To:	Lake Tarpon Sail and Tennis Club III
From:	Leo Cannyn, PMP, P.E., Principal Project Manager
Subject:	90 S Highland Ave, Tarpon Springs, FL 34689 Engineering Affidavit
Date:	2/14/2025

To Whom This May Concern:

Beryl Engineering & Inspection, LLC ("Beryl") was retained by Lake Tarpon Sail and Tennis Club III with regards to inspection located at 90 S Highland Ave, Tarpon Springs, FL 34689. According to the Pinellas County Property Appraiser Website, the buildings were built in 1983. The structural systems are consistent with a Slab on Grade foundation with Concrete Masonry Unit (CMU) walls clad in Stucco veneer. The roof structure is consistent with a predominantly Flat roof design covered with TPO. There is a secondary accent Mansard roof covered with Dimensional Shingles. Beryl was asked to inspect the roofs of buildings A and B, as well as the interior of the units experiencing water intrusion issues at the sliding glass doors.

Beryl performed a review of the property file as found on the Pinellas County website and visited the property on 2/14/2025. This review and inspection were a visual and non-invasive review of the accessible areas of the exterior of each building and the interior of each unit affected by water intrusion. A partial survey of select interior walls and ceilings was conducted using a Noyafa NF-583S Infrared Thermal Imager to detect thermal gradients (temperature differences) and anomalies typically associated with energy transfer and moisture intrusion. Beryl verified anomalies detected using a Tramex MRH III Moisture and Humidity Meter ("Moisture Meter"). Typically, areas in the medium or above range indicate a concern that could potentially lead to the growth of mildew, mold, or fungus if left untreated. Photographs were retained by Beryl for future reference and some relevant photographs are attached.

The primary purpose of this letter is for Beryl, as Engineer, to certify that at the time of their review on 2/14/2025 we found that the roofs of buildings A and B were replaced in 2022. It was reported that the roofer explained that the existing internal perimeter drain was no longer code approved, which was subsequently removed by the roofing company and not replaced.

1. Several dark areas and low spots were observed on the TPO roof covering of both buildings. Typically, dark spots or staining on the roofing material are the result frequent water pooling.

- Water evaporation leaves behind dirt, dust, and organic matter, creating dark stains in areas where water has pooled.
- Standing water was also observed, which promotes the growth of algae, mold, or mildew, and can appear as dark spots or streaks.

Prolonged exposure to ponding water can degrade the TPO membrane, causing discoloration, leaks, and premature failure. Standing water also increases the load on the roof, which can lead to sagging or collapse.

- Ceiling stains and moisture damage were reported and observed in units 407, 408, and 409.

The National Roofing Contractors Association (NRCA) defines ponding water as any water that remains on a roof for more than 48 hours after rainfall stops. Over time, ponding water can exploit weaknesses in roof flashing, seams, or penetration points (e.g., HVAC units, vents) and penetrate insulation, ceilings, and walls.

2. Beryl understands that following the reroof in 2022, there has been uncontrolled stormwater runoff from both roofs. When a flat roof lacks proper drainage, heavy rain can spill over the edges. This condition was confirmed by photographs and videos provided by the client.

- Streaking and discoloration was observed on several of the shingled mansard roof sections of both buildings.

Uncontrolled stormwater runoff from a flat roof onto a shingled mansard can cause significant damage over time. Continuous water flow can erode the protective granules on asphalt shingles, making them brittle and more susceptible to cracking, curling, and premature failure.

- Bowing was observed to the several planes of the mansard roof of both buildings.
- Sections of wood rot, peeling paint, and degradation were noted to sections of the fascia and soffit of both buildings.

Excessive water can seep under the shingles, penetrating the roof deck and causing leaks inside the structure. Persistent moisture can cause the underlying sheathing, framing, and fascia to rot, weakening the structural integrity of the mansard.

- Water intrusion around and under the lanai sliding doors was reported to occur during significant rain events. Evidence of intrusion was observed in the form of staining, peeling paint, biological growth, and buckling of the finished flooring in units 209, 212, 218, 312, and 318.

Improperly directed runoff causes moisture buildup and can seep into window frames, door thresholds, or exterior wall cracks. Excessive runoff can create hydrostatic pressure against walls, pushing water into seams and openings.

- At the time of inspection, most of the drywall along the north elevation of unit 302 had been removed due to moisture intrusion.

Excessive water runoff from a flat roof can cause severe interior damage if not properly managed. Wind-driven rain can also push runoff against exterior walls, leading to saturation which allows water to seep through porous building materials. Long-term moisture exposure promotes the growth of mold and mildew, leading to health hazards. and can eventually cause structural weakening.

- The sliding glass doors on the lanai of unit 114 are binding and do not open properly.

When the soil is saturated, the resulting bearing capacity is significantly reduced, which allows the potential for settlement. High runoff volumes with excessive water near the foundation can also wash away soil around the building. As a result, differential settlement of the foundation has caused the door frame to be misaligned. Furthermore, prolonged exposure to moisture can cause metal components (rollers, tracks, or locking mechanisms) to rust, leading to sticking or jamming.

3. Water intrusion was reported in units 201, 301, and 402 as a direct result of wind driven rain occurring from the series of tropical storms and hurricanes in 2024.

Wind-driven rain can penetrate deeper in high-rise buildings due to increased pressure at higher elevations. During a storm event, strong winds can push rain horizontally, bypassing overhangs, awnings, and other protective features. Cracks or gaps in exterior walls, windows, doors, or roof penetrations will allow rain to seep inside, while poorly sealed joints, flashing failures, or deteriorated caulking increase the risk.

Insufficient or mispositioned drains, scuppers, or gutters has led to uncontrolled runoff that has overwhelmed the building's exterior. Additional internal drains, scuppers, or gutters are recommended to facilitate proper storm water drainage. Scuppers, internal drains, and gutters should be properly sized and positioned to handle heavy rain events. Water collected in the scuppers or gutters should be redirected from the roofs edge via a downspout and diverted at least 2 feet away from the base of the foundation with the use of extensions. Gutters and downspouts require maintenance, it is advisable to inspect the gutters monthly during rains for proper flow.

Additionally, it would be prudent to ensure the roof has at least 1/4 inch per foot slope to direct water toward drains or scuppers. If the slope is insufficient or there are low spots, water can pond and seep into the roofing membrane. The use of insulation boards to create a slope in low areas can repair low spots or depressions that hold water. Tapered insulation is a cost-effective way to ensure proper roof slope and improve drainage on an existing flat roof.

We recommend sealing all exterior wall cracks, as well as around door and window penetrations, with an elastomeric masonry patching compound, and the buildings should be repainted. Some of the cracks may require widening/cleaning with minor repairs/patching. Elastomeric patching and paint will allow for minimal future movements and should be less likely to cause a reopening crack in the future.

From,

RICHARD LEON CANNYN
LICENSE
No. 65994
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

This item has been electronically signed and sealed by Richard Cannyn, P.E. using a Digital Signature and date. Printed copies of this document are not considered signed and sealed and all signatures must be verified on any electronic copies.

Digitally signed by Richard Cannyn
Date: 2025.02.24 17:36:03 -05'00'

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Richard Leon Cannyn
Florida PE # 65994
2/14/2025

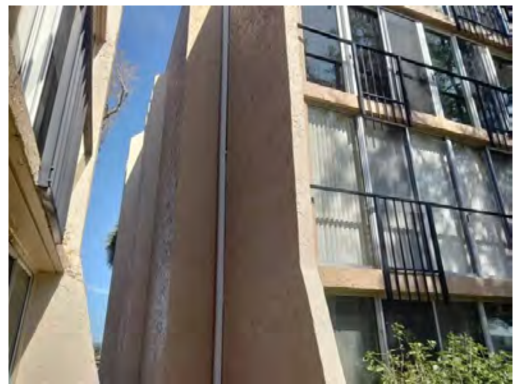
CC: Beryl Project Files

This document has been electronically sealed in accordance with Florida Statute 471.025 and Florida Statute 668.001 - 668.006.

1 Front of Building A

2 Front of Building A - Alternate View

3 Right Side of Building A



4 Right Side of Building A - Alternate View

5 Rear of Building A

6 Rear of Building A - Alternate View

7 Left Side of Building A

8 Left Side of Building A - Alternate View


9 Front of Building B


10 Front of Building B - Alternate View


11 Right Side of Building B


12 Right Side of Building B - Alternate View


13 Rear of Building B

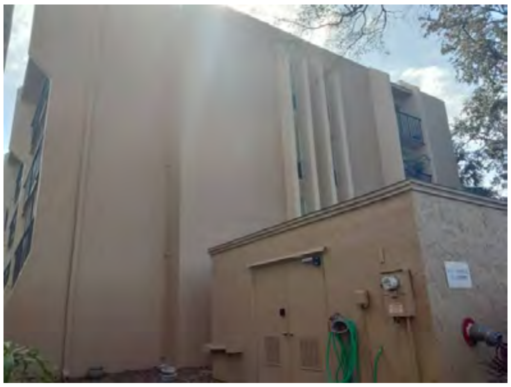

14 Rear of Building B - Alternate View


15 Rear of Building B Continued


16 Rear of Building B Continued - Alternate View

17 Left Side of Building B

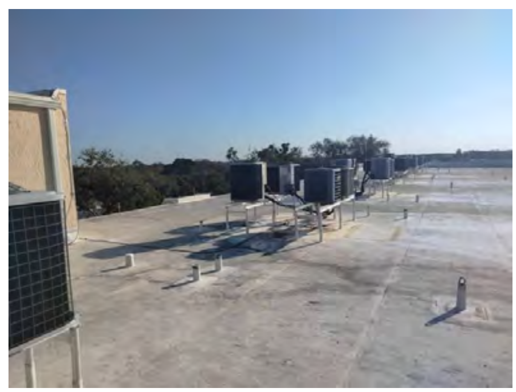
18 Left Side of Building B - Alternate View



19 Left Side of Building B Continued

20 Left Side of Building B Continued - Alternate View

21 Flat Roof Overview - Building A



22 Flat Roof Overview - Building A

23 Flat Roof Overview - Building A

24 Flat Roof Overview - Building A


25 Flat Roof Overview - Building A


26 Flat Roof Overview - Building A


27 Flat Roof Overview - Building A


28 Flat Roof Overview - Building A


29 Observed Ponding Water - Flat Roof Building A


30 Observed Staining - Flat Roof Building A


31 Observed Staining - Flat Roof Building A


32 Observed Debris - Flat Roof Building A


33 Observed Ponding Water - Flat Roof Building A


34 Observed Ponding Water - Flat Roof Building A


35 Observed Ponding Water - Flat Roof Building A


36 Observed Ponding Water - Flat Roof Building A


37 Observed Staining - Flat Roof Building A


38 Observed Ponding Water - Flat Roof Building A


39 Observed Ponding Water - Flat Roof Building A


40 Observed Ponding Water - Flat Roof Building A


41 Observed Ponding Water - Flat Roof Building A


42 Observed Ponding Water - Flat Roof Building A


43 Observed Debris - Flat Roof Building A


44 Observed Ponding Water - Flat Roof Building A

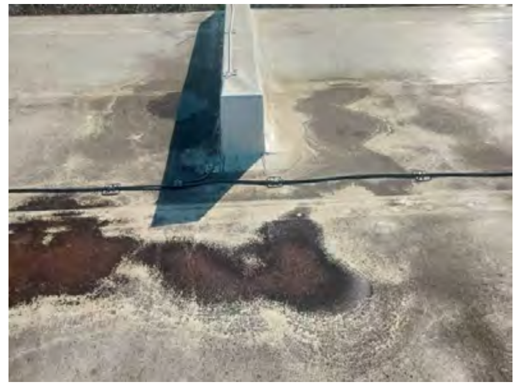

45 Observed Ponding Water - Flat Roof Building A


46 Observed Ponding Water - Flat Roof Building A


47 Observed Staining - Flat Roof Building A


48 Observed Staining - Flat Roof Building A

49 Observed Staining - Flat Roof Building A



50 Observed Ponding Water - Flat Roof Building A

51 Observed Ponding Water - Flat Roof Building A

52 Observed Staining - Flat Roof Building A

53 Flat Roof Overview - Building B

54 Flat Roof Overview - Building B

55 Flat Roof Overview - Building B

56 Flat Roof Overview - Building B


57 Flat Roof Overview - Building B


58 Observed Staining - Flat Roof Building B


59 Observed Staining - Flat Roof Building B


60 Observed Staining - Flat Roof Building B


61 Observed Staining - Flat Roof Building B


62 Observed Staining and Debris - Flat Roof Building B


63 Observed Ponding Water and Debris - Flat Roof Building A


64 Observed Staining - Flat Roof Building B


65 Observed Staining - Flat Roof Building B


66 Observed Ponding Water - Flat Roof Building A


67 Observed Staining - Flat Roof Building B


68 Observed Staining - Flat Roof Building B


69 Observed Staining - Flat Roof Building B


70 Observed Ponding Water and Debris - Flat Roof Building A


71 Observed Ponding Water - Flat Roof Building A

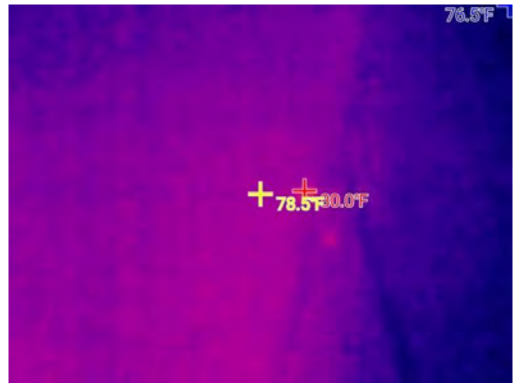

72 Observed Staining - Flat Roof Building B

 **73** Observed Ponding Water - Flat Roof Building A	 **74** Observed Ponding Water - Flat Roof Building A
 **75** Observed Ponding Water - Flat Roof Building A	 **76** Observed Ponding Water - Flat Roof Building A
 **77** Flat Roof Overview - Building A, Unit 407	 **78** Ponding Water - Building A, Unit 407
 **79** Ponding Water - Building A, Unit 407	 **80** Staining - Building A, Unit 407

81 Unit 407 - Lanai Overview

82 Unit 407 - Ceiling Damage (Lanai)

83 Unit 407 - Moisture Reading (Low)



84 Unit 407 - Thermal Imaging

85 Flat Roof Overview - Building A, Unit 408

86 Staining - Building A, Unit 408

87 Staining - Building A, Unit 408

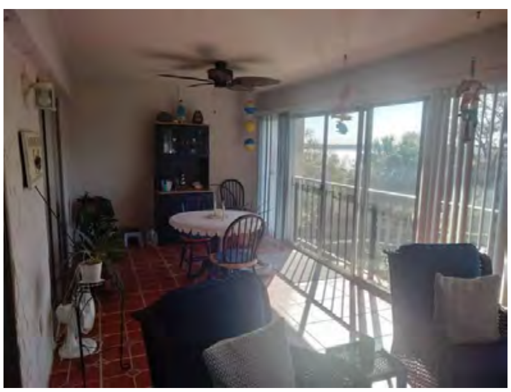
88 Staining - Building A, Unit 408

89 Flat Roof Overview - Building A, Unit 409

90 Staining - Building A, Unit 409

91 Staining - Building A, Unit 409

92 Ponding Water - Building A, Unit 409

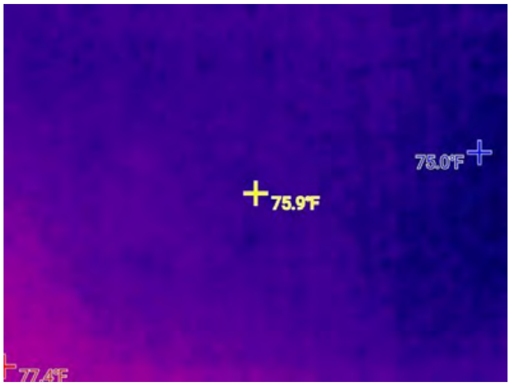


93 Unit 407 - Lanai Overview

94 Unit 409 - Ceiling Damage (Lanai)

95 Unit 409 - Ceiling Damage (Lanai) - Alternate View

96 Unit 407 - Moisture Reading (Low)



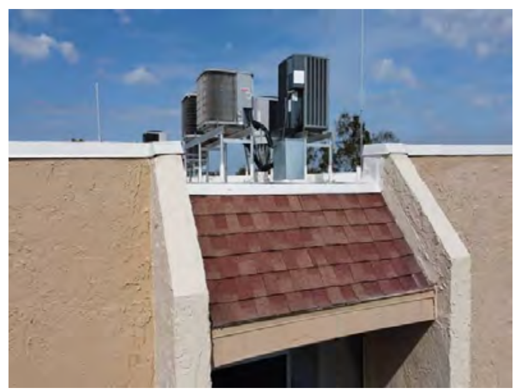
97 Unit 407 - Thermal Imaging

98 Mansard Roof Overview - Building A

99 Mansard Roof Overview - Building A

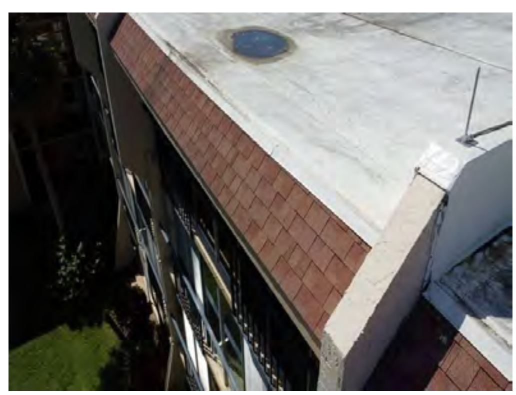
100 Mansard Roof Overview - Building A

101 Mansard Roof Overview - Building A



102 Mansard Roof Overview - Building A

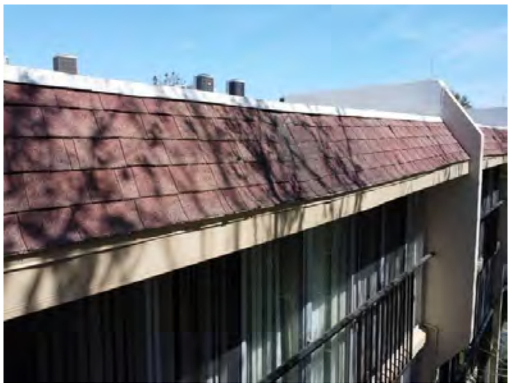
103 Mansard Roof Overview - Building B



104 Mansard Roof Overview - Building B


105 Mansard Roof Overview - Building B

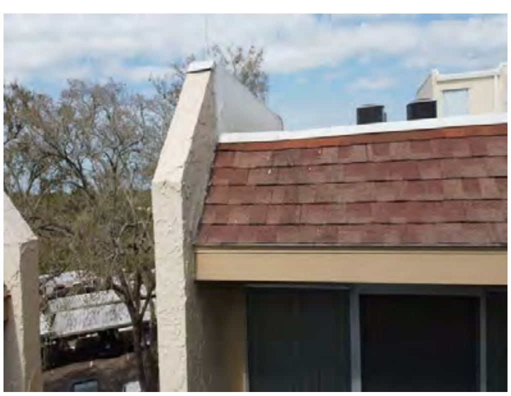

106 Mansard Roof Overview - Building B


107 Mansard Roof Overview - Building B


108 Observed Bowing - Mansard Roof Building A


109 Open Drip Edge Connection - Mansard Roof Building A


110 Wood Rot and Peeling Paint - Mansard Roof Building A


111 Observed Staining - Mansard Roof Building A


112 Wood Rot and Peeling Paint - Mansard Roof Building A

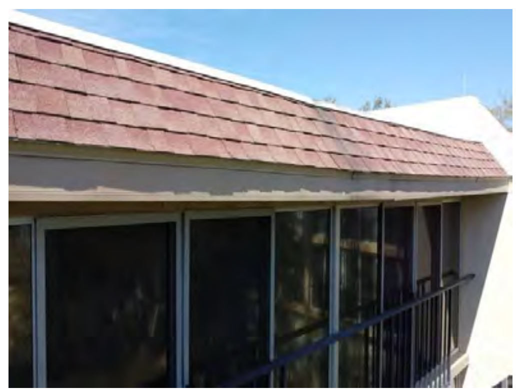
113 Observed Bowing - Mansard Roof Building A

114 Open Drip Edge Connection - Mansard Roof Building A

115 Observed Bowing - Mansard Roof Building A

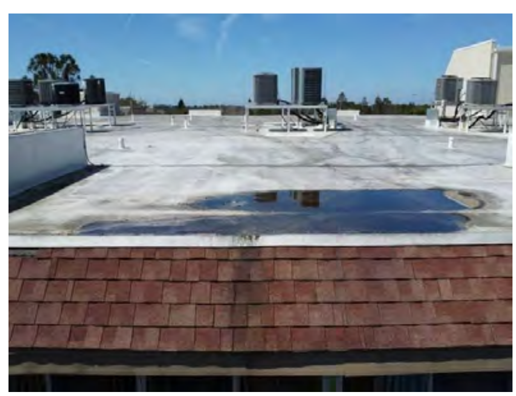
116 Observed Staining - Mansard Roof Building B

117 Observed Staining - Mansard Roof Building B



118 Observed Bowing - Mansard Roof Building B

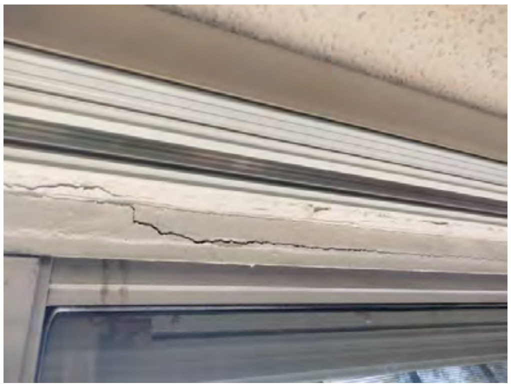
119 Fascia Damage - Mansard Roof Building B



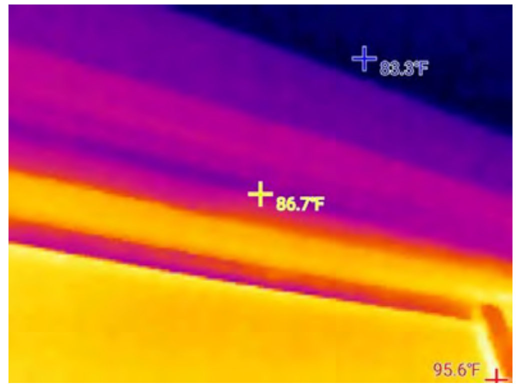
120 Observed Staining - Mansard Roof Building B

121 Observed Bowing and Staining - Mansard Roof Building B

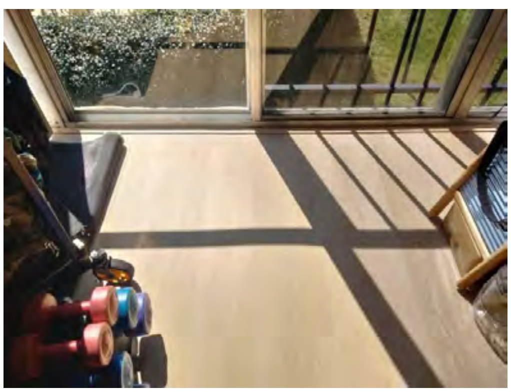
122 Unit 209 - Lanai Overview



123 Unit 209 - Ceiling Damage (Lanai)

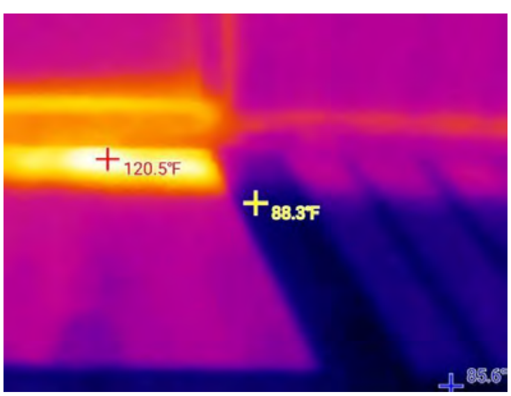


124 Unit 209 - Thermal Imaging (Top of Sliding Glass Door)

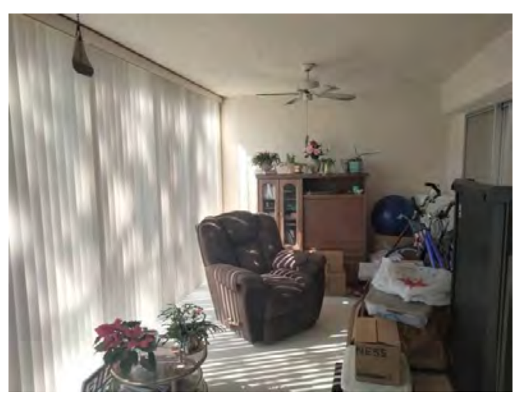


125 Unit 209 - Flooring Damage (Lanai)

126 Unit 209 - Moisture Reading (Medium)

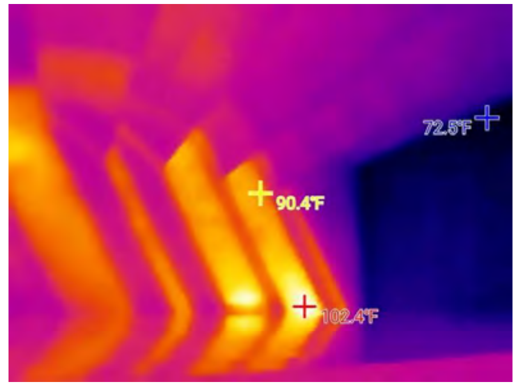


127 Unit 209 - Thermal Imaging (Flooring)

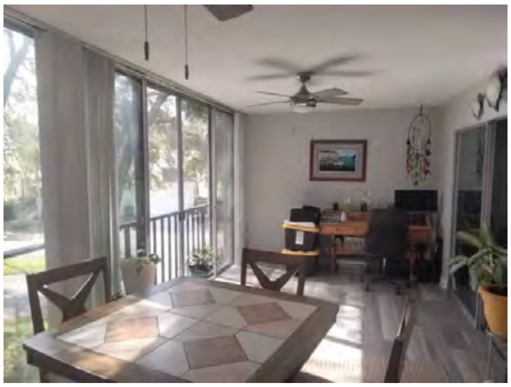


128 Unit 212 - Lanai Overview

129 Unit 212 - Stained Carpet



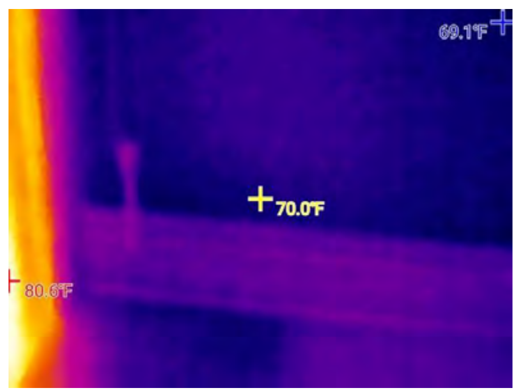
130 Unit 212 - Thermal Imaging (Flooring)



131 Unit 218 - Lanai Overview

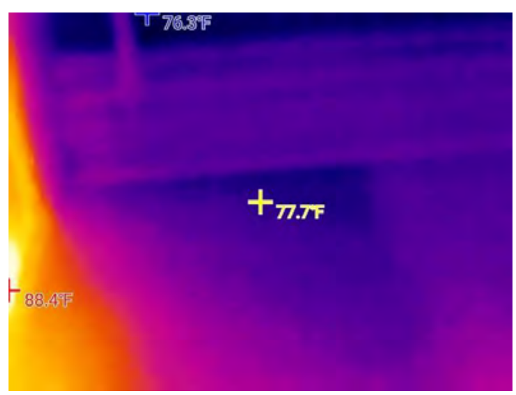
132 Unit 218 - Observed Biological Growth (Wall)

133 Unit 218 - Moisture Reading (High)

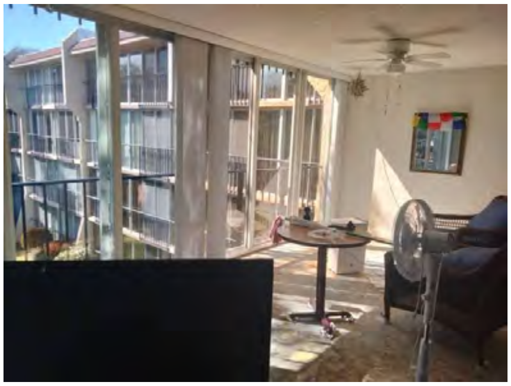


134 Unit 218 - Thermal Imaging (Wall)

135 Unit 218 - Moisture Reading (Medium)

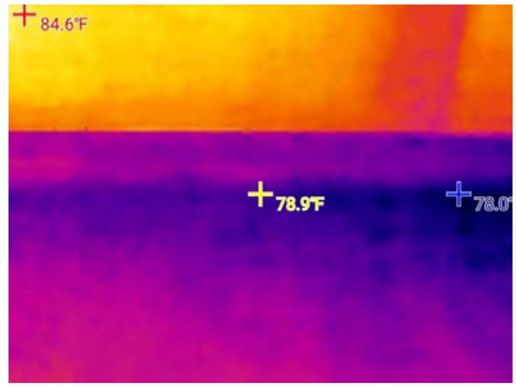


136 Unit 218 - Thermal Imaging (Floor)


137 Unit 312 - Lanai Overview


138 Unit 312 - Exposed Concrete

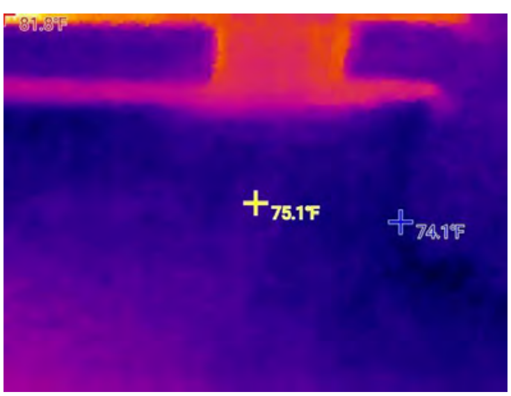
139 Unit 312 - Moisture Reading (Medium)



140 Unit 312 - Thermal Imaging (Flooring)


141 Unit 312 - Exposed Concrete

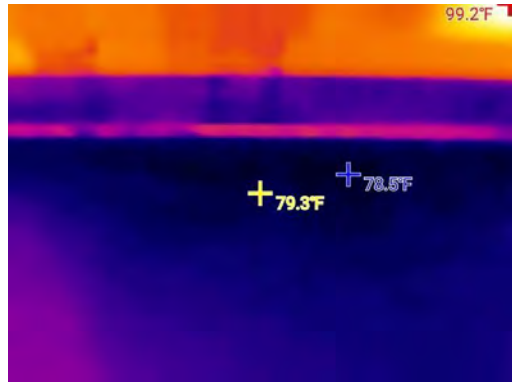
142 Unit 312 - Moisture Reading (Medium)



143 Unit 312 - Thermal Imaging (Flooring)


144 Unit 312 - Exposed Concrete

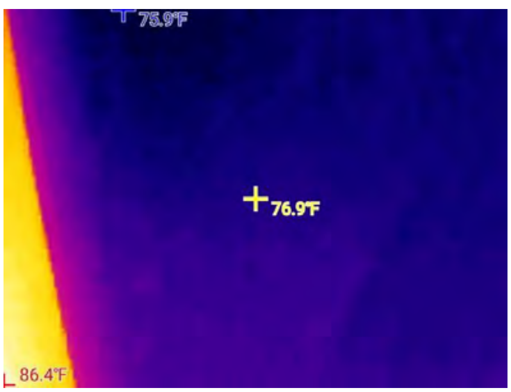
145 Unit 312 - Moisture Reading (Medium)



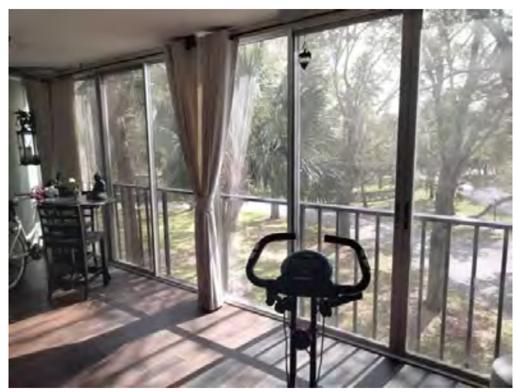
146 Unit 312 - Thermal Imaging (Flooring)

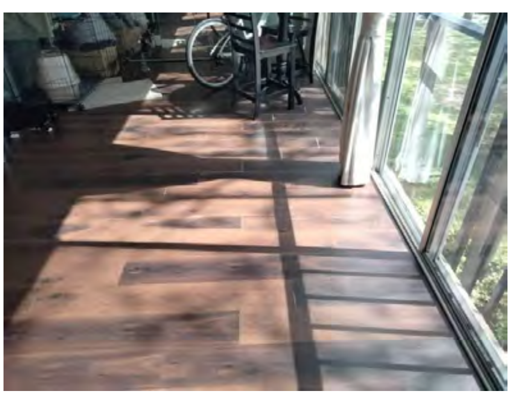

147 Unit 312 - Observed Biological Growth (Wall)

148 Unit 312 - Moisture Reading (Low)



149 Unit 312 - Thermal Imaging (Wall)


150 Unit 318 - Lanai Overview

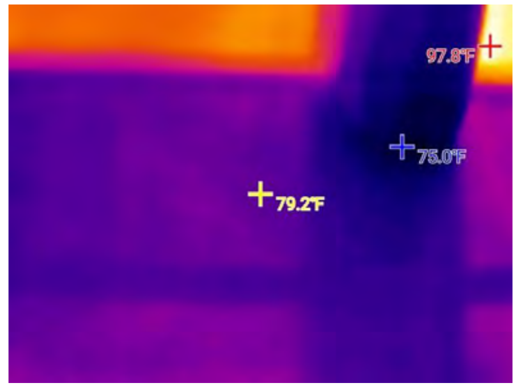

151 Unit 318 - Damaged Flooring Overview


152 Unit 318 - Damaged Flooring Close Up

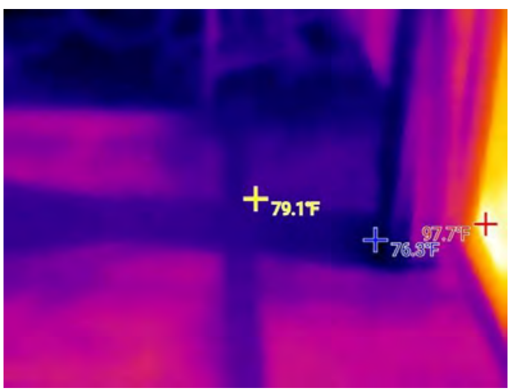
153 Unit 318 - Moisture Reading (High)

154 Unit 318 - Moisture Reading (High)

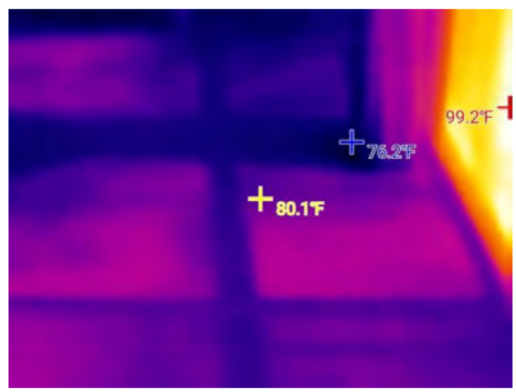
155 Unit 318 - Moisture Reading (High)



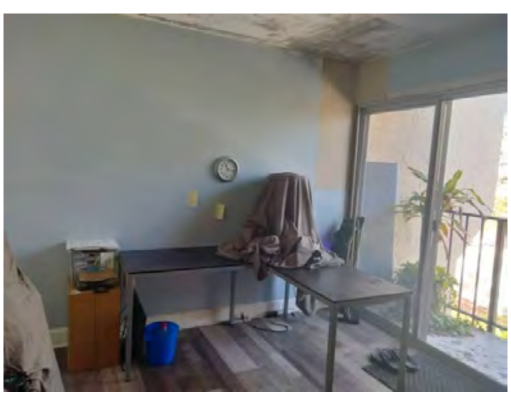
156 Unit 318 - Thermal Imaging (Flooring)



157 Unit 318 - Thermal Imaging (Flooring)



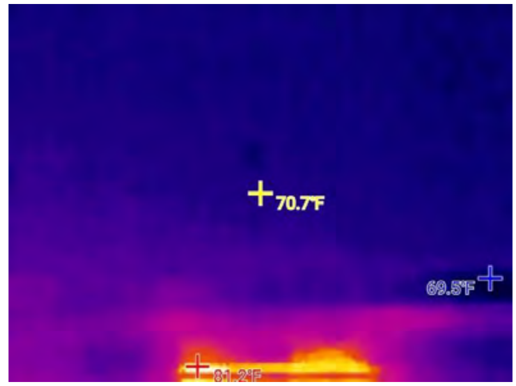
158 Unit 318 - Thermal Imaging (Flooring)



159 Unit 302 - Guest Bedroom Overview

160 Unit 302 - Observed Moisture Staining (Wall)

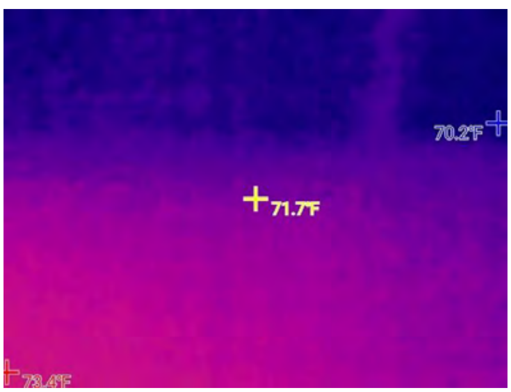
161 Unit 302 - Moisture Reading (Medium)



162 Unit 302 - Thermal Imaging (Wall)

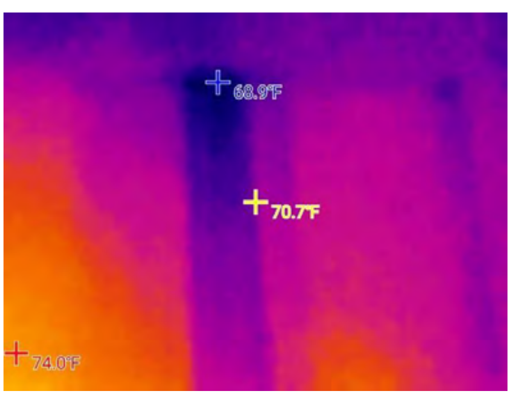
163 Unit 302 - Observed Moisture Staining (Ceiling)

164 Unit 302 - Moisture Reading (High)

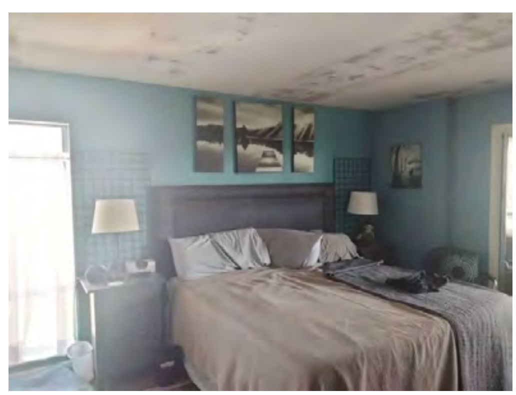


165 Unit 302 - Thermal Imaging (Ceiling)

166 Unit 302 - Observed Biological Growth (Bathroom Wall)



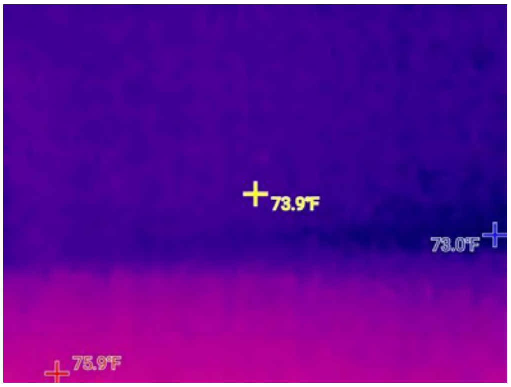
167 Unit 302 - Thermal Imaging (Bathroom Wall)



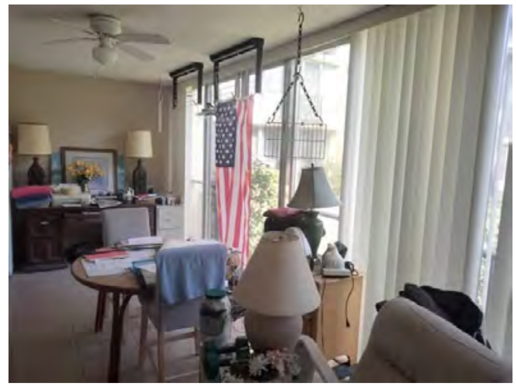
168 Unit 302 - Primary Bedroom Overview

169 Unit 302 - Observed Moisture Staining (Ceiling)

170 Unit 302 - Moisture Reading (High)



171 Unit 302 - Thermal Imaging (Ceiling)



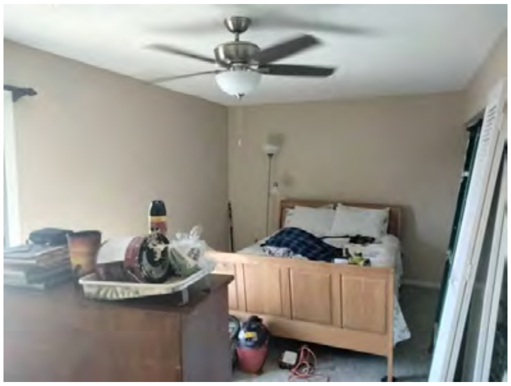
172 Unit 114 - Lanai Overview

173 Unit 114 - Sliding Glass Door Overview

174 Unit 114 - Erosion at Foundation

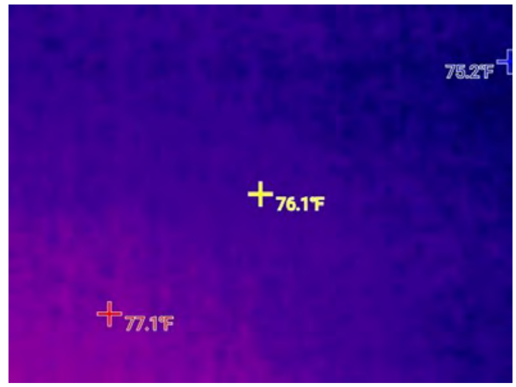
175 Unit 114 - Erosion at Foundation

176 Unit 114 - Settled Exterior Steps


177 Unit 201 - Bedroom Overview


178 Unit 201 - Observed Moisture Staining (Ceiling)

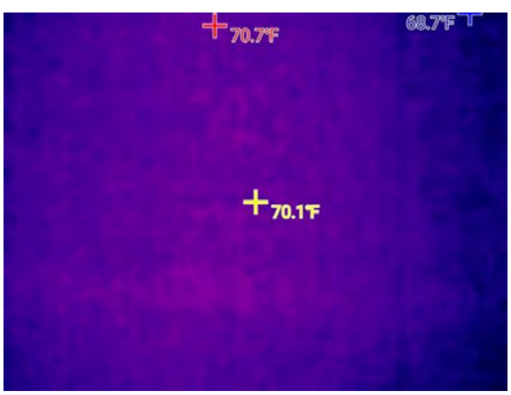
179 Unit 201 - Moisture Reading (Medium)



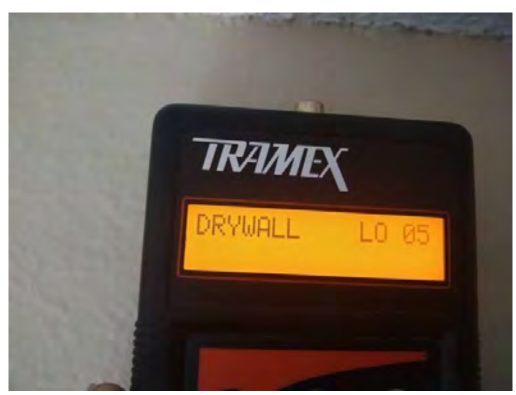
180 Unit 201 - Thermal Imaging (Ceiling)


181 Unit 201 - Observed Moisture Staining (Ceiling)

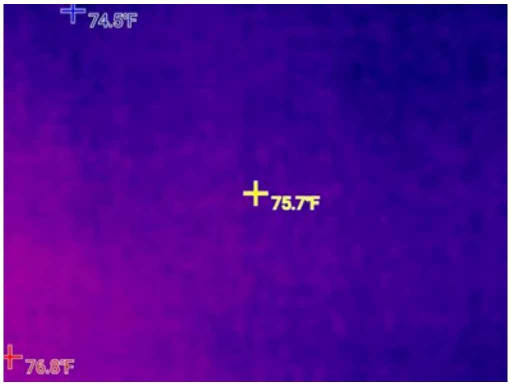
182 Unit 201 - Moisture Reading (Medium)



183 Unit 201 - Thermal Imaging (Ceiling)



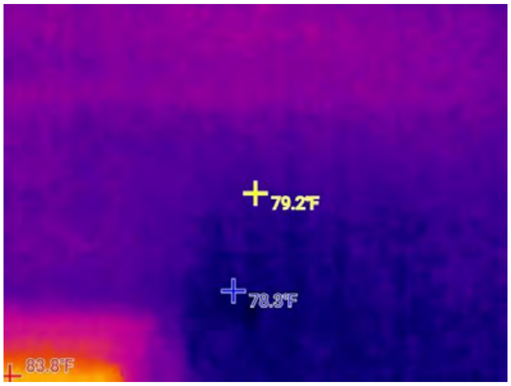
184 Unit 201 - Wall Moisture Reading (Low)



185 Unit 201 - Thermal Imaging (Wall)

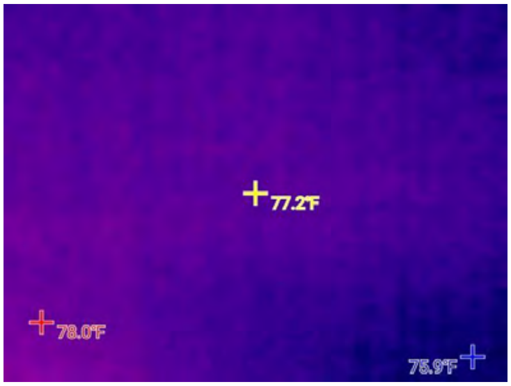
186 Unit 201 - Observed Moisture Staining (Ceiling)

187 Unit 201 - Moisture Reading (Medium)



188 Unit 201 - Thermal Imaging (Ceiling)

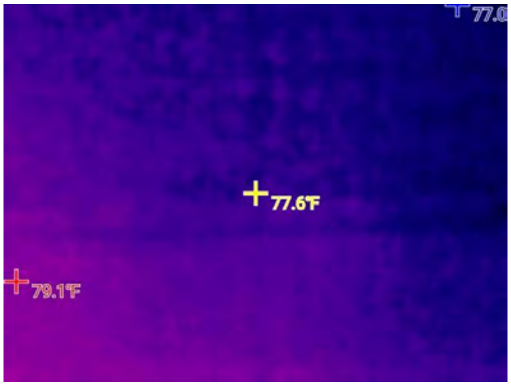
189 Unit 201 - Wall Moisture Reading (Low)



190 Unit 201 - Thermal Imaging (Wall)

191 Unit 201 - Observed Moisture Staining (Ceiling)

192 Unit 201 - Moisture Reading (Medium)



193 Unit 201 - Thermal Imaging (Ceiling)

194 Unit 201 - Lanai Overview

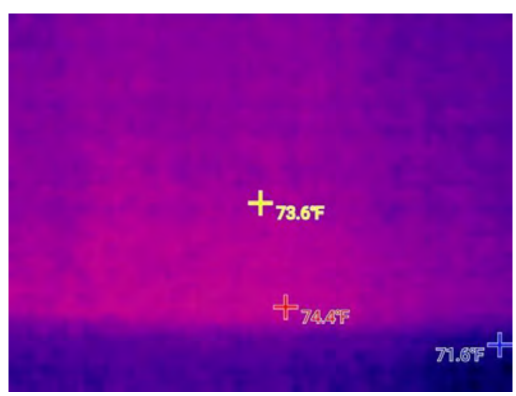
195 Unit 201 - Moisture Staining at Base of Sliding Glass Door

196 Unit 201 - Moisture Staining at Base of Sliding Glass Door

197 Unit 301 - Bedroom Overview

198 Unit 301 - Observed Moisture Staining (Ceiling)

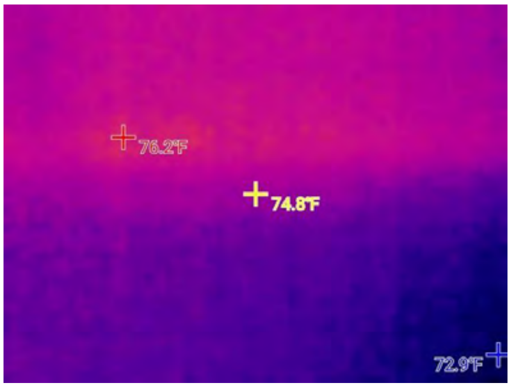
199 Unit 301 - Moisture Reading (Medium)



200 Unit 301 - Thermal Imaging (Ceiling)

201 Unit 301 - Observed Ceiling/Wall Damage

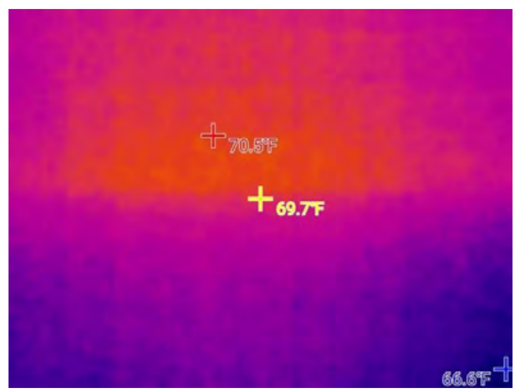
202 Unit 301 - Moisture Reading (Low)



203 Unit 301 - Thermal Imaging (Wall)

204 Unit 301 - Observed Moisture Staining (Ceiling)

205 Unit 301 - Moisture Reading (Low)

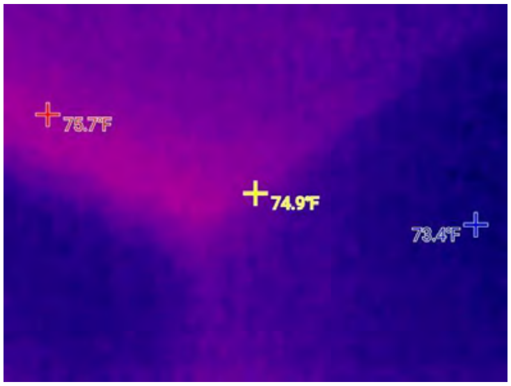


206 Unit 301 - Thermal Imaging (Ceiling)

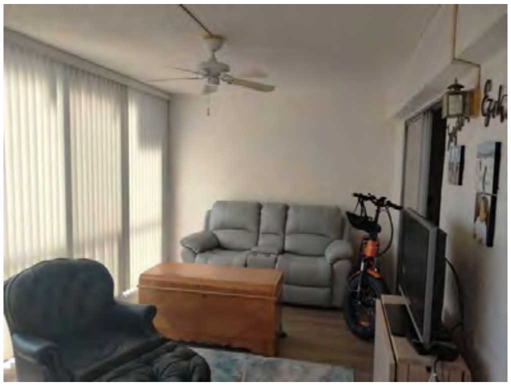
207 Unit 301 - Wall Moisture Reading (Low)

208 Unit 301 - Observed Ceiling Damage

209 Unit 301 - Moisture Reading (Medium)



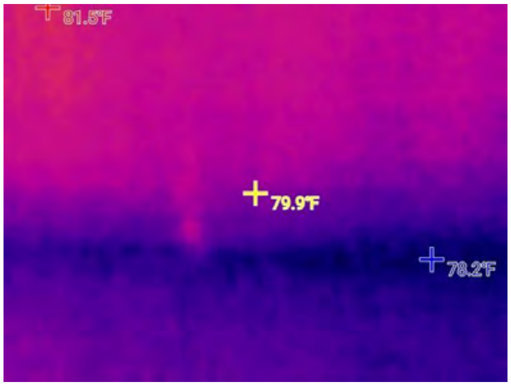
210 Unit 301 - Thermal Imaging (Ceiling)



211 Unit 301 - Lanai Overview

212 Unit 301 - Observed Moisture Staining (Ceiling)

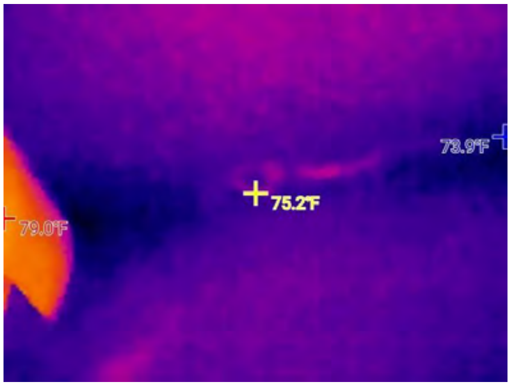
213 Unit 301 - Moisture Reading (Medium)



214 Unit 301 - Thermal Imaging (Ceiling)

215 Unit 301 - Observed Ceiling Damage

216 Unit 301 - Moisture Reading (High)

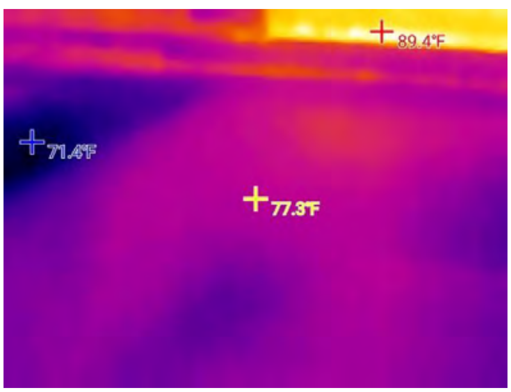


217 Unit 301 - Thermal Imaging (Ceiling)


218 Unit 402 - Lanai Overview


219 Unit 402 - Damaged Flooring Overview

220 Unit 402 - Moisture Reading (Medium)



221 Unit 402 - Thermal Imaging (Flooring)