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## STRUCTURAL INTEGRITY RESERVE STUDY

### Fairway O

4735 Lucerne Lakes Boulevard East  
Lake Worth, Florida 33467

Project Number 2315936

Prepared for

### Fairway O

4735 Lucerne Lakes Boulevard East  
Lake Worth, Florida 33467

A handwritten signature in black ink, appearing to read 'Anthony Zogheib', enclosed in a thin black rectangular border.

Anthony Zogheib  
Project Evaluator

Antoine Boumitri  
Project Manager

August 28, 2023

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## 1.0 EXECUTIVE SUMMARY

Florida Engineering (FE) Consultants performed a Structural Integrity Reserve Study (SIRS) at Fairway O facility, located at 4735 Lucerne Lakes Boulevard East, in Lake Worth, Florida, on July 19, 2023.

This assessment was authorized and performed in general accordance with the latest applicable Florida Building Code and select applicable guidelines of *American Society for Testing and Materials (ASTM) E 2018: Baseline Property Condition Assessment Process*.

### 1.1 Project Identification

<b>Property Name</b>	Fairway O
<b>Property Address</b>	4735 Lucerne Lakes Boulevard E., Lake Worth, Palm Beach County, FL
<b>Type of Facility</b>	Multifamily residential condominium
<b>Construction Date(s)</b>	Circa 1993
<b>Number of Buildings</b>	One residential building
<b>Number of Stories</b>	Four
<b>Number of Units</b>	64 individually owned condominium units
<b>Building(s) Area</b>	Not reported
<b>Superstructure</b>	Reinforced concrete
<b>Roofing System</b>	Low slope (flat) modified bitumen
<b>Exterior Façade</b>	Painted stucco over concrete masonry unit (CMU)
<b>Heating</b>	Forced-air furnaces
<b>Cooling</b>	Split-system condensing units
<b>Electrical Wiring</b>	Copper
<b>Fire Suppression</b>	Fire suppression (partial); portable extinguishers
<b>Wood Destroying Organism</b>	Very Heavy
<b>FEMA Flood Zone</b>	Zone X – Area of Minimal Flood Hazard
<b>Seismic Zone</b>	Zone 0
<b>Tornado</b>	1 - 4
<b>Wind Zone</b>	Zone III – Hurricane susceptible region
<b>Date of Site Visit</b>	July 19, 2023
<b>Reserve Fund Strength</b>	Strong – 149.03%
<b>FEMA Risk Index</b>	Very High (Score 99.71)

## 1.2 Property Description/Background

The Property is improved with one 4-story building, configured to accommodate 64 residential condominium units. The subject improvements were reportedly developed in 1993.

The subject building consists of a reinforced concrete superstructure with CMU perimeter and demising walls. The exterior walls are finished with painted stucco. The roof includes a low-slope (flat) system covered with a modified bitumen membrane. Vertical transportation is provided via exterior stairs and a hydraulic elevator. Interior finishes consist of various materials. Heating, Ventilation, and Air-Conditioning (HVAC) is provided via forced-air furnaces with split-system air-conditioning. Domestic hot water is provided by individual water heaters. The building is equipped with a central fire alarm system, portable fire extinguishers, and partial fire sprinkler suppression system coverage.

## 1.3 Property Condition Summary

Based on our site visit observations, review of documentation listed within this report, and conversations with the facility representatives, we consider this Property to be of good quality construction with average maintenance procedures in place.

Generally, the Property appears to be in good physical condition. Both the exterior and interior appear to be generally adequately maintained, except for those items with remedial recommendations indicated in this report.

## 1.4 Opinion of Remaining Useful Life

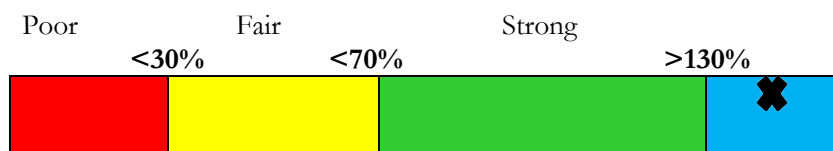
Based on the scope of work and findings of this assessment, it is our opinion that the remaining useful life of the Property is at least 35 years, if the recommended repairs/replacement in this report are made, the physical improvements receive continuing maintenance, the various components are repaired or replaced on a timely basis, and no natural disaster occurs.

## 1.5 Reserve Study Funding Analysis

### Economic Assumptions

Annual Inflation Rate ----- 3.00%

### Reserve Fund Strength (%-Funded)



### Risk of Special Assessment

High                      Medium                      Low

A Reserve Study consists of two parts: the Physical Analysis and the Financial Analysis. The Physical Analysis contains the information about the current condition and repair or replacement cost of the major common area components the association is obligated to maintain. The Financial Analysis contains an evaluation of the association's Reserve balance and a recommended Funding Plan to offset the anticipated Reserve expenses.

The primary responsibility of the Board of Directors is to maintain, protect, and enhance the assets of the association. As the physical assets age and deteriorate, it is important to accumulate financial assets, keeping the two "in balance". The Reserve Study is a document that helps keep the physical and financial assets of the association in balance. This Reserve Study is a broad and generalized budget-planning document. The primary information you will get from this document is a list of your major Reserve components, a finding of the status (strength) of your Reserve Fund, and a recommended Funding Plan. The basic objective of the Reserve Study is to provide a plan to collect funds at a stable rate to offset the predicted irregular Reserve expenses. Setting a stable Reserve contribution rate will ensure that each owner pays their own "fair share" of the ongoing, gradual deterioration of the common areas.

Reserve expenses are the larger, infrequent expenses that require significant advance planning. Operating expenses, on the other hand, are those ongoing daily, weekly, or monthly expenses that occur and recur throughout the year. Small surprises are typically handled as maintenance contingencies, while the larger ones may be covered by insurance or require special assessments.

There is a national-standard four-part test to determine which expense items should be funded through Reserves. This four-part test was provided to the client in the workbook used to help compile the Reserve Component List. First, it must be a common area maintenance responsibility. Second, the component must have a limited life. Third, the limited life must be predictable (not a "surprise" which cannot be accurately anticipated). Fourth, the component must be above a minimum threshold cost. This limits Reserve Components to major, predictable expenses. Most Reserve Studies do not typically Reserve for building foundations and major infrastructure elements since they do not have limited life expectancies. Light bulbs or other small items are usually not listed as Reserve Components since their individual costs are insignificant. Finally, it is usually inappropriate to include unpredictable expenses such as damage due to fire, flood, or earthquake since these typically cannot be considered "reasonably predictable".

There are two generally accepted means of estimating reserves, the Component Funding Analysis, and the Cash Flow Analysis methodologies:

- The Component Funding Analysis, also known as Straight-Line Method, calculates the annual contribution amount for each individual line-item component, by dividing the component's unfunded balance by its remaining useful life. A component's unfunded balance is its replacement cost minus the reserve balance in the component at the beginning of the analysis period. The annual contribution rate for each individual line-item component is then added-up to calculate the total annual contribution rate for this analysis.

- The Cash Flow Analysis, also known as Pooling Method, is a method of calculating reserve contributions where contributions to the reserve funds are designed to offset the variable annual expenditures from the reserve fund. This analysis recognizes interest income attributable to reserve accounts over the period of the analysis. Funds from the beginning balances are pooled together and a yearly contribution rate is calculated to arrive at a positive cash flow and reserve account balance to adequately fund the future projected expenditures throughout the period of the analysis.

## **1.6 Capital Reserve Replacement Analysis Overview**

The function of a Capital Reserve Replacement Analysis is to inform and advise as to the likely capital expenditures for replacement of common elements over the time frame considered by the analysis and the annual contribution levels to the Capital Reserve Replacement Fund calculated as being sufficient to avoid having to levy special assessments or take out a loan to support the predicted capital expenditures.

Capital Reserve Replacement Analyses assume that capital expenditures are funded using regular (e.g., annual, quarterly, or monthly) budgeted contributions to an account set-aside for the sole purpose of funding the replacement of a designated set of common elements (often called the “Capital Reserve Fund”). Common element replacement projects can be deferred. However, such deferrals tend to result in gradual decrease in property values as the infrastructure and appearance of the community facilities degrade over time. Such deferrals often result in the final replacement costs increasing significantly due to more deterioration and damage to other common elements resulting from the failure of the common element to be replaced.

There are several choices and options to consider during the Capital Reserve Replacement Analysis process. In addition to Component Funding Analysis and Cash Flow Analysis methodologies, one important decision to consider is the Funding Goal, although there are several other considerations, including preventative and deferred maintenance and operating budgets, budget thresholds, time window, and statutory requirements.

### Funding Goals

The funding goal helps to determine the methodology used in the Capital Reserve Replacement Analysis and is the principal reflection of the Association’s fiscal policy. Funding goals can be categorized by their fiscal aggressiveness (willingness to risk the need to levy a special assessment or take out a loan) – more aggressive funding goals tend to result in lower annual levels of contribution to the capital reserve fund, with associated higher risks of shortfalls requiring special assessments or loans. There are four basic funding goals used by communities when determining Capital Reserve Fund requirements:

- Baseline Funding is the most aggressive funding goal commonly used by associations. Baseline funding is essentially a special case of threshold funding, where the goal is to never have a negative capital reserve fund balance (in other words the threshold is zero). As this funding goal provides no margin for errors, unexpected or unforeseeable expenses, or market forces that are not in the Association’s favor.

- Full Funding is the most conservative funding goal commonly used by associations. Full funding is best understood as an attempt to maintain the capital reserve fund at or near 100% of the accumulated common element depreciation. Full funding tends to result in over-funding if the community is starting with a capital reserve fund balance less than the current depreciation of its common elements, or to result in under-funding if the community is starting with a capital reserve fund balance greater than the current depreciation of its common elements, unless applied carefully and with the understanding that annual contributions will change over the course of time as overages and shortages are corrected, resulting in an annual contribution recommendation that decreases or increases with the passage of time in all except the simplest cases.
- Statutory Funding is a funding goal (and/or methodology) that the community is legally obligated to meet or exceed. Such funding goals are typically the result of state or local statutes or the result of one or more provisions in the governing documents of the Community Association. The relative aggressiveness of such funding goals will vary depending upon the statute or provision involved.
- Threshold Funding is normally a moderate funding goal. The essential goal of threshold funding is to avoid having a capital reserve fund balance below some predetermined level (the “threshold” or “threshold balance”), which can be determined as a percentage of the total cost to replace the considered common elements, by decree as some absolute value or as some multiple of the annual contribution. The Baseline Funding is essentially a threshold funding goal where the threshold balance equals zero.

Florida Statute 718.112(f)[2] requires that condominium associations fund a reserve account for certain capital and deferred maintenance expenditures. This statute requires all condominium associations to maintain funds for roof replacement, building painting, pavement resurfacing, and any other expenditure which is expected to exceed \$10,000.

Florida Statute 718.112(f)[2] requires that the reserve contribution be computed using a formula which is based upon the estimated remaining useful life and the estimated replacement cost or deferred maintenance expenditure for the component but does not require that a reserve study be conducted to determine the level of funding required. The State of Florida is more lenient regarding reserve funding for homeowner’s associations. Florida statutes do not require reserve funds for homeowners’ associations (unless the association’s governing documents call for a reserve fund and/or reserve study) but does not prohibit including reserve in the proposed budget for the homeowners’ association. Similarly, the proposed operating budget for a homeowners’ association does not require to follow any specific statutory formula but should include the anticipated expenditures for the year.

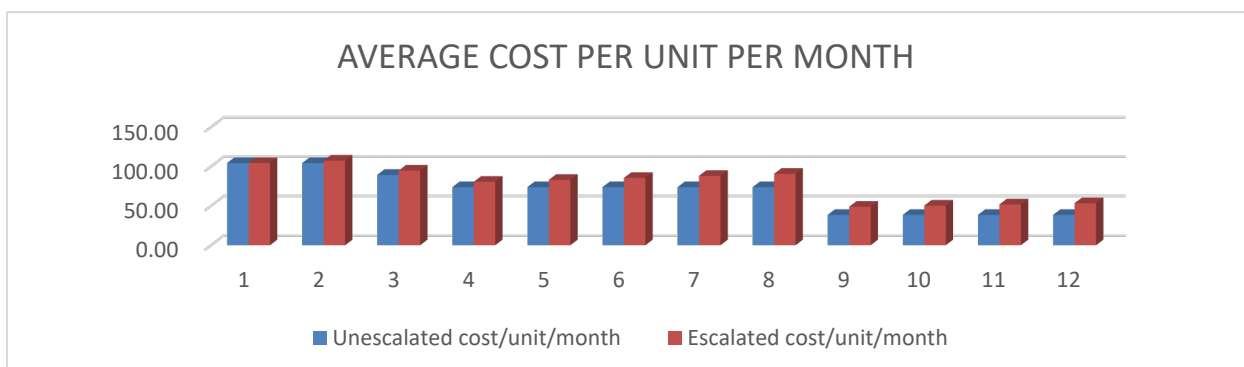
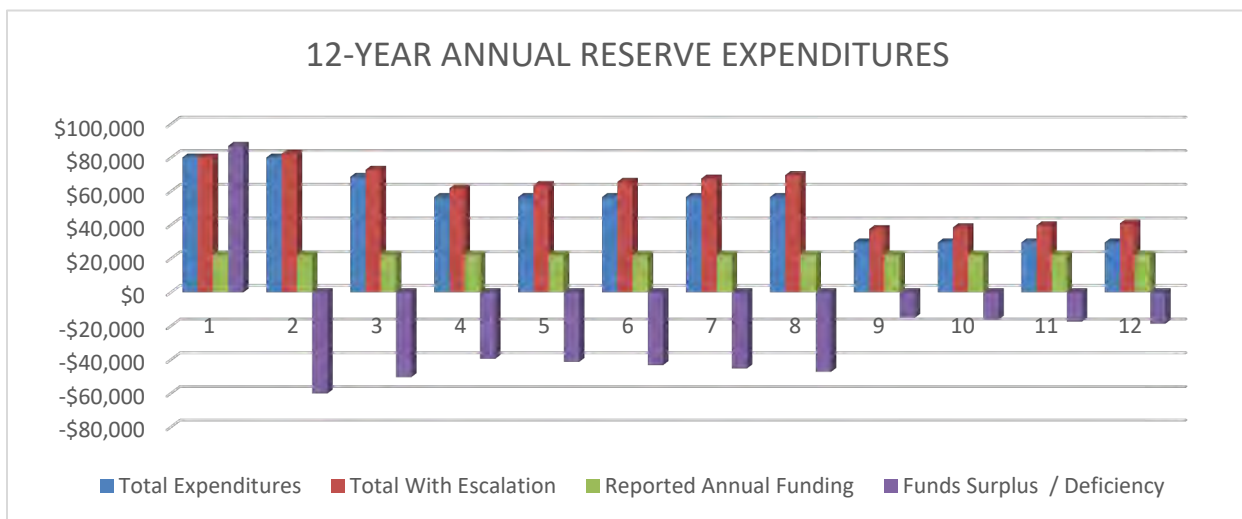
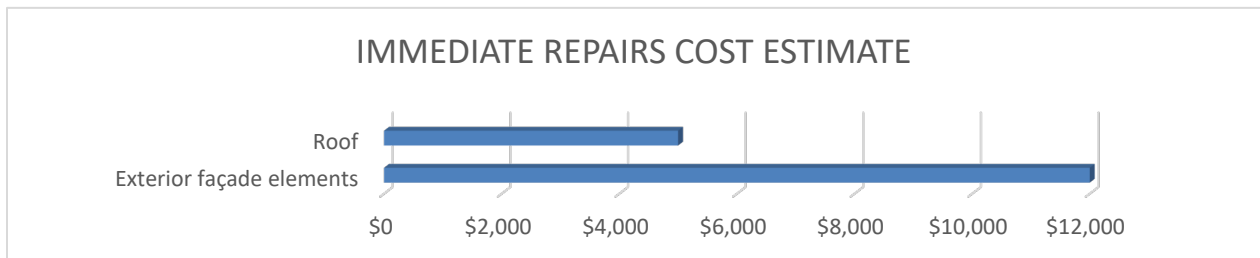
Florida Statute 718.112(f)[3] regulates the use of money collected for reserves, limiting the use of such funds to authorized reserve fund expenditures. A vote is required if reserve funds are used for operating expenses.

## 1.7 Follow-up Recommendations

No additional evaluation is considered necessary at the present time.

## 1.8 Capital Expenditure Summary

While this SIRS looks forward 12 years, we have no expectation that all these expenses will all take place as anticipated. This SIRS needs to be reviewed and updated annually, as necessary, because we expect the timing of these expenses to shift and the size of these expenses to change. We do feel more certain of the timing and cost of near-term expenses than expenses many years away. Please be aware of your near-term expenses, which we can project more accurately than the more distant projections. The figure below summarizes the projected future expenses at your association as defined by your Reserve Component List. A breakdown summary of immediate repairs or replacement reserves is presented in Tables 1 and 2 at the end of this report.





## 2.0 PURPOSE, SCOPE, AND LIMITATIONS

A Structural Integrity Reserve Study (SIRS) has been conducted on July 19, 2023, at Fairway O facility, located at 4735 Lucerne Lakes Boulevard East, in Lake Worth, Florida, hereafter referred to as the "Property".

This assessment was performed using methods and procedures consistent with good commercial or customary practice design to conform to acceptable industry standards. The independent conclusions represent our best professional judgment based on information and data available to us during this assessment. Information regarding operations, conditions, and test data provided by the client or their representatives have been assumed to be correct and complete. Our evaluations, analyses and opinions are not representations regarding, design integrity, structural soundness, or actual value of the Property; nor is it the intention of this report to imply by exclusion from this report that additional work may or may not be required. The conclusions presented are based on the data provided, and observations and conditions that existed on the date of the assessment.

The purpose of this survey and related report is to assist the client in evaluation of the physical aspects of the Property and how its condition may affect the soundness of their financial decisions over time. For this assessment, representative samples of the major independent building components were observed, and the physical condition evaluated. The expected useful life was assessed and the cost for repairs and replacements of significant items was estimated. The exterior of the complex, interior common areas, and a representative sample of tenant spaces were visited. Property management and maintenance staff, when possible, were interviewed for specific information relating to the physical Property, available, maintenance procedures, available drawings, and other documentation. All findings were noted and have been included in the narrative sections of this report. This Report is not intended to address the status of Americans with Disability Act Title III compliance, the presence or absence of hazardous materials or petroleum substances, asbestos, lead, PCBs or toxic soil on this Property.

## 3.0 DEFINITIONS

### 3.1 Immediate and Replacement Reserve Work

***Immediate Repair Work*** – Work that requires immediate action based on its being (i) an existing or potentially significant unsafe condition, (ii) material physical deficiency (iii) poor or deteriorated condition of a critical element or system, (iv) significant building code violation, or (v) a condition that if left “as is,” with an extensive delay in remedying it, has the potential to result in or contribute to a critical element or system failure and will probably result in a significant escalation of its remedial costs.

***Replacement Reserve (Years 1 Through Assessed Term Period)*** – Major recurring probable expenditures, which are neither commonly classified as an operation, nor maintenance expense. Replacement reserves are reasonably predictable both in terms of frequency and cost. However, they may also include components or systems that have an indeterminable life, but nonetheless have a potential liability for failure within an estimated time period.

### 3.2 Condition Evaluation Definitions

- Good:** Average to above-average condition for the building system or materials assessed, with consideration of its age, design, and geographical location. Generally, other than normal maintenance, no work is recommended or required.
- Fair:** Average condition for the building system evaluated. Some work is required or recommended, primarily due to normal aging and wear of the building system, to return the system to a good condition.
- Poor:** Below average condition for the building system evaluated. Significant work should be anticipated to restore the building system or material to an acceptable condition.

### 3.3 Opinion of Costs

The opinion of costs presented is for the repair/replacement of readily visible materials and building system defects that might significantly affect the value of the Property during the loan period. These opinions are based on approximate quantities and values. They do not constitute a warranty that all items, which may require repair or replacement, are included.

Estimated cost opinions presented in this report are from a combination of sources. The primary sources are from Means Repair and Remodeling Cost Data and Means Facilities Maintenance and Repair Cost Data; past invoices or bid documents provided by site management; as well as our experience with costs for similar projects and city cost indexes.

Replacement and Repair Cost estimates are based on approximate quantities. Information furnished by site personnel or the Property management, if presented, is assumed to be reliable. A detailed inventory of quantities for cost estimating is not a part of the scope of this Report.

Actual costs may vary depending on such matters as type and design of remedy; quality of materials and installation; manufacturer of the equipment or system selected; field conditions; whether a physical deficiency is repaired or replaced in whole; phasing of the work; quality of the contractor(s); project management exercised; and the availability of time to thoroughly solicit competitive pricing. In view of these limitations, the costs presented herein should be considered “order of magnitude” and used for budgeting purposes only. Detailed design and contractor bidding are recommended to determine actual cost.

These opinions should not be interpreted as a bid or offer to perform the work. All estimated costs are stated in present value. The recommendations and opinions on cost provided herein are based on the understanding that the facility will continue operating in its present occupancy classification and general quality level unless otherwise stated.

## 4.0 SPECIAL HAZARDS

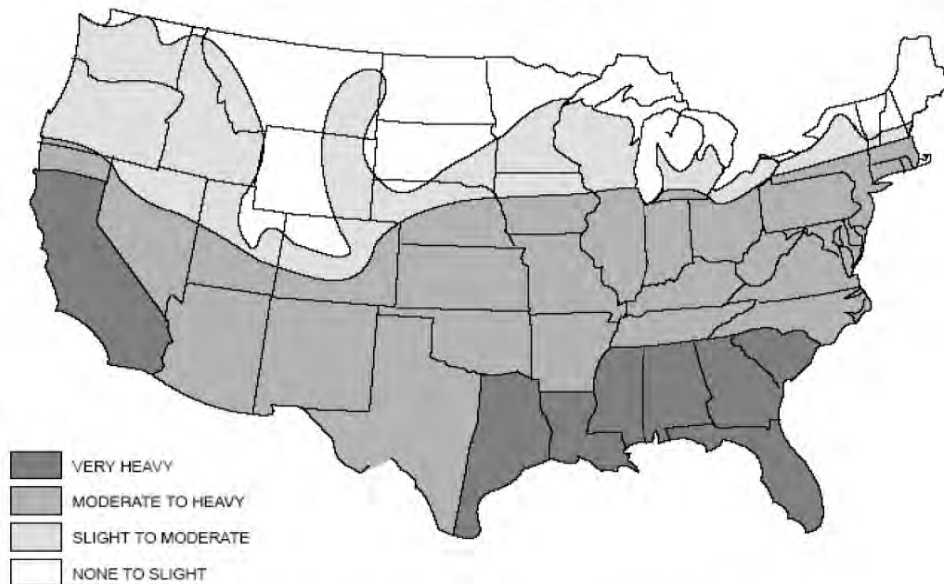
### 4.1 Wood Destroying Organism

General likelihood of termite activity is depicted on the Termite Infestation Probability Map of the Continental United States, which has been adapted from the International Residential Code, 2000 Edition.

Termite Infestation Probability for this Property is Very Heavy.

As part of the on-site assessment, non-invasive and non-exhaustive observations were made for the presence or absence of wood destroying organisms. No evidence of wood destroying organisms was observed. No further action is required at the present time.

**Termite Infestation Probability Map**



Note: Lines defining areas are approximate only. Local conditions may be more or less severe than indicated by the region classification.

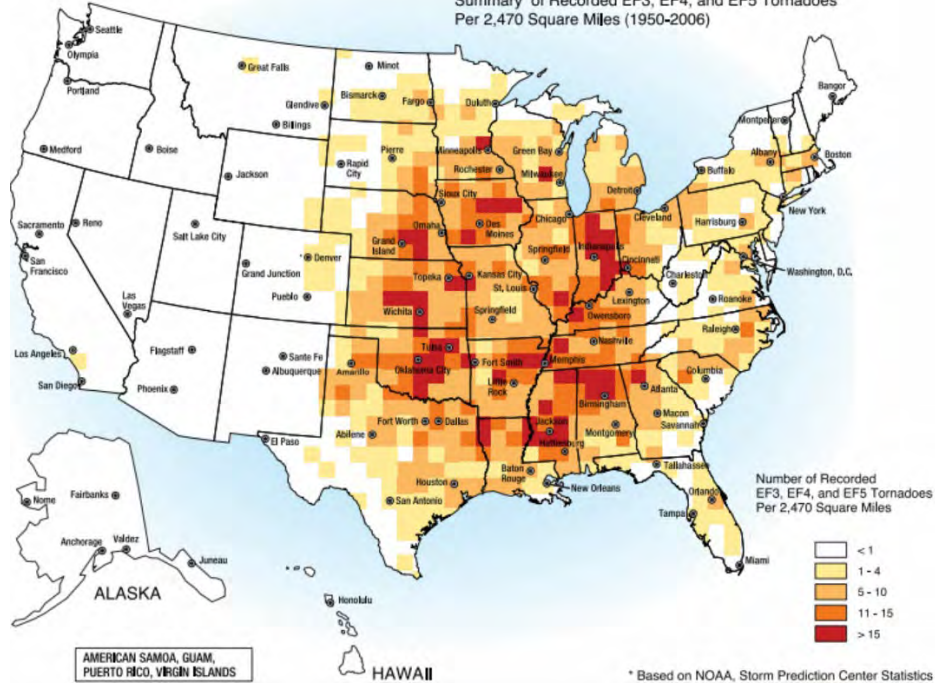
### 4.2 Tornado

According to the map "Tornado Activity in the United States: A summary of Recorded EF3, EF4 and EF5 Tornadoes per 2,470 Square Miles (1950-2006)", the property is in a Zone that is rated as 1 - 4, based on NOAA Storm Prediction Statistics and provided by FEMA.

"Because of extremely high pressures and missile loads that tornadoes can induce, constructing tornado resistant buildings is extremely expensive. Therefore, when consideration is voluntarily given to tornado design, the emphasis typically is on occupant protection" (see "Wind Safety of the Building Envelope," by Tom Smith, AIA, dated June 18, 2010, published by the National Institute of Building Sciences).

### TORNADO ACTIVITY IN THE UNITED STATES\*

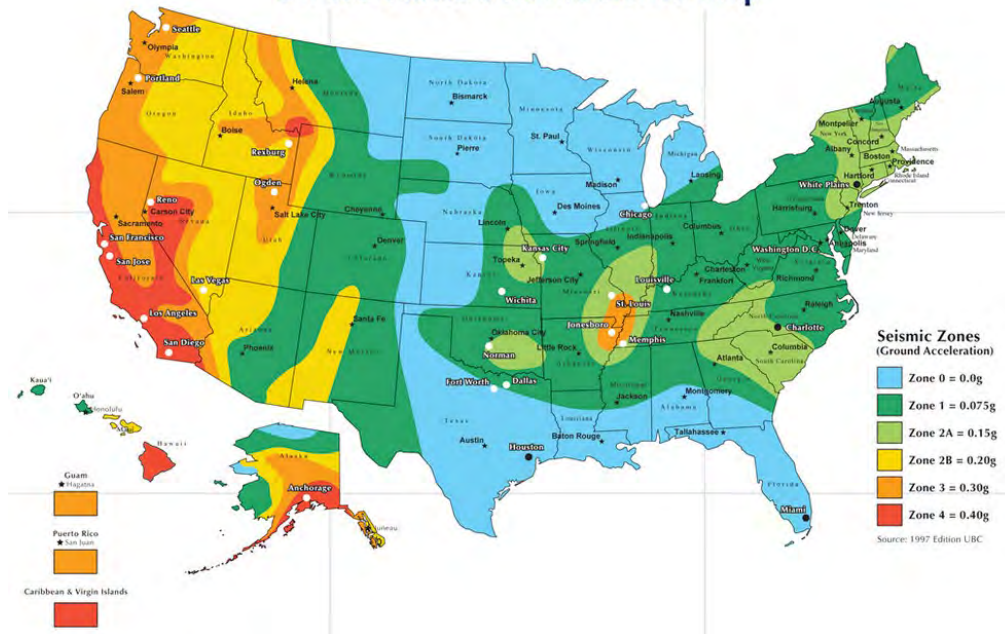
Summary of Recorded EF3, EF4, and EF5 Tornadoes Per 2,470 Square Miles (1950-2006)



### 4.3 Seismic Zone

According to the “Seismic Zoning Map of the United States” published by the Uniform Building Code, dated 1997, the Property is in Seismic Zone 0 – Area of very low probability for damaging ground motion. In this category, wind loads would govern for design of lateral resistance of structures rather than seismic considerations.

### United States Seismic Zones Map



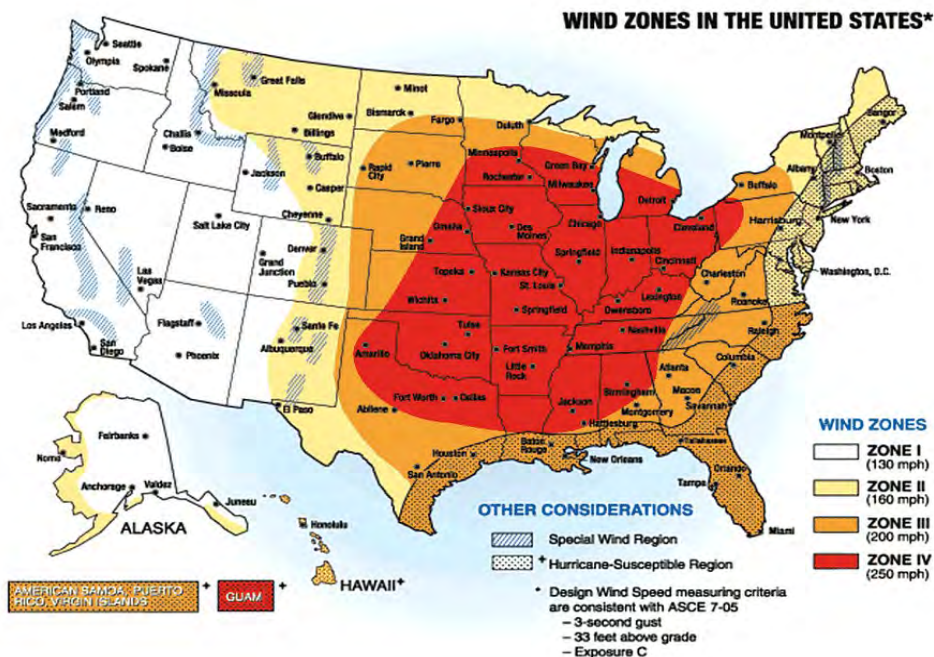
#### 4.4 Flood Zone

According to the Flood Insurance Rate Map (FIRM) Community Panel Number 12099C0760F, effective on October 5, 2017, published by the Federal Emergency Management Agency (FEMA), the Property is in Zone X – Area of Minimal Flood Hazard.



#### 4.5 Wind Zone

According to the “Wind Zones Map of the United States”, as produced by the Federal Emergency Management Administration, the Property is in Wind Zone III – Area with design wind speed (3- second gust) of 200 mph, with is consistent with the ASCE 7-05. The Property is in a Hurricane Susceptible Region.



## 5.0 SITE IMPROVEMENTS

Item	Description/Observations/Comments
Sanitary Sewer	<p>The sanitary sewer system discharges into the municipal sewer system.</p> <p><b>The system appears to be in generally good condition, with no significant problems reported.</b></p> <p><b>Due to hidden conditions, the site sanitary sewer system could not be evaluated. However, the building representative indicated that the system is in good condition, with no problems reported.</b></p>
Domestic Water	<p>A water main located in adjacent street supplies the Property water lines.</p> <p><b>Due to hidden conditions, the site water distribution system could not be evaluated. However, the building representative indicated that the system is in good condition, with no problems reported.</b></p>
Drainage Systems	<p>The site is drained via sheeting action to storm drain inlets with underground piping connected to the municipal storm drain system.</p> <p><b>The Property representative reported that the storm water drainage system is adequate.</b></p>

## 6.0 ARCHITECTURAL AND STRUCTURAL SYSTEMS

Item	Description/Observations/Comments
Foundation	<p>We were not able to observe the foundation structure for the subject building.</p> <p><b>The foundations system could not be directly observed while on-site. However, no apparent signs of significant structural distress were noted within the exposed areas observed.</b></p>
Superstructure	<p>The subject building is a reinforced concrete superstructure with CMU perimeter and demising walls.</p> <p><b>While observation of the upper-level floor slabs, superstructure and roof framing were limited to exposed elements; no signs of excessive deflection of the main structure or movement were noted.</b></p>
Exterior Walls	<p>The exterior walls typically consist of concrete masonry unit (CMU) construction, finished with painted stucco.</p> <p><b>The exterior walls were reportedly repainted in 2016 and were noted to be in good to fair condition. Areas of failure and deficiency noted during our site visit included scattered areas of stucco cracking and efflorescence, and peeling paint. To prevent further deterioration and moisture penetration, repair of the failed areas and repainting of the exterior finishes are recommended. Funds have been allocated in the Immediate Repairs Cost Estimate Table.</b></p> <p><b>In addition, to extend the façade’s life, periodic repainting and waterproofing of the exterior wall surfaces, including any required repairs, are recommended during the evaluation period. Funds have been spread throughout the Replacement Reserves Cost Estimate Table, adopting the straight-line accounting method to ensure the availability of funds at the end of the replaced element’s Expected useful Life (EUL), beyond the evaluation period of this assessment.</b></p>
Roof	<p>The roof at the subject building is classified as low-slope (flat) and is covered with a modified bitumen system. Water runoff is directed to interior drains and overflow scuppers and discharge into the storm water system.</p> <p><b>The roof at the Property was reported to be approximately 12 years old and was observed to be in generally fair condition. Observed deficiencies included isolated areas of failing seams and bubbling. In order to prevent moisture infiltration or further deterioration of the roof membrane, repair of the failed areas is recommended. Funds have been allocated in the Immediate Repairs Cost Estimate Table.</b></p> <p><b>Based on the EUL of 20 years, roof covering replacement should not be anticipated during the evaluation period. However, funds have been spread throughout the Replacement Reserves Cost Estimate Table, adopting the straight-line accounting method to ensure the availability of funds at the end of the replaced element’s EUL, beyond the evaluation period of this assessment.</b></p>



Item	Description/Observations/Comments
<b>Windows</b>	<p>Please note that the extent of the roof evaluation did not include sampling or testing, therefore comments made regarding the condition of the roof are limited to visual observations as well as historical information provided by site contact. Should a more comprehensive investigation be required, the services of a certified roofing consultant should be considered.</p> <p>The windows at the subject building consist of punch-through, aluminum-framed double-glazed, impact units.</p> <p><b>The windows appeared to be in generally good condition with no significant deficiencies noted. Windows at the dwelling units are the responsibility of the condominium owners to maintain and replace.</b></p>
<b>Doors</b>	<p>Entrance doors to the individual apartments consist of solid doors set in wood framing. Balcony doors are aluminum sliding units.</p> <p><b>The doors appeared to be in generally good condition with no significant deficiencies noted. Doors at the dwelling units are the responsibility of the condominium owners to maintain and replace.</b></p>
<b>Patios / Balconies</b>	<p>The patios are cast-in-place concrete. The balconies are supported by the building structural system. They include concrete decking with aluminum railing.</p> <p><b>The patios and balconies appeared to be in good to fair condition. Areas of failure and deficiency noted during our site visit are addressed in conjunction with the exterior façade painting and waterproofing applications.</b></p>
<b>Elevated Walkways</b>	<p>The elevated walkways are supported by the building structural system. They include concrete decking with a aluminum railing.</p> <p><b>The elevated walkways appeared to be in good to fair condition. Areas of failure and deficiency noted during our site visit are addressed in conjunction with the exterior façade painting and waterproofing applications.</b></p>

## 7.0 BUILDING INTERIORS

Item	Description/Observations/Comments
Tenant Spaces	<p>Areas within the interior of the resident units are the responsibility of the individual condominium unit owner.</p> <p><b>The interior of the observed residential units appeared to be in generally good condition with no significant deficiencies noted.</b></p>
Common Areas	<p>Common areas at the Property are limited to mechanical and electrical rooms.</p> <p><b>Common area interiors were noted to be in general condition requiring routine maintenance over the evaluation period.</b></p>

## 8.0 CONVEYANCE SYSTEMS

Item	Description/Observations/Comments
Elevators	<p>The residential building is equipped with one hydraulic elevator, providing access to all floors. The elevator has a rated load capacity of 2,500 pounds. Elevator equipment is in a dedicated elevator equipment room on the ground level.</p> <p><b>The elevator was noted to be in generally good operating condition and is reportedly serviced regularly by an elevator service contractor. The elevator components controls are of original installation and were reportedly in the process of being upgraded / modernized. However, elevator controls typically have an EUL of 25 years. As such, funds for component and control upgrades have been spread throughout the Replacement Reserves Cost Estimate Table, adopting the straight-line accounting method to ensure the availability of funds at the end of the replaced element's EUL beyond the evaluation period of this assessment.</b></p>
Escalators	<p>There are no escalators at the Property.</p>
Stairs	<p>Exterior stairs are poured concrete with closed risers and aluminum.</p> <p><b>The stairs appeared to be in generally good condition, with no significant deficiencies noted, requiring routine maintenance during the evaluation period.</b></p>

## 9.0 MECHANICAL AND ELECTRICAL SYSTEMS

Item	Description/Observations/Comments
HVAC	<p>Cooling for each condominium unit is supplied by an individual electric forced-air furnace with split-system air-conditioning condensing unit.</p> <p><b>HVAC units were reported to be the responsibility of the condominium owners to maintain and replace. As such, no funds have been allocated in the expenditure tables.</b></p>
Plumbing Systems	<p>The building's plumbing systems include the incoming water service and the hot and cold-water piping system; the sanitary sewer including the soil, waste, and vent system.</p> <p>“As-built” plans of the Property were unavailable for review to determine the below ground components; thus, we were unable to physically identify all types of piping used throughout the Property. However, according to available information and observations, supply piping is noted to be copper, and waste and vent piping is Polyvinyl Chloride (PVC).</p> <p><b>The plumbing systems appeared to be in good condition. The water pressure, quantity of hot and cold water, and drainagewere reported to be adequate. No abnormal plumbing problems were reported by the Property representative. With proper maintenance, no significant expenditures are anticipated during the evaluation period.</b></p>
Plumbing Fixtures	<p>The plumbing fixtures are residential grade, typical for this type of occupancy.</p> <p><b>The plumbing fixtures within the dwelling units are the responsibility of the condominium owners to maintain and replace. As such, no funds have been allocated in the expenditure tables.</b></p>
Water Heaters	<p>Domestic hot water is provided by individual electric gallon residential-grade heaters located within each condo unit.</p> <p><b>Water heaters at the dwelling units are reported to be the responsibility of the respective condominium unit owner to maintain and replace. As such, no funds have been allocated in the expenditure tables.</b></p>
Electrical Service	<p>Electrical service enters the building from utility-company owned transformers, providing 125-Ampere, 120/240-Volt, single-phase, three-wire service to the individual units. The distribution wiring was noted to be copper. GFCI outlets were noted in kitchens, bathrooms, and wet areas.</p> <p><b>The electrical system components were observed to be in good condition. In general, the electrical systems for the Property, including main switchboards, transformers, distribution circuit breaker panels, contactors, lighting, and wiring system were noted to be adequately sized for the intended use of the facility.</b></p>

## 10.0 LIFE SAFETY SYSTEMS

Item	Description/Observations/Comments
<b>Fire Protection</b>	<p>The sections of the exterior walkways of the building are protected by a wet-pipe fire sprinkler suppression system. The building is also equipped with a central fire alarm panel.</p> <p>The building is also equipped with battery-powered emergency lighting, illuminated exist signs and dry chemical fire extinguishers.</p> <p><b>The fire suppression system and alarm panel were noted to be in good operating condition.</b></p> <p><b>The central alarm panel has an EUL of 25 years. As such, replacement should be anticipated early in the evaluation period. Funds have been spread throughout the Replacement Reserves Cost Estimate Table, adopting the straight-line accounting method to ensure the availability of funds at the end of the replaced element's EUL, beyond the evaluation period of this assessment.</b></p> <p><b>The emergency lighting, exit signs and fire extinguishers were noted to be in good operating condition.</b></p>

## **11.0 ESTIMATED CAPITAL REPAIR COST TABLES**

Based on our walk-through observations, we make the following comments on Property conditions and deficiencies, including estimates of repair cost.

### **11.1 Immediate Repairs/Deferred Maintenance Costs**

The attached Table 1 - Immediate Repairs Cost Estimate, is an analysis of the estimated cost for immediate repair work defined as Capital expenditure items requiring repair or replacement based on their being (i) an existing or potentially significant unsafe condition, (ii) material physical deficiency (iii) poor or deteriorated condition of a critical element or system, (iv) significant building code violation, or (v) a condition that if left “as is,” with an extensive delay in remedying it, has the potential to result in or contribute to a critical element or system failure and will probably result in a significant escalation of its remedial cost.

### **11.2 Replacement Reserve Analysis**

The attached Table 2 - Replacement Reserves Cost Estimate is an analysis of the estimated cost for normally anticipated replacement for the major components of the improvements during the next twelve (12) years. The remaining life values are based on published historical performance data for comparable items with consideration for the present condition and reported service history. The costs are provided with a 3% inflation factor for future expenditures.

The projected expenses are based on statistical assumptions. In fact, actual schedules may vary from those projected by the Table, but such variances should not significantly alter the totals shown. The reserve cost estimate assumes that the Immediate Repairs items listed in this Report will be completed within the next 12 months depending on specific priority. Estimated costs assume that the repair or replacement work is contracted out by the Property management and, in most cases, do not include a general contractor’s fee. It is assumed that, given the current level of on-site staffing and in-house expertise, most of the work included in the Table would not be completed by on-site maintenance personnel.

### **11.3 Reliance**

All reports, both verbal and written, are for the benefit of Fairway O. This report has no other purpose and may not be relied upon by any other person or entity without the written consent of Florida Engineering.

# TABLES

August 28, 2023

**IMMEDIATE REPAIRS COST ESTIMATE**

PROJECT NO.: 2315936

Fairway O  
 4735 Lucerne Lakes Boulevard East  
 Lake Worth, FL 33467

Property Type: **Multifamily**  
 Number of Stories: **4**  
 Units: **64**  
 Number of Buildings: **1**  
 Reserve Term: **12**  
 Actual Property Age: **30**

Item No.	Item Description	Quantity	Unit	Cost	Totals	Existing Banalce	Remaining Funds	Comments
1	Exterior façade elements	1	LS	\$12,000.00	\$12,000			Repair / seal stucco crack and efflorescence check-coat
2	Roof	1	LS	\$5,000.00	\$5,000			Repair failing roof areas
					<b>Subtotal</b>	<b>\$144,711.00</b>	<b>\$127,711.00</b>	
		<b>Total Immediate Repairs</b>			<b>\$17,000</b>			
			<b>Cost Per Unit</b>		<b>\$265.63</b>			



8/28/2023

**REPLACEMENT RESERVE COST ESTIMATES**

PROJECT NO.: 2315936

Fairway O  
 4735 Lucerne Lakes Boulevard East  
 Lake Worth, FL 33467

Property Type: **Multifamily**  
 Number of Stories: **4**  
 Units: **64**  
 Number of Buildings: **1**  
 Reserve Term: **12**  
 Actual Property Age: **30**

Item No	Item Description	EUL	Eff. Age	RUL	Quantity	Unit	Unit Cost	Existing Balance	Remaining Funds after Yr 1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Cumulative		
1	Exterior walls painting/waterproofing	8	5	3	64	Unit	\$900.00	\$29,749.00	(\$6,451)	\$19,200	\$19,200	\$19,200	\$7,200	\$7,200	\$7,200	\$7,200	\$7,200	\$7,200	\$7,200	\$7,200	\$7,200	\$7,200	\$122,400	
2	Roof covering - low-slope	20	12	8	30,000	SF	\$12.00	\$116,650.00	\$71,650	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$18,000	\$18,000	\$18,000	\$18,000	\$432,000	
3	Elevator component upgrades	25	0	25	1	LS	\$85,000.00	\$0.00	(\$3,400)	\$3,400	\$3,400	\$3,400	\$3,400	\$3,400	\$3,400	\$3,400	\$3,400	\$3,400	\$3,400	\$3,400	\$3,400	\$3,400	\$3,400	\$40,800
4	Central alarm system	25	23	2	1	Each	\$25,000	\$0.00	(\$12,500)	\$12,500	\$12,500	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$35,000
	<b>Immediate Repairs Total</b>						<b>\$17,000.00</b>																	
								<b>\$144,711.00</b>	<b>\$49,299.00</b>															
	<b>Total Expenditures</b>									<b>\$80,100</b>	<b>\$80,100</b>	<b>\$68,600</b>	<b>\$56,600</b>	<b>\$56,600</b>	<b>\$56,600</b>	<b>\$56,600</b>	<b>\$56,600</b>	<b>\$56,600</b>	<b>\$29,600</b>	<b>\$29,600</b>	<b>\$29,600</b>	<b>\$29,600</b>	<b>\$630,200</b>	
	Escalation Factor per year				3.00%					\$0	\$2,403	\$4,178	\$5,248	\$7,104	\$9,015	\$10,983	\$13,011	\$7,896	\$9,021	\$10,180	\$11,373			
	<b>Total With Escalation</b>									<b>\$80,100</b>	<b>\$82,503</b>	<b>\$72,778</b>	<b>\$61,848</b>	<b>\$63,704</b>	<b>\$65,615</b>	<b>\$67,583</b>	<b>\$69,611</b>	<b>\$37,496</b>	<b>\$38,621</b>	<b>\$39,780</b>	<b>\$40,973</b>	<b>\$720,613</b>		
	<b>Reported Annual Funding</b>									<b>\$22,372</b>	<b>\$22,372</b>	<b>\$22,372</b>	<b>\$22,372</b>	<b>\$22,372</b>	<b>\$22,372</b>	<b>\$22,372</b>	<b>\$22,372</b>	<b>\$22,372</b>	<b>\$22,372</b>	<b>\$22,372</b>	<b>\$22,372</b>	<b>\$22,372</b>	<b>\$22,372</b>	
	<b>Funds Surplus / Deficiency</b>									<b>\$86,983</b>	<b>(\$60,131)</b>	<b>(\$50,406)</b>	<b>(\$39,476)</b>	<b>(\$41,332)</b>	<b>(\$43,243)</b>	<b>(\$45,211)</b>	<b>(\$47,239)</b>	<b>(\$15,124)</b>	<b>(\$16,249)</b>	<b>(\$17,408)</b>	<b>(\$18,601)</b>			
	<b>Reserve Strength Percent Funded</b>						149.03%																	
	Cost Per Unit (escalated)									1,251.56	1,289.11	1,137.15	966.38	995.37	1,025.23	1,055.99	1,087.67	585.88	603.46	621.56	640.21			
	<b>Unescalated cost/unit/month</b>									<b>104.30</b>	<b>104.30</b>	<b>89.32</b>	<b>73.70</b>	<b>73.70</b>	<b>73.70</b>	<b>73.70</b>	<b>73.70</b>	<b>38.54</b>	<b>38.54</b>	<b>38.54</b>	<b>38.54</b>	<b>38.54</b>	<b>38.54</b>	
	<b>Escalated cost/unit/month</b>									<b>104.30</b>	<b>107.43</b>	<b>94.76</b>	<b>80.53</b>	<b>82.95</b>	<b>85.44</b>	<b>88.00</b>	<b>90.64</b>	<b>48.82</b>	<b>50.29</b>	<b>51.80</b>	<b>53.35</b>	<b>53.35</b>	<b>53.35</b>	

## PHOTOGRAPHIC DOCUMENTATION

**PHOTO 1**

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PROPERTY IDENTIFICATION SIGNAGE



**PHOTO 2**

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GENERAL VIEW OF PROPERTY



**PHOTO 3**

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GENERAL VIEW OF BUILDING EXTERIOR FINISHES



**PHOTO 4**

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VIEW OF BUILDING EXTERIOR FINISHES



**PHOTO 5**

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VIEW OF BUILDING EXTERIOR FINISHES



**PHOTO 6**

---

VIEW OF ELEVATED WALKWAY



**PHOTO 7**

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VIEW OF EXTERIOR STAIRS



**PHOTO 8**

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VIEW OF ROOF COVERING



**PHOTO 9**

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GENERAL VIEW OF ROOF COVERING



**PHOTO 10**

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VIEW OF ROOF DRAIN



**PHOTO 11**

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VIEW OF HVAC EQUIPMENT



**PHOTO 12**

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VIEW OF DOMESTIC WATER COPPER PIPING



**PHOTO 13**

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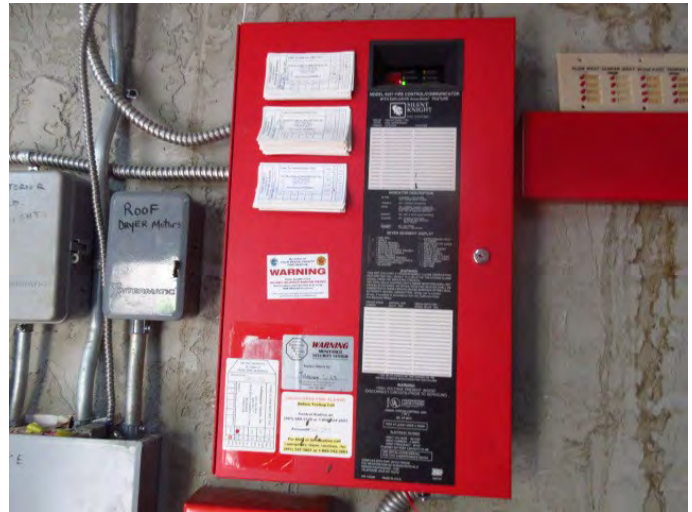
VIEW OF ELECTRICAL EQUIPMENT



**PHOTO 14**

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VIEW OF CENTRAL ALARM PANEL



**PHOTO 15**

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VIEW OF FIRE EXTINGUISHER



**PHOTO 16**

---

VIEW OF ELEVATOR EQUIPMENT



**PHOTO 17**

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VIEW OF LIFE / SAFETY EQUIPMENT



**PHOTO 18**

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MINOR EFFLORESCENCE ON FAÇADE





**PHOTO 19**

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VIEW OF DAMAGED EXTERIOR WALL



**PHOTO 20**

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DAMAGED UPPER-LEVEL WALKWAY SLAB AT RAILING



**PHOTO 21**

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VIEW OF FAILING ROOF MEMBRANE



SUPPORTING DOCUMENTATION

FAIRWAY CLUB CONDOMINIUM "O" ASSOCIATION, INC.  
**APPROVED BUDGET**  
 FOR THE PERIOD FROM JANUARY 1, 2023 TO DECEMBER 31, 2023  
 BASED ON 64 HOMES

	<u>2023 Approved Budget</u>	<u>2023 Monthly</u>	<u>2022 Approved Budget</u>	
<b>OPERATING EXPENSES:</b>				
Management Fees	\$6,452	\$538	\$6,204	
Office/Misc. Expenses	\$2,330	\$194	\$2,330	
Licenses & Taxes	\$423	\$35	\$423	
Administration of Association	N/A	N/A	N/A	
Rent/Rec & Other Commonly Used Facilities	N/A	N/A	N/A	
Taxes On Association Property	N/A	N/A	N/A	
Operating Capital	N/A	N/A	N/A	
Other Expenses	N/A	N/A	N/A	
Taxes On Leased Areas	N/A	N/A	N/A	
Security Provisions	N/A	N/A	N/A	
Accounting Fees	\$2,500	\$208	\$2,500	
Attorney	\$2,500	\$208	\$2,500	
Insurance	\$70,295	\$5,858	\$55,000	
Division Fees	\$768	\$64	\$768	
Bad Debt Expense	\$2,500	\$208	\$2,500	
Miscellaneous	\$300	\$25	\$300	
Electric	\$4,100	\$342	\$4,100	
Water & Sewer Service	\$31,204	\$2,600	\$26,006	
Telephone (Elevator)	\$400	\$33	\$400	
Trash Collection	\$2,368	\$197	\$2,368	
Fire Equipmt. Maint.	\$1,000	\$83	\$1,000	
Landscape Improvements	\$920	\$77	\$920	
Pest Control	\$3,000	\$250	\$3,000	
Backflow Device	\$500	\$42	\$500	
Hurricane Damage	\$0	\$0	\$0	
Building Inspections	\$16,000	\$1,333	\$0	
Building Maintenance	\$9,300	\$775	\$9,300	
Roof Fan Motors	\$2,500	\$208	\$2,500	
Elevator Maintenance	\$3,000	\$250	\$3,000	
Prior Year Surplus	(\$20,000)	(\$1,667)	\$0	
Janitorial Expenses	<u>\$7,000</u>	<u>\$583</u>	<u>\$7,000</u>	
<b>TOTAL OPERATING EXPENSES</b>	<b><u>\$149,360</u></b>	<b><u>\$12,447</u></b>	<b><u>132,619</u></b>	
<b>OTHER ASSOCIATION FEES:</b>				
	<b>per unit</b>		<b>per unit</b>	
Master Assoc. Fees	\$12,675	\$1,056	\$12,675	
(per unit)	\$198	\$16.50	\$16.50	
Recreation Assoc. Fees	\$75,906	\$6,326	64,166	
(Exterior per unit)	\$1,288 )	\$107.35	\$87.06	
(Interior per unit)	\$1,171 )	\$97.62	\$83.20	
P.O.A. Fees	\$81,075	\$6,756	91,250	
(per unit)	\$1,267	\$105.57	\$118.82	
<b>TOTAL OTHER ASSOCIATION FEES</b>	<b><u>\$169,656</u></b>	<b><u>\$14,138</u></b>	<b><u>168,091</u></b>	
<b>RESERVES:</b>				
	<b>Estimated</b>		<b>Estimated/</b>	
	<b>Fund</b>		<b>Remaining/</b>	
	<b>Balance</b>		<b>Life</b>	
	<b>12/31/22</b>		<b>7 years/</b>	
	<b>Replacement</b>		<b>5</b>	
	<b>Amount</b>		<b>20 years /</b>	
Paint	\$2,000	\$27,936	10	4,813
	-	-	1	-
Roof	\$237,500	\$108,778	20 years /	12,872
	-	-	10	-
Landscape	\$12,500	\$12,500	20 years /	0
	-	-	1	-
Awning	\$7,997	\$7,997	5 years /	0
	-	-	1	-
Elevator	\$85,000	\$70,941	30 years /	4,686
	-	-	3	-
*****				
<b>TOTAL RESERVES</b>		<b><u>\$22,372</u></b>		<b><u>\$1,864</u></b>
				<b><u>22,233</u></b>
<b>TOTAL EXPENSES &amp; RESERVES</b>		<b><u>\$341,388</u></b>		<b><u>\$28,449</u></b>
				<b><u>\$322,943</u></b>
<b>ASSESSMENTS:</b>				
	<b>2023</b>	<b>2023</b>	<b>2022</b>	<b>2022</b>
	<b>INTERIOR</b>	<b>EXTERIOR</b>	<b>INTERIOR</b>	<b>EXTERIOR</b>
	<b>(56 HOMES)</b>	<b>(8 HOMES)</b>	<b>(56 HOMES)</b>	<b>(8 HOMES)</b>
FW-O	\$130,690.00	\$18,670.00	\$116,041.63	\$16,577.38
MASTER	\$11,090.63	\$1,584.38	\$11,090.63	\$1,584.38
REC	\$65,600.64	\$10,305.60	\$55,910.40	\$8,357.76
P.O.A.	\$70,940.19	\$10,134.31	\$79,843.75	\$11,406.25
RESERVES	<u>\$19,575.52</u>	<u>\$2,796.50</u>	<u>\$19,453.88</u>	<u>\$2,779.13</u>
<b>ANNUALLY</b>	<b><u>\$297,896.97</u></b>	<b><u>\$43,490.79</u></b>	<b><u>\$282,340.28</u></b>	<b><u>\$40,704.89</u></b>
<b>PER UNIT</b>	<b><u>\$5,319.59</u></b>	<b><u>\$5,436.35</u></b>	<b><u>\$5,041.79</u></b>	<b><u>\$5,088.11</u></b>
<b>PER MONTH</b>	<b><u>\$443.30</u></b>	<b><u>\$453.03</u></b>	<b><u>\$420.15</u></b>	<b><u>\$424.01</u></b>

\*\*\*Reserves are based on estimates. A professional engineer was not hired.

\*\*\*\*\*

# National Risk Index



Palm Beach County, Florida

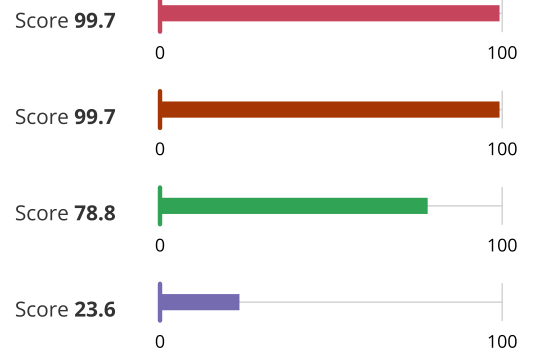
# Summary

Risk Index is **Very High**

Expected Annual Loss is **Very High**

Social Vulnerability is **Relatively High**

Community Resilience is **Relatively Low**

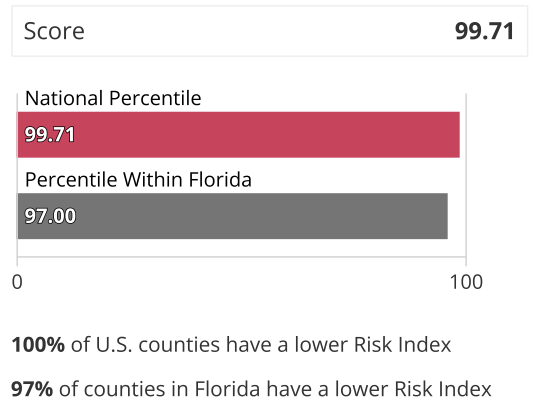
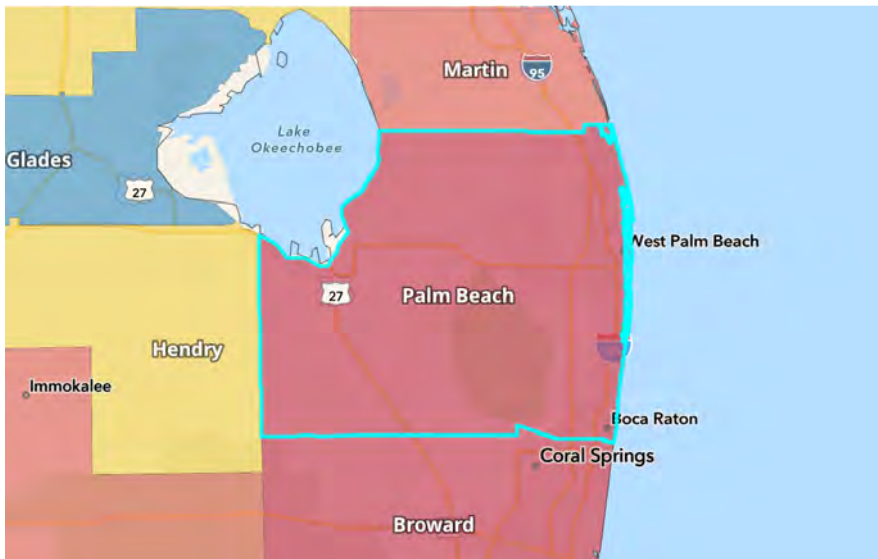


**While reviewing this report, keep in mind that low risk is driven by lower loss due to natural hazards, lower social vulnerability, and higher community resilience.**

For more information about the National Risk Index, its data, and how to interpret the information it provides, please review the **About the National Risk Index** and **How to Take Action** sections at the end of this report. Or, visit the National Risk Index website at [hazards.fema.gov/nri/learn-more](https://hazards.fema.gov/nri/learn-more) to access supporting documentation and links.

## Risk Index

The Risk Index rating is **Very High** for **Palm Beach County, FL** when compared to the rest of the U.S.



**Risk Index Legend**

- Very High (Red)
- Relatively High (Light Red)
- Relatively Moderate (Yellow)
- Relatively Low (Light Blue)
- Very Low (Dark Blue)
- No Rating (White)
- Not Applicable (Light Gray)
- Insufficient Data (Dark Gray)

# Hazard Type Risk Index

Hazard type Risk Index scores are calculated using data for only a single hazard type, and reflect a community's Expected Annual Loss value, community risk factors, and the adjustment factor used to calculate the risk value.

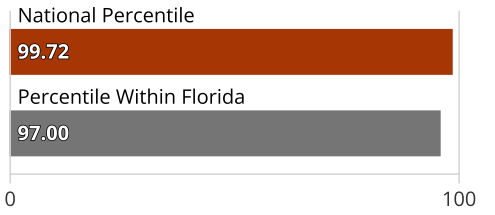
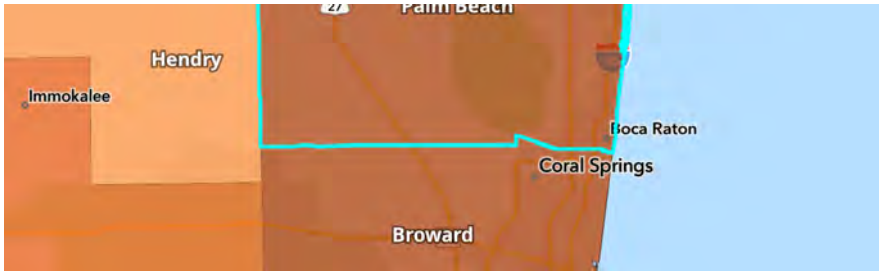
Hazard Type	EAL Value	Social Vulnerability	Community Resilience	CRF	Risk Value	Score
<b>Hurricane</b>	\$863,810,897	Relatively High	Relatively Low	1.18	\$1,017,083,784	99.9
<b>Lightning</b>	\$8,534,482	Relatively High	Relatively Low	1.18	\$10,554,219	99.8
<b>Riverine Flooding</b>	\$8,341,332	Relatively High	Relatively Low	1.18	\$10,260,818	96.4
<b>Tornado</b>	\$7,478,593	Relatively High	Relatively Low	1.18	\$8,871,578	92.6
<b>Drought</b>	\$7,387,282	Relatively High	Relatively Low	1.18	\$8,464,025	99
<b>Wildfire</b>	\$7,707,022	Relatively High	Relatively Low	1.18	\$6,982,967	96.8
<b>Cold Wave</b>	\$760,329	Relatively High	Relatively Low	1.18	\$877,435	91.3
<b>Strong Wind</b>	\$664,419	Relatively High	Relatively Low	1.18	\$837,209	75
<b>Earthquake</b>	\$286,460	Relatively High	Relatively Low	1.18	\$336,728	63.9
<b>Coastal Flooding</b>	\$206,704	Relatively High	Relatively Low	1.18	\$201,495	56.3
<b>Landslide</b>	\$122,400	Relatively High	Relatively Low	1.18	\$138,000	85.3
<b>Hail</b>	\$73,139	Relatively High	Relatively Low	1.18	\$91,001	46.1
<b>Heat Wave</b>	\$0	Relatively High	Relatively Low	1.18	\$0	0
<b>Winter Weather</b>	\$0	Relatively High	Relatively Low	1.18	\$0	0
<b>Avalanche</b>	--	Relatively High	Relatively Low	1.18	--	--
<b>Ice Storm</b>	--	Relatively High	Relatively Low	1.18	--	--
<b>Tsunami</b>	--	Relatively High	Relatively Low	1.18	--	--
<b>Volcanic Activity</b>	--	Relatively High	Relatively Low	1.18	--	--

## Expected Annual Loss

In **Palm Beach County, FL**, expected loss each year due to natural hazards is **Very High** when compared to the rest of the U.S.



Score **99.72**



100% of U.S. counties have a lower Expected Annual Loss

97% of counties in Florida have a lower Expected Annual Loss

**Expected Annual Loss Legend**

- Very High
- Relatively High
- Relatively Moderate
- Relatively Low
- Very Low
- No Expected Annual Losses
- Not Applicable
- Insufficient Data

**Composite Expected Annual Loss** **\$905,373,060.08**

**Composite Expected Annual Loss Rate National Percentile** **92.5**

Building EAL	<b>\$820,336,672.03</b>	Population EAL	<b>5.78 fatalities</b>
Building EAL Rate	<b>\$1 per \$290.82 of building value</b>	Population EAL Rate	<b>1 per 257.73K people</b>
Agriculture EAL	<b>\$17,997,110.79</b>	Population Equivalence EAL	<b>\$67,039,277.26</b>
Agriculture EAL Rate	<b>\$1 per \$57.47 of agriculture value</b>		

## Expected Annual Loss for Hazard Types

Expected Annual Loss scores for hazard types are calculated using data for only a single hazard type, and reflect a community's relative expected annual loss for only that hazard type. **14 of 18** hazard types contribute to the expected annual loss for **Palm Beach County, FL**.

Hazard Type	Expected Annual Loss Rating	EAL Value	Score
<b>Hurricane</b>	Very High	\$863,810,897	99.9
<b>Lightning</b>	Very High	\$8,534,482	99.8
<b>Riverine Flooding</b>	Relatively High	\$8,341,332	96.3
<b>Wildfire</b>	Relatively High	\$7,707,022	97.3
<b>Tornado</b>	Relatively High	\$7,478,593	92.1
<b>Drought</b>	Relatively High	\$7,387,282	99.1
<b>Cold Wave</b>	Relatively High	\$760,329	91.4
<b>Strong Wind</b>	Relatively Moderate	\$664,419	73.6
<b>Earthquake</b>	Relatively Low	\$286,461	62.6
<b>Coastal Flooding</b>	Relatively Low	\$206,704	57.9
<b>Landslide</b>	Relatively Moderate	\$122,400	84.3
<b>Hail</b>	Relatively Low	\$73,139	46.5
<b>Heat Wave</b>	No Expected Annual Losses	\$0	0.0
<b>Winter Weather</b>	No Expected Annual Losses	\$0	0.0
<b>Avalanche</b>	Not Applicable	--	--
<b>Ice Storm</b>	Not Applicable	--	--
<b>Tsunami</b>	Insufficient Data	--	--
<b>Volcanic Activity</b>	Not Applicable	--	--



## Expected Annual Loss Values

Hazard Type	Total	Building Value	Population Equivalence	Population	Agriculture Value
<b>Avalanche</b>	--	--	--	--	--
<b>Coastal Flooding</b>	\$206,704	\$48,048	\$158,656	0.01	n/a
<b>Cold Wave</b>	\$760,329	\$35,485	\$167,032	0.01	\$557,812
<b>Drought</b>	\$7,387,282	n/a	n/a	n/a	\$7,387,282
<b>Earthquake</b>	\$286,460	\$206,147	\$80,314	0.01	n/a
<b>Hail</b>	\$73,139	\$7,037	\$61,165	0.01	\$4,936
<b>Heat Wave</b>	\$0	\$0	\$0	0.00	\$0
<b>Hurricane</b>	\$863,810,897	\$802,168,975	\$56,442,049	4.87	\$5,199,873
<b>Ice Storm</b>	--	--	--	--	--
<b>Landslide</b>	\$122,400	\$105,000	\$17,400	0.00	n/a
<b>Lightning</b>	\$8,534,482	\$734,062	\$7,800,421	0.67	n/a
<b>Riverine Flooding</b>	\$8,341,332	\$3,025,702	\$483,950	0.04	\$4,831,680
<b>Strong Wind</b>	\$664,419	\$25,299	\$639,001	0.06	\$118
<b>Tornado</b>	\$7,478,593	\$6,285,651	\$1,183,826	0.10	\$9,117
<b>Tsunami</b>	n/a	n/a	n/a	n/a	n/a
<b>Volcanic Activity</b>	--	--	--	--	--
<b>Wildfire</b>	\$7,707,022	\$7,695,267	\$5,464	0.00	\$6,291
<b>Winter Weather</b>	\$0	\$0	\$0	0.00	\$0

## Exposure Values

Hazard Type	Total	Building Value	Population Equivalence	Population	Agriculture Value
<b>Avalanche</b>	--	--	--	--	--
<b>Coastal Flooding</b>	\$989,601,659,757	\$20,806,411,805	\$968,795,247,953	83,516.83	n/a
<b>Cold Wave</b>	\$17,507,657,068,664	\$238,352,446,744	\$17,268,270,315,943	1,488,643.99	\$1,034,305,978
<b>Drought</b>	\$799,631,335	n/a	n/a	n/a	\$799,631,335
<b>Earthquake</b>	\$17,547,979,703,000	\$238,564,103,000	\$17,309,415,600,000	1,492,191.00	n/a
<b>Hail</b>	\$17,517,349,733,541	\$238,567,827,560	\$17,277,747,600,000	1,489,461.00	\$1,034,305,981
<b>Heat Wave</b>	\$0	\$0	\$0	0.00	\$0
<b>Hurricane</b>	\$17,516,635,861,902	\$238,563,730,752	\$17,277,100,688,235	1,489,405.23	\$971,442,916
<b>Ice Storm</b>	--	--	--	--	--
<b>Landslide</b>	\$301,434,878,482	\$5,972,832,349	\$295,462,046,133	25,470.87	n/a
<b>Lightning</b>	\$17,516,315,427,560	\$238,567,827,560	\$17,277,747,600,000	1,489,461.00	n/a
<b>Riverine Flooding</b>	\$1,811,545,144,209	\$27,419,940,029	\$1,783,633,416,091	153,761.50	\$491,788,089
<b>Strong Wind</b>	\$17,517,349,733,541	\$238,567,827,560	\$17,277,747,600,000	1,489,461.00	\$1,034,305,981
<b>Tornado</b>	\$17,517,349,733,541	\$238,567,827,560	\$17,277,747,600,000	1,489,461.00	\$1,034,305,981
<b>Tsunami</b>	n/a	n/a	n/a	n/a	n/a
<b>Volcanic Activity</b>	--	--	--	--	--
<b>Wildfire</b>	\$472,116,326,584	\$7,284,377,087	\$464,776,847,129	40,066.97	\$55,102,368
<b>Winter Weather</b>	\$0	\$0	\$0	0.00	\$0

## Annualized Frequency Values

Hazard Type	Annualized Frequency	Events on Record	Period of Record
<b>Avalanche</b>	--	--	--
<b>Coastal Flooding</b>	2.9 events per year	n/a	Various (see documentation)
<b>Cold Wave</b>	0.3 events per year	4	2005-2021 (16 years)
<b>Drought</b>	13.8 events per year	539	2000-2021 (22 years)
<b>Earthquake</b>	0.012% chance per year	n/a	2021 dataset
<b>Hail</b>	1 event per year	29	1986-2021 (34 years)
<b>Heat Wave</b>	0 events per year	0	2005-2021 (16 years)
<b>Hurricane</b>	0.3 events per year	70	East 1851-2021 (171 years) / West 1949-2021 (73 years)
<b>Ice Storm</b>	--	--	--
<b>Landslide</b>	0 events per year	0	2010-2021 (12 years)
<b>Lightning</b>	182.6 events per year	3,349	1991-2012 (22 years)
<b>Riverine Flooding</b>	1.3 events per year	32	1996-2019 (24 years)
<b>Strong Wind</b>	1 event per year	30	1986-2021 (34 years)
<b>Tornado</b>	1.1 events per year	117	1950-2021 (72 years)
<b>Tsunami</b>	n/a	n/a	1800-2021 (222 years)
<b>Volcanic Activity</b>	--	--	--
<b>Wildfire</b>	0.672% chance per year	n/a	2021 dataset
<b>Winter Weather</b>	0 events per year	0	2005-2021 (16 years)

## Historic Loss Ratios

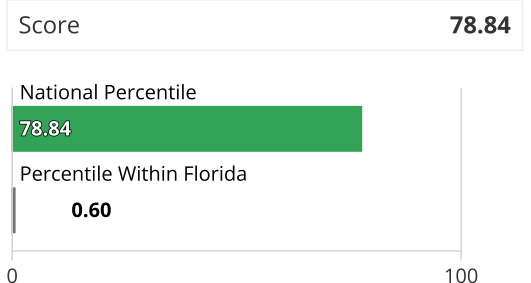
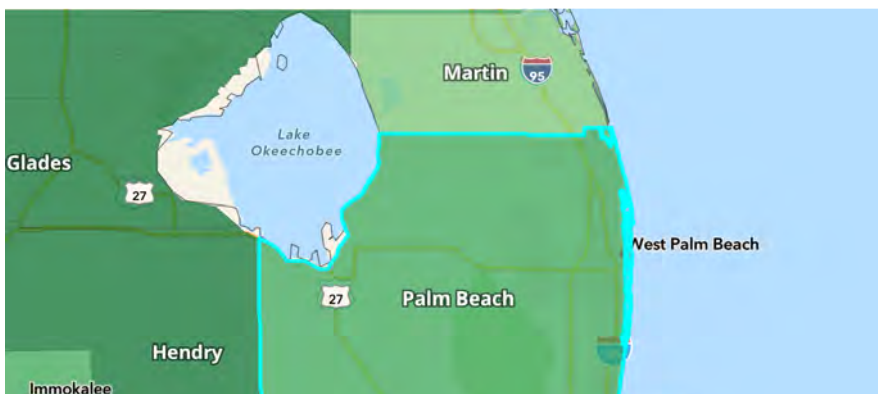
Hazard Type	Overall Rating
Avalanche	--
Coastal Flooding	Very Low
Cold Wave	Very Low
Drought	Relatively Moderate
Earthquake	Very Low
Hail	Very Low
Heat Wave	No Rating
Hurricane	Very High
Ice Storm	--
Landslide	Relatively Low
Lightning	Relatively Low
Riverine Flooding	Very Low
Strong Wind	Very Low
Tornado	Very Low
Tsunami	Insufficient Data
Volcanic Activity	--
Wildfire	Very Low
Winter Weather	No Rating

## Expected Annual Loss Rate

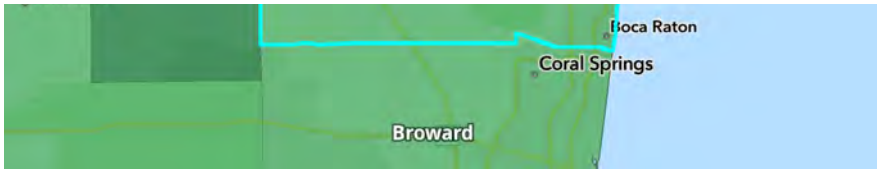
Hazard Type	Building EAL Rate (per building value)	Population EAL Rate (per population)	Agriculture EAL Rate (per agriculture value)
Avalanche	--	--	--
Coastal Flooding	\$1 per \$4.97M	1 per 108.90M	--
Cold Wave	\$1 per \$6.72M	1 per 103.44M	\$1 per \$1.85K
Drought	--	--	\$1 per \$140.01
Earthquake	\$1 per \$1.16M	1 per 215.13M	--
Hail	\$1 per \$33.90M	1 per 282.48M	\$1 per \$209.53K
Heat Wave	--	--	--
Hurricane	\$1 per \$297.40	1 per 306.11K	\$1 per \$198.91
Ice Storm	--	--	--
Landslide	\$1 per \$2.27M	1 per 992.97M	--
Lightning	\$1 per \$325.00K	1 per 2.21M	--
Riverine Flooding	\$1 per \$78.85K	1 per 35.70M	\$1 per \$214.07
Strong Wind	\$1 per \$9.43M	1 per 27.04M	\$1 per \$8.73M
Tornado	\$1 per \$37.95K	1 per 14.59M	\$1 per \$113.45K
Tsunami	--	--	--
Volcanic Activity	--	--	--
Wildfire	\$1 per \$31.00K	1 per 3.16B	\$1 per \$164.40K
Winter Weather	--	--	--

## Social Vulnerability

Social groups in **Palm Beach County, FL** have a **Relatively High** susceptibility to the adverse impacts of natural hazards when compared to the rest of the U.S.



79% of U.S. counties have a lower Social Vulnerability



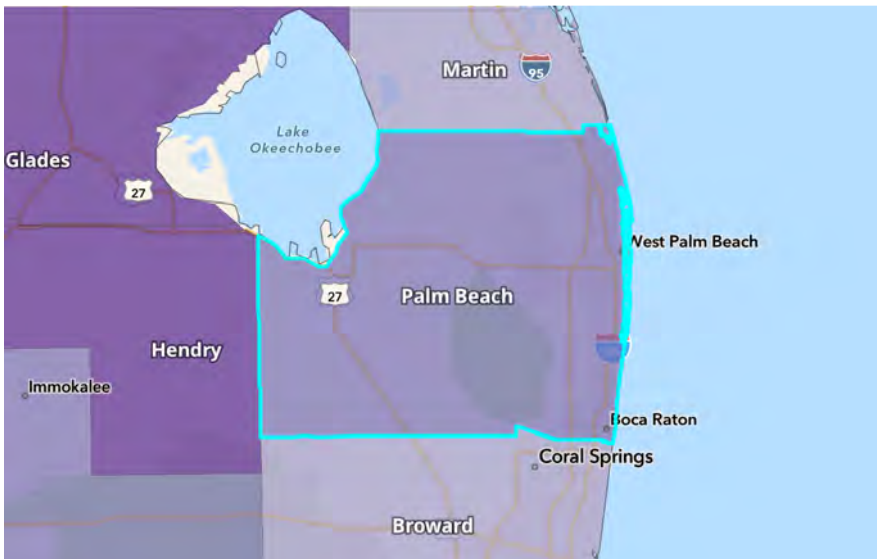
1% of counties in Florida have a lower Social Vulnerability

#### Social Vulnerability Legend

- Very High
- Relatively High
- Relatively Moderate
- Relatively Low
- Very Low
- Data Unavailable

## Community Resilience

Communities in **Palm Beach County, FL** have a **Relatively Low** ability to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions when compared to the rest of the U.S.



Score **23.65**

National Percentile

**23.65**

Percentile Within Florida

**0.40**

0 100

**76%** of U.S. counties have a higher Community Resilience

**100%** of counties in Florida have a higher Community Resilience

#### Community Resilience Legend

- Very High
- Relatively High
- Relatively Moderate
- Relatively Low
- Very Low
- Data Unavailable

## About the National Risk Index

The National Risk Index is a dataset and online tool to help illustrate the United States communities most at risk for 18 natural hazards: Avalanche, Coastal Flooding, Cold Wave, Drought, Earthquake, Hail, Heat Wave, Hurricane, Ice Storm, Landslide, Lightning, Riverine Flooding, Strong Wind, Tornado, Tsunami, Volcanic Activity, Wildfire, and Winter Weather.

The National Risk Index leverages available source data for Expected Annual Loss due to these 18 hazard types, Social Vulnerability, and Community Resilience to develop a baseline relative risk measurement for each United States county and Census tract. These measurements are calculated using average past conditions, but they cannot be used to predict future outcomes for a community. The National Risk Index is intended to fill gaps in available data and analyses to better inform federal, state, local, tribal, and territorial decision makers as they develop risk reduction strategies.

Explore the National Risk Index Map at [hazards.fema.gov/nri/map](https://hazards.fema.gov/nri/map).

Visit the National Risk Index website at [hazards.fema.gov/nri/learn-more](https://hazards.fema.gov/nri/learn-more) to access supporting documentation and links.

## Calculating the Risk Index

Risk Index scores are calculated using an equation that combines scores for Expected Annual Loss due to natural hazards, Social Vulnerability and Community Resilience:

$$\text{Risk Index} = \text{Expected Annual Loss} \times \text{Social Vulnerability} \div \text{Community Resilience}$$

Risk Index scores are presented as a composite score for all 18 hazard types, as well as individual scores for each hazard type.

For more information, visit [hazards.fema.gov/nri/determining-risk](https://hazards.fema.gov/nri/determining-risk).

## Calculating Expected Annual Loss

Expected Annual Loss scores are calculated using an equation that combines values for exposure, annualized frequency, and historic loss ratios for 18 hazard types:

$$\text{Expected Annual Loss} = \text{Exposure} \times \text{Annualized Frequency} \times \text{Historic Loss Ratio}$$

Expected Annual Loss scores are presented as a composite score for all 18 hazard types, as well as individual scores for each hazard type.

For more information, visit [hazards.fema.gov/nri/expected-annual-loss](https://hazards.fema.gov/nri/expected-annual-loss).

## Calculating Social Vulnerability

Social Vulnerability is measured using the Social Vulnerability Index (SVI) published by the Centers for Disease Control and Prevention (CDC).

For more information, visit [hazards.fema.gov/nri/social-vulnerability](https://hazards.fema.gov/nri/social-vulnerability).

## Calculating Community Resilience

Community Resilience is measured using the Baseline Resilience Indicators for Communities (HVRI BRIC) published by the University of South Carolina's Hazards and Vulnerability Research Institute (HVRI).

For more information, visit [hazards.fema.gov/nri/community-resilience](https://hazards.fema.gov/nri/community-resilience).

## How to Take Action

There are many ways to reduce natural hazard risk through mitigation. Communities with high National Risk Index scores can take action to reduce risk by decreasing Expected Annual Loss due to natural hazards, decreasing Social Vulnerability, and increasing Community Resilience.

For information about how to take action and reduce your risk, visit [hazards.fema.gov/nri/take-action](https://hazards.fema.gov/nri/take-action).

# Disclaimer

The National Risk Index (the Risk Index or the Index) and its associated data are meant for planning purposes only. This tool was created for broad nationwide comparisons and is not a substitute for localized risk assessment analysis. Nationwide datasets used as inputs for the National Risk Index are, in many cases, not as accurate as available local data. Users with access to local data for each National Risk Index risk factor should consider substituting the Risk Index data with local data to recalculate a more accurate risk index. If you decide to download the National Risk Index data and substitute it with local data, you assume responsibility for the accuracy of the data and any resulting data index. Please visit the [Contact Us](#) page if you would like to discuss this process further.

The methodology used by the National Risk Index has been reviewed by subject matter experts in the fields of natural hazard risk research, risk analysis, mitigation planning, and emergency management. The processing methods used to create the National Risk Index have produced results similar to those from other natural hazard risk analyses conducted on a smaller scale. The breadth and combination of geographic information systems (GIS) and data processing techniques leveraged by the National Risk Index enable it to incorporate multiple hazard types and risk factors, manage its nationwide scope, and capture what might have been missed using other methods.

The National Risk Index does not consider the intricate economic and physical interdependencies that exist across geographic regions. Keep in mind that hazard impacts in surrounding counties or Census tracts can cause indirect losses in your community regardless of your community's risk profile.

Nationwide data available for some risk factors are rudimentary at this time. The National Risk Index will be continuously updated as new data become available and improved methodologies are identified.

The National Risk Index Contact Us page is available at [hazards.fema.gov/nri/contact-us](https://hazards.fema.gov/nri/contact-us).



