

**Capital Reserve Replacement Fund Analysis  
for  
Birch Pointe Condominium Association  
Wilmington, Delaware  
February 2017**



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## Table of Contents

### Narrative Report

Table of Contents .....	N-1
Community Description .....	N-2
Capital Reserve Replacement Analysis Overview .....	N-2
Association Considerations for a Capital Reserve Replacement Analysis .....	N-2
Funding Goals .....	N-3
Methodology .....	N-4
Analysis .....	N-5
Limits of Inspection & Disclosures .....	N-5
Community Specific Conditions & Commentary .....	N-6
General Comments .....	N-6
Calculation Table Notes .....	N-7

### Calculation Tables

Executive Summary .....	C-1
Line Item Schedules .....	C-3
Expenditure Projection .....	C-5
Annual Funding Projection .....	C-13
Projection Graphs .....	C-15
Expenditure Calendar .....	C-17
Expenditure Distribution Charts .....	C-25

### Appendix

Calculation Table Explanatory Descriptions .....	A-1
Executive Summary .....	A-1
Line Item Schedules .....	A-2
Expenditure Projection .....	A-4
Annual Funding Projection .....	A-5
Projection Graphs .....	A-5
Expenditure Calendar .....	A-6

Please observe that this document consists of three sections which are independently page numbered; the Narrative Report (whose page numbers have an “N” prefix), the Calculation Tables (whose page numbers have a “C” prefix), and the Appendix (whose page numbers have an “A” prefix).

## Community Description

The Birch Pointe Condominium community consists of 294 dwellings located within 49 three-story multifamily building modules. Each of the 6-dwelling building modules is in turn attached in groups of 2 to 4 modules, forming 16 building “clusters”. The community is reported to have been completed in three phases, by the Reston Corporation, between 1983 and 1987, and as such, 1985 has been used to establish an average age of the community.

Each of the building modules contains a common entrance that leads to a small lobby area and a central interior stairway. Many of the building modules utilize a small pedestrian footbridge to span the drop in elevation between many of the parking areas and the building structures located on the hillside. According to management, the footbridge structures have all been renovated. Individual building modules are provided with an intercom entry system, and each separate cluster of buildings was recently outfitted with a centralized fire and security alarm system. Individual dwellings have access to private balcony and/or patio structures.

The main roadways of the Birch Pointe community include Birch Circle, Haley Court, Batta Drive, Diana Drive, and Claremont Court. The community is accessed from Fairmont Drive at the east side of the property, and is situated approximately 5 miles west of downtown Wilmington, Delaware. The site is convenient to Interstate Routes 95, 495, 295 and the New Jersey Turnpike. New Castle County Airport is approximately 5 miles to the southeast.

## Capital Reserve Replacement Analysis Overview

The function of a Capital Reserve Replacement Analysis is to inform and advise the Community Association as to the likely capital expenditures for replacement of common elements over the time frame considered by the analysis and the annual contribution levels to the Capital Reserve Replacement Fund calculated as being sufficient to avoid having to levy special assessments or take out a loan in order to support the predicted capital expenditures.

All Capital Reserve Replacement Analyses therefore assume that the Association is funding capital expenditures through the use of regular (e.g. annual, quarterly, or monthly), budgeted contributions to an account set aside for the sole purpose of funding the replacement of a designated set of common elements (often called the “Capital Reserve Fund”).

A Community Association can defer common element replacement projects. Such deferrals tend to result in the gradual decrease in property values as the infrastructure and appearance of the community facilities degrade over time. In addition, such deferrals often result in the final replacement costs increasing significantly due to more extensive deterioration and additional damage to other common elements resulting from the failure of the common element to be replaced.

## Association Considerations for a Capital Reserve Replacement Analysis

Each Association has a number of choices and options to consider during the Capital Reserve Replacement Analysis process. Two of the most important decisions are the Methodology (q.v.) of the analysis and the Funding Goal (q.v.) of the Association, although there are a number of other considerations, including:

- **Budget Thresholds** – the budget threshold is simply the lowest total project cost that the Association wants to fund using the Capital Reserve Fund. This is normally a function of the Association’s proclivities, operating budget size, and administrative/fiscal history – some communities will fund a \$5,000 project through the maintenance or operating budget, while others prefer to schedule and fund a \$500 project through the capital reserve budget. Many Associations never make a formal decision, leaving this to the professionals who prepare their Capital Reserve Replacement Analyses.
- **Federal Housing Authority/Housing & Urban Development Limitations** – the federal government is a significant mortgage insurance provider. The FHA/HUD mortgage insurance programs currently require that community Associations fund replacement reserves for capital expenditures and deferred maintenance with at least 10% of the Association budget in order to meet eligibility requirements for FHA mortgage insurance – failure to maintain

this level of replacement reserve funding can trigger requests for a current (less than 12 month old) reserve study or a Fannie Mae form 1073a from lenders (see HUD Mortgage Letter 2009-46 B).

- Maintenance Budget – no project should be funded in two places. Any and all maintenance contracts for common elements should be reviewed, and any common element whose complete replacement is included in the maintenance contract should be removed from consideration in the Capital Reserve Replacement Analysis, since the Association is already allocating funds to replace the element.
- Operating Budget – no project should be funded in two places. Any common elements that the Association is planning to replace in a series of incremental projects on an annual or irregular (as-needed) basis using the operating budget funds should be removed from consideration in the Capital Reserve Replacement Analysis, since the Association is already allocating funds to replace the element.
- Preventive or Deferred Maintenance Budget – no project should be funded in two places. The Association should compare its capital reserve budget to its preventive/deferred maintenance budget. Line items existing in both schedules should be removed from one or the other, since the Association is already allocating funds to replace the element.
- Statutory Requirements – some jurisdictions may require that certain elements are included in a reserve fund analysis, and other municipalities agree to accept responsibility for some elements (most commonly roadways). Such factors cannot be determined by site inspection – the Association should have documentation indicating any such factors, and should certainly inform the professionals performing the Capital Reserve Replacement Analysis of these factors.
- Time Window – the time window is simply the time span that the Association desires to consider its capital reserve expenditures over. Typically, Associations do not consider common elements with a condition assessed remaining life cycle of longer than 30 years as part of the Capital Reserve Replacement Analysis. As a general rule, longer time windows are more conservative (resulting in higher annual contribution levels), with the longer time windows allows the Association a longer lead-time to accumulate funds for large projects.
- Interest and Inflation – interest (sometimes called the rate of return) and inflation can have significant influence on the capital reserve budget. Increasing interest rates tends to reduce the necessary annual contributions, as the Association is essentially collecting additional funding from investment of its capital reserve fund. Increasing inflation rates tends to increase the necessary annual contributions, as the Association needs to collect additional funds to account for the decreasing purchasing power of money. The Falcon Group generally recommends that most Associations are better served by assuming interest and inflation rates of zero and updating their Capital Reserve Replacement Analysis every two to three years (thus correcting for the effects of interest and inflation every second or third year), rather than making assumptions about factors that vary significantly and unpredictably with market forces. That being said, if the Association desires, The Falcon Group can certainly assume whatever average annual interest and inflation rates the Association requests.

Besides the above considerations, there are two decisions that the Association will need to make:

### **Funding Goals**

The funding goal helps to determine the methodology used in the Capital Reserve Replacement Analysis and also is the principal reflection of the Association's fiscal policy. Funding goals can be categorized by their fiscal aggressiveness (willingness to risk the need to levy a special assessment or take out a loan) – more aggressive funding goals tend to result in lower annual levels of contribution to the capital reserve fund, with associated higher risks of shortfalls requiring special assessments or loans.

There are four basic funding goals used by communities when determining Capital Reserve Fund requirements:

- Baseline Funding is the most aggressive funding goal commonly used by Associations. Baseline funding is essentially a special case of threshold funding, where the goal is to never have a negative capital reserve fund balance (in other words the threshold is zero). As this funding goal provides no margin for errors, unexpected or unforeseeable expenses, or market forces that are not in the Association's favor, The Falcon Group does not recommend this as a funding goal for the Association's capital reserve budget.
- Full Funding is the most conservative funding goal commonly used by Associations. Full funding is best understood as an attempt to maintain the capital reserve fund at or near 100% of the accumulated common element depreciation. As an example: assuming element X has a life cycle of 10 years, is presently 5 years old, and has a replacement cost of \$10,000, then the full funding goal would be to have \$5,000 ( $5/10 \times \$10,000$ ) in the capital reserve fund for this item. Full funding, as defined by GAP Report #24 ("A Complete Guide to Reserve Funding & Reserve Investment Strategies", 4th ed., produced by CAI), appears simpler than it actually is in practice, and tends to result in over-funding if the community is starting with a capital reserve fund balance less than the current depreciation of its common elements, or to result in under-funding if the community is starting with a capital reserve fund balance greater than the current depreciation of its common elements, unless applied carefully and with the understanding that annual contributions will change over the course of time as overages and shortages are corrected, resulting in an annual contribution recommendation that decreases or increases with the passage of time in all except the simplest cases.
- Statutory Funding is a funding goal (and/or methodology) that the community is legally obligated to meet or exceed. Such funding goals are typically the result of state or local statutes or the result of one or more provisions in the governing documents of the Community Association. The relative aggressiveness of such funding goals will vary depending upon the statute or provision involved.
- Threshold Funding is normally a moderate funding goal. The essential goal of threshold funding is to avoid having a capital reserve fund balance below some predetermined level (the "threshold" or "threshold balance"), which can be determined as a percentage of the total cost to replace the considered common elements, by decree as some absolute value (e.g. the community decides that \$100,000 is the threshold balance because that is a number it is comfortable with), or as some multiple of the annual contribution (e.g. the community wants to have a capital reserve fund balance of no less than 9 months of capital reserve fund contributions). Note that Baseline Funding is essentially a threshold funding goal where the threshold balance equals zero.

## Methodology

There are essentially three methods used in Capital Reserve Analyses performed for most communities. The decision of which methodology to use is made by the Community Association, often under the advisement of its accountant, lawyer, and/or engineer. These three methodologies are:

- Cash Flow methodologies are based upon a projection of the future expenditures that the Community Association is likely to experience. The cash flow is then determined, based upon these expenditures, so that the resulting Capital Reserve Fund balances over the time window meet the funding goal.
- Component methodologies are based upon calculating the yearly contribution necessary to fund the replacement of each common element that is being considered. Each element is considered separately, producing a series of distinct line item entries of necessary contributions, which are summed to produce the total annual contribution to meet the funding goal.
- Statutory methodologies, like Statutory Funding Goals, are determined entirely by the statutes and/or governing document provisions that create the methodology. Statutory methodologies will most commonly resemble cash flow or component methodologies, but can theoretically be based upon any fiscal or legal conceptualization of the capital reserve funding.

Methodology and funding goal are normally related closely to each other. As a rule, baseline and threshold funding goals are most easily calculated using a cash flow methodology, full funding goals are normally calculated using a component

methodology, and statutory funding goals and methodologies are often found together (e.g. the local government legislates both what the funding goal is and how the community calculates its reserve fund contribution to insure that the funding goal is met).

Please note that cash flow methodologies and component methodologies cannot be easily compared on a line item by line item basis, as cash flow methodologies do not generate a definite line item breakdown of how the annual funding is distributed between the various line items. Likewise, cash flow methodologies do not lend themselves to division of common element responsibilities between various entities. For instance, if an Association is internally divided between several sub-groups that do not share all common elements (for instance, an Association where owners of detached dwelling units do not own a share of the common elements of multifamily buildings in the Association and vice versa, but all owners share responsibility for the recreational facilities and site improvements), then the proper application a cash flow methodology would require multiple analyses, with one analysis for each division of responsibility (in the aforesaid case, there would need to be an analysis for detached dwelling unit buildings, an analysis for multifamily buildings, and an analysis for the recreational facilities and site improvements), and each analysis requiring a distinct set of initial conditions (most notably initial capital reserve fund balances).

## Analysis

A Capital Reserve Replacement Analysis consists of a series of calculations, which essentially attempt to create a mathematical model of the Association's capital reserve fund expenditures/cash flows over a designated time window, and then determine the annual contributions to the capital reserve fund necessary to support the modeled expenditures/cash flows.

Capital Reserve Replacement Analyses, as performed by The Falcon Group, performs several sets of separate, distinct, and independent calculations upon the same basic information. This permits the analysis to include a component methodology full funding calculation and several cash flow methodology threshold funding calculations (using different threshold balances) to permit the Association to more fully examine its possible capital reserve funding options. Please note that the cash flow and component methodologies cannot be directly compared on a line item by line item basis, due to the significant differences between the underlying mathematics of these methodologies.

The Capital Reserve Replacement Analysis calculations and results are shown in a series of tables and graphs that demonstrate the general viability and end results of the various scenarios. These tables and graphs allow the Association to verify that one or more of the scenarios considered meet Association requirements and do not engage in unacceptable levels of over- or under-funding, as well as allowing the Association to inspect the underlying assumptions and numerical bases of the various scenarios and compare the costs (annual contributions over the time window of the analysis) of achieving these scenarios.

Please note that this Capital Reserve Replacement Analysis is a guide, not a legally binding document. The Association should not allow itself to feel constrained from performing necessary or desirable projects simply because they are not included in this analysis, nor should it feel itself forced to perform any project simply because it has been scheduled in this analysis. If work needs to be done, then do it, and likewise, if the common element condition does not justify replacement or refurbishment, then refrain from performing the work until it needs to be done. The Falcon Group believes and recommends that every Association should have a reserve analysis performed no less than once every three years to allow the updating of estimated replacement costs to reflect inflation, technological advances, changes in the construction industry, and current market forces, as well to allow alterations in life cycle information to reflect any significant alterations in the Association's common element conditions or quantities, as well as any significant changes in industry standards or market forces.

## Limits of Inspection & Disclosures

The Falcon Group will not accept responsibility for the detection or analysis of conditions not visible to the naked eye under normal lighting conditions, or conditions located in areas which cannot be accessed by inspectors.

# N-6

On-site inspections include walking the improved areas of the site and visual inspection of representative samples of the observable common elements. Please note that The Falcon Group cannot accept responsibility for detection of non-representative conditions as part of the on-site inspections.

On-site inspections are limited, most notably by the following:

- Unless otherwise stated in the Common Element Descriptions & General Comments, no non-visual examinations were conducted.
- No destructive or invasive testing of any kind was undertaken.
- At no time was any private residence entered, nor were the interior conditions of any private residence examined.
- No security measures (locks, alarms, etc.) were circumvented, and areas within security perimeters were examined from outside said perimeter.
- No area of the site inaccessible to pedestrian traffic was examined and no areas requiring special tools to access or necessitating specific equipment or training to work in safely were entered.

Conditions stated in the report are representative of the general observed conditions of each item. Isolated areas of above or below average conditions may exist for any item. This analysis is not meant to be, nor should it be used as, a detailed condition evaluation of the common elements or a construction defect investigation.

No attempt has been made to predict either the rate of inflation or the rate of return on investments and savings that can be achieved by the Association. The Falcon Group assumes that the Association can achieve a consistent rate of return on investments and savings that equals or exceeds inflation, and that any investment income above and beyond the rate of inflation will be retained within the Capital Reserve Fund, but, for budgeting purposes, assumes that the annual rate of cost inflation and the annual rate of investment return seen by the Association is zero (0%). The Association should consult with its accountant to verify the viability of these assumptions. If the Association desires inclusion of non-zero inflation and investment return, please contact The Falcon Group with the desired annual rates of inflation and investment return so that a revised analysis can be prepared to reflect the Association's desired assumptions in this regard.

Information provided by official representatives of the Association is assumed to be reliable and accurate. This analysis is a reflection of the information supplied to The Falcon Group, and has been assembled for the Association's use; this analysis is not meant to be an audit, quality/forensic analysis, or background check of historical information. Similarly, on-site inspections performed as part of this analysis should not be considered a project audit or quality inspection of any reserve project.

## Community Specific Conditions & Commentary

### General Comments

Please note that, based upon professional judgment and information provided by the Association or the Association's management professionals, the following have not been considered as part of this Capital Reserve Replacement Analysis:

- Annual maintenance tasks (e.g. filling pot-holes & sealing pavement cracks).
- Building-mounted light fixtures (e.g. entrance lights & security lights).
- Resident doors and windows, both exterior and interior.
- Drainage repairs or enhancements.
- Fire suppression systems (e.g. fire sprinkler heads and valves).

- Landscaping and irrigation systems, including maintenance, replacement, or enhancement.
- Painting, sealing, or staining of exterior or interior wooden components.
- Painting of exterior or interior metal components.
- Preventive maintenance tasks (e.g. power-washing siding, annual inspections).
- Protected or concealed structural components, such as foundations, wall framing, floor/ceiling framing, roof framing, and similar components.
- Radon mitigation systems.
- Chimney caps (stainless steel).
- Routine (e.g. sweeping stoops, snow clearing) and emergency (e.g. repairing broken stair treads) maintenance tasks.
- Underground utilities.
- Vinyl siding (see funding table note 7).
- Fire Hydrants.

Should the above list be incorrect, please notify The Falcon Group so that the analysis can be appropriately amended.

These items are excluded from this analysis because they are typically considered to be either maintenance or operating expenses, and are therefore expected to be accounted for in those budgets, or have predicted remaining life cycles that exceed the analysis time window, and are therefore not typically considered a capital expenditure (at this point in time), or are not common elements, and are therefore not the Association's responsibility. The Association should review all maintenance and operating budgets to confirm that sufficient funding is being allocated toward all maintenance and operating budget items, and the Association's legal professionals should verify the responsibilities of both Association and individual unit owners to confirm that the common element list used in the analysis is accurate.

## Calculation Table Notes

The following are notes that provide specific comments for use with the Association's current Capital Reserve Replacement Analysis. These notes are numbered and correspond to the numbers given in the analysis Calculation Tables, which immediately follow these notes.

1. Many of the items vary slightly in age and/or condition; however, the items have been given an average remaining useful life based upon observed general conditions. Single or isolated replacements may be needed and should be funded through reserves as the need arises (such as-needed replacement may be especially prevalent for retaining walls, curbs, concrete walks/steps). For purposes of establishing a funding plan, single (total) replacement projects are assumed in most cases (with exceptions for projects of exceptional scope and/or expense, where phasing is often used to reflect financial or other practical limitations). Performing capital reserve replacement projects as unified scopes of work will likely decrease costs from economies of scale and mobilization costs. Similarly, unit costs are typical average costs for the item understanding that specific costs can be expected to vary both above and below the unit cost used in the analysis.
2. Previous Capital Reserve Replacement Analysis quantities were utilized in the current Capital Reserve Analysis, and the accuracy of the current analysis is therefore dependent upon the accuracy of the previous analysis quantity information. It has been assumed that the Association is satisfied with the completeness, accuracy, and reliability of the common element quantity supplied by the previous analysis.



3. The common entrance doors and windows will eventually need replacement and are scheduled to be replaced at the same point in time.
4. The association has been performed balcony replacements over the last few years. 152 balconies have been replaced and 142 remain. Of the 152 balconies replaced, 59 were replaced with the old "closed" design. An average remaining life has been established as the replacements took place over the last 4 years. The replacement of the 142 balconies remaining have been scheduled to be replaced over the next six (6) years. The at-grade wood deck structures will also need replacement. Note that we have not performed a detailed inspection of each deck/balcony in the community as part of this scope of work and detailed inspections would be required to verify the structural integrity/stability of each deck or balcony in the community.
5. A line item has been added to the reserve schedule to fund for the replacement of the recently installed fire / security central alarm panels, over an expected typical service life of approximately 25 years.
6. The cost used assumes complete replacement of the existing roof systems with allowances for flashing, underlayment, and ventilation enhancements. Please note that detailed roof/attic inspections were not performed as part of this scope of work and the remaining useful life given for the roofing is based solely on the age of the roof system, information provided by the Association, and general visual observations. Gutters and leaders are typically replaced at the time of the roof project.
7. Note that, because the estimated remaining useful life for this item does not yet fall within the 30-year time horizon to begin funding for replacement, we have not included reserve requirements for this line item in this analysis. Future analyses need to consider funding for the vinyl siding when its projected remaining useful life falls within the industry standard 30-year funding horizon.

Vinyl siding can be expected to be typically structurally sound for 40-50 years. Please note that no testing or removal of materials has been performed as part of the preparation of any reserve analysis performed by The Falcon Group for this community and conditions may exist behind concealed components of the exterior wall systems that may result in reduced life cycles as a result of inadequate construction such as underlayment and flashing deficiencies which may exist. The remaining life cycle used has been based solely on the age of the community, visual observations of a representative sampling of the community and information provided by the Association. The Association should routinely monitor the maintenance activities and conditions of the vinyl siding and may find it prudent to have detailed inspections of the system performed to verify proper installation and the condition of concealed materials/details

8. A footbridge structural reconstruction project was completed. Note that, as with the siding, because the estimated remaining useful life for this item does not yet fall within the 30-year time horizon to begin funding for replacement, we have not included reserve requirements for this line item in this analysis. Future analyses need to consider funding for the bridge structures when the projected remaining useful life falls within the industry standard 30-year funding horizon.
9. The decking planks and railings / guards of the pedestrian footbridges were also recently replaced with long-life composite materials, and we have included reserve funding for the eventual replacement of these items over a projected 30 year typical useful life expectancy.
10. Some of the retaining walls are been replaced with concrete structures which should have a useful life outside the time window of this analysis. The remaining wood tie walls (near 4700, 5400, 3000, 3800) are in good condition but will eventually need replacement. Wood tie retaining walls often suffer from prolonged contact with soil and dampness, resulting in rot on the inner surfaces (the surfaces facing the soil, and thus not apparent without destructive examination). The Falcon Group advocates replacing wood retaining walls in the future with segmental wall systems (specially designed concrete blocks, often with interlocking pins, designed for retaining wall applications), given the site disturbance and expense intrinsic in the replacement of retaining walls. Correctly

designed and installed segmental retaining walls should not require replacement and require only minimal maintenance. Periodic, detailed inspection of the walls is recommended.

11. We have split the line item for concrete curb replacement into an estimated 15% replacement during each scheduled pavement reconstruction project (see note 1).
12. The existing roadways vary in condition and Diana Drive in particular contains areas of cracking and possible sub-grade failures and will require enhanced repairs during the pavement project. The costs shown in the funding schedule reflect these conditions as well as drainage inlet wall repairs that are needed at some locations. The cost for this item assumes milling for drainage and planar continuity purposes, as well as to maintain curb reveal. The cost also includes full depth repairs (as needed), installation of a new 2" thick wearing course, and line striping to match the existing layout of the community.

The Falcon Group has observed that a quality seal coat material (applied using a two coating application procedure) applied over the bituminous pavement surface approximately five (5) years after installation of the asphalt (and every four to six years thereafter until a new pavement surface is installed) to seal superficial cracks and prevent water infiltration is generally useful. In addition to its aesthetic appeal, sealcoating prevents water infiltration from occurring in small voids and small surface cracks. Large cracks in pavement should be cleaned of all debris and filled with a thicker sealant annually prior to the onset of winter as a matter of routine or preventive maintenance. It is anticipated that the entire community will be seal coated/stripped as one project.

13. We have modified the line item for concrete sidewalk replacement to reflect a more realistic expected requirement to replace approximately 10% of the sidewalk at a rate of every 5 years. We find that older communities are more likely to perform spot replacement of the concrete sidewalks on an as-needed basis, due to locally heavy salt exposure, cracking and/or settling/heaving, over a period of time, rather than tear out 100% of the sidewalk in one large project (see note 1).
14. The recently installed PVC fencing at the refuse areas will need to be replaced but currently are outside the time window of this analysis.
15. The shingles on the shed should be replaced now but the structure is in fair condition.
- 16. There are a few locations (4000 and 4200) where the existing concrete patios are being undermined by erosion. This condition should be repaired/stabilized.**
17. The mailboxes and concrete pads will be replaced at the same time. There are 4 stations containing 16 mail boxes and 4 pads.
18. The wood stairs at module 3300 need power washing and staining.
19. Please note that, as a matter of best operating practice, all common area pedestrian walkways should be subjected to annual inspection for safety concerns, including trip hazards. This evaluation does not purport to be an inclusive or definitive walkway safety evaluation.
20. Due to the initial fund balance reported and expenditures scheduled, modifications to the threshold funding scenarios were required in order to avoid over funding towards the end of the time window of the analysis. Please refer to sheet C-14 for more information.

Client		Scope of Work		
Birch Pointe Condominium Association		Update with Site Visit		
File Number				
10-191				
Version				
February-16		Revisions		
Community Information		Description	Check By	Date
Number of Units	294			
Date of Original Construction	Circa 1985			
Location	Wilmington, Delaware			
Initial Conditions				
Initial Fiscal Year	2017			
Initial Fund Balance	\$250,000			
Prior Year Annual Contribution	\$0			
		Analysis Calculation Constants		
Last Day of Fiscal Year	December 31	Time Window	30	
Initial Percent Funded	9.93%			
Initial Estimated Total Replacement Cost	\$6,331,954			
PV Expenditure in Time Window	\$9,348,494			
Summary of Funding Schedules Over Time Window ( <b>NOTE 20</b> )				
Funding Schedule	Note	Initial Fiscal Year Annual Contribution	Maximum Fund Balance	Minimum Fund Balance
Full Funding	see Funding Projection for annual contributions in other than initial fiscal year	\$599,062	\$4,486,629	\$433,894
%5 Threshold Funding	see Funding Projection for annual contributions in other than initial fiscal year	\$481,765	\$2,971,167	\$316,598
%10 Threshold Funding	see Funding Projection for annual contributions in other than initial fiscal year	\$798,363	\$3,354,315	\$633,195

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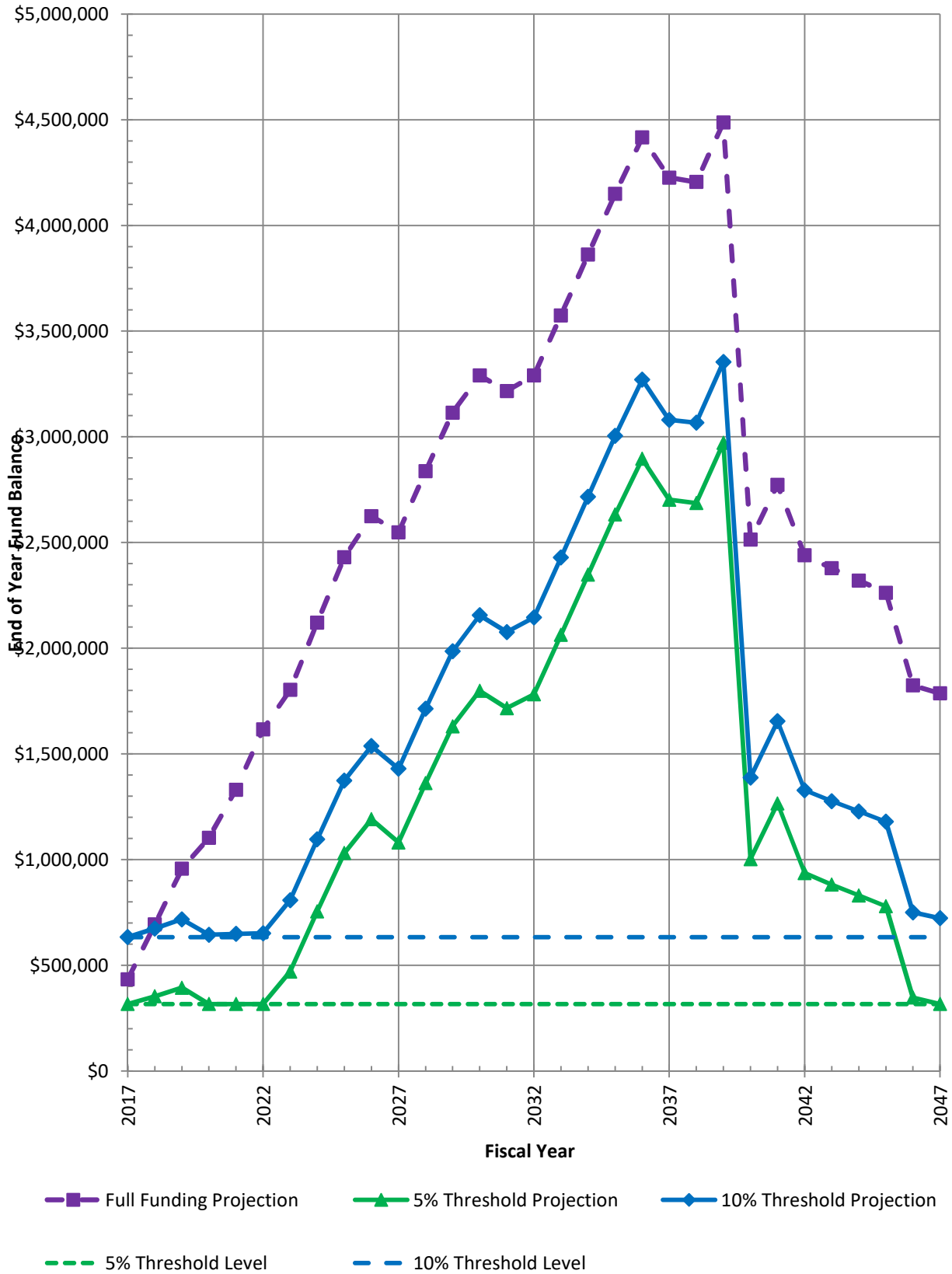


Fiscal Year	Nominal Expenditure (in Future Dollars) in Fiscal Year	Full Funding Scenario Projection		
		Start of Year Fund Balance	Projected Contribution	End of Year Fund Balance
2017	\$ 415,168	\$ 250,000	\$ 599,062	\$ 433,894
2018	339,584	433,894	599,062	693,373
2019	336,000	693,373	599,062	956,435
2020	453,000	956,435	599,062	1,102,497
2021	371,350	1,102,497	599,062	1,330,209
2022	313,668	1,330,209	599,062	1,615,603
2023	131,288	1,615,603	318,511	1,802,826
2024	-	1,802,826	318,511	2,121,338
2025	9,000	2,121,338	318,511	2,430,849
2026	124,750	2,430,849	318,511	2,624,611
2027	394,742	2,624,611	318,511	2,548,380
2028	3,584	2,548,380	292,947	2,837,743
2029	16,500	2,837,743	292,947	3,114,190
2030	117,000	3,114,190	292,947	3,290,137
2031	366,608	3,290,137	292,947	3,216,476
2032	219,263	3,216,476	292,947	3,290,161
2033	3,584	3,290,161	287,825	3,574,403
2034	-	3,574,403	287,825	3,862,228
2035	-	3,862,228	287,825	4,150,053
2036	21,350	4,150,053	287,825	4,416,529
2037	478,388	4,416,529	287,825	4,225,967
2038	300,788	4,225,967	280,725	4,205,904
2039	-	4,205,904	280,725	4,486,629
2040	2,254,000	4,486,629	280,725	2,513,354
2041	21,350	2,513,354	280,725	2,772,729
2042	613,872	2,772,729	280,725	2,439,582
2043	339,584	2,439,582	278,077	2,378,075
2044	336,000	2,378,075	278,077	2,320,152
2045	336,000	2,320,152	278,077	2,262,229
2046	716,608	2,262,229	278,077	1,823,698
2047	315,468	1,823,698	278,077	1,786,308

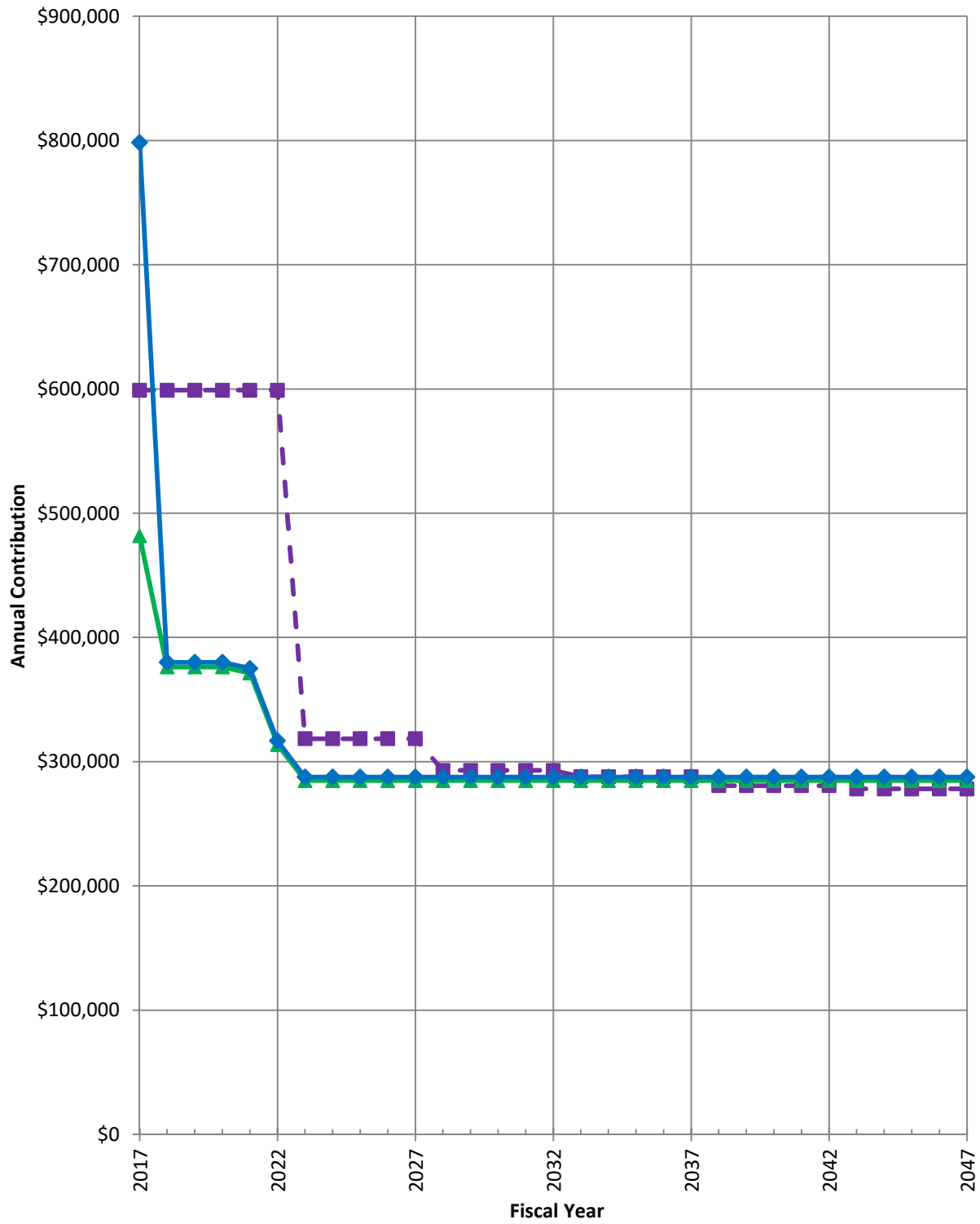
Fiscal Year	Nominal Expenditure (in Future Dollars) in Fiscal Year	5% Threshold Funding Scenario Projection				10% Threshold Funding Scenario Projection			
		Initial Year Threshold of \$316,598				Initial Year Threshold of \$633,195			
		Start of Year Fund Balance	Projected Contribution	End of Year Fund Balance	Nominal Threshold in Year	Start of Year Fund Balance	Projected Contribution	End of Year Fund Balance	Nominal Threshold in Year
2017	\$ 415,168	\$ 250,000	\$ 481,765	\$ 316,598	\$ 316,598	\$ 250,000	\$ 798,363	\$ 633,195	\$ 633,195
2018	339,584	316,598	376,195	353,209	316,598	633,195	379,957	673,568	633,195
2019	336,000	353,209	376,195	393,403	316,598	673,568	379,957	717,525	633,195
2020	453,000	393,403	376,195	316,598	316,598	717,525	379,957	644,481	633,195
2021	371,350	316,598	371,350	316,598	316,598	644,481	375,064	648,195	633,195
2022	313,668	316,598	313,668	316,598	316,598	648,195	316,804	651,331	633,195
2023	131,288	316,598	284,789	470,099	316,598	651,331	287,637	807,680	633,195
2024	-	470,099	284,789	754,888	316,598	807,680	287,637	1,095,317	633,195
2025	9,000	754,888	284,789	1,030,677	316,598	1,095,317	287,637	1,373,954	633,195
2026	124,750	1,030,677	284,789	1,190,716	316,598	1,373,954	287,637	1,536,841	633,195
2027	394,742	1,190,716	284,789	1,080,763	316,598	1,536,841	287,637	1,429,736	633,195
2028	3,584	1,080,763	284,789	1,361,968	316,598	1,429,736	287,637	1,713,789	633,195
2029	16,500	1,361,968	284,789	1,630,257	316,598	1,713,789	287,637	1,984,926	633,195
2030	117,000	1,630,257	284,789	1,798,046	316,598	1,984,926	287,637	2,155,563	633,195
2031	366,608	1,798,046	284,789	1,716,227	316,598	2,155,563	287,637	2,076,592	633,195
2032	219,263	1,716,227	284,789	1,781,753	316,598	2,076,592	287,637	2,144,966	633,195
2033	3,584	1,781,753	284,789	2,062,959	316,598	2,144,966	287,637	2,429,019	633,195
2034	-	2,062,959	284,789	2,347,748	316,598	2,429,019	287,637	2,716,656	633,195
2035	-	2,347,748	284,789	2,632,537	316,598	2,716,656	287,637	3,004,293	633,195
2036	21,350	2,632,537	284,789	2,895,976	316,598	3,004,293	287,637	3,270,580	633,195
2037	478,388	2,895,976	284,789	2,702,377	316,598	3,270,580	287,637	3,079,829	633,195
2038	300,788	2,702,377	284,789	2,686,378	316,598	3,079,829	287,637	3,066,678	633,195
2039	-	2,686,378	284,789	2,971,167	316,598	3,066,678	287,637	3,354,315	633,195
2040	2,254,000	2,971,167	284,789	1,001,956	316,598	3,354,315	287,637	1,387,952	633,195
2041	21,350	1,001,956	284,789	1,265,395	316,598	1,387,952	287,637	1,654,239	633,195
2042	613,872	1,265,395	284,789	936,312	316,598	1,654,239	287,637	1,328,004	633,195
2043	339,584	936,312	284,789	881,517	316,598	1,328,004	287,637	1,276,057	633,195
2044	336,000	881,517	284,789	830,306	316,598	1,276,057	287,637	1,227,694	633,195
2045	336,000	830,306	284,789	779,095	316,598	1,227,694	287,637	1,179,330	633,195
2046	716,608	779,095	284,789	347,276	316,598	1,179,330	287,637	750,359	633,195
2047	315,468	347,276	284,789	316,598	316,598	750,359	287,637	722,529	633,195



End of Fiscal Year Fund Projection Graph



Annual Contribution in Fiscal Year Graph



- Full Funding Annual Contribution
- 5% Threshold Funding Annual Contribution
- 10% Threshold Funding Annual Contribution

<p>2017 total expenditure \$415,168 consisting of these projects:</p>	<p>2018 total expenditure \$339,584 consisting of these projects:</p>	<p>2019 total expenditure \$336,000 consisting of these projects:</p>	<p>2020 total expenditure \$453,000 consisting of these projects:</p>
<p>BUILDING-Balcony-reconstruction-[4] \$336,000</p> <p>BUILDING-Electrical-intercom systems \$73,500</p> <p>SITE-Roadway-sealcoat, claremont ct- [12] \$5,668</p>	<p>BUILDING-Balcony-reconstruction-[4] \$336,000</p> <p>SITE-Roadway-sealcoat, diana dr-[12] \$3,584</p>	<p>BUILDING-Balcony-reconstruction-[4] \$336,000</p>	<p>BUILDING-Balcony-reconstruction-[4] \$336,000</p> <p>BUILDING-Interior Finish-carpeting, lobbies \$117,000</p>

2021 total expenditure \$371,350 consisting of these projects:	2022 total expenditure \$313,668 consisting of these projects:	2023 total expenditure \$131,288 consisting of these projects:	2024 total expenditure \$0 consisting of these projects:
BUILDING-Balcony-reconstruction-[4] \$336,000  SITE-Roadway-sealcoat, haley & birch- [12] \$14,850  SITE-Retaining Wall-timber, 3700 bldg.- [10] \$14,000  SITE-Walkway-concrete sidewalk, 10%- [13,19] \$6,500	BUILDING-Balcony-reconstruction-[4] \$308,000  SITE-Roadway-sealcoat, claremont ct- [12] \$5,668	SITE-Roadway-reconstruction, diana dr- [12] \$80,276  BUILDING-Deck-wood, at-grade-[4] \$45,000  SITE-Roadway-concrete curbing, diana dr, 15%-[11] \$6,012	

<p>2025 total expenditure \$9,000 consisting of these projects:</p>	<p>2026 total expenditure \$124,750 consisting of these projects:</p>	<p>2027 total expenditure \$394,742 consisting of these projects:</p>	<p>2028 total expenditure \$3,584 consisting of these projects:</p>
<p>SITE-Vehicle-maintenance, gator \$9,000</p>	<p>BUILDING-Window-common hallways-[3] \$86,400</p> <p>BUILDING-Doors-exterior, building entrance-[3] \$17,000</p> <p>SITE-Roadway-sealcoat, haley &amp; birch- [12] \$14,850</p> <p>SITE-Walkway-concrete sidewalk, 10%- [13,19] \$6,500</p>	<p>SITE-Roadway-reconstruction, claremont ct-[12] \$126,952</p> <p>BUILDING-Fire Safety-centralized fire &amp; security alarm panels-[5] \$115,200</p> <p>BUILDING-Patio-concrete replacement- [16] \$85,120</p> <p>SITE-Mailboxes/Pads-replacement-[17] \$50,000</p> <p>SITE-Roadway-concrete curbing, claremont ct, 15%-[11] \$12,420</p> <p>SITE-Shed-replacement-[15] \$3,250</p> <p>SITE-Signage-street, entrance \$1,800</p>	<p>SITE-Roadway-sealcoat, diana dr-[12] \$3,584</p>

<p>2029 total expenditure \$16,500 consisting of these projects:</p>	<p>2030 total expenditure \$117,000 consisting of these projects:</p>	<p>2031 total expenditure \$366,608 consisting of these projects:</p>	<p>2032 total expenditure \$219,263 consisting of these projects:</p>
<p>SITE-Stairs &amp; Railings-concrete, replacement \$16,500</p>	<p>BUILDING-Interior Finish-carpeting, lobbies \$117,000</p>	<p>SITE-Roadway-reconstruction, haley &amp; birch-[12] \$332,640 SITE-Roadway-concrete curbing, haley &amp; birch, 15%-[11] \$27,468 SITE-Walkway-concrete sidewalk, 10%-[13,19] \$6,500</p>	<p>BUILDING-Roof-shingle reconstruction, older-[6] \$121,220 BUILDING-Roof-gutters and leaders-[6] \$78,175 SITE-Retaining Wall-timber, miscellaneous small-[10] \$10,000 SITE-Roadway-sealcoat, claremont ct-[12] \$5,668 SITE-Stairs &amp; Railings-wood, replacement, 3300 bldg.-[18] \$4,200</p>

<p>2033 total expenditure \$3,584 consisting of these projects:</p>	<p>2034 total expenditure \$0 consisting of these projects:</p>	<p>2035 total expenditure \$0 consisting of these projects:</p>	<p>2036 total expenditure \$21,350 consisting of these projects:</p>
<p>SITE-Roadway-sealcoat, diana dr-[12] \$3,584</p>			<p>SITE-Roadway-sealcoat, haley &amp; birch-[12] \$14,850 SITE-Walkway-concrete sidewalk, 10%-[13,19] \$6,500</p>

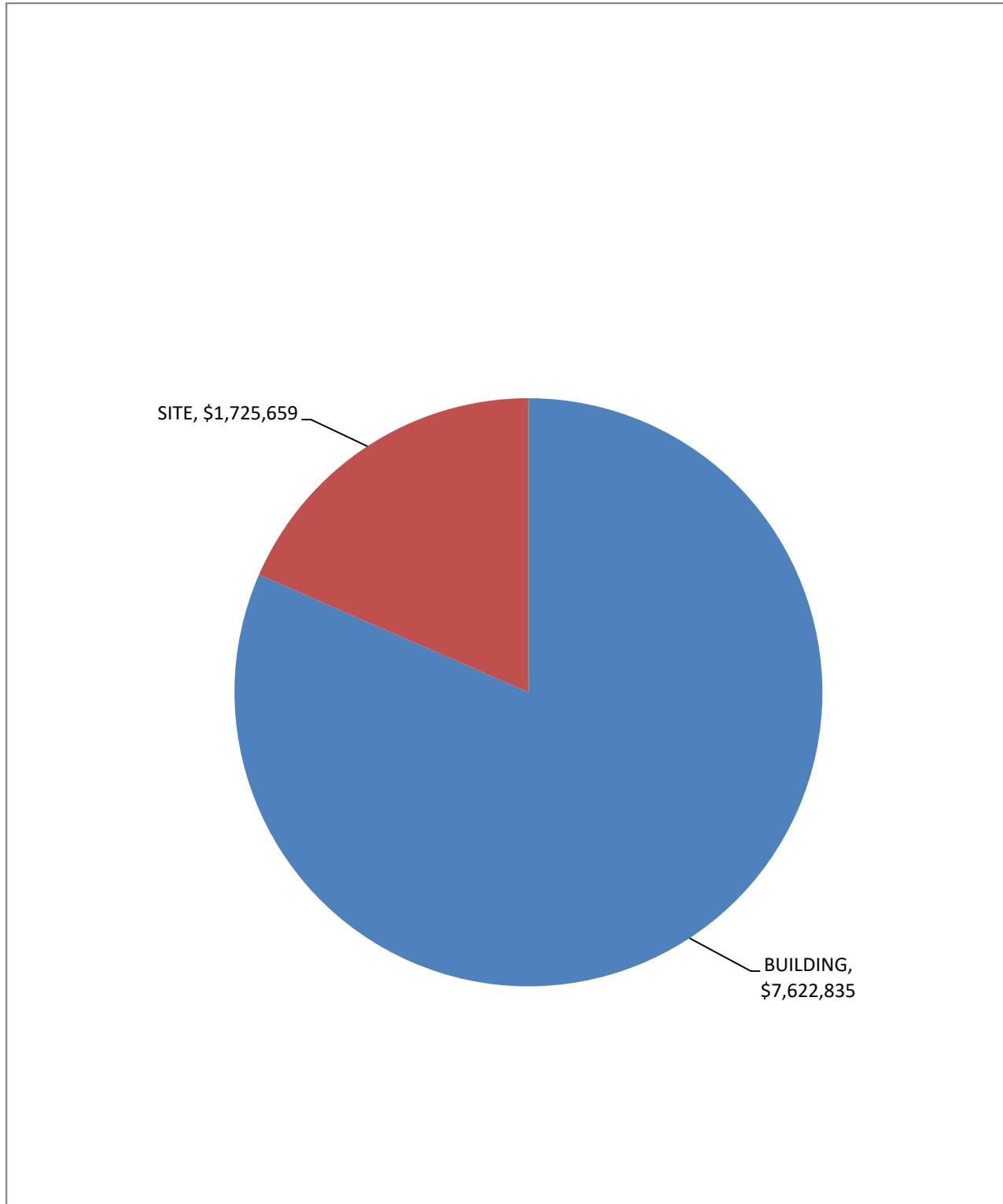
<p>2037 total expenditure \$478,388 consisting of these projects:</p>	<p>2038 total expenditure \$300,788 consisting of these projects:</p>	<p>2039 total expenditure \$0 consisting of these projects:</p>	<p>2040 total expenditure \$2,254,000 consisting of these projects:</p>
<p>BUILDING-Roof-shingle reconstruction, newer-[6] \$472,720</p> <p>SITE-Roadway-sealcoat, claremont ct-[12] \$5,668</p>	<p>SITE-Bridges-pedestrian, decking &amp; railing replacement-[9] \$214,500</p> <p>SITE-Roadway-reconstruction, diana dr-[12] \$80,276</p> <p>SITE-Roadway-concrete curbing, diana dr, 15%-[11] \$6,012</p>		<p>BUILDING-Balcony-reconstruction-[4] \$2,128,000</p> <p>BUILDING-Interior Finish-carpeting, lobbies \$117,000</p> <p>SITE-Vehicle-maintenance, gator \$9,000</p>



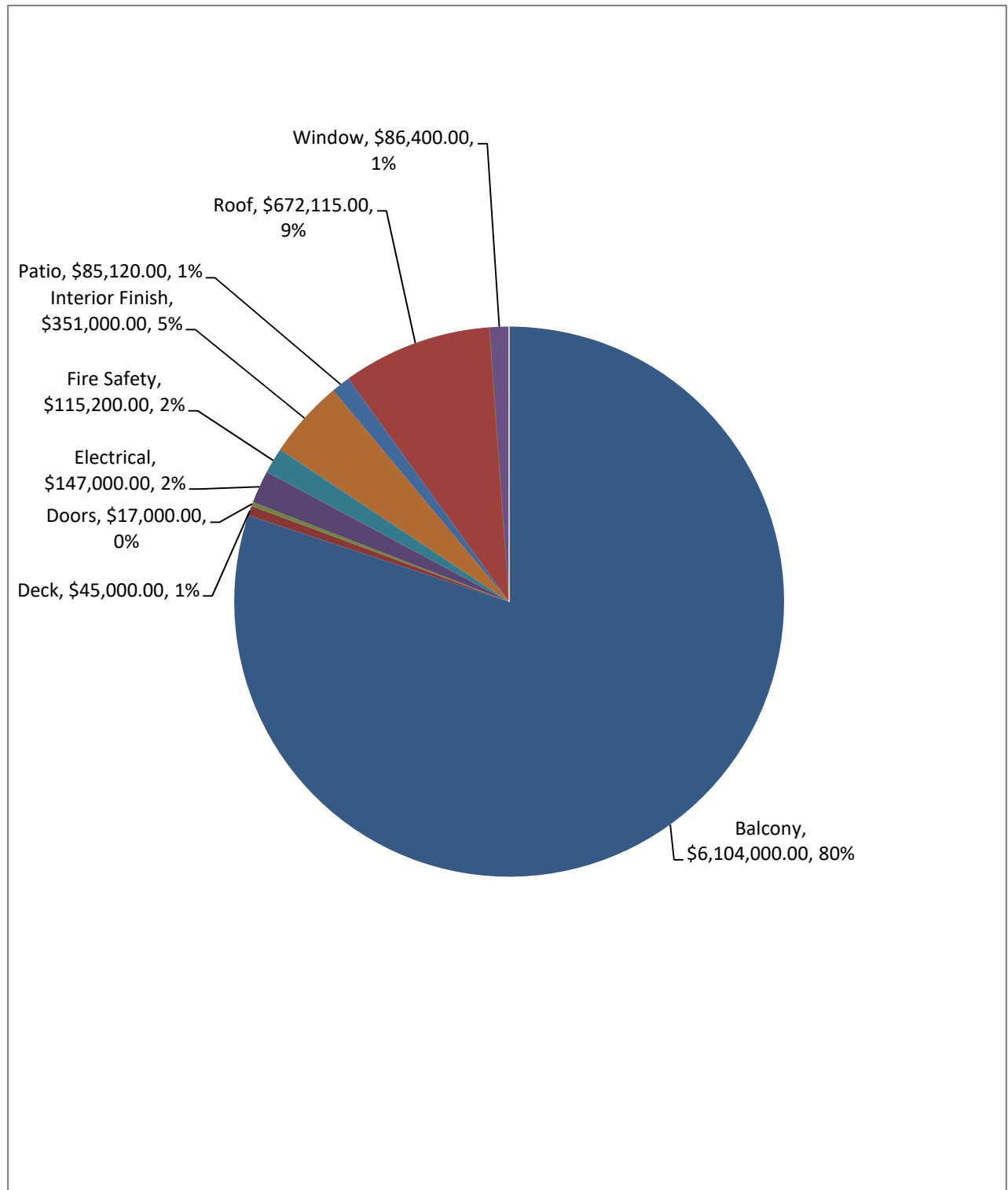
<p>2041 total expenditure \$21,350 consisting of these projects:</p>	<p>2042 total expenditure \$613,872 consisting of these projects:</p>	<p>2043 total expenditure \$339,584 consisting of these projects:</p>	<p>2044 total expenditure \$336,000 consisting of these projects:</p>
<p>SITE-Roadway-sealcoat, haley &amp; birch-[12] \$14,850</p> <p>SITE-Walkway-concrete sidewalk, 10%-[13,19] \$6,500</p>	<p>BUILDING-Balcony-reconstruction-[4] \$336,000</p> <p>SITE-Roadway-reconstruction, claremont ct-[12] \$126,952</p> <p>BUILDING-Electrical-intercom systems \$73,500</p> <p>SITE-Retaining Wall-timber-[10] \$50,000</p> <p>SITE-Stairs &amp; Railings-wood, rear, replacement, 3300/3400 bldgs. \$15,000</p> <p>SITE-Roadway-concrete curbing, claremont ct, 15%-[11] \$12,420</p>	<p>BUILDING-Balcony-reconstruction-[4] \$336,000</p> <p>SITE-Roadway-sealcoat, diana dr-[12] \$3,584</p>	<p>BUILDING-Balcony-reconstruction-[4] \$336,000</p>

<p>2045 total expenditure \$336,000 consisting of these projects:</p>	<p>2046 total expenditure \$716,608 consisting of these projects:</p>	<p>2047 total expenditure \$315,468 consisting of these projects:</p>
<p>BUILDING-Balcony-reconstruction-[4] \$336,000</p>	<p>BUILDING-Balcony-reconstruction-[4] \$336,000</p> <p>SITE-Roadway-reconstruction, haley &amp; birch-[12] \$332,640</p> <p>SITE-Roadway-concrete curbing, haley &amp; birch, 15%-[11] \$27,468</p> <p>SITE-Retaining Wall-timber, 3700 bldg.- [10] \$14,000</p> <p>SITE-Walkway-concrete sidewalk, 10%- [13,19] \$6,500</p>	<p>BUILDING-Balcony-reconstruction-[4] \$308,000</p> <p>SITE-Roadway-sealcoat, claremont ct- [12] \$5,668</p> <p>SITE-Signage-street, entrance \$1,800</p>

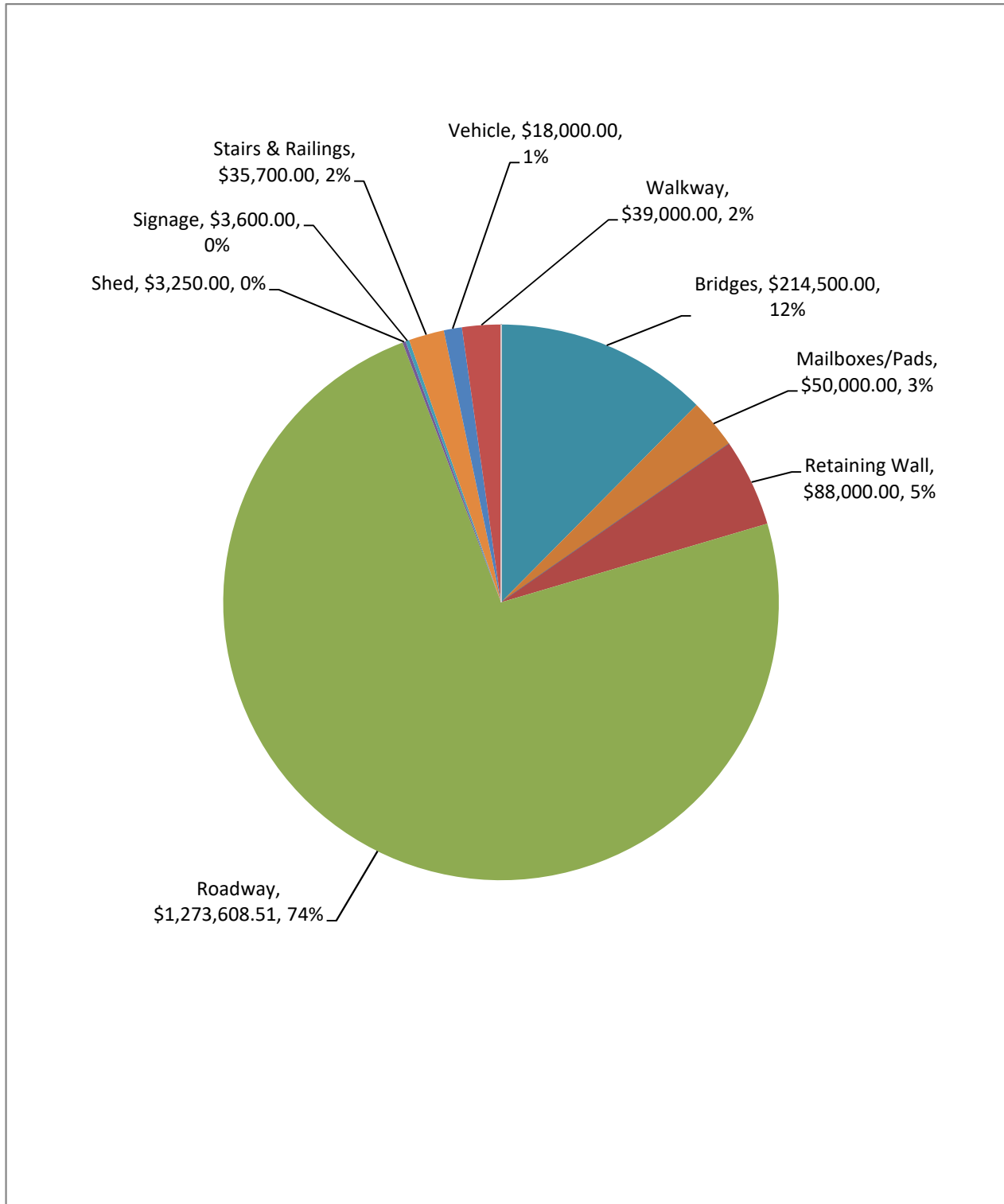
**Present Value Expenditure Over Time Window by Line Item Category**



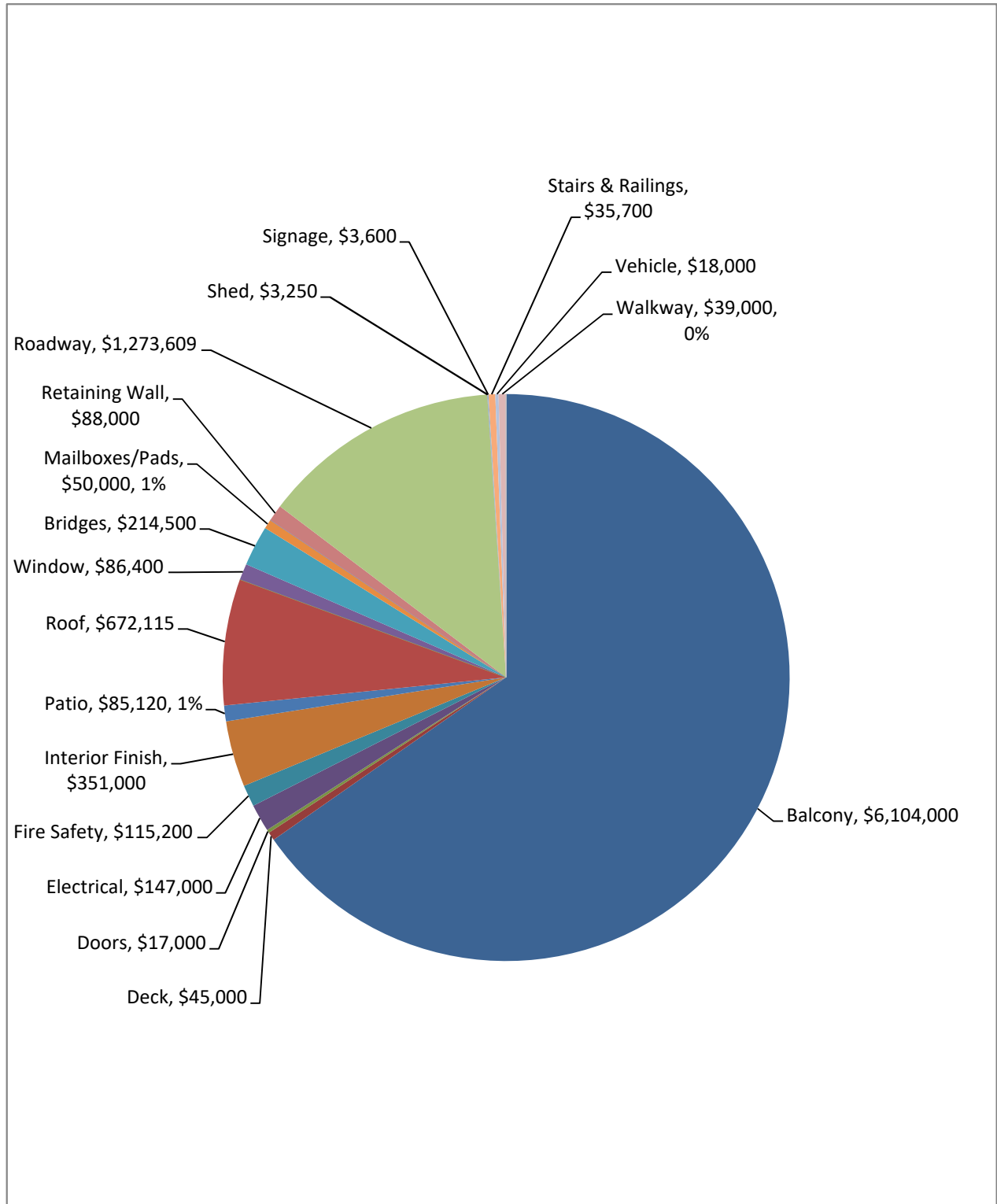
Present Value Expenditure Over Time Window for Building Category by Line Item Type



Present Value Expenditure Over Time Window for Site Category by Line Item Type



Present Value Expenditure Over Time Window by Line Item Type



## Calculation Table Explanatory Descriptions

The following sections describe the individual sheets of the Calculation Tables, in the order they appear in the report.

### Executive Summary

This page shows the basic fiscal and initial condition information upon which the remainder of the analysis has been based and includes basic information regarding the Association, the report (including its revision history), and a basic summary of the funding schedules considered in the analysis.

### Client

This entry lists the full (official) name of the Association, to the best of The Falcon Group's knowledge.

### File Number

This entry indicates the file/client number that The Falcon Group has assigned to the Association for our internal filing and archiving purposes. This number should remain constant through all of the communications that the Association has with The Falcon Group.

### Version

This entry indicates the month and year in which this analysis was performed. This information is included to allow differentiation between precedent and antecedent analyses.

### Community Information

These entries indicate the number of privately owned portions (be they detached single family dwellings, condominium units, attached single family dwellings [often called townhouses], business condominium units, or some combination thereof) within the Association, the approximate or median date of original construction, and the geographic location of the Association's physical components (which is often useful information in that construction costs tend to vary with geographic location and local market forces).

### Initial Conditions

These entries list the conditions that The Falcon Group understands to exist as of the first day of the initial fiscal year of the analysis shown (while most Associations have fiscal years that run concurrent with calendar years, this is not universal, and the initial conditions therefore include an explicit listing of the last day of the Association's fiscal year), and include the initial fund balance, which is often pro-rated from the current fund balance, based upon the date of the current fund balance and the prior year's annual contribution. The initial conditions also include the initial percent funded, which gives an indication of how conservatively the Association has historically funded its capital reserve fund to the beginning of the initial fiscal year, and the initial estimated total replacement cost, which is the basis that The Falcon Group typically uses to determine the threshold levels for the cash-flow methodology fund projections.

Included in this area, for the Association's edification, is the "PV Expenditure in Time Window", which is the summation of the "Present Value of Line Item Expenditures in Time Window" column from the Expenditure Projection.

### Scope of Work

This indicates the processes undertaken as part of the analysis evaluation. The Falcon Group, besides specifying scopes of work by CAI standards (updates with and without site visits and full studies) also indicates if the Association requested field measurement of the common elements, and indicates if other work scopes (e.g. roof or siding inspections, moisture testing, etc.) beyond typical visual inspection and quantity measurement, are included in the analysis evaluation.

### Revisions

Many Capital Reserve Replacement Analyses are revised one or more times to reflect changes in assumptions, new information, or alternative funding goals. The revision entries indicate dates that The Falcon Group has revised the

current analysis, and include short descriptions of the revisions made and initials of the editor in The Falcon Group who performed the revision(s).

## **Analysis Calculation Constants**

These entries list the constants used in the analysis, including the time window (industry standard time window is thirty years), the assumed annual rate of cost inflation (The Falcon Group, unless otherwise directed by the Association, will assume this to be zero), and the assumed annual rate of investment return (The Falcon Group, unless otherwise directed by the Association, will assume this to be zero).

## **Summary of Funding Schedules Over Time Window**

These entries indicate the funding schedules (the various scenarios) considered in the analysis, along with relevant notes regarding these funding schedules, the contribution required in the initial fiscal year to comply with the funding schedule as calculated, and the maximum and minimum end of year fund balances projected to occur in each of the funding schedules.

## **Line Item Schedules**

There are two distinct line item schedules, the reserve schedule, which displays life cycle and estimated cost information that is used to develop the expenditure projection, and the depreciation schedule, which displays the depreciation and fund allocation information that is used to develop the full funding scenario projection.

### **Line Item**

These entries name the individual projects/expenditures that are expected to be funded through the Association's capital reserve fund and are therefore being considered in the analysis. Each line item name is compounded of a category (typical categories are ANCILLARY, BUILDING, and SITE), a type (such as Pavement, Roof, Swimming Pool, or Utility, among others), a description (such as asphalt, concrete, metal railing, seal coating, wood deck, or so forth), and, in some cases a miscellaneous component including secondary descriptions (such as street names, building numbers, or phase numbers) and notes (typically in the form of one or more numbers in parenthesis that reference the notes in the narrative section of the report), with all components being separated by hyphens. The line item names are constructed in this fashion so that they can be easily organized into related categories. The organization of the individual line items in a systematic fashion (arranging similar or related line items in close proximity to each other) tends to make the Line Item Schedules and Expenditure Projection of the analysis more easily read, cross-referenced, and checked.

Always be mindful of notes – due to the tabular nature of the Calculation Sheets, important qualifications, disclosures, and observations regarding individual line items typically cannot be expected to fit within the space limitations of the Calculation Sheets, so the line item notes often include vital explanatory material.

### **Life Cycle [Reserve Schedule]**

The typically expected life cycle is the number of years that The Falcon Group would expect to see between occurrences of the line item expenditure. The condition assessed remaining life cycle is the number of years that The Falcon Group expects to elapse before the next occurrence of the line item expenditure.

### **Estimated Cost [Reserve Schedule]**

The total line item cost per occurrence of the line item expenditure in the initial year is determined by multiplying the line item quantity by the line item unit cost. Please note that each line item has also been given a unit of measure – this is very important, in that a both quantity and unit cost entries cannot be appropriately interpreted without knowing the unit of measurement (for instance, there is a vast difference between a square foot of concrete and a cubic yard of concrete, and quantities and unit costs based upon cubic yards will be very different from those based upon square feet).

It must be understood that estimated costs are shown for the initial fiscal year of the analysis. If inflation is assumed to be zero, than the estimated line item cost per occurrence will be constant over the time window – otherwise estimated line item costs will change over the time window.



The individual line item unit costs (the estimated cost for which the components represented by the line item can be realistically replaced, reconstructed, or refurbished as the case may be, per unit of measurement) are based upon the cost information available to us as of the time the analysis is performed, as well as various assumptions in regards to non-visible construction details and material characteristics. The Falcon Group bases unit costs upon current R.S. Means reference books (R.S. Means is a commercially available series of cost estimating guides published by Reed Construction Data), contractor bids for similar scopes of work with which The Falcon Group has been involved, industry/manufacturer specific information, and whatever historical expenditure information that the Association has supplied to The Falcon Group for review.

The Association should remain aware that these are estimated costs. Market forces can alter individual costs significantly in comparatively short periods of time due to material price increases, labor shortages, regulatory environment changes, and etcetera. Actual costs can also be significantly altered by design requirements (e.g. use of unusual materials or design details), project or community specific requirements (e.g. unusually restricted hours of work), or other factors that are not determined until the actual project designs and specifications are created. The actual cost that the Association will see can be expected to vary to a greater or lesser degree from what has been estimated for the purposes of this Capital Reserve Replacement Analysis.

Please note that the Line Item Occurrence Cost is not necessarily identical to the Total Line Item Cost (q.v.), in that line items, for various reasons, may not be showing the entire quantity of the common element considered in the analysis (this is typically done to allow more accurate modeling of items such as concrete pedestrian walks, where replacement is often performed on an as-needed basis for comparatively small portions of the total, and is generally combined with a very short life cycle to reflect many small expenditures rather than a single large expenditure).

#### **Total Line Item Cost**

This line item entry is simply the total quantity of the common element multiplied by the unit cost. Please note that, for various reasons, the analysis tables may not be showing the total quantity of the common element in question (q.v., Estimated Cost), in which case this entry will not agree with the Line Item Occurrence Cost entry under the Reserve Schedule heading. These entries have been included for the use of accounting professionals and community managers, and do not necessarily appear elsewhere in the analysis, as expenditure projections are based upon the Line Item Occurrence Cost entries.

#### **Current Theoretical Full Funding Line Item Balance [Full Funding Schedule]**

This line item entry is essentially the difference between the estimated line item occurrence cost and the depreciated value at the beginning of the initial fiscal year of the analysis (based upon simple straight-line depreciation of the occurrence cost over the typically expected life cycle with an assumed residual value of zero), and thus represents both the value of the common element(s) represented by the line item that has been lost to senescence (aging), wear, weathering, and other forms of deterioration since the installation of said element(s) and the theoretical "ideal" level of funding expected if the Association was attempting to maintain full funding.

#### **Initial Fund Allocation [Full Funding Schedule]**

This line item entry is the portion of the initial fund balance that has been allocated to the line item for calculation purposes. The process of determining this allocation is called "pooling", and tends to become a complex issue, especially in regards to fund distribution in severely under-funded situations. The Falcon Group uses an algorithm that preferentially directs funding allocation to cover expenditures occurring in the initial fiscal year and allocates the remainder based upon the individual line item current cumulative depreciations. Note the sum of all line item initial fund allocations, by definition, is equal to the initial fund balance.

The Association should remember that pooling is essentially an accounting convenience that is used to allow the component methodology calculations, not an intrinsic characteristic of the typical capital reserve fund. It is rare for an Association to explicitly divide their capital reserve fund into separate savings or investment accounts for each individual line item of their Capital Reserve Replacement Analysis, and the line item initial fund allocation is therefore not normally reflected in any administrative or fiscal structure within an Association.

## **Current Coverage (+) or Shortage (-) [Full Funding Schedule]**

This line item entry is simply the difference between the initial fund allocation and the current theoretical full funding line item balance. Positive numbers indicate overages (the initial fund allocation is greater than the current theoretical full funding line item balance) while negative numbers indicates shortages (the initial fund allocation is less than the current theoretical full funding line item balance). An Association that is fully funded will have neither overages nor shortages.

## **Effective Age of Component [Full Funding Schedule]**

This line item entry is essentially the numerical representation of the estimated number of full years of “typical” deterioration experienced by the components of the line item up to the initial year of the analysis. Thus, if a line item has an expected life cycle of 15 years and a condition assessed remaining life of 10 years, it has an effective age of 4, because the line item is in the midst of its 5<sup>th</sup> year.

## **Current Theoretical Full Funding Line Item Annual Contribution [Full Funding Schedule]**

This line item entry is the estimated value of the common element(s) represented by the line item that is lost each year to senescence (aging), wear, weathering, and other forms of deterioration, and is therefore a form of depreciation. This analysis assumes all depreciation to be a linear function of the line item life cycle and occurrence cost for budgeting purposes. Depreciation is an accounting convention and mathematical construction, not necessarily a true reflection of the actual physical deterioration of many common elements. Many objects tend to experience a gradually increasing rate of deterioration as they age, and their actual value often more closely resembles a logarithmic or exponential function than a linear function. The difficulties in attempting to more accurately model actual material degradation mathematically make depreciation via linear functions the favored basis of calculation for full funding analyses.

## **Expenditure Projection**

The expenditure projection sheets essentially cycle the line item life cycles, including various non-cyclical or meta-cyclical factors, over the analysis time window and generate the predicted cash-outflow from the Association’s capital reserve fund over the course of the analysis time window.

The majority of the expenditure projection takes the form of an array or grid that cross-references each line item (the rows) with each fiscal year (the columns) in the analysis time window, with line item expenditure occurrences in each fiscal year being summed to produce the nominal expenditure (in future dollars) for each fiscal year.

### **Line Item**

These entries are identical to the entries in the line item schedules.

### **Fiscal Year**

These entries indicate the fiscal year in which the entries below are occurring. Please note that, depending upon the start/end date of the Association’s fiscal year, these years may or may not match calendar periods. The Falcon Group will generally use the calendar year numeral in which the fiscal year starts as the fiscal year numeral – for instance, if an Association’s fiscal year runs from April 1 to March 1, then The Falcon Group would indicate the fiscal year from April 1, 2013 to March 1, 2014 as the 2013 fiscal year.

### **Nominal Expenditure (in Future Dollars) in Fiscal Year**

These entries are the sums of the expenditures projected to occur in each individual fiscal year. These entries reflect the effects of any assumed rate of cost inflation, and are therefore in terms of future dollars for the fiscal year in which they appear.

### **Present Value of Line Item Expenditures in Time Window**

These entries are the summation of the projected expenditures for each individual line item. These entries reflect the effects of any assumed rate of cost inflation and rate of return on investment, and are therefore an estimate of the current dollar sum (present value) that is theoretically equivalent to the cash-flow represented for the line item. In other words, if

the Association has an initial reserve fund balance equal to the sum of all of the present value of line item expenditures in time window entries, then it would theoretically be able to fund all of the expenditures projected to occur within the current time window out of the reserve fund and its investment earnings without any contributions from the Association, with the last expenditures in the time window reducing the fund balance to zero. The Falcon Group has never observed such a situation, and would never advise an Association to attempt such a strategy; these entries have been included to give the Association an index by which it can determine which line items are likely to have the most influence on threshold funding scenario projections (and thus where changes are most likely to materially alter recommended annual contributions).

## **Annual Funding Projection**

The annual funding projection sheets display the projected expenditures from the capital reserve fund, contributions to the capital reserve fund, and the resulting start of year and end of year fund balances for the various funding scenarios considered in the analysis. Each sheet takes the form of an array or grid that cross-references each fiscal year (the rows) with the projected expenditures in that fiscal year, and the starting and ending fund balances, projected contribution, and (in the case of threshold funding scenarios) the nominal threshold (initial year threshold corrected for cost inflation) for each scenario considered in the analysis. Please note that each scenario is represented by the columns underneath the title of the scenario (located along the top of the sheet), and that these scenarios are each independently calculated.

### **Fiscal Year and Nominal Expenditure (in Future Dollars) in Fiscal Year**

These entries have identical values to the entries in the expenditure projection, although they have been transposed, which is to say that these entries are displayed horizontally from left to right in the expenditure projection but are displayed vertically from top to bottom in the annual funding projection.

### **Start of Year Fund Balance**

These entries are the projected capital reserve fund balance on the first day of the given fiscal year for the given scenario projection. Please observe that the start of year fund balance for all considered funding scenarios is the same in the initial fiscal year, and equals the initial fund balance.

The start of year fund balance for fiscal years after the initial year is equal to preceding fiscal years end of year fund balance for the given scenario plus any return on investment.

### **Projected Contribution**

These entries are the per annum contributions to the capital reserve fund for the given fiscal year and given scenario projection.

### **End of Year Fund Balance**

These entries are the projected capital reserve fund balances on the last day of the given fiscal year for the given scenario projection; it is essentially the sum of that fiscal year's start of year fund balance and projected contribution, less the expenditure in that fiscal year.

### **Nominal Threshold in Year**

These entries are initial year threshold (which is shown directly below the threshold scenario title), corrected for the estimated cumulative cost inflation since the initial fiscal year. Where the assumed rate of cost inflation is zero, all of these entries should be identical within a given funding scenario.

## **Projection Graphs**

These sheets contain graphic representations of subsets of the information within the annual funding projection.

The end of fiscal year fund project graph is a graphical comparison of the various scenario projections tabulated in the annual funding projection. This graph contains information given in the annual funding projection in a more accessible format that often proves helpful for qualitative judgments of the merits of the various funding scenarios offered in the

# A-6

Capital Reserve Replacement Analysis. This graph displays the end of year fund balances for the various funding scenarios, as well as the various non-zero threshold balances so as to allow for relatively simple comparison between the various scenarios over the analysis time window.

## **Expenditure Calendar**

These sheets display the total (nominal) expenditure within each fiscal year of the analysis time window, along with the list of line items and their associated expenditures (in order from greatest to least expenditure) occurring in the given fiscal year.

The expenditure calendar essentially displays the same basic information set as the expenditure projection, but organizes the information in a different format that many users find more accessible. While the expenditure projection predominantly organizes information by line item and only secondarily by year, the expenditure calendar organizes information predominantly by year.