



November 14, 2024

EAGLE CAY CONDOMINIUM, INC

Attn: Mr. Tony Andrade
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Subject: Report of Engineering Consulting Services
MILESTONE INSPECTION – PHASE I
Eagle Cay Condominium, Inc.
889 to 901 Collier Court
Marco Island, Florida 34145
SOCOTEC Project Number VS230625

SOCOTEC Consulting, Inc. (SOCOTEC) is pleased to present this Phase I report of our Milestone Inspection completed at the subject property. We have completed the required engineering services in general accordance with the recently enacted Florida Statute 553.899 mandatory structural inspections for condominiums and cooperative buildings.

We have endeavored to conduct the services identified herein in a manner consistent with that level of care and skill ordinarily exercised by members of the same profession currently practicing in the same locality and under similar conditions as this project. No other representation, express or implied, is included or intended in this document. We used routine and repeatable scientific and engineering methodologies to evaluate the structural condition of the subject building and to form our professional engineering opinions.

The subject is a 7-story residential building. It makes up 34 individual residential units and was developed circa 1988.

Methodology of Phase I Inspection

Florida licensed Professional engineers from our firm visited the subject site on Monday September 30th, 2024 to evaluate the current structural condition of the subject building. During our visits we inspected all common (“non-habitable”) areas and 9 of the habitable residential units across the subject buildings.

We began our evaluation by inspecting the roof/rooftop, elevator rooms, stairwells, maintenance rooms, and electrical rooms, as well as spaces of the pool area, looking for signs of any structural distress. Then we continued with the residential units. As the practice for this type of inspections requires, we inspected the fenestration, doors for previous/on-going water intrusion, railing enclosure systems across the balconies for integrity, concrete distress (cracks or spalling concrete) along the balcony edges, wall penetrations (hose bibs, electrical outlets, wall mounted light fixtures), and other areas where the structural slab, columns, or beams could be directly observed (mechanical/AC rooms and storage rooms). Finally, during our visit, we inspected exterior walls and balcony edges from the ground floor with digital cameras equipped with zoom and macro lenses. The exterior was also viewed from each floor via the residential balcony inspections.

Substantial Structural Deterioration/Material Findings

During the completion of our Phase I Milestone Inspection for the subject property, we observed/found/documented no evidence of **substantial structural deterioration** on structural elements. Therefore, it is our professional engineering opinion that Phase II of the milestone inspection is not required. We reserve the right to amend our opinion should new information be brought to our attention.

Remedial/Preventive Repairs

During our phase I inspection we observed the following building components that should be considered for repair/replacement within the near future. Please note that these items may not be considered substantial structural deterioration at this point:



- Repair and seal any locations that allow water to penetrate through the roof membranes to reach the concrete of the roof slab (figure 1).
- Repair with appropriate epoxy substances all locations of cracks on the roofs before they develop into substantial structural damages.
- Repair and reseal all horizontal surfaces that have been damaged by moisture and sealant has peeled off (figures 2-6).
- Repair and reseal all vertical surfaces that have been damaged by moisture and sealant has peeled off (figures 7-12). Poor craftsmanship on finishes was traced on some locations of exterior surfaces that encapsulated rainwater that will lead to degradation of the wall material, cementitious or other. Those points need to be promptly repaired before moisture affects ferrous based materials in the walls. It is recommended that during the next maintenance of the exterior walls, when the walls will be repainted, all of these instances are traced, scraped of all surface protection to produce a clear and smooth surface, infilled and painted appropriately.
- Cracks of minor width have been traced on the slabs on grade (figure 13). These can eventually lead to moisture absorption and deterioration of the reinforcement of the concrete. It is recommended that those cracks are filled with appropriate solutions. Such cracks were noticed at several random locations on the slabs. The instance indicated in the figure constitutes only an example.
- Remove and seal all locations of wild plant growth in open roof areas (figures 14-15). These plants may grow roots and expand the cracks on the roof that will lead to serious issues, infiltrating moisture in structure and in inhabited spaces.
- Perform the appropriate mold removal process for infected areas noted on staircase landings (figures 16-18).
- Conduct proper maintenance on paint by cleaning the surface from degradations such as corrosion or old paint peeling and applying new layer(s) of paint to protect surfaces. There were different types of surfaces that were affected.
- The majority of pipes connected to AC units on roofs were noted to have compromised insulation covering (figure 21).



- Areas on rooftop or plain flat exterior areas of breezeways were noted to bear inadequate surface slope to shed rainwater, allowing puddles to be formed on concrete surfaces (figure 22).
- Linear cracks on floor/slab in exterior areas may not be of particular structural importance but need to be repaired with appropriate sealing substances (figures 23-24).

Background Information

Included in our assessment is a review of the following documents requested in our proposal. Tabulated below is the status of each.

ITEMS REQUESTED	STATUS OF DOCUMENTS/UNITS INSPECTED
Construction plans	Partial sets of architectural building plans were available for review.
Access to building components	Access to the residential units and common areas was provided by the Association president. We viewed all grade level areas, the roof, the stairwells, common rooms, the exterior walls, and 9 individual units.
Past engineering reports	We were not provided any past engineering reports outside of our firm.
Past building repairs	We were not informed of any post-structural repairs.
Description of any known structural issues or concerns.	We were not notified of any specific areas of structural distress to review/inspect.
Inspected Residential Units	(Building 4) 201, 302, 306, 406, 503, 601, 604, 704, 705



Description of Buildings

The building's structure is composed of 6 inch thick post-tensioned concrete slabs (figure 85), supported by reinforced concrete columns measuring 8 inches by 18, 24, or 36 inches or shear walls of 8 inch thickness (figure 86). These columns and shear walls, in turn, rest on pile-cap formations, which are anchored to the ground by precast prestressed concrete piles with a 14-inch by 14-inch tapering cross-section (figure 87). The piles are designed in various shapes depending upon the formation of the axially loaded elements (shear walls or columns) that they are supporting. The slabs on grade are 6 inch thick reinforced concrete. According to the specifications, concrete strength is 3ksi for footings and slabs on grade and 4 ksi for all other structural elements.

The building's exterior is formed by reinforced masonry walls, with #5 rebar in concrete filled cells and a series of tie beams, and finished with a waterproofing stucco layer (figure 88). The roof is like all the other slabs made of Post Tensioned concrete and it is covered with modified bitumen (figure 1).



Representative Photographs

The following photos are representative of the observed conditions during the inspection:

	
1.	2.
	
3. Surface damage on breezeway on top floor of Building 4.	4. 5th level Breezeway of building 4 paint peeling.
	
5. Substantial surface anomalies observed (concave). The presented photo is from 5th floor of Building 4.	6. Paint peeling on roof. Poor finishing and protection will inevitably produce structural issues.

	
7. Slab on grade serves for the covered parking area. The level of reinforcement is not traced but cracks exceeding ¼" width were traced. These will lead to further deterioration if not repaired immediately.	8. Accumulation of dust, leaves, etc, allow decomposed substances to allow wild plants to grow in surfaces of roofs. Plant roots can generate substantial damages to the concrete.
	
9. Accumulation of dust, leaves, etc, allow decomposed substances to allow wild plants to grow in surfaces of roofs. Plant roots can generate substantial damages to the concrete.	10. Dust particles allowed mold to form on staircase landings. This can easily be maintained through cleaning. Mold would not compromise the structural qualities of concrete.
	
11. Dust particles allowed mold to form on staircase.	12. Accumulated moisture and dust produced mold on staircase landings.

	
13. The deteriorated insulation on AC units dissipates energy that would otherwise be applied in units.	14. Inadequate inclination on rooftop surfaces allows puddling and inevitably damages the rooftop slab that is not designed to contain water.
	
15. Linear crack on breezeway floor caused by tension over connection will not cause significant structural issue, but should be repaired with epoxy-based compound.	16. Linear crack on breezeway floor caused by tension over connection will not cause significant structural issue, but should be repaired with epoxy-based compound
	
17. Unit 201, Building 4 – Moisture causes peeling on baseboards.	18. Unit 201, Building 4 – Excessive moisture damage on Lanai.



19. Unit 306, Building 4 – Cracks along baseboard.



20. Unit 306, Building 4 – Cracks on ceiling.



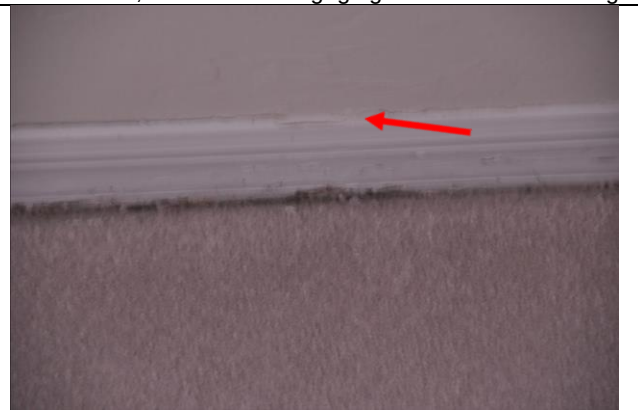
21. Unit 306, Building 4 – Cracks on Lanai ceiling.



22. Unit 406, Building 4 – Moisture causes peeling on baseboards, elements disengaging from walls and ceiling.

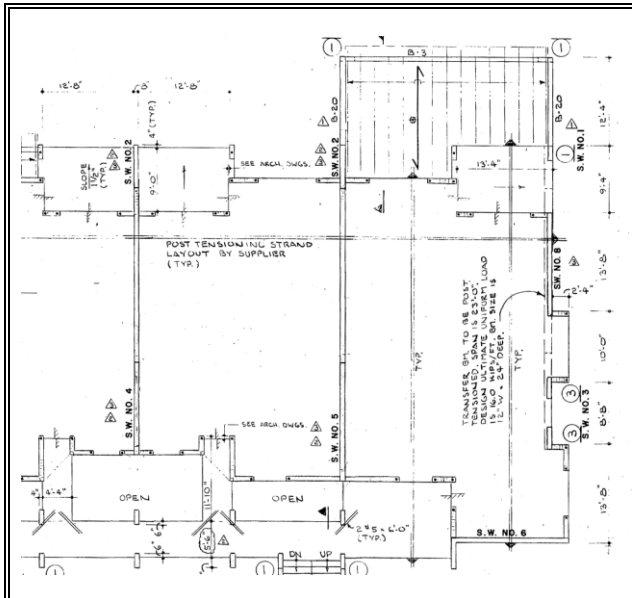


23. Unit 604, Building 4 – Rusty fasteners in Lanai area.

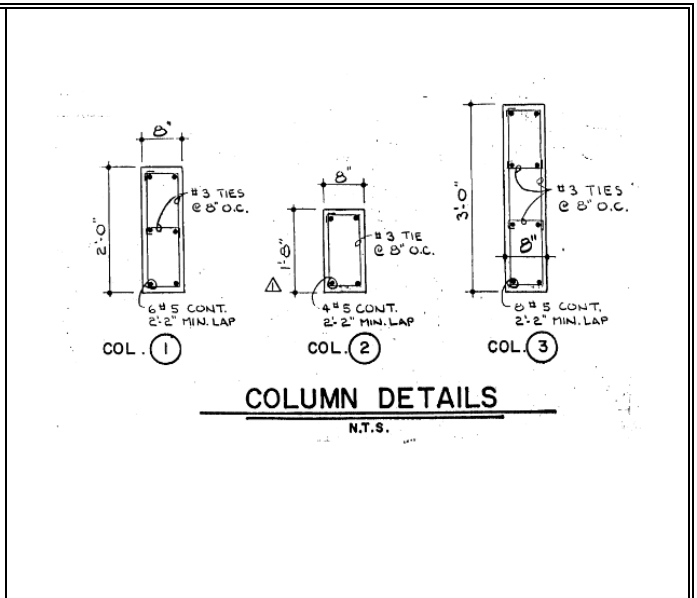


24. Unit 705, Building 4 – Moisture on floor and walls.

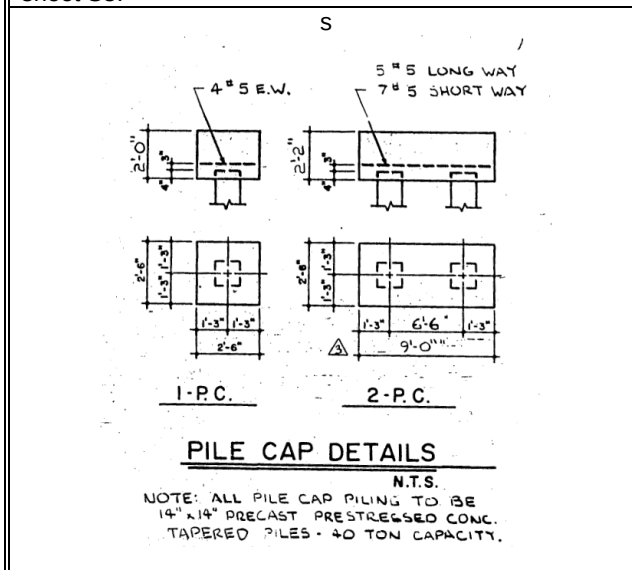
	
25. Unit 705, Building 4 – Cracks in ceiling.	26. Unit 705, Building 4 – Wiring through doors allows moisture to enter the interior space.



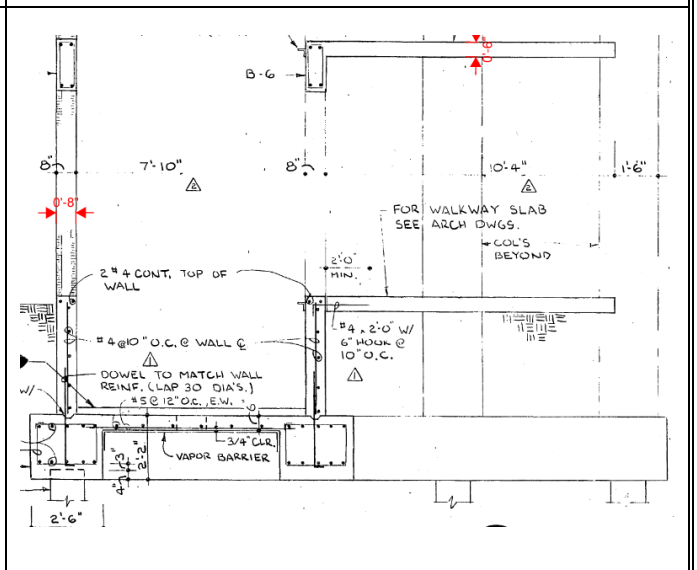
27. Typical configuration of post tensioned slab within the framing plan of Sehar wall supports – Extruded from CDs sheet S3.



28. Column Details from Original CDs sheet S6...



29. Typical Pile cap details showing arrangement of piles per CD set, sheet S1.



30.



Closing

Buildings are complicated structures that require periodic inspections to determine the current condition of the structure. As a structure ages, the condition of the structure changes and is affected by the local environmental conditions, wear and tear and use, and by the performance of maintenance or lack thereof to the structure on a timely basis.

The current structural condition of the subject building above was determined based on our review of the provided and listed documents, an interview of available individuals with historical knowledge of the structure, and our visual evaluation of the structure. There is always the possibility that undetectable conditions may exist that would be considered detrimental to the structures. Therefore, it is imperative that if any conditions not listed in this report or that occur after the date of our evaluation are discovered, we be notified promptly to evaluate the nature of the condition. Additionally, the Association should report any modifications to the structure that would alter a structural component or change the loading condition to the structure to the buildings engineer of record for evaluation prior to the modification.

Protection of the structure from environmental conditions is of the utmost importance during the life of the structure and therefore must be performed on a routine basis. The above opinions are based on the requirement that the Association performs maintenance to the structure on a timely routine basis.

We appreciate working with you as your engineering consultants. We recommend that you read this report thoroughly and contact us with any questions or concerns.

Sincerely,
SOCOTEC CONSULTING, INC.

Jason Charalambides, PhD, PE, RA, ENV SP
Principal Engineer/Architect
Florida Registrations: P.E. 94665 / AR 97626

Distribution: 1 – Addressee (via email),

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