

# RESERVE STUDY

## The Landing Condominium Association, Inc.



**Altamonte Springs, Florida**

**November 16, 2021**



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The Landing Condominium Association, Inc.  
Altamonte Springs, Florida

Dear Board of Directors of The Landing Condominium Association, Inc.:

At the direction of the Board that recognizes the need for proper reserve planning, we have conducted a *Reserve Study* of The Landing Condominium Association, Inc. in Altamonte Springs, Florida and submit our findings in this report. The effective date of this study is the date of our visual, noninvasive inspection, November 16, 2021.

This *Reserve Study* exceeds the Association of Professional Reserve Analysts (APRA) standards fulfilling the requirements of a "Level II Reserve Study Update."

An ongoing review by the Board and an Update of this Reserve Study are necessary to ensure an equitable funding plan since a Reserve Study is a snapshot in time. We recommend the Board budget for an Update to this Reserve Study in two- to three-years. We look forward to continuing to help The Landing Condominium Association, Inc. plan for a successful future.

As part of our long-term thinking and everyday commitment to our clients, we are available to answer any questions you may have regarding this study.

Respectfully submitted on December 21, 2021 by

*Reserve Advisors, LLC*

Visual Inspection and Report by: Brandon L. Bloomer

Review by: Nicole L. Lowery, RS<sup>1</sup>, PRA<sup>2</sup>, Associate Director of Quality Assurance



<sup>1</sup> RS (Reserve Specialist) is the reserve provider professional designation of the Community Associations Institute (CAI) representing America's more than 300,000 condominium, cooperative and homeowners associations.

<sup>2</sup> PRA (Professional Reserve Analyst) is the professional designation of the Association of Professional Reserve Analysts. Learn more about APRA at <http://www.apra-usa.com>.



Long-term thinking. Everyday commitment.



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## 1. RESERVE STUDY EXECUTIVE SUMMARY

**Client:** The Landing Condominium Association, Inc. (The Landing)

**Location:** Altamonte Springs, Florida

**Reference:** 171608

**Property Basics:** The Landing Condominium Association, Inc. is a townhome style development which consists of 282 units in 24 buildings. The community was built in 1987.

**Reserve Components Identified:** 41 Reserve Components.

**Inspection Date:** November 16, 2021. We conducted the original inspection on November 2, 2017.

**Funding Goal:** The Funding Goal of this Reserve Study is to maintain reserves above an adequate, not excessive threshold during one or more years of significant expenditures. Our recommended Funding Plan recognizes this threshold funding year in 2036 due to replacement of the staircases and landings, as well as the screens and railings at the balconies.

**Cash Flow Method:** We use the Cash Flow Method to compute the Reserve Funding Plan. This method offsets future variable Reserve Expenditures with existing and future stable levels of reserve funding. Our application of this method also considers:

- Current and future local costs of replacement
- 0.0% anticipated annual rate of return on invested reserves
- 0.0% future Inflation Rate for estimating Future Replacement Costs

We exclude interest and inflation from our analysis due to recent interpretations of the Florida Administrative code by the Division of Condominiums, Timeshares and Mobile Homes. The Division has opined that any increase in reserve contributions over the length of a cash flow analysis would be considered "balloon payments" and prohibited by the Fla. Admin. Code, Rule 61B-22.0005(3)(b). Nothing in the Code purports to define "balloon payments" in a manner inconsistent with the general understanding of the word, which contemplates a series of smaller payments followed by a significantly larger lump-sum payment. However, the Division maintains their opinion and has cited Associations for non-compliance due to this issue. In order to ensure compliance, the funding plan, contributions and expenditure projections shown in this study exclude any increases due to inflation or adjustments for interest.

Please contact us if you would like us to prepare an alternate funding plan inclusive of these variables for your consideration. However, please note that a cash flow funding plan with any future increases in contributions would not comply with Fla. Admin. Code based on the Division's recent interpretations.

**Sources for Local Costs of Replacement:** Our proprietary database, historical costs and published sources, i.e., R.S. Means, Incorporated.

**Unaudited Cash Status of Reserve Fund:**

- \$581,904 as of September 30, 2021
- 2021 budgeted Reserve Contributions of \$170,000

**Project Prioritization:** We note anticipated Reserve Expenditures for the next 30 years in the *Reserve Expenditures* tables and include a *Five-Year Outlook* table following the *Reserve*



**Funding Plan** in Section 3. We recommend the Association prioritize the following projects in the next five years based on the conditions identified:

- Paint finishes and capital repairs of the staircases and landings
- Mill and overlay of the asphalt pavement
- Replacement of the playground equipment

**Recommended Reserve Funding:** We recommend the following in order to achieve a stable and equitable Funding Plan:

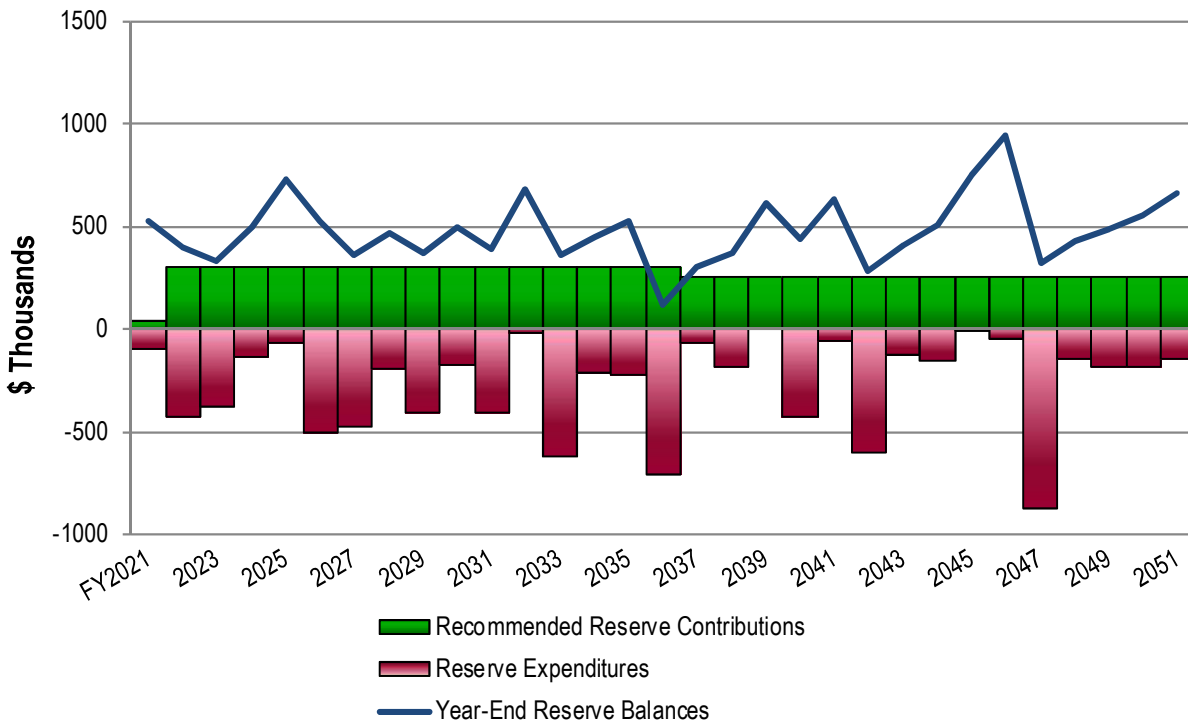
- Increase to \$303,000 in 2022
- Stable contributions of \$303,000 from 2022 through 2036
- Decrease to \$250,000 by 2037 due to fully funding for replacement of asphalt shingle roofs
- Stable contributions through 2051, the limit of this study's Cash Flow Analysis
- 2022 Reserve Contribution of \$303,000 is equivalent to an average monthly contribution of \$89.54 per homeowner.



### The Landing

Recommended Reserve Funding Table and Graph

Year	Reserve Contributions (\$)	Reserve Balances (\$)	Year	Reserve Contributions (\$)	Reserve Balances (\$)	Year	Reserve Contributions (\$)	Reserve Balances (\$)
2022	303,000	403,186	2032	303,000	679,041	2042	250,000	278,973
2023	303,000	331,572	2033	303,000	363,291	2043	250,000	407,223
2024	303,000	500,215	2034	303,000	452,103	2044	250,000	501,473
2025	303,000	731,869	2035	303,000	527,503	2045	250,000	744,673
2026	303,000	527,732	2036	303,000	117,353	2046	250,000	945,336
2027	303,000	356,258	2037	250,000	297,746	2047	250,000	320,336
2028	303,000	467,798	2038	250,000	365,704	2048	250,000	425,010
2029	303,000	367,338	2039	250,000	615,704	2049	250,000	489,610
2030	303,000	497,501	2040	250,000	437,304	2050	250,000	554,839
2031	303,000	393,041	2041	250,000	633,104	2051	250,000	664,439







## 2. RESERVE STUDY REPORT

At the direction of the Board that recognizes the need for proper reserve planning, we have conducted a *Reserve Study* of

**The Landing Condominium Association, Inc.**

**Altamonte Springs, Florida**

and submit our findings in this report. The effective date of this study is the date of our visual, noninvasive inspection, November 16, 2021. We conducted the original inspection on November 2, 2017.

We present our findings and recommendations in the following report sections and spreadsheets:

- **Identification of Property** - Segregates all property into several areas of responsibility for repair or replacement
- **Reserve Expenditures** - Identifies reserve components and related quantities, useful lives, remaining useful lives and future reserve expenditures during the next 30 years
- **Reserve Funding Plan** - Presents the recommended Reserve Contributions and year-end Reserve Balances for the next 30 years
- **Reserve Component Detail** - Describes the reserve components, includes photographic documentation of the condition of various property elements, describes our recommendations for repairs or replacement, and includes detailed solutions and procedures for replacements for the benefit of current and future board members
- **Methodology** - Lists the national standards, methods and procedures used to develop the Reserve Study
- **Definitions** - Contains definitions of terms used in the Reserve Study, consistent with national standards
- **Professional Service Conditions** - Describes Assumptions and Professional Service Conditions
- **Credentials and Resources**

## IDENTIFICATION OF PROPERTY



Our investigation includes Reserve Components or property elements as set forth in your Declaration. The Expenditure tables in Section 3 list the elements contained in this study. Our analysis begins by segregating the property elements into several areas of responsibility for repair and replacement.

Our process of identification helps assure that future boards and the management team understand whether reserves, the operating budget or Homeowners fund certain replacements and assists in preparation of the annual budget. We derive these segregated classes of property from our review of the information provided by the Association and through conversations with Management and the Board. These classes of property include:

- Reserve Components
- Long-Lived Property Elements
- Operating Budget Funded Repairs and Replacements
- Property Maintained by Homeowners



- Property Maintained by Others

We advise the Board conduct an annual review of these classes of property to confirm its policy concerning the manner of funding, i.e., from reserves or the operating budget. The Reserve Study identifies Reserve Components as set forth in your Declaration or which were identified as part of your request for proposed services. Reserve Components are defined by CAI as property elements with:

- The Landing responsibility
- Limited useful life expectancies
- Predictable remaining useful life expectancies
- Replacement cost above a minimum threshold

Long-Lived Property Elements may not have predictable Remaining Useful Lives or their replacement may occur beyond the 30-year scope of the study. The operating budget should fund infrequent repairs. Funding untimely or unexpected replacements from reserves will necessitate increases to Reserve Contributions. Periodic updates of this Reserve Study will help determine the merits of adjusting the Reserve Funding Plan. We identify the following Long-Lived Property Elements as excluded from the 30-year Reserve Expenditures at this time.

- Electrical System, Meter Boxes (Replaced 2018)
- Fire Sprinkler Systems
- Foundations
- Structural Frames

The operating budget provides money for the repair and replacement of certain Reserve Components. The Association may develop independent criteria for use of operating and reserve funds. For purposes of calculating appropriate Reserve Contributions, we identify the following list of Operating Budget Funded Repairs and Replacements:

- General Maintenance to the Common Elements
- Expenditures less than \$6,000 (These relatively minor expenditures have a limited effect on the recommended Reserve Contributions.)
- Dumpster Enclosures and Gates
- Fountains, Entrance Monument
- Golf Carts
- Irrigation System, Controllers
- Lake Maintenance
- Landscape
- Maintenance Office, Interior Renovations
- Paint Finishes and Repairs, Site Staircases
- Paint Finishes, Touch Up
- Pavers, Entrance
- Pumps Less Than Five-HP (horsepower)
- Rest Rooms, Lap Pool

- Retaining Walls, Timber
- Signage
- Site Furniture
- Valves, Small Diameter (We assume replacement as needed in lieu of an aggregate replacement of all small diameter valves as a single event.)
- Other Repairs normally funded through the Operating Budget

Certain items have been designated as the responsibility of the homeowners to repair or replace at their cost. Property Maintained by Homeowners, including items billed back to Homeowners, relates to unit:

- Balconies and Patios (Homeowners and Association split cost 50%)
- Electrical Systems (Including Circuit Protection Panels)
- Heating, Ventilating and Air Conditioning (HVAC) Units
- Interiors
- Pipes (Within Units)
- Screens, Interim Replacements
- Water Heaters
- Windows and Doors (Excluding Glass)

Certain items have been designated as the responsibility of others to repair or replace. Property Maintained by Others relates to:

- Fences, Vinyl (Adjacent Community)
- Fountain (Master Association)

### **3. RESERVE EXPENDITURES and FUNDING PLAN**

The tables following this introduction present:

#### **Reserve Expenditures**

- Line item numbers
- Total quantities
- Quantities replaced per phase (in a single year)
- Reserve component inventory
- Estimated first year of event (i.e., replacement, application, etc.)
- Life analysis showing
  - useful life
  - remaining useful life
- 2021 local cost of replacement
  - Per unit
  - Per phase
  - Replacement of total quantity
- Percentage of future expenditures anticipated during the next 30 years
- Schedule of estimated costs for each reserve component

#### **Reserve Funding Plan**

- Reserves at the beginning of each year
- Total recommended reserve contributions
- Estimated interest earned from invested reserves
- Anticipated expenditures by year
- Anticipated reserves at year end

The purpose of a Reserve Study is to provide an opinion of reasonable annual Reserve Contributions. Prediction of exact timing and costs of minor Reserve Expenditures typically will not significantly affect the 30-year cash flow analysis. Adjustments to the times and/or costs of expenditures may not always result in an adjustment in the recommended Reserve Contributions.

Financial statements prepared by your association, by you or others might rely in part on information contained in this section. For your convenience, we have provided an electronic data file containing the tables of ***Reserve Expenditures*** and ***Reserve Funding Plan***.





**RESERVE EXPENDITURES**

The Landing  
Condominium Association, Inc.  
Alhambra Springs, Florida

Explanatory Notes:  
1) 0.0% is the estimated Inflation Rate; see Executive Summary for details.  
2) FY2021 is Fiscal Year beginning January 1, 2021 and ending December 31, 2021.

Line Item	Total Quantity	Per Phase Quantity	Units	Estimated 1st Year of Event	Life in Years Useful Remaining	Unit Cost, \$	Percentage Ownership	Per Phase Total (2021)	Costs, \$ Total (2021)	Percentage of Future Expenditure	RUL = 0 FY2021	1 2022	2 2023	3 2024	4 2025	5 2026	6 2027	7 2028	8 2029	9 2030	10 2031	11 2032	12 2033	13 2034	14 2035	15 2036	
1 Allowance				2023	2	4,650,000	100%	4,650	4,650	0	0.1%	57,630	425,718	374,614	134,357	71,346	507,138	474,474	191,460	403,460	172,838	407,460	17,000	616,750	214,188	227,600	713,150
Reserve Study Update with Site Visit											<b>Anticipated Expenditures, By Year (\$5,254,986 over 30 years)</b>																





## RESERVE FUNDING PLAN

### CASH FLOW ANALYSIS

The Landing  
Condominium Association, Inc.

Altamonte Springs, Florida

Individual Reserve Budgets & Cash Flows for the Next 30 Years

	FY2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Reserves at Beginning of Year	581,904	526,904	403,186	331,572	500,215	731,869	527,732	356,258	467,798	367,338	497,501	393,041	679,041	363,291	452,103	527,503
Total Recommended Reserve Contributions	42,500	303,000	303,000	303,000	303,000	303,000	303,000	303,000	303,000	303,000	303,000	303,000	303,000	303,000	303,000	303,000
Estimated Interest Earned, During Year	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anticipated Expenditures, By Year	(97,500)	(426,718)	(374,614)	(134,357)	(71,346)	(507,138)	(474,474)	(191,460)	(403,460)	(172,836)	(407,460)	(17,000)	(618,750)	(214,188)	(227,600)	(713,150)
Anticipated Reserves at Year End	\$526,904	\$403,186	\$331,572	\$500,215	\$731,869	\$527,732	\$356,258	\$467,798	\$367,338	\$497,501	\$393,041	\$679,041	\$363,291	\$452,103	\$527,503	\$117,553

(NOTE 5)

(continued)

Individual Reserve Budgets & Cash Flows for the Next 30 Years, Continued

	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051
Reserves at Beginning of Year	117,353	297,746	365,704	615,704	437,304	633,104	278,973	407,223	501,473	744,673	945,336	320,336	425,010	489,610	554,839
Total Recommended Reserve Contributions	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000
Estimated Interest Earned, During Year	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anticipated Expenditures, By Year	(69,607)	(182,043)	0	(428,400)	(54,200)	(604,131)	(121,750)	(155,750)	(6,800)	(49,338)	(875,000)	(145,326)	(185,400)	(184,771)	(140,400)
Anticipated Reserves at Year End	\$297,746	\$365,704	\$615,704	\$437,304	\$633,104	\$278,973	\$407,223	\$501,473	\$744,673	\$945,336	\$320,336	\$425,010	\$489,610	\$554,839	\$664,439

(NOTE 4)

**Explanatory Notes:**

- 1) Year 2021 starting reserves are as of September 30, 2021; FY2021 starts January 1, 2021 and ends December 31, 2021.
- 2) Reserve Contributions for 2021 are the remaining budgeted 3 months; 2022 is the first year of recommended contributions.
- 3) 0.0% is the estimated annual rate of return on invested reserves; see Executive Summary for details
- 4) Accumulated year 2051 ending reserves consider the age, size, overall condition and complexity of the property.
- 5) Threshold Funding Year (reserve balance at critical point).

**FIVE-YEAR OUTLOOK****The Landing  
Condominium Association, Inc.**  
Altamonte Springs, Florida

Line Item	Reserve Component Inventory	RUL = 0 FY2021	1 2022	2 2023	3 2024	4 2025	5 2026
<b><u>Exterior Building Elements</u></b>							
1.128	Balconies, Wood Frame with Concrete Topping, Inspections and Capital Repairs, Phased			51,150	51,150		
1.129	Breezeways, Wood Frame with Concrete Topping, Inspections and Capital Repairs, Phased			25,300	25,300		
1.151	Building Inspections, Wood Rot Identification		50,000				
1.260	Light Fixtures						22,400
1.261	Life Safety System, Control Panel and Emergency Devices			60,000			
1.271	Pipes, Domestic Water, Waste and Vent, Partial (2022 is Isolated Repairs)		10,000				
1.599	Staircases and Landings, Paint Finishes and Capital Repairs (Near Term is Phased)		89,300	89,300			
1.860	Walls, Stucco, Paint Finishes and Capital Repairs, Phased						428,400
<b><u>Property Site Elements</u></b>							
4.020	Asphalt Pavement, Patch and Seal Coat						32,810
4.040	Asphalt Pavement, Mill and Overlay (2022 is Remaining Payment)		92,395				
4.100	Catch Basins, Inspections and Capital Repairs		9,600				
4.110	Concrete Curbs, Partial (2022 is Remaining Payment)		31,283				
4.140	Concrete Sidewalks, Partial		11,328				11,328
4.420	Irrigation System, Phased		68,288	68,288			
4.560	Light Poles and Fixtures, Phased			40,326		40,326	
4.600	Mailboxes					31,020	
4.640	Perimeter Walls, Stucco, Inspections and Capital Repairs			15,300			
4.660	Playground Equipment (Incl. Fence)		46,500				
4.733	Railings and Site Staircases, Steel, Replacement	97,500					
4.735	Retaining Walls, Concrete, Inspection and Capital Repairs				44,307		
<b><u>Clubhouse Elements</u></b>							
5.100	Exercise Equipment (2022 is Additional Treadmill)		4,000				5,200
5.801	Security System, Phased				6,800		
5.900	Windows and Doors, Clubhouse (2022 is Planned)		14,025				
<b><u>Pool Elements</u></b>							
6.200	Concrete Decks, Textured Coating, Partial Replacements and Repairs			6,800			
6.500	Furniture, Phased						7,000
6.501	Light Poles and Fixtures				6,800		
6.600	Mechanical Equipment, Phased			13,500			
	Reserve Study Update with Site Visit			4,650			
<b>Anticipated Expenditures, By Year (\$8,254,965 over 30 years)</b>		97,500	426,718	374,614	134,357	71,346	507,138

## 4. RESERVE COMPONENT DETAIL

The Reserve Component Detail of this *Reserve Study* includes enhanced solutions and procedures for select significant components. This section describes the Reserve Components, documents specific problems and condition assessments, and may include detailed solutions and procedures for necessary capital repairs and replacements for the benefit of current and future board members. We advise the Board use this information to help define the scope and procedures for repair or replacement when soliciting bids or proposals from contractors. *However, the Report in whole or part is not and should not be used as a design specification or design engineering service.*

### Exterior Building Elements



Exterior overview



Exterior overview



Exterior overview

### Balconies, Railings and Screen Structures

---

**Line Item:** 1.105

**Quantity:** Approximately 2,600 linear feet

**History:** The age was unavailable at the time of our inspection.

**Condition:** Good to fair overall



**Balcony railings**



**Balcony railings**



**Balcony railings**



**Balcony edge profile with railings**

**Useful Life:** Up to 25 years

**Component Detail Notes:** The finish on these types of railings is maintenance free and should last the life of the railing.

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

## **Balconies and Breezeways, Wood Frame with Concrete Topping**

**Line Items:** 1.128 and 1.129

**Quantity:** Wood frame balconies with concrete topping which comprise approximately 37,200 square feet of horizontal surface area, and wood frame breezeways with concrete topping which comprise approximately 9,200 square feet of horizontal surface area. Management informs us the homeowners are responsible for fifty percent (50%) of the costs associated with the balconies and patios.

**History:** The age was unavailable at the time of our inspection.

**Condition:** Good to fair overall with isolated misaligned and corroded flashing, organic growth present at the balconies, and concrete cracks at the breezeways



**Balcony overview**



**Misaligned and corroded flashing at balcony edge**



**Detail view of balcony joint to building (note: stains)**



**Misaligned flashing at balcony edge**



**Damaged flashing and dirt accumulation at railings**



**Organic growth present**



**Cracks at breezeway**



**Cracks at breezeway**

**Useful Life:** Inspections and capital repairs every 8- to 12-years

**Component Detail Notes:** We surmise the balconies and breezeways comprise thinset lightweight concrete over a waterproof membrane atop the wood structure below. A waterproof membrane minimizes storm water penetration into the wood structure and therefore minimizes future balconies and breezeway deterioration. A fluid applied coating is applied to the top surface of the concrete for aesthetics and also to inhibit water infiltration to the concrete and underlying membrane. Failure to maintain the waterproof coatings on the balconies and breezeways will result in increased wood frame repairs as the balconies and breezeways age.

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost includes the following activities per event:

- Removal and replacement of up to ten percent (10%) of the thinset concrete topping and underlying waterproof membrane

- Partial replacement of up to ten percent (10%) of wood components
- Repairs of adjacent wall surfaces
- Repairs to the railings as necessary
- Replacement of perimeter sealants as needed
- Replacement of wood balcony support posts as needed
- Partial replacement of up to ten percent (10%) of the ongrade breezeways and patios

Our cost reflects fifty percent (50%) of the costs associated with the balcony and patio surfaces. As per our discussions with Management, the individual homeowners are responsible for the remaining fifty percent (50%).

## Building Inspections, Wood Rot Identification

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**Line Item:** 1.151

**Quantity:** Management and the Board reports apparent wood rot at building 631, and a probability of more buildings with the same issue. We have identified water intrusion at the staircase landings at building 951. We have included an allowance for inspections of the 24 buildings to identify water intrusion.

**Condition:** Reported unsatisfactory where visible, actual quantities of wood rot may vary greatly.



Severely rotted plywood at staircase landing  
(building 951)



Severely rotted plywood at staircase landing  
(building 951)

**Useful Life:** N/A

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Due to the noninvasive nature of our inspection we are unable to ascertain the condition of the entirety of the buildings, and the quantities and severity of wood rot throughout. We show an allowance for the Association to



contract in-depth inspections to determine the severity and locations of the wood rot throughout the community. The actual cost of these inspections may vary significantly from our estimates. Once a remediation plan is determined by the Association, future updates of this study can include the costs and detail the scope of work.

## **Gutters and Downspouts**

---

**Line Item:** 1.240

**Quantity:** Approximately 14,350 linear feet of aluminum gutters and downspouts

**History:** Replaced in 2018, and Management reports as-needed repairs funded through the operating budget.

**Condition:** Good to fair overall with debris accumulation evident



**Gutter overview**



**Debris accumulation at pool house gutters**

**Useful Life:** 12- to 18-years

**Component Detail Notes:** The useful life of gutters and downspouts coincides with that of the asphalt shingle roofs. Coordinated replacement will result in the most economical unit price and minimize the possibility of damage to other roof components as compared to separate replacements.

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

## **Light Fixtures**

---

**Line Item:** 1.260

**Quantity:** Approximately 280 exterior wall mounted light fixtures to accent the breezeways and stairwells.

**History:** Various ages

**Condition:** Good to fair overall



**Exterior light fixture**

**Useful Life:** Up to 25 years

**Priority/Criticality:** Per Board discretion

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

## **Life Safety Systems**

---

**Line Item:** 1.261

**Quantity:** The life safety system at The Landing includes the following components:

- Control panel
- Emergency light fixtures
- Fire bells
- Wiring

**History:** The age was unavailable at the time of our inspection

**Conditions:** Reported satisfactory

**Useful Life:** Up to 25 years

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Changes in technology or building codes may make a replacement desirable prior to the end of the functional life. Our estimate of future cost considers only that amount necessary to duplicate the same functionality. Local codes or ordinances at the actual time of replacement may require a betterment as compared to the existing system. A betterment could result in a higher, but at this time unknown, cost of replacement.

## **Pipes, Domestic Water, Waste and Vent**

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**Line Item:** 1.271

**Quantity:** We estimate that each unit shares domestic water plumbing pipes for both the kitchen and bathroom with the adjacent unit.

### **History and Condition:**

- Domestic Water, Supply and Return – Unknown age and reported in satisfactory condition, with the exception of building 976. Management reports a water leak and the water bill recently being triple the typical cost. We have included an allowance in 2022 to account for the repairs at building 976.
- Sanitary Waste Disposal and Vent – Original and reported in satisfactory condition



**Fire suppression valves**

**Component Detail Notes:** The Association is responsible for maintenance and replacement of the piping systems arranged in vertical and horizontal segments. These pipes comprise the following:

- Domestic water supply and return
- Vent plumbing fixtures
- Sanitary waste disposal

The exact locations and conditions of the pipes were not ascertained due to the nature of their location and the non-invasive nature of our inspection. We comment on the respective quantities and conditions of the piping systems in the following sections of this narrative.

**Domestic Water** - The useful life of PVC domestic supply and return pipes is up to and sometimes beyond 70 years.

**Sanitary Waste Disposal and Vent** - The pipes typically deteriorate from the inside out as a result of sewer gases, condensation and rust.

**Valves** - The piping systems include various valves. Identification of a typical useful life and remaining useful life for individual valves is difficult. Associations typically replace valves on an as needed basis in our experience.

**Pipes, Remaining** – We anticipate a useful life of up to and sometimes beyond 100 years for the fire standpipes and interior sprinkler pipes. Therefore, we do not foresee the need to budget for replacement of these pipes within the 30-year scope of this study. Future updates of this study will revisit the need to include partial replacement of these pipes.

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost for a single riser section assumes replacement of all pipes located within each wall opening, associated branch piping, fittings and minimal interior finishes. However, the cost does not include temporary housing for affected residents, pipes within the units or significant interior finishes.

The Association budgets an amount in the annual operating budget for minor pipe repairs and replacements. We recommend the Association continue to fund interim pipe replacements, prior to more aggregate replacements identified in the following paragraphs, from the operating budget. We also recommend the Association contract for an invasive investigation of the condition of the piping system prior to beginning more aggregate replacements, funded through the operating budget.

We recommend the Association budget the following expenditures:

- Domestic water, waste and vent - We include expenditures to replace the pipes at seven units beginning by 2035 followed by an increasing rate of replacement as the pipes age. Our estimate provides funds to replace approximately fifteen percent (15%) of the riser sections during the next 30 years.

An invasive analysis of the piping systems will provide various replacement options. Replacement of the systems as an aggregate event will likely require the use of special assessments or loans to fund the replacements.

Although it is likely that the times of replacement and extent of repair costs may vary from the budgetary allowance, The Landing could budget sufficient reserves for the

beginning of these pipe replacements and have the opportunity to adjust its future reserves up or down to meet any changes to these budgetary estimates. Updates of this Reserve Study would incorporate changes to budgetary costs through a continued historical analysis of the rate of deterioration and actual pipe replacements to budget sufficient reserves.

We recommend the Association budget for replacement of the following items through the operating budget:

- Replacement of valves on an as-needed basis
- Minor pipe repairs and replacements
- invasive investigation of the condition of the piping system prior to beginning more aggregate replacements
- Rodding of waste pipes

## Roofs, Asphalt Shingles

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**Line Item:** 1.280

**Quantity:** Approximately 1,350 *squares*<sup>1</sup> which includes the quantities at the clubhouse, mail stations and fitness room.

**History:** Replaced in 2018

**Condition:** Good to fair overall condition with debris accumulation and isolated organic growth present.



Roof overview



Roof overview

<sup>1</sup> We quantify the roof area in squares where one square is equal to 100 square feet of surface area.



**Debris accumulation**



**Debris accumulation and organic growth evident**



**Roof overview**



**Debris accumulation**

**Useful Life:** 12- to 18-years

**Component Detail Notes:** The existing roof assembly comprises the following:

- Dimensional asphalt shingles
- Boston style ridge caps
- Lead boot flashing at waste pipes
- Soffit and square hood box vents
- Metal drip edge
- Closed cut valleys

Insulation and ventilation are two major components of a sloped roof system. Together, proper insulation and ventilation help to control attic moisture and maintain an energy efficient building. Both insulation and ventilation prevent moisture buildup which can cause wood rot, mold and mildew growth, warp sheathing, deteriorate shingles, and eventually damage building interiors. Sufficient insulation helps to minimize the quantity of moisture that enters the attic spaces and adequate ventilation helps to remove any moisture that enters the attic spaces. These two roof system components also help to

reduce the amount of energy that is required to heat and cool a building. Proper attic insulation minimizes heat gain and heat loss between the residential living spaces and attic spaces. This reduces energy consumption year-round. Proper attic ventilation removes excessive heat from attic spaces that can radiate into residential living spaces and cause air conditioners to work harder. Properly installed attic insulation and ventilation work together to maximize the useful life of sloped roof systems.

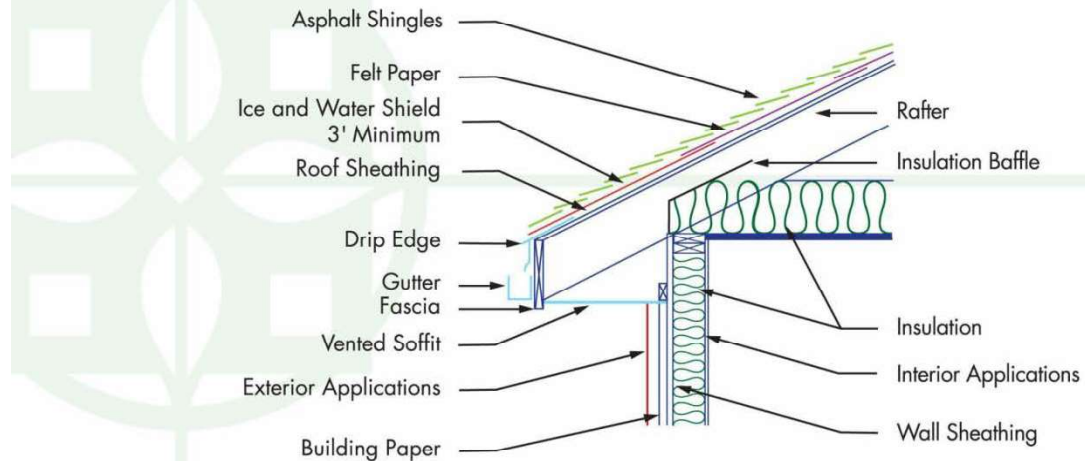
The Association should periodically ensure that the vents are clear of debris and are not blocked from above by attic insulation. If the soffit vents are blocked from above, the Association should install polystyrene vent spaces or baffles between the roof joists at these locations to ensure proper ventilation. The Landing should fund this ongoing maintenance through the operating budget.

Certain characteristics of condition govern the times of replacement. Replacement of an asphalt shingle roof becomes necessary when there are multiple or recurring leaks and when the shingles begin to cup, curl and lift. These conditions are indications that the asphalt shingle roof is near the end of its useful life. Even if the shingles are largely watertight, the infiltration of water in one area can lead to permanent damage to the underlying roof sheathing. This type of deterioration requires replacement of saturated sections of sheathing and greatly increases the cost of roof replacement. Roof leaks may occur from interrelated roof system components, i.e., flashings. Therefore, the warranty period, if any, on the asphalt shingles, may exceed the useful life of the roof system.

Warranties are an indication of product quality and are not a product guarantee. Asphalt shingle product warranties vary from 20- to 50-years and beyond. However, the scope is usually limited to only the material cost of the shingles as caused by manufacturing defects. Warranties may cover defects such as thermal splitting, granule loss, cupping, and curling. Labor cost is rarely included in the remedy so if roof materials fail, the labor to tear off and install new shingles is extra. Other limitations of warranties are exclusions for "incidental and consequential" damages resulting from age, hurricanes, hail storms, ice dams, severe winds, tornadoes, earthquakes, etc. There are some warranties which offer no dollar limit for replacement at an additional cost (effectively an insurance policy) but again these warranties also have limits and may not cover all damages other than a product defect. We recommend a review of the manufacturers' warranties as part of the evaluation of competing proposals to replace a roof system. This evaluation should identify the current costs of remedy if the roof were to fail in the near future. A comparison of the costs of remedy to the total replacement cost will assist in judging the merits of the warranties.

The following cross-sectional schematic illustrates a typical asphalt shingle roof system although it may not reflect the actual configuration at The Landing:

## ROOF SCHEMATIC



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Contractors use one of two methods for replacement of sloped roofs, either an overlayment or a tear-off. Overlayment is the application of new shingles over an existing roof. However, there are many disadvantages to overlayment including hidden defects of the underlying roof system, absorption of more heat resulting in accelerated deterioration of the new and old shingles, and an uneven visual appearance. Therefore, we recommend only the tear-off method of replacement. The tear-off method of replacement includes removal of the existing shingles, flashings if required and underlayments.

The Association should plan to coordinate the replacement of gutters and downspouts with the adjacent roofs. This will result in the most economical unit price and minimize the possibility of damage to other roof components as compared to separate replacements.

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

## Staircases and Landings

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**Line Items:** 1.599 and 1.600

**Quantity:** Two landings at each of the 47 sets of staircases located at the breezeways



**History:** Original with isolated repairs evident, the age of the paint finishes was unavailable at the time of inspection.

**Condition:** We note urgent necessity for replacement of limited quantities of severely cracked concrete treads throughout the community, and have notified Management immediately following our inspection. We informed Management of torn safety tape cordoning these areas of severe conditions. We note the stringers to be in fair condition with isolated occurrences of corrosion and finish deterioration. We also note water intrusion and wood rot at staircase landings at building 951 where the underside cover was removed. Due to the noninvasive nature of our inspection we were unable to ascertain these conditions throughout the community. We have recommended further inspections, as outlined by line item **1.151, Building Inspections, Wood Rot Identification.**



**Staircase with torn safety tape**



**Severely cracked concrete treads**



**Exposed rebar at concrete treads**



**Severely cracked concrete treads**



**Tread cracks**



**Severely cracked treads with previous repairs evident**



**Severely rotted plywood at landing with evident replaced support frames**



**Severely rotted plywood at landing with evident replaced support frames**



**Wood rot at landing**



**Wood rot at landing**



**Wood rot at landing**



**Staircase landing underside without wood rot or water intrusion evident**



**Tread mount angle**



**Isolated corrosion at tread mount angle**



**Railings at landings**



**Underside of staircase**

**Useful Life:** Up to 40 years with the benefit of periodic maintenance. Periodic maintenance should include applications of a protective paint finish and partial replacement of deteriorated steel every six- to eight-years.

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. The Association should budget for periodic power washing and minor replacements through the operating budget.

Our estimate for cost of paint finishes and capital repairs includes the following:

- Paint finishes of the railings and stringers
- Replacement of up to twenty percent (20%) of the concrete treads
- Replacement of up to twenty percent (20%) of the concrete thin set, wood frame, and concrete coatings at the staircase landings.

## Walls, Stucco

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**Line Item:** 1.860

**Quantity:** Approximately 238,000 square feet of the building exteriors

**History:** Paint finishes applied in 2019

**Condition:** Good to fair overall with isolated vegetative growth and repairs evident



Stucco overview



Detail view at building identification signs



**Stucco finishes at staircases**



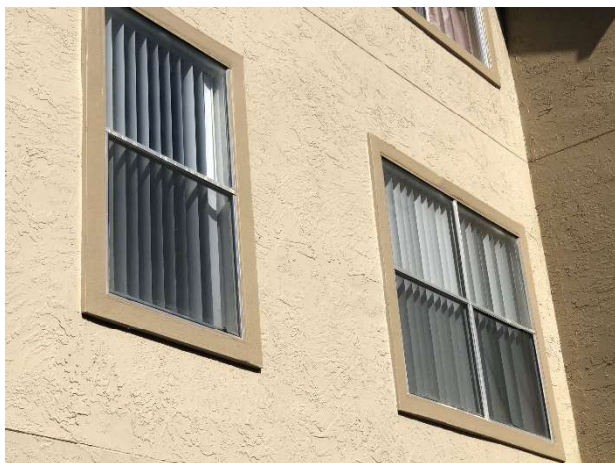
**Stucco overview**



**Stucco overview**



**Stucco detail view**



**Stucco overview**



**Vegetative growth present**



**Vegetative growth present**

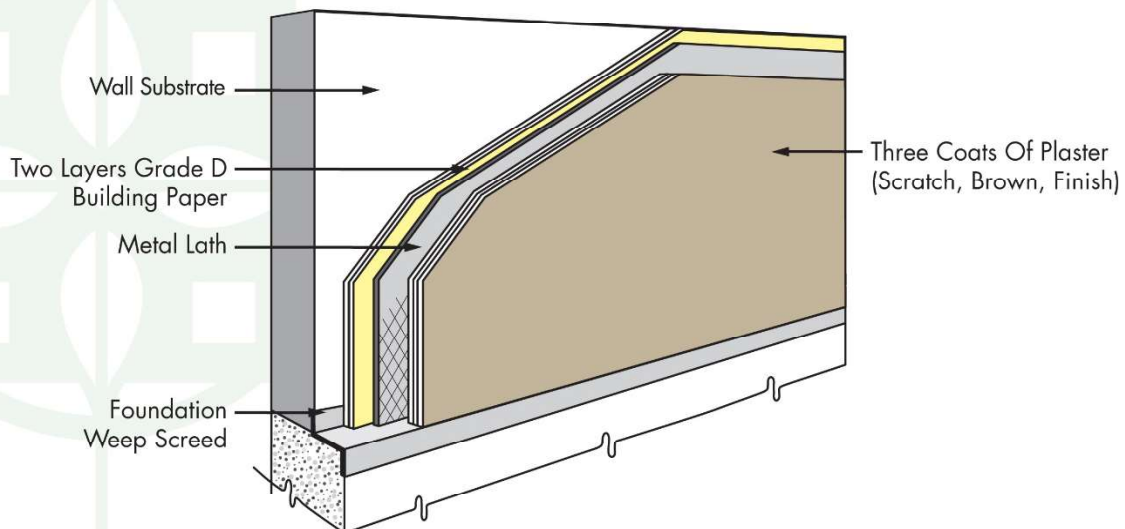


**Repairs evident**

**Useful Life:** We recommend inspections, repairs and paint finish applications every five- to seven-years.

**Component Detail Notes:** The following graphic details the typical components of a stucco wall system on frame construction although it may not reflect the actual configuration at The Landing:

## STUCCO DETAIL



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Correct and complete preparation of the surface before application of the paint finish maximizes the useful life of the paint finish and surface. The contractor should remove all loose, peeled or blistered paint before application of the new paint finish. The

contractor should then power wash the surface to remove all dirt and biological growth. Water-soluble cleaners that will not attack Portland cement are acceptable for removing stains.

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our estimate of cost anticipates the following in coordination with each paint finish application:

- Complete inspection of the stucco
- Crack repairs as needed (Each paint product has the limited ability to cover and seal cracks but we recommend repair of all cracks which exceed the ability of the paint product to bridge.)
- Replacement of up to five percent (5%), of the stucco walls (The exact amount of area in need of replacement will be discretionary based on the actual future conditions and the desired appearance.)
- Replacement of up to thirty-three percent (33%) of the sealants in coordination with each paint finish application.

## Windows (Glass Only)

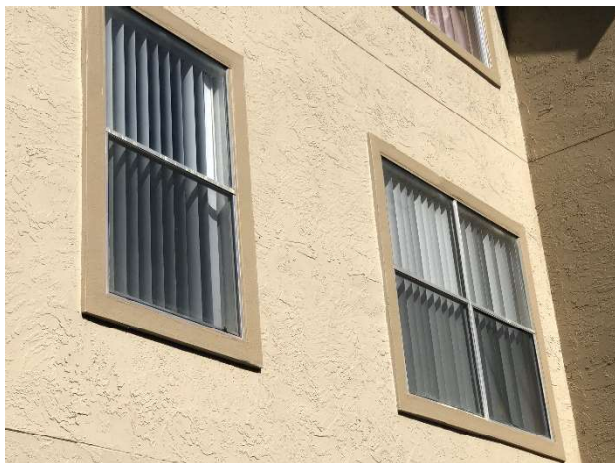
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**Line Item:** 1.980

**Quantity:** Approximately 16,200 square feet

**History:** Original

**Condition:** Reported satisfactory overall



**Windows**



**Windows**

**Useful Life:** Up to 40 years