

Condition Assessment Report

Royal Saint Andrew, Sarasota FL

Thornton Tomasetti

K21168.00

Prepared For

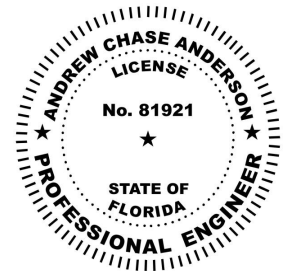
Royal St. Andrew Association, Inc.
555 S Gulfstream Avenue
Sarasota, FL 34236

Prepared By

Chase Anderson, P.E.
Associate

Phillip Quinn, P.E.
Associate

Thornton Tomasetti, Inc.
400 N Ashley Drive
Tampa, FL 33602
+1.813.906.1250
www.ThorntonTomasetti.com



A handwritten signature in blue ink, likely belonging to Chase Anderson, the professional engineer who prepared the report.

October 15, 2021

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1.0 Executive Summary

Thornton Tomasetti, Inc. (TT) performed an assessment of specific conditions on September 20, 2021 at Royal St. Andrew condominium. These conditions reviewed were:

1. Concrete delamination/spalling located at the slab edges for the mechanical spaces on each floor.
2. Concrete deterioration located on the underside of the parking garage structure.
3. Corrosion of the steel posts and metal panels for the parking canopy structures.
4. Adequacy of the screened enclosures and guardrails for the residential units.
5. Overall condition and service life remaining for the existing roofing system.
6. Overall condition of the exterior sealants, particularly at the windows and sliding glass doors located on the enclosed balconies.
7. Interior water distress to finishes within the units, particularly at the enclosed balconies.
8. Sliding Glass Door assembly installed within a masonry infill wall on a first-level unit.
9. General distress observed throughout the building.

Based on the observations, TT recommends that the following repairs be performed under the direction of a qualified professional Engineer (additional recommendations are provided in Section 3 of this report):

1. Parking Garage - Excavate spalled concrete to expose reinforcing steel that has lost bond to the surrounding per concrete and perform repairs in accordance with International Concrete Repair Institute (ICRI) standards under the guidance of a qualified structural Engineer.
2. Parking Canopy Structures - Provide adequate temporary shoring to support canopy framing above while repairs are performed. Remove damaged and/or corroded segments of steel posts and replace with new spliced-in steel members, or cast-in-place concrete members. For corroding areas that don't require strengthening: Remove loose corrosion, treat with corrosion inhibitor and coat with high performance metal paint. Patch waterproofing membrane in areas where membrane flashes up onto corroded metals.
3. Mechanical Space Slab Edges on the East Elevation - Remove delaminated and bulging stucco, perform ICRI compliant concrete repairs and replace stucco and paint. Apply waterproof coating at AC condenser slab areas to protect concrete from further exposure to weather and spalling. Add drainage to allow water entering the balconies to be wept to the exterior.
4. Balcony Guardrails – In the units where the guardrail is not 36" above finished floor surface condition exists, the Condominium Association should confirm that the AHJ has provided the appropriate variances to allow guardrail heights that do not meet current code requirements. If there are units that require guardrail modifications, TT recommends the following: Install an additional horizontal rail at 42" height and/or restrict access to areas that are not in compliance with previous code requirements. Consider railing replacement project in the near future to meet current 42" guardrail requirement.
5. Roof - Perform a roof moisture survey to determine if there are areas of the roof that are saturated but have not leaked through the roof vapor barrier.

6. Fenestrations - Perform a comprehensive metal-to-metal sealant replacement project for the fenestrations (windows and sliding glass doors) throughout the building.
7. Unit Interior Water Distress - Repair cracked or damaged drywall as required. Replace window seals as required to prevent further moisture infiltration. Repaint interior finishes as required. Monitor repaired areas for further water distress.
8. Balconies Finished with Thickened Topping Slabs - TT recommends that this condition be reviewed by a structural Engineer to confirm that this weight does not exceed the design capacity of the cantilever Balcony.

2.0 Introduction

Thornton Tomasetti, Inc. (TT) performed a site visit to review the condition of the building and ancillary structures on September 20, 2021 at the Royal St. Andrew Condominium in Sarasota, Florida (Figure 1). Prior to conducting the condition assessment, TT reviewed an existing condition report provided by Karins Engineering Group, dated October 8, 2018 (Karins Assessment). TT reviewed as-built architectural, structural, and plumbing drawings for the building dated January 1, 1968.



Figure 1: Aerial view of the property (Source: Maxar Technologies, 2021)

2.1 Scope Description

TT performed a walkthrough visual survey to visually observe exposed and readily accessible areas to evaluate the condition of building components and identify conditions that will require future repair. The visual observations were performed without the use of scaffolds, selective demolition or the removal of existing finishes

The survey areas included the parking garage, residential tower, roof, and the interiors of 25 units. An attempt was made to access all 25 units, with 1 denied entry, resulting in access to 24 units. A small unmanned aerial vehicle (drone) was also used to visually observe remote areas of the building.

List of units surveyed:

202	405	802	1003	1404
203	504	803	1004	1502
204	601	902	1101	1503
301	702	904 (No Access)	1203	1601
302	704	1002	1403	1602

2.2 Property Description

The property consists of the condominium building adjacent to a standalone 2-story parking garage. The tower structure is a 15-story high-rise tower with reinforced concrete slabs supported by reinforced concrete beams and columns. Openings around the perimeter of the structure are infilled with concrete block and aluminum sliding glass doors and windows. Original balconies have been enclosed with the addition of windows and sliding glass door systems at the edge of slab. The exterior cladding of the structure is stucco with a mildly sanded finish. The main roof of the building consists of a flat reinforced concrete slab with a low-slope single ply roofing membrane. There is an elevator penthouse constructed above the roof slab along the east side of the structure.

The at-grade pool deck is located south of the tower. It consists of a pool, light-colored pavers, and landscaping concentrated around the edges, and is beyond the scope of this report. The parking garage structure consists of reinforced concrete slabs, beams, and columns.

The structural as-built drawings provided by management are dated January 1968. The building was most likely constructed under the 1965 Southern Standard Building Code. The structural drawings were created by William A. Snell, Consulting Engineer.

3.0 Observations and Repair Recommendations

1. Spalled Concrete at Parking Garage

Observations

- The concrete at the underside of the second-floor parking garage slab was observed to be spalling in several locations.
- Additional peeling of paint was observed along the wall at the parking garage entrance.
- TT observed evidence of previous concrete repairs throughout the parking garage.

Photographs



Garage Entrance Overall Photo



Concrete Spalling at Underside of Slab



Additional Concrete Spalling

Repair Recommendations

1. Excavate spalled concrete to expose reinforcing steel that has lost bond to the surrounding per concrete and perform repairs in accordance with International Concrete Repair Institute (ICRI) standards under the guidance of a qualified structural Engineer.
2. Epoxy inject areas of nonmoving concrete cracks.

2. Bulging Stucco at Building Exterior

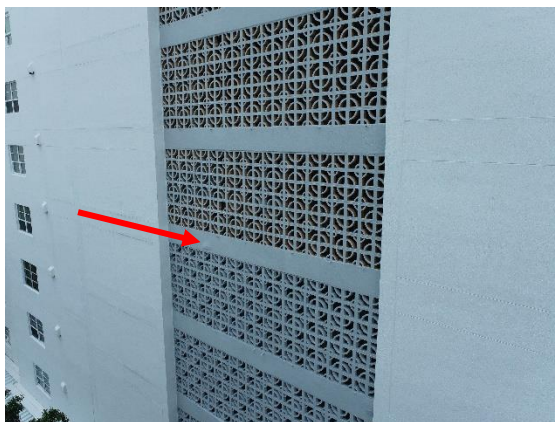
Observations

- Bulging stucco was observed at the west face of the building in the area where air conditioner condenser units are housed.
- This condition is likely a symptom of concrete spalling underneath the stucco at the slab edges.

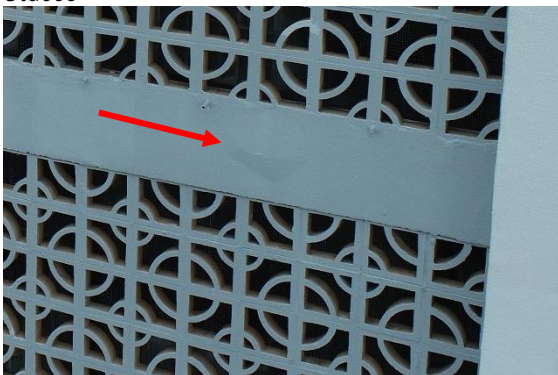
Photographs



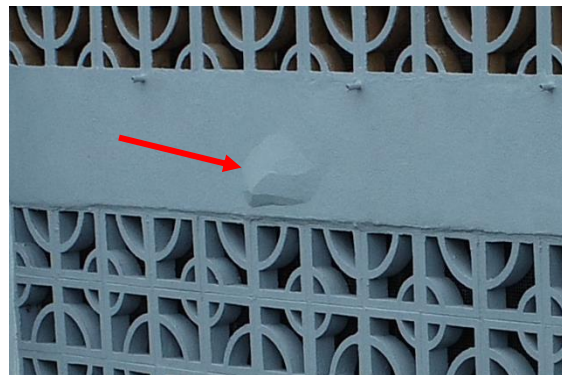
Overall Photo of Exterior Showing Damaged Stucco



Bulging Stucco at Slab Edge



Bulging Stucco at Slab Edge



Bulging Stucco at Slab Edge



AC Condenser Area Slab Condition



AC Condenser Area Slab

Repair Recommendations

1. Remove delaminated and bulging stucco, perform ICRI compliant concrete repairs and replace stucco and paint.
2. Apply waterproof coating at AC condenser slab areas to protect concrete from further exposure to weather and spalling.
3. Add drainage to allow water entering the area to be wept to the exterior.

3. Damage and Corrosion of Steel Posts Supporting Canopy

Observations

- Carports throughout the ground level parking area and the second floor of the parking garage are covered with a metal canopy structure. The existing steel posts supporting the canopy and tie down straps were observed to be damaged and/or corroded at several locations.
- The damage to the posts was observed to be concentrated at the base of the posts.
- Numerous posts showed evidence of previous repair and strengthening work.

Photographs



Damaged Steel Canopy Support



Corrosion at Canopy Support



Corrosion at Canopy Support, Voids in Waterproofing



Corrosion at Canopy Tie Down Strap

Repair Recommendations

1. Provide adequate temporary shoring to support canopy framing above while repairs are performed.
2. Remove damaged and/or corroded segments of steel posts and replace with new spliced-in steel members, or cast-in-place concrete members.
3. For corroding areas that don't require strengthening, Remove loose corrosion, treat with corrosion inhibitor and coat with high performance metal paint.
4. Patch waterproofing membrane in areas where membrane has voids from corroded metal substrate.

4. Install Straps for Gutter Downspouts

Observations

- Loose gutter downspouts were observed.

Photographs



Damaged Steel Canopy Support



Corrosion at Canopy Support

Repair Recommendations

1. Install strapping to prevent downspouts from detaching during windstorms.

5. Corrosion of Metal Roof Deck Over Parking Garage

Observations

- Segments of the existing metal deck covering a portion of the parking garage structure are corroded.

Photographs



Corroded Metal Deck



Corroded Metal Deck

Repair Recommendations

1. Remove corroded segments of the metal roof decking.
2. Replace with new corrosion resistant galvanized metal roof deck, matching the size and gauge of the existing decking.

6. Abandoned Screen Enclosure Framing

Observations

- When sliding glass doors were installed to enclose the unit balconies, framing for the previous screen enclosures was left in place. Approximately 5 units were observed which were still using the screen enclosures
- The concrete fasteners used to attach the framing create penetrations into the concrete slabs which can allow moisture and chlorides into the concretes. This can lead to concrete deterioration over time.
- The guardrails integrated into the screen enclosure do not meet the current building code height requirements. (Refer to Item 7 below).

Photographs



Screen Enclosure Framing at Typical Balconies



Screen Enclosure Framing at Typical Balconies



Interior Photo of Screen Enclosure Framing

Repair Recommendations

1. Remove screen enclosure framing members and patch concrete slab penetrations from fasteners.

7. Existing Guardrail Height

Observations

- The code required minimum guardrail height at the time of the building's construction was 36 inches measured from the finished floor surface.
- Units were observed in which balcony floor finishes had been built up to match the elevation of the interior spaces without modifications being made to the guardrails. This condition has decreased the railing height to less than 36 inches.
- The current code required minimum height for new construction and alterations to existing construction is 42 inches measured from the finished floor surface.
- TT was informed that the relevant Building Department / Authority Having Jurisdiction (AHJ) had provided variances on previously performed balcony renovation projects in various units. These variances reportedly allowed the existing railing heights to be less than 36 inches above the finished floor level.

Photographs



Guardrail Below Code Required Height



Guardrail Below Code Required Height

Repair Recommendations

In the units where this condition exists, the Condominium Association should confirm that the AHJ has provided the appropriate variances to allow guardrail heights that do not meet current code requirements. If there are units that require guardrail modifications, TT recommends the following:

1. As a temporary solution for locations with impact-resistant sliding glass doors: Restrict access where guardrails are less than 36 inches above the finished floor surface. Lock off impact resistant sliding glass doors to prevent occupants from opening them.
2. Alternatively, install an additional horizontal rail at 42-inch height to bring the railing into code compliance. This can be implemented at locations with impact-resistant and non-impact resistant sliding glass doors.
3. Consider a railing replacement project in the near future to change the guardrails to meet the current code requirement of 42-inch height and remove abandoned screen enclosure framing.

8. Aging of Existing Roofing Membrane

Observations

- The existing roofing membrane is a Fibertite Ketone Ethylene Ester (KEE) single ply membrane which was reported to be approximately 25 years old. The roof was coated with a fluid applied material in 2016 which was reported to carry a 10 year warranty.
- The roof coating showed signs of aging including divots and small tears.
- A liquid applied coating was recently applied to low points experiences ponding to extend the life of the membrane.
- Wrinkling and delamination of the roof membrane was observed at the vertical parapet walls surrounding the main roof of the building. This condition is due to long-term shrinkage and exposure of the roof membrane.

Photographs



Roof Overall Photo



Roof Overall Photo



Roof Overall Photo



Roof Overall Photo



Voids and tear in roof coating



Tear in roof coating



Wrinkling of Roof Membrane



Wrinkling of Membrane at Parapet

Repair Recommendations

1. Perform a roof moisture survey to determine if there are areas of the roof that are saturated but have not leaked through to occupied space below.
2. Monitor the roof membrane at the vertical parapet walls to ensure there are no separations or openings in the membrane, particularly at the interface between the vertical parapet walls and the roof of the building.
3. Budget for roof replacement project in the next 5 years.

9. Ponding Water at Roof Surface

Observations

- Ponding water was observed at several locations on the main roof of the building.

Photographs



Ponding Water at Rooftop



Ponding Water at Rooftop



Ponding Water at Rooftop

Repair Recommendations

1. Monitor ponding to ensure that the roof coating does not deteriorate to the point that it allows leaks into the occupied space below.

10. Previous Roof Repairs

Observations

- Multiple locations with previous patches or elastomeric coating applications were observed on the main roof of the building.

Photographs



Elastomeric Coating Application at Rooftop



Patched Area of Coating at Rooftop



Patched Area of Coating at Rooftop

Repair Recommendations

1. Monitor the patches/elastomeric coatings to ensure that the roof coating does not deteriorate to the point that it allows leaks into the occupied space below.

11. Failed Parking Garage Waterproofing

Observations

- TT observed failures of the waterproofing membrane at the top level of the parking garage.
- The waterproofing topcoat was missing in several locations where inter-layer bond failures occurred between the base and the topcoat.
- It was reported that the failed areas were to be replaced in the near future as warranty work.

Photographs



Missing Waterproofing at Parking Slab



Bond Failure Between Base and Topcoat



Additional Area of Bond Failure

Repair Recommendations

1. Remove and replace all failed waterproofing to protect concrete slab.
2. Monitor coating annually for additional bond failures.

12. Failing Window Metal-to-Metal Sealant

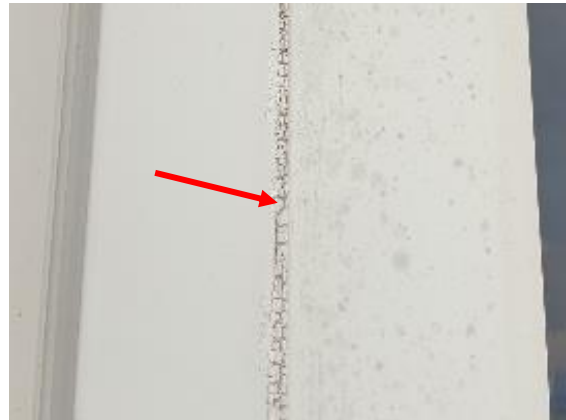
Observations

- Maintenance staff reported that metal to metal sealants were not replaced during the recent window perimeter sealant replacement project.
- The metal-to-metal sealant was observed in numerous locations to have reached the end of its useful life.

Photographs



Failing Metal to Metal Sealant



Failing Metal to Metal Sealant

Repair Recommendations

1. Perform a comprehensive metal-metal joint sealant replacement project.

13. Failing Sealants at Storefront Window System

Observations

- The glass to metal sealants in the storefront entry system are deteriorating and debonding from the aluminum extrusions.
- Sealant has reached the end of its useful life.

Photographs



Exterior Storefront Entry Area



Failing Sealant at Storefront



Failing Sealant at Storefront

Repair Recommendations

1. Remove and replace sealant at storefront entry glass to prevent moisture infiltration into building.

14. Unit Owner Added Sliding Glass Door

Observations

- TT observed an existing non-structural infill wall that was reported to have been modified with the addition of an opening with a sliding glass door. This was located at the first-floor unit on the north side of the building.
- The Association requested that TT review to determine if this modification is of structural concern.

Photographs



New Opening in Infill Wall

Repair Recommendations

1. This condition does not affect the structural integrity of the structure.
2. TT did not have access to and did not review any aspects of the structural attachment of the sliding glass door or adequacy of the sealants.

15. Water Distress and Blistered/Disrupted Paint adjacent to Windows and Sliding Glass Doors throughout Unit Interiors

Observations

- Drywall cracking or other water-related distress was observed at multiple locations throughout the inside of the building.
- TT also observed failures at exterior window seals.
- Peeling and/or blistering paint was observed at enclosed balconies in various locations.
- See Item 12 for notes regarding the metal-to-metal sealant at windows.
- Inactive water stains were observed on interior finishes adjacent to fenestrations in the building.
- The distress observed throughout the building was typically in a similar condition to what was visible in the photographs of the Karins Assessment from 2018.

Photographs



Cracking at Interior Drywall and Baseboards



Water Damage at Interior Drywall



Water Damage of Interior Drywall



Blistering Paint at Enclosed Balcony



Blistering Paint at Enclosed Balcony



Peeling Paint at Enclosed Balcony



General Distress on Interior Finishes



Inactive Water Staining



Inactive Water Staining



Inactive Water Staining

Repair Recommendations

1. Further investigation required to determine potential source(s) of leaks. Potential investigation methods could include destructive examination of the fenestrations and/or water testing of the fenestration assemblies (sliding glass doors and windows). This testing would be required to isolate leaks and make specific recommendations to address the moisture intrusion issues.
2. Replace window seals as required to prevent further moisture infiltration.
3. Repair cracked or damaged drywall as required. Repaint interior finishes as required.
4. Follow repair recommendations related to Item 12 to prevent further moisture intrusion through windows.

16. Drywall Separation and Cracking

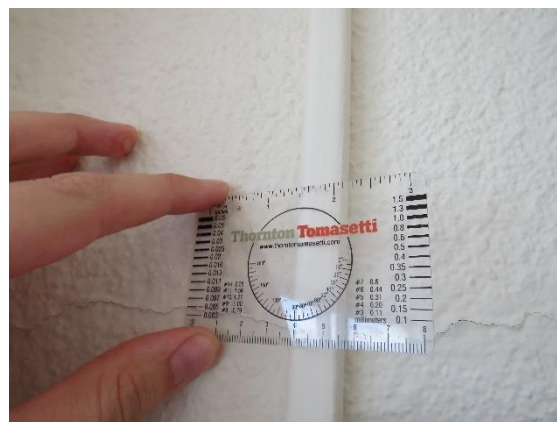
Observations

- Drywall cracking and/or other damage was observed at multiple locations throughout the inside of the building.
- The drywall distress observed throughout the building was typically in a similar condition to what was visible in the photographs of the Karins Assessment from 2018.

Photographs



Cracking at Interior Drywall



Cracking at Interior Drywall



Cracking at Interior Drywall



Cracking at Interior Drywall



Cracking at Interior Drywall



Cracking at Interior Drywall

Repair Recommendations

1. Repair cracked or damaged drywall as required.
2. Repaint interior finishes as required.

17. Cracked and Debonded Tile

Observations

- Cracked and debonded tile finishes were observed in Unit 204.
- The tile at this location was installed with no control joints and was observed to be flush against the exterior walls.

Photographs



Cracked and Debonded Tile

Repair Recommendations

1. Remove and replace heaved tile. Install control joints to allow thermal expansion and contraction in accordance with the Tile Council of North American Standard EJ171.

18. Balcony Buildup Material

Observations

- TT observed tile finishes on enclosed balconies that were up to 3 inches in height.

Photographs



Tile Height

Repair Recommendations

1. TT recommends that this condition be reviewed by a structural Engineer to confirm that this weight does not exceed the design capacity of the cantilever Balcony

19. Hole in Screen Cover at Plumbing Penetration

Observations

- A hole was observed in a screen cover of a plumbing penetration at the main roof of the building.

Photographs



Hole in Penetration Screen Cover

Repair Recommendations

1. Replace screen cover.

20. Active Termite Damage

Observations

- Evidence of termites was observed inside the building at Unit 1601.
- Visible insects and areas of rotted and/or deteriorating wood were observed in the interior space of a unit.

Photographs



Termites Present in Unit



Wood Frame Showing Evidence of Termites

Repair Recommendations

1. TT recommends the building be inspected and the condition be treated by a pest control expert.
2. Remove and replace termite damaged wood bucking.

END OF REPORT