Description:
Previous
dampproofing

Photo Number
23



Description:
Rear of unit

Photo Number
24

Location:
Pebble Creek
Durham, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
December 22, 2016



Description:
Typical view of
community

Photo Number
25



Description:
Masonry
foundation

Photo Number
26

Location:
Pebble Creek
Durham, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
December 22, 2016



Description:
Minor cracking
noted in
foundation

Photo Number
27



Description:
Tennis courts
appear abandoned

Photo Number
28

Location:
Pebble Creek
Durham, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
December 22, 2016



Description:
Large cracks in
playing surface

Photo Number
29



Description:
Clubhouse

Photo Number
30

Location:
Pebble Creek
Durham, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
December 22, 2016



Description:
Pool and cover

Photo Number
31



Description:
Fence around pool

Photo Number
32

Location:
Pebble Creek
Durham, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
December 22, 2016



Description:
Pump and filtration
shed (locked)

Photo Number
33



Description:
Interior of
clubhouse

Photo Number
34

Location:
Pebble Creek
Durham, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
December 22, 2016



Description:
Kitchen area

Photo Number
35



Description:
Meeting room

Photo Number
36

Location:
Pebble Creek
Durham, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
December 22, 2016



Description:
Bathrooms

Photo Number
37



Description:
Sauna

Photo Number
38

Location:
Pebble Creek
Durham, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
December 22, 2016



Description:
Ripped pool
furniture

Photo Number
39



Description:
Curling of roof
shingles

Photo Number
40