

**INDIAN RIVER COUNTY, FLORIDA  
MEMORANDUM**

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**TO:** Board of County Commissioners

**THROUGH:** John A. Titkanich, Jr., County Administrator  
Nancy Bunt, Assistant County Administrator  
Andrew Sobczak, Planning and Development Services Director, Floodplain Administrator

**FROM:** Kirstin Leiendecker, P.E., Acting Public Works Director

**SUBJECT:** 8550 Jungle Trail  
Waiver Request to Floodplain Cut and Fill Balance Requirements  
Indian River County Project No. 96010145

**DATE:** June 26, 2024

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**SUMMARY OF REQUEST**

Coastal Waterways on behalf of Kathryn Fischer, owner of the lot for a proposed residence, is requesting a waiver of the cut and fill balance requirements for both the 100 Year flood storage and the 10 Year flood storage in accordance with LDR Section 930.07(2)(i)1.a. Refer to 'Code Citation' below.

**DESCRIPTION**

The project is located on 3.67 acres located between Sea Oaks and Island Club subdivisions on the east side of Jungle Trail. Refer to Exhibit A. The design proposes a 3,750 S.F. residence along with 2,400 S.F. garage, 2,400 S.F. workshop, 2,264 S.F. covered deck, and 23,334 S.F. of concrete/milling driveways. Refer to Exhibit B for the Grading Plan identifying the proposed layout.

The site is split between two Special Flood Hazard Area AE Zones with the 100 Year Base Flood Elevation being both (7) feet NAVD 1988 (AE-7) and (6) feet NAVD 1988 (AE-6). Refer to Exhibit C. The 10 Year Flood Elevation is three (3) feet NAVD 1988 (Exhibit D).

The applicant has demonstrated that filling of the site will not increase the flood stage of the river by more than one (1) foot in accordance with IRC 930.07(2)(a)3.b. "For development activities proposed to be located in a riverine flood hazard area for which base flood elevations are included in the flood insurance study or on the FIRM and floodways have not been designated, a floodway encroachment analysis which demonstrates that the cumulative effect of the proposed development, when combined with all other existing and anticipated flood hazard area encroachments, will not increase the base flood elevation more than one (1) foot at any point within the community." The Engineer for the applicant has determined that the elevation will rise between 0.12 and 0.37 feet for the 10 Year Flood and the 100 Year Base Flood Elevation. Refer to Exhibit G – Rise Exhibit.

**CODE CITATION – IRC 930.07(2)(i)1.a.**

"Cut and fill. An equal volume of storage capacity must be created for any volume of the base flood that would be displaced by fill or structures except for the following instances:

Those development projects within the special flood hazard area along the Indian River Lagoon when granted a waiver from the cut and fill balance requirements by the Board of County Commissioners. In the special flood hazard area of the Indian River Lagoon, an equal volume of storage capacity must be created for any volume of

the base flood that would be displaced by fill or structures below elevation two and one-half (2.5) feet NAVD88, or the ten-year flood elevation which has been determined in the flood insurance study, whichever is greater. The board of county commissioners may, in its discretion, grant a waiver from the provisions of this subsection upon the affirmative showing of the applicant, by means of a competent engineering study, that the development project is situated in an estuarine environment and that the development project, as designed, will meet all other requirements of the stormwater management and flood protection chapter and will not create a material adverse impact on flood protection on other lands in the estuarine environment.”

### **DECISION**

IRC 930.07(2)(i)1.a. allows for waivers to be considered for two different flood events. The first is a waiver of the 100 Year flood event while the site maintains the ability to compensate for the 10 Year storm event. If approved, a waiver of the 10 Year storm event which includes a part of the 100 Year storm event may be considered. Required storage for the two storm events are interconnected due to hydraulics. The applicant is requesting waivers for both storm events to allow fill.

### **REQUEST 1**

Applicant requests a waiver of the 100 Year flood elevation compensatory requirement to allow filling of 6.59 acre-feet (10,627 cubic yards) of existing floodplain area. The site is designed to store and treat 332 cubic yards within a dry retention pond. The proposed fill amounts to 35% of the available 100 Year floodplain.

### **REQUEST 2**

Applicant requests a waiver of the 10 Year flood elevation in the amount of 2.7 acre-feet of storage (4,355 cubic yards) of existing floodplain area. The site is designed to store and treat 332 cubic yards within a dry retention pond. This proposed fill amounts to 47% of the available 10 Year floodplain.

### **HARDSHIP**

The natural ground elevation between (1) and (3) feet NAVD 1988 poses a problem for this site. Because some of the existing ground is at or below the seasonal high water table elevation of 1.1 feet NAVD 1988 the site must be raised significantly to meet both flood protection criteria and the gravity septic drainfield requirements. The ability to provide additional floodplain storage on the site is minimal. If a wet pond were to be constructed it would need to be directly connected to the Indian River Lagoon to prevent eutrophication. However, a direct connection to the lagoon could likely cause an increase of nutrients being sent offsite. As can be seen in the aerial imagery, an existing retention pond to the south is highly nutrified (eutrophic). The most highly accepted method of treating stormwater runoff is classified as a dry retention pond. To provide this type of treatment the pond must be approximately 1 foot above the seasonal high water table.

Furthermore, the locations that may be available for floodplain storage creation would cause the removal of vegetation in areas proposed to remain at natural ground including the directly connected wetland along the north boundary. This may change the characteristics of the Jungle Trail area.

The applicant has provided a hardship example depicting the amount of stormwater area required. Refer to Exhibit F – 100 Year Hardship Example.

Alternatively, another method of avoidance would require the residence to be placed on pilings or a deep stem wall and use the first floor as a garage with flood vents. Because of the seasonal high water table elevation, the foundation would still have to be raised to avoid groundwater seepage and direct building impacts. Similarly, the proposed workshop would require flood vents to meet FEMA criteria to allow stormwater to transmit through the building. The residence located to the south which was constructed in 1994 has this type of construction, utilizing the first floor as garage and storage. Refer to the South boundary impacts written below.

### **ENVIRONMENTAL CONSIDERATIONS**

The property includes a 0.54-acre wetland. The non-forested wetland is connected to a larger off-site wetland system/slough. The entire wetland is part of a system that resides off site on a Board of Trustees of Internal Improvement Trust Fund of the State of Florida (TIITF) land, the Captain Forrester Hammock Preserve & Archie Carr Sea Turtle Refuge. Additionally, a jurisdictional mangrove fringe lies on the western sides of the two isolated portions of the property located west of Jungle Trail.

The design proposes to avoid filling of the wetland. Refer to Exhibit B – Grading Plan.

### **WATER QUALITY TREATMENT**

The design proposes an 8,954 S.F. dry retention pond which will collect runoff from the main building and driveway thereby treating it. The proposed system provides roughly 3 inches of treatment which is greater than the usual single family home requirement of 1 inch when the Indian River Lagoon will be directly impacted.

### **NEIGHBORING IMPACTS**

#### **North**

The site is bordered on the north by the Board of Trustees of Internal Improvement Trust Fund of the State of Florida (TIITF) land, the Captain Forrester Hammock Preserve & Archie Carr Sea Turtle Refuge.

The design currently depicts much of the area adjacent to the north property line remaining at existing elevations which will avoid filling of the onsite wetland. Refer to Exhibit B – Grading Plan.

#### **South**

A two-story single-family home built in 1994 on 0.46 acres is located directly south of the property. The remaining southern and eastern property boundaries are bordered by 19.6 acres of an old cleared citrus grove. An old meandering and stagnant retention pond likely left from the old citrus grove both borders and encroaches on the south property line.

The residence located at 8530 Jungle Trail was completed in 1994. It utilizes 6-foot stem wall construction along with a first-floor garage and storage area. The home was granted a flood waiver from the BOCC on April 13, 1993, for 0.13 acre-feet (217 Cubic Yards). Currently the home experiences first floor flooding in its non-livable space.

An onsite driveway is proposed along the south property boundary. It is raised by a retaining wall. The driveway will be sloped internally and send runoff to an onsite treatment pond. The driveway is setback from the property line by 24 feet. The remainder of the south property line beyond the extents of the driveway will remain at existing elevations. Refer to Exhibit B – Grading Plan.

Jungle Trail

Jungle Trail is a designated historic road and falls under BOCC Resolution No. 89-36 as adopted April 11, 1989. This resolution provides requirements for the 40-foot Jungle Trail right-of-way and a 30-foot management area on both the east and west sides of the Trail. The impact to Jungle trail is the installation of two 16-foot driveways through the 30-foot management area. The driveways are proposed to be native dirt matching the look of the Trail. The applicant proposes to leave the 30-foot management area in its existing state which contains a few cabbage palms. Additional plantings are not proposed. Any proposed planting of this area will require approval from the Planning and Zoning Commission.

**AVOIDANCE AND MINIMIZATION**

The applicant wishes to have the home’s accessory buildings above the Base Flood Elevation to avoid any structural flooding. The applicant has provided a dry retention area for stormwater treatment and some storage.

**DIRECT FUNDING**

No funding is required for this option.

**POTENTIAL IMPACTS TO THE COUNTY**

The County has adopted FEMA floodplain guidelines as provided in the Comprehensive Plan and Land Development Regulations. As part of the adoption process the County participates in the Community Rating System (CRS). Participating in the CRS allows County residents to purchase flood insurance at rates depending upon the determined Class. The lower the Class the less the rates. The County is audited every three to five years to establish the CRS rating. The last Report of Audit is dated April 27, 2022. A recertification of the County’s adopted guidelines will occur in 2024.

During the 2022 CRS audit the County received 2,750 points (Class 5). The Class ratings and flood reduction rates are broken down as:

Class Rating	Points Required	Flood Reduction Rate In SFHA	Flood Reduction Rate Outside of the SFHA
4	3000 to 3499	30%	10%
5	2500 to 2999	25%	10%
6	2000 to 2499	20%	10%

SFHA = Special Flood Hazard Area, Zones A, AE, A1-A30, V, V1-V30, AO and AH

Cut and Fill requirements (also known as compensatory storage) as codified in IRC 930.07(2)(i)1.a. allows the County to receive points under FEMA Audit Activity 430, “Higher Regulatory Standards”. Specifically, the subpart of 431a, “Development Limitations” and is credited under DL1b. According to the last Report of Audit, the County received 419 points for Activity 430. Staff have had discussions with FEMA advisors regarding issuance of waivers. It has been indicated to us that waivers will cause the County to lose all allocated points for this subpart. In review of the prior audit, this would be approximately a 200-point reduction. In December of

2023, the County approved two flood waivers for Quay Dock Landing and Hammock Shores developments.

If 200 points are lost, and no additional points are gained through additional CRS activities, then the County would remain at a Class 5 Rating based on the prior audit. FEMA will be issuing a new CRS Manual prior to the next County audit. It is unknown as to how much of a point reduction this waiver and the prior waivers will cause.

### **STAFF RECOMENDATION**

The applicant has provided a competent engineering study, that the development project, as designed, will meet all other requirements of the stormwater management and flood protection chapter and based on the applicant's study, they will not create a material adverse impact on flood protection on other lands in the estuarine environment. In consideration of this, the Board of County Commissioners may, in its discretion, grant a waiver from the provisions of 930.07(2)(i)1.a.

Based on the aforementioned, the Board of County Commissioners shall consider and determine if a waiver shall be granted from the provisions of LDR Section 930.07(2)(i). If granted, staff recommends the Board of County Commissioners approve the 100 Year floodplain waiver and then approve the 10 Year floodplain waiver with the expiration of the waiver to coincide with the Type C permits. Type C permits are codified to be granted for 6 months with an allowance for a 6-month extension. The waiver will be granted from the date of approval and transferred to the associated approved Building Permit upon its issuance. The waiver will be active as long as the Building Permit remains valid.

### **ATTACHMENTS**

1. Exhibit A – Location Map
2. Exhibit AA – Location Map (Aerial)
3. Exhibit B – Grading Plan
4. Exhibit C – 100 Year Floodplain Location
5. Exhibit D – 10 Year Floodplain Location
6. Exhibit E – 100-YR/10-YR Compensatory Calculations
7. Exhibit F – 100 Year Hardship Example
8. Exhibit G – Rise Exhibit

### **APPROVED AGENDA ITEM FOR JULY 2, 2024**