

# Structural Building Conditions Assessment Report

## Ocean Point Resort Condominiums

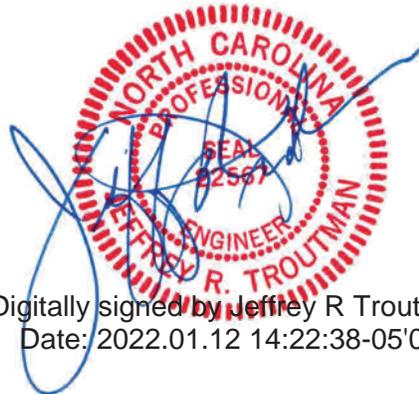


63 Ocean Isle West Boulevard  
Ocean Isle Beach, NC 28469

for

Ocean Point Homeowners' Association, Inc.  
c/o Community Associations Management

January 12, 2022  
Ardurra #2021-1159-00



Digitally signed by Jeffrey R Troutman  
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## 1.0 INTRODUCTION

Per request from Ocean Point Homeowners' Association, Inc. ("Ocean Point HOA") through Community Associations Management ("CAM"), Ardurra Group North Carolina ("Ardurra") performed a general "walk-through" limited building conditions assessment site visit for the 10- to 15-story Ocean Point Resort Condominium building, located at 63 Ocean Isle West Boulevard, Ocean Isle Beach, NC, in order to provide a Structural Building Conditions Assessment Report ("Report").

This Report makes no opinions or conclusions to the buildings' ability to resist structural loads as prescribed in the Building Code at the time of original design or in the current effective Building Code.

The investigations and evaluations were limited to the condition of materials in their current state.

Investigations, unless noted otherwise, were limited to walk-by, surficial visual observations with some limited non-destructive "sounding" of the material with a chain or small hammer.

Assessment is limited to structural building components and exterior waterproofing components only and does not include observation of mechanical HVAC, plumbing or electrical systems.

Additional A-E services that we excluded from this assessment, due to being beyond our scope of work, were as follows:

- Review of the buildings' ability to resist rain and weather by performing leak detection in roofs, windows, and walls
- Life safety analysis
- Phase I assessment of environmental hazards
- Assessment of geological, geotechnical, or hydrological conditions
- Calculation of structural capacities
- Calculation of plumbing, HVAC, or electrical load requirements
- Wind/Seismic analysis of the building
- Termite Inspection
- Analysis and testing of indoor air quality
- Testing and laboratory analysis to determine the presence of hazardous materials
- Testing of domestic water quality
- Testing for gas leaks and piping conditions
- Repair details or opinion of probable costs for remediations/repairs
- Core Testing of Concrete

This report provides a written, limited conditions assessment of the exterior of the building and provides any deficiencies as noted during the on-site walk-through review for predominately structural deficiencies. Foundations were not inspected. No entrance into any of the units or balconies was performed unescorted.

Our on-site walk-through surveys were limited in nature to surficial and visual examinations of the exterior of the building and any mentioned suite only and did not include field measurements, calculations, hazardous material inspection assessments or remedy of noted deficiencies.

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Ardurra and its consultants stand behind the accuracy of statements and observations contained in this Report; however, this Report is not intended to be considered a guarantee or warranty (expressed or implied) of the present or future condition of any suite or the building. This structural building conditions assessment report makes no opinions or conclusions to the buildings' ability to resist structural loads as prescribed in the Building Code at the time of original design or in the current effective Building Code in the structure's current condition.

This Report represents our professional opinions, based on visible and readily accessible primary building components observed during the below assessment. This report is intended for the sole use of Ocean Point HOA, and CAM, and its assigned agents, representatives, or contractors. Its contents shall not be used or relied upon by other parties without prior written authorization of Ardurra.

## 2.0 PURPOSE

The purpose of this report was to determine the general overall conditions of Ocean Point Resort Condominium building from an on-site "walk-through," surficial conditions assessment of the exposed walls and columns under the building, access to several ocean facing balcony slabs, review of all breezeway walkways and walls, the exterior of the building and balconies from ground level, and the roof in accordance with our proposal, dated August 31, 2021.

As agreed, our investigation and evaluation of the building was limited to the condition of materials of the installed items and not on the design of the item. Investigations, unless noted otherwise, are limited to walk-through, surficial visual observations. An evaluation with respect to code compliance is not included. Repair details are outside the scope of this report.

A surficial observation/inspection was performed by Mr. Jeffrey R Troutman, PE on September 29, 2021, along with some assistance from on-site building maintenance, Mr. James [?] and from the assistance of Mr. Delane Chappell (CAM) for access to several oceanfront balconies, in order to determine the general conditions of the building components and deficient items that are in need of repair.

### 3.0 GENERAL BACKGROUND & DESCRIPTION

#### 3.1 Location & Background

The Building is located at 63 Ocean Isle West Boulevard, Ocean Isle Beach, NC. The front of the building faces the north-northwest direction, while the balconies face the south-southeast direction towards the oceanfront at the Atlantic Ocean. For the purposes of this report, the front of the building will be referred to as the northern face and the balconies will be referred to as the southern face.

See **Photo 1** for an aerial overview of the Building and adjacent parking lot.

#### 3.2 Building Description

The Building consists of a long, reinforced concrete building with post-tensioned, reinforced concrete floor & roof slabs (per original construction drawings but not field verified), supported by reinforced concrete columns and load bearing, reinforced concrete shear walls, which are supported by a pile-supported foundation.

The Building has a total of 10 elevated stories at the western end of the building, which steps up to 15 stories at the eastern end, all elevated above a ground level parking garage. An adjacent, connected, elevated, 3-story Owner’s Center amenity building is attached to the eastern end of the building, which is also a reinforced concrete building.



**Photo 1: Aerial Overview**

There is a pool under the adjacent Owner’s Center amenities building at ground level as well as two (2) outside pools, located on the pool terrace on the south side of the building. There are no elevated pools.

The indoor pool is bounded by the amenities building all sides except for the southern side, which is enclosed by a glass curtainwall system along the entire width of the Owner’s Center, which is supported by horizontal steel tube wind girts and vertical steel tube columns. The northern face of the Owner’s Center is also a glass storefront system.

The northern end wall of the Owner’s Center and the southern wall of the Building along with the balcony and breezeway walls consist of a 6” cold-formed, batt-insulated metal wall stud back-up wall system, with 1/2” gypsum board exterior sheathing backing approximately 2” +/- of

exterior rigid insulation under 5/8" exterior fiberglass-mat faced, gypsum sheathing and finished with a stucco cladding system and waterproofed with an elastomeric coating system.



Figure 1 Sketch of Northern Building Elevation

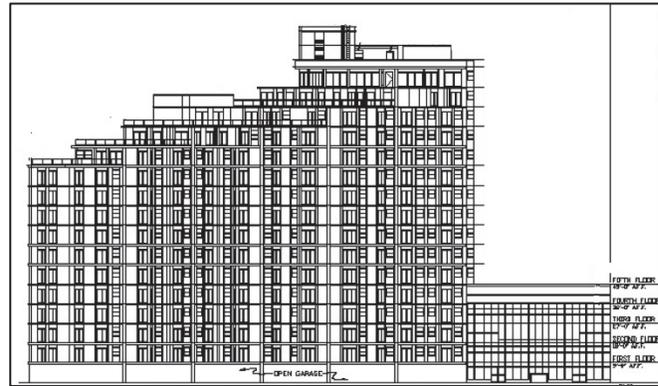


Figure 2 Sketch of Southern (Oceanfront) Building Elevation

The ground level under the Building was observed to be open for general parking for approximately the western two-thirds of the overall building with some small storage areas, enclosed access to the western stair tower. The eastern third of the building consists of enclosed access to a lower level of the Owner's Center and to the inside pool, located on the south side of the amenity building. The parking garage slab, located under the building, consists of a reinforced concrete slab-on-grade, with an unknown thickness.

On-grade paved parking was observed to be located adjacent to the western side of the Building.

The Building varies in width from approximately 58'-6" ± to 75'-2" ±, depending on the location along the Building, and has an overall length of approximately 262'-4" ±. The main building steps down from east to west.

The breezeways are located along the northern side of the Building, overlooking the main parking lot, while the balconies overlook the southern oceanfront.

The Building was observed to have two (2) stair towers for egress stair access, located approximately 57' ± from the western end of the building and approximately 42 ± from the eastern end of the building. A double elevator tower is located immediately west of the eastern stair tower.

The Owner's Center contains an internal stair tower and separate elevator for egress within the Center.

The main roof and stepped down roofs of the condo appears to be a fully adhered, roofing systems with possibly a TPO type roof on the main upper building, modified bitumen built-up roof system over rigid insulation and on top off the respective reinforced concrete roof slab on uninhabited roof areas and a traffic coating system on inhabited roofs.

The Front of the Owner's Center is a sloped roof with asphalt shingles, while the remainder appears to be a modified bitumen roof system like the main roof (this roof was not accessed).

An aluminum capped parapet wall extends around the perimeter of the roof of the Owner's Center and around the uninhabited roofs of the condo building. At inhabited roofs of the condo building, a combination of parapet walls, building walls, and/or metal guardrails with glass infill were observed.

It was observed that the stairwells were constructed of reinforced concrete masonry walls, and it is assumed that the elevator shafts are similarly constructed.

All support columns are reinforced concrete columns.

The components of the foundation are assumed consist of reinforced concrete pile caps and precast/prestressed concrete piles or drilled reinforced concrete caissons; however, original foundation construction is unknown.

Lateral resistance for the building appears to be resisted by reinforced concrete shear walls, the stair towers, and elevator shaft.

### 3.3 Original Construction Documents

Original architectural & structural construction documents were provided to our office. The Building's architect was Little & Associates Architects (Charlotte, NC) and the structural engineering firm was King/Guinn Associates, PA Structural Engineers (Charlotte, NC).

From review of the record drawings, it appears that the Building was constructed circa 1986.

### 3.4 Scope of Work

Our scope of work for this report was limited to performing a walk-thru, surficial examination of the Building in order to provide a limited building conditions assessment report with respect to the following items:

- Limited observation of the owner's balcony floor and overhead slabs as observed from ground level with several balconies directly observed as selected by on-site maintenance personnel for balconies with known deficiencies for up to 10 balconies.
- Observation of exposed slabs, columns, and overhead slabs within common and breezeway areas.
- The exterior walls of the building (as observed from adjacent balconies and ground level).
- The structural concrete portions of the building exposed to the weather, particularly under the building.
- The main roof, stepped roofs, and parapet of the Building.
- Review of existing architectural/structural record drawings, if available.
- Brief interview of the on-site maintenance personnel and property manager as to any known deficiencies.
- Provide generalized recommendations for repair of deficient items that are observed.

### 3.5 Building Structural Assessment Visit

On-site walk-through assessment was conducted on September 29, 2021, by Mr. Jeffrey R. Troutman, PE.

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## 4.0 OBSERVATIONS AND CONDITIONS ASSESSMENT

Ardurra performed a limited surficial visual examination and field assessment of the condition of the exterior building components in accordance with the above scope of work to determine the condition of the components at their current installed conditions. The following contains our findings, conclusions, and recommendations.

Figure references to photographs taken during our observations are representative of the deterioration or condition that was observed but may not necessarily be at the building's specific structural component that is discussed.

The observations included below are not intended to be a specific summary of deficient or non-compliant Code items but are intended to convey the general state of installed structural components.

The majority of the observed deficiencies appears to occur with the ground level parking garage under the building.

### 4.1 Oceanfront Balconies

Mr. Chappell (CAM) provided escorted access to a representative of seven (7) oceanfront balconies for direct observation in addition to viewing all of the balcony stacks from the ground level. No other known deficiencies were report by maintenance or Mr. Chappell.

Overall, balconies appear to be in good condition with only some localized areas of rust spots and shallow surface spalls.

Overall, the balcony pedestrian traffic coatings are in generally good to fair condition from their installation circa 2002, unless a more recent recoating project has performed since then. Of the balconies directly observed, some scrapes and isolated delamination was observed.

All guardrails appeared to be sound.

Overall, the balconies were found to be in good condition with exception of the following items. Note: A representative seven (7) balconies were available to be inspected, while the other observations were performed from ground level.

General:

- The sealant around the sliding glass doors for the balconies that were directly observed appears to be hard and has lost its elasticity – this is assumed to be typical for the other non-observed balconies as well.
- Several of the frames of the sliding glass doors were observed to have corroded screws and/or localized corrosion on the frames.

Unit 202 Balcony:

- No apparent structural deficiencies observed.

Unit 304 Balcony:

- No apparent structural deficiencies observed.

Unit 502 Balcony:

- At bedroom sliding glass door, possible shallow surface spall observed under the traffic coating at the west end and adjacent to the bedroom sliding glass door.
- No other apparent structural deficiencies observed.

Unit 603 Balcony:

- Small 2"x2" area of traffic coating missing in front of sliding glass door, mid-balcony and a small rust spot was observed in the overhead slab above the bedroom sliding glass door near the eastern end.
- Possible spall under traffic coating at main sliding glass door.
- Several attachments, which connect the flashing to the door frame were observed to have suffered galvanic corrosion from dissimilar fastener metal contact with the flashing and/or frame.
- No other apparent structural deficiencies observed.

Unit 1306 Balcony:

- No apparent structural deficiencies observed.

Unit 1204 Balcony:

- Several small rust spots on bottom of overhead slab edge at the western end and 1 from the eastern end edge.
- No other apparent structural deficiencies observed.

Unit 1306 Balcony:

- Several blisters were observed in the overhead slab coating near the center edge of the slab and above the sliding glass door and several other locations.
- No other apparent structural deficiencies observed.

## 4.2 Breezeways

All of the breezeways are located on the northern, inland, side of the building. All breezeways had a brief walk-thru inspection performed to observe the condition of the floor slab, the overhead slab, walls, and the slab edges.

All breezeways were observed to have outdoor carpeting installed along the breezeways and elevator lobbies. The outdoor carpet contains areas of heavy traffic wear, stains, picks, etc. along walk paths and elevator lobbies and is in relatively average to good condition, depending on the locations.



Photo 1 Typical Possible Shallow Surface Spall to Concrete Slab Under Carpet



Photo 2 Organic Growth on Edge of Breezeway Concrete Slab

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Some possible spalling of the concrete slab was observed throughout; however, direct observation could not be performed (see Photo 1).

Some organic growth was observed on the top and outside edges of the slabs at various floor levels - 13<sup>th</sup>, 11<sup>th</sup>, 9<sup>th</sup>, etc. (see Photo 2).

Overhead coatings appeared to be in good condition.

The anodized aluminum railings were observed to be in generally good working condition. Some locations were generally observed to have some coating loss on the south facing and top surfaces.

Generally, the breezeways were found to be in good condition with exception to the following items. The guardrails were found to be sound.

13<sup>th</sup> Floor Level:

- The overhead slab coat and beam was observed delamination on the western half.
- A shallow surface spall and some exposed/corroded rebar were observed near the northern end of the floor beam at the slab at near grid line 11.

12<sup>th</sup> Floor Level:

- OK. No apparent deficiencies observed.

11<sup>th</sup> Floor Level:

- Some small minor shallow surface spalls were observed along the bottom of the overhead concrete slab edge adjacent to the eastern elevator wall.

10<sup>th</sup> Floor Level:

- Some possible shallow surface spalls on the top of the concrete slab were observed under the carpet along the breezeway wall at Unit 1006.
- A crack in the concrete and blister of the coating was observed on the bottom of the overhead slab outside of Unit 1004.

9<sup>th</sup> Floor Level:

- Some isolated shallow surface spalls were observed on the concrete wall adjacent to Unit 906.

8<sup>th</sup> Floor Level:

- OK. No apparent deficiencies observed.

7<sup>th</sup> Floor Level:

- Some blistering and peeling of the overhead slab paint was observed near the west corner of the wester stair tower.

6<sup>th</sup> Floor Level:

- Some blistering and peeling of the overhead slab paint was observed near the west corner of the wester stair tower.

5<sup>th</sup> Floor Level:

- Small rust spots observed near the bottom edge of the overhead concrete slab, located outside of Unit 501.

4<sup>th</sup> Floor Level:

- OK. No apparent deficiencies observed.

3<sup>rd</sup> Floor Level:

- Small rust spots observed near the bottom edge of the overhead concrete slab, located outside of Unit 301.
- Several blisters observed in the overhead slab coating near the west corner of the western stair tower.

2<sup>nd</sup> Floor Level:

- Edge of top step to Owner's Center observed to have some delamination (see Photo 3).
- Edge coating was observed to be delaminated on the overhead slab edge at the eastern exterior walkway.
- Several small possible shallow surface spalls on the top of the concrete slab were observed under the carpet adjacent to the wall of Unit 206.
- Several small possible shallow surface spalls on the top of the concrete slab were observed under the carpet adjacent to Unit 204.
- Coating was observed partially missing on the bottom of the north half of the overhead beam along grid line 11 and on the bottom of the end joist east of this beam and some organic growth and mold was observed.
- Coating was observed missing on the bottom and sides of the beam at the eastern wall of the west stair tower (approx. grid line 10).
- Several shallow surface spalls were observed on the overhead concrete slab near Unit 202.
- Possible shallow surface spalls were observed on the top of the concrete slab under the carpet outside the window of Unit 202.



**Photo 3 Spall/Delamination of 2<sup>nd</sup> Level Concrete Step to Owner's Center**

1<sup>st</sup> Floor Level:

- Possible shallow surface spalls were observed on the top of the concrete slab under the carpet at the corner of Unit 101.
- Possible shallow surface spalls were observed on top of the concrete under the carpet between the elevator doors at the elevator lobby.
- Some stucco delamination on the wall at the northeast corner of the Owner' Center room.

### 4.3 Stair Towers

The stairs and landings were observed to be cast-in-place reinforced concrete slabs with reinforced masonry walls. Overall, the east and west stair towers were observed to be relatively good condition. No observed deficiencies were noted.

### 4.3 Roof

The roofs of the building were generally found to be in good to average condition. The age of the roofing is unknown. Some isolated areas were observed to have signs of standing water.



Photo 4 Main Roofing with Utility Piping and Electrical Trays



Photo 5 Main Roof Parapet and Cell Platform

The main roof appears to be in fair to good condition with some apparent, small, isolated “soft” areas observed throughout (see Photo 4). Utility piping and electrical cable trays were observed throughout the roof. A galvanized steel cellular platform supporting a pre-manufactured building system were observed to have been installed at some time in the past.

The main roof parapets are flashed with a membrane up the sides and continuous aluminum caps across the top of the parapet walls, which are in good condition (see Photo 5).

#### Main Roof:

- Some loose and uncaulked but joint straps were observed for the caps and some intermediate batten strips were observed to be missing on the southern parapet wall, which has resulted in loose membrane against the wall as the bottom edge is also not secured.
- At the southernmost roof downspout, the roofing is in the process of being repaired at the drain.

#### Elevator Penthouse Roof Access:

- Some localized corrosion was observed to the stair framing and base of guardrail posts to the elevator penthouse (see Photo 6).
- Unless noted below, the pedestrian traffic coating on the accessible roof deck slabs appears to be in average to good condition. The age of the traffic coating is unknown but is estimated to have been applied circa 2012.



Photo 6 Corroded Steel of Penthouse Stair Framing

Western balcony roof deck at the 11<sup>th</sup> floor:

- Several rust spots and hairline cracking was observed protruding through the pedestrian traffic coating system near the southern deck drain (See Photo 8).
- Some localized delamination of the traffic coating system was observed throughout this roof deck.



**Photo 7 Traffic Coating on Habitable Roof Decks and Modified Bitumen Roofing on Unhabitable Roof Deck**

Western balcony roof deck at the 12<sup>th</sup> floor:

- Several slab edge spalls and a bottom spall was observed at the edge of slab between grid lines 7 & 8 along the oceanfront slab edge.
- The traffic coating for the balcony deck appears to be in good to average condition. The non-accessible roofing at the western end is a roll roofing and in fair to average condition.

Western balcony roof at the 14<sup>th</sup> floor:

- The traffic coating for the balcony deck appears to be in good to average condition. The non-accessible roofing at the western end is a roll roofing and in fair to average condition.

Western balcony roof at the 15<sup>th</sup> floor:

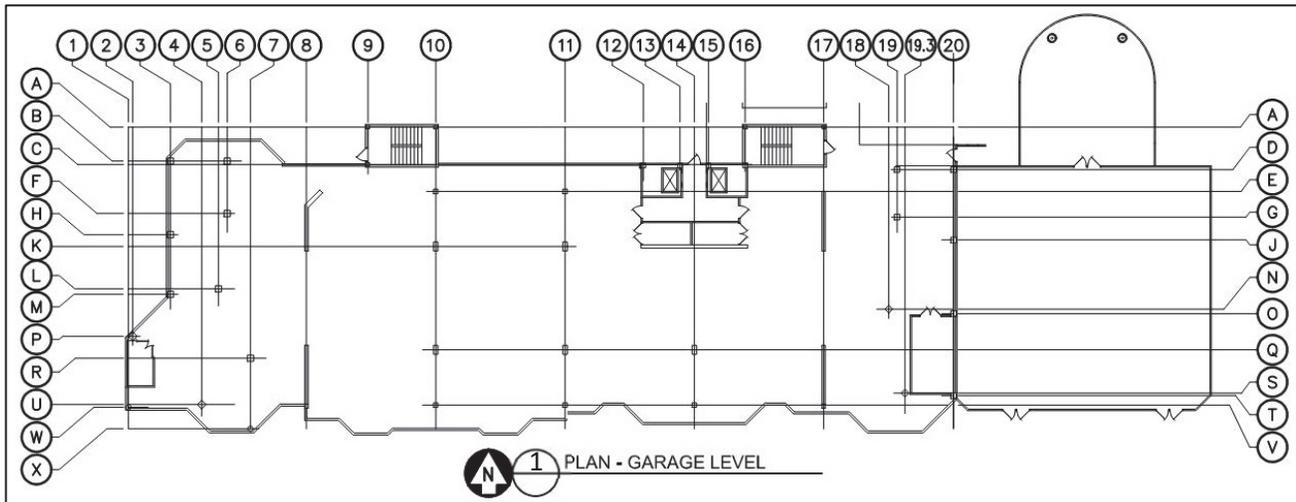
- Four (4) glass panels of the northern guardrail, located along grid line D, between grids 11 to 12, appear to have been recently blown out and it is our understanding are in the process of being repaired.



**Photo 8 Rusting Through Urethan Deck Coating and Cracks in Slab at Roof Drain**

#### 4.4 Ground Level Parking Garage Exposed Columns and Slab Under Building

Overall, the exposed columns, slabs, shear walls, and underside of the 1<sup>st</sup> elevated floor appear to be in relatively good condition and coatings are good. Some slight deficiencies were noted on the bottom of the slab and some of the walls. A few columns, located near or at the southern edge of the Building and near the western end of the Building were observed with partial to full delamination of one or more faces and in need of repair as noted below. See **Plan 1 Garage Base Plan** below.



The exposed concrete wall, column and overhead surfaces were observed to be coated with an elastomeric coating, which is in average to good condition. The age of the current coatings is unknown.

The soffit bulkhead at the perimeter of the Building is in good condition.

The following items were noted with deficiencies to overhead slab, walls, columns, etc.:

- The bottom of the elevated slab was observed to provide support for overhead water, sewer, and drainage pipes throughout, which are supported by pipe hangers. The pipe hangers were observed to vary in condition from fair to poor condition throughout (see Photo 9).
- Several of the steel utility pipes under the overhead slab were observed to have various degrees of miscellaneous corrosion from mild to pitted. (see Photo 10).
- An old concrete repair patch material was observed to be letting go at the top south face of the concrete column at grid 3B.



Photo 9 Typical Deteriorated Pipe Hanger



Photo 10 Pitted Steel Utility Pipe

- An old concrete repair patch material was observed to be spalling at the top east face of the concrete column at grid 3H.
- A 6"x6" ± spall with exposed corroded rebar was observed on the bottom of the overhead slab just east of column at grid 3H.
- Miscellaneous small rust spots, exposed rusty metal from wire ties, chairs, and reinforcing within the overhead concrete slab was observed in isolated locations throughout.
- A hairline diagonal crack was observed at the bottom center of the northern short diagonal reinforced concrete shear wall and extending up to the top at its southern corner, located along grid line 8 at the northern end of the shear wall.
- A 6"x6" ± spall with exposed corroded rebar was observed on the west face, near the northern end of the

southern reinforced concrete shear wall along grid line 8, located approximately 5' up from the wall base.

- Approximately three (3) 6"x6" ± spalls with exposed corroded rebar were observed and one (1) approximately 9" x 16" ± old concrete spall repair patch material was observed to be spalling on the west face, near the southern end of the southern reinforced concrete shear wall along grid line 8.
- A 12"x18" ± spall was observed at the top of the exterior round reinforced concrete column on the southeastern edge at column grid 7X (See Photo 11).
- Approximately two (2) 6"x6" ± spalls with exposed corroded rebar were observed at the northeast face of the column at approximately 3' and 6' above the base as well as one (1) 8" x 24" ± corner spall at the top of the column, located at column grid 4U.



Photo 11 Concrete Column Spall at Grid 7X



Photo 12 Concrete Beam and Column Spalls/Cracks

- A 6"x6" x 5'-0"± corner crack/spall was observed at the top of the southwest corner (assumed to have corroded corner vertical reinforcing as well but no rust stains showing), along with a 4"x4" x 6'-0"± corner crack/spall at the top of the southeast corner, a 3'± crack/spall at the bottom of the northeast corner & a 2" x 4" x 12"± spall at the top and northeast corner (old spall repair) was observed at the column, located at column grid 7R (see Photo 13).
- A spall was observed on the western side and bottom face of the reinforced concrete beam along with miscellaneous rust spots, spanning between columns at grids Q to V, along grid line 10 (see Photo 12).
- Approximately one (1) 3"x6" ± spall with exposed corroded rebar was observed at the top of the north face of the column, along with one (1) 6"x6"x6"± corner spall/crack located at the top of the southeast corner of the column and approximately one (1) 3"x3" x 12"± corner spall/crack, located at the top of the northwest corner was observed at column grid 10U.
- Approximately one (1) 2"x16" ± spall was observed at the top of the west face of the column, located at column grid 10P, along with one (1) adjacent 3" x 3" spall with exposed rebar on the bottom of the overhead slab.
- Approximately two (2) 6"x6" x 1'-6"± bottom corner crack/spall were observed along the western bottom corner of the beam spanning between grid lines E to K, along grid line 10.
- An 8"x2'-6"± spall was observed at the bottom south face of the column, located at column grid 11E.
- 1"x1'-6"± and 4"x8"± spalls were observed near the top west face of the column, located at column grid 11K.
- Three (3) small spalls were observed on the bottom of the overhead slab with exposed rebar near the top of the west face of the column, located at grid line 11Q.
- 4"x8"± and 2"x4"x4" "L" spalls with exposed rebar were observed near the top of the east face of the column, located at grid line 11Q.
- A beam spall and some rusty metal was observed at the eastern bottom side and bottom corner at the south end of the beam near column 11V as well as at a few other isolated locations throughout.
- A 2"x4"x4"± corner spall/crack with exposed corroded rebar was observed at the bottom east edge of the beam end near the column at grid 14V.
- 2"x4"± and 2" x 8"± spalls with exposed corroded rebar were observed on the west face of the northern end of the northern portion of the shear wall, located along grid line 17, adjacent to the eastern stair tower.



Photo 13 Column With Corner Spalls

- A 8"x8"± spall, located 1' from the top and 8" x 12"± spall, located approximately 1' above the curb was observed on the west face of the southern end of the northern portion of the shear wall, located along grid line 17, adjacent to the eastern stair tower.
- 6"x1'-6"± and 12" x 1'-6"± spalls were observed on the northern end of the southern portion of the shear wall, located along grid line 17, along with a spall on the west face near the top and a spall 8" x 1" x 4" at the northeast corner of the wall.
- A 4"x4" ± spall was observed on the north face, located approximately 2'-6"± from the top of the column, located at column grid 19G.
- A hairline to 3/16" crack was observed on the west face of the stucco wall x full height with some shallow spalling and a 3"x6"± spall with exposed rebar on the bottom of the overhead slab, located at the north side of the northern door at grid line 20.
- An old patch on the bottom of the canopy concrete slab of the Owner's Center at each drainpipe was observed to be partially delaminated and have some rust stains.

#### 4.5 Owner's Center – Indoor Pool

The window wall appears to be in fair to average condition. The pool deck appears to be in relatively good condition with some past localized settlement observed in a few locations.

The following deficiencies were observed:

- Some mild to moderate localized corrosion was observed on the horizontal wind girt steel tubes and connections as well as at the base of the vertical tube columns.
- The column base plates were observed to have moderate to severe corrosion (See Photo 14).
- Several of the anchor rods connecting the base plates of the columns to their respective foundations were observed to have deteriorated nuts, with many of them nuts observed to be completely or nearly completely deteriorated away(See Photo 14).



Photo 14 Deteriorated Base Plate and Anchor Rods of Steel Curtainwall Column At Owner's Center Interior Pool

#### 4.6 Exterior Observations

The exterior storage building, located at the eastern end of the building, was not directly observed.

Exterior pool or pool deck was not observed.

Timber beach access structure was not observed.

Many of the window screens were observed to be deteriorated.

Exterior stucco and wall coatings appear to be in relatively good condition.

Balcony guardrails observed to have loss of anodizing/coating on top and southern faces.

Overall, the exterior of the building appears to be in good condition with no observed deficiencies, except for the following:

Southern Elevation - 1<sup>st</sup> Floor Level:

- A 4"x4"x 3'-0"± bottom edge spall was observed at the 1<sup>st</sup> floor oceanfront protruding balcony slab edge, located between grid lines 10 to 11.

Southern Elevation - 5th Floor Level:

- Several rust spots were observed along the bottom of the 5th floor oceanfront balcony slab edge, located just east of grid line 17.

Southern Elevation - 6th Floor Level:

- Several rust spots were observed along the bottom of 6th floor oceanfront protruding balcony slab edge, located around grid line 18±.

Southern Elevation - 3rd thru 9th and 11th Floor Levels:

- Several rust spots were observed along the bottom of the diagonal oceanfront balcony slabs, located between grid line 19.3 to 20.

Southern Elevation – Eastern pool entry doors – Owner’s Center:

- The exterior concrete slab was observed to be cracked at the door threshold, which is causing the door to catch on the concrete.

Western Balcony - Southwest corner of overhead balcony slabs:

- Some peeling of the overhead ceiling coating was observed on several levels.

Western Balcony - Southwest corner of 2nd thru 4th floor levels overhead balcony slabs:

- Several rust spots were observed on the bottom of the overhead balcony slabs.

Western Balcony - Southwest corner of 1st floor level overhead balcony slabs:

- Several rust spots were observed on the western edge of the bottom of the overhead balcony slab.

No other apparent structural deficiencies were observed on the exterior of the building.

## 4.7 Foundations

The piles and pile caps were not investigated but from review of the original construction documents appear to be reinforced concrete pile caps, supported round precast/prestressed concrete piles. Pile caps are shown to be interconnected with reinforced concrete grade beams. No apparent settlement was observed (or measured) to the building.

## 5.0 SUMMARY CONCLUSION & RECOMMENDATIONS

Overall, from our on-site limited walk-through structural assessment of the above scope of work, the Building appears to be structurally sound and in overall generally good to average condition with a few areas that are in need of repair, recoating, etc., due to deficiencies.

1. We recommend that hairline cracks be routed and filled with an epoxy repair system and that all shallow concrete overhead and slab spalls be repaired by removing loose concrete, cleaning corroded steel and coated with a corrosion inhibitor/bonding agent and spalled areas filled with a concrete repair mortar containing a corrosion inhibitor additive. These repairs should be a top priority. We can assist to provide specifications and repair details as needed upon request as a separate fee proposal.
2. In addition to the concrete repairs, we recommend that balcony coatings and wall coatings be re-coated, if possible and/or replaced with new coatings. These repairs would be a secondary priority but within the next 5 years. We can assist to provide specifications as needed upon request as a separate fee proposal.
3. While the outdoor carpet on the breezeway slabs is in relatively good to average condition, current general concrete recommendations are that building owners and HOA's move away from allowing and having exterior carpet over exterior slabs. These exterior coverings concentrate moisture on the top surfaces of the slab, resulting in an increase in the potential for shallow surface spalls, especially where reinforcement was originally installed without sufficient concrete clear cover and even where there is sufficient clear cover provided. Therefore, Ardurra recommends that the carpet be removed in the near future to repair the concrete slab spalls and cracks and that the HOA should have a urethane traffic coating system installed (with integral non-slip in the top coat) to provide concrete protection, a durable pedestrian traffic surface, and provide long-term protection to the concrete slab. We can assist to provide specifications as needed upon request as a separate fee proposal.
4. Repair deficiencies to pool curtainwall framing. This should be a top priority.
5. Remove the organic growth from the edges of the breezeway slabs.

Other than normal concrete maintenance that is expected due to coastal exposures, the health of the concrete is in fair to good condition and should provide many more years of building life with proper building maintenance and repair.

We recommend that the Ocean Point Homeowners' Association, Inc. address the aforementioned deficient items, which require general repairs, as noted during our limited surficial investigation. Ardurra can assist with this effort by providing engineering services to develop construction repair documents and bid documents.

We trust this report is responsive to your needs. If you have any questions or need additional assistance, please contact us.