

AGENDA



Regular Council Meeting
Monday, November 28, 2022
5:00 pm

REGULAR COUNCIL MEETING

MONDAY, NOVEMBER 28, 2022

5:00 PM

AT VILLAGE HALL

9080 BAY DRIVE, INDIAN CREEK, FL 33154

Join the Meeting via Zoom

<https://us02web.zoom.us/j/84934777763>

Meeting ID: 849 3477 7763

1. CALL TO ORDER / ROLL CALL OF MEMBERS

2. PLEDGE OF ALLEGIANCE

3. PUBLIC COMMENTS: *Any person wishing to address the Council, should state their name, and address, for the record, prior to making the statement.*

4. CONSENT AGENDA **TAB 1**

MINUTES:

A. September 22, 2022 – Second Budget Hearing

5. RESOLUTIONS **TAB 2**

A. A RESOLUTION OF INDIAN CREEK VILLAGE, FLORIDA, PROVIDING FOR THE AMENDMENT OF THE 2021-2022 FISCAL YEAR BUDGET IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF BUDGET ORDINANCE NO. 227 AND AS PROVIDED IN EXHIBIT 'A'; PROVIDING AN EFFECTIVE DATE; AND FOR OTHER PURPOSES. (Resolution # 844)

B. STANTEC'S CONTRACT EXTENSION

C. DEBRIS MONITORING AGREEMENT with WITT O'BRIEN – Piggyback with Surfside Agreement

6. MANAGER'S REPORT **TAB 3**

A. Seawall Height Report

B. Police Report

7. ADJOURNMENT

TAB 1

**MINUTES OF
SECOND BUDGET HEARING
Tuesday, September 22, 2022, at 05:01 p.m.**

1. CALL TO ORDER/ROLL CALL OF MEMBERS 5:10 p.m.

Mayor, Bernard Klepach	Present
Vice Mayor, Javier Holtz	Present
Council Member, Irma Braman	Via Zoom
Council Member, Robert Diener	Present
Council Member, Irwin Tauber	Via Zoom

VILLAGE STAFF

Village Manager, Guillermo Olmedillo
Village Attorney, Stephen Helfman
Chief of Police, John Bernardo
Finance Director, Beatrice Good
IT Director, David Fernandez
Village Clerk, Roseann Prado
Deputy Clerk, Lorelei Narmore

2. PRESENTATION – Newly elected State Senator Shevrin Jones introduced himself and offered his support and assistance to the Village Council.

3. ITEMS OF DISCUSSION – Mayor Klepach called for the Council to have a discussion on the following items:

- a. Latest heavy rain and flooding on the island – part of the discussion with Clarece Depkin, General Manager of Indian Creek Country Club.
- b. Lighting sample – The consensus among the Council was to have another sample of the lighting with a softener glow, shining to the ground, not to the headlights.
- c. Vice-Mayor Holtz reminded to distribute to the Council the responses from residents regarding the roadway project.
- d. Chief John Bernardo discussed implementing a system of criminal history for residents ‘staff. The Council seemed interested and requested further information.
- e. Walkway path survey on houses 36 to 41 – The majority opted for No (3 to 1).
- f. Sidewalks – The Council instructed the Manager to request the engineers to measure the slope of the driveway’s drains.

4. PUBLIC COMMENTS:

The following person spoke on the records:

- Gail Icahn

4. CONSENT AGENDA

A. September 6, 2022, Minutes
(Regular Council Meeting)

B. September 6, 2022, Minutes
(First Budget Hearing)

TAB 1

Vice-Mayor Holtz moved to approve the minutes with the following amendment:

On the Regular Council Meeting Minutes of 09/06/2022 – item 7.B. Rooftop Terraces – make the records reflect the amendment as:

- B. Rooftop Terraces – The Council consensus was to maintain the language and intent of Chapter 11, Sec. C of the Land Development regulations that limit the use of the roof area of a building.

Council Member Diener seconded. The motion carried 5 – 0.

The Village Clerk has amended the Minutes accordingly.

5. BUDGET ITEMS

TAB 2

- A. **A RESOLUTION OF INDIAN CREEK VILLAGE, FLORIDA, ADOPTING THE FINAL MILLAGE RATE OF THE VILLAGE FOR THE FISCAL YEAR COMMENCING OCTOBER 1, 2022 THROUGH SEPTEMBER 30, 2023; PROVIDING FOR AN EFFECTIVE DATE.** (Resolution # 842)

Vice-Mayor Holtz moved to approve Resolution # 842. Council Member Tauber seconded. The motion carried 5 – 0.

- B. **ORDINANCE**

TAB 3

SECOND READING:

AN ORDINANCE OF THE VILLAGE OF INDIAN CREEK, FLORIDA ADOPTING THE BUDGET FOR THE FISCAL YEAR COMMENCING OCTOBER 1, 2022 THROUGH SEPTEMBER 30, 2023, PURSUANT TO FLORIDA STATUTE 200.065 (TRIM BILL); PROVIDING FOR AN EFFECTIVE DATE. (Ordinance # 231)

Mayor Klepach opened the public comments. With no comments from the public, Mayor Klepach closed public comments to Ordinance 231.

Vice-Mayor Holtz moved to approve Ordinance # 231 on the second reading. Council Member Diener seconded. The motion carried 5 – 0.

Council voted as follows:

APPROVED

Yea Nay

Roll Call:

Mayor Klepach	✓
Vice-Mayor Holtz	✓
Council Member Braman	✓
Council Member Diener	✓
Council Member Tauber	✓

6. RESOLUTION

TAB 4

- A. **A RESOLUTION OF THE VILLAGE COUNCIL OF INDIAN CREEK VILAGE, FLORIDA, ADOPTING A PAY PLAN FOR THE 2023 FISCAL YEAR COMMENCING OCTOBER 1, 2022, AND ENDING SEPTEMBER 30, 2023; PROVIDING FOR SEVERABILITY; AND PROVIDING FOR AN EFFECTIVE DATE.** (Resolution # 843)

Council Member Braman moved to approve Resolution # 843. Vice-Mayor Holtz seconded. The motion carried 5 – 0.

7. ADJOURNMENT

Mayor Klepach motioned to adjourn the meeting. Vice-Mayor Holtz seconded. The meeting adjourned at 6:13 p.m.

Submitted by:

Roseann Prado, Village Clerk

TAB 2

Item 5.A

Resolution # 844

Memorandum



To: Guillermo Olmedillo, Village Manager
From: Beatrice Good, Finance Director
Date: November 4, 2022
Re: Proposed Budget Amendment – FY2022

Per Florida Statutes 129.06, budgets may be amended within 60 days of year end. The proposed budget amendment addresses variances within the General Fund (Exhibit A) resulting from under budgeted revenues and unanticipated expenditures incurred throughout the 2022 fiscal year. These year-end variances have been captured and the positive net result has been applied to fund balance. Below are the details:

Revenues

- Ad-valorem tax revenues exceeded the amount levied by \$128,037 after value adjustment board hearings and interest distributions.
- State Shared Revenues and Franchise Fees collected generated an additional \$4,323.
- Other Revenues received totaled \$87,022 and include American Rescue Plan Act proceeds of \$44,576 and \$39,125 from the disposition of public safety vehicles.
- An Operating Transfer from the Roadway Loan proceeds in the amount of \$3,095,055 replenished fund balance for pre-construction costs incurred over several prior years.

Expenditures

- Personnel costs exceeded the budget by \$234,022 as a result of changes in senior administrative roles in both the Administrative and Public Safety Departments. Compensation of accrued time was not budgeted for the former Village Manager, Police Chief or Clerk. Additionally, the salary for the Police Chief position was increased. This amendment captures all of these costs.
- Operations and Maintenance exceeded the budget by \$38,430 mainly due to four vehicle lease agreements entered into (three for public safety, one for the manager).
- Capital Outlay was under budgeted by \$115,167. This expense consists of \$74,900 in computer and information technology upgrades required for FDLE compliance. Also, initial deposits were made toward a public safety vehicle carport (\$18,042) and the replacement and installation of a new solar beam stealth tower (\$27,225).
- Debt Service was over-budgeted in anticipation of principal and interest payments for the Roadway Loan. The final loan agreement dictated one 'interest only' payment during the fiscal year. Principal payments begin in FY2023.
- Contingencies totaled \$146,714 and include legal representation related to the ongoing FAA petition (\$74,800), the executive search for a Police Chief (\$34,500), a topographic survey of the seawall (\$25,000), Covid19 rapid test inventory (\$4,000) and a community noise study \$3,750).

In conclusion, budgeted revenues were exceeded by \$3,314,438 and budgeted expenditures were exceeded by \$253,905. When netted, the result is a \$3,060,532 surplus or excess revenues. This budget amendment formally appropriates those monies to unassigned fund balance within the General Fund and are available for future Village needs.

RESOLUTION NO. 2022-844

A RESOLUTION OF INDIAN CREEK VILLAGE, FLORIDA, PROVIDING FOR THE AMENDMENT OF THE 2021-2022 FISCAL YEAR BUDGET IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF BUDGET ORDINANCE NO. 227 AND AS PROVIDED IN EXHIBIT ‘A’; PROVIDING AN EFFECTIVE DATE; AND FOR OTHER PURPOSES.

WHEREAS, the Village Budget adopted pursuant to Ordinance No. 227 was based upon estimates of revenues and expenditures in various categories and the necessity of amending the 2021-2022 Budget has come to the attention of the Village Council of Indian Creek Village, Florida; and

WHEREAS, in accordance with State Law, budget amendments relating to increases or decreases in the total sum allocated for operating expenses must be formally approved by the Village Council in the form of the budget resolution for such transfers.

NOW, THEREFORE, BE IT RESOLVED BY THE VILLAGE COUNCIL OF INDIAN CREEK VILLAGE, FLORIDA, THAT:

Section 1: The Village Council of Indian Creek Village, Florida, hereby amends the 2021-2022 Village Fiscal Year Budget as provided in the schedule attached hereto as Exhibit “A” and made a part hereof, in accordance with the terms and provisions of the Budget Ordinance No. 227.

Section 2: The Village Clerk of Indian Creek Village is hereby directed to attach a copy of this Resolution amending the 2021-2022 Budget to the 2021-2022 Budget documents and this Resolution shall be made a part of said Budget.

Section 3: This Resolution shall be applied retroactively from and after October 1, 2021.

PASSED and ADOPTED this 28th day of November 2022.

BERNARD KLEPACH, MAYOR

ATTEST:

ROSEANN PRADO, VILLAGE CLERK

APPROVED AS TO FORM AND LEGAL SUFFICIENCY:

WEISS SEROTA HELFMAN COLE & BIERMAN, P.L.
VILLAGE ATTORNEY

Exhibit "A"

General Fund - Fiscal Year 2022

	Adopted Budget	Proposed Increase/ (Decrease)	Amended Budget
<u>REVENUES</u>			
Ad Valorem Taxes	\$4,328,120	\$128,037	\$4,456,157
State Shared Taxes	\$19,079	\$1,776	\$20,855
Franchise Fees	\$50,000	\$2,547	\$52,547
Other Revenue	\$72,476	\$87,022	\$159,498
Operating Transfer In	\$85,000	\$3,095,055	\$3,180,055
Total Revenues	\$4,554,675	\$3,314,438	\$7,869,113
<u>EXPENDITURES</u>			
Personnel	\$2,852,405	\$234,022	\$3,086,427
Operations & Maintenance	\$974,936	\$38,430	\$1,013,366
Capital Outlay	\$5,000	\$115,167	\$120,167
Debt Service	\$440,331	(\$205,426)	\$234,905
Contingencies	\$75,000	\$71,714	\$146,714
Total Expenditures	\$4,347,672	\$253,905	\$4,601,577
Excess Revenue/(Expenditures)	\$207,003	\$3,060,532	\$3,267,535
Increase to Fund Balance			\$3,267,535

TAB 2

Item 5.B

Stantec's Contract
Extension



INDIAN CREEK VILLAGE REGULAR COUNCIL MEETING

TO: Mayor, Vice-Mayor, and Honorable Members of the Council of Indian Creek Village
FROM: Guillermo Olmedillo, Village Manager
DATE: November 28, 2022.
TITLE: Stantec Technical Contract

Stantec Technical Contract

Stantec requested an extension of time for ten (10) months, to their contract, to provide technical services for the Construction Administration phase of the ongoing infrastructure project.

Background

Stantec was previously authorized to complete design, permitting, bid assistance, and construction administration services under the signed Professional Services Agreement dated May 18, 2020. The Construction Administration phase in that agreement was based on a duration of 14 months, ending on July 18th. of this year.

The General Contractor (Giannetti) was issued a Notice to Proceed on May 17, 2021, with an actual starting date of June 28, 2021.

The General Contractor's current anticipated completion date of June 2023. Therefore, the continuation of Stantec's on-site services is necessary throughout the construction process to ensure that the project is built according to the technical specifications.

Issue

This is an "after the fact" Council approval of the requested Stantec's Construction Administration technical review contract.

Recommendation

Issue an "after the fact" approval to the extension of the Stantec contract.

Attachment: Stantec Consulting Services Inc. Letter of Request.



Stantec Consulting Services Inc.
901 Ponce de Leon Boulevard Suite 900
Coral Gables FL 33134

July 26, 2022

Indian Creek Village
9080 Bay Drive
Indian Creek Village, FL 33154

Attention: Guillermo Olmedillo, Village Manager

**Reference: Indian Creek Village
Roadway Redevelopment Plan – Construction Phase**

Dear Mr. Olmedillo,

We are pleased to present this proposal of professional consulting services to Indian Creek Village ("the Client") for consideration. Stantec was previously authorized to complete design, permitting, bid assistance, and construction administration services under the signed Professional Services Agreement dated May 18, 2020. The construction administration phase in that agreement was based on a duration of 14 months. This proposal extends our services another 10 months to the contractor's current anticipated completion date of June 2023.

Scope of Services:

Extended Construction Assistance Phase:

During the extended construction phase, we will review and respond to contractor request-for-information (RFI) documents, conduct full-time construction inspections (10 months of construction, therefore 40 hours per week for 43 weeks) and produce reports, attend weekly virtual progress meetings with the Village and contractor and produce/distribute meeting minutes, and conduct periodic site visits by the engineer during construction to check for general conformance of the work,

The following tasks were authorized under the original agreement and will be completed as part of that authorization: one (1) punch list inspection, one (1) final inspection, assistance with project close-out, and we will use the contractor's red line drawings and surveyed as-builts to compile one final record drawing set in both AutoCAD and PDF format. If the construction phase extends beyond the anticipated additional 10 months, a fee for this additional service will be provided.

Exclusions:

- Color Renderings or Presentation Boards
- Testing or geotechnical services
- Environmental assessments or engineering
- Sub-surface utility investigation or relocation plan.
- Overtime or weekend work
- Cost estimates and quantities

A handwritten signature in blue ink, appearing to read "G. Olmedillo", followed by the date "9/8/22". Below the signature is the Stantec tagline "Design with community in mind" in a smaller, orange font.

Design with community in mind



July 26, 2022
Guillermo Olmedillo, Village Manager
Page 2 of 2

Schedule of Fees:

All terms and conditions shall be per the previously executed Professional Services Agreement dated May 18, 2020 and all fees shall be lump sum as follows:

Extended Construction Administration Phase \$283,003

We are ready to begin working on this assignment upon your authorization. If acceptable to you, we will accept a signed copy of this form as your written authorization to proceed.


Thank you,

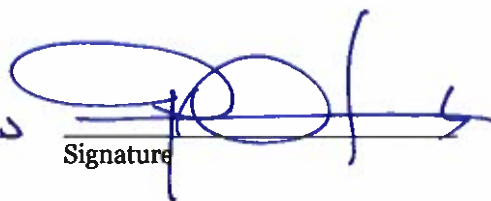
Stantec Consulting Services Inc.

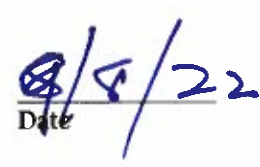
Ramon Castella, P.E., LEED AP
Vice President
Tel: 305-445-2900
Fax: 305-445-0869
ramon.castella@stantec.com

Indian Creek Village

Approved by:


Print Name


Signature


Date

V:\2156\business_development\215681137 Sean Unassigned\indian creek\roadway rfq\proposal\indian-creek-imp-proposal.docx

FEE WORKSHEET**DATE:**

July 26, 2022

PROJECT:Village of Indian Creek
Roadway Redevelopment Plan - Extended Construction Phase

Extended Construction Phase (based on 10 Months)	Principal	Project Manager	Senior Engineer	Engineer	CAD Tech.	Inspector
Pre-con meeting and site visit	Previously Authorized					
shop drawing review and coordination	Previously Authorized					
answer RFIs		18	18	34	8	10
Weekly virtual meetings and provide minutes		86				
Management and coordination		88	24			
Construction Inspections 43 weeks at 40 hours per week						1720
Review and recommend contractor's application for payment		15	8			
Site visits - Engineer		10	40			
Record Drawings	Previously Authorized					
Punch list and closeout	Previously Authorized					
Sub-Total Hours	0	217	90	34	8	1730
Billing Rate	\$ 225.00	\$ 191.00	\$ 174.00	\$ 149.00	\$ 140.00	\$ 127.00
Labor Cost	\$0	\$41,447	\$15,660	\$5,066	\$1,120	\$219,710
Construction Phase Total						\$283,003

gms 9/15/22

TAB 2

Item 5.C

Debris Monitoring Agreement
with Witt O'Brien

**COOPERATIVE AGREEMENT
BETWEEN
VILLAGE OF INDIAN CREEK
AND
WITT O'BRIEN'S LLC
FOR
DISASTER DEBRIS MONITORING SERVICES**

THIS AGREEMENT (this "Agreement") is made effective as of the 25th day of July, 2022 (the "Effective Date"), by and between the VILLAGE OF INDIAN CREEK, FLORIDA, a Florida municipal corporation, (hereinafter the "Village"), and WITT O'BRIEN'S LLC, a Delaware limited liability company (hereinafter, the "Consultant"). Collectively, the Village and Consultant are referred to as the "Parties."

WHEREAS, the Village desires to utilize the services of Consultant for the provision of Disaster Debris Monitoring Services (the "Services"); and

WHEREAS, the Town of Surfside, Florida, issued Request for Proposals No. 2022-01 (the "RFP") for the Services and competitively awarded a contract to Witt O'Brien's LLC (the "Consultant") pursuant to the RFP (the "Master Contract"); and

WHEREAS, the Parties wish to incorporate the terms and conditions of the Master Contract in this Agreement, except as otherwise modified or amended herein; and

WHEREAS, Section 3-13(3) of the Town Code of Ordinances (the "Code") provides that purchases made under state general service administration contracts, federal, county or other governmental contracts, competitive bids with other governmental agencies, or through cooperative purchasing are exempt from the competitive bidding procedures of Chapter 3 of the Town Code; and

WHEREAS, pursuant to Section 3-13(3) of the Town Code, the Village desires to engage the Consultant to perform the Services as specified below.

NOW, THEREFORE, in consideration of the mutual covenants and conditions contained herein, the Consultant and the Town agree as follows:

1. **Incorporation of Contract.** The terms and conditions of the Master Contract, which is attached as Exhibit A, is incorporated as though fully set forth herein. Except as otherwise specifically set forth or modified herein, all terms in the Master Contract are hereby ratified and affirmed and shall remain unmodified and in full force and effect in accordance with its terms.
2. **Conflicts.** In the event of any conflict or ambiguity between the terms and provisions of this Agreement and the terms and provisions of the Master Contract, the terms and provisions of this Agreement shall control.

3. **Defined Terms.** All initial capitalized terms used in this Agreement shall have the same meaning as set forth in the Master Contract unless otherwise provided in this Agreement. All references to the Town of Surfside, FL shall be replaced with the Village of Indian Creek, FL, where applicable.
4. **Section 13 of Master Contract.** Section 13 of the Master Contract is hereby deleted in its entirety and replaced as follows:

Whenever either party desires or is required under this Agreement to give notice to any other party, it must be given by written notice and shall be given by email with delivery confirmation, registered or certified mail, return receipt requested, postage prepaid or Federal Express or DHL courier, shipped prepaid to the Parties at the addresses herein designated for each Party or at such other addresses as they may hereafter designate in writing:

Village of Indian Creek:

Attn: Guillermo Olmedillo, Village Manager
9080 Bay Drive
Indian Creek, FL 33154
golmedillo@icvps.org

With a copy to:

Stephen Helfman, Village Attorney
Weiss Serota Helfman Cole Bierman, P.L.
SHelfman@wsh-law.com

Consultant:

Witt O'Briens LLC
Attn: Director of Contracts
818 Town & Country Blvd., Suite 200
Houston, TX 77024
281-606-4721 (telephone)
contractrequests@wittobriens.com & cjoiner@wittobriens.com (e-mail)

With a copy to:

Witt O'Brien's LLC
Attn: Legal Counsel
2200 Eller Drive
Fort Lauderdale, FL 33316
blong@ckor.com & cjoiner@wittobriens.com (e-mail)

5. **Section 16.8 of Master Contract.** Section 16.8 of the Master Contract is hereby deleted in its entirety and replaced as follows:

Notice Pursuant to Section 119.0701(2)(a), Florida Statutes. IF THE CONSULTANT HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONSULTANT'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS.

Custodian of Records:

Mailing address:

Telephone number:

Email:

E-VERIFY AFFIDAVIT

In accordance with Section 448.095, Florida Statutes, the Town requires all contractors doing business with the Town to register with and use the E-Verify system to verify the work authorization status of all newly hired employees. The Town will not enter into a contract unless each party to the contract registers with and uses the E-Verify system.

The contracting entity must provide of its proof of enrollment in E-Verify. For instructions on how to provide proof of the contracting entity's participation/enrollment in E-Verify, please visit: <https://www.e-verify.gov/faq/how-do-i-provide-proof-of-my-participationenrollment-in-e-verify>

By signing below, the contracting entity acknowledges that it has read Section 448.095, Florida Statutes and will comply with the E-Verify requirements imposed by it, including but not limited to obtaining E-Verify affidavits from subcontractors.

☐ **Check here to confirm proof of enrollment in E-Verify has been attached to this Affidavit.**

In the presence of:

Signed, sealed and delivered by:

Witness #1 Print Name:_____

Print Name: _____

Title: _____

Witness #2 Print Name: _____

Entity Name: Witt O'Brien's LLC

ACKNOWLEDGMENT

State of Florida

County of Miami Dade

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization, this ____ day of ____, 2022, by _____(name of person) as _____ (type of authority) for Witt O'Brien's LLC (name of party on behalf of whom instrument is executed).

Notary Public (Print, Stamp, or Type as
Commissioned)

Personally known to me; or

Produced identification (Type of Identification:_____)

Did take an oath; or

Did not take an oath

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed the day and year as first stated above.

VILLAGE OF INDIAN CREEK

WITT O'BRIEN'S LLC

By: _____

By: _____

Name: Guillermo Olmedillo

Name: _____

Title: Village Manager

Title: _____

EXHIBIT “A”

Agreement between

[Town Of Surfside FL](#)

and

Witt O’Brien’s LLC

For Disaster Debris Monitoring Services

(including all Appendixes and Exhibits attached thereto)

TAB 3

Item 6.A

Seawall Height Report



INDIAN CREEK VILLAGE REGULAR COUNCIL MEETING

TO: Mayor, Vice-Mayor, and Honorable Members of the Council of Indian Creek Village
FROM: Guillermo Olmedillo, Village Manager
DATE: November 28, 2022
TITLE: Seawall Report

Seawall Report

The attached report issued by Gutteridge Haskins Davey (GHD) provides all the necessary information for the establishment of the preferred elevation of the seawall around the Village of Indian Creek.

Background

Flood protection is fundamental for our Village.

At the meeting of 09/06/2022, the Council directed staff to hire an expert who would provide recommendations on the necessary seawall height that will provide protection from water intrusion affecting the Island.

I requested quotes from two expert companies; Ocean Consulting who came in at \$28,000.00 and GHD who came in at \$12,000.00. I chose the latter given the cost and their background.

Issue

There are two issues to be decided by the Council. One, the wall height, and two, the implementation policy.

GHD recommends a plus 6 ft. NAVD, which corresponds to a plus 7.55 NGVD. (The reference to NGVD is made to clarify that the seawall survey produced by our engineering consultant CDM Smith used NGVD as a reference.) This recommended height will provide protection until the year 2080.

There are two options for the implementation policy. One is to undertake it as a municipal project for the entire island perimeter, similar, to the present infrastructure project. Two, requiring each owner to build up the seawall to the standard height, within a specific time or when there are improvements on the property. Whichever is earlier.

Recommendations

Based purely on cost and efficiency, the entire project under a design-built concept is preferable.

Attachment: ICV Seawall Study from Gutteridge Haskins Davey (GHD).

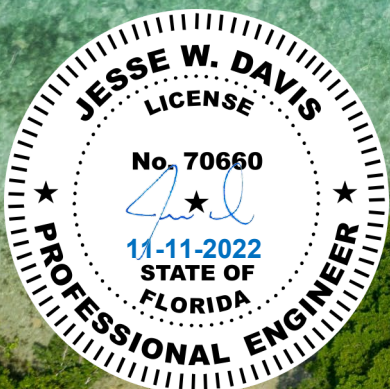


Top of Seawall Study

Indian Creek Village

November 11, 2022

→ The Power of Commitment



This item has been digitally signed and sealed by Jesse W. Davis on the date adjacent to the seal.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Document Status

Status Code	Revision	Author	Reviewer		Approved for issue		
			Name	Signature	Name	Signature	Date
Draft	00	Nick Bragaia	Michael R. Barnett	<i>MRB</i>	Jesse Davis	<i>JWD</i>	11-11-2022

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1. Introduction

1.1 Scope of Services

GHD was retained by Indian Creek Village (Village) to provide a recommended, uniform top of seawall elevation.

1.2 Location

The Village is a man-made island located north of Miami Beach and along the eastern extents of northern Biscayne Bay. The island encompasses ~250 acres, a private golf club, residential homes, and ~13,800 LF of mixed shorelines (the majority of which are seawalls). The Village Police station is situated on the Miami Beach barrier island and contains ~375 LF of shoreline (seawall). The approximate project limits are defined by the red and yellow lines depicted in Figure 1.



Figure 1 Project Limits

2. Client Provided Data

Longitude Surveyors conducted a top of seawall survey in November 2021 (Figure 2). The elevations ranged from 3.65ft NGVD-29 to 7.61ft, NGVD-29. This corresponds to +2.10ft, NAVD-88 to +6.06ft, NAVD-88. A tabulation of the minimum and maximum seawall elevations per lot along with the seawall survey are presented in Appendix A.

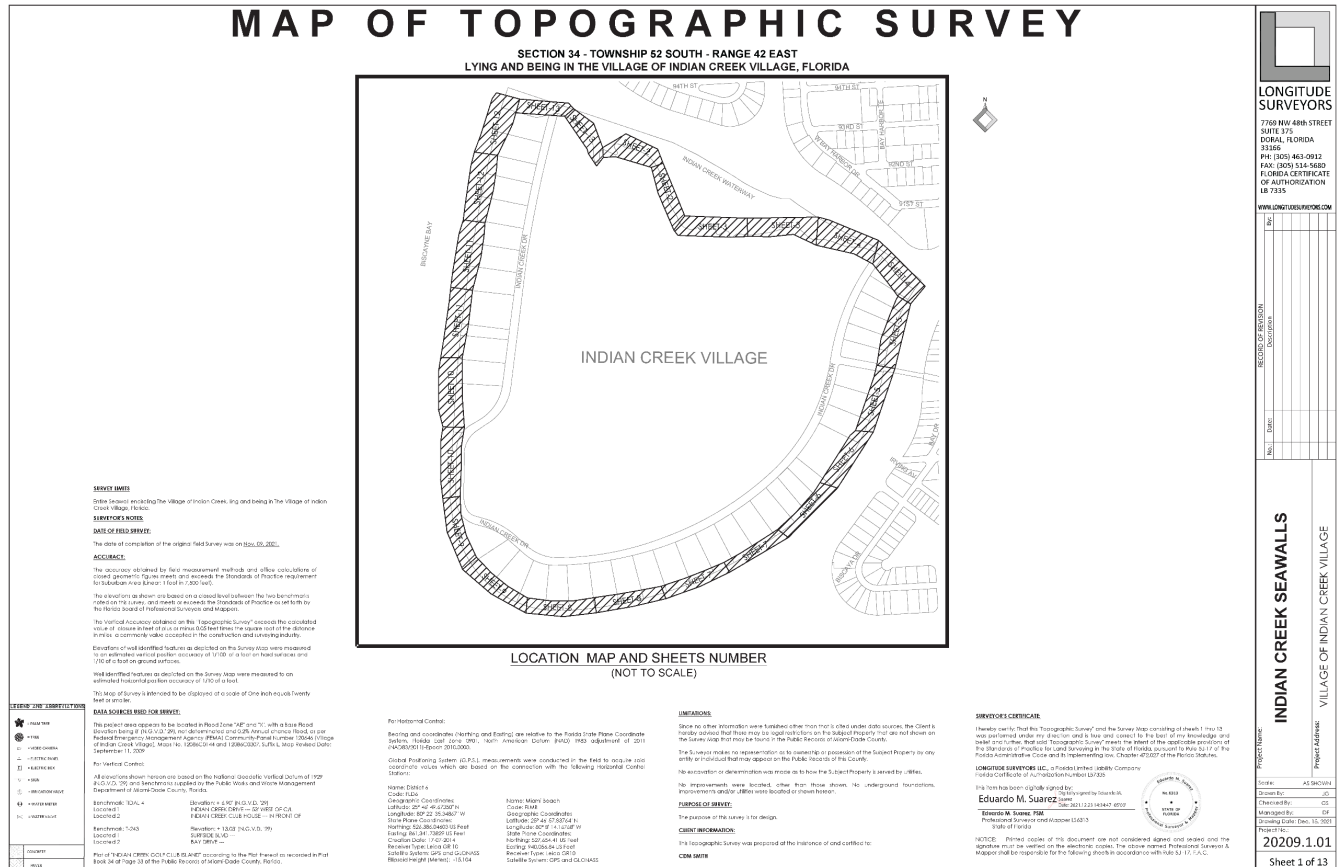


Figure 2 Indian Creek Village Seawall Survey

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3. Basis of Analysis

3.1 Top of Seawall Guidelines in South Florida

Table 1 presents the top of wall requirements for Miami-Dade County and other local municipalities.

Table 1 Southeast Florida Municipality Minimum Top of Wall Requirements

Municipality	Top of Wall Requirement (ft, NAVD88)	Reference
Miami-Dade County	3.4 (required minimum)	Miami-Dade County, 2022
	6.0 (proposed)	
North Bay Village	5.94 with ability to increase cap elevation to 8.44 in the future (proposed)	North Bay Village, 2022
City of Miami Beach	5.7 (public walls)	City of Miami Beach, 2022
	4.0 (private walls)	
Broward County	4.0 (by 2035)	Broward County, 2022
	5.0 (by 2050)	
City of Fort Lauderdale	3.9 (minimum)	City of Fort Lauderdale, 2022
	5.0 (recommended)	

3.2 Service Life

Seawalls are typically designed for a service life of between twenty-five and seventy-five years. For example, the U.S. Navy Waterfront Criteria (UFC, 2001) recommends a 25-year service life while the American Association of State Highway and Transportation Officials (AASHTO) considers up to 75 years (FDOT, 2018). For this study, we consider top of wall scenarios up to the year 2100.

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3.3 Coastal Engineering Considerations

3.3.1 Tides

Tides at Indian Creek are semidiurnal (two high and two low tides per 24-hour period), with a great diurnal range of approximately 2.3 feet. NOAA station #8723214 (Virginia Key) was selected as the reference station for this study due to its record length, proximity to the site, and established tidal datums based on the current tidal epoch (1983-2001) (NOAA, 2022). Table 2 provides the tidal datums relative to the North American Vertical datum of 1988 (NAVD-88).

Table 2 Tidal Datums for Station 8723214 (Virginia Key), Biscayne Bay, FL

Datum	NAVD-88 (ft)
Highest Observed (09-10-2017)*	3.79
King Tide Event (10-05-2017)	2.30
Highest Astronomical Tide (HAT)	1.14
Mean Higher High Water (MHHW)	0.23
Mean High Water (MHW)	0.15
NAVD-88	0.00
Mean Sea Level (MSL)	-0.86
Mean Tide Level (MTL)	-0.89
Mean Low Water (MLW)	-1.88
Mean Lower Low Water (MLLW)	-2.02
Lowest Observed (03-29-1994)*	-3.30

*Highest and lowest water observed water levels over the 28+ year record length (January 1994 – October 2022)

3.3.2 Seasonal Water Level Variations

Seasonal water levels vary according to fluctuations in coastal temperatures, winds, pressures, and other factors (NOAA, 2022). Peak water levels in Miami typically occur during the month of October and are approximately 0.52 ft (0.159 m) higher than normal (Figure 3). The lowest water levels occur during the spring and are approximately 0.23 ft (0.070 m) lower than normal.

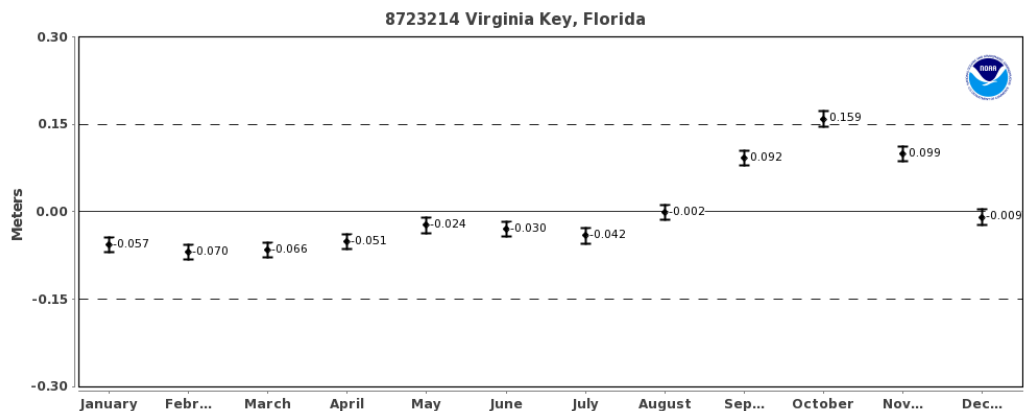


Figure 3 Seasonal Water Level Variations Relative to Mean Sea Level

3.3.3 Flood Elevations

Hurricanes, and the resulting storm surge, are the largest and most severe source of coastal flooding in Miami-Dade County. The water levels generated by extreme events can vary depending on location and the severity of the storm event being considered. To quantify the extreme water levels expected around the Village, two data sources were consulted and are detailed in the following sections.

3.3.3.1 Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) provides coastal flood risk data for communities throughout the United States and presents the results of their analyses in a Flood Insurance Study (FIS) accompanied by Flood Insurance Rate Maps (FIRMs). The present FIS (12086CV001B) is denoted as “Preliminary” and dated 02/25/2021 (FEMA, 2021). The FIS for Miami-Dade County, FL simulated flood elevations from passing storms using five parameters that influence surge (central pressure, radius to maximum winds, forward speed of the storm, shoreline crossing location, and crossing angle) and a joint probability method. The still water flood elevations are extracted from coastal transect number 111, which bisects the Village (see red line in Figure 4) and presented in Table 3.

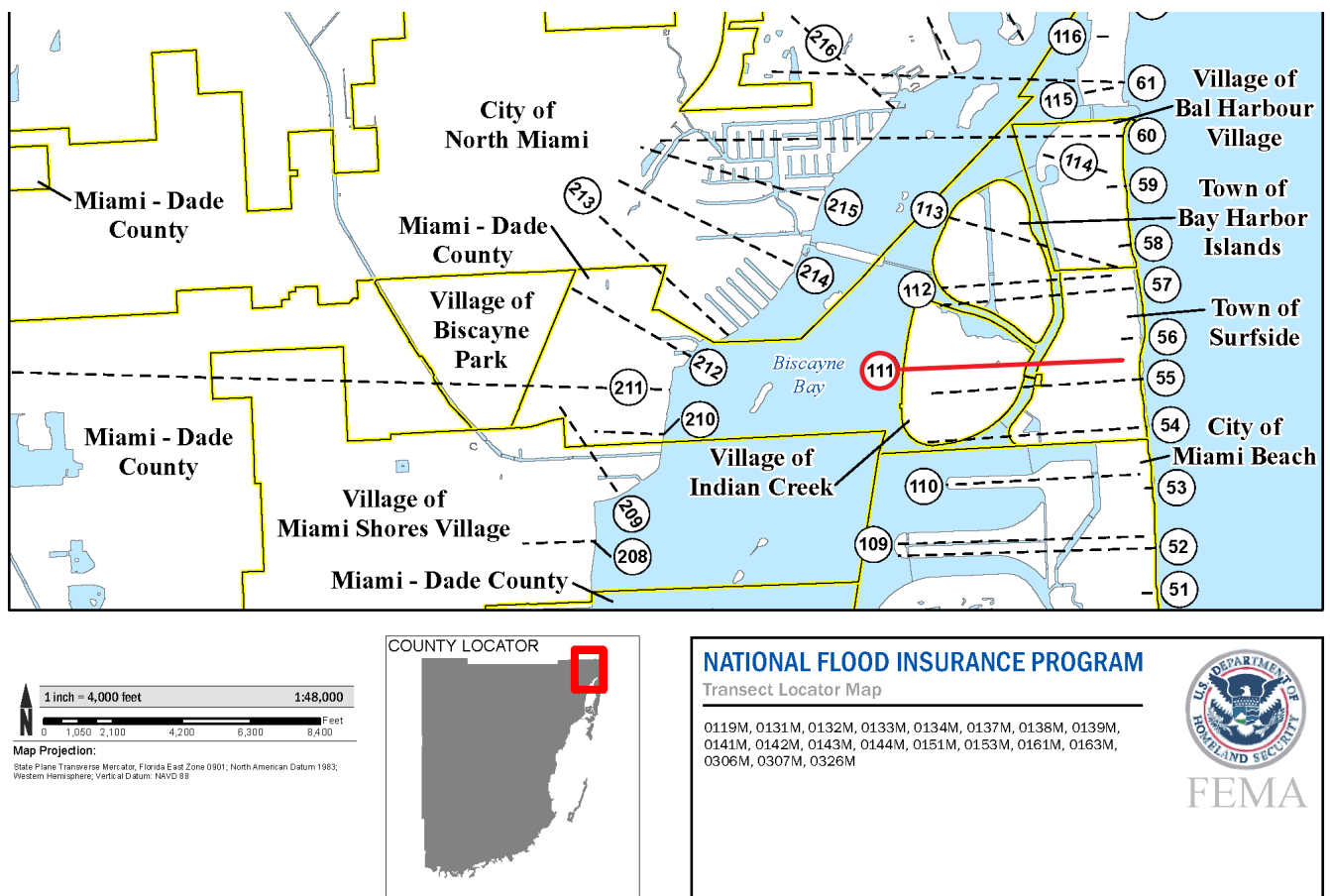


Figure 4 FEMA Coastal Transect Location Map

Table 3 FEMA Stillwater Flood Elevations

Return Interval	Water Surface Elevation (ft, NAVD88)
10-yr	2.4
25-yr	2.8
50-yr	5.8
100-yr	6.4

3.3.3.2 United States Army Corps of Engineers

The Coastal Hazards System is a secondary source of flood elevation data provided by the United States Army Corps of Engineers (USACE) – Engineer Research and Development Center (ERDC). The study provides probabilistic flood elevations by simulating numerous historic and synthetic storm events (USACE, 2022). Figure 5 depicts seven locations adjacent to the Village where flood elevations were extracted from a numerical model that simulated over 1,000 historic and synthetic storm events. Table 4 provides a statistical analysis of these results and presents the water surface elevation (WSE) by return period. The data indicate that the WSE does not vary greatly around the island. A summary of the minimum, maximum, and average WSE value per return period is listed at the bottom of the table.



Figure 5 Locations of Nodal Output Points Containing Extreme WSE Data

Table 4 Extreme WSE from the USACE South Atlantic Coastal Study

Node ID	WSE (ft, NAVD88)			
	10-yr	25-yr*	50-yr	100-yr
31657	4.13	4.94	5.54	6.04
31659	4.17	4.98	5.58	6.10
31660	4.13	4.91	5.51	6.00
31667	4.07	4.84	5.41	5.91
31675	4.17	4.98	5.58	6.10
31685	4.07	4.81	5.41	5.87
31688	4.13	4.94	5.54	6.04
Minimum:	4.07	4.81	5.41	5.87
Maximum:	4.17	4.98	5.58	6.10
Average:	4.12	4.91	5.51	6.01

*The SACS reports the 20-yr and the 50-yr return period WSE. Therefore, the 25-yr WSE reported above is estimated using linear interpolation.

3.3.3.3 Flood Elevations Selected for this Study

Table 5 provides a comparison of the FEMA and USACE flood elevations. The WSE values are similar for the higher return period events (50-yr and 100-yr) but can vary by up to 2.1 feet for the lower return interval events. The more conservative values (shaded in blue) are utilized in the freeboard calculations presented in section 3.3.5.

Table 5 Comparison of Stillwater Flood Elevations

WSE (ft, NAVD88)		
Return Period	FEMA	SACS
10-yr	2.4	4.17
25-yr	2.8	4.98
50-yr	5.8	5.58
100-yr	6.4	6.10

3.3.4 Sea Level Rise Projections

The Southeast Florida Regional Climate Change Compact (Compact) developed unified sea level rise (SLR) projections for planning and adaptation purposes in Palm Beach, Broward, Miami-Dade, and Monroe Counties. Initial sea level rise projections were released in 2011 and then updated in 2015 and 2019 (Compact, 2020). The Compact's recommendations for short (20-yr) and medium-term (50-yr) planning horizons utilize NOAA's 2017 Intermediate RSLR projections (NOAA, 2017). However, NOAA has since updated its RSLR projections (NOAA, 2022a). Therefore, an updated Compact guidance is summarized below in Table 6 utilizing the latest NOAA RSLR projections. Note that the values in Table 6 are relative to the year 1992. This is the central year in the current National Tidal Datum Epoch, which averages water levels over the time period of 1983 – 2001. This allows for a direct addition to the tidal datums provided in section 3.3.1.

Table 6 SE Florida Regional Climate Change Compact Unified SLR Projections (Updated to NOAA 2022)

Datum: Feet 1992 MSL		
Year	NOAA 2017 Int-High	NOAA 2022 Int-High*
2040	1.45	0.99
2050	2.01	1.38
2060	2.63	1.97
2070	3.38	2.69
2080	4.24	3.48
2090	5.19	4.37
2100	6.21	5.42

*NOAA 2022 values are recommended for this study.

3.3.5 Seawall Freeboard Calculation

Table 7 provides the freeboard for a range of top of seawall elevations relative to a combination of stillwater flood elevations and sea level rise projections from 2040 to 2100. For this study, freeboard is defined as the difference between the water surface level and the top of wall elevation. Negative (-) freeboard indicates that the water level exceeds the top of wall elevation (cells shaded in pink), while cells shaded in green indicate the water level does not exceed the top of wall elevation.

Table 7 Seawall Freeboard Scenarios

Wall Elevation (ft, NAVD88)	Return Interval	2040	2060	2080	2100
2	100-yr	-5.39	-6.37	-7.88	-9.82
	50-yr	-4.79	-5.77	-7.28	-9.22
	25-yr	-3.97	-4.95	-6.46	-8.4
	10-yr	-3.16	-4.14	-5.65	-7.59
	2017 King Tide	-1.29	-2.27	-3.78	-5.72
3	100-yr	-4.39	-5.37	-6.88	-8.82
	50-yr	-3.79	-4.77	-6.28	-8.22
	25-yr	-2.97	-3.95	-5.46	-7.4
	10-yr	-2.16	-3.14	-4.65	-6.59
	2017 King Tide	-0.29	-1.27	-2.78	-4.72
4	100-yr	-3.39	-4.37	-5.88	-7.82
	50-yr	-2.79	-3.77	-5.28	-7.22
	25-yr	-1.97	-2.95	-4.46	-6.4
	10-yr	-1.16	-2.14	-3.65	-5.59
	2017 King Tide	0.71	-0.27	-1.78	-3.72
5	100-yr	-2.39	-3.37	-4.88	-6.82
	50-yr	-1.79	-2.77	-4.28	-6.22
	25-yr	-0.97	-1.95	-3.46	-5.4
	10-yr	-0.16	-1.14	-2.65	-4.59
	2017 King Tide	1.71	0.73	-0.78	-2.72
6	100-yr	-1.39	-2.37	-3.88	-5.82
	50-yr	-0.79	-1.77	-3.28	-5.22
	25-yr	0.03	-0.95	-2.46	-4.4
	10-yr	0.84	-0.14	-1.65	-3.59
	2017 King Tide	2.71	1.73	0.22	-1.72
7	100-yr	-0.39	-1.37	-2.88	-4.82
	50-yr	0.21	-0.77	-2.28	-4.22
	25-yr	1.03	0.05	-1.46	-3.4
	10-yr	1.84	0.86	-0.65	-2.59
	2017 King Tide	3.71	2.73	1.22	-0.72
8.5	100-yr	1.11	0.13	-1.38	-3.32
	50-yr	1.71	0.73	-0.78	-2.72
	25-yr	2.53	1.55	0.04	-1.9
	10-yr	3.34	2.36	0.85	-1.09
	2017 King Tide	5.21	4.23	2.72	0.78

*Pink cells indicate scenarios where the water surface elevation exceeds the top of wall.

*Green cells indicate scenarios where the water surface elevation does not exceed the top of wall.

4. Recommendations

GHD recommends that any newly constructed seawalls consider a minimum top of seawall elevation of +6ft, NAVD-88 with the ability to raise the top of wall to +8.5ft, NAVD-88. This is based on:

- A constructed top of wall of +6ft, NAVD-88 remains above the 2017 King Tide until 2080.
- A constructed top of wall of +6ft, NAVD-88 remains above the 25-yr stillwater flood elevation until 2040.
- A constructed top of wall of +6ft, NAVD-88 remains above the 10-yr stillwater flood elevation until 2050.
- A constructed top of wall +6ft, NAVD-88 complies with Miami-Dade County's proposed top of wall guidance as well as other local municipalities.
- A future top of wall of +8.5ft, NAVD-88 remains above the 2017 King Tide until past 2100.
- A future top of wall of +8.5ft, NAVD-88 remains above the 10-yr stillwater flood elevation until 2090.
- A future top of wall of +8.5ft, NAVD-88 remains above the 25-yr stillwater flood elevation until 2080.

5. References

1. Broward County, 2022. Environmental Planning and Community Resilience Division. Broward County, FL. Proposed Minimum Seawall Height Policy. https://www.broward.org/Climate/Documents/201911_Tidal%20Flood%20Barrier_Deerfield_.pdf. Date accessed: 8-31-2022.
2. City of Ft. Lauderdale, 2022. Unified Land Development Regulations of Section 47-19.3. <http://gyr.fortlauderdale.gov/home/showdocument?id=15244>. Date accessed: 8-31-2022.
3. City of Miami Beach, 2022. Office of Marketing and Communications; Seawall Ordinance. <https://www.miamibeachfl.gov/wp-content/uploads/2021/01/Miami-Beach-Commission-Adopts-Seawall-Ordinance-.pdf>. Date accessed: 8-31-2022.
4. Federal Emergency Management Agency (FEMA), 2021. Flood Insurance Study – Miami-Dade County, Florida and Incorporated Areas. Flood Insurance Study Number 12086CV001B. Preliminary: February 25, 2021.
5. 2020 Florida Building Code, Accessibility, 7th Edition.
6. Miami-Dade County, 2022. Public Works Manual, Part 2, Design and Construction. PDF transmitted via email on August 15, 2022.
7. Longitude Surveyors, 2021. Indian Creek Village, Seawall Survey dated November 2021.
8. National Oceanic and Atmospheric Administration (NOAA), 2017. Global and Regional Sea Level Rise Scenarios for the United States. NOAA Technical Report NOS CO-OPS 083. January 2017.
9. NOAA, 2022. Tides & Currents. <https://tidesandcurrents.noaa.gov/stationhome.html?id=8723214>. Date accessed: 7/7/2022.
10. NOAA, 2022a. NOAA Digital Coast Sea Level Rise Viewer. <https://coast.noaa.gov/slr/>. Date accessed: 7-7-2022.
11. (NOAA, 2022b) NOAA Vertical Datum (VDATUM) <https://vdatum.noaa.gov/vdatumweb/>
12. North Bay Village, 2022. Unified Land Development Code North Bay Village Florida. Adopted September 19, 2017. https://library.municode.com/fl/north_bay_village/codes/unified_land_development_code?nodeId=UNLA_DECONOBAVIFL. Date accessed: 9-14-2022.

13. Seawall-Bulkheads, SEACON, Sustainability and Resilience, Florida Department of Transportation (FDOT), presented at the 5th International Federation for Structural Concrete Congress in October 2018.
<https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/structures/innovation/frp/fib-177-sssr.pdf?>
14. United States Army Corps of Engineers (USACE), 2022. Coastal Hazards System. ERDC-CHL,
<https://chs.erdcdren.mil/Home/Index>
15. Unified Facilities Criteria (UFC), 2001. General Criteria for Waterfront Construction; UFC 4-151-10.



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