

January 31, 2024

Indian River Club Association, Inc.  
1025 Rockledge Drive  
Rockledge, FL 32955

**Re: State Mandated Structural Milestone Inspection**

Dear Board and Association Owners,

This report is intended to meet the requirements of the Florida State mandated Phase I Structural Milestone Inspection for the Indian River Club, located in Rockledge, Florida. The report includes a visible inspection effort by the undersigned engineer on December 7, 2023 for accessible components including load bearing walls, columns, beams, horizontal slabs, visible components and/or collateral visible aspects such as settlement cracking. No other components are left to be inspected.

**Building Construction Type** – The Association was incorporated in October 1974, suggesting the buildings are 50 years old. The buildings appear to be constructed utilizing conventional steel reinforced concrete supported by structural load bearing beams and columns. The exterior walls are of masonry construction with a painted stucco finish. Indian River Club has two buildings with 100 condominium units, consisting of twenty stacks of five levels each. The North Building (A) has 13 stacks and the South Building (B) has seven stacks. The balconies and walkways have an acrylic textured coating flooring. All balconies have sliding glass doors and original aluminum, cored-in-place, picket-style railings. Some balconies are equipped with roll down hurricane shutters at the doors.

The complex has had several restoration projects in its history. Most recently, in 2017, an experienced contractor repaired concrete damage on the balconies and walkways of both buildings. Structural concrete was repaired on balconies and walkways, and the slab coatings were retouched. Both buildings were painted and waterproofed in 2018. The balconies were recoated. The walkways were recoated with a new system.

**Balconies** – As mentioned above, the balconies have been through several concrete restoration projects, most recently in 2017. The project included recommended protective measures which will greatly reduce future cyclic damage. We assume that since then, some reactive patching has occurred. The balconies currently have minimal visible signs of structural concrete damage. It is recommended to follow cyclic restoration cycles of 7 to 10 years, which will occur on any aged coastal building. These cycles should be planned for and coordinated with exterior building painting cycles (2025-2028). At that time, any needed concrete repairs would be completed, the floor coatings repaired as needed and fully top coated.

**Walkways** – The walkways had structural concrete repairs in 2017 as well. A new floor coating system was installed at that time. A visual and acoustic inspection was completed on all the walkways as part of this structural milestone inspection. Minimal concrete damage was visible. **It is recommended to follow cyclic restoration cycles of 7 to 10 years** for these repairs as well.

**Railings** – The balcony and walkway railings are “cored in place” railing systems. They are original to the building and are known to accelerate and exacerbate concrete spalling, particularly at the slab edges. Cored railings feed salt-water into the slab on a nearly continuous basis. This causes corrosion of the reinforcing steel at the slab edge and requires the common repair known as a balcony edge slab repair. In most cases, these slab edge repairs can be directly attributed to the presence, past or current, of cored railings. The railing picket spacing does not meet current building codes, but can remain in place if not removed. The railings are also the older 36 inch height. Current codes require a 42 inch height. Railings should be replaced with new 42 inch, surface mounted railings during the next repair cycle in 2025 – 2028.

**Sliding Glass Doors** – A majority of the sliding glass doors have been replaced throughout the years. Any aged sliding glass doors remaining, should be replaced as part of the next restoration cycle. Any corroded fasteners should also be replaced.

**Exterior Wall Painting** – Painting was last completed in 2018. Painting should be completed as part of the next restoration cycle. Any concrete repairs needed should be completed at this time. **Painting cycles are recommended at seven to 10 years.**

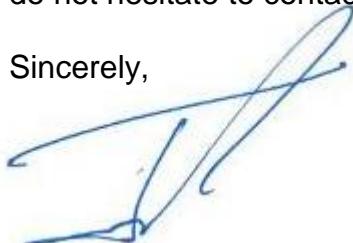
**Repairs** - Any cyclic repairs in the future should be completed by a contractor with proven experience in structural concrete restoration on occupied coastal buildings, under the supervision of an experienced professional engineer. The repairs should be completed to ICRI (International Concrete Repair Institute) standards including ICRI No. 310.1R-2008 “Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion.” Anything short of this standard will result in repeat failures of the repairs in the near term. Following these procedures will result in long-term structural repairs.

The concrete removal and excavation process will necessitate the localized removal of the floor finishes, stucco and paint, railings, and in some cases, shutters and sliding glass doors. These items will need to be factored into the project scope of work and budget considerations. In some cases, these items can be removed/reinstalled/repaired to complete the concrete repairs. In other cases, it may

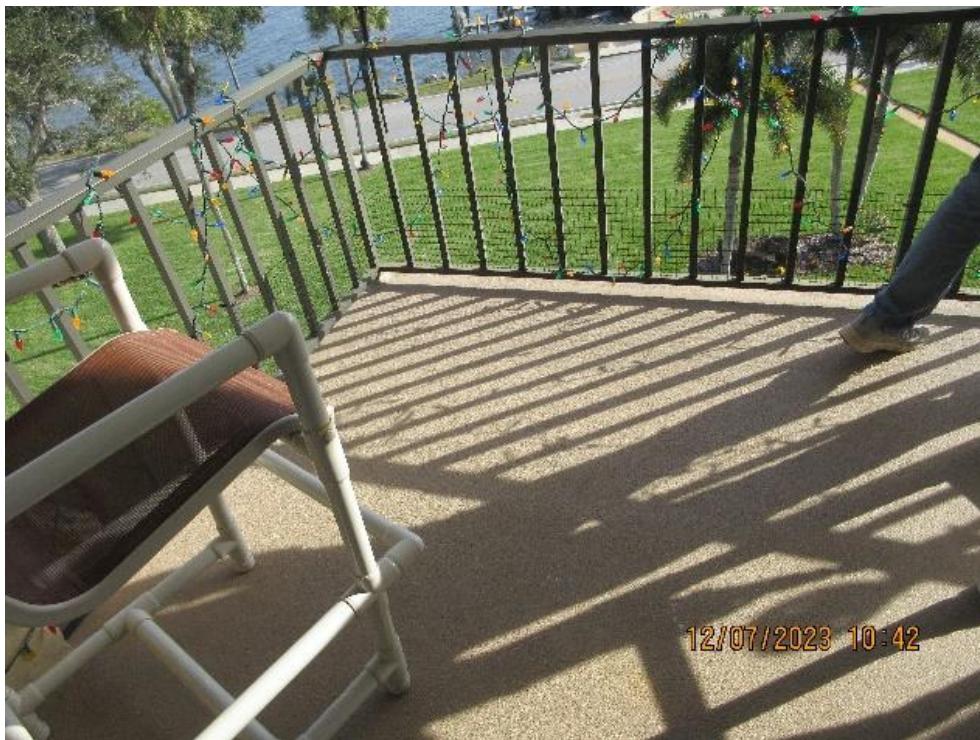
be more appropriate to remove the item and replace with new. This decision can be based on the age and condition of the item, the budget available, the motivation for maintenance considerations over time, and the tolerance for aesthetic imperfections.

Budgets for future, cyclic balcony and walkway restoration projects are included but an inspection before the next painting cycle should be revisited at that time. Please do not hesitate to contact me if any additional information is required.

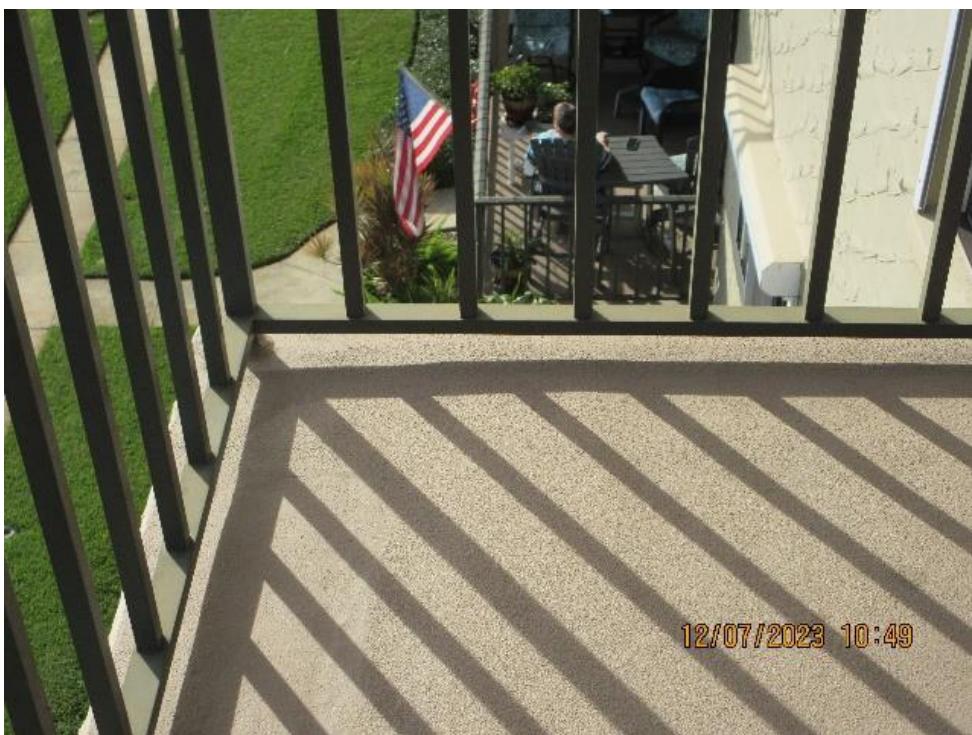
Sincerely,

A handwritten signature in blue ink, appearing to read "Tomas Ponce".

Tomas Ponce P.E., MSCE  
FL # 50068  
Keystone Engineering & Consulting, Inc.



**View of typical balcony**



**View of typical balcony**



**View of missing texture to balcony coating**



**View of concrete patches on balcony slab**



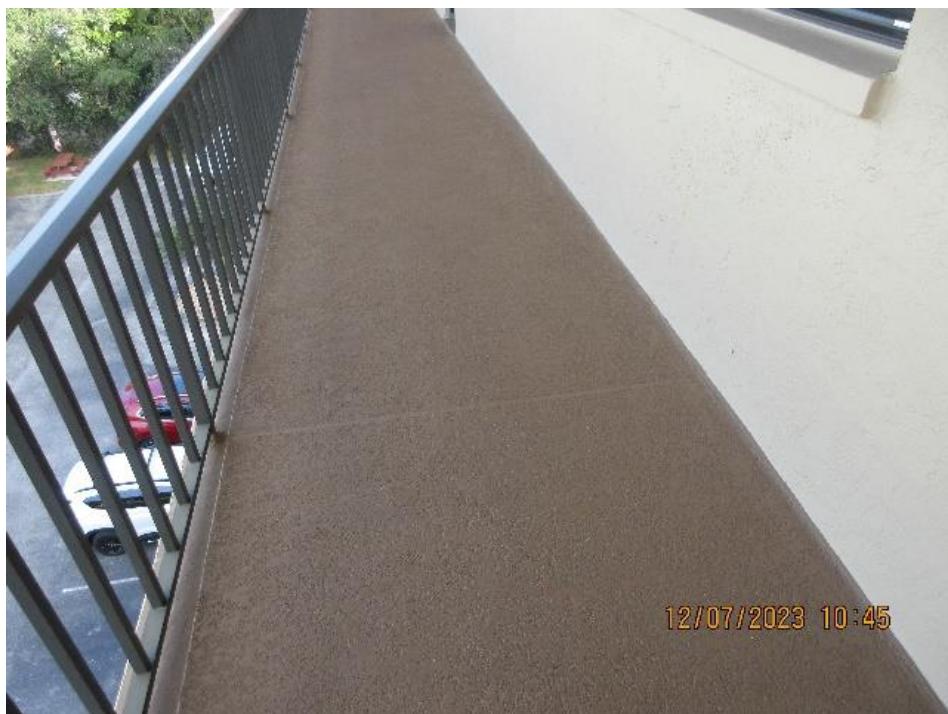
**View of concrete patches on balcony slab**



**View of missing texture to balcony coating**



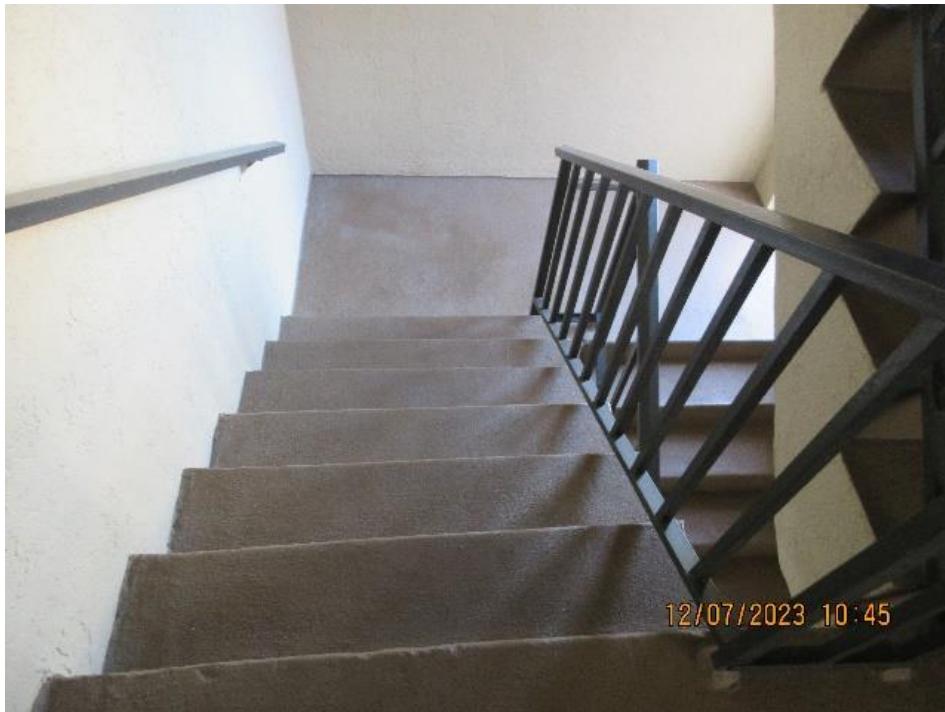
**Overview of typical walkway**



**View of typical walkway**



**View of typical walkway**



**View of typical stairway**



**View of crack along walkway coating**



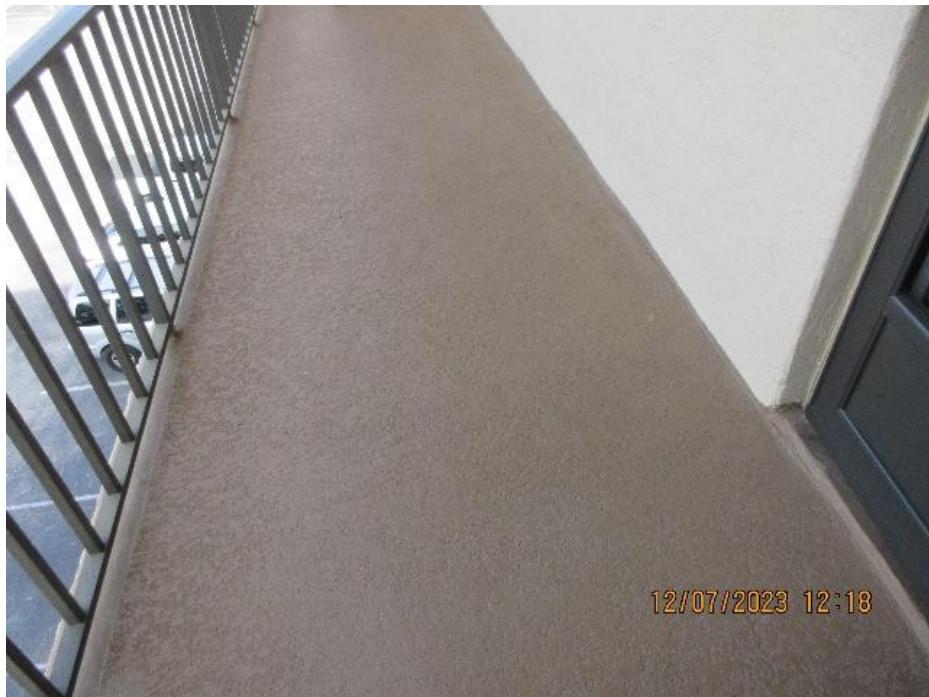
**View of crack at floor to wall joint**



**View of cored in place balcony railing**



**View of balcony railing picket spacing**



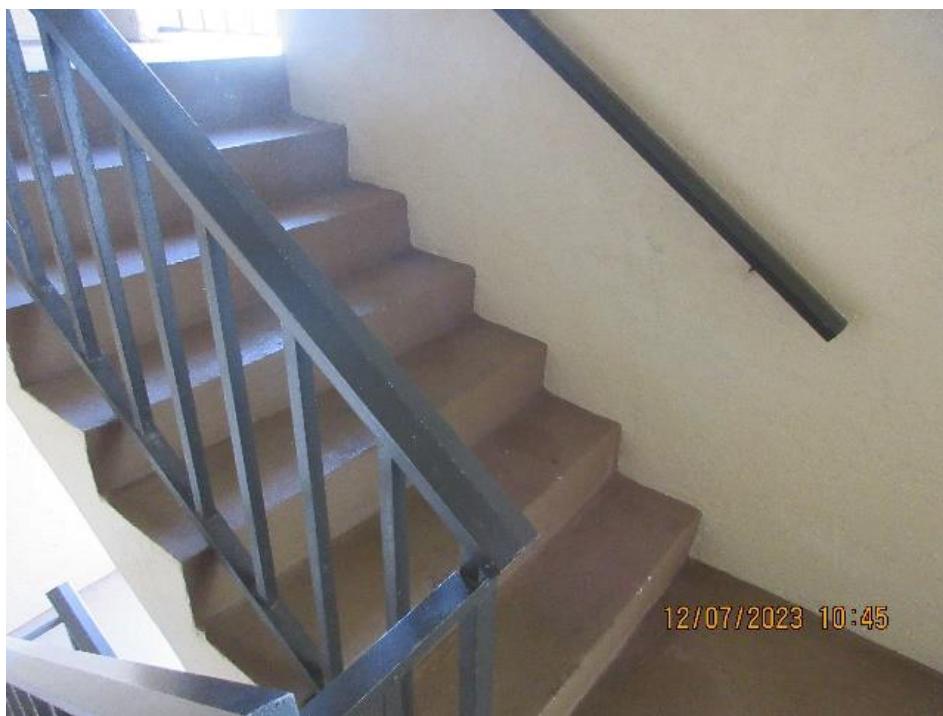
**View of cored railings along walkway**



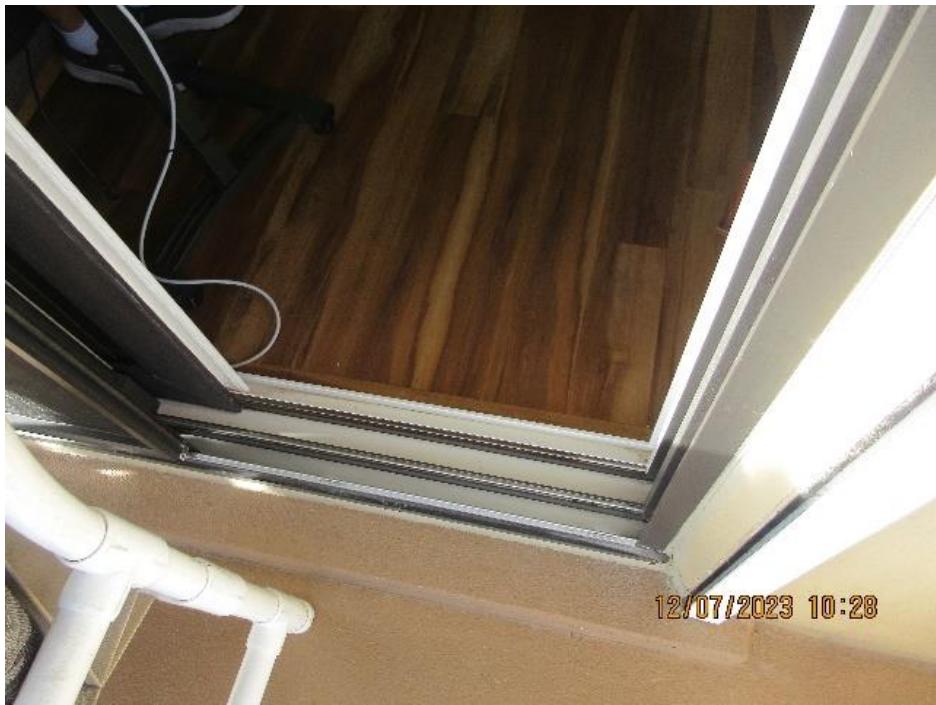
**View of cored railings along walkway**



**View of cored railings along stairwell**



**View of cored railings along stairwell**



**View of newer sliding glass door**



**View of sliding glass door track with corroded fasteners**



12/07/2023 10:40

**View of corroded fasteners at sliding glass door**



12/07/2023 10:49

**View of shutter installed at sliding glass door**



**View of uncoated area under former shutter**



**View of stucco work at sliding glass door location**



**View of coatings on east elevation**



**View of coatings on west elevation**



**View of coatings along walkway**



**Overview of B Building coatings**

	A	B	C	D	E	F
1		Indian River Club - Cyclic Budget 2025-2028				
2		BALCONIES - Building A				
3		<u>Item</u>	<u>Estimated Quantity</u>	<u>Units</u>	<u>Unit Cost Bid</u>	<u>Extended Cost</u>
4	1	Mobilization/General Conditions	1	EA	\$ 20,000.00	\$ 20,000.00
5	2	Floor Surface Finishes				
6	a.	Floor Surface Prep for Re-coating	7020	SF	\$ 2.00	\$ 14,040.00
7	b.	Floor Surface Coating Full Stripping	0	SF	\$ 4.00	\$ -
8	c.	Tile Removal and Coating Stripping	0	SF	\$ 6.00	\$ -
9	3	Concrete Repairs				
10	a.	Floor Surface Repair	150	SF	\$ 225.00	\$ 33,750.00
11	b.	Edge Repair	80	LF	\$ 285.00	\$ 22,800.00
12	c.	Slab Full Depth Repair	40	SF	\$ 265.00	\$ 10,600.00
13	d.	Column/Beam/Header Repair	20	CF	\$ 600.00	\$ 12,000.00
14	e.	Small Repair	150	EA	\$ 100.00	\$ 15,000.00
15	f.	Ceiling Repair	40	SF	\$ 245.00	\$ 9,800.00
16	g.	Remove Abandoned Fasteners - Allowance	20	EA	\$ 25.00	\$ 500.00
17	g.1.	Remove and Replace Small Fasteners	25	EA	\$ 30.00	\$ 750.00
18	h.	Window Sill Repairs Allowance	30	LF	\$ 85.00	\$ 2,550.00
19	i.	Stucco Repair Allowance (non Structural repair areas)	300	SF	\$ 38.00	\$ 11,400.00
20	j.	Post Tension Cable Lock Off and Splice	0	EA	\$ 1,800.00	\$ -
21	k.	Crack Repairs-Rout and Seal	200	LF	\$ 26.00	\$ 5,200.00
22	4	Sliding Glass Door Intrusion/Weather Barricade	20	LF	\$ 85.00	\$ 1,700.00
23		(interior finishes by others)				
24	a.	Sliding Glass Door Reinstall Panels	4	EA	\$ 400.00	\$ 1,600.00
25	5	Railings				
26	a.	Replace with New Surface Mount Railings	1210	LF	\$ 100.00	\$ 121,000.00
27	6	Balcony Floor Coating				
28	a.	Repair Base Coat/Texture	800	SF	\$ 8.00	\$ 6,400.00
29	b.	Apply Topcoat Finish Wearcoat	7020	SF	\$ 4.00	\$ 28,080.00
30	c.	Replace with Full New Coating System	0	SF	\$ 8.00	\$ -
31	d.	Profiling Mortar/Skim Coat for leveling/drainage improvement	0	SF	\$ 7.00	\$ -
32					<b>Base Bid Total</b>	<b>\$ 317,170.00</b>
33		<b>Other Costs and Alternatives to Consider</b>				
34	7	Shutter Removal/Reinstall/Replace			BY OTHERS	
35	8	Interior Finishes			BY OTHERS-Framing, Drywall, Flooring, Painting, Electrical	
36	9	Paint Exterior Building Walls	1	LS	TBD	
37	10	New Sliding Glass Doors				
38	a.	10' 0" x 6' 8"	1	EA	TBD	
39	11	Misc. Work (Electrical, Soffit Rem/Reinstall, Incidental Roofing, etc.)			at T&M Rates as needed	
40		<b>Contingencies need to be added to budget for increased costs that are probable due to inflation, hidden conditions and additional concrete damage that may exist or occur over time</b>				
41						

	A	B	C	D	E	F
1		<b>Indian River Club - Cyclic Budget 2025-2028</b>				
2		<b>BALCONIES - Building B</b>				
3		<b>Item</b>	<u>Estimated Quantity</u>	<u>Units</u>	<u>Unit Cost Bid</u>	<u>Extended Cost</u>
4	1	Mobilization/General Conditions	1	EA	\$ 15,000.00	\$ 15,000.00
5	2	Floor Surface Finishes				
6	a.	Floor Surface Prep for Re-coating	3780	SF	\$ 2.00	\$ 7,560.00
7	b.	Floor Surface Coating Full Stripping	0	SF	\$ 4.00	\$ -
8	c.	Tile Removal and Coating Stripping	0	SF	\$ 6.00	\$ -
9	3	Concrete Repairs				
10	a.	Floor Surface Repair	90	SF	\$ 225.00	\$ 20,250.00
11	b.	Edge Repair	40	LF	\$ 285.00	\$ 11,400.00
12	c.	Slab Full Depth Repair	20	SF	\$ 265.00	\$ 5,300.00
13	d.	Column/Beam/Header Repair	10	CF	\$ 600.00	\$ 6,000.00
14	e.	Small Repair	70	EA	\$ 100.00	\$ 7,000.00
15	f.	Ceiling Repair	20	SF	\$ 245.00	\$ 4,900.00
16	g.	Remove Abandoned Fasteners - Allowance	20	EA	\$ 25.00	\$ 500.00
17	g.1.	Remove and Replace Small Fasteners	25	EA	\$ 30.00	\$ 750.00
18	h.	Window Sill Repairs Allowance	18	LF	\$ 85.00	\$ 1,530.00
19	i.	Stucco Repair Allowance (non Structural repair areas)	200	SF	\$ 38.00	\$ 7,600.00
20	j.	Post Tension Cable Lock Off and Splice	0	EA	\$ 1,800.00	\$ -
21	k.	Crack Repairs-Rout and Seal	100	LF	\$ 26.00	\$ 2,600.00
22	4	Sliding Glass Door Intrusion/Weather Barricade	10	LF	\$ 85.00	\$ 850.00
23	(interior finishes by others)					
24	a.	Sliding Glass Door Reinstall Panels	2	EA	\$ 400.00	\$ 800.00
25	5	Railings				
26	a.	Replace Railings with New Surface Mount Railings	670	LF	\$ 100.00	\$ 67,000.00
27	6	Balcony Floor Coating				
28	a.	Repair Base Coat/Texture	400	SF	\$ 8.00	\$ 3,200.00
29	b.	Apply Topcoat Finish Wearcoat	3780	SF	\$ 4.00	\$ 15,120.00
30	c.	Replace with Full New Coating System	0	SF	\$ 8.00	\$ -
31	d.	Profiling Mortar/Skim Coat for leveling/drainage improvement	0	SF	\$ 7.00	\$ -
32					<b>Base Bid Total</b>	<b>\$ 177,360.00</b>
33	<b>Other Costs and Alternatives to Consider</b>					
34	7	Shutter Removal/Reinstall/Replace	BY OTHERS			
35	8	Interior Finishes	BY OTHERS-Framing, Drywall, Flooring, Painting, Electrical			
36	9	Paint Exterior Building Walls	1	LS	TBD	
37	10	New Sliding Glass Doors				
38	a.	10' 0" x 6' 8"	1	EA	TBD	
39	11	Misc. Work (Electrical, Soffit Rem/Reinstall, Incidental Roofing, etc.)	at T&M Rates as needed			
40		<b>Contingencies need to be added to budget for increased costs that are probable due to inflation, hidden conditions and additional concrete damage that may exist or occur over time</b>				
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	A	B	C	D	E	F		
1		<b>Indian River Club - Cyclic Budget 2027-2030</b>						
2		<b>WALKWAYS - Building A</b>						
3		<b>Item</b>	<u>Estimated Quantity</u>	<u>Units</u>	<u>Unit Cost Bid</u>	<u>Extended Cost</u>		
4	1	Mobilization/General Conditions	1	EA	\$ 10,000.00	\$ 10,000.00		
5	2	Floor Surface Finishes						
6	a.	Floor Surface Prep for Re-coating	12850	SF	\$ 2.00	\$ 25,700.00		
7	a.1.	Stair Floor Coating Prep	1845	SF	\$ 2.00	\$ 3,690.00		
8	b.	Floor Surface Coating Full Stripping	0	SF	\$ 4.00	\$ -		
9	c.	Tile Removal and Coating Stripping	0	SF	\$ 6.00	\$ -		
10	3	Concrete Repairs						
11	a.	Floor Surface Repair	160	SF	\$ 225.00	\$ 36,000.00		
12	b.	Edge Repair	50	LF	\$ 285.00	\$ 14,250.00		
13	c.	Slab Full Depth Repair	20	SF	\$ 265.00	\$ 5,300.00		
14	d.	Column/Beam/Header Repair	10	CF	\$ 600.00	\$ 6,000.00		
15	e.	Small Repair	80	EA	\$ 100.00	\$ 8,000.00		
16	f.	Ceiling Repair	30	SF	\$ 245.00	\$ 7,350.00		
17	g.	Remove Abandoned Fasteners - Allowance	10	EA	\$ 25.00	\$ 250.00		
18	g.1.	Remove and Replace Small Fasteners	10	EA	\$ 30.00	\$ 300.00		
19	h.	Window Sill Repairs Allowance	12	LF	\$ 85.00	\$ 1,020.00		
20	i.	Stucco Repair Allowance (non Structural repair areas)	60	SF	\$ 38.00	\$ 2,280.00		
21	j.	Post Tension Cable Lock Off and Splice	0	EA	\$ 1,800.00	\$ -		
22	k.	Crack Repairs-Rout and Seal	30	LF	\$ 26.00	\$ 780.00		
23	4	Railings - Walkways						
24	a.	Replace Railings with New Surface Mount Railings	1210	LF	\$ 100.00	\$ 121,000.00		
25	5	Walkway/Stair Floor Coating						
26	a.	Repair Base Coat/Texture	800	SF	\$ 8.00	\$ 6,400.00		
27	b.1.	Apply Topcoat Finish Wearcoat	10280	SF	\$ 4.00	\$ 41,120.00		
28	b.2.	Ground Level Topcoat	2570	SF	\$ 4.00	\$ 10,280.00		
29	b.3.	Stairwells Topcoat	1845	SF	\$ 4.00	\$ 7,380.00		
30	c.	Replace with Full New Coating System	0	SF	\$ 8.00	\$ -		
31	d.	Profiling Mortar/Skim Coat for leveling/drainage improvement	0	SF	\$ 7.00	\$ -		
32					<b>Base Bid Total</b>	<b>\$ 307,100.00</b>		
33		<b>Other Costs and Alternatives to Consider</b>						
34	6	Shutter Removal/Reinstall/Replace			BY OTHERS			
35	7	Interior Finishes			BY OTHERS-Framing, Drywall, Flooring, Painting, Electrical			
36	8	Replace Railings with New Surface Mount Railings	1210	LF	\$ 110.00	\$ 133,100.00		
37	9	Paint Exterior Building Walls	1	LS				
38	10	Replace Stairwell Railings with New Surface Mount	570	LF	\$ 100.00	\$ 57,000.00		
39	11	Misc. Work (Electrical, Soffit Rem/Reinstall, Incidental Roofing, etc.)			at T&M Rates as needed			
40		<b>Contingencies need to be added to budget for increased costs that are probable due to inflation, hidden conditions and additional concrete damage that may exist or occur over time</b>						
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	A	B	C	D	E	F
1		<b>Indian River Club - Cyclic Budget 2027-2030</b>				
2		<b>WALKWAYS - Building B</b>				
3		<b>Item</b>	<u>Estimated Quantity</u>	<u>Units</u>	<u>Unit Cost Bid</u>	<u>Extended Cost</u>
4	1	Mobilization/General Conditions	1	EA	\$ 10,000.00	\$ 10,000.00
5	2	Floor Surface Finishes				
6	a.	Floor Surface Prep for Re-coating	4395	SF	\$ 2.00	\$ 8,790.00
7	a.1.	Stair Floor Coating Prep	1350	SF	\$ 2.00	\$ 2,700.00
8	b.	Floor Surface Coating Full Stripping	0	SF	\$ 4.00	\$ -
9	c.	Tile Removal and Coating Stripping	0	SF	\$ 6.00	\$ -
10	3	Concrete Repairs				
11	a.	Floor Surface Repair	60	SF	\$ 225.00	\$ 13,500.00
12	b.	Edge Repair	20	LF	\$ 285.00	\$ 5,700.00
13	c.	Slab Full Depth Repair	10	SF	\$ 265.00	\$ 2,650.00
14	d.	Column/Beam/Header Repair	6	CF	\$ 600.00	\$ 3,600.00
15	e.	Small Repair	30	EA	\$ 100.00	\$ 3,000.00
16	f.	Ceiling Repair	10	SF	\$ 245.00	\$ 2,450.00
17	g.	Remove Abandoned Fasteners - Allowance	10	EA	\$ 25.00	\$ 250.00
18	g.1.	Remove and Replace Small Fasteners	10	EA	\$ 30.00	\$ 300.00
19	h.	Window Sill Repairs Allowance	12	LF	\$ 85.00	\$ 1,020.00
20	i.	Stucco Repair Allowance (non Structural repair areas)	60	SF	\$ 38.00	\$ 2,280.00
21	j.	Post Tension Cable Lock Off and Splice	0	EA	\$ 1,800.00	\$ -
22	k.	Crack Repairs-Rout and Seal	30	LF	\$ 26.00	\$ 780.00
23	4	Railings - Walkways				
24	a.	Replace Railings with New Surface Mount Railings	1240	LF	\$ 100.00	\$ 124,000.00
25	5	Walkway/Stair Floor Coating				
26	a.	Repair Base Coat/Texture	300	SF	\$ 8.00	\$ 2,400.00
27	b.1.	Apply Topcoat Finish Wearcoat	3516	SF	\$ 4.00	\$ 14,064.00
28	b.2.	Ground Level Topcoat	879	SF	\$ 4.00	\$ 3,516.00
29	b.3.	Stairwells Topcoat	1350	SF	\$ 4.00	\$ 5,400.00
30	c.	Replace with Full New Coating System	0	SF	\$ 8.00	\$ -
31	d.	Profiling Mortar/Skim Coat for leveling/drainage improvement	0	SF	\$ 7.00	\$ -
32					<b>Base Bid Total</b>	<b>\$ 206,400.00</b>
33		<b>Other Costs and Alternatives to Consider</b>				
34	6	Shutter Removal/Reinstall/Replace			BY OTHERS	
35	7	Interior Finishes			BY OTHERS-Framing, Drywall, Flooring, Painting, Electrical	
36	8	Paint Exterior Building Walls	1	LS		
37	9	Replace Stairwell Railings with New Surface Mount	400	LF	\$ 100.00	\$ 40,000.00
38	10	Misc. Work (Electrical, Soffit Rem/Reinstall, Incidental Roofing, etc.)			at T&M Rates as needed	
39		<b>Contingencies need to be added to budget for increased costs that are probable due to inflation, hidden conditions and additional concrete damage that may exist or occur over time</b>				
40						