



Beach Management Funding Assistance Program
Local Government Funding Request
Fiscal Year 2025/2026
Beach Projects Application

PART I: GENERAL INFORMATION

Local Sponsor	Lee County		
Federal ID Number (FEID)	59-6000702		
Primary Contact Name	Mike Campbell	Title	Marine Project Manager
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Additional Contact Information

Alternate Contacts:
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Steve Boutelle, Operations Manager
239-533-8109

PART II: CERTIFICATION

I hereby certify that all information provided with this application is true and complete to the best of my knowledge.

Signature of Local Sponsor	Michael Campbell	Digitally signed by Michael Campbell Date: 2024.07.31 10:43:30 -04'00'
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Electronic or scanned signatures accepted.

Printed Name	Michael Campbell	Date	7/31/2024
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PART III: EVALUATION CRITERIA

1. Project Name: (as listed in the Strategic Beach Management Plan)

Bonita Beach Groin Repair

2. Project Description: Include county, location with reference to DEP range monuments, brief project history, and description of proposed activities.

This is a 0.9-mile segment of critically eroded beach on Little Hickory Island at Bonita Beach. Beach restoration was completed in December 1995 with local funding. The non-federal Bonita Beach Restoration Project (R226-R230) was constructed along the northern Gulf shoreline of Little Hickory Island using sand from the ebb shoal of New Pass. Lee County was the local sponsor. The 0.78 mile project placed approximately 217,000 cy of sand between R225.5 and R230. The project included two terminal groins constructed at the north limits of the beach fill adjacent to Big Hickory Pass. The southern groin was damaged during the passage of Tropical Storm Gabrielle and was rehabilitated during the summer of 2003.

The two rock groins at the north end of the Bonita Beach nourishment project (Lee County, Florida) were significantly damaged by Hurricane Ian in September 2022. The purpose of the two groins, designed and originally constructed in 1994 - 1995, is to maintain a finite beach width along the project shoreline without over-impounding sand, provide a practical renourishment interval, and prevent the fill sand from flooding and shoaling Big Hickory Pass.

The groins' functionality is presently compromised by damage from Hurricane Ian, and both groins require physical repair. In executing the repair, no changes to the groins' overall location or layout appear warranted or recommended; however, it is recommended that the groins' elevation be increased by about 2 feet and their seaward length correspondingly extended by at least 18 to 20± ft (at the waterline), relative to their existing 1994/95 design conditions. This adjustment is recommended in order to reflect historical and near-term sea level changes and the corresponding increases in beach elevation. Additionally, in repairing the two groins, the armor stone size should be increased relative to the groins' existing conditions toward 3- to 4-ft boulder sizes (assuming limestone), particularly along the South Groin and the seaward ends of both groins. These recommended modifications should be undertaken as part of the post-Hurricane Ian repair. These modifications will increase the resiliency of the groins and the groins' functionality -- by improving the structures' stability (storm durability) and keeping up with rising sea level.



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3. Use of Requested Program Funds: Provide a brief description of tasks to be completed in each requested phase (Feasibility, Design, Construction, Monitoring, or USACE Multiphase). Indicate which tasks are cost reimbursement from previous fiscal years.

Construction - Completion of plans, specs, and construction drawings; bid services; implementation of groin repair with all permit required conditions and environmental monitoring and controls; construction inspection and completion certification; one year of post-construction monitoring (physical, turtle, bird).

4. Map: Provide as an attachment. The map(s) of the project area must be formatted at a minimum of 1" = 200' scale and include a compass rose and legend.

Map elements must include:

1. **Project boundary:** DEP reference monuments and shoreline designated as critically eroded
2. **Eligibility:** Indicate lengths of eligible shoreline based on criteria outlined in Chapter 62B-36.007, F.A.C.
 - a. Beach access locations: indicate primary or secondary access, and include the shoreline length, number and location of auto parking spaces, mass transit stops, bike parking spaces, and public restroom facilities within 1/4 mile walking distance of each access
 - b. Public lodging establishments: include the length fronting the project shoreline, and include the length of street-side frontage for lodging within 1/4 mile walking distance of a secondary beach access location
3. **Recreational benefits:** Comprehensive list of current land use designations of properties fronting the project shoreline
4. **Value of upland property:** Include one-quarter mile buffer and provide a comprehensive list of the values of properties (data from year 2023) that are enclosed or intersected by the buffer. The 2023 property value tax roll data and ArcGIS shapefiles can be obtained from the Department of Revenue website: https://floridarevenue.com/property/Pages/DataPortal_RequestAssessmentRollGISData.aspx. See Guidance Document for more information.

5. Project length: Total restored project length (in feet) of the critically eroded area (as listed in the Strategic Beach Management Plan).

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Location/ Access Name	DEP Reference Monument	Type of Access	Width of Access/ Frontage (ft)	Number of Eligible Units	Additional Width from Eligible Units (ft)	Total Eligible Shoreline (ft)	Website Link for DBPR License
Little Hickory Park (MM)	R-228.5	Secondary	248	85	1848.8	2096.8	
Access 9 (NN)	R-229.5	Secondary	44	4	211.2	255.3	
Access 8 (OO)	R-231	Secondary	0	5	264	264	
Bus Stop	R-229.5				105.6	105.6	
Bonita Beach Resort Motel	R-230.5				78.2	78.2	
Bus Stop	R-230.5				105.6	105.6	
Total						2905.5	



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7. Schedule and Budget: Provide as a separate attachment, if needed. Clearly indicate project phase: Feasibility (F), Design (D), Construction (C), Monitoring (M), or USACE Multiphase (USACE). Include the year of post-construction monitoring in the description.

• **Cost Reimbursement:** Specify eligible costs incurred during the three years prior to the current application's fiscal year that are not in a current DEP agreement and have not been reimbursed (this includes fiscal years 22/23, 23/24, and 24/25). Eligible costs will be added to the current funding request.

• **Current and Future Costs:** Specify eligible costs for the current application's fiscal year that are not in a current DEP agreement and have not been reimbursed as well as the estimated costs for the next 4 years. Note: If Construction costs are requested in the current fiscal year, then the Year 1 Post-Construction Monitoring costs will be added to the current funding request.

Fiscal Year	Project Phase	Description	Federal Cost	State Cost	Local Cost	Total Cost
22/23						
22/23						
22/23						
23/24						
23/24						
23/24						
24/25	Construction	Groin Repair	0	1,036,000	364,000	1,400,000
24/25						
24/25						
25/26	Monitoring	Year 1 post-construction monitoring	0	30,000	30,000	60,000
25/26						
25/26						
26/27	Monitoring	Year 2 post-construction monitoring	0	30,000	30,000	60,000
26/27						
26/27						



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Fiscal Year	Project Phase	Description	Federal Cost	State Cost	Local Cost	Total Cost
27/28	Monitoring	Year 3 post-construction monitoring	0	30,000	30,000	60,000
27/28						
27/28						
28/29	Monitoring	Year 4 post-construction monitoring	0	30,000	30,000	60,000
28/29						
28/29						
29/30	Monitoring	Year 5 post-construction monitoring	0	30,000	30,000	60,000
29/30						
29/30						

8. Tourism-related impacts: Criteria is calculated by the Department using 2023 data. For reference, tax data can be obtained from the Department of Revenue website: <https://floridarevenue.com/DataPortal/Pages/TaxResearch.aspx> See Guidance Document for more information.

- ☒ Current funding request includes construction and year one post-construction monitoring
☐ Project is managed by two or more counties

Additional comments

9. Federal involvement: The documentation to verify authorization, federal cost share percentage, and status of funding award must be provided with the application materials for the award of points.

Is the project Federally authorized by the USACE?

No

Authorization Year:

Expiration Year:

Does this project have a signed USACE Chief's report or Civil Works Congressional authorization for the requested phase?

No

USACE federal cost share percentage for this project (excluding FCCE):



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Select all that apply for the requested project phase(s) and include documentation with application materials.

- ☐ Executed USACE project agreement
☐ Included in USACE work plan
☐ Approved FEMA Project Worksheet
☐ Included in Congressional Appropriations Act
☐ Other documentation:

10. Storm damage reduction benefits: Criteria is calculated by the Department.

What is the volume (cy) of advanced nourishment lost since the last sand placement event of a beach restoration or nourishment project as measured above the Mean High Water contour? Data should be consistent with the annual post-construction monitoring reports.

See attached
assessment Reports.

For restoration projects, what is the historical erosion rate?

11. Cost effectiveness: Criteria is calculated by the Department. A project design analysis and supporting documentation must be provided with the application materials for the award of points. See Guidance Document for more information.

What is the proposed sand placement volume (cy)?

What is the nourishment interval (years)?

10

Select all that apply for the current project funding request:

- ☒ Enhanced longevity: Propose structural or design components that could extend the beach nourishment interval
☐ Dune addition: Incorporate new or enhanced dune structures or new or existing dune restoration and revegetation projects
☐ Innovative technology: Propose innovative technologies designed to reduce project costs
☐ Regionalization: Two or more local sponsors manage projects together or projects propose regional sediment management strategies to conserve sand resources or reduce project costs

Additional comments
for storm damage
reduction benefits and
cost effectiveness

Enhanced design to extend beach nourishment interval.
Increased dune planting.

See attached assessment report.



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12. Previous state commitment

Has the Department previously reviewed, approved, and cost-shared on a feasibility or design phase for this project?

Has the current proposed project phase(s) received a partial state appropriation within 3 years of phase completion?

Additional comments

13. Accessible beach area: Criteria is calculated by the Department. Provide additional information for consideration.

Describe the landward and seaward edge of the accessible beach width

292,500 sq ft as defined by the 3900' project length and 75' design width per 2021 Performance Evaluation Report (attached).

Provide the project boundaries (R-monuments)

R-226 through R-230

Provide citations of reference sources

14. Recreational benefits: Provide the percentage of linear footage within the project boundaries which is zoned recreational or open space; for commercial use; or to allow for public lodging establishment, or the equivalent. Provide additional documentation and DBPR website link in a separate attachment, if needed.

Recreation = 248 + 50'
Commercial = 202 + 209'
Total = 709 / 3900 = 18.2%

15. Mitigation of inlet effects: Criteria is calculated by the Department.

Additional comments

Project is within the AOI of Big Hickory Pass to the North, a regional inlet management study was just completed.

16. Successive unfunded requests

Is the current proposed project phase(s) a successive, unfunded request? If so, how many years of successive request(s) is the current application?

Does the successive request add the construction phase?



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17. Environmental habitat enhancement: Criteria is calculated by the Department. See Guidance Document for more information.

Is the project within a designated critical habitat area for threatened or endangered species that is subject to extensive shoreline armoring?

No

Is the project within a non-designated area where extensive shoreline armoring threatens the habitat of threatened or endangered species?

Yes

If yes to either of the above, does the project exceed best management practices to incorporate turtle-friendly designs and management strategies to protect resources or benefit critical habitat preservation?

Yes

Provide an explanation and supporting documentation for the strategies which exceed best management practices

The project area is extensively armored and was without suitable nesting habitat for marine turtles prior to restoration. Enhancement of dune and turtle friendly slope will benefit marine turtle nesting habitat.

18. Readiness to construct

Does the project have an active state permit?

No

Does the project have an active federal permit?

No

Permit number

Permit number

Authorization date

Authorization date

Expiration date

Expiration date

Have all necessary easements been acquired for the upcoming or proposed construction phase?

Yes

Has the necessary local funding been secured for the proposed project? If so, provide a copy of the draft Resolution. The signed Resolution is due by September 23, 2024.

Yes

Is an Erosion Control Line established along the project length?

Yes

Additional comments for readiness to construct



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Provide additional information and comments below or attach supporting documents.

4. Maps attached

10. Bonita Beach 2022 Monitoring Report, Post-Ian Assessment Report and Bonita Beach Terminal Groin Damage Report attached.

13. Bonita Beach Nourishment Project Performance Evaluation Report 2021 attached.

18. Draft Resolution attached.

**BONITA BEACH NOURISHMENT PROJECT
PERFORMANCE EVALUATION REPORT**



Prepared for:

**Lee County Natural Resources Division
1500 Monroe Street
Ft. Myers, Florida 33901**

September 29, 2021

CEC File No. 21.078

Prepared by:



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1 INTRODUCTION

Coastal Engineering Consultants, Inc. (CEC) is assisting Lee County with conducting a performance evaluation of the Bonita Beach Nourishment Project. A location map is shown in Figure 1.

The scope of work includes the following tasks.

- Review historic permits and monitoring survey data of 1995, 2004 and 2014 projects. Compute shoreline and volume changes and background erosion from initial restoration through nourishment events.
- Vary beach berm elevations and widths in SBEACH model to identify those that provide storm damage reduction benefits from 25-year return interval storm event and account for sea level change. Quantify advanced nourishment and equilibrium profile adjustment components to offset background erosion during nourishment cycle and offset profile equilibration, respectively.
- Conduct sea level change analysis applying industry standard techniques (e.g., USACE methodology) and estimate rise in sea level since the original 1995 project through expiration date of existing permit in 2028.
- Utilize available survey data of Little Hickory Island, Big Hickory Pass and flood shoal to estimate shoaling rates. Evaluate qualitative performance of beach fill and terminal groins.
- Coordinate with County and their outside consultant performing inlet management study. Evaluate Bonita Beach Nourishment Project impacts on Big Hickory Pass and shoals. Discuss options to enhance Project performance and reduce Big Hickory Pass shoaling including beach fill planforms and coastal structures.

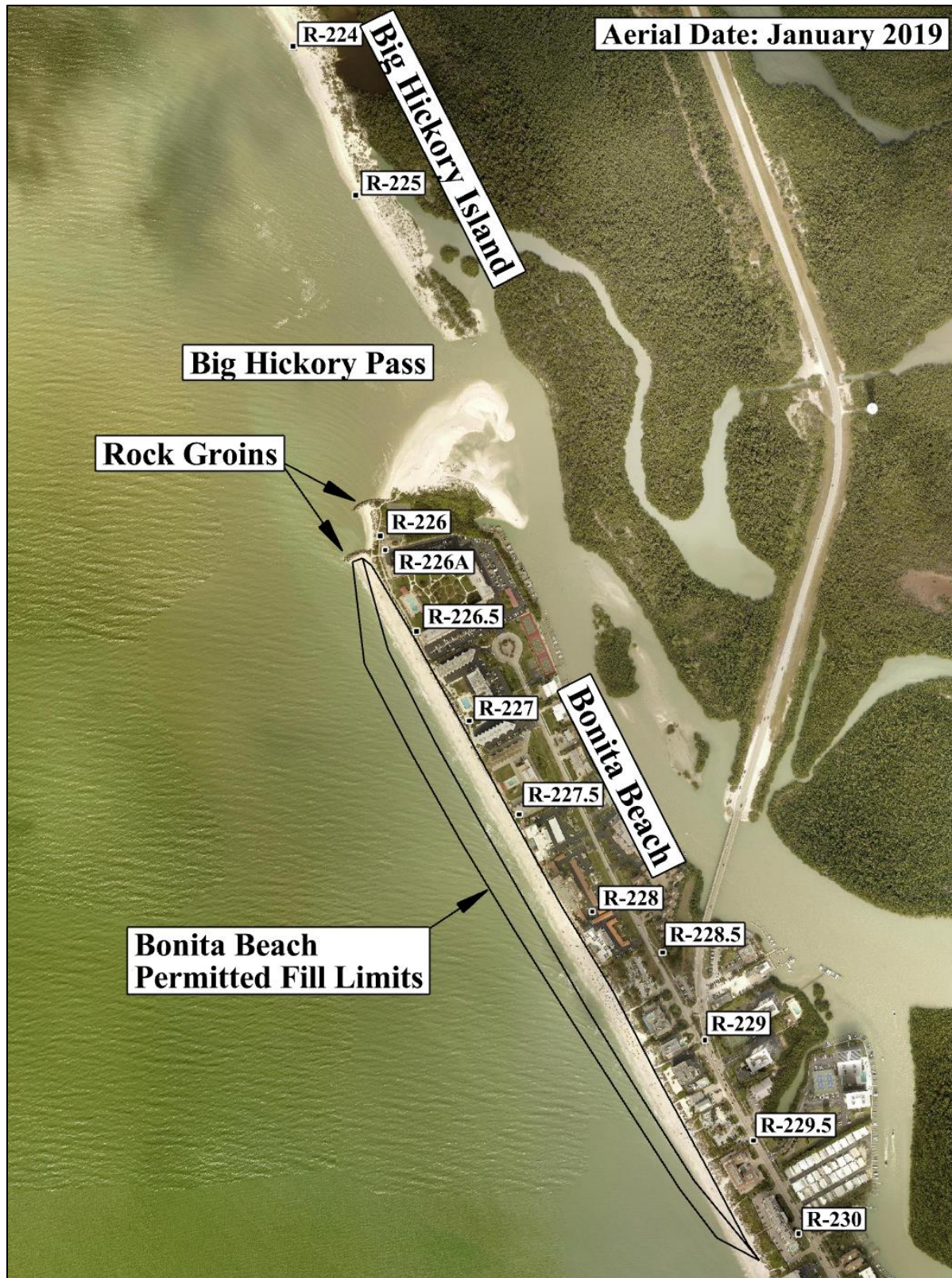


Figure 1. Location Map.

2 PROJECT HISTORY

The original Bonita Beach restoration project was completed in November 1995 and included the placement of approximately 217,000 cubic yards (cy) of sand and the construction of two terminal rock groins at the northern end of the project (Olsen, 1996). The construction of the project resulted in an initial seaward advancement of the shoreline along the project length of 120 to 160 feet, tapering to 0 feet along the southern 1,500 feet of the project length. The groins extended approximately 200 feet seaward (Figure 2).

The first maintenance nourishment was completed in May 2004. The 2004 maintenance design extended the shoreline seaward 112 to 125 feet as measured from the surveyed 2001 shoreline with an anticipated design fill life of approximately 6 years. Approximately 145,000 cy were placed within the permitted limits of the Bonita Beach fill template. Design documentation from that effort did not indicate specific dimensions or fill quantities for a design minimum beach/berm or advance maintenance fill, although it is assumed that 115-foot width was based on some combination of a storm damage reduction berm buffered by sacrificial advanced maintenance. The 2004 design also introduced a separate dune feature.

The second maintenance nourishment was completed in September 2014. Approximately 140,200 cy were placed within the permitted limits of the Bonita Beach fill template. The 2014 maintenance design extended the shoreline seaward 105 to 134 feet. Where dunes existed, the fill template extended from the vegetation line seaward. No dunes were restored as part of the construction event.

Table 1 presents a summary of beach fill design features for the three projects.

Table 1. Beach Fill Design Summary: 1995, 2004, and 2014 Projects.

Design Features	Project		
	1995	2004	2014
Restored Length (ft)	4,100	3,940	3,940
Fill Volume (cy)	217,000	145,000	140,200
Fill Width Range (ft)	120 – 160	112 – 125	105 – 134
Berm Crest Elevation (ft, NAVD88)	4.3	4.3	4.3
Berm Slope (V:H)	1:10	< 1:10	1:15
Dune Elevation (ft, NAVD88)	No Dune	5.3	No Dune
Dune Slope (V:H)	No Dune	1:3	No Dune
Borrow Area Source	New Pass Ebb Shoal	Big Carlos Pass Ebb Shoal	Big Carlos Pass Ebb Shoal



Figure 2. Photo of 1995 Construction Project (from Olsen, 1996).

3 STORM EVENTS

CEC reviewed historical storm data that potentially impacted the Project area since its initial construction in 1995. A total of nine (9) storm events were identified ranging in strength from Tropical Storm to Category 4 Hurricane which occurred within 50 miles from Bonita Beach between 1995 and 2020 noting that Tropical Storm Gabriel (2001) was approximately 70 miles from the area but caused damage to the groins resulting in a FEMA funded repair project and for this reason was also included. These storms are presented in Figures 3 and 4 and Table 2.

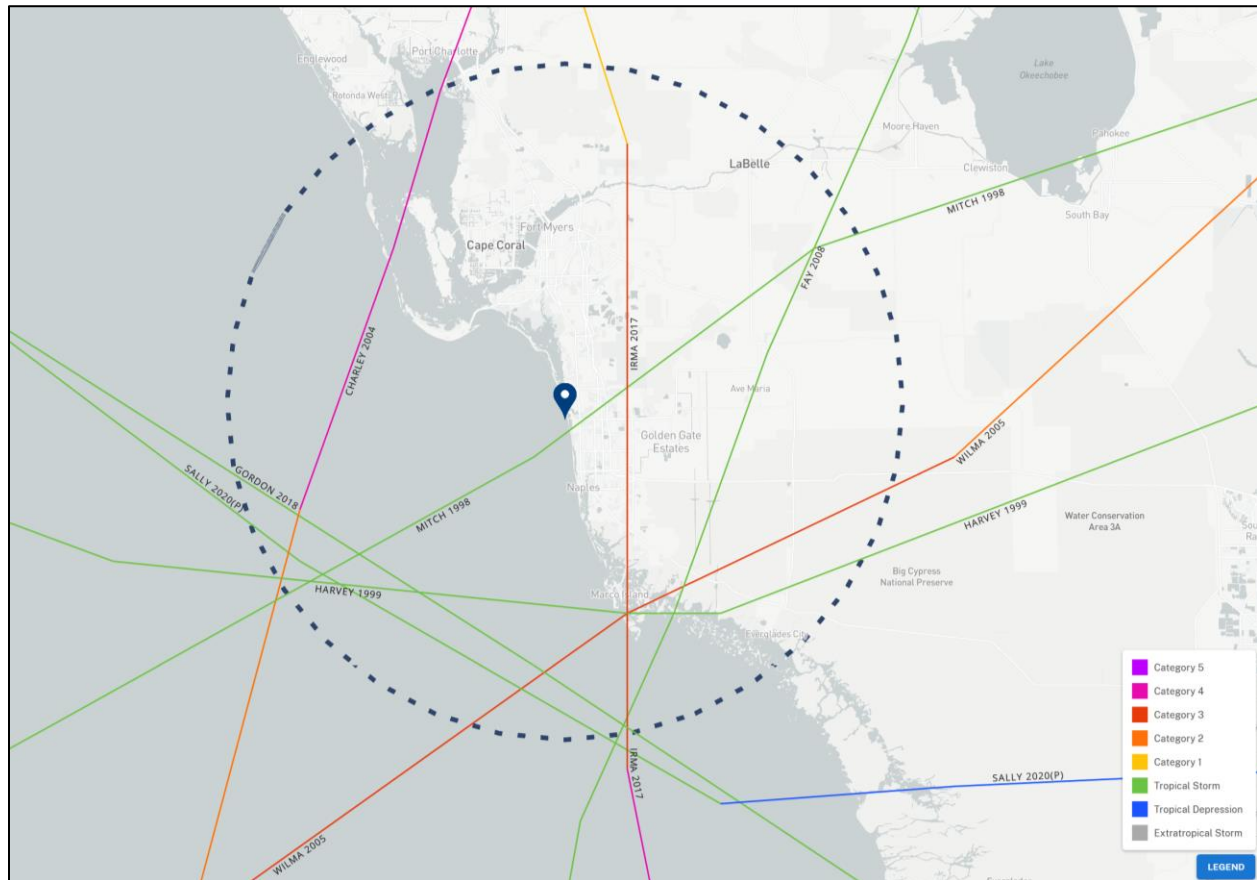


Figure 3. 1995-2020 Storm Events within 50-mile Radius.

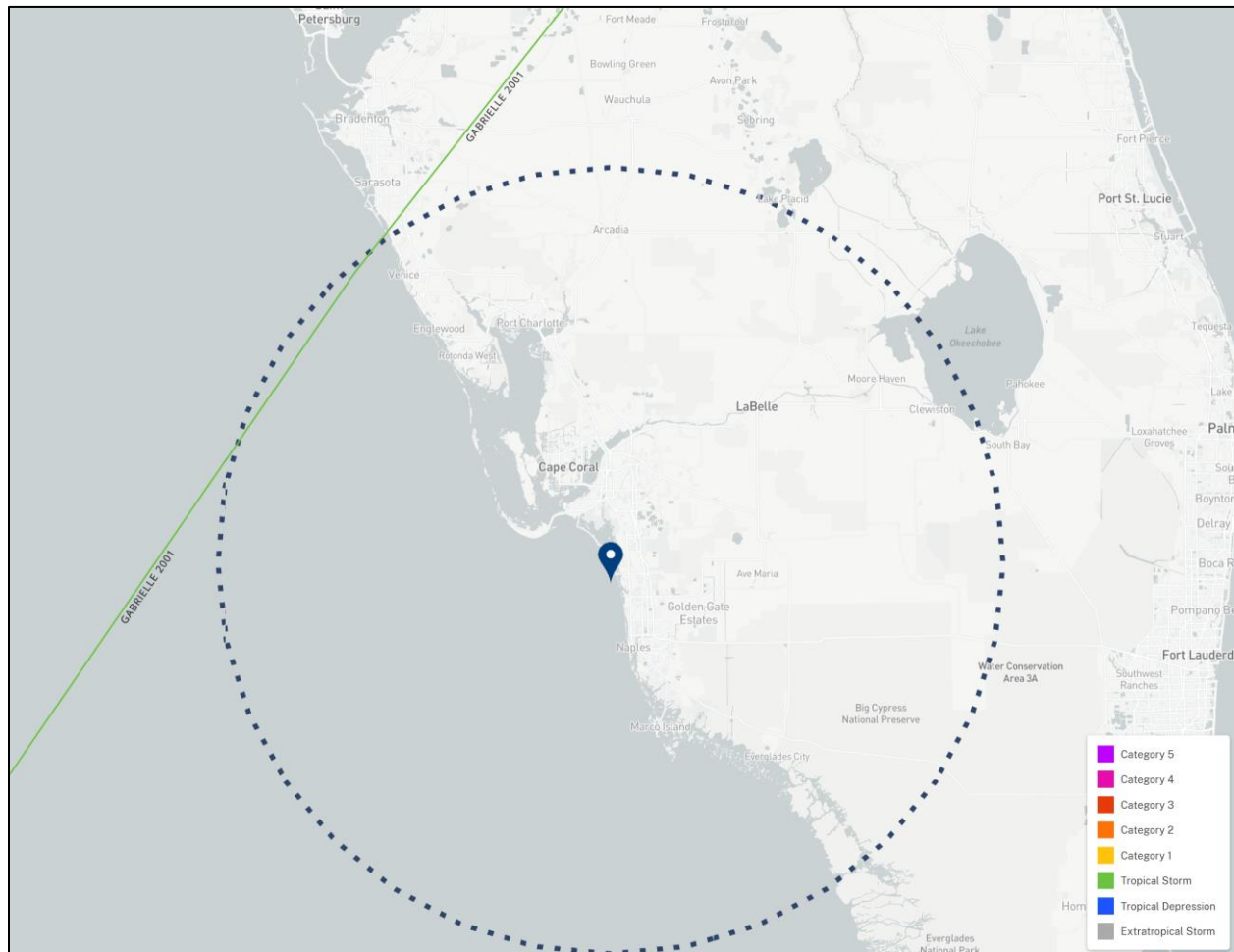


Figure 4. 2001 Tropical Storm Gabriel within 70-mile Radius.

Table 2. 1995-2020 Storm Events.

Year	Name	Strength	Proximity (miles)
1998	Mitch	Tropical Storm	4
1999	Harvey	Tropical Storm	30
2001	Gabriel	Tropical Storm	70
2004	Charley	Category 4	31
2005	Wilma	Category 3	32
2008	Fay	Tropical Storm	26
2017	Irma	Category 4	9
2018	Gordon	Tropical Storm	35
2020	Sally	Tropical Storm	40

4 PROJECT PERFORMANCE ASSESSMENT

4.1 Shoreline Evolution

CEC reviewed profile and Mean High Water (MHW) survey data pertinent to the last two restoration projects in 2004 and 2014 including pre-construction, post-construction and monitoring surveys. The data were analyzed to determine:

- average fill placed during construction measured at MHW;
- typical adjustment that beach profiles undergo immediately after construction, which is also known as profile equilibration; and
- post-construction erosion rates.

Tables 3 and 4 present the data used in the analysis for the 2004 and 2014 projects, respectively. Both projects had a similar fill width placed at MHW, 103.7 feet vs. 101.7 feet. The equilibration rate varied from 49.5 feet per year in the 2004 Project to 38.6 feet per year in the 2014 Project, with the average value of 44 feet.

The post-construction shoreline change rates varied from 4.6 feet per year in the 2004 Project to 7.1 feet per year in the 2014 Project, with the average value of 5.9 feet per year. Over an 8-year project life cycle this equates to approximately 50 feet.

To further interpret how the restoration projects performed over time, CEC created graphics visualizing how shoreline positions evolved over time since the 2004 pre-construction conditions at each R-monument spanning the shoreline segment from R-223 on Big Hickory Island to the north of the Project area to R-235 to the south and at each half-R-monuments within the fill area between R-226A and R-230. These graphics are presented in Figures 5 and 6 and also depict restoration and storm events.

Both projects showed similar trends of shoreline evolution after the fill was placed. Both projects were impacted by three significant storm events. The north segment of the fill area between R-226.5 and R-227.5 exhibited higher profile equilibration rates and post-construction erosion rates which may be due to the effect of the two groins. Within this segment, the shoreline eroded landward of the 2004 post-construction position before the 2014 project was constructed. Between R-228 and R-229.5, the fill performance was better with lesser equilibration and erosion rates. Within this segment, the 2014 pre-construction shoreline position was still seaward of 2004 conditions. South of R-230, the shoreline has been stable or accretional. This segment benefitted from the 2004 and 2014 projects as a percentage of the placed sand diffused and transported south of the fill limits. Based on the 2020 survey, an average of 15.0 feet of the 101.7-foot wide fill placed in 2014 was still remaining within the fill area.

Table 3. 2004 Project Performance Analysis.

Mon.	Area	Shoreline (MHW) Position (feet)				Fill Placed Jan 2004-July 2004 (feet)	MHW Change Rate (Equilibration) July 2004-Nov 2005 (feet per year)	MHW Change Rate Nov 2005-June 2014 (feet per year)	Average Fill Placed Jan 2004-July 2004 (feet)	Average MHW Change Rate (Equilibration) July 2004-Nov 2005 (feet per year)	Average MHW Change Rate Nov 2005-June 2014 (feet per year)
		Pre Con Jan 2004	Post Con July 2004	1 st Year Mon Nov 2005	Pre Con June 2014						
R-223	Big Hickory Is.	127.6	117.3	60.4	123.2		-42.8	7.3			
R-224	Big Hickory Is.	28.5	28.6	-55.1	-32.3		-62.9	2.7			
R-225	Big Hickory Is.	13.9	8.1	-43.4	-10.2		-38.7	3.9			
R-226	Groins	75.8	71.8	109.5	81.0		28.4	-3.3			
R-226A	Bonita Beach (BB) Fill Area	143.2	190.4	162.3	154.6	47.2	-21.1	-0.9	Taper	Taper	Taper
R-226.5		96.7	152.2	107.4	83.7	55.5	-33.7	-2.8	103.7	-49.5	-4.6
R-227		105.0	217.0	131.3	91.8	111.9	-64.4	-4.6			
R-227.5		82.4	206.9	128.4	79.7	124.5	-59.0	-5.7			
R-228		153.7	272.3	200.8	153.4	118.6	-53.8	-5.5			
R-228.5		353.8	470.2	407.5	356.0	116.4	-47.1	-6.0			
R-229		323.0	438.0	367.9	330.0	114.9	-52.7	-4.4			
R-229.5		294.0	378.2	330.6	305.3	84.2	-35.8	-2.9			
R-230		276.6	287.4	291.4	279.1	10.9	3.0	-1.4	Taper	Taper	Taper
R-231	BB south of Fill	350.4	357.2	358.1	373.8		0.6	1.8			
R-232	BB south of Fill	97.7	101.7	94.9	126.5		-5.1	3.7			
R-233	BB south of Fill	280.6	299.2	288.9	317.4		-7.8	3.3			
R-234	BB south of Fill	179.0	185.8	181.9	195.6		-2.9	1.6			
R-235	BB south of Fill	105.5	112.0	105.7	117.3		-4.8	1.3			

Table 4. 2014 Project Performance Analysis.

Mon.	Area	Shoreline (MHW) Position (feet)				Fill Placed June 2014-Jan 2015 (feet)	MHW Change Rate (Equilibration) Jan 2015-June 2016 (feet per year)	MHW Change Rate June 2016-June 2020 (feet per year)	Average Fill Placed June 2014-Jan 2015 (feet)	Average MHW Change Rate (Equilibration) Jan 2015-June 2016 (feet per year)	Average MHW Change Rate June 2016-June 2020 (feet per year)
		Pre Con June 2014	Post Con Jan 2015	1 st Year Mon June 2016	5 th Year Mon June 2020						
R-223	Big Hickory Is.	123.2	109.4	79.5	85.5		-21.0	1.5			
R-224	Big Hickory Is.	-32.3	-32.8	-49.9	-6.2		-12.0	10.9			
R-225	Big Hickory Is.	-10.2	-4.1	36.1	-15.7		28.3	-12.9			
R-226	Groins	81.0	81.0	111.1	104.2		21.2	-1.7			
R-226A	Bonita Beach (BB) Fill Area	154.6	189.2	149.3	168.1	34.6	-28.1	4.7	Taper	Taper	Taper
R-226.5		83.7	150.3	95.3	85.4	66.6	-38.7	-2.5	101.7	-38.6	-7.1
R-227		91.8	201.8	123.5	106.6	110.0	-55.1	-4.2			
R-227.5		79.7	199.5	128.4	97.5	119.8	-50.1	-7.7			
R-228		153.4	272.3	215.5	177.0	118.9	-40.0	-9.6			
R-228.5		356.0	468.7	420.8	383.3	112.6	-33.7	-9.4			
R-229		330.0	435.6	389.6	350.6	105.6	-32.4	-9.7			
R-229.5		305.3	383.5	354.9	327.7	78.2	-20.1	-6.8			
R-230		279.1	298.6	320.3	299.8	19.6	15.2	-5.1	Taper	Taper	Taper
R-231	BB south of Fill	373.8	368.2	390.3	394.3		15.6	1.0			
R-232	BB south of Fill	126.5	128.1	134.1	145.5		4.2	2.9			
R-233	BB south of Fill	317.4	315.7	317.6	327.9		1.4	2.6			
R-234	BB south of Fill	195.6	195.8	197.8	200.9		1.4	0.8			
R-235	BB south of Fill	117.3	115.7	125.0	123.1		6.5	-0.5			

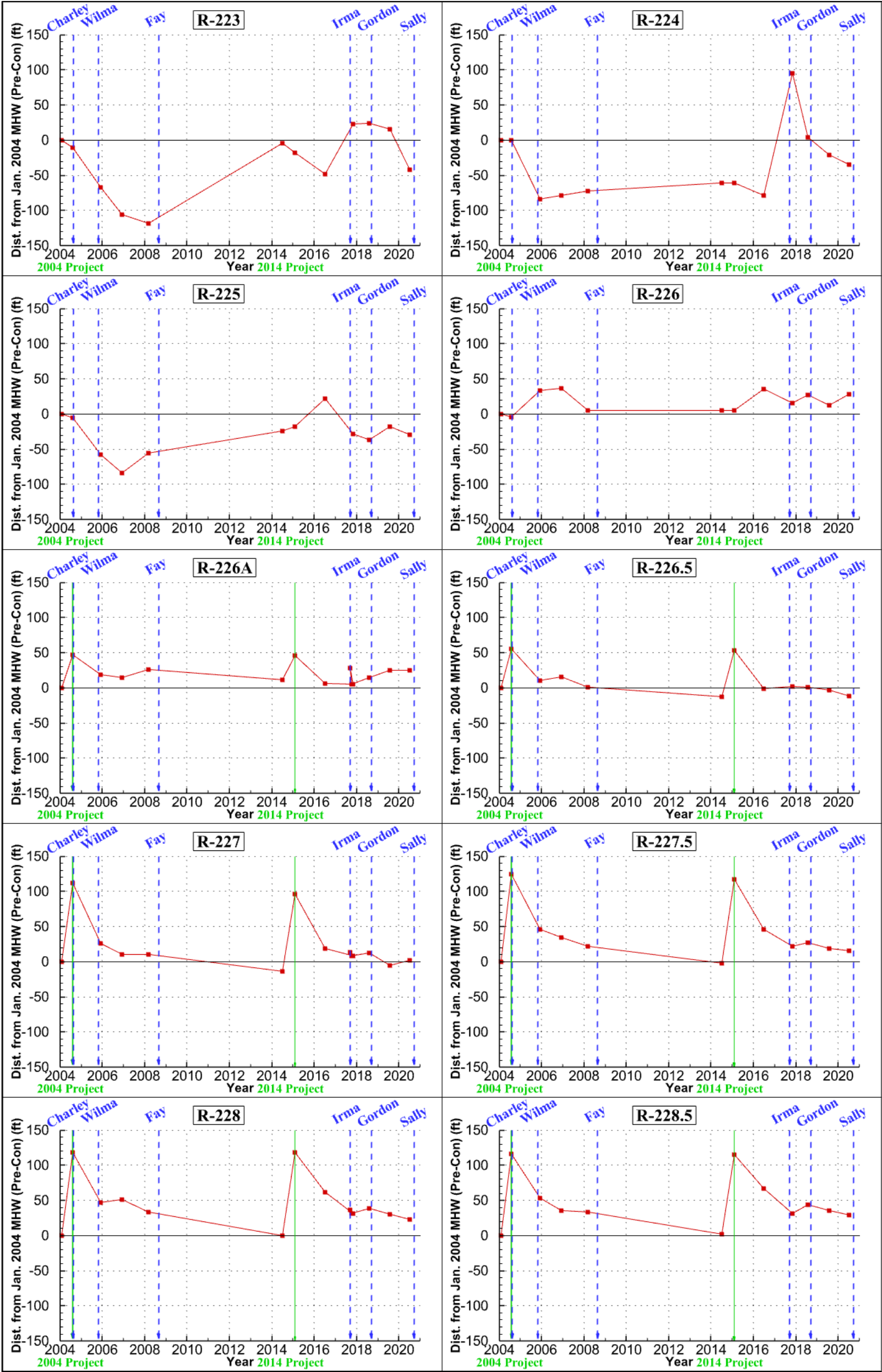


Figure 5. Shoreline Evolution Since 2004, R-223 – R-228.5.

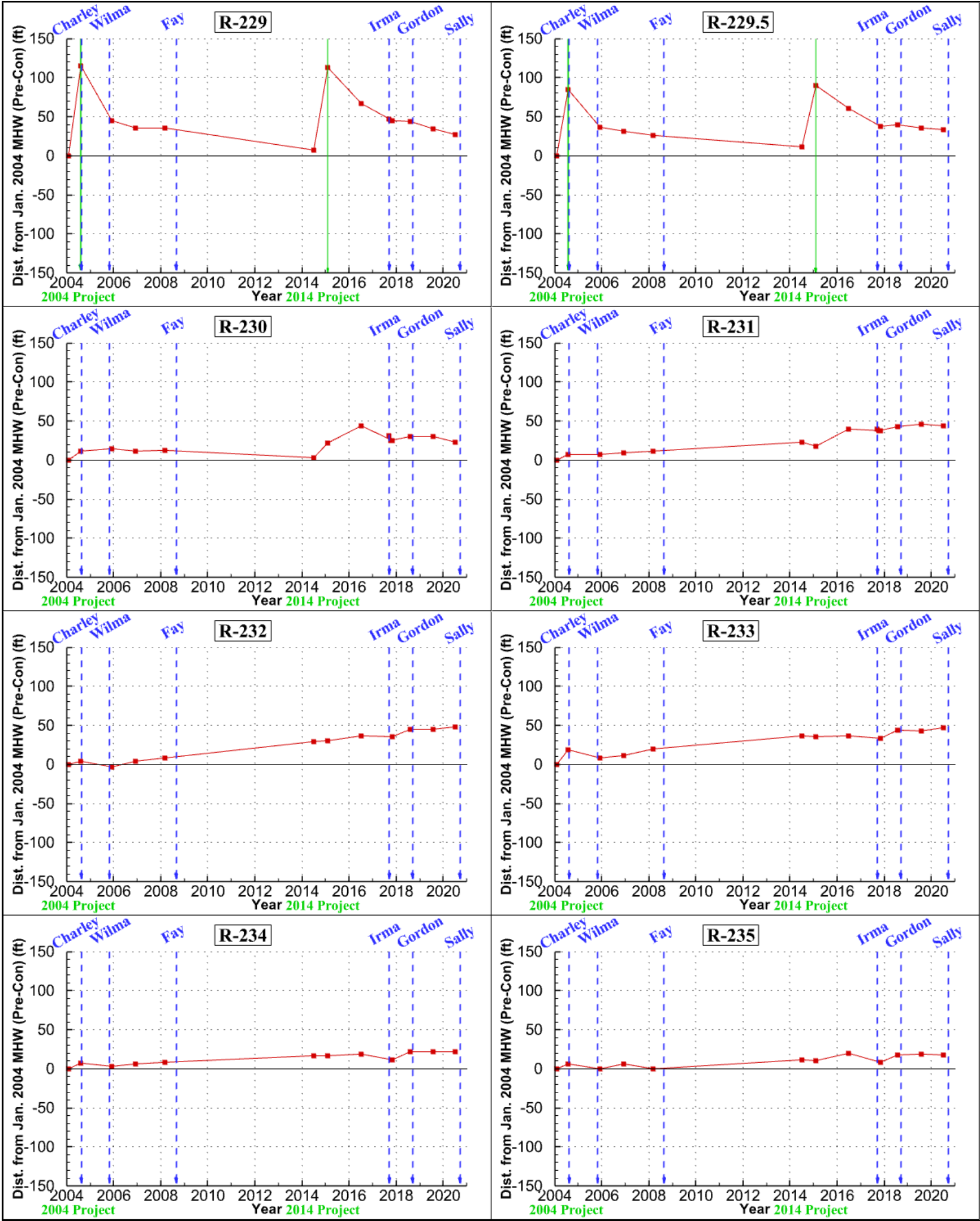


Figure 6. Shoreline Evolution Since 2004, R-229 – R-235.

4.2 Overall Shoreline and Volume Change Analysis

On behalf of Lee County, CEC has conducted the annual monitoring surveys and reporting for Big Hickory Island and Bonita Beach from the 2014 renourishment event through 2020. Table 5 presents the summary of the average MHW shoreline changes and volume changes to depth of closure for each annual monitoring period and the overall changes from the 2015 post-construction survey through 2020 for the north of beach fill, beach fill, and south of beach fill shoreline reaches.

4.2.1 North of Beach Fill

Big Hickory Island experienced a minor shoreline loss of 2.9 feet and a volumetric gain of 73,090 cy. The shoreline and volumetric gains are attributed to the 2017 New Pass dredging project and beneficial use placement of over 68,000 cy of sand from 600 feet north of R-223 to 200 feet south of R-224 (CEC, 2018).

The shoreline north of the terminal groins to Big Hickory Pass experienced a shoreline gain of 23.3 feet and a volumetric gain of 18,730 cy.

4.2.2 Beach Fill

The fill segment experienced shoreline and volume losses of 67.0 feet and 71,240 cy, respectively. For each monitoring period the volume remaining within the fill template landward of MHW was computed. Over 50% of the initial volume placed above MHW eroded within 18 months after construction. Over 20% eroded during the next 12 months at which time the volume remaining within the fill template landward of MHW remained relatively the same through 2020 at 30%.

4.2.3 South of Beach Fill

The shoreline segment south of the beach fill experienced shoreline and volume gains of 13.6 feet and 54,750 cy, respectively. These gains are directly attributed to beach fill diffusion and natural sediment transport from north to south.

4.3 Big Hickory Pass Analysis

A morphologic change analysis was completed utilizing the 2015 post-construction survey (Figure 7) and 2020 annual monitoring survey (Figure 8) to examine the changes in Big Hickory Pass. Figure 9 depicts the morphologic changes over 5.5 years. Significant gains are observed as sand transported north of the terminal groins and into the pass. Using the 2015 MHW shoreline at the pass throat and the +2-foot shoaling contour line as limits for measuring infill volume changes, a volume gain of 26,200 cy over the 5.5-year period was computed, equating to an annualized shoaling rate of 4,760 cy per year.

Channel deflection was also observed from 2015 to 2020. In 2015 the channel was due west, while in 2020 the channel was due northwest and parallel to the Big Hickory Island shoreline (Figure 9).

Table 5. 2015 to 2020 Shoreline and Volume Change Summary.

Shoreline Segment	2019-2020		2018-2019		2017-2018		2016-2017		2015-2016	
	MHW Change (ft)	Volume Change to DOC (cy)	MHW Change (ft)	Volume Change to DOC (cy)	MHW Change (ft)	Volume Change to DOC (cy)	MHW Change (ft)	Volume Change to DOC (cy)	MHW Change (ft)	Volume Change to DOC (cy)
BHI (R-223 to BHP)	-27.7	5,168	-4.8	28,195	-32.8	-8,541	64.6	63,965	-2.2	-15,697
BB North (BHP to R-226)	15.6	3,119	-14.7	2,754	12.4	-5,922	-20.2	5,624	30.2	13,151
BB Fill (R-226A to R-230)	-3.8	-13,108	-5.3	-2,431	4.9	-10,426	-18.1	-9,161	-44.7	-34,114
BB South (R-230 to R-235)	1.0	-3,621	0.6	11,667	8.8	13,406	-5.1	11,025	8.3	22,271
	Fill Vol. Remaining Landward of MHW (cy)		Fill Vol. Remaining Landward of MHW (cy)		Fill Vol. Remaining Landward of MHW (cy)		Fill Vol. Remaining Landward of MHW (cy)		Fill Vol. Remaining Landward of MHW (cy)	
BB Fill (R-226A to R-230)	29,168	30%	33,484	34%	31,302	32%	25,972	26%	47,449	48%

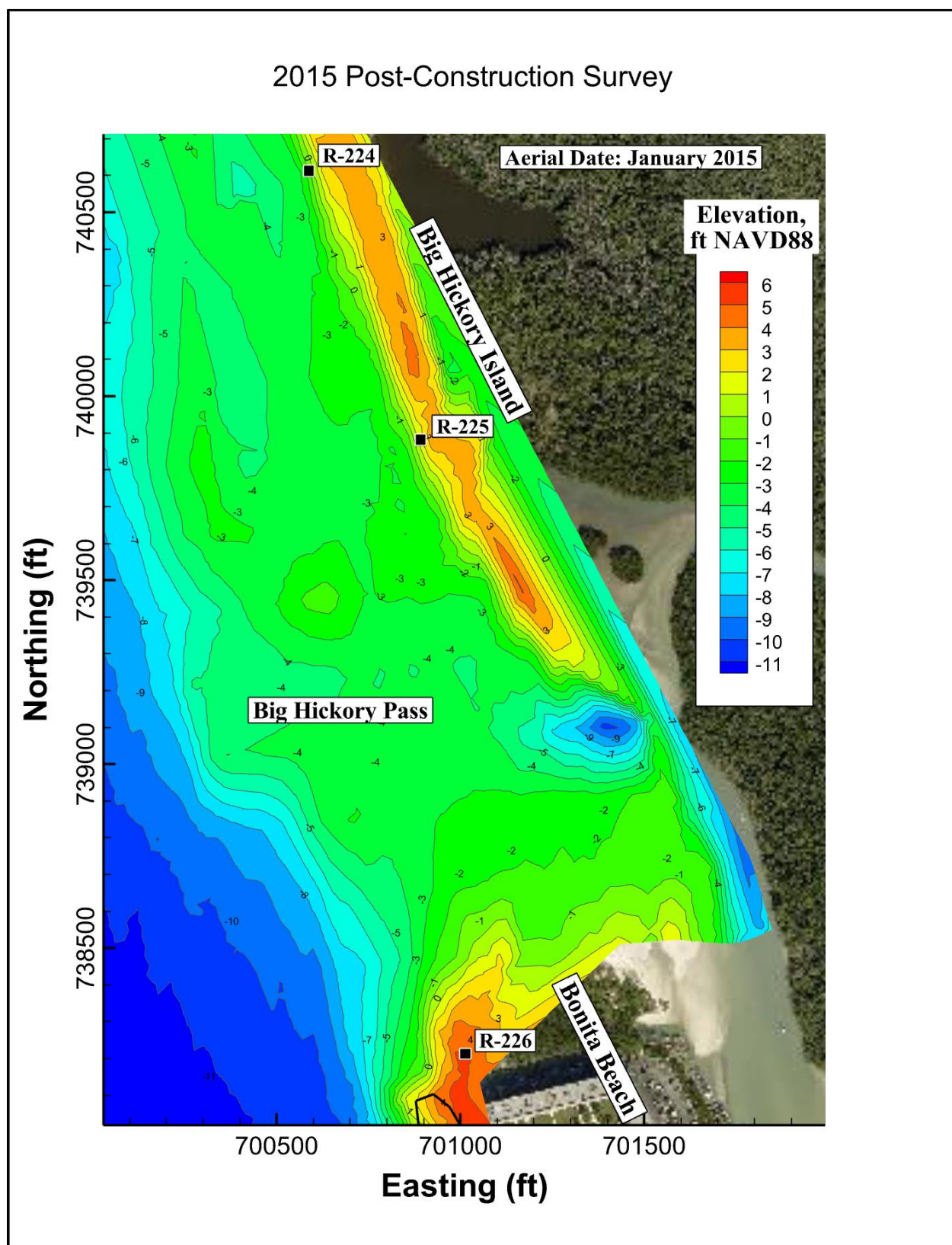


Figure 7. January 2015 Big Hickory Pass Survey.

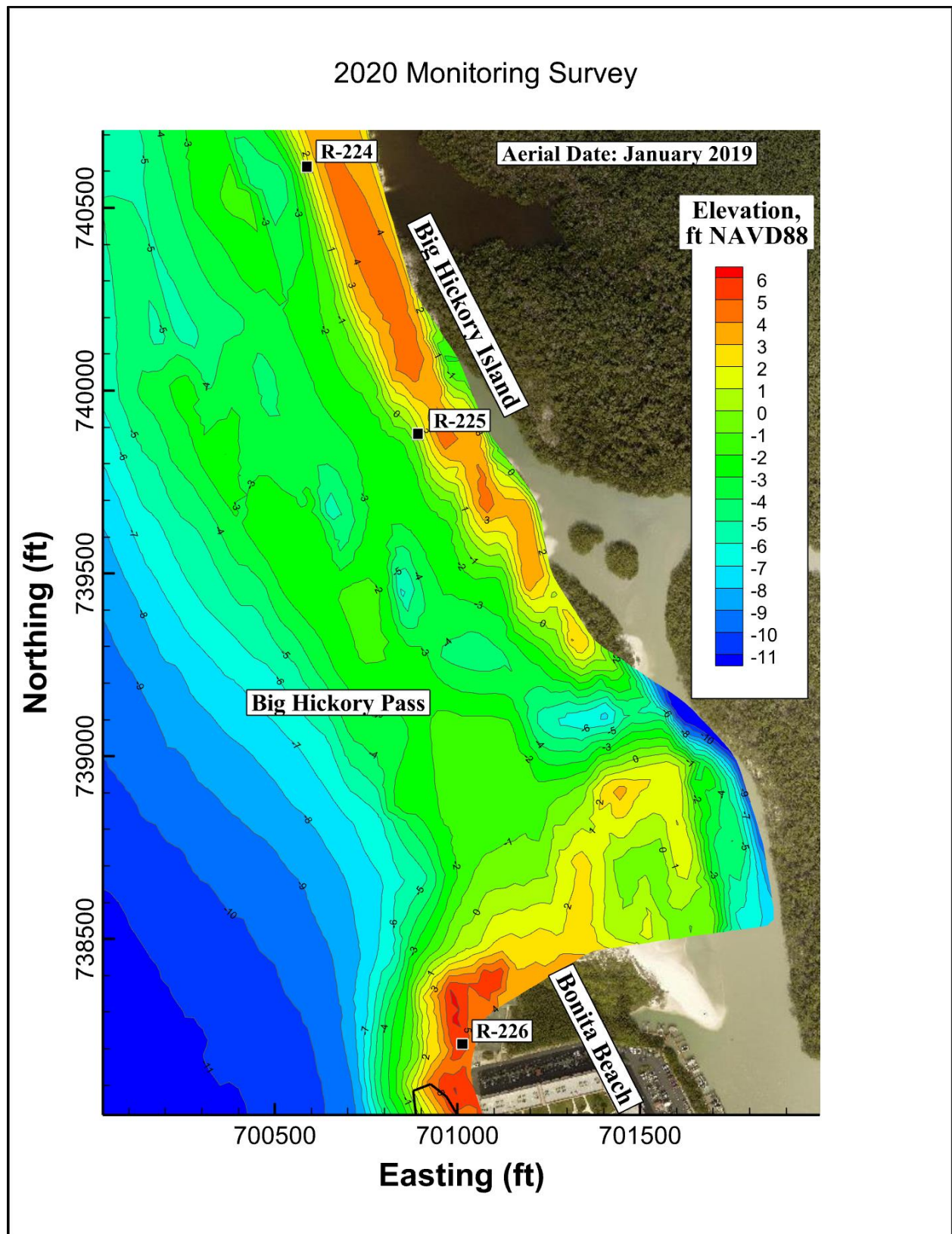


Figure 8. June 2020 Big Hickory Pass Survey.

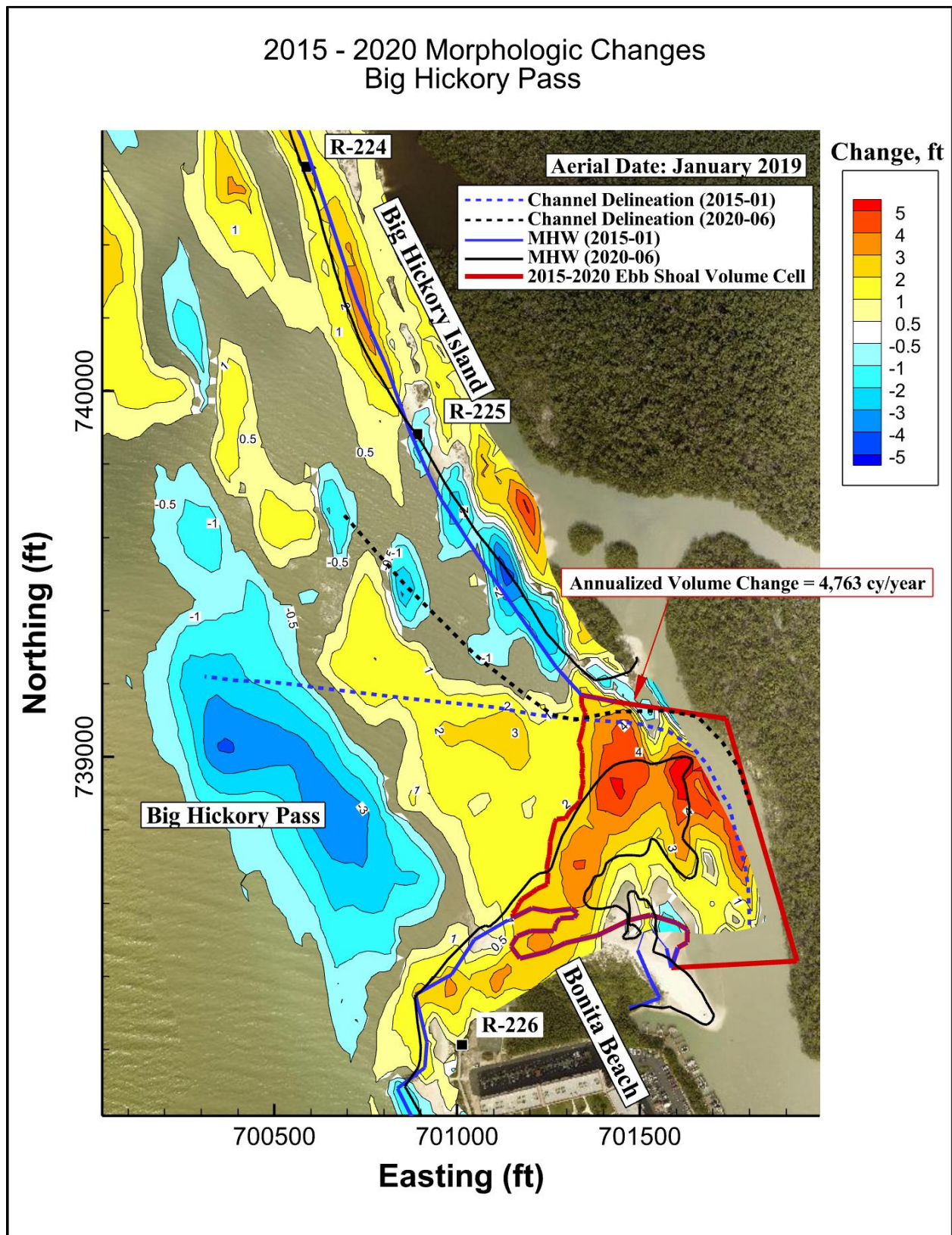


Figure 9. 2015-2020 Big Hickory Pass Morphologic Changes.

5 STORM DAMAGE REDUCTION ANALYSIS: PERMITTED FILL TEMPLATE

5.1 Introduction

Storm damage reduction benefits of the existing permitted fill template constructed in 2014 (Table 1), were analyzed through numerical modeling of beach profile response to a design 25-year storm using the Storm-Induced BEACH CHange (SBEACH) model (CERP, 1993). The No Action scenario which does not implement a beach fill was also included in the modeling.

5.2 Model Calibration

Wang and Manausa (2015) conducted a comprehensive SBEACH storm erosion model study for Lee County. In this study, the SBEACH model was calibrated through model sensitivity analysis based on which a recommendation on model parameters was presented. The author's recommended SBEACH model parameters for Bonita Beach, R-monument range R-226 through R-235, are presented in Table 6.

Table 6. Recommended SBEACH Model Parameters for Bonita Beach (Wang and Manausa, 2015).

Parameters	Unit	Recommended Values for Lee County
Transport rate coefficient, K	m ⁴ /N	0.5 e ⁻⁰⁰⁶
Overwash transport parameter		0.002
Coefficient for slope dependent term	m ² /s	0.005
Transport rate decay coeff. multiplier	m ⁻¹	0.5
Landward surf zone depth	ft	1.0
Maximum slope prior to avalanching	degree	15
Water temperature	degree, C	28
Wave Height, H	ft	10
Wave Period, T _p	sec	10
Wave Direction, α	degree	0 (shore-normal)

5.3 Input Data

The input data used in the SBEACH simulations included the bathymetric/topographic survey data, sediment characteristics, and time series of water level and wave forcing. The sources and characteristics of these data are presented below.

5.3.1 Bathymetry/Topography

CEC utilized the 2020 monitoring survey of Bonita Beach between R-226 and R-235 which was conducted June 11-16, 2020. All R-monument beach profiles were extended approximately 2,000 feet seaward of MHW. Upland data was collected from MHW to the R-monuments or to the vegetation line, whichever was less.

5.3.2 Grain Size

Coastal Technology Corporation presented the native beach grain size statistics as part of the permit process for the 2014 Project (CTC, 2012). For Bonita Beach, the average native beach mean grain size, shell content, and silt content were 0.38 mm, 3.43%, and 0.46%, respectively. Based on this information, 0.38 mm was used in SBEACH.

5.3.3 25-Year Design Storm Event Waves

To generate the 25-year storm wave parameters, the Wave Information Studies (WIS) database (<http://wis.usace.army.mil/>) was utilized to analyze wave conditions specific to the Project Area. WIS produces a high-quality online database of hindcast, nearshore wave conditions covering U.S. coastlines. The time interval of the data was one hour. Wang and Manausa (2015) recommended using a 10-foot high and 10-second long wave for simulating a 25-year storm event. Figure 10 presents a 36-hour time series of wave height and period used in the SBEACH simulations. The peak wave height and period reach 10 feet and 10 seconds, respectively, at hour 15.

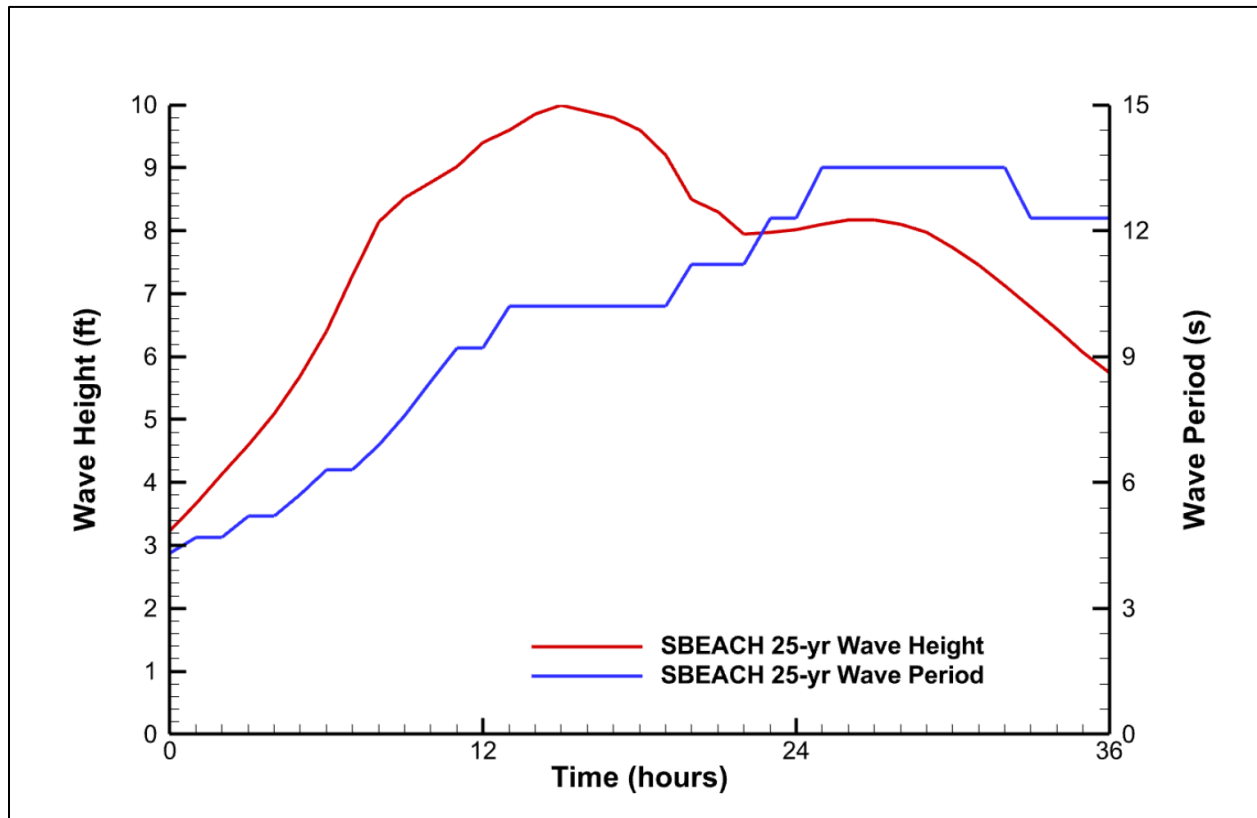


Figure 10. SBEACH 25-Year Storm Wave Height and Period Input.

5.3.4 Water Levels

According to Wang and Manausa (2015), the 25-year peak storm elevation for Bonita Beach is approximately 8.7 feet NAVD88. It includes contributions of wind stress, barometric pressure, wave setup, and tides. Because SBEACH accounts for wave setup internally, the wave setup component of the peak storm elevation had to be excluded from the SBEACH hydrograph. The recommended 25-year storm hydrograph is presented in Figure 11 and has a peak elevation of 6.5 feet NAVD88. It should be noted that due to variability in beach profile characteristics (e.g., slope, berm width and elevation), the modeled peak elevation using the recommended hydrograph varied within ± 0.2 feet from 8.7 feet depending on profile location. In order to achieve the recommended 8.7-foot peak for all profiles, the recommended hydrograph was adjusted through iterations until the model predicted the maximum storm elevation of 8.7 feet NAVD88. Overall, four (4) hydrographs were generated.

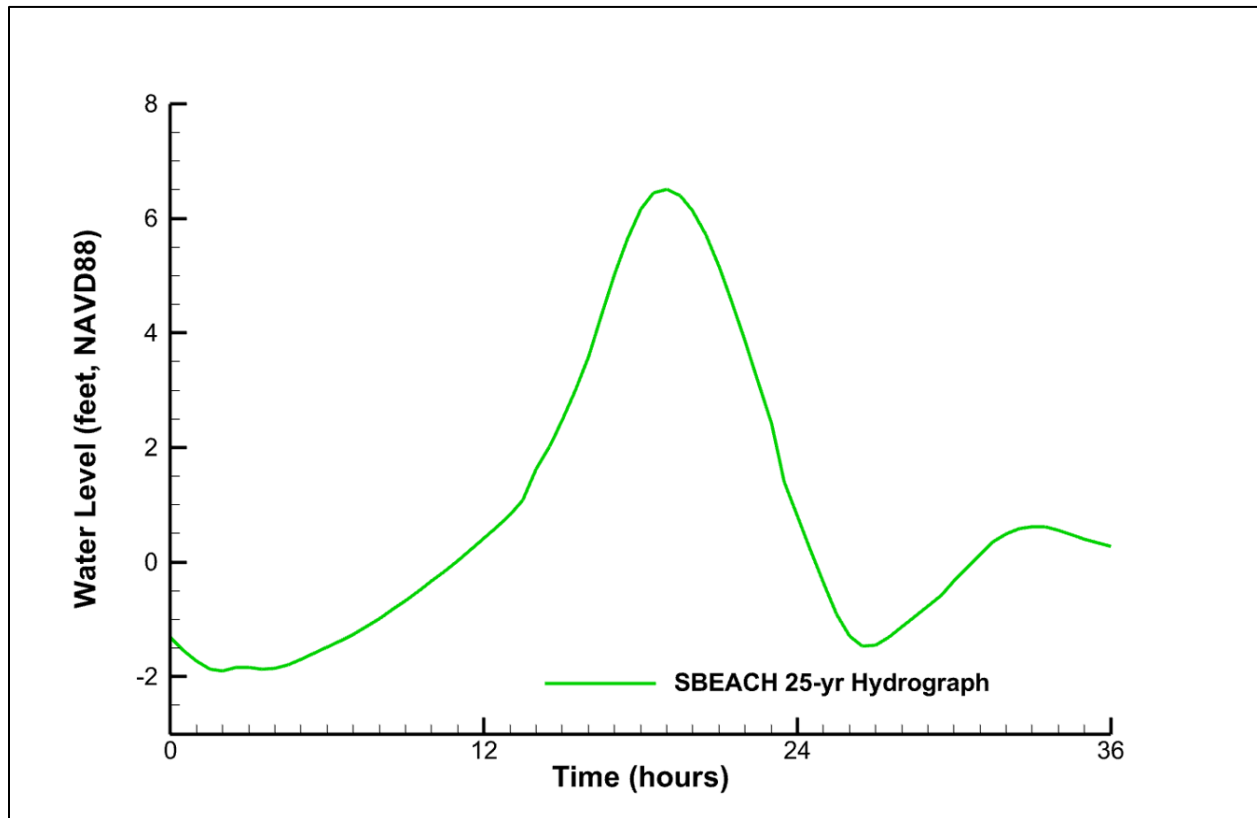


Figure 11. SBEACH 25-Year Storm Hydrograph Input.

5.4 SBEACH Results: 2020 Beach Profiles

Figures 12 through 22 present the results of SBEACH simulations at R-226 through R-235. The results include comparisons between the initial pre-storm profile measured in June 2020, final modeled post-25-year-storm profile, and 2014 Project pre-construction profile measured in June 2014. The point of intersection between the two profiles within the upper beach/dune area indicates the limits of storm-induced erosion.

The 25-year storm erosion limits relative to the corresponding R-monuments are presented in Table 7. The erosion limits were mapped out in a plan view by connecting the erosion limits predicted by the model between the R-monuments, and are presented in Figure 23. Based on the model results, the majority of structures along the permitted fill limits and south of the fill limits are seaward of the 25-year storm erosion limits. The erosion control line (ECL) is also depicted in the figure.

Table 7. Summary of Model Results: 25-Year Storm Erosion Limits.

R-monument	Distance to 25-Year Storm Erosion Limit from R-monument (ft)
R-226	-7.1
R-226A	33.4
R-227	-35.6
R-228	33.3
R-229	196.9
R-230	92.8
R-231	182.8
R-232	-76.7
R-233	148.6
R-234	20.7
R-235	-24.4

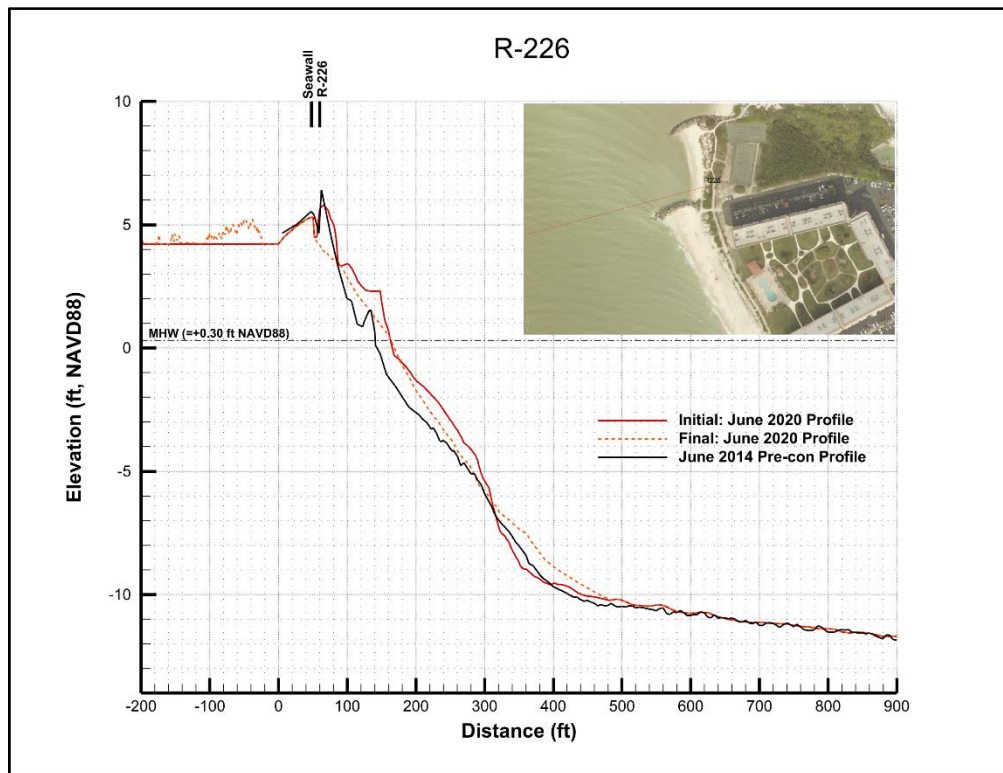


Figure 12. SBEACH Model Results R-226.

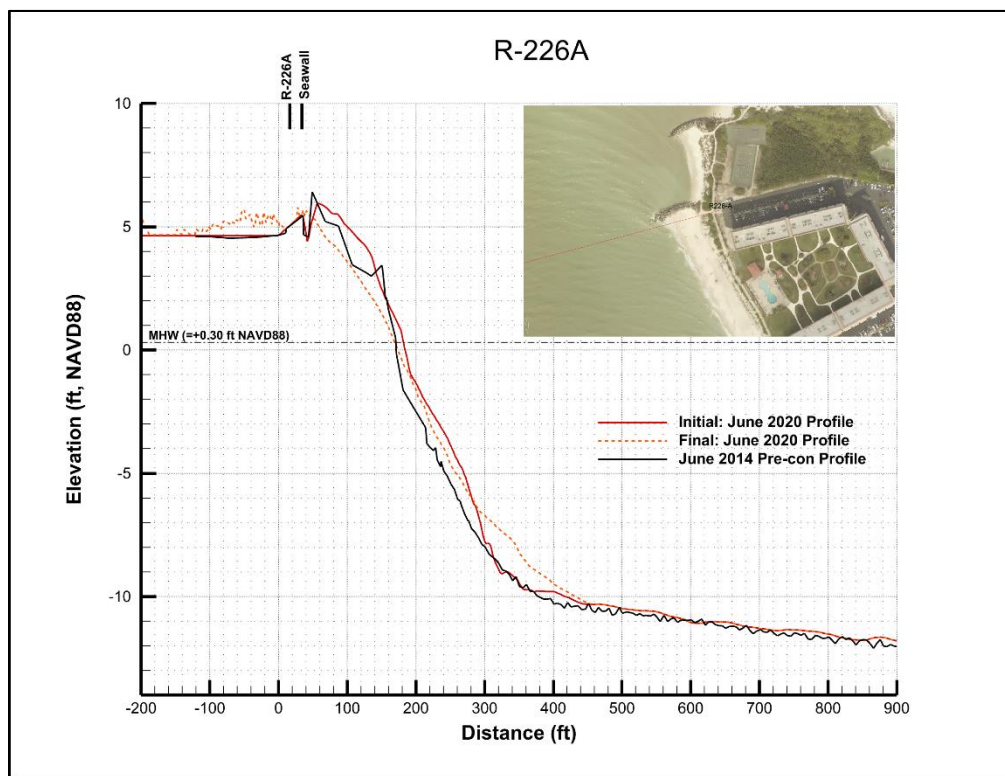


Figure 13. SBEACH Model Results at R-226A.

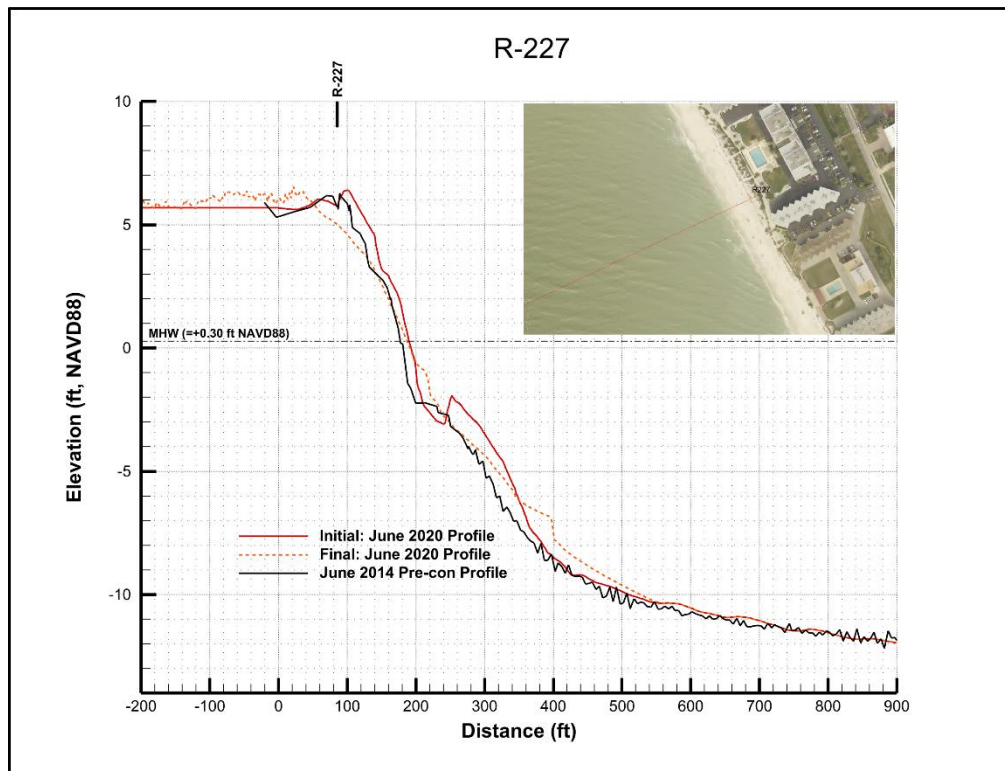


Figure 14. SBEACH Model Results at R-227.

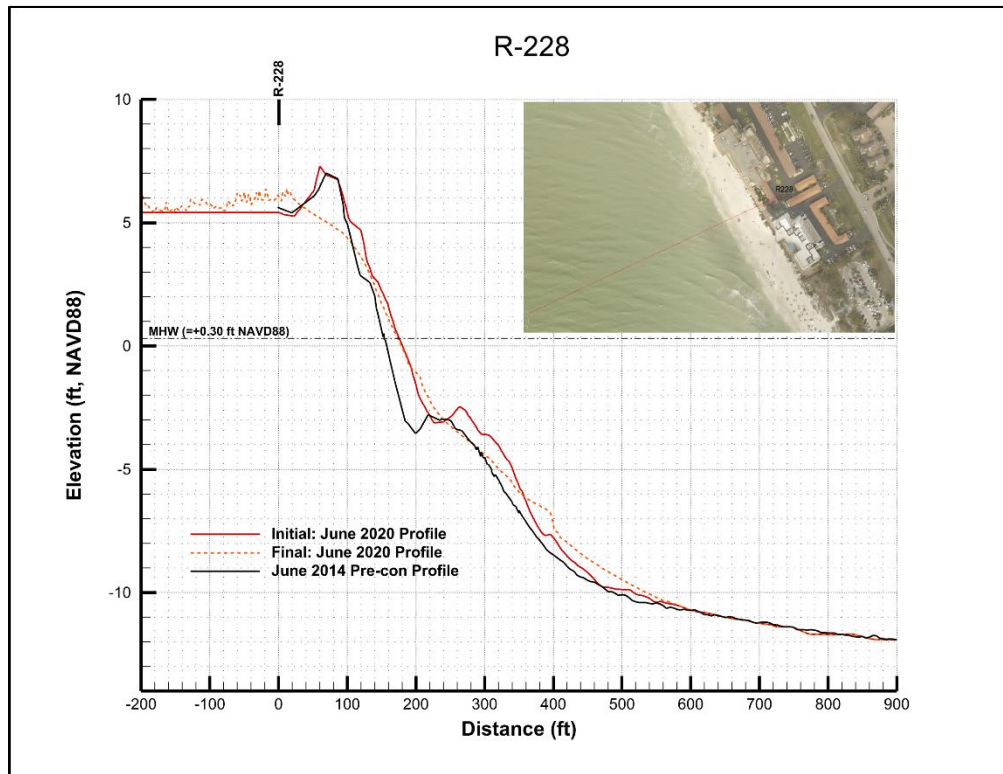


Figure 15. SBEACH Model Results at R-228.

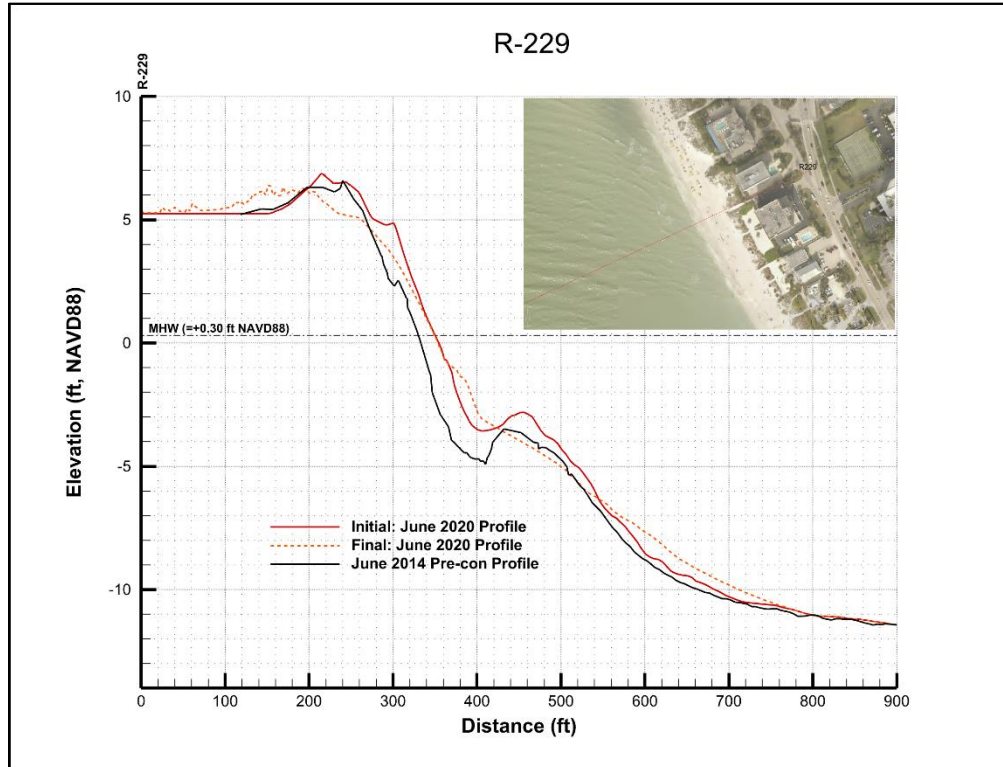


Figure 16. SBEACH Model Results at R-229.

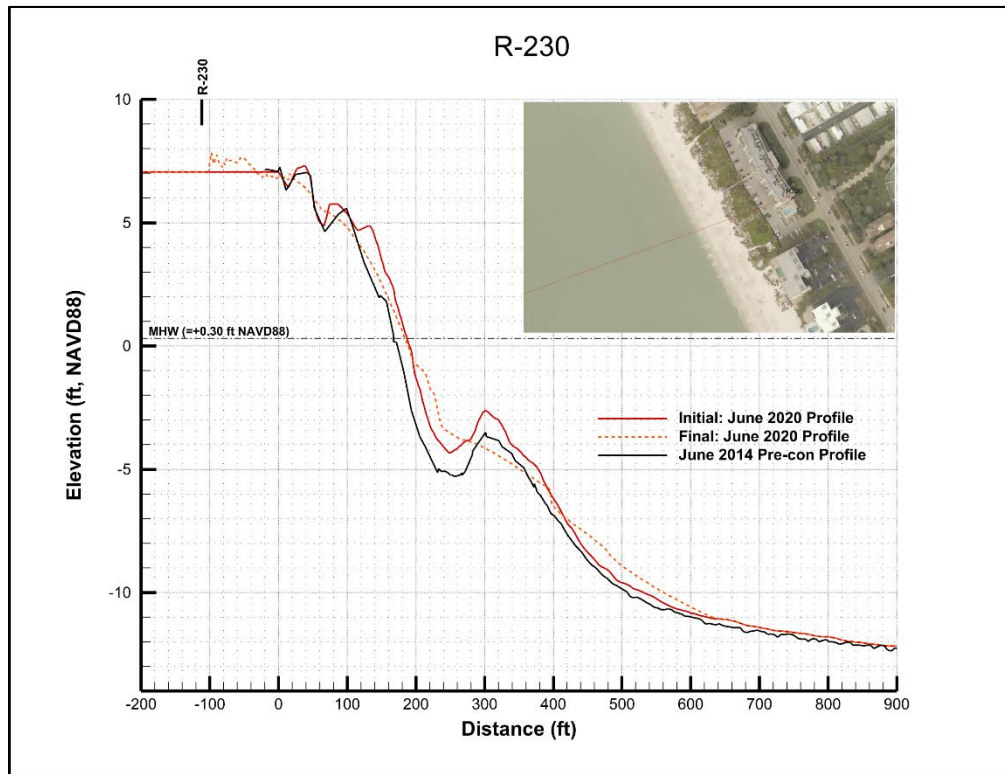


Figure 17. SBEACH Model Results at R-230.

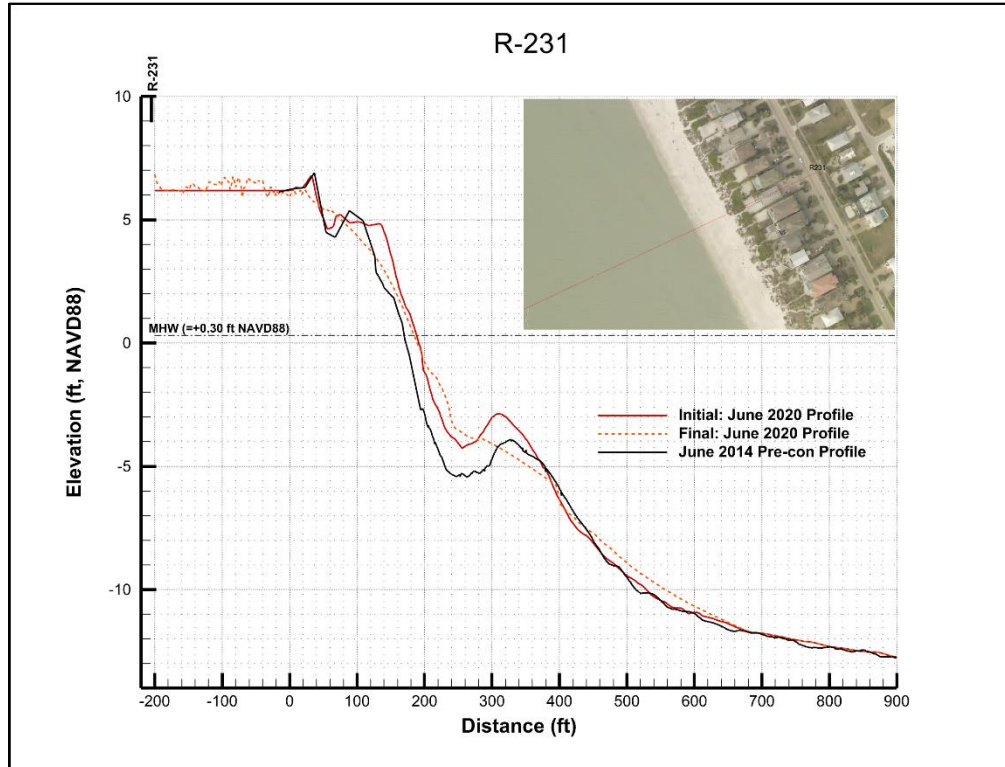


Figure 18. SBEACH Model Results at R-231.

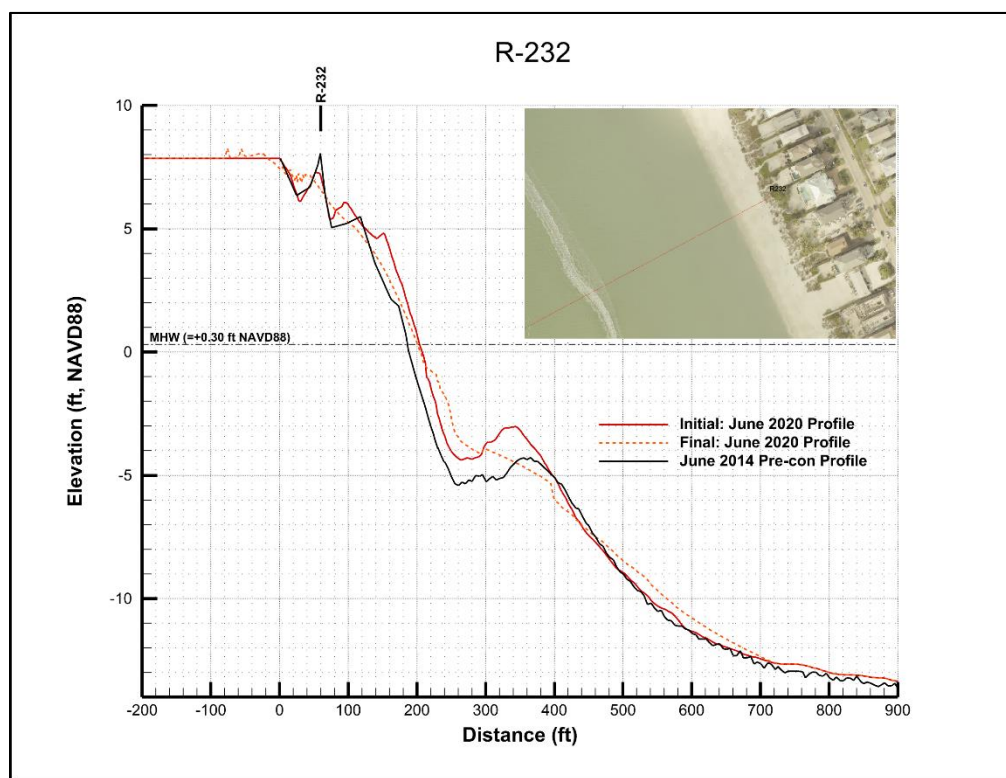


Figure 19. SBEACH Model Results at R-232.

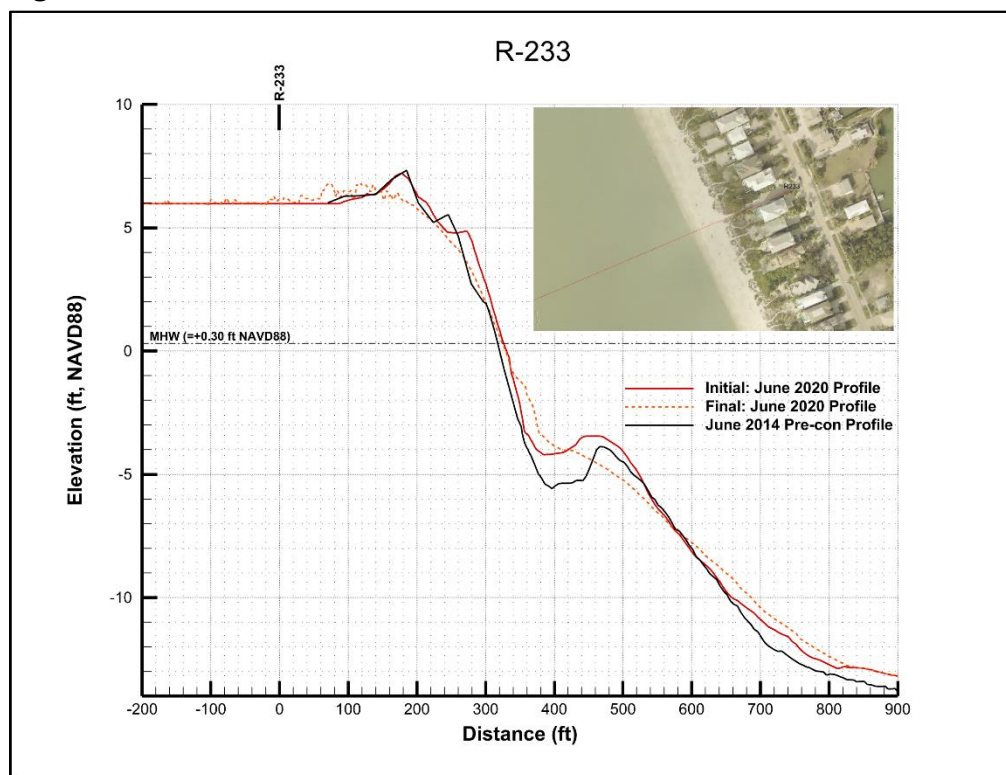


Figure 20. SBEACH Model Results at R-233.

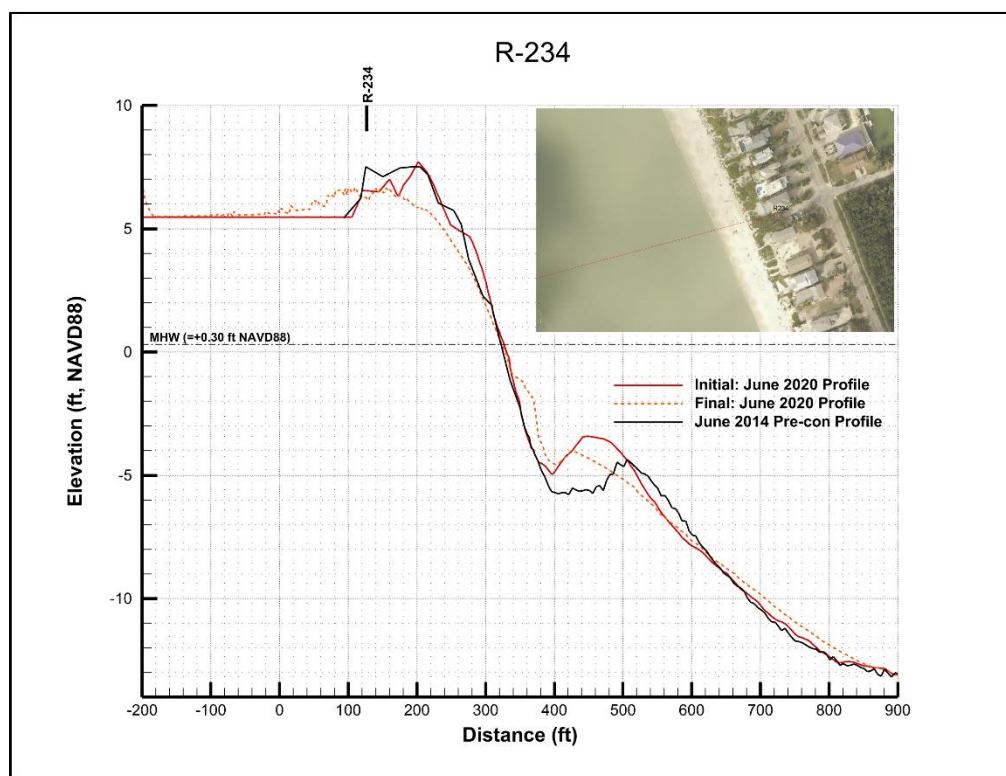


Figure 21. SBEACH Model Results at R-234.

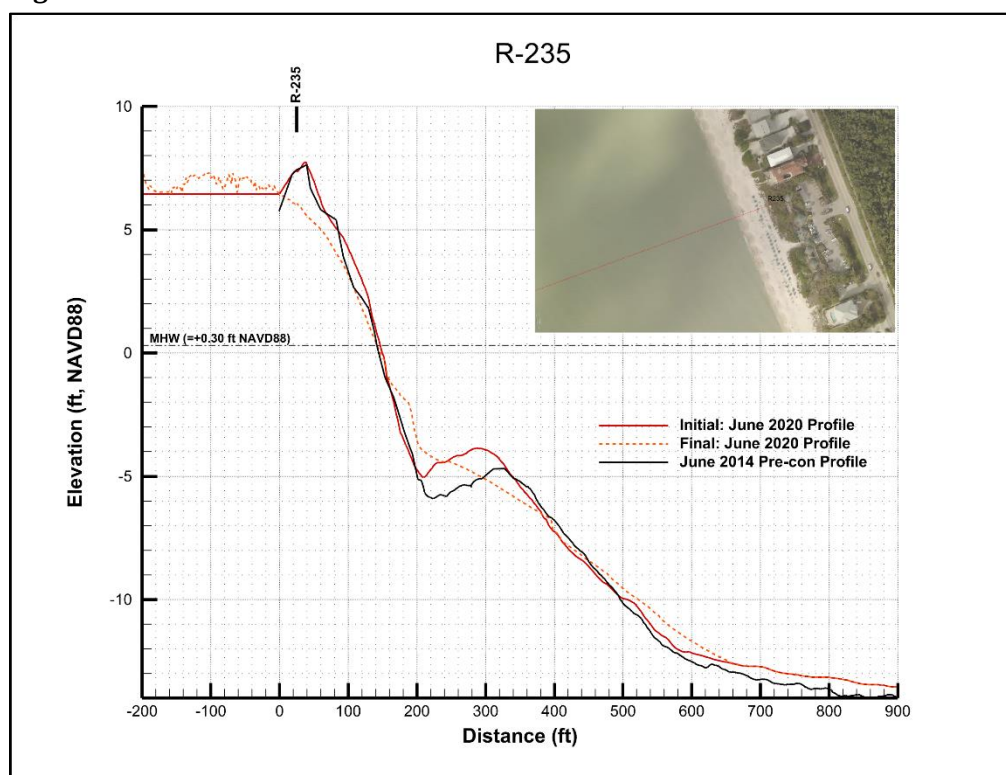


Figure 22. SBEACH Model Results at R-235.

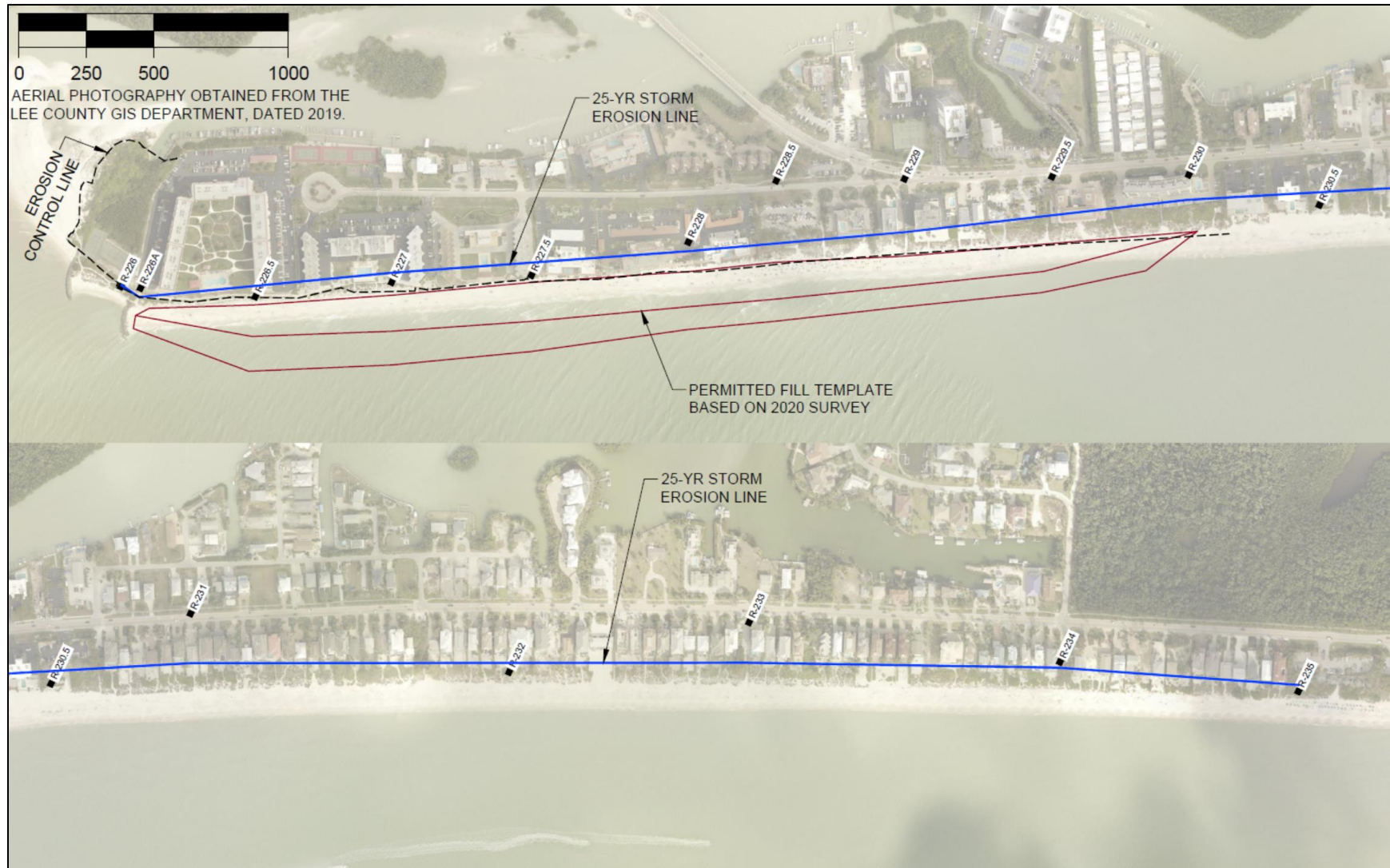


Figure 23. Erosion Predicted by SBEACH after 25-Year Storm Event.

5.5 SBEACH Results: Recommended Design for Future Projects

As stated in the previous section, based on SBEACH modeling applied to the 2020 conditions, the majority of structures along the shoreline were seaward of the 25-year storm erosion limits thus exposing them to beach erosion induced damage if such event occurred. This also implies that if a new beach renourishment project was constructed using the same fill template used in 2014, by the end of its 8-year life cycle these structures will again become vulnerable to erosion caused by a 25-year storm event.

CEC defined the ECL as the limit of erosion induced by a 25-year storm equal to the pre-restored shoreline. The distance from the ECL to the erosion line predicted by SBEACH in the previous section was measured. These distances are presented in Table 8 for the three R-monuments within the fill limits: R-227, R-228, and R-229.

Table 8. Summary of Model Results: 25-Year Storm Erosion Limits.

R-monument	Distance from ECL to 25-Year Storm Erosion Limit (ft)
R-227	68.8
R-228	76.9
R-229	80.5

These distances were used to shift the corresponding 2020 survey R-monument profiles seaward to account for additional fill in future projects and SBEACH was re-run to predict the effect of the additional fill on the 25-year storm erosion line.

Figures 24 through 26 present the results of SBEACH simulations at R-227 through R-229. The results include comparisons between initial pre-storm profile measured in June 2020 shifted seaward, final modeled post-25-year-storm profile, the 2014 Project pre-construction profile measured in June 2014, and the original pre-storm and post-storm profiles whose modeling was described in the previous section. The point of intersection between the shifted pre-storm and post-storm profiles within the upper beach/dune area was used to identify the limits of storm-induced erosion.

The new erosion limits were mapped out in a plan view by connecting the erosion limits predicted by the model between the R-monuments, which are presented in Figure 27. The new erosion limits are aligned with the ECL and the structures along the shoreline within the fill segment are landward of the erosion limits. The figure also depicts the limits of the recommended design width fill template.

The average value of the seaward shift for the three R-monuments is approximately 75 feet. CEC recommends this value as design width at MHW for future renourishment projects to provide storm damage reduction benefits to the upland structures from a 25-year storm event.

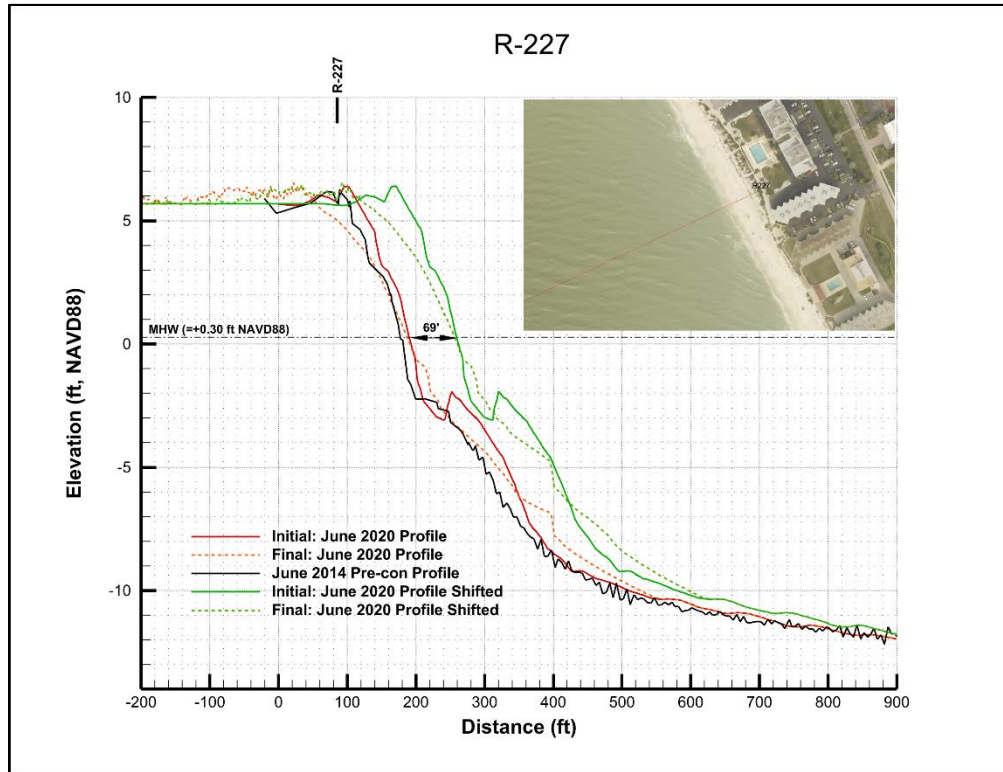


Figure 24. SBEACH Model Results R-227.

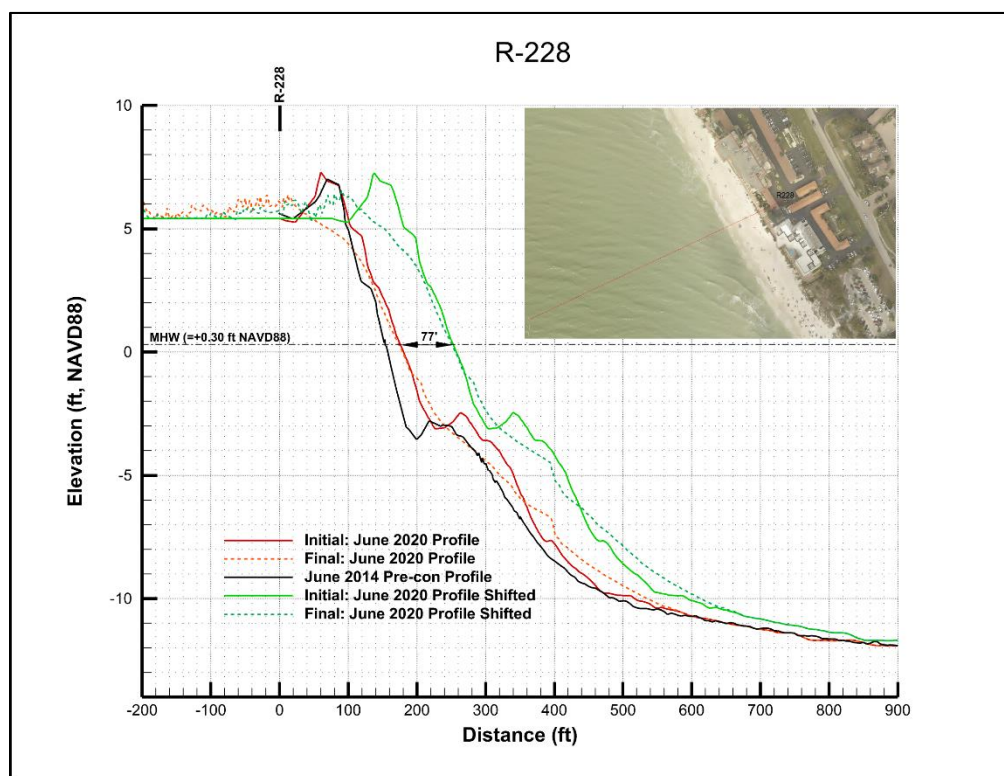


Figure 25. SBEACH Model Results at R-228.

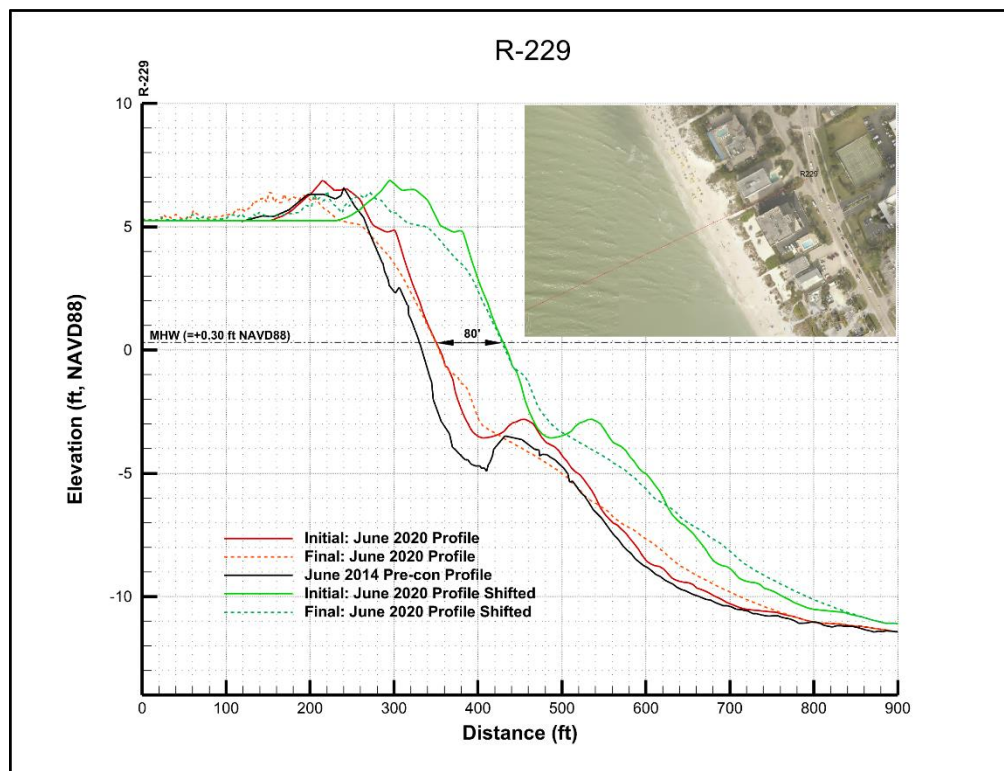


Figure 26. SBEACH Model Results at R-229.



Figure 27. Erosion Predicted by SBEACH after 25-Year Storm Event for Recommended Fill Design.

6 SEA LEVEL CHANGE ANALYSIS

According to NOAA (<http://tidesandcurrents.noaa.gov>), the mean seal level (MSL) trend at the Naples, FL tide station which is in close proximity to the Project Area is presented in Figure 28 is 3.11 mm/year with a 95% confidence interval of ± 0.44 mm/year based on monthly mean sea level data from 1965 to 2020 which is equivalent to a change of 1.02 feet in 100 years.

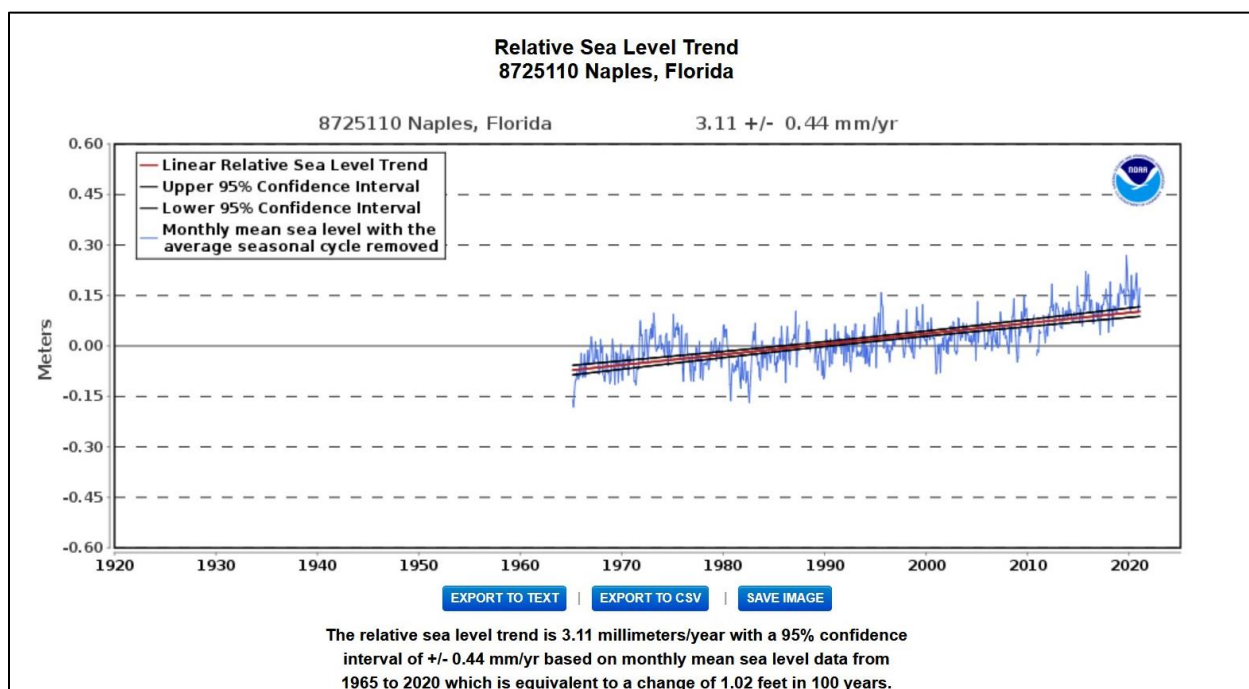


Figure 28. Sea Level Trend at Naples, FL (<http://tidesandcurrents.noaa.gov>).

This estimated MSL trend combines the global MSL rise and the local vertical land motion, subsidence. Estimates of projected sea-level change were determined by following an 18-step guidance developed by USACE to account for future changes in MSL (USACE, 2011 and 2013). A flowchart of the steps is presented in Figure 29.

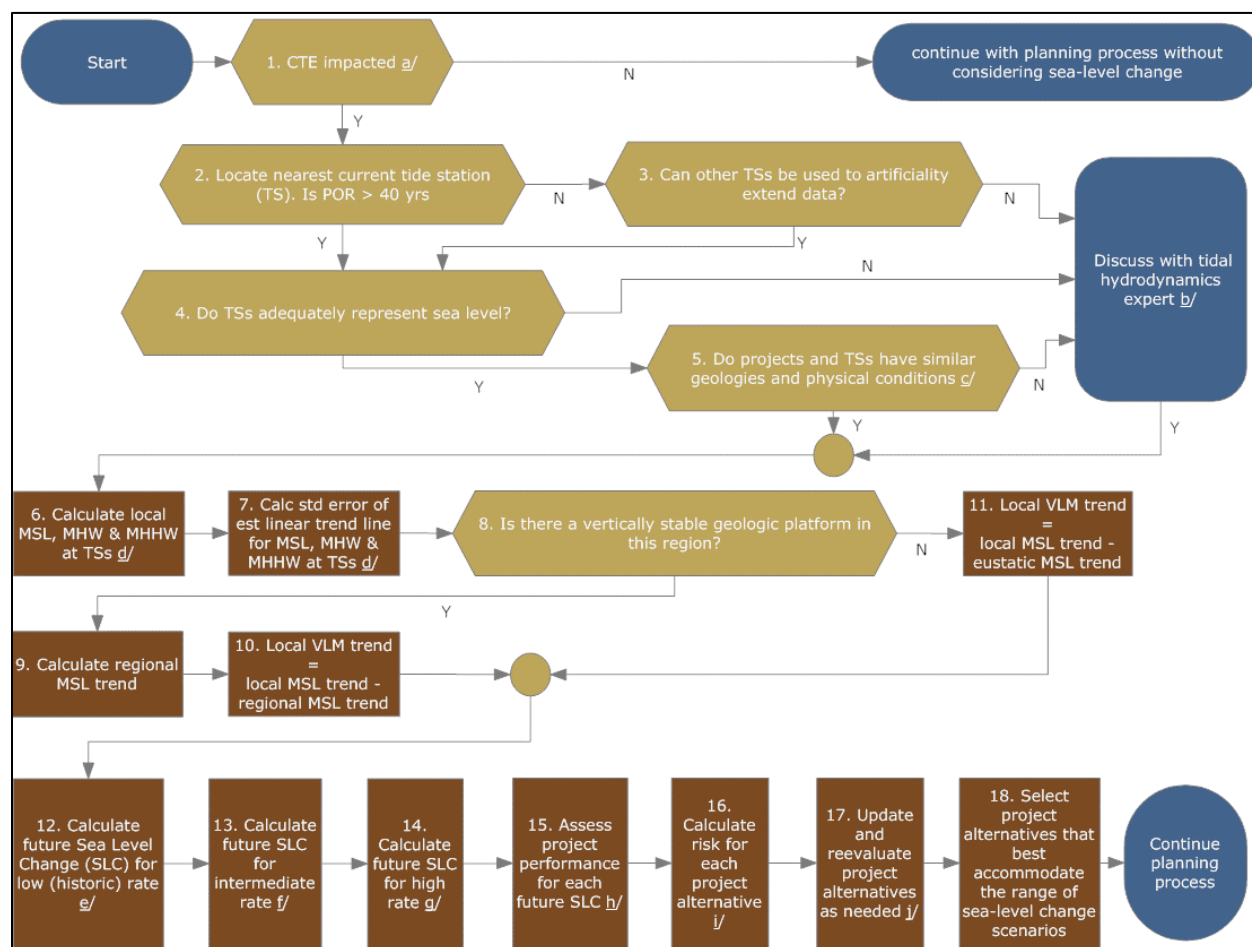


Figure 29. 18-step Flowchart to Account for Changes in MSL (USACE, 2011).

Below are answers to each step throughout the flowchart applied to this analysis.

Step 1: Yes → Step 2

Step 2: Yes → Step 4

Step 4: Yes → Step 5

Step 5: Yes → Step 6

Step 6: Local Low/Historic MSL rise trend is 0.0102 feet per year → Step 7

Step 7: Standard error is 0.0014 feet per year with a 95% confidence interval → Step 8

Step 8: No → Step 11

Step 11: Subtract 0.0056 feet per year (=1.7 mm per year) from 0.0102 feet per year which results in 0.0046 feet per year, this is the design vertical land movement (VLM) or subsidence rate → Step 12

Step 12: Low/Historic eustatic sea-level rise values are
 Between 1995 and 2028 = 0.184 feet → Step 13

Step 13: Intermediate (NRC Curve I) eustatic sea-level rise values are
 Between 1995 and 2028 = 0.298 feet → Step 14

Step 14: High (NRC Curve III) eustatic sea-level rise values are

Between 1995 and 2028 = 0.661 feet → Step 15

Steps 15 through 18 are to determine project performance and evaluate risk.

Table 9 presents low/historic, intermediate and high relative sea-level changes for Year 2028 which combine the eustatic sea-level rise and subsidence rates. Figure 30 presents the three curves computed to year 2055.

Table 9. Estimated Relative Sea-level Changes, 1995-2028.

Rate Type	Eustatic SLR, feet	Subsidence, feet	Relative SLR, feet
Low/Historic	0.184	0.153	0.337
Intermediate (NRC Curve I)	0.298	0.153	0.451
High (NRC Curve III)	0.661	0.153	0.814

Based on the analysis, the estimated sea level rise to the Year 2028 is 0.337 feet, 0.451 feet, and 0.814 feet, for the low/historic, intermediate and high curves, respectively. CEC recommends a value of 0.6-foot, which falls between the intermediate and high sea-level rise estimates, as the design criteria for sea level change through 2028, the expiration year of the current permit.

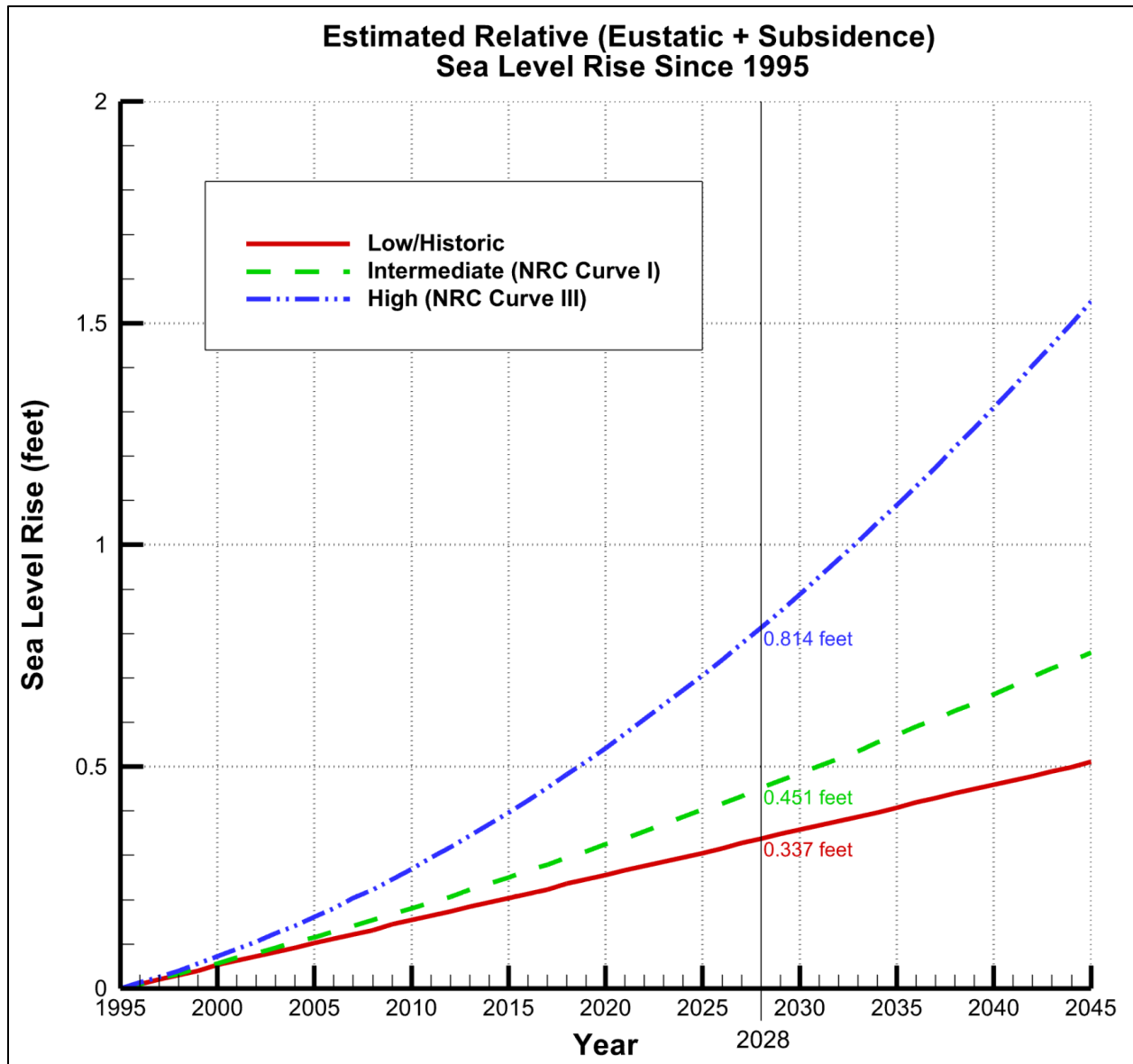


Figure 30. Estimated Relative Sea Level Rise since 1995 based on USACE Methodology.

7 CONCLUSIONS AND RECOMMENDATIONS

7.1 Beach Project Performance Summary

On behalf of Lee County, CEC completed a performance evaluation of the Bonita Beach Nourishment Project. The original 1995 restoration project included placement of 217,000 cy along 4,100 feet of shoreline utilizing the New Pass ebb shoal borrow area. Two 200-ft long terminal groins were constructed at the north end to enhance project performance and reduce end losses into Big Hickory Pass. The 2004 and 2014 renourishment events placed over 145,000 cy and 140,000 cy, respectively, along 3,940 feet utilizing the Big Carlos Pass ebb shoal borrow area. While the project was designed for an 8-year renourishment interval, the actual cycle was 9-10 years. The renourishment quantities were on the order of 65%-67% of the initial quantity.

North of the Project, Big Hickory Island experienced a minor shoreline loss of 2.9 feet and a volumetric gain of 73,090 cy. The shoreline and volumetric gains are attributed to the 2017 New Pass dredging project and beneficial use placement.

The shoreline north of the terminal groins to Big Hickory Pass experienced a shoreline gain of 23.3 feet and a volumetric gain of 18,730 cy.

The fill segment experienced shoreline and volume losses of 67.0 feet and 71,240 cy, respectively. For each monitoring period the volume remaining within the fill template landward of MHW was computed. Over 50% of the initial volume placed above MHW eroded within 18 months after construction. Over 20% eroded during the next 12 months at which time the volume remaining within the fill template landward of MHW remained relatively the same through 2020 at 30%.

The shoreline segment south of the beach fill experienced shoreline and volume gains of 13.6 feet and 54,750 cy, respectively attributed to beach fill diffusion and southerly sediment transport.

7.2 Beach Fill Template Recommendations

Utilizing the results of the shoreline and volume change calculations from the original restoration project through the two renourishment events, the initial profile adjustment was computed to approximately 45 feet and the background erosion rate for an 8-year renourishment cycle equated to approximately 50 feet. These values are recommended for the equilibrium profile adjustment and advanced nourishment components of the design template.

Applying the results of the SBEACH model, a 75-foot-wide design beach is recommended for the beach fill template to provide storm damage reduction benefits from 25-year return interval storm event. Based on the sea level change analysis, a berm elevation of +4.9 feet NAVD88 is recommended to account for sea level change since the original design through 2028.

The recommended beach fill template developed for R-228 is presented in Figure 31. The permitted fill template is shown in comparison to the recommended template noting the

recommended advanced nourishment line (blue) fall approximately on the same position. Comparing the two, the berm width is approximately 45 feet wider and the berm crest is approximately 0.6 feet higher.

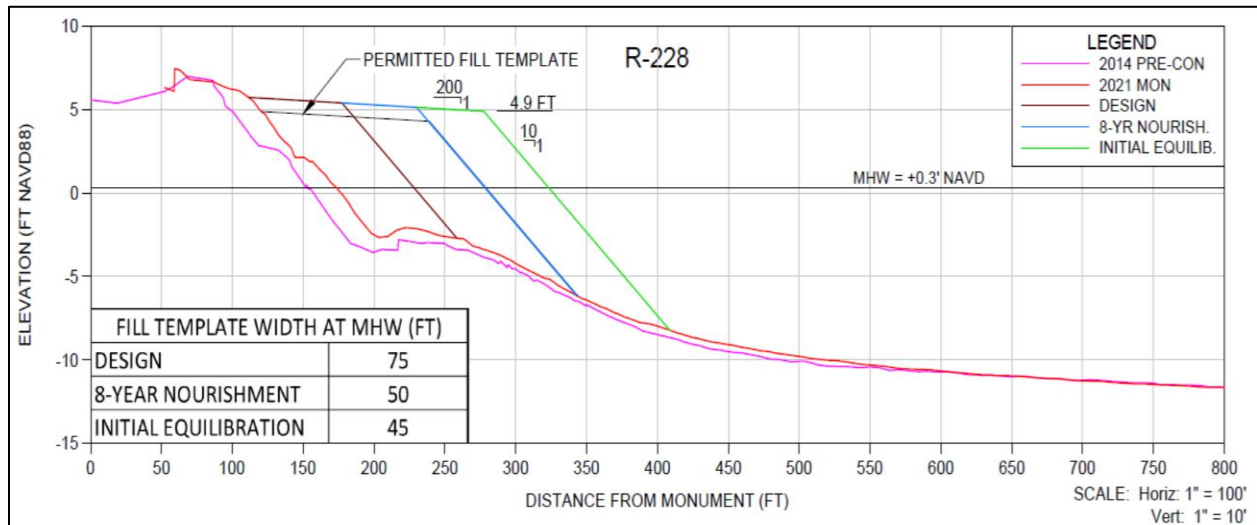


Figure 31. Recommended Beach Fill Template for Future Renourishment Projects.

Based on the 2020 survey, the fill volume required to build the permitted fill template is approximately 102,000 cy and the volume to build the recommended fill template is approximately 196,000 cy.

7.3 Big Hickory Pass Flood Shoal

Utilizing the 2015 and 2020 surveys of the shoal system, significant gains were observed as sand transported north of the terminal groins and into the pass. A total volume gain of 26,200 cy over the 5.5-year period was computed which equates to an annualized shoaling rate of 4,760 cy per year.

Channel deflection was also observed from 2015 to 2020. In 2015 the channel was due west, while in 2020 the channel was due northwest and parallel to the Big Hickory Island shoreline.

7.4 Additional Recommendations

Lee County has undertaken the Estero Barriers regional inlet management study extending from Matanzas Pass to Big Hickory Pass. The recommendation to widen the beach fill template to provide the desired level of storm damage reduction over the preferred renourishment interval of 8 years has the potential to increase the infill rate into Big Hickory Pass. The study could examine beach fill alternatives, e.g., added width, reduced width and more frequent renourishment events, or modifications to the terminal groins to complement the additional beach fill width.

The shoreline segment south of the permitted fill limits is designated non-critically eroding. The shoreline and volumetric change assessment demonstrates the beach fill has positively benefitted this shoreline segment through fill diffusion and sediment transport to the south. However, the SBEACH model results of the 2020 condition indicates the majority of the beach front structures are seaward of the 25-year storm erosion limits. The study could examine beach fill alternatives to address storm damage reduction benefits to this shoreline segment, e.g., overfilling the beach fill template to serve as a feeder beach or extending the beach fill south noting that the State of Florida would not cost share along the non-critically eroding segment.

8 REFERENCES

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United States Army Corps of Engineers (USACE). 2011. Sea-level Change Considerations in Civil Works Program. Circular No. 1165-2-212.

U.S. Army Corps of Engineers (USACE), 2013. Incorporating Sea Level Change in Civil Works Programs, ER 1100-2-8162, 31 December 2013.

**BONITA BEACH NOURISHMENT
POST-IAN STORM IMPACT ASSESSMENT ON PERMITTED TEMPLATE
CEC FILE NO. 22.279
NOVEMBER 10, 2022**

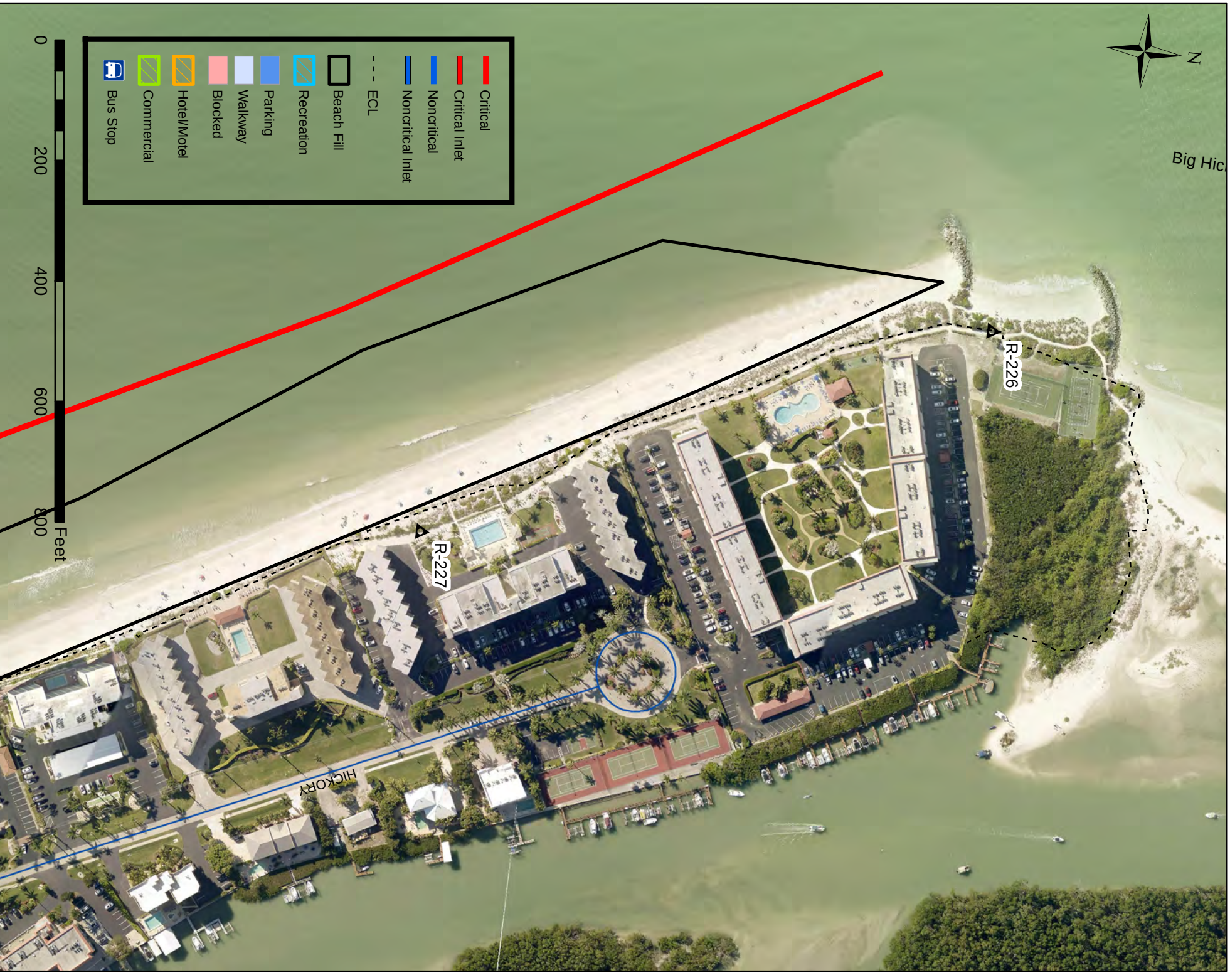
	MON	AREA	AVG AREA	LENGTH	VOLUME	
		(CY/FT)	(CY/FT)	(FT)	(CY)	
Bonita Beach Fill	R-226A	0.0				229,990
			39.1	445	17,419	
	R-226.5	78.3				
			74.5	515	38,353	
	R-227	70.7				
			70.6	519	36,619	
	R-227.5	70.5				
			65.2	582	37,954	
	R-228	60.0				
			60.7	326	19,782	
	R-228.5	61.4				
			64.7	476	30,783	
	R-229	67.9				
			64.7	519	33,588	
	R-229.5	61.5				
			30.7	504	15,494	
	R-230	0.0				

2021 DESIGN VOLUME (CY) = 205,000
BACKGROUND EROSION INCLUDED (CY) = 29,000
2022-23 PROPOSED VOLUME = 234,000
OCTOBER 2022 POST IAN VOLUME (CY) = 230,000
BACKGROUND EROSION (CY) = 15,000
PROPOSED 2023 NOURISHMENT VOLUME = 245,000
PERCENT DIFFERENCE FROM DESIGN = 4.7%

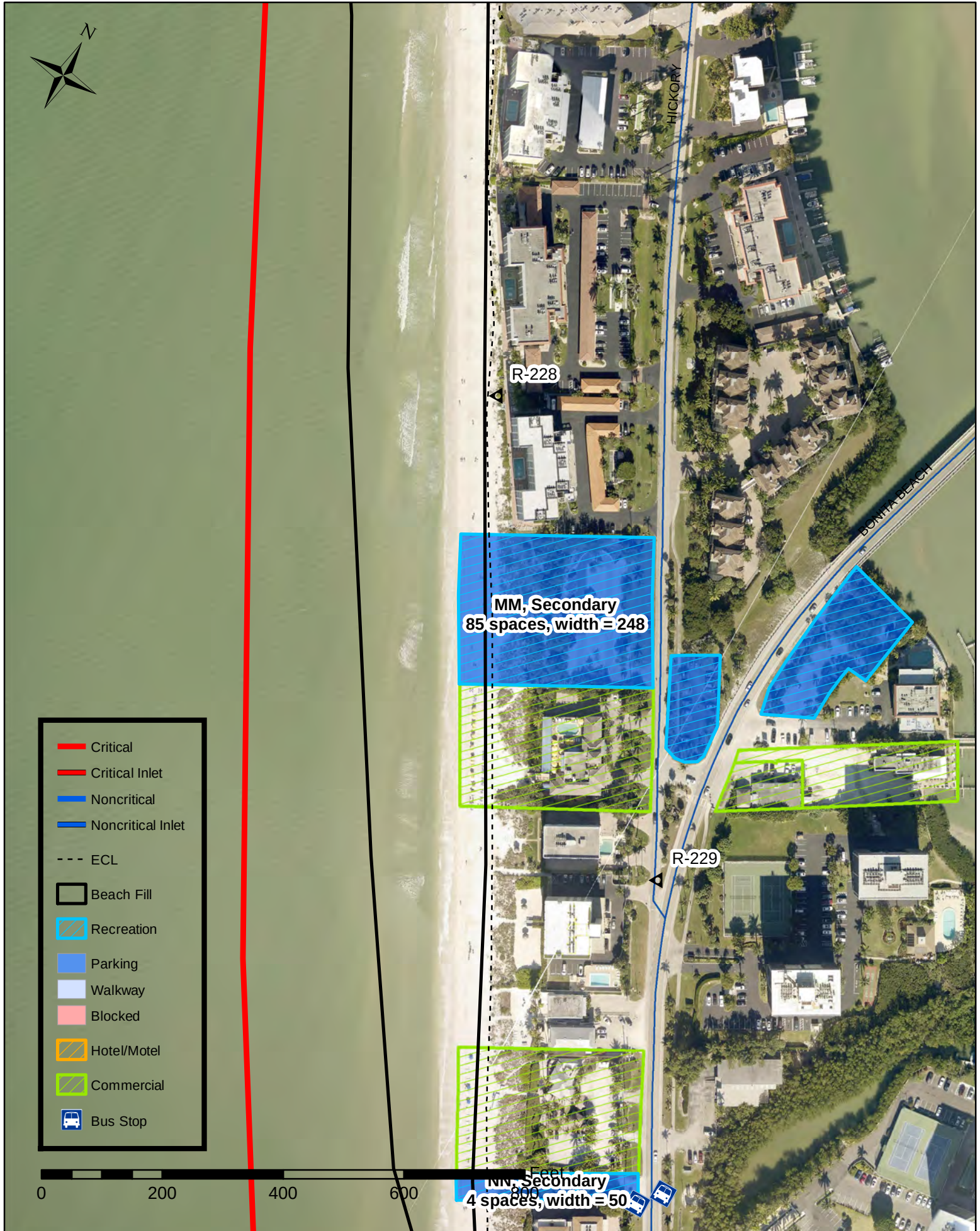
4 Bonita Beach - Details



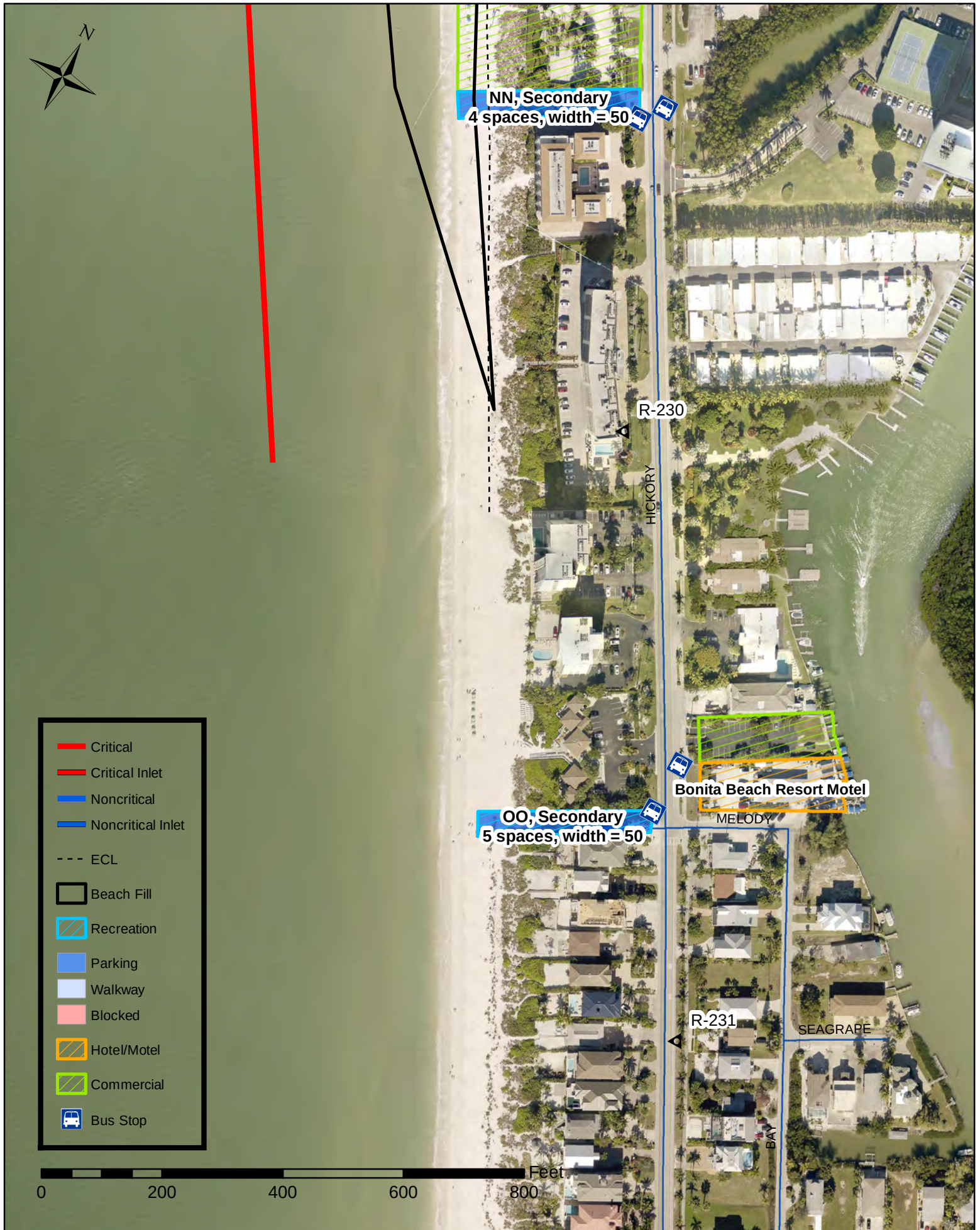
Big Hick



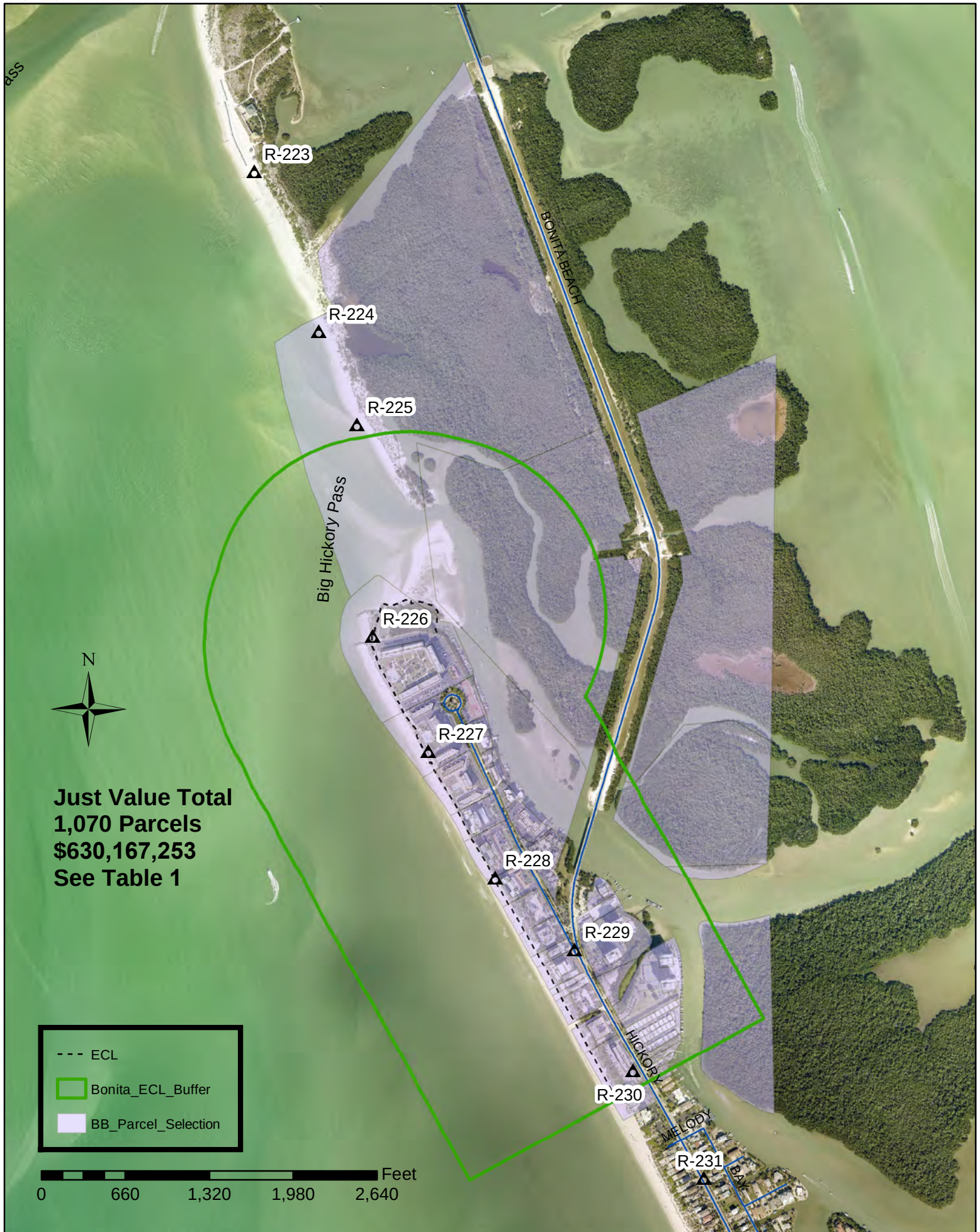
4A. Bonita Beach - Details



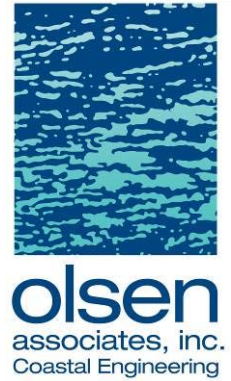
4A. Bonita Beach - Details



4.4 Bonita Beach - Value of Upland Property



BONITA BEACH TERMINAL GROINS DAMAGE REPORT FOR HURRICANE IAN; LEE COUNTY, FLORIDA.



Prepared by:

Olsen Associates, Inc.
Kevin Bodge, Ph.D., P.E.
Luis F. de Valderrama, E.I.T.

Prepared for:
West Coast Inland Navigation District (WCIND) and Lee County, FL

4 January 2024

Introduction

This report describes the Bonita Beach Terminal Groins project and the damage caused to the project by Hurricane Ian in late September 2022. The Bonita Beach Terminal Groins project is comprised of two engineered rock groins located at the north end of Little Hickory Island, Lee County, FL. The groins were designed, constructed, and maintained for purposes of flood and shore protection in conjunction with the Bonita Beach Nourishment Project, and are an essential element of the successful performance of that project. This report does not include or describe beach sand losses. The beach losses and damages from Hurricane Ian are described by CEC (January 2023)¹. Further details describing the rock groins and storm damage, summarized in the present report, are presented in a corollary report by Olsen Associates, Inc. (OAI, October 2023)².

Name of Project. Bonita Beach Terminal Groins. [FEMA Cat G Project 699822.]

Name of Applicant. Lee County, Florida.

Project Location. Vicinity of Bonita Beach Club, 25730 Hickory Blvd., Bonita Springs, FL 34134
North Groin: 26.365042, -81.863150.
South Groin: 26.364319, -81.863486.

Project surface area. The surface area of the base of the groins, as designed and constructed, is approximately 18,380 ft² (11,120 ft² per the North Groin and 7,260 ft² per the South Groin), or 0.422 acres. Therefore, because the combined area of both groins is less than 0.5 acres, this coastal

¹ Coastal Engineering Consultants Inc. January 2023. *Lovers Key and Bonita Beach Nourishment Project – Post-Ian Engineering and Assessment Report*.

² Olsen Associates, Inc. 31 October 2023. *Assessment & Recommendations For Bonita Beach Groin Repair. Lee County, Florida*. 37 pages + 4 Attachments.

project should qualify within the Categorical Exclusion *N5 (“Federal Assistance for Actions in Coastal Areas Subject to Moderate Wave Action or V-Zones”).

Is maintaining the project the responsibility of the Applicant? Yes.

Are there any other entities within the project’s endpoints?

The groins are located at the north end of Little Hickory Island, within the city of Bonita Springs.

Is the project a Corps project? No.

Project Description & Purpose.

The two rock groins were constructed between 10 July and 24 October 1995 as part of initial construction of the beach nourishment project along the northern 4,100 feet of Little Hickory Island (Bonita Beach), immediately south of Big Hickory Pass. The purpose of the groins is to retain the north (downdrift) end of the beach nourishment project in order to maintain a finite beach width along the project area, slow the project’s erosion rate and extend its renourishment interval to practical levels, and prevent the beach fill sand from ‘flooding’ into and shoaling Big Hickory Pass and the interior docks.

The groins were designed such that the northernmost groin “steps-down” the beach width from the project shoreline to the inlet. Before the construction of the rock groins and the initial beach nourishment in 1995, there was little to no sand beach along this shoreline; and the north end of the project area (at the groins’ location) featured only a seawall with no dry beach. **Figure 1** shows photographs of the north end of Little Hickory Island before construction of the initial nourishment (*left*), after construction of the groins (*center*), and after placement of the initial 217,000 cubic yards of beach fill nourishment (*right*).



Figure 1: North end of Bonita Beach before construction of the terminal groins (*left*), after construction of the terminal groins (*middle*), and after placement of 217,000 cy of sand³ (*right*).

³ Olsen Associates, Inc., December 1998. Bonita Beach Restoration Project: Year-Three Monitoring Report.

Project Permits.

The project was constructed and maintained pursuant to the following permits:

- Florida Department of Environmental Protection Permit DBS900263 LE, issued 1 February 1995, with Notice to Proceed issued 8 June 1995;
- Florida Department of Environmental Regulation permit No. 361800579, initially issued on 15 March 1993; and
- USACE Permit Number 199002600 (IP-JG), issued on 15 August 1994.
- State Submerged Lands consent of use (#361800579) issued on or about 9 Jan 1995.
- The 2003 repairs to the South Groin were authorized in FDEP permit 0202291-001-EE on 16 Aug 2002, and per NWP #3 in USACE permit 199002600 (NW-MN) on 26 Nov 2002.

CBRA System Units within the project endpoints? No.

Measures to mitigate impact to turtles, shorebirds, beach mice, etc.

Construction, maintenance, and repair are undertaken pursuant to measures and conditions specified by permits issued by the Florida Department of Environmental Protection, the US Army Corps of Engineers and the US Fish & Wildlife Service. Construction work is allowed on the project throughout the year, subject to specific restrictions and limitations from 15 April to 30 November (for marine turtle protection) and from 15 February to 1 September (for shorebird protection).

When was the project initially constructed? Between 10 July and 24 October 1995.

Typical Design Cross Section showing elevation, width, and slope.

The typical groin cross-section from the 1994 permits and 1995 plans is illustrated in **Figure 2**. **Figure 3** shows the elevations and layout of the two groins, as shown in the original CADD drawings used in the plans. **Figure 4** (2 pages) shows a specific purpose survey and State Submerged Lands lease area for each of the two groins, from drawings prepared by Morgan & Eklund, Inc. dated 8/25/1993.

Each groin, per the original permits, design and construction features a crest elevation of +4.8' NAVD along the stems and thence sloping 1:10 to elevation +2.3' NAVD along the seaward 23-ft crest length.⁴ The crest width varies from 4-5 feet (landward end) to 5-7.5 feet (stem) to 12 feet (seaward end roundhead), with nominal sideslopes of 1(v):2(h). The overall crest length of the North Groin is approximately 355 feet and the crest length of the South Groin is approximately 208 feet.

The layout, dimensions, elevations, and overall design of the rock groins was engineered for the structures' specific purpose of stabilizing the north end of the Bonita Beach nourishment (shore protection) project. The groins were permitted and constructed per that engineered design.

⁴ Note – the 1994/95 permits and plans are vertically referenced to NGVD'29, which is about 1.15 feet below NAVD'88. Unless otherwise specified, all elevations in this report are described relative to NAVD'88.

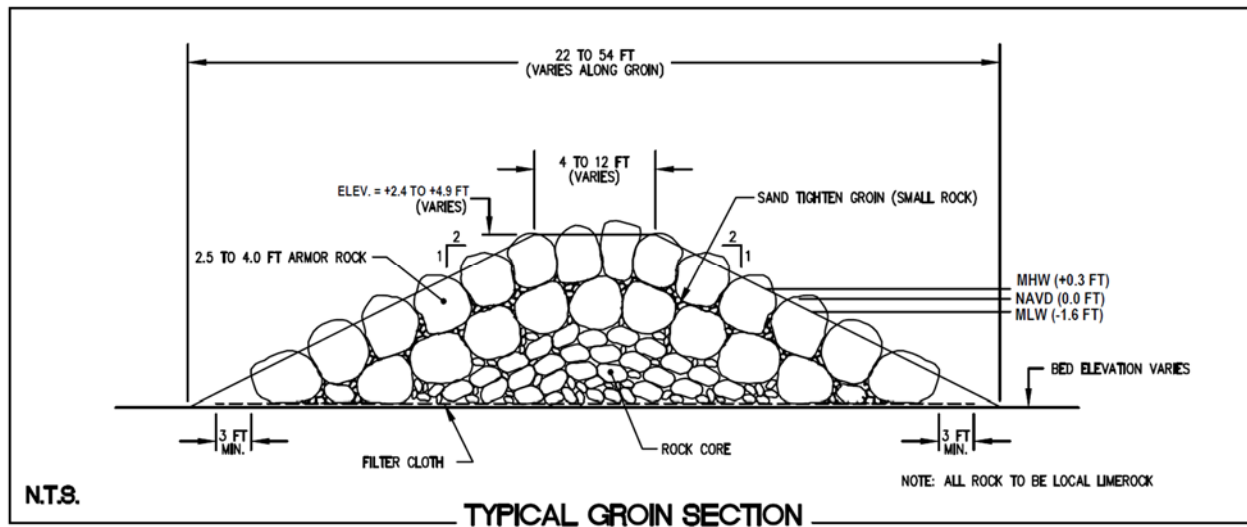


Figure 2: Typical groin cross-section adapted from the 1995 plans of the Bonita Beach Restoration Project by Olsen Associates, Inc.

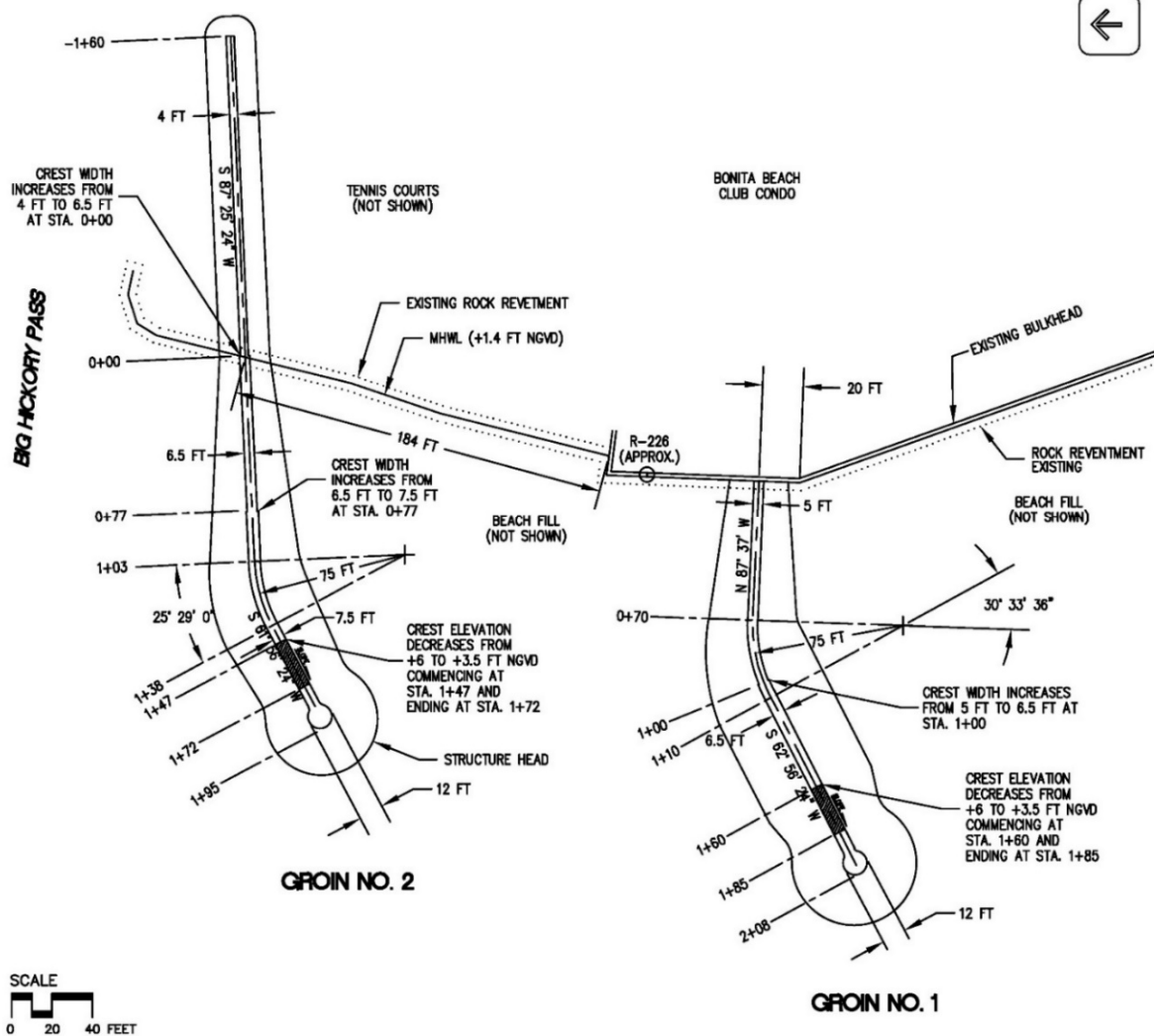


Figure 3: Layout and elevations of the 1995 groins. Drawing extracted from the 1995 plans of the Bonita Beach Restoration Project (OAI).

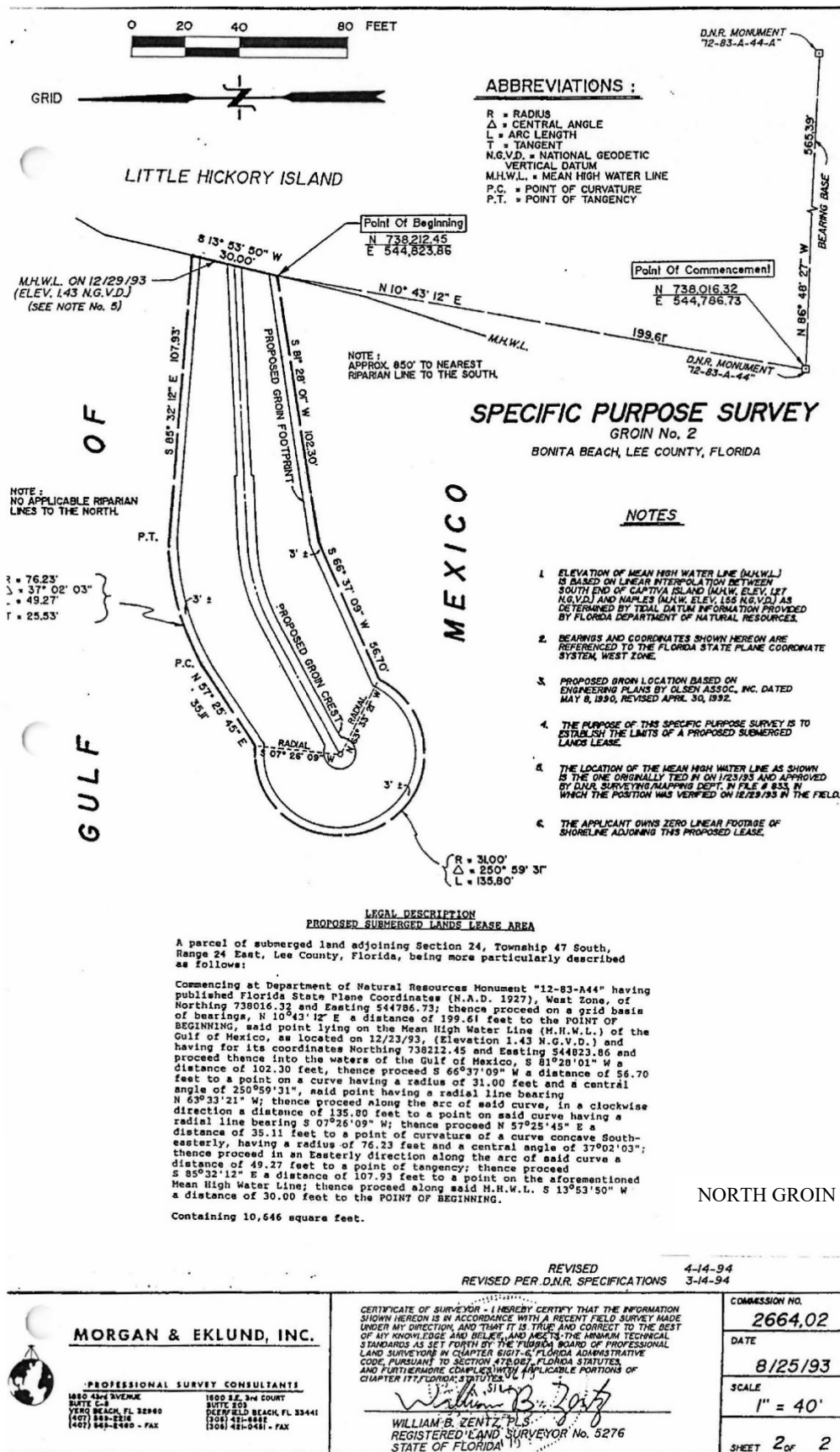


Figure 4: Specific purpose survey and submerged lands easement for North Groin. Extracted from permit DBS900263 LE.

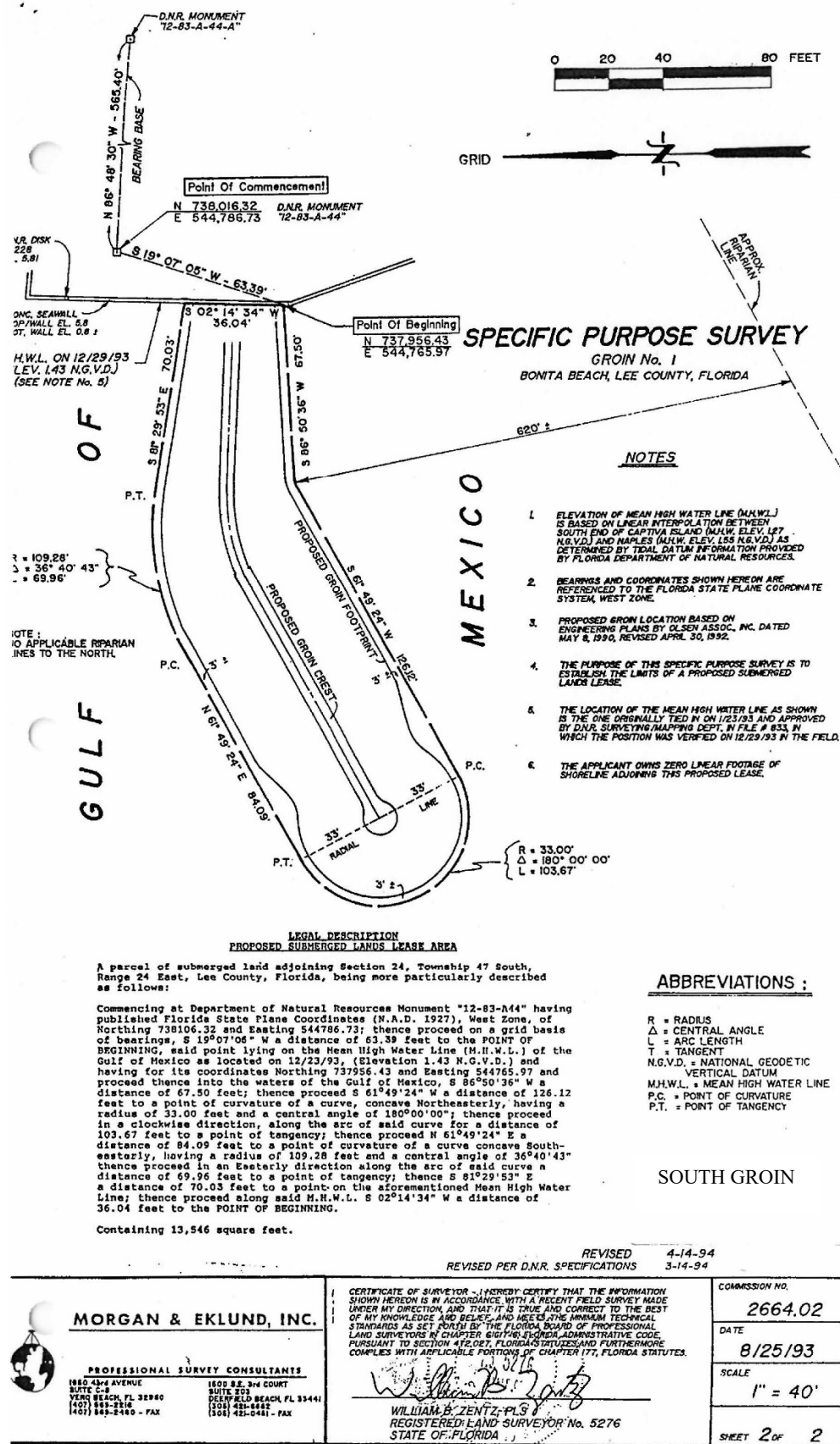


Figure 4 (continued): Specific purpose survey and submerged lands easement for South Groin.
Extracted from permit DBS900263 LE.

Materials. The groins were built using limerock boulders from upland quarries, with sizes ranging from 2 to 4 ft in diameter. The boulders were placed atop a geotextile (filter-fabric) foundation.

Maintenance Plan. The groins are monitored annually and after storms as part of Lee County's beach monitoring program. The groins are repaired if/when needed; i.e., if boulders are displaced from the structures and compromise the groins' function.

Maintenance history. After the groins were constructed in 1995, the South Groin was repaired in the summer of 2003, after damage from Hurricane Gabrielle in September 2001. Excepting Hurricane Ian, to our knowledge, there has been no other significant damage to the groin structures that required repair. To our knowledge, there has been no incident-related damage claimed for FEMA funding on previous declared disasters relating to the rock groins. Note that this discussion does not include beach nourishment after storm damage, for which the most recent sand losses from Hurricane Ian are described by CEC (Jan 2023)¹.

Depth of Closure (DOC) for the Project. Not applicable.

Pre-Storm Conditions.

Figure 5 illustrates typical conditions of the two groins *prior* to Hurricane Ian, in May 2021. For survey comparison, the cross-section of the pre-storm groins is represented by the design template of the groins.



Figure 5: Left – South groin. Right – North groin. Lower – South groin. Pre- Hurricane Ian; 4 May 2021. Photos by Vadim Alymov (Coastal Engineering Consultants, Inc.).

Post-Storm Conditions.

Figure 6 shows representative photographs of the rock groins in September 2023, after Hurricane Ian. Hurricane Ian impacted the project on or about 25-26 September 2022, with high waves and storm surge. This Category 5 hurricane tracked south-to-north immediately offshore of Lee County and made initial landfall at Cayo Costa about 29 nautical miles north of the project site.



Figure 6: South groin (photo - 9/26/2023), 1 year after Hurricane Ian. At top: seaward end. At left: central stem and landward end.



Left – South Groin, central & seaward end.
Above – South Groin, landward end.

Figure 6 is continued, next page.



North Groin – Seaward End (9/26/2023).



North Groin – Profile (9/26/2023), with scattered rock stockpiled along the beach berm at right. [The deposition of a low sand berm along the shoreline, evident in the photograph above, is a residual result of Hurricane Idalia in late August 2023.]

Figure 6 is continued, next page.



Left – Landward end of North Groin at beach berm.

Below (middle): Landward extension of North Groin looking east into Big Hickory Pass.

Below (bottom): Landward end of North Groin looking southeast toward Big Hickory Island, with Big Hickory Pass to center & right (composited images).



Figure 6: Photographs of the Bonita Beach terminal groins on 26 September 2023, one year after Hurricane Ian, continued from prior pages. **Figure 6** is concluded on next page.

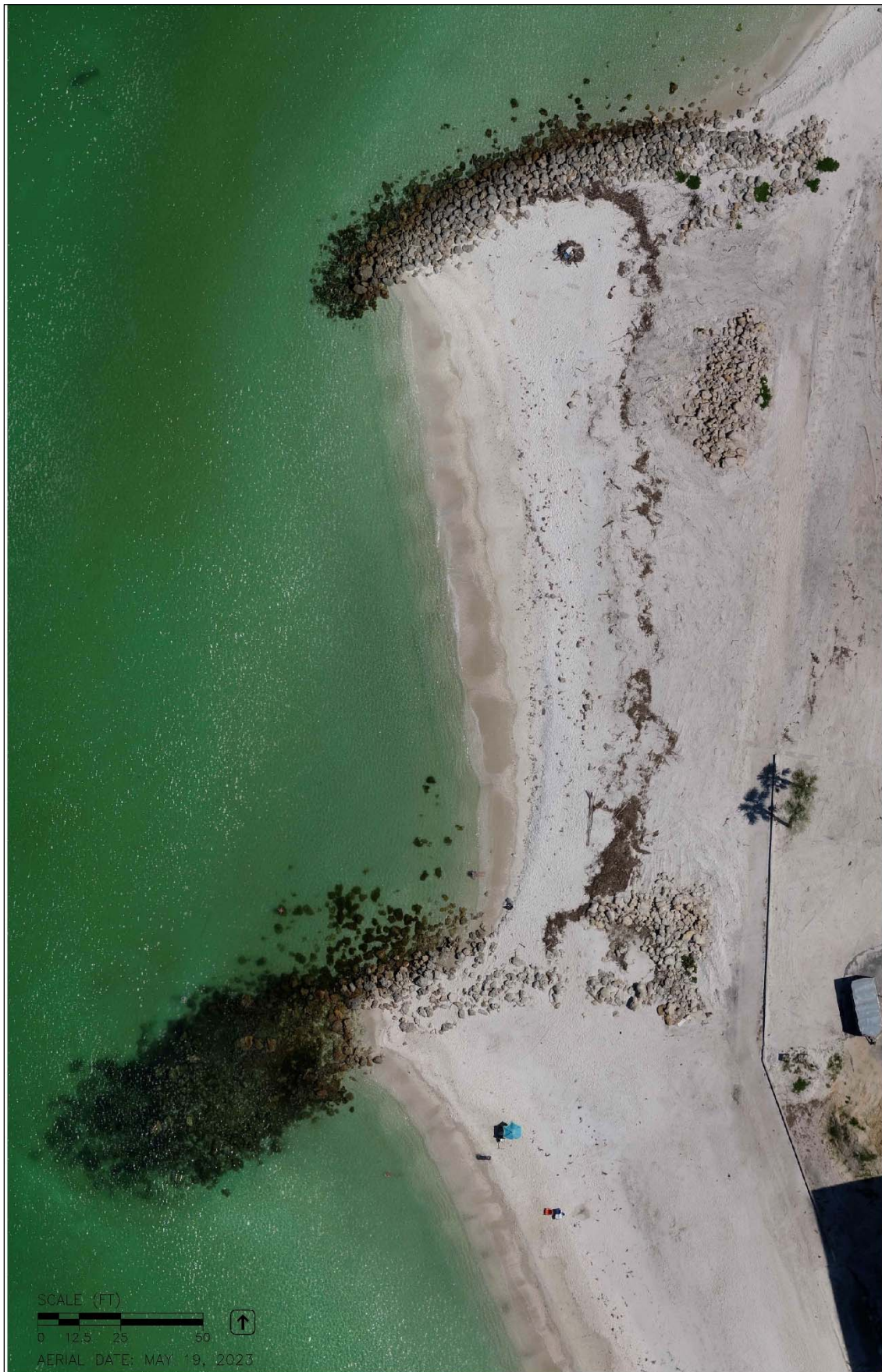


Figure 6 (concluded): Aerial photograph of the terminal groins from 19 May 2023.

Pre- and Post-Storm Profiles.

Figure 7 compares the elevations of the groin centerlines before and after Hurricane Ian. The pre-storm profile is represented by the design template of the groins, and the post-storm profile is represented by a May 2023 survey. **Figure 8** and **Figure 9** show representative sections of the North and South Groins, respectively, excerpted from **Attachment A**. These sections and those shown in **Attachment A** compare the May 2023 existing grade with the design template of the groins. **Figure 7** shows that the rocks along the North Groin are about 1 to 2 ft lower than pre-Hurricane Ian, and that the rocks along the South Groin centerline are 1 to 5.5 ft lower than pre-Hurricane Ian, with the discrepancy increasing toward the groin's seaward end. This reflects the extensive damage from Hurricane Ian, which is especially severe at the South Groin.

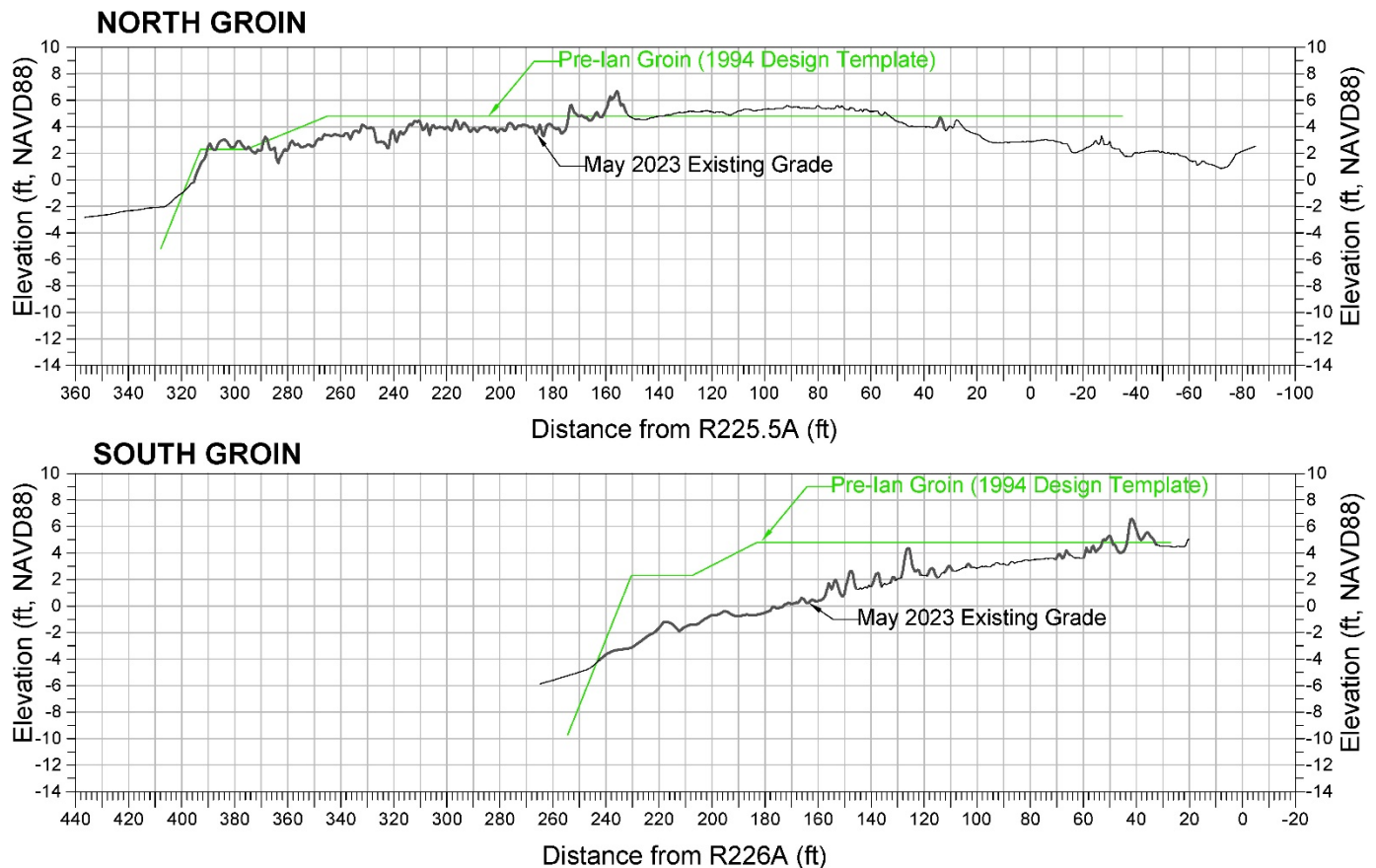


Figure 7: Cross-shore profile of the groins' centerlines. The distance is projected from the adjacent monument locations, R-225.5A (North Groin) and R-226A (South Groin). The pre-Ian profile is represented by the 1994 design profile with green lines. The existing conditions along each groin (May 2023) are indicated by the black lines. The thicker black line is exposed rock.

Attachment A (22 sheets, 11"x17") includes figures that describe detailed results of a May 2023 physical & aerial survey of the groins' conditions, including depictions and comparisons with the original design, permits & construction plans. **Attachment B** includes the Surveyor Report and Surveyor Drawings for the May 2023 surveys, prepared by Coastal Engineering Consultants, Inc.

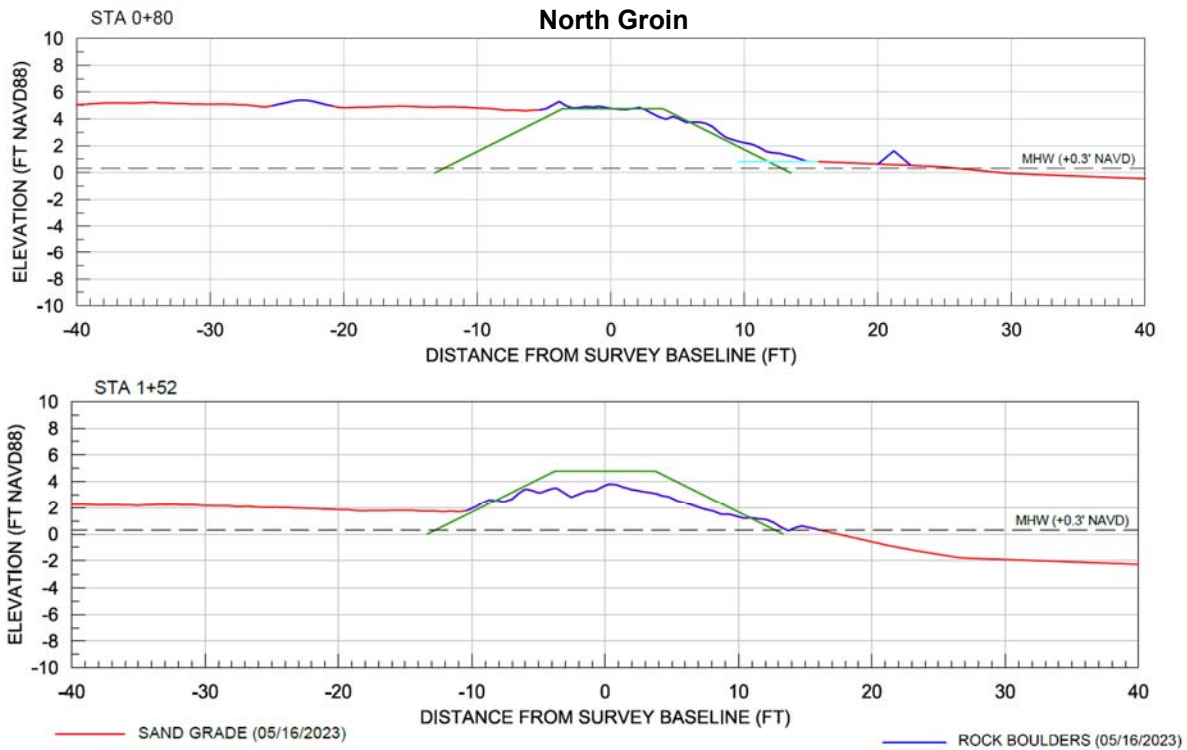


Figure 8: Representative cross-sections of the **North Groin** with May 2023 existing grade and rock boulders (red and blue line, respectively) and 1994 groin plan (green line).

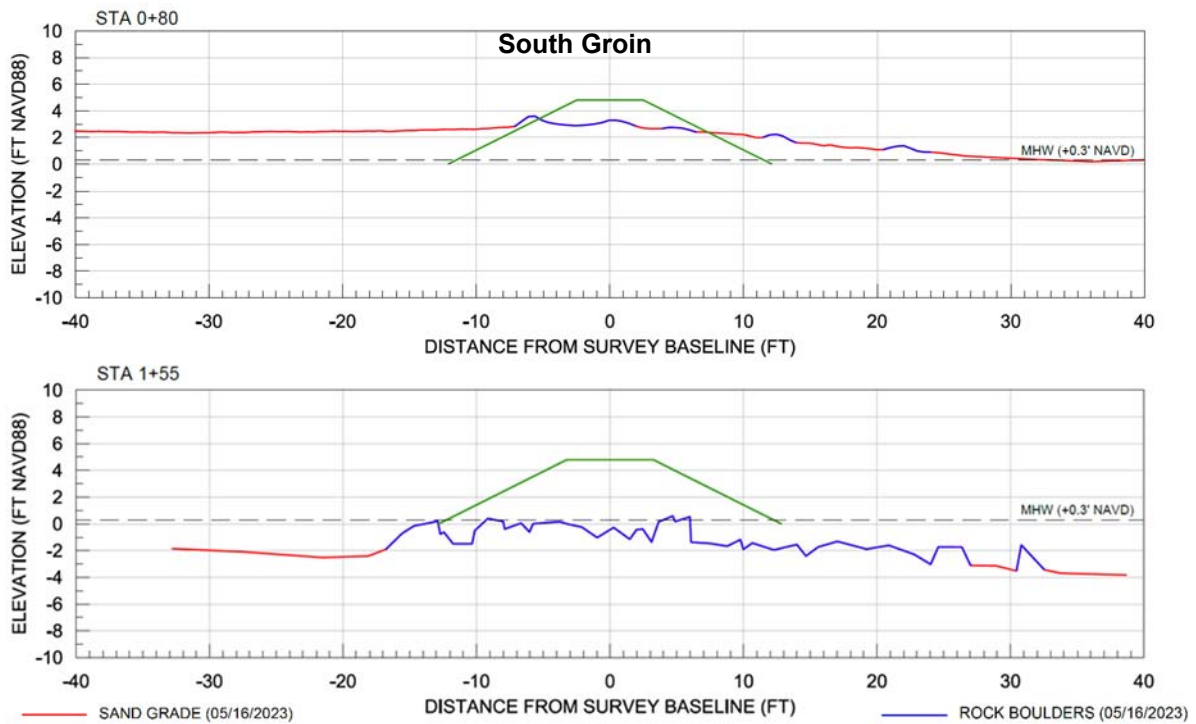


Figure 9: Representative cross-sections of the **South Groin** with May 2023 existing grade and rock boulders (red and blue line, respectively) and 1994 groin plan (green line).

Net Rock Damage

In all, there is about 200-ft length of the North Groin and 200-ft length of the South Groin that is damaged and in need of repair; or, 400-ft length total. The computed rock volume lost from the rock groins template is 300 cubic yards for the North Groin and 600 cubic yards for the South Groin, for a total of 900 cubic yards, based upon the existing post-storm groin survey (May 2023). Assuming a specific gravity of 2.24 and 25% voids, this equates to approximately 1,280 tons (430 tons for the North Groin and 850 tons for the South Groin).

There are at least 110+ large boulders scattered about the seabed (equating to about $38\pm$ tons of stone), plus another $80\pm$ tons of stone displaced out of the groin templates, plus another $92\pm$ tons of displaced boulders that were previously gathered and stockpiled near the landward ends of the groins. This totals about 210 tons of boulders that are displaced and/or stockpiled beyond the two groins' templates.

Incident-Related Rock Damage.

The incident-related rock damage is estimated to be the same as the net rock damage: About 1,280 tons of rock boulders required to repair the groins to the design template, of which there is on the order of 210 tons of boulders stockpiled or displaced at the project site outside of the design template. Accordingly, an estimated net import of up to about $1280 - 210 = 1070$ tons of boulders is required, plus retrieval and rehandling of the existing 210+ tons of displaced boulders at the site, plus placement and re-consolidation of these boulders into a coherent template.

Estimate of Background Erosion. Not applicable. (Unlike a beach project, the rock groins are stable (do not erode, accrete, or move) between storms.

Adjustment for Background Erosion Between the Profiles. Not applicable.

Loss of Previously Installed Plants and/or Sand Fence. Not applicable.

Scope of Work for Repair

Repair of the groins to their pre-storm, design condition will require permits, construction plans & specifications, contractor solicitation, construction (including importation of boulders, retrieval and re-consolidation of existing boulders), and construction management/review. The damage is fairly extensive and will require a significant construction effort to repair.

Permits. An FDEP permit (permit modification, *de minimus* permit, or other allowance) and USACE permit (permit modification, or Nationwide Permit) will be required to perform the repair construction activity, with the nature of the permits being for 'maintenance' activity.

Construction Plans & Contractor Solicitation. A survey, engineered construction drawings & specifications will be required to solicit, award and perform the construction repair. It is anticipated that the May 2023 survey will suffice for the plans. Award of a construction contract will require solicitation and competitive pricing, with responses to contractor questions regarding the solicitation.

Construction. The groin repair will be completed using land-based equipment. Repair of the existing groins will practically require dismantling much of the existing groins; i.e., removal of the existing boulders above the seabed and within the upper few feet of the beach in order to rebuild proper coherent, consolidated structures – particularly at the seaward ends and where the existing boulders are scattered. Importation of additional rock boulders (estimated as on the order of 1,070 tons, per above, of minimum 2+ to 4 ft diameter) will be required. Rock boulders that are embedded in the seabed within the groins' permitted footprint will not require removal (because they provide a stable foundation for the rehabilitated groins). Boulders scattered about the seabed as indicated in the May 2023 survey (see Sheets 8 and 10 of **Attachment A**), and those that are out of the construction template, will need to be retrieved, relocated and re-incorporated to the groins (or, if insufficiently sized or damaged, removed from the site). Boulders that are scattered about the seabed, out of template, or stockpiled along the upper beach, will be incorporated to the groins' repair to the maximum extent possible.

The repair work will be conducted by land-based heavy mechanical equipment; viz., payloader, one or two tracked excavators, off-road dump-truck, at minimum. Imported boulders will be delivered by road via dump-truck. Delivery of equipment, or construction operations, from the sea (barge) is not anticipated. It is expected that work shall be conducted by land-based operations, mostly during daylight hours, and 5 to 6 days per week if/as allowed. A source for the appropriate size, weight, and quality of stones must be identified (i.e., upland quarry and broker/delivery) and the boulders approved at the quarry and then delivered to the project site. Requisite median armor stone size ranges from 1400 lbs (30" boulder) to 4400 lbs (44" boulder), minimum.

Staging and temporary stockpiling shall be on the grounds of the adjacent condominium building, for which Lee County will need to acquire a temporary construction easement (such as was done for the 2003 post-storm groin repair). The contractor will be required to till the beach work area after construction is completed and equipment is removed from the beach. An as-built survey of both groins by a licensed surveyor will be required at the work's completion.

Construction Review & Management. Lee County and its engineering or CEI subcontractors(s) will provide limited construction review for compliance with the permits and project requirements, conduct permit-required pre-construction meetings, and submit pre/post construction notices and reports/surveys.

Environmental & Physical Monitoring. Monitoring for marine turtle and shorebird nesting activity will be required if the work is conducted during 15 April – 30 Nov and/or 15 Feb – 1 Sept. During the former period, marine turtle nest relocation will be required if/as permitted. Marking for shorebird nesting will be required, if necessary. Turbidity monitoring (at least visual) will be required for those days in which work is within the water and presents a potential to create turbidity. Vibration monitoring surveys may be required during construction. These requirements shall pertain to the period of construction activity on the beach. It is *not anticipated* that specific physical or environmental monitoring of the project (rock groins) will be required *after* the construction-repair of the groins is completed. Such physical and environmental monitoring would

be related to the beach nourishment project – immediately adjacent to the rock groins – and would be conducted as part of the beach project, not the rock groins project.

Proposed schedule. Exact dates are to be determined: expected within the July 2024 to April 2025 timeframe. It is estimated that construction will take about 4+ months, including at least ~8 weeks for mobilization and rock production, and ~8 weeks for site work & demobilization.

Estimate of Probable Cost (Repair to Original Pre-Storm Condition)

The following is a cost estimate to repair the groin project to its permitted design & pre-storm condition, per the considerations presented above. The basis of the cost valuations is similar work conducted to repair the project's South Groin in 2003, to repair a terminal rock groin in Martin County in 2001 and 2002, and to repair a terminal groin at Longboat Key in late 2023 – along with prevailing costs of engineering & monitoring for similar-scale coastal construction repairs, as described further below. The total cost estimate is \$1,375,000 per **Table 1**.

Table 1. Estimate of Probable Costs to Repair Groin Project to Pre-Storm Conditions					
	Qty	Unit	Unit Cost	Extended Cost	
Surveys & Engineering Repair Assessment					
Expended To-Date	1	L.S.	\$ 77,200		\$ 77,200
Construction Plans & Specifications	1	L.S.	\$ 50,000		\$ 50,000
Permitting for Repair	1	L.S.	\$ 25,000		\$ 25,000
Construction Repair					
Mobilization	1	L.S.	\$ 160,000	\$ 160,000	
Boulder Import	1070	tons	\$ 180	\$ 192,600	
Site Work	42	days	\$ 16,500	\$ 693,000	
As-Built Surveys	1	L.S.	\$ 8,900	\$ 8,900	
Environmental Surveys During Constrxn	1	Allowance	\$ 45,000	\$ 45,000	
Vibration Monitoring	1	Allowance	\$ 25,000	\$ 25,000	
Tilling	1	Allowance	\$ 10,000	\$ 10,000	
Bond		1%		\$ 11,300	
Sub-Total (Construction)					\$ 1,145,800
Construction & Permit Compliance Review	1	L.S.	\$ 77,000		\$ 77,000
Post-Constrxn Physical & Env. Monitoring	0				\$ -
TOTAL					\$ 1,375,000

Per **Table 1** above, the estimated probable costs include approximately \$77,200 expended to-date for the post-construction physical surveys and engineering damage assessment of repairs and costs associated thereto. Anticipated costs for the preparation of construction plans & specifications and permitting for repair to pre-storm conditions, utilizing the surveys and engineering assessments & reports already completed, amount to \$50,000 + \$25,000. Nominal allowance for construction review, permit-required submittals, pre-construction conferences, notices of commencement & completion, etc. is estimated as \$77,000. The latter includes daily C.E.I. at a rate of \$750/day for 42 days (which reflects the rate of C.E.I. for ongoing rock groin-repair construction at New Pass, Town of Longboat Key), plus \$45,500 for pre-construction & weekly meetings, limited engineering site visits & construction review, and permit-required submittals.

The estimated contractor construction cost reflects mobilization (including contract administration), purchase & delivery of 1070 tons of armor stone (neglecting placement) at prevailing rates of \$180/ton per recent similar shore protection projects along the southwest FL coast, 42 days of labor + plant at \$16,500/day, as-built surveys by a professional licensed surveyor, estimated cost of vibration monitoring (given the proximity of the work to adjacent multi-story buildings), and minimum anticipated cost for environmental and related surveys. Per prior similar groin-repair work conducted in Martin County in March-April 2022, the latter cost for environmental monitoring (\$45,000) reflects allowances for marine turtle nesting monitoring at \$300/day for 65 days plus 4 nest relocations at \$180 each, plus shorebird monitoring at \$150/day for 45 days, plus turbidity monitoring at \$1500/day for 10 days, plus meeting allowances of \$3030. The actual costs will depend upon the calendar timing and duration of the construction repair.

The costs of the mobilization, armor stone delivery (for 2'-4' boulders in the 1000-ton quantity range), as-built surveys, and vibration monitoring are all based upon contemporary prices for projects of similar location and scale as the present project. The cost of the site work is based upon a daily rate for physical plant & labor (mechanical equipment, operators, and support labor) for similar work; viz., approximately \$16,500/day for an estimated effort of about 4 calendar weeks at the south groin and 3 calendar weeks at the north groin (or 7 weeks x 6 days/wk = 42 days). The daily plant & labor cost reflects prior similar contract works, extrapolated to Nov 2023 by CPI-U, and neglecting the cost of imported stone. The daily cost of the January 2003 repair of the South Groin at Bonita Beach (by Kelly Brothers), after accounting for 33 tons of imported stone, over about 5 to 6 work days, was about \$15,900/day. The daily cost of April 2021 repair to the "Mobil" groin at Sailfish Point (Martin County, by CKA LLC), for which no new stone was imported, was about \$11,000/day but with using only very limited equipment (one excavator). The daily cost of spring 2022 repair to the "Mobil" groin at Sailfish Point (by CKA LLC), after accounting for 250 tons of imported stone, over about 14 days, was about \$16,820/day. The average cost of the 1st and 3rd of these projects, in Nov 2023 dollars, is \$16,360/day – or, at least \$16,500 in 2024 dollars. The site work is thus estimated as \$16,500/day x 42 days = \$693,000.

As such, per **Table 1**, the estimated cost of the construction contract is \$1,145,800, inclusive of environmental surveys, vibration monitoring, post-work beach tilling, and bond. This value is compared with the construction cost of similar groin repair work in south Florida during the last 2 to 20 months, per the following three examples.

1.) The landward end of the "Mobil" groin at Sailfish Point (Martin County, FL) was repaired in March 2022. Neglecting the cost of 250 tons of imported granite boulders, and neglecting the cost of environmental & vibration monitoring (by others) and bond (not required), the construction contractor's cost of partially dismantling and then completely rebuilding the landward 110-ft of the rock & sheetpile groin was about \$240K in spring 2024 dollar value. The requisite effort at the Bonita Beach groins is at least 3.6 times greater (i.e., 400-ft vs 110-ft of repair, plus work below the waterline). That would equate to $3.6 \times \$240K = \$864,000$. After adding \$192,600 for rock boulders plus \$80,600 for environmental & vibration surveys and bond, the construction cost for the Bonita Beach groins project – extrapolated from Sailfish Point – is \$1,137,200. That value is very similar to the estimated construction contract cost in Table 1 (\$1,145,800).

2.) The seaward end of the rock groin at New Pass (Town of Longboat Key, FL) is being repaired in Nov 2023 – January 2024. The construction contract requires dismantling 200-ft of the groin's seaward length, importing 310 tons of boulders, and rebuilding the groin to a coherent structure. Four competitive bids were received in September 2023. The least-cost bid was \$489,415. The requisite effort at the Bonita Beach groins is about 2.4 times greater (i.e., 400-ft vs 200-ft repair, and 1070 tons vs 310 tons of new boulders)⁵. Extrapolated to Bonita Beach, the least-cost bid for the Longboat Key groin repair would equate to \$938,940.⁶

3) The second least bid for the Longboat Key groin repair was \$576,194. (The 3rd and 4th bids were over \$800K and \$1500K and are neglected here.) Extrapolated to the Bonita Beach groin repair, the 2nd least-cost bid for the Longboat Key groin repair would equate to \$1,307,500.⁷ Prudent engineering cost projections assume that the probable cost allowance for a future project may be likely between the 1st and 2nd least-cost competitive bids for a similar past project.

The *average* of these three construction cost estimates – extrapolated from recent rock groin repairs to the Bonita Beach groin repair – is \$1,127,900. Projected forward from November 2023 to late summer 2024 (assuming +1.6% inflation), the value is \$1,145,950. From **Table 1**, the estimated cost of the construction contract for the Bonita Beach groin repair -- \$1,145,800 -- is nearly identical to the average value extrapolated from the Sailfish Point (2022) and Longboat Key (2023) groin repairs, per the three example valuations presented above.

From **Table 1**, with all costs considered, and neglecting post-construction monitoring costs (which are assumed to be non-applicable), the estimated probable cost to repair the Bonita Beach groins to their original design and pre-storm condition is on the order of \$1,145,800 construction cost + \$229,200 engineering/permitting/CEI cost = **\$1,375,000**.

⁵ In Table 1, the cost of site work is 75% of the combined cost of site work & boulder import. The cost of the boulders is 25% of the combined cost of site work & boulder import. Thus, the scale factor between Longboat Key and Bonita Beach can be simply approximated as $75\% \times (400' / 200') + 25\% \times (1070 \text{ t} / 310 \text{ t}) = 2.36$; or, about 2.4.

⁶ Specifically, the bid cost for site work & new stone (\$321,090) was scaled up by 2.4 = \$770,616. To this was added the bid cost for M/D (\$87,500) & vibration monitoring (\$37,500) & geogrid/geotextile (\$43,325), where the latter does not apply to Bonita Beach but is of similar value to the estimated Bonita Beach environmental monitoring costs (\$45,000). Total = \$938,941.

⁷ This value is computed as the total bid cost of \$576,194 (less \$50,150 for geogrid/geotextile) $\times 2.4 = \$1,262,505$ plus \$45,000 for the estimated Bonita Beach environmental monitoring costs = \$1,307,505.

MODIFICATION TO IMPROVE PROJECT RESILIENCY

Modifications to the original groin design are recommended and proposed to be conducted as part of the post-Hurricane Ian repair of the groins in order to improve the groin project's resiliency against sea level rise and associated future storm damage, and to correspondingly increase the resiliency and longevity of the adjacent Bonita Beach shore protection project which the groins serve to stabilize.

What is proposed? No changes to the groins' overall location or layout appear warranted or recommended, but it is recommended that the groins' elevation be increased by about 2 feet and their seaward length correspondingly extended by at least 18 to 20± feet (at the waterline), relative to their existing 1994/95 design conditions. This increase is warranted to reflect historical and near-term sea level rise and the corresponding increase in beach elevation. The 18 to 20 feet extension of the groin lengths corresponds to a +2 ft rise of the beach and sea level and a corresponding beach slope of between 1(v):9(h) and 1(v):10(h); viz., 2 ft x 1:9 to 1:10 = 18 ft to 20 ft. The weight and size of the armor rock boulders used to repair the groins will be increased to reflect higher water levels and wave heights. Internal geotextile sand-tightening of the landward end of the North Groin is recommended to reduce sand losses. A geotextile/geogrid foundation is required under the 18-20± ft seaward extension of each groin's head. **Attachment A** (Sheets 11-22) includes additional cross-sections and plan-view drawings of the proposed modifications.

Why? The proposed modification results from (i) the measured and near-term projected increase in sea level rise, (ii) the elevation of the current beach profile compared to the profile of the groins, and (iii) the increased elevation of the proposed & currently permitted beach berm fill along Bonita Beach -- relative to the conditions in 1994/95 when the groins were originally designed, permitted, and constructed. Specific observations are described below.

(i) Sea level rise. **Figure 10** displays the annual mean sea level at Fort Myers (NOAA Station 8725520) from 1969 to 2022, as computed from *measured* hourly water levels. The measurements illustrate that the sea level has been rising from 1969 to the end of 2022, and that the sea level increase has been greatest in the last decade, at a rate of 2.7 ft/century since 2015. To-date, the *measured* sea level rise is +0.63 ft from design/construction of the groins in 1994/95 through 2023. Additionally, the projected increase in sea level at the current rate (2.7 ft/century) equates to +1.35 ft over the next 50 years. This totals +1.98 ft sea level rise from the groin project's design/construction in 1994/95 (29 years ago) to 2073 (~50 year future forecast). Hence, it is proposed that repair of the groins be modified to raise their elevations by about +2 feet.

In order to retain the seaward location of the beach berm at its current 1994/95 design location, a +2 ft increase in the sea level and associated beach berm elevation physically requires an 18- to 20-ft increase in the shoreline width, per the 1:9 to 1:10 beach foreshore slope along the project area. This, in turn, requires an 18- to 20-ft lengthening of the groins to correspond to the +2 ft increase in beach-berm and sea level rise -- and the corresponding 18-20 ft widening of the beachface slope.

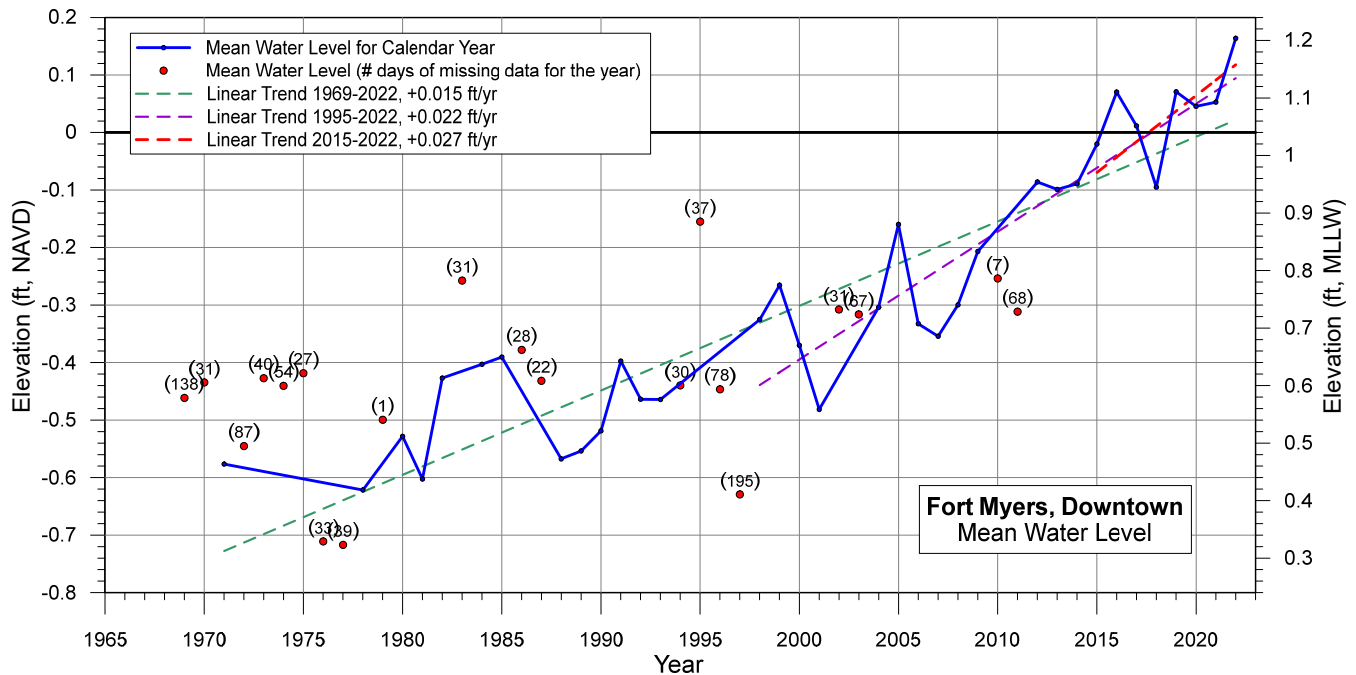


Figure 10: Annual mean sea level as measured in Fort Myers (NOAA Station 8725520).

Annual mean water level as computed from hourly water levels. Red dots display the mean water level computed for years in which data was not available for all hours of the year. The number above the point indicates the equivalent days of data missing in that year. Linear trends were computed only using years with full data available, that is, without counting red points. The measured annual mean sea level has risen 0.63 feet from 1994 through 2022. The current measured trend over the past 8 years (red line, 2015 through 2022) is 0.027 ft/year, or 2.7 ft/century.

(ii) Current Beach Profiles vs Groin Profiles. **Figure 11** compares the contemporary pre-storm beach profiles immediately updrift of the two groins with the existing design profiles of each groin. The top graph depicts beach profiles at R-225.5A overlaid with the adjacent North Groin profile, and the bottom graph depicts the beach profiles at R-226A overlaid with the adjacent South Groin profile. Sheets 2 and 5 of **Attachment A** show the profile locations relative to the groin locations.

As shown in **Figure 11**, the existing groin elevations and the 1994 groin design elevation are 1.5 to 2 ft lower than contemporary pre-storm beach conditions, as evidenced along the berm and majority length of the profiles. For example, within 40 to 230 feet seaward of the R-monument, all beach profiles at R-225.5 (North Groin) from 2020 through 2022 are about 1.5 to 2 feet higher than the 1994 design groin elevation. Similarly, within 100 feet seaward of the R-monument, beach profiles from 2020 through 2022 at R-226A (South Groin) are about 1.5 to 2 feet higher than the 1994 design groin elevation.

As such, the contemporary (pre-storm) beach profiles are at least 1.5 to 2 feet (or more) *higher* than the existing groin elevations. Therefore, this suggests that reconstruction/repair of the groins should involve raising the crest elevation by at least 1.5 to 2 feet, to reflect – or keep up with – contemporary observed pre-storm beach conditions immediately adjacent to each groin. This, in turn, will better stabilize the Bonita Beach shore protection project – decreasing erosional losses, increasing the renourishment interval, and thereby increasing long-term shore protection and flood-prevention benefits and decreasing overall long-term renourishment costs.

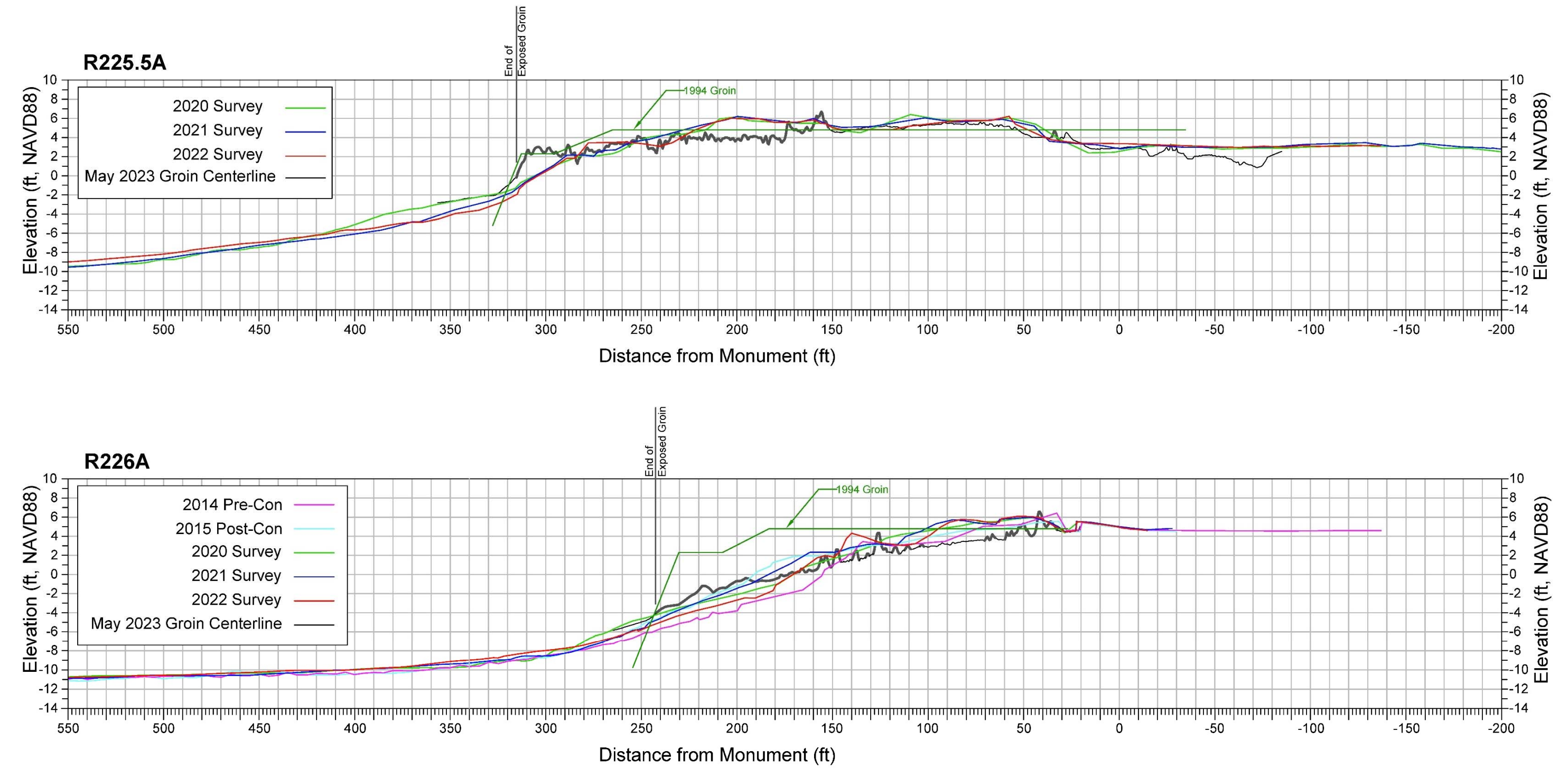


Figure 11: Beach profile plots at R-225.5A, North Groin (top); and R-226A, South Groin (bottom). The distance is from the R-monuments. The approximate 1994 design profile for each groin is indicated by the dark green lines. The existing conditions along each groin (May 2023) are indicated by the black lines, with exposed rock indicated by the thicker line.

(iii) Beach Fill Permit Modification vs Permitted Groin Profile. On 14 December 2022, FDEP issued permit modification 03111811-004-JM, which modifies the beach fill template of the Bonita Beach Renourishment Project by raising the design berm elevation by 0.6 ft – from +4.3 ft to +4.9 ft NAVD – at the seaward end of the berm. **Figure 12** shows the plan-view of the 2022-permitted beach fill template as extracted from the drawings by Coastal Engineering Consultants⁸. **Figure 13** shows a northward linear projection of the beach fill template, from R-226.5 to R-228 (the northern 1500-ft length of the principal beach fill, neglecting the end-taper) to R-226A, and compares it to the existing South Groin profile. Note that because the beach fill template tapers from R-226.5 to R-226A (see **Figure 12**), the beach fill template shown in **Figure 13** is not the template of the beach fill that will be placed at R-226A, though it is a good conservative check to see how the new template compares to the existing groin when the fill profile is projected 500-ft northward to the location of the South Groin.

Beginning south of the taper, near R-226.5, the current permitted and proposed elevation of the berm fill along Bonita Beach is +5.4' NAVD at the seaward edge, and slopes upward to +6.3' NAVD at the landward edge (including +6" tolerance). But the design groin crest elevation is only +4.8' NAVD along the stems, and +2.3' NAVD at the heads. Thus, *the Bonita Beach beach fill berm elevation is 0.6 to 1.5 ft higher than the existing 1994/95 design crest elevation along the groins' stems. And, the northward-projected fill elevation is 2.5 ft higher than the groins' seaward ends.* Per **Figure 13**, northerly projection of the Bonita Beach renourishment fill, across the 500-ft taper and to the South Groin, indicates that the beach fill is 80-ft wider [seaward] than the 1994 South Groin at the waterline.

Even after accounting for a typical $40 \pm$ ft landward declination of the shoreline within $500 \pm$ ft south of the groin⁹, this yet indicates that the shore protection beach nourishment width is on the order of *40-ft seaward* of the existing permitted end of the South Groin at the waterline. Thus, a recommended 18 to 20 ft lengthening of the groins would not overly exceed the adjacent, projected beach fill shoreline. In fact, it would be yet 20 to 22 feet narrower than the projected beach fill shoreline, at the waterline, including consideration of the shoreline's landward declination within 500+ ft south of the South Groin. All of this suggests that an increase in groin elevation of at least +2 ft is warranted, and that a seaward extension of at least 18 to $20 \pm$ ft is also warranted.

Armor Rock Boulder Size. Modification of the groins, during their post-Hurricane Ian repair, will likewise include increasing the size & weight of the armor stone. With consideration of increased sea level rise, application of the Hudson Equation indicates that the requisite median size of armor stone should be increased from 2.1-2.5 ft (860-1400 lbs) to about 3.0 ft (2500 lbs) along the North Groin, and from about 3.7 ft (4200 lbs) to about 4.2 ft (6500 lbs) along the South Groin.⁹ These larger stones would be imported as part of the requisite repair, raising, and lengthening of both groins. This will improve the resiliency of (mitigation of storm wave damage to) the groins.

⁸ Coastal Engineering Consultants, Inc., 10 December 2021. "Bonita Beach and Lovers Key Nourishment" Drawings. Drawing dated 10 December 2021; sealed on 4 March 2023.

⁹ Olsen Associates, Inc., 31 October 2023. "Assessment & Recommendations for Bonita Beach Groin Repair."

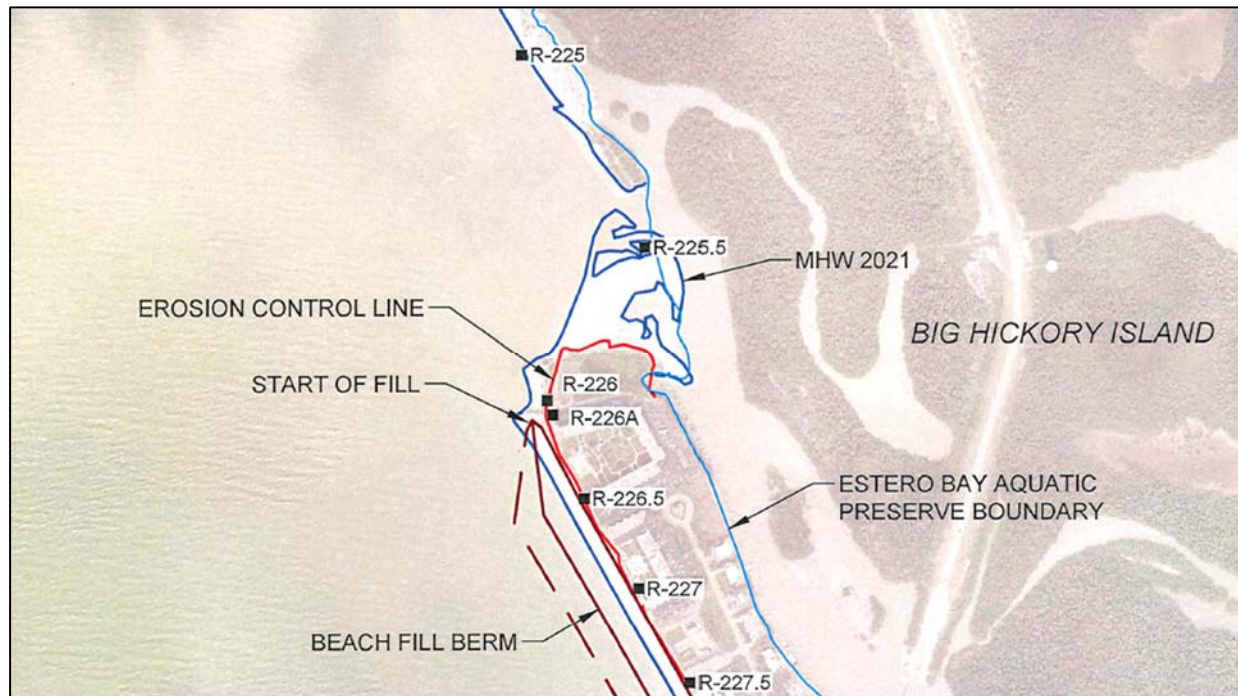


Figure 12: Beach fill template along the north end of Little Hickory Island as drawn by Coastal Engineering Consultants. Image extracted from permit drawings by CEC⁴.

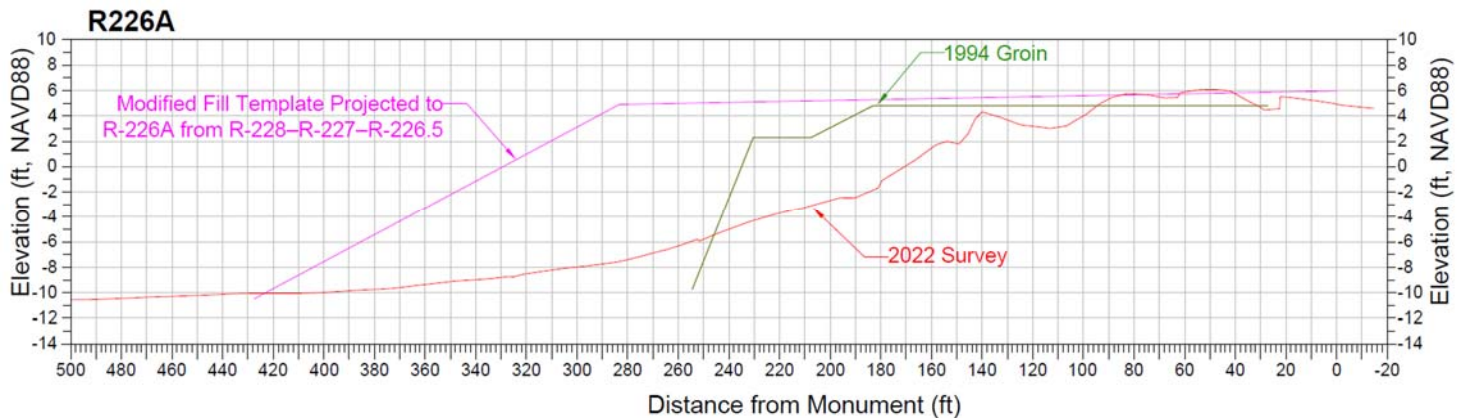


Figure 13: Beach profile plot at R-226A displaying the South Groin and the 2022-permitted Modified Beach Fill Template projected northward to the location of the South Groin near R-226A. The beach fill berm elevation is 2.5 feet higher than the seaward end of the existing South Groin design elevation, and the projected beach fill shoreline is 80-ft wider (seaward of) the existing South Groin profile at the waterline.

How will the proposed modification improve resiliency of groins and the beach?

The proposed modifications will increase the resiliency of the groins and the groins' functionality by improving the structures' stability and mitigating (decreasing) the potential for future storm damage to the structures by keeping up with rising sea level. Likewise, the groin resiliency modifications will better stabilize the Bonita Beach shore protection project in current and near-term future increased sea level rise conditions – decreasing erosional losses, increasing the renourishment interval, and thereby increasing long-term shore protection and flood-prevention benefits provided by the overall project, and decreasing overall long-term renourishment costs.

Project surface area with proposed modification.

The surface area of the base of the groins with the proposed modification would be 21,390 ft² (12,090 ft² from the North Groin and 9,300 ft² from the South Groin), or 0.491 acres. Therefore, because the combined area of both groins would still be less than 0.5 acres, this coastal project with the proposed modification should qualify within the Categorical Exclusion *N5 (“Federal Assistance for Actions in Coastal Areas Subject to Moderate Wave Action or V-Zones”).

Rock and related materials requirements.

The proposed modification would require about 2,800 tons of rock to construct the modified template, of which it is assumed that there is 210 tons available on-site at the adjacent beach stockpiles, out of template, or scattered about the seabed which can be recovered and reused. As such, there is an estimated deficit of armor rock of up to approximately 2,590 tons that needs to be imported (compared to 1,070 tons needed without the proposed modification). About 4000 square feet of geotextile fabric is recommended to internally sand-tighten the North Groin along the berm. About 2000 square feet of geogrid/geotextile is required under the extended seaward groin heads.

Proposed Schedule.

The anticipated calendar schedule of construction work would be the same as for the repair to original design & pre-storm conditions, but likely slip to the November 2024 to April 2025 timeframe, owing to increased permit and State Lands acquisition requirements. It is estimated that construction will take about 5+ months, including at least ~9 weeks for mobilization and rock production, and ~11 weeks for site work & demobilization.

Scope of Work

The Scope of Work for repair of the groins with the proposed modification is identical to that required for repair to the original design/pre-construction conditions, described above, but with

- (i) requirement for additional armor rock import (up to 2590 tons total), and slightly increased construction time (<30%) for the additional rock work and seaward groin extensions,
- (ii) geotextile fabric for internal sand-tightening of the North Groin and under the new groin heads (~6000 square feet) and,
- (iii) increased permitting requirements for the modified groin template and associated State Submerged Lands Easement.

Regarding the latter, FDEP and USACE permits will be required for the modified groin construction, along with a new or modified State Submerged Lands Easement for the additional minor seabed area associated with a seaward extension of the groins’ footprint. Such extension is conceptually illustrated on Sheet 12 of **Attachment A**, requiring at least a minimum 15-ft expansion of the seaward end of the existing SSL easement.

Otherwise, all construction activity is anticipated to be from land, with land-based equipment, and identical to that described for the project repair to original design/pre-storm conditions. See prior pages 14-15 of this report. The fundamental work is not different. The fundamental difference amounts to dealing with a slightly greater amount of boulders, and extending each groin by up to ~20 feet waterward, which adds some materials quantity and minor additional construction time.

Estimate of Probable Cost (Repair to Modified Resiliency Design)

The following is a cost estimate to repair the groin project to the recommended modified design for purposes of improving the project's long-term resiliency. The basis and details of the cost valuations are as described in the cost estimate to repair the project to its original design and pre-storm conditions (pages 16-18 of this report), and are not repeated here. The increased quantities and effort required to repair the project to a modified mitigation design are reflected in the table below. The total cost estimate is \$1,956,000 per **Table 2**.

Table 2. Estimate of Probable Costs to Repair Groin Project to MODIFIED Design to Improve Project Resiliency					
	Qty	Unit	Unit Cost	Extended Cost	
Surveys & Engineering Repair Assessment					
Expended To-Date	1	L.S.	\$ 77,200		\$ 77,200
Construction Plans & Specifications	1	L.S.	\$ 55,500		\$ 55,500
Permitting for Repair	1	L.S.	\$ 60,000		\$ 60,000
Construction Repair					
Mobilization	1	L.S.	\$ 185,000	\$ 185,000	
Boulder Import	2590	tons	\$ 180	\$ 466,200	
Site Work	54	days	\$ 16,500	\$ 891,000	
Geotextile/Geogrid	6000	sq.ft.	\$ 4.00	\$ 24,000	
As-Built Surveys	1	L.S.	\$ 9,300	\$ 9,300	
Environmental Surveys During Constrxn	1	Allowance	\$ 46,500	\$ 46,500	
Vibration Monitoring	1	Allowance	\$ 25,000	\$ 25,000	
Tilling	1	Allowance	\$ 10,000	\$ 10,000	
Bond		1%		\$ 16,300	
Sub-Total (Construction)					\$ 1,673,300
Construction & Permit Compliance Review	1	L.S.	\$ 90,000		\$ 90,000
Post-Constrxn Physical & Env. Monitoring	0				\$ -
TOTAL					\$ 1,956,000

Per **Table 2** above, the estimated probable costs include approximately \$77,200 expended to-date for the post-construction physical surveys and engineering damage assessment of repairs and costs associated thereto. Anticipated costs for the preparation of construction plans & specifications and permitting for repair to the modified design, utilizing the surveys and engineering assessments & reports already completed, amount to \$55,500 + \$60,000. Nominal allowance for construction review, permit-required submittals, pre-construction conferences, notices of commencement & completion, etc. is estimated as \$90,000. The latter includes daily C.E.I. at a rate of \$750/day for 54 days (which reflects the rate of C.E.I. for ongoing rock groin-repair construction at New Pass, Town of Longboat Key), plus \$49,500 for pre-construction & weekly meetings, limited engineering site visits & construction review, and permit-required submittals.

The estimated contractor construction cost reflects mobilization (including contract administration), purchase & delivery of 2590 tons of armor stone (neglecting placement) at prevailing rates of \$180/ton per recent similar shore protection projects along the southwest FL coast, 54 days of labor + plant at \$16,500/day, as-built surveys by a professional licensed surveyor, estimated cost

of vibration monitoring (given the proximity of the work to adjacent multi-story buildings), and minimum anticipated cost for environmental and related surveys. The latter cost for environmental monitoring (\$46,000) reflects allowances for marine turtle nesting monitoring at \$300/day for 65 days plus 4 nest relocations at \$180 each, plus shorebird monitoring at \$150/day for 55 days, plus turbidity monitoring at \$1500/day for 10 days, plus meeting allowances of \$3030. The actual costs will depend upon the calendar timing and duration of the construction repair.

The costs of the mobilization, armor stone delivery (for 2'-4' boulders in the 2600-ton quantity range), geotextile, as-built surveys, and vibration monitoring are all based upon contemporary prices for projects of similar location and scale as the present project. The cost of the site work is based upon a daily rate for physical plant & labor (mechanical equipment, operators, and support labor) for similar work; viz., approximately \$16,500/day for an estimated effort of about 5 calendar weeks at the south groin and 4 calendar weeks at the north groin (or 9 weeks x 6 days/wk = 54 days). The daily plant & labor cost reflects prior similar contract works, extrapolated to 2024 levels, and neglecting the cost of imported stone, as described previously in pages 17-18. The site work is thus estimated as \$16,500/day x 54 days = \$891,000. As such, per **Table 2**, the estimated cost of the construction contract is \$1,673,300, inclusive of environmental surveys, vibration monitoring, post-work beach tilling, and bond.

From **Table 2**, with all costs considered, and neglecting post-construction monitoring costs (which are assumed to be non-applicable), the estimated probable cost to repair the Bonita Beach groins to the recommended modified design to improve project resiliency is on the order of \$1,673,300 construction cost + \$282,700 engineering/permitting/CEI cost = **\$1,956,000**.

Summary.

- The estimated total cost to repair the groins to a modified design that improves project resiliency is \$1,956,000.
- The estimated total cost to repair the groins to the original design & pre-storm conditions is \$1,375,000.
- The estimated increased cost to repair the project to a modified design, relative to the original design & pre-storm condition, is \$581,000 – or 42.3% -- greater.
- Both the repairs to the modified design, and to the original & pre-storm condition, comprise a surface area that is less than 0.5 acres; i.e., 0.491 acres for the modified design, and 0.422 acres for the original & pre-storm condition design.

Attachments

Attachment A:

Engineering Drawings Including 1994 Design, Existing Condition, and Recommended Modifications (11" x 17")

Attachment B:

Surveyor Report and Survey Drawings for May 2023 Surveys, by Coastal Engineering Consultants Inc.

Attachment A:

Engineering Drawings Including 1994 Design, Existing
Condition, and Recommended Modifications

ASSESSMENT & RECOMMENDATION
FOR
TERMINAL GROINS REHABILITATION
BONITA BEACH
LEE COUNTY, FL

PREPARED FOR:

WEST COAST INLAND
NAVIGATION DISTRICT
200 EAST MIAMI AVENUE
VENICE, FL 34285

PREPARED BY:



OLSEN ASSOCIATES, INC.
2618 HERSCHEL ST
JACKSONVILLE, FL 32204
COA: 00003491



SHEET INDEX

- 1. COVER
- 2. EXISTING CONDITIONS
- 3. EXISTING BATHYMETRY (VINCINTY)
- 4. EXISTING BATHYMETRY
- 5. GROIN ALIGNMENT SURVEY BASELINE
- 6. EXISTING CONDITIONS REL. TO SSL & PLANS
- 7. NORTH GROIN EXISTING CONDITIONS - TOPOGRAPHIC DETAIL
- 8. NORTH GROIN EXISTING CONDITIONS - ADDITIONAL DETAIL
- 9. SOUTH GROIN EXISTING CONDITIONS - TOPOGRAPHIC DETAIL
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- 11. RECOMMENDED MODIFICATION
- 12. PLAN OF IMPROVEMENT W/ EXISTING CONDITIONS
- 13. NORTH GROIN - CENTERLINE SECTION
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- 15. NORTH GROIN - SECTIONS (2)
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- 18. NORTH GROIN - SECTIONS (5)
- 19. SOUTH GROIN - CENTERLINE SECTION
- 20. SOUTH GROIN - SECTIONS (1)
- 21. SOUTH GROIN - SECTIONS (2)
- 22. SOUTH GROIN - SECTIONS (3)

11 OCTOBER 2023

REVISIONS			
LTR	DESCRIPTION	BY	DATE



BONITA BEACH, LEE COUNTY, FL GROIN REHABILITATION	
COVER	
DRAWN BY: ML	DATE: 10/11/2023
CHECKED BY: KRB	DATE: 10/11/2023

SHEET
1
of 22





- NOTES:
1. AERIAL DATE: 05/19/2023 (CEC).
 2. SURVEY DATE: 05/16/2023 (CEC).
 3. ELEVATIONS IN FT, NAVD88.
 4. MHW: +0.3 FT (NAVD88); MLW: -1.61 FT (NAVD88), FROM 6/19/2023 SURVEY DRAWINGS BY COASTAL ENGINEERING CONSULTANTS, INC. (CEC).
 5. HORIZ. COORDINATES IN FT, NAD83.

SCALE (FT)



REVISIONS			
LTR	DESCRIPTION	BY	DATE

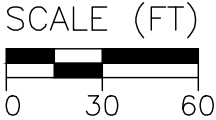


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EXISTING BATHYMETRY (VICINITY)			
DRAWN BY:	ML	DATE:	10/11/2023
CHECKED BY:	KRB	DATE:	10/11/2023

SHEET
3
of 22



- NOTES:
1. AERIAL DATE: 05/19/2023 (CEC).
 2. SURVEY DATE: 05/16/2023 (CEC).
 3. ELEVATIONS IN FT, NAVD88.
 4. MHW: +0.3 FT (NAVD88); MLW: -1.61 FT (NAVD88), FROM 6/19/2023 SURVEY DRAWINGS BY COASTAL ENGINEERING CONSULTANTS, INC. (CEC).



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LTR	DESCRIPTION	BY	DATE

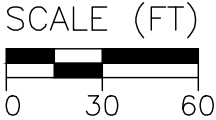


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DRAWN BY:	ML	DATE:	10/11/2023
CHECKED BY:	KRB	DATE:	10/11/2023

SHEET
4
of 22



NOTES:
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2. SURVEY DATE: 05/16/2023 (CEC).
3. ELEVATIONS IN FT, NAVD88.
4. MHW: +0.3 FT (NAVD88); MLW: -1.61 FT (NAVD88),
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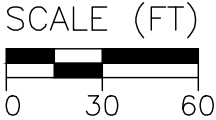
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CHECKED BY:	KRB	DATE:	10/11/2023



NOTES:
1. AERIAL DATE: 05/19/2023 (CEC).
2. SURVEY DATE: 05/16/2023 (CEC).
3. ELEVATIONS IN FT, NAVD88.
4. MHW: +0.3 FT (NAVD88); MLW: -1.61 FT (NAVD88),
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ENGINEERING CONSULTANTS, INC. (CEC).



REVISIONS			
LTR	DESCRIPTION	BY	DATE



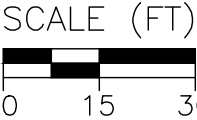
BONITA BEACH, LEE COUNTY, FL
GROIN REHABILITATION
EXISTING CONDITIONS REL. TO
1993-94 SSL & PLANS

DRAWN BY: ML DATE: 10/11/2023
CHECKED BY: KRB DATE: 10/11/2023

SHEET
6
of 22



NOTES:
1. AERIAL DATE: 05/19/2023 (CEC).
2. SURVEY DATE: 05/16/2023 (CEC).
3. ELEVATIONS IN FT, NAVD88.
4. MHW: +0.3 FT (NAVD88); MLW: -1.61 FT (NAVD88),
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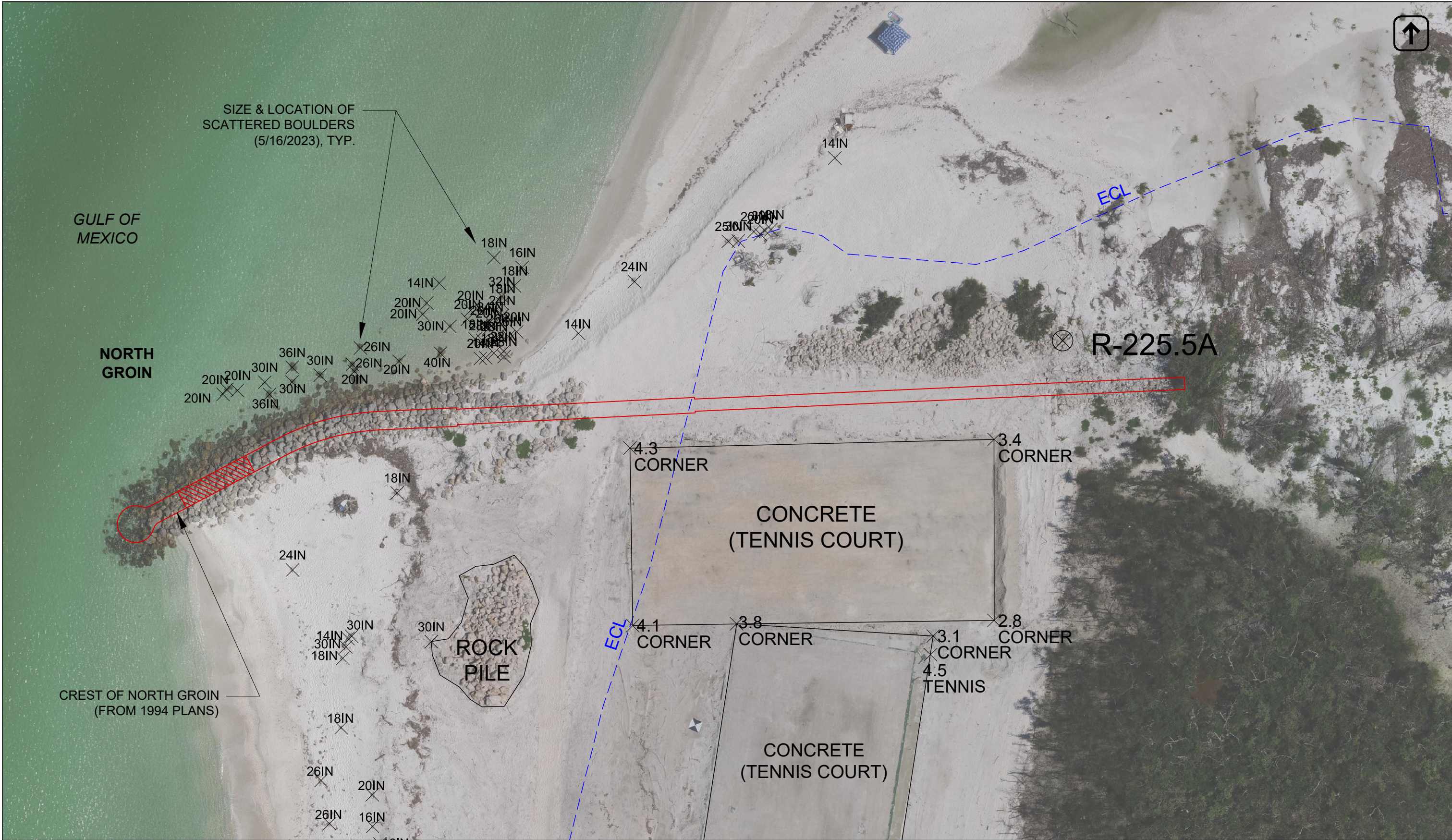
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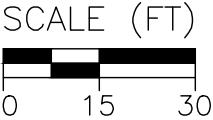
BONITA BEACH, LEE COUNTY, FL
GROIN REHABILITATION
NORTH GROIN EXISTING CONDITIONS -
TOPOGRAPHIC DETAIL

DRAWN BY: ML DATE: 10/11/2023
CHECKED BY: KRB DATE: 10/11/2023

SHEET
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of 22



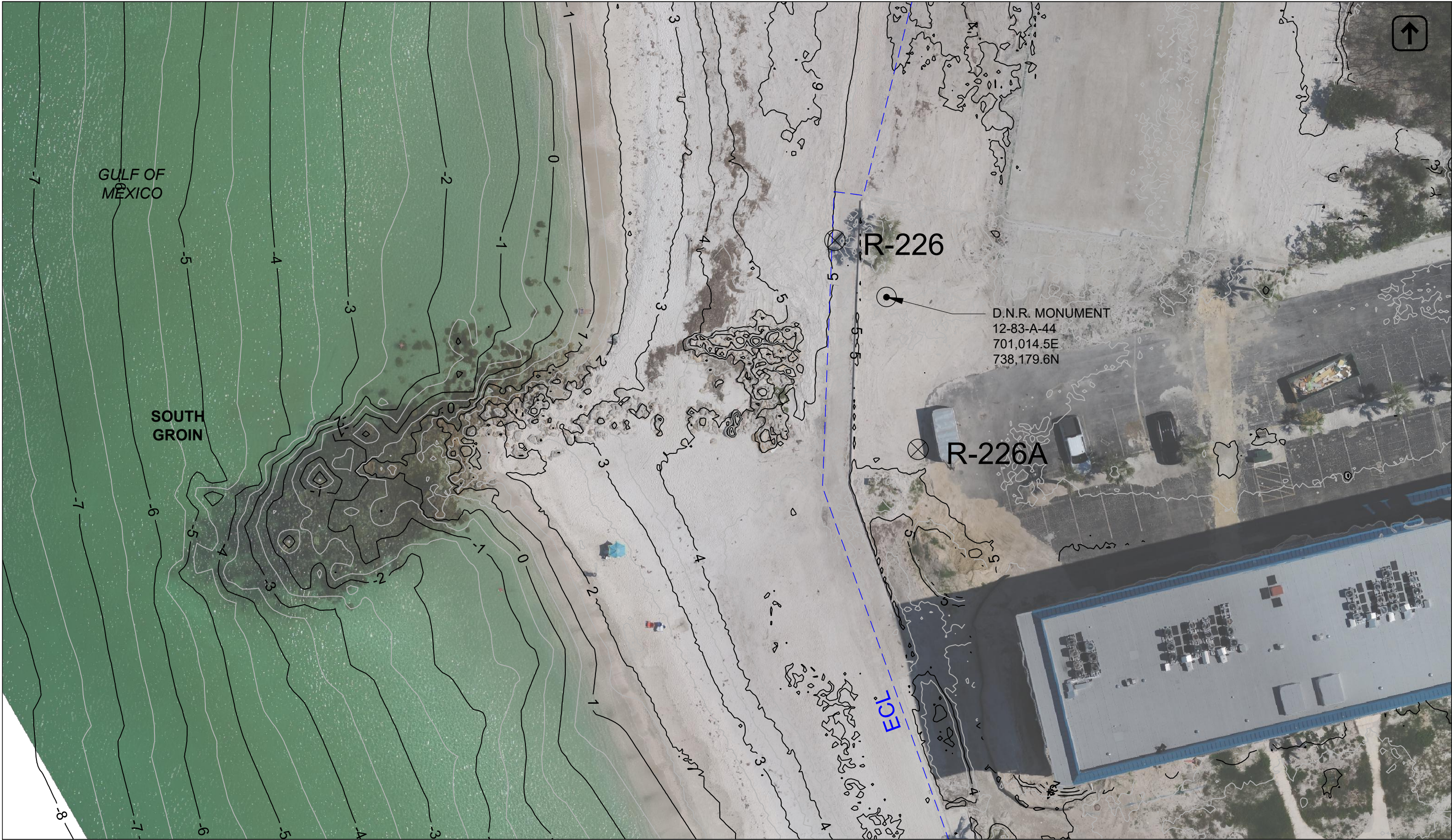
NOTES:
1. AERIAL DATE: 05/19/2023 (CEC).
2. SURVEY DATE: 05/16/2023 (CEC).
3. ELEVATIONS IN FT, NAVD88.
4. MHW: +0.3 FT (NAVD88); MLW: -1.61 FT (NAVD88),
FROM 6/19/2023 SURVEY DRAWINGS BY COASTAL
ENGINEERING CONSULTANTS, INC. (CEC).



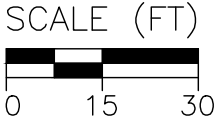
REVISIONS			
LTR	DESCRIPTION	BY	DATE



BONITA BEACH, LEE COUNTY, FL GROIN REHABILITATION NORTH GROIN EXISTING CONDITIONS - ADDITIONAL DETAIL			
DRAWN BY:	ML	DATE:	10/11/2023
CHECKED BY:	KRB	DATE:	10/11/2023



NOTES:
1. AERIAL DATE: 05/19/2023 (CEC).
2. SURVEY DATE: 05/16/2023 (CEC).
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FROM 6/19/2023 SURVEY DRAWINGS BY COASTAL
ENGINEERING CONSULTANTS, INC. (CEC).



REVISIONS			
LTR	DESCRIPTION	BY	DATE

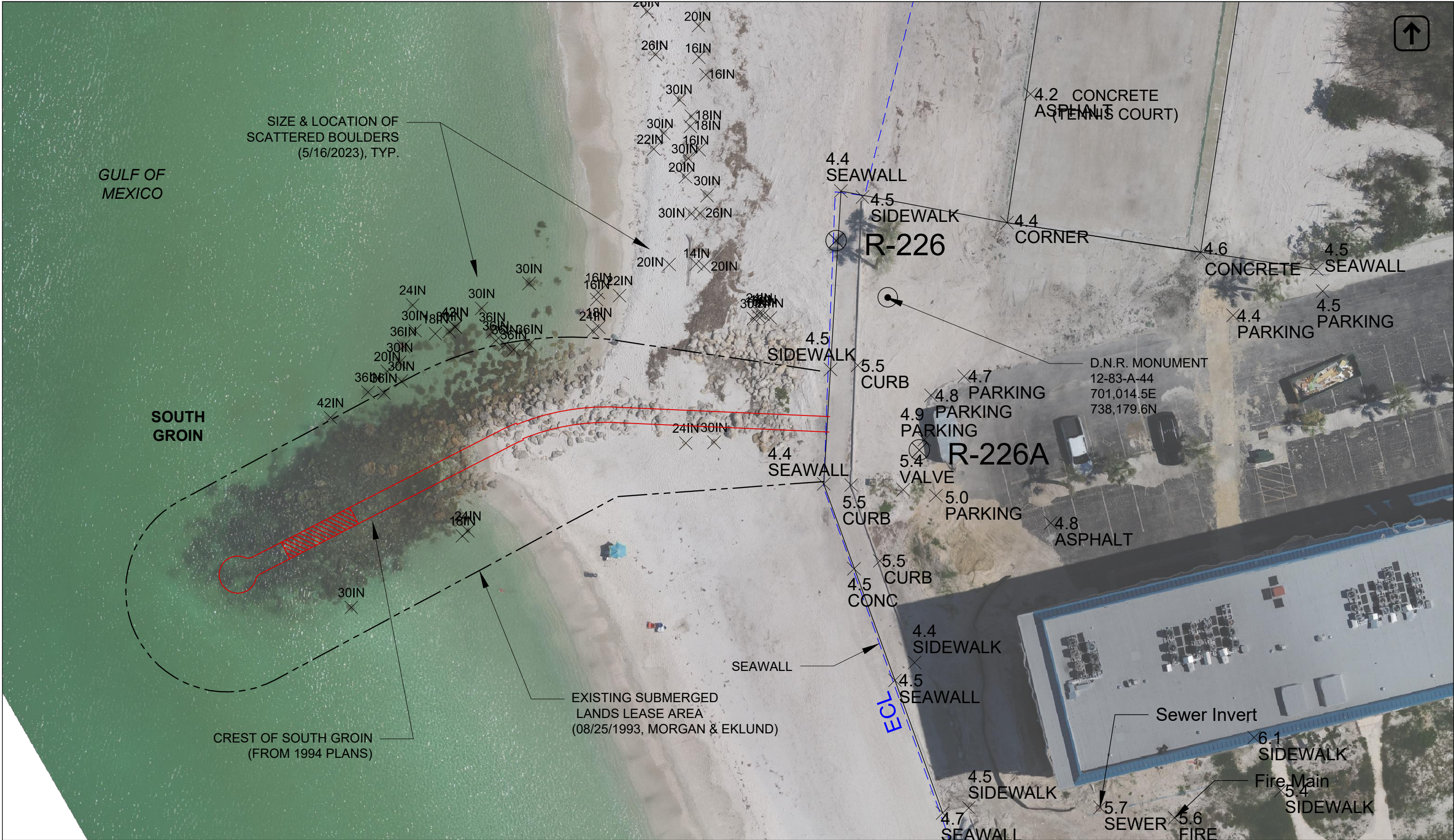


BONITA BEACH, LEE COUNTY, FL
GROIN REHABILITATION

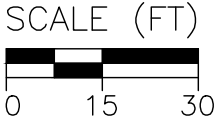
SOUTH GROIN - TOPOGRAPHIC DETAIL

DRAWN BY: ML DATE: 10/11/2023
CHECKED BY: KRB DATE: 10/11/2023

SHEET
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of 22



NOTES:
1. AERIAL DATE: 05/19/2023 (CEC).
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3. ELEVATIONS IN FT, NAVD88.
4. MHW: +0.3 FT (NAVD88); MLW: -1.61 FT (NAVD88),
FROM 6/19/2023 SURVEY DRAWINGS BY COASTAL
ENGINEERING CONSULTANTS, INC. (CEC).



REVISIONS			
LTR	DESCRIPTION	BY	DATE

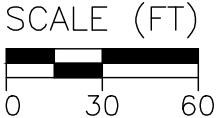


BONITA BEACH, LEE COUNTY, FL GROIN REHABILITATION SOUTH GROIN EXISTING CONDITIONS - ADDITIONAL DETAIL			
DRAWN BY:	ML	DATE:	10/11/2023
CHECKED BY:	KRB	DATE:	10/11/2023



NOTES:
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2. SURVEY DATE: 05/16/2023 (CEC).
3. ELEVATIONS IN FT, NAVD88.
4. MHW: +0.3 FT (NAVD88); MLW: -1.61 FT (NAVD88),
FROM 6/19/2023 SURVEY DRAWINGS BY COASTAL
ENGINEERING CONSULTANTS, INC. (CEC).

CONCEPT DRAWING
NOT FOR CONSTRUCTION



REVISIONS			
LTR	DESCRIPTION	BY	DATE



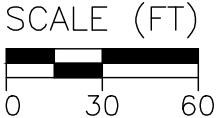
BONITA BEACH, LEE COUNTY, FL GROIN REHABILITATION			
RECOMMENDED MODIFICATION			
DRAWN BY:	ML	DATE:	10/11/2023
CHECKED BY:	KRB	DATE:	10/11/2023

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of 22



NOTES:
1. AERIAL DATE: 05/19/2023 (CEC).
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3. ELEVATIONS IN FT, NAVD88.
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FROM 6/19/2023 SURVEY DRAWINGS BY COASTAL
ENGINEERING CONSULTANTS, INC. (CEC).

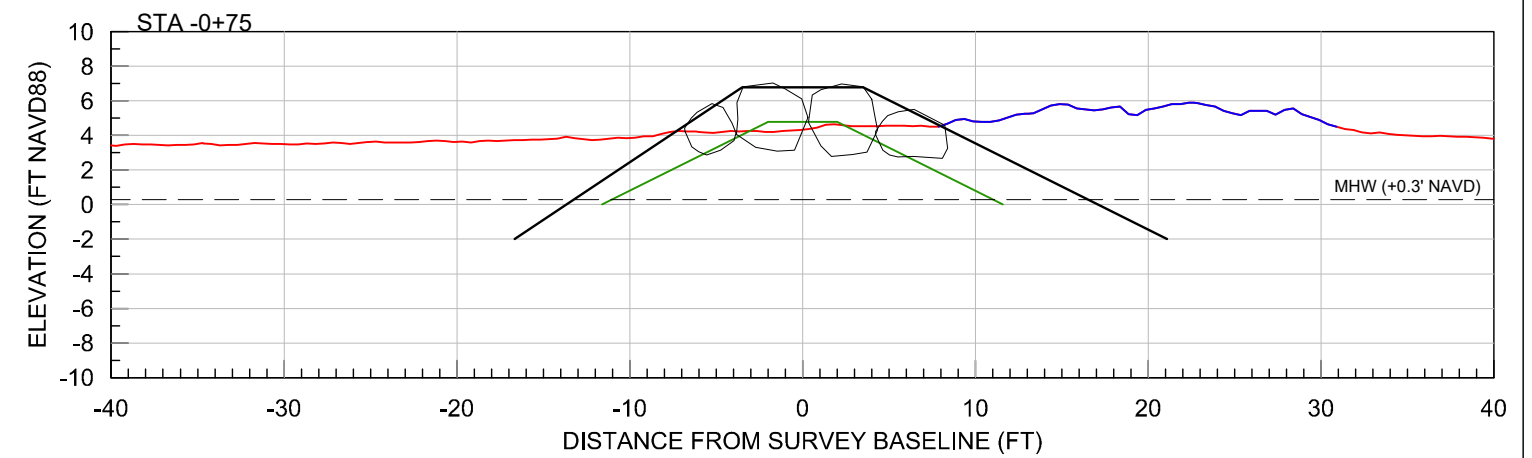
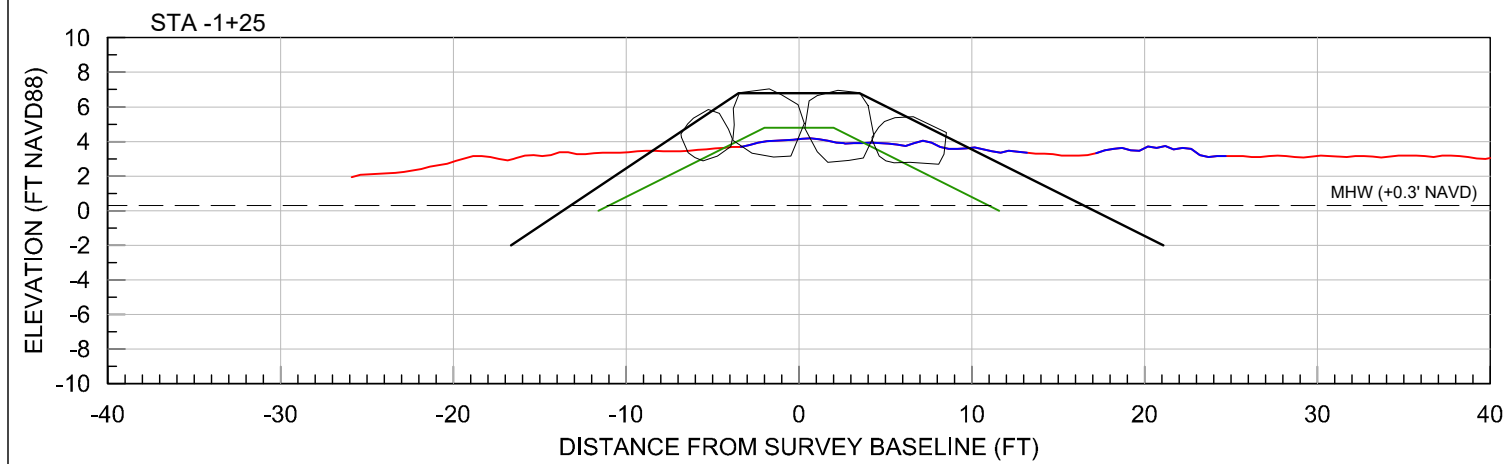
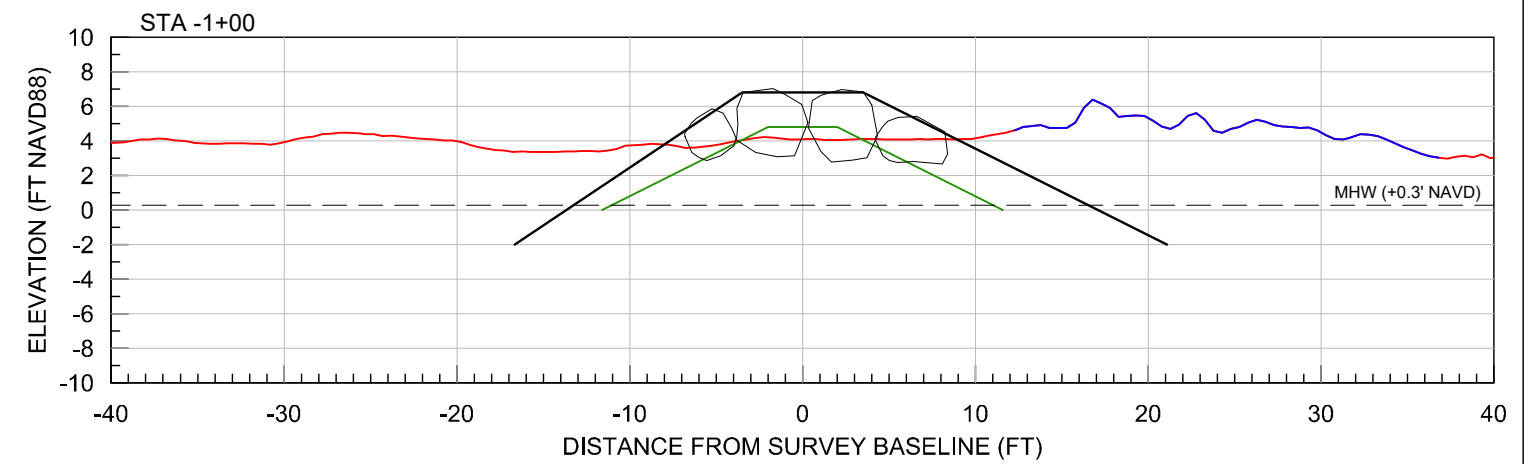
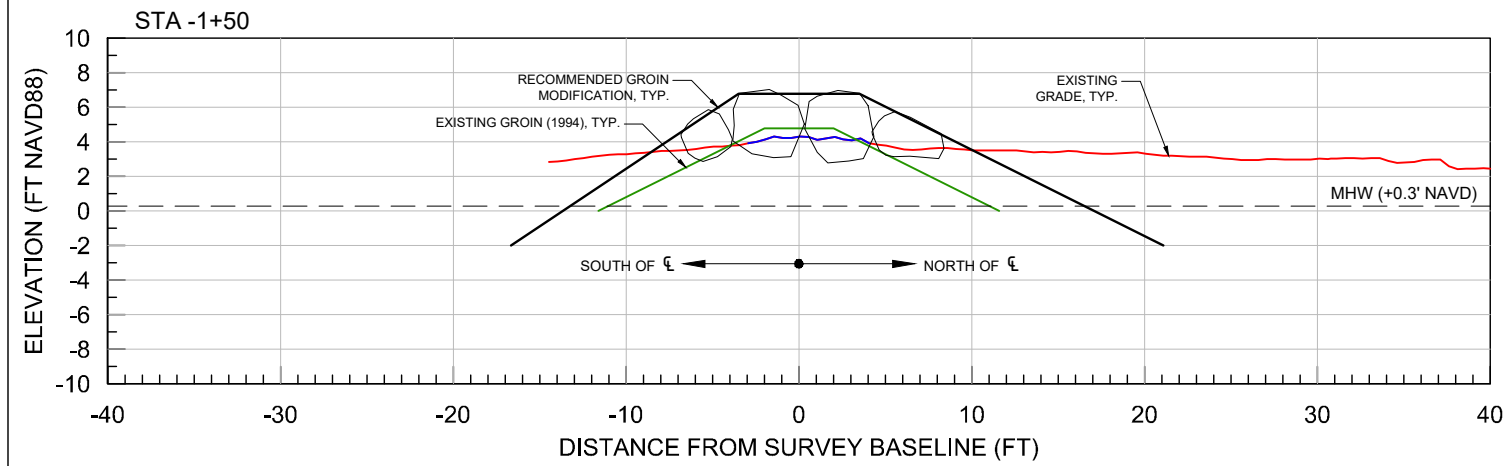
CONCEPT DRAWING
NOT FOR CONSTRUCTION



REVISIONS			
LTR	DESCRIPTION	BY	DATE

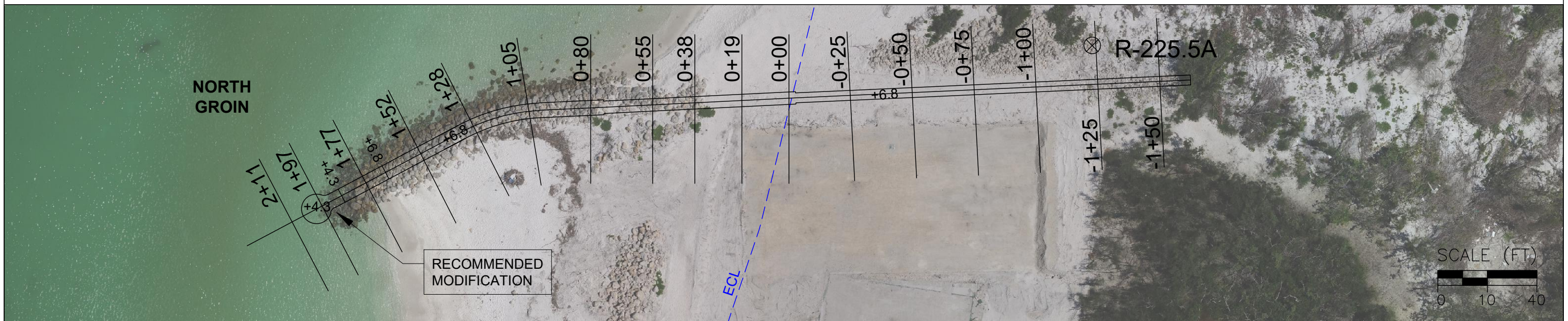


BONITA BEACH, LEE COUNTY, FL GROIN REHABILITATION PLAN OF IMPROVEMENT W/ EXISTING GROINS			
DRAWN BY:	ML	DATE:	10/11/2023
CHECKED BY:	KRB	DATE:	10/11/2023



— SAND GRADE (05/16/2023)

— ROCK BOULDERS (05/16/2023)



- NOTES:
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CONCEPT DRAWING
NOT FOR CONSTRUCTION

REVISIONS			
LTR	DESCRIPTION	BY	DATE



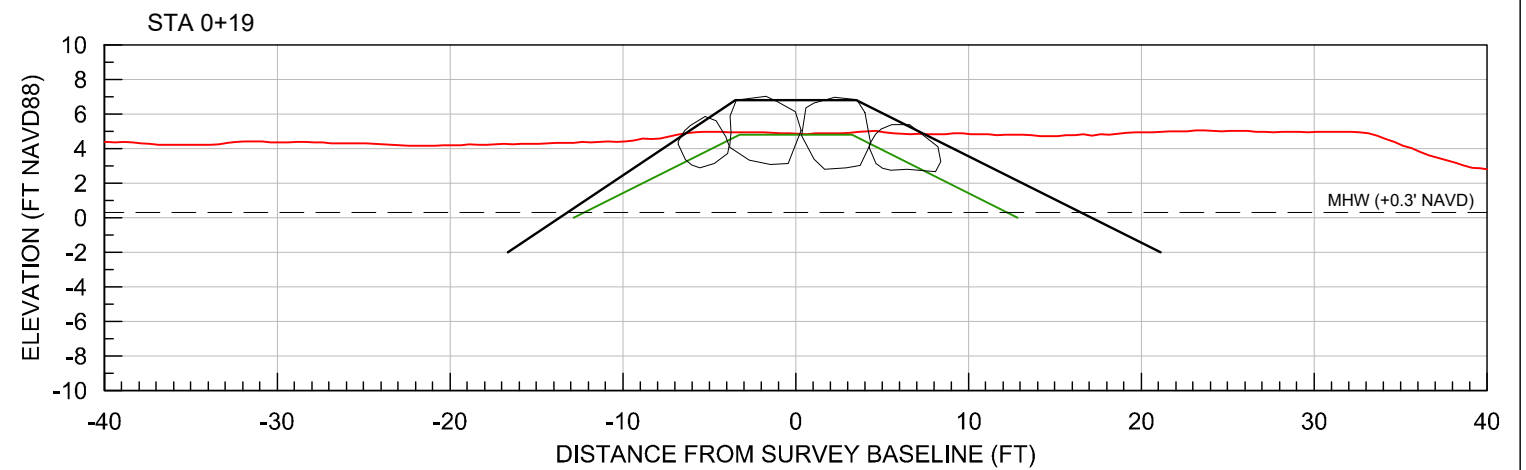
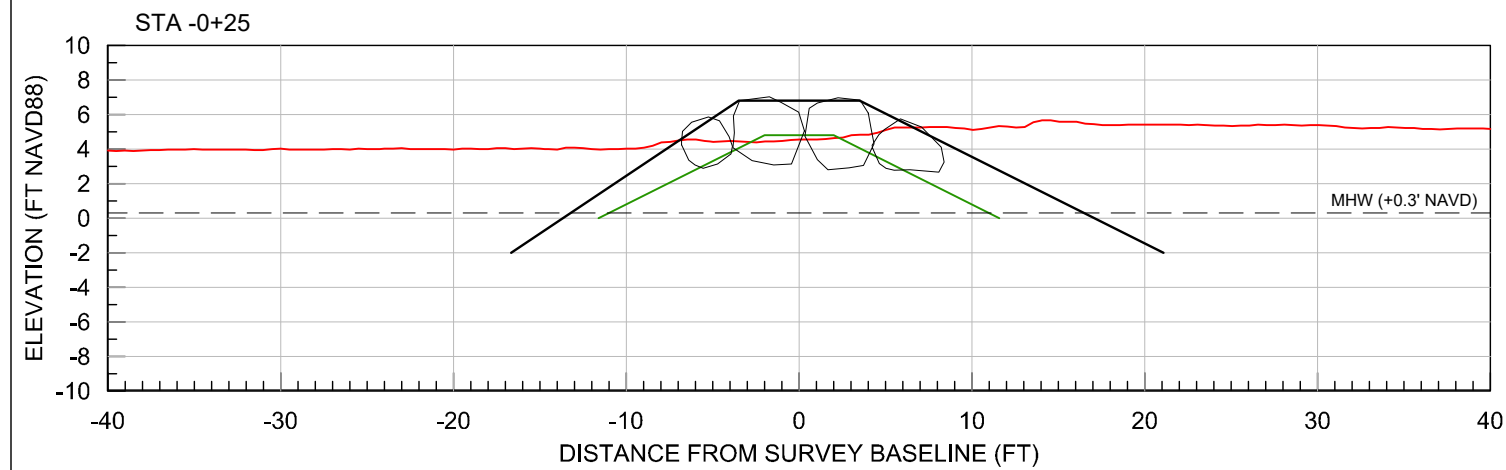
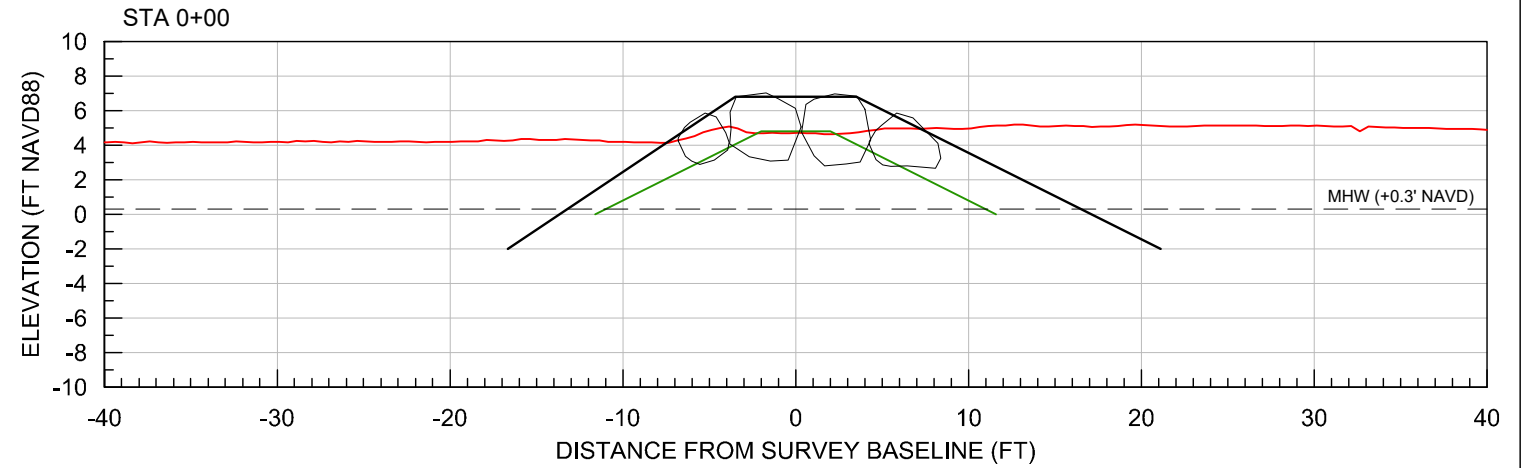
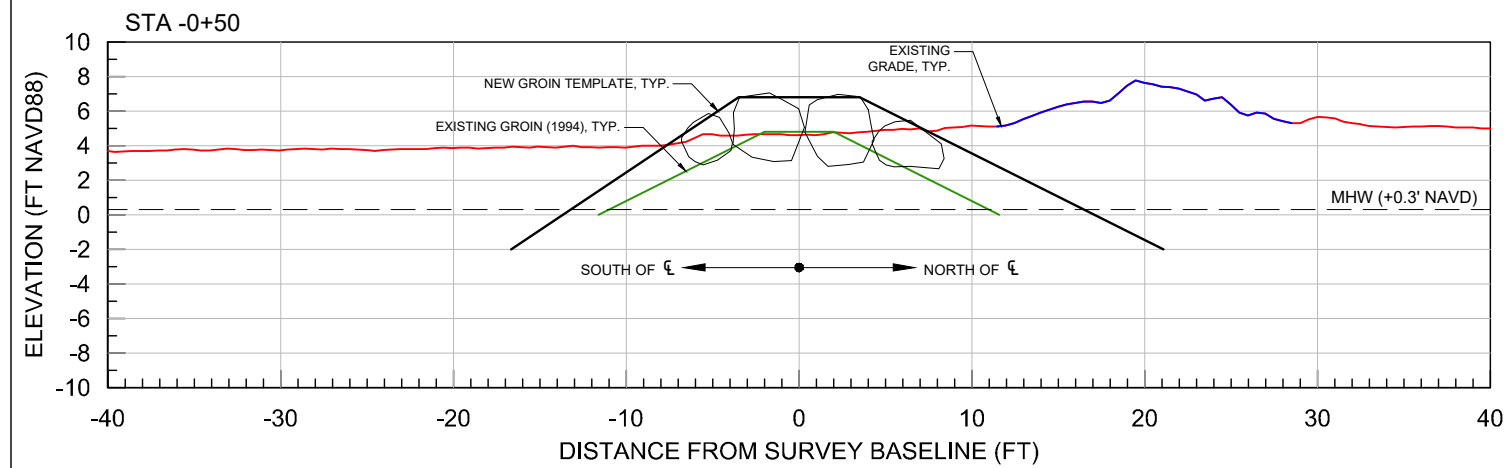
BONITA BEACH, LEE COUNTY, FL
GROIN REHABILITATION

NORTH GROIN - SECTIONS (1)

DRAWN BY: ML DATE: 10/11/2023

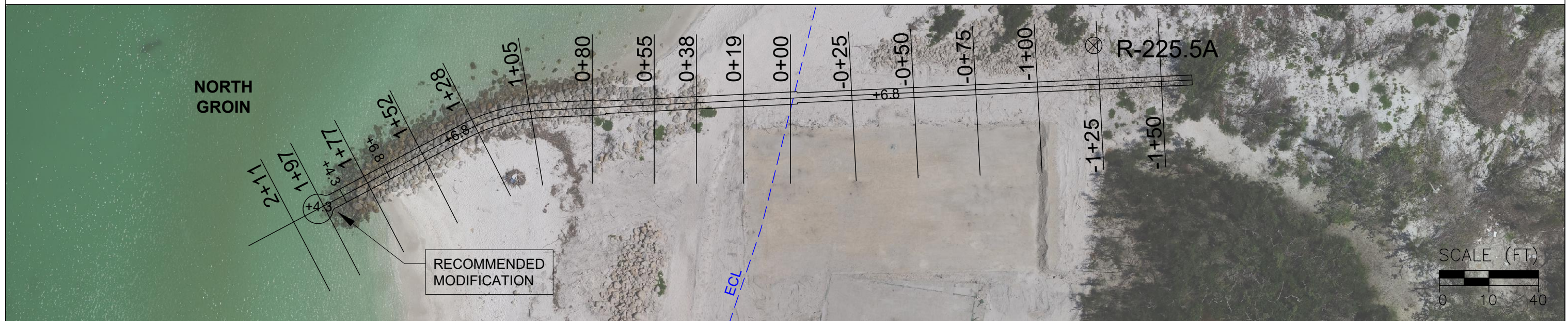
CHECKED BY: KB DATE: 10/11/2023

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of 22



— SAND GRADE (05/16/2023)

— ROCK BOULDERS (05/16/2023)



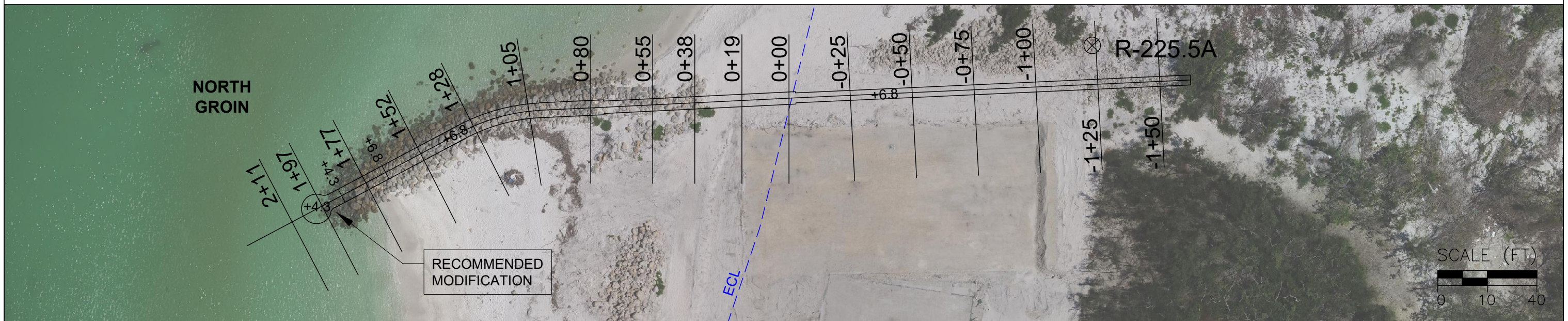
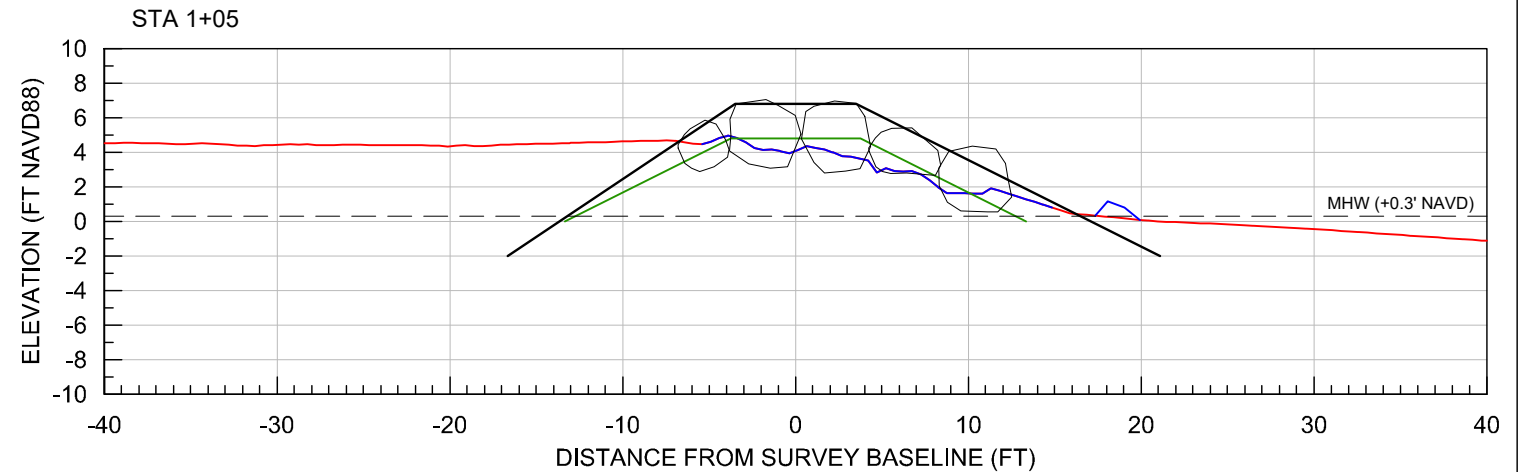
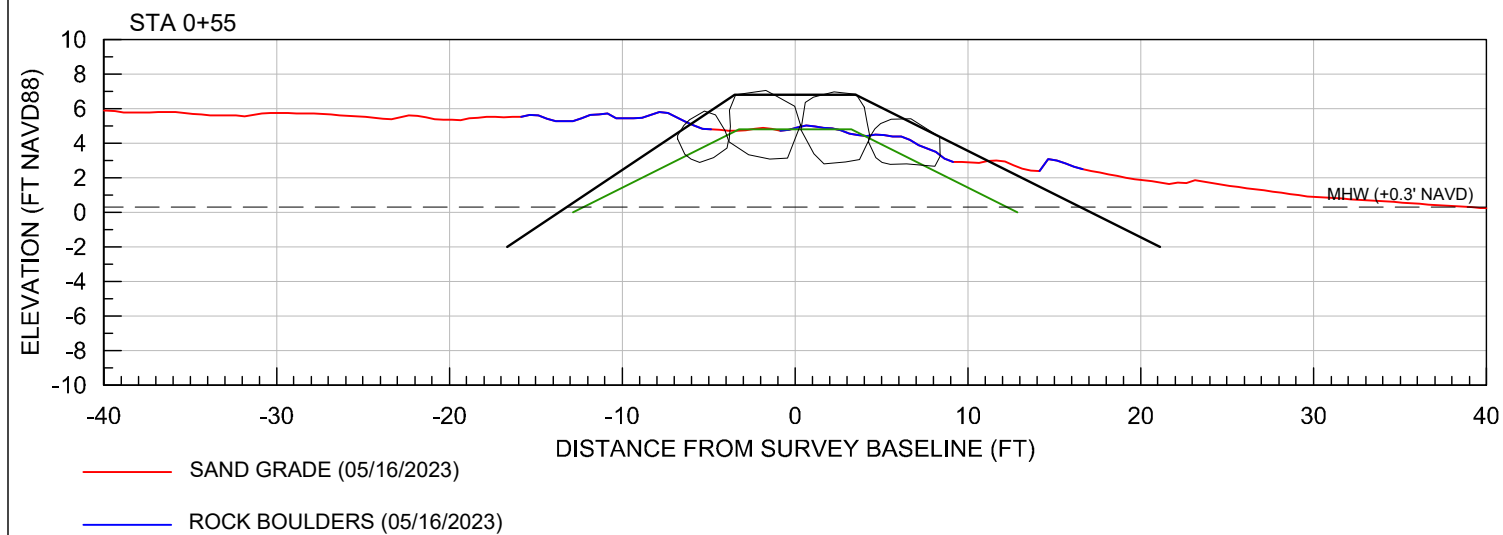
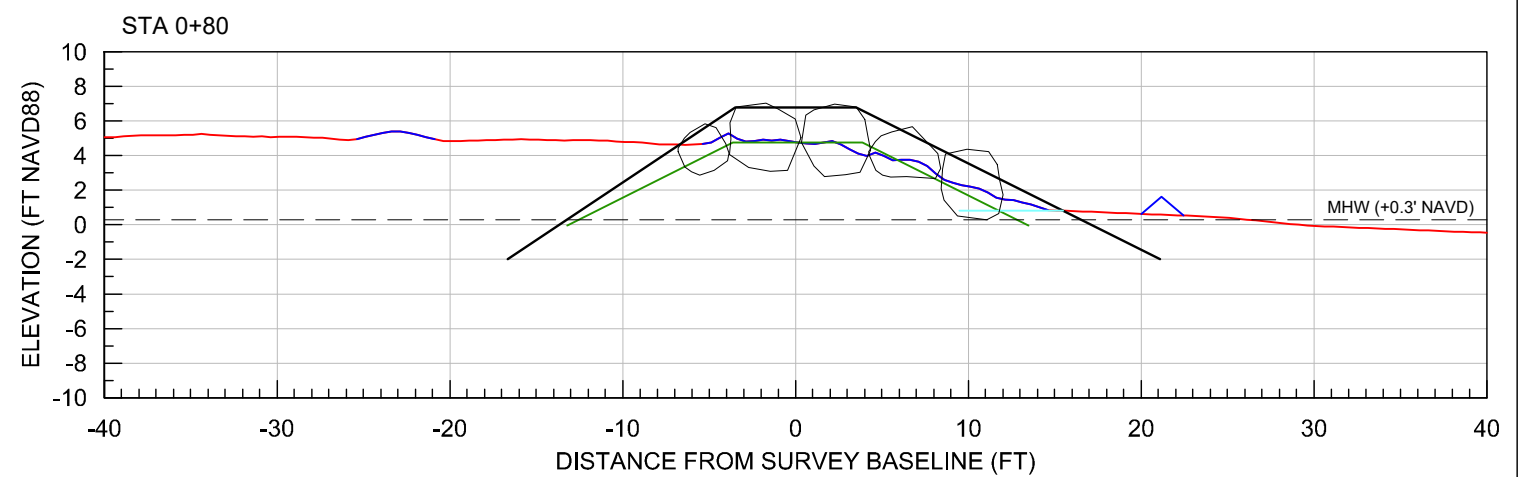
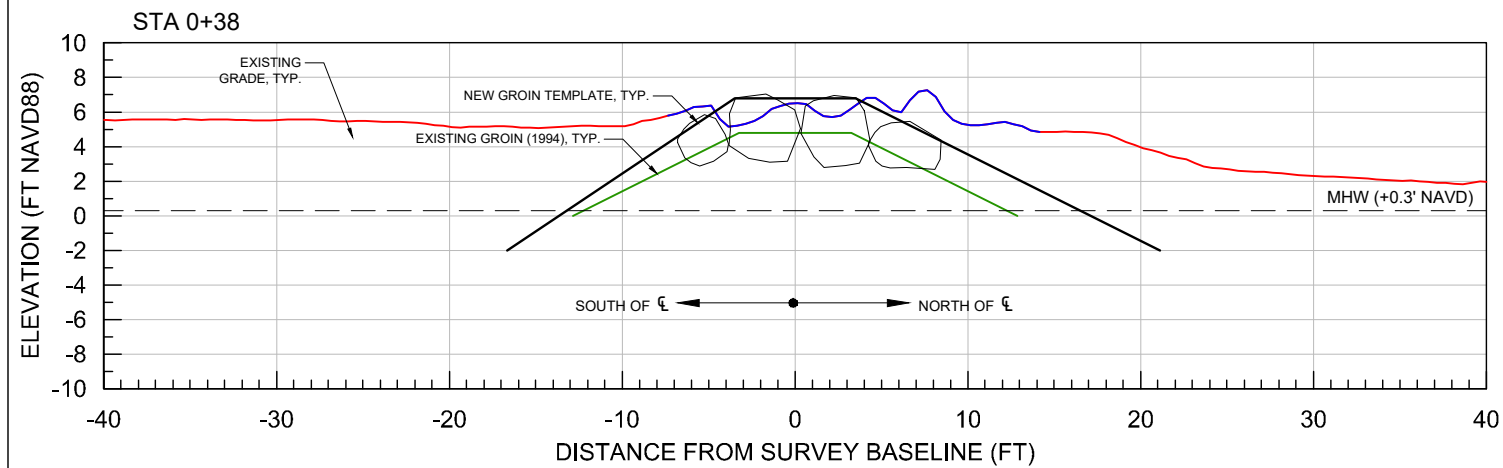
- NOTES:
1. AERIAL DATE: 05/19/2023 (CEC).
 2. SURVEY DATE: 05/16/2023 (CEC).
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CONCEPT DRAWING
NOT FOR CONSTRUCTION

REVISIONS			
LTR	DESCRIPTION	BY	DATE



BONITA BEACH, LEE COUNTY, FL GROIN REHABILITATION		SHEET 15 of 22	
NORTH GROIN - SECTIONS (2)		DRAWN BY: ML DATE: 10/11/2023	
CHECKED BY: KB DATE: 10/11/2023			



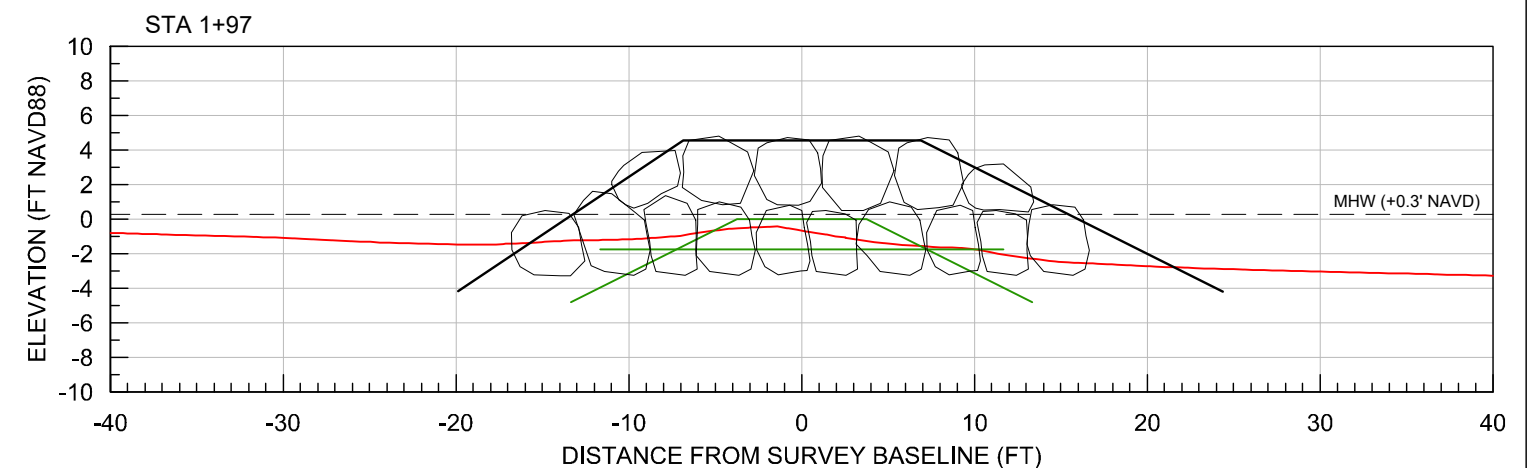
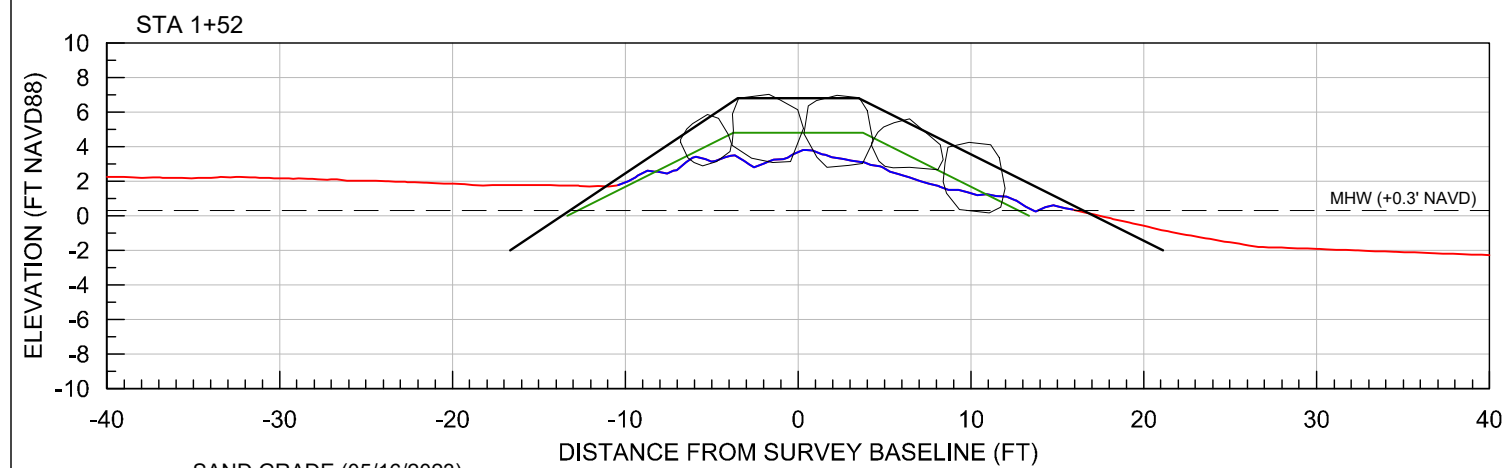
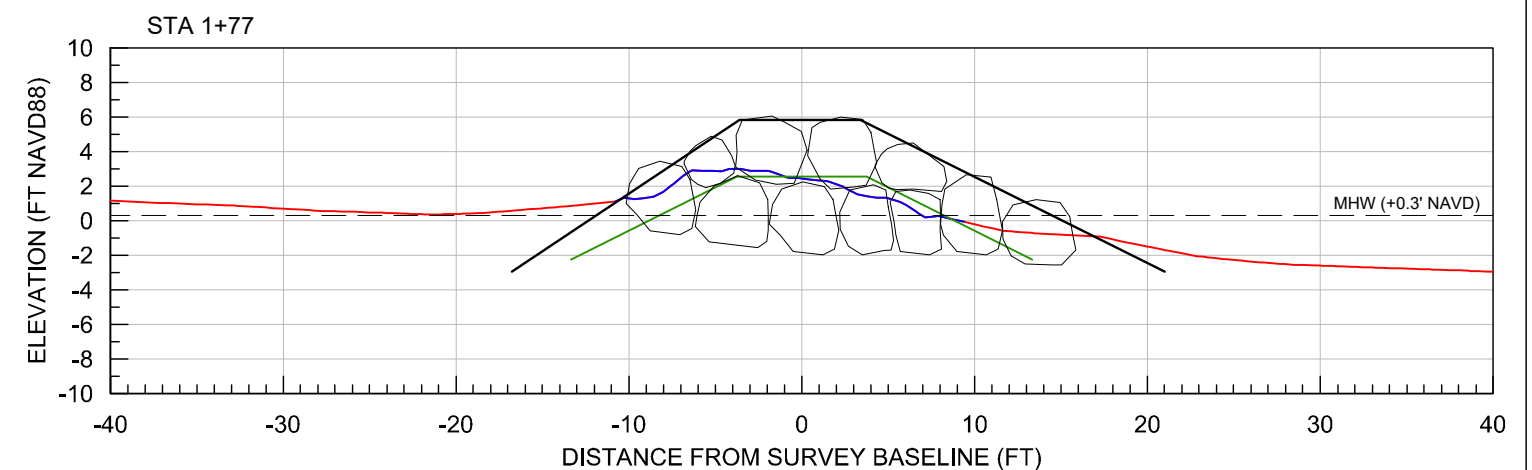
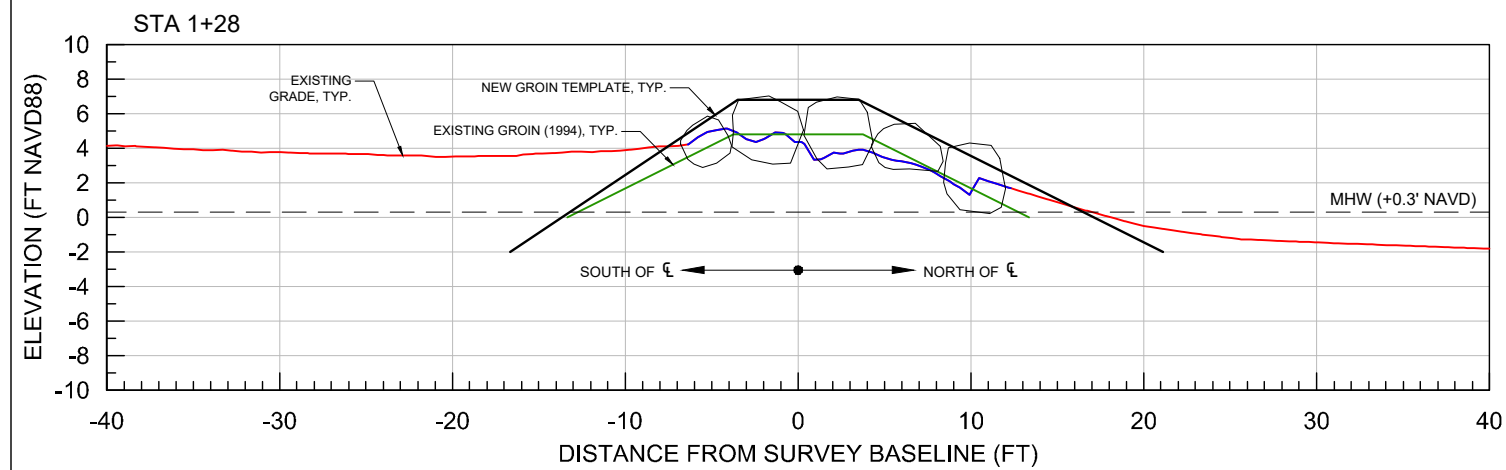
- NOTES:
1. AERIAL DATE: 05/19/2023 (CEC).
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CONCEPT DRAWING
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REVISIONS			
LTR	DESCRIPTION	BY	DATE

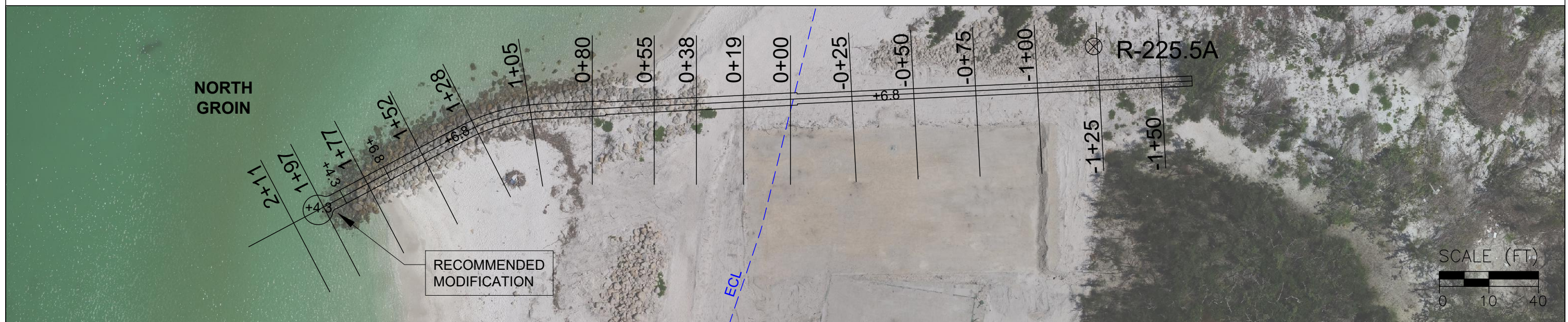


BONITA BEACH, LEE COUNTY, FL GROIN REHABILITATION		SHEET 16 of 22	
NORTH GROIN - SECTIONS (3)		DRAWN BY: ML DATE: 10/11/2023	
CHECKED BY: KB DATE: 10/11/2023			



— SAND GRADE (05/16/2023)

— ROCK BOULDERS (05/16/2023)



- NOTES:
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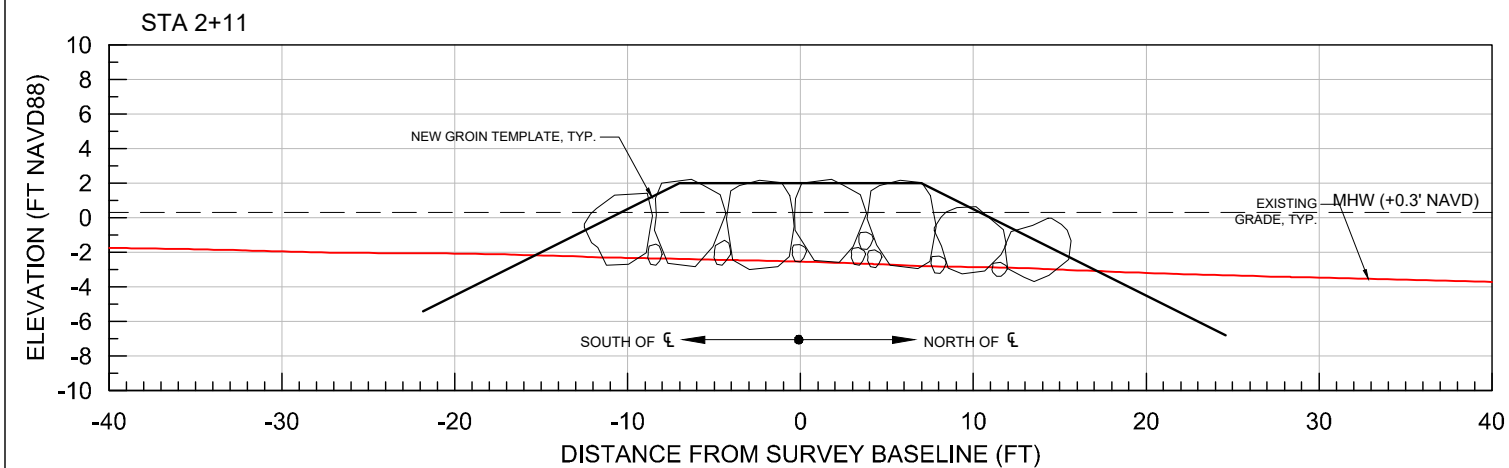
CONCEPT DRAWING
NOT FOR CONSTRUCTION

REVISIONS			
LTR	DESCRIPTION	BY	DATE



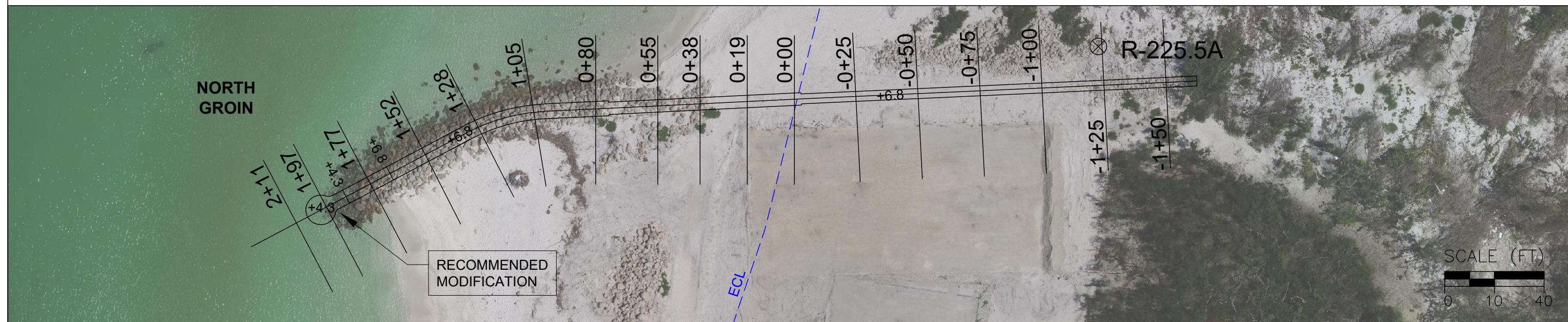
BONITA BEACH, LEE COUNTY, FL GROIN REHABILITATION			
NORTH GROIN - SECTIONS (4)			
DRAWN BY: ML	DATE: 10/11/2023		
CHECKED BY: KB	DATE: 10/11/2023		

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of 22



— SAND GRADE (05/16/2023)

— ROCK BOULDERS (05/16/2023)



- NOTES:
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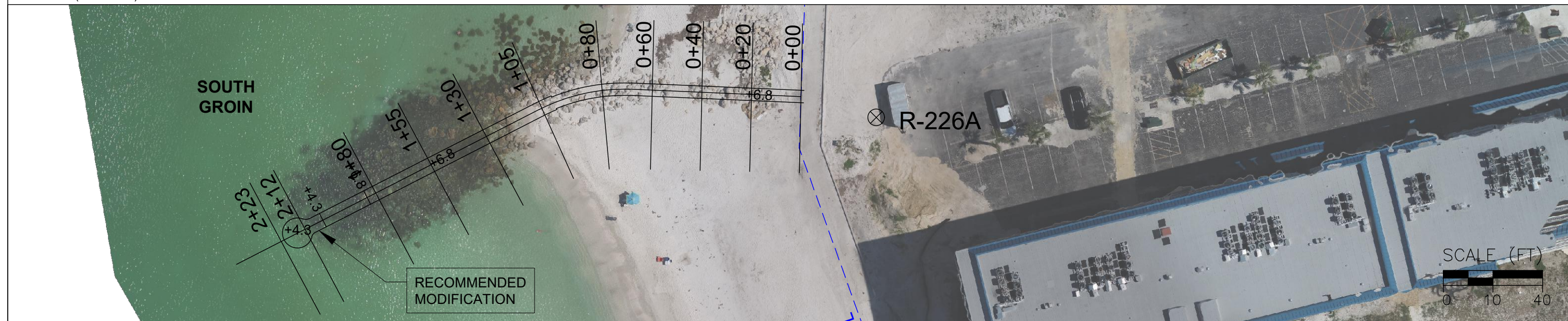
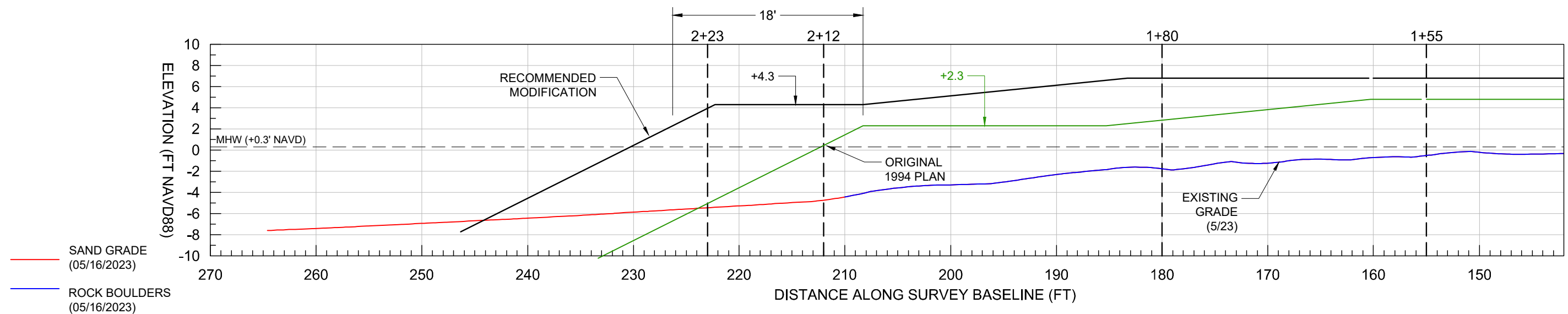
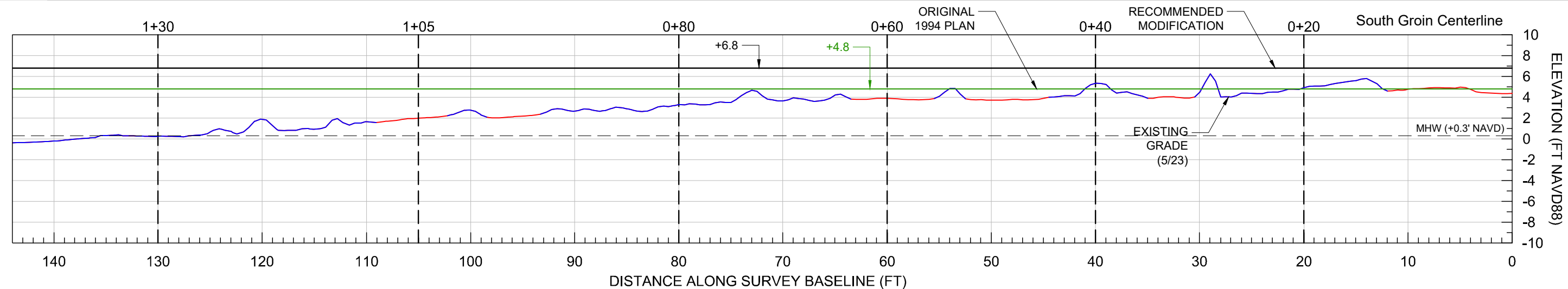
CONCEPT DRAWING
NOT FOR CONSTRUCTION

REVISIONS			
LTR	DESCRIPTION	BY	DATE



BONITA BEACH, LEE COUNTY, FL GROIN REHABILITATION			
NORTH GROIN - SECTIONS (5)			
DRAWN BY:	ML	DATE:	10/11/2023
CHECKED BY:	KB	DATE:	10/11/2023

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of 22



- NOTES:
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 4. MHW: +0.3 FT (NAVD88); MLW: -1.61 FT (NAVD88), FROM 6/19/2023 SURVEY DRAWINGS BY COASTAL ENGINEERING CONSULTANTS, INC. (CEC).

CONCEPT DRAWING
NOT FOR CONSTRUCTION

REVISIONS			
LTR	DESCRIPTION	BY	DATE

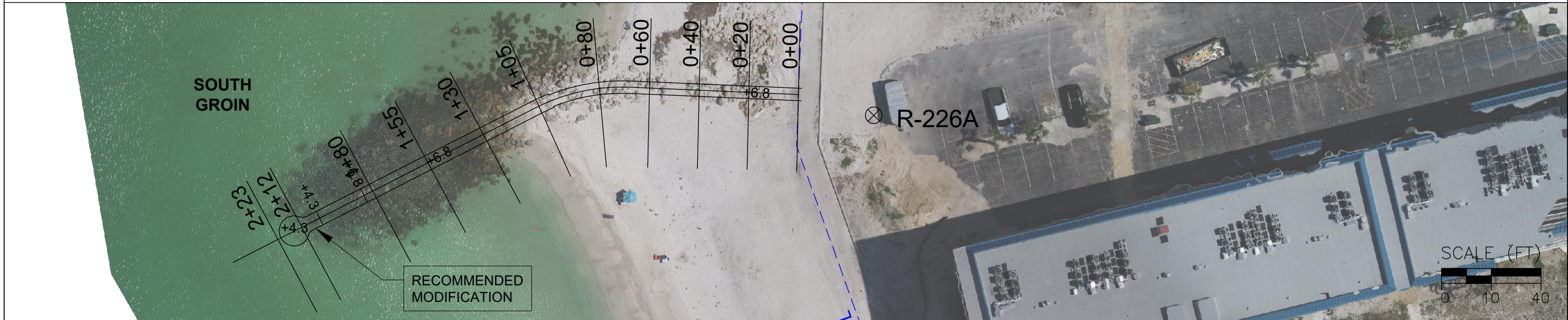
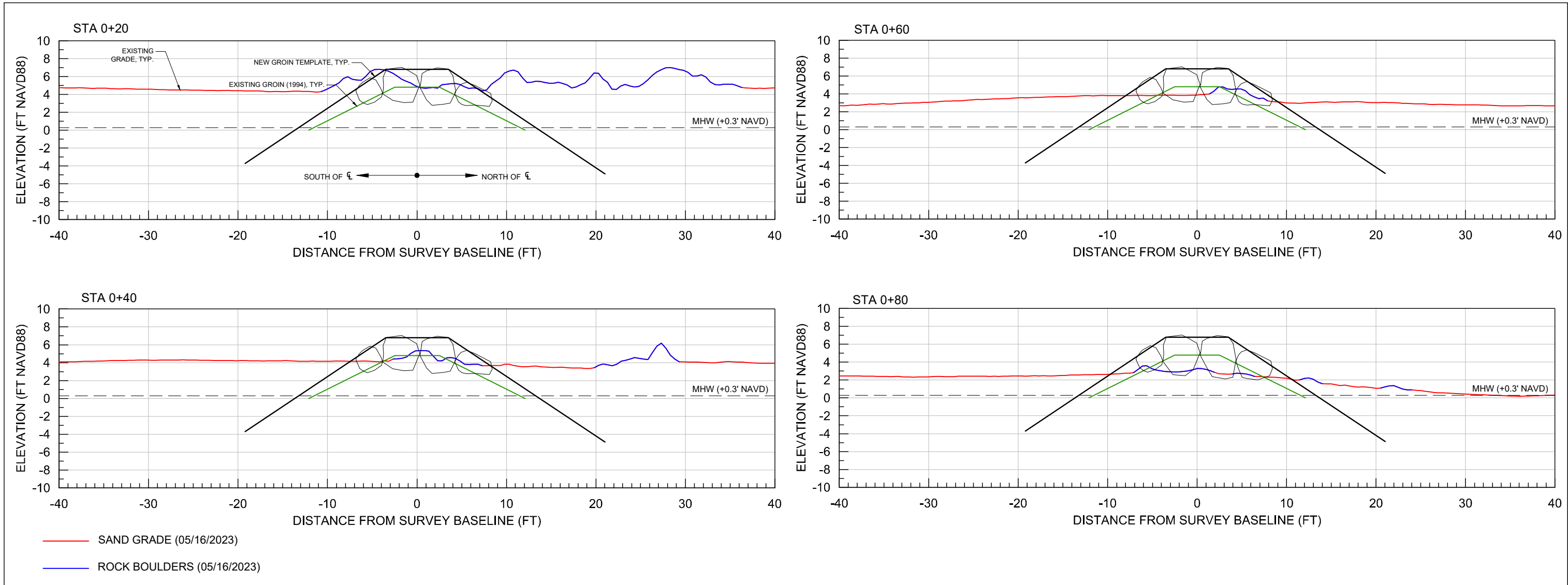


BONITA BEACH, LEE COUNTY, FL
GROIN REHABILITATION

SOUTH GROIN - CENTERLINE SECTION

DRAWN BY: ML DATE: 10/11/2023
CHECKED BY: KB DATE: 10/11/2023

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19
of 22



NOTES:

1. AERIAL DATE: 05/19/2023 (CEC).
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CONCEPT DRAWING
NOT FOR CONSTRUCTION

REVISIONS			
LTR	DESCRIPTION	BY	DATE



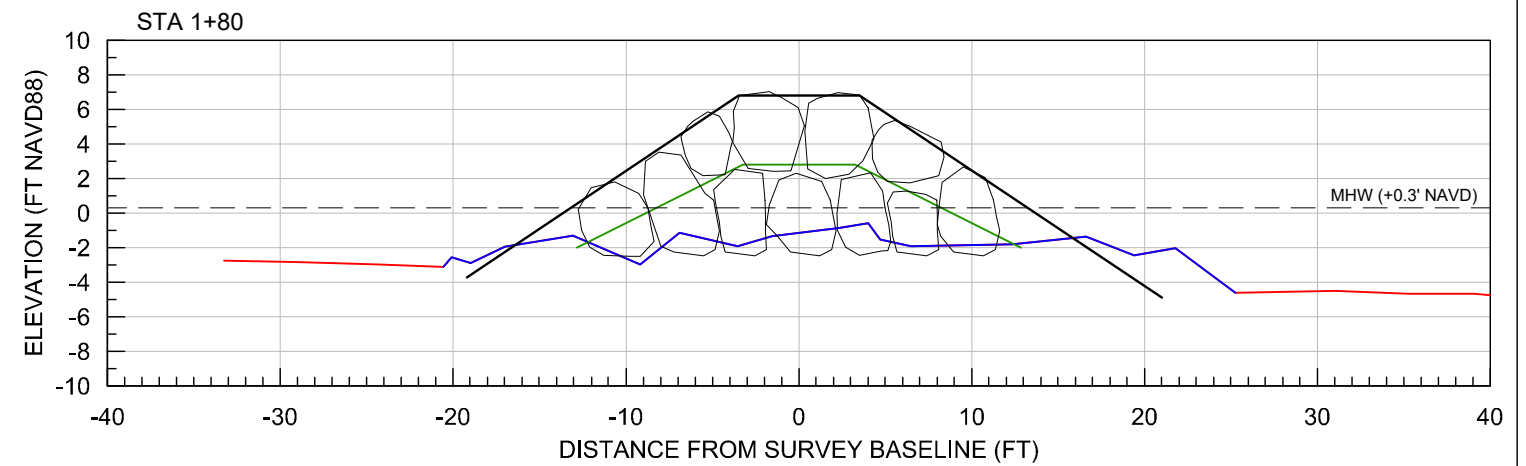
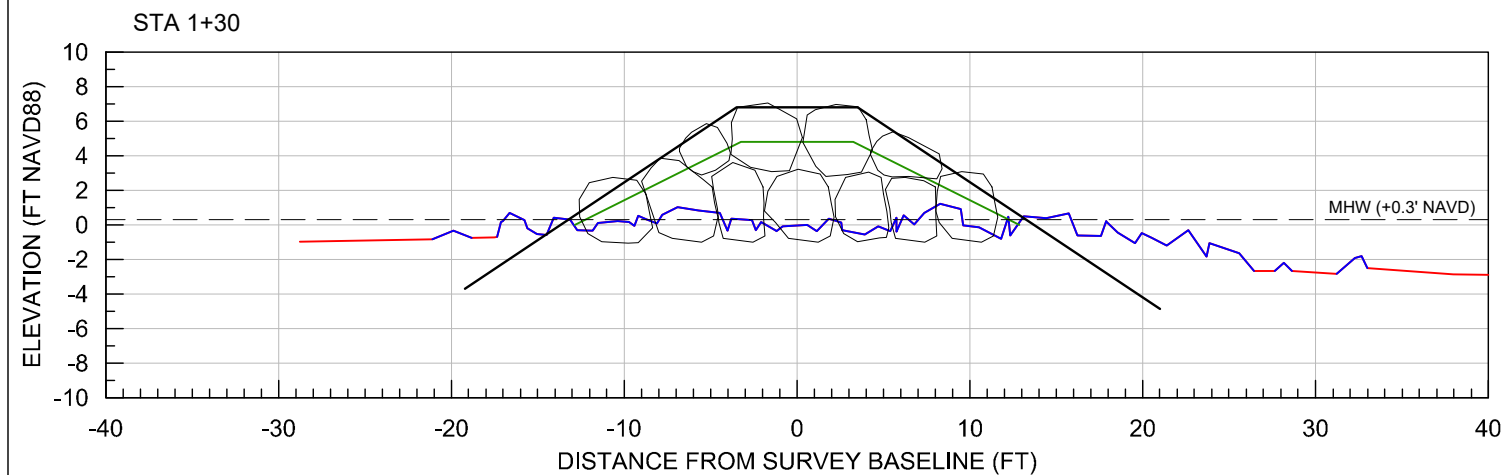
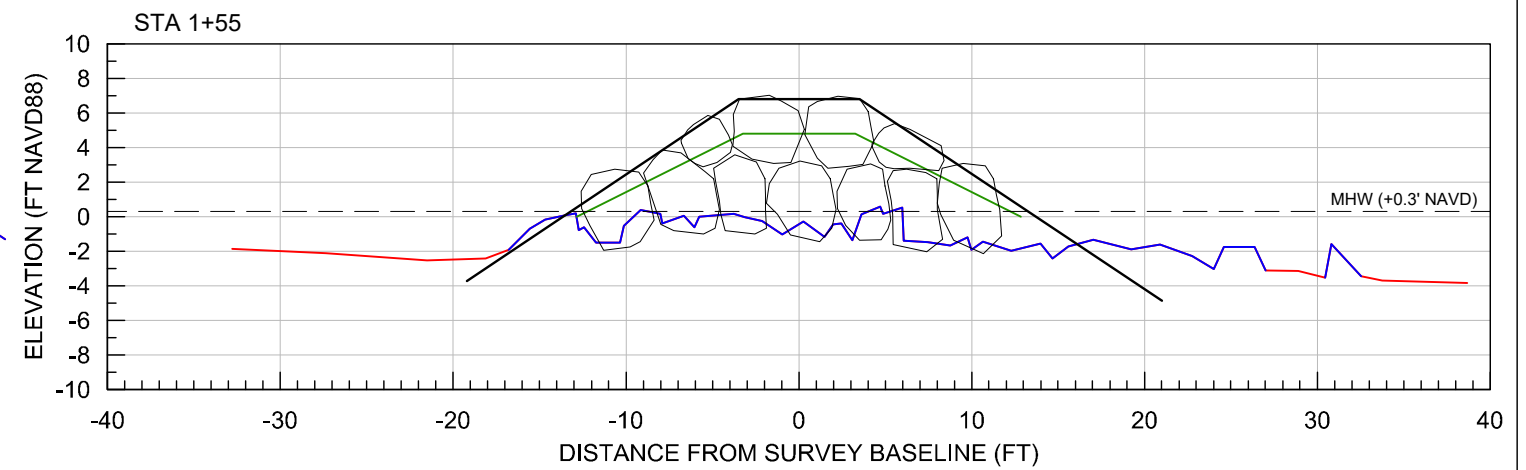
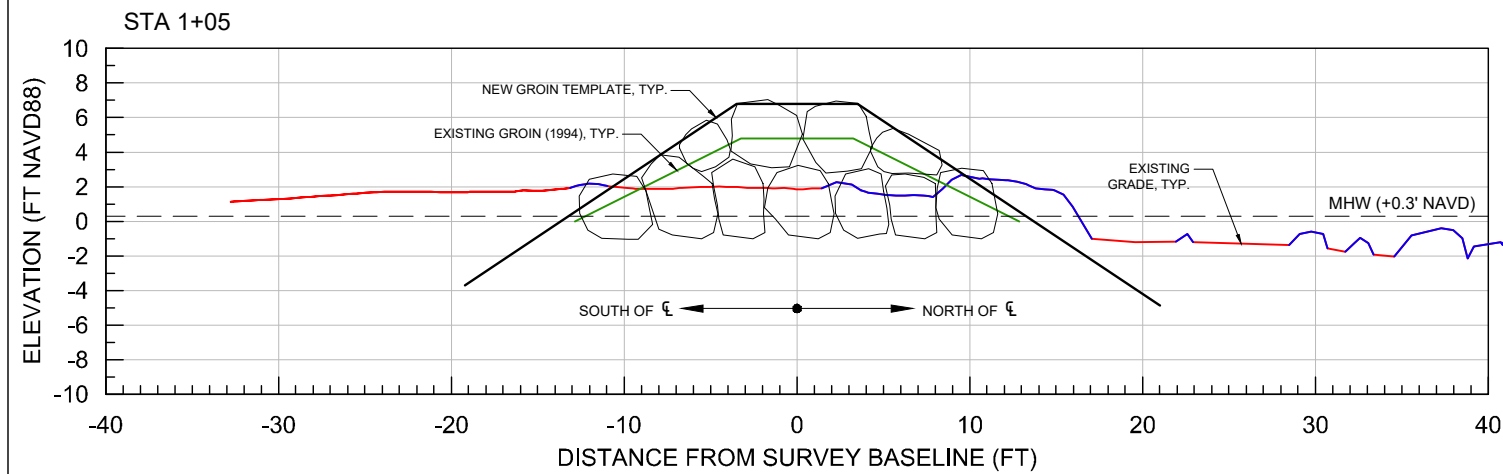
BONITA BEACH, LEE COUNTY, FL
GROIN REHABILITATION

SOUTH GROIN - SECTIONS (1)

DRAWN BY: ML DATE: 10/11/2023

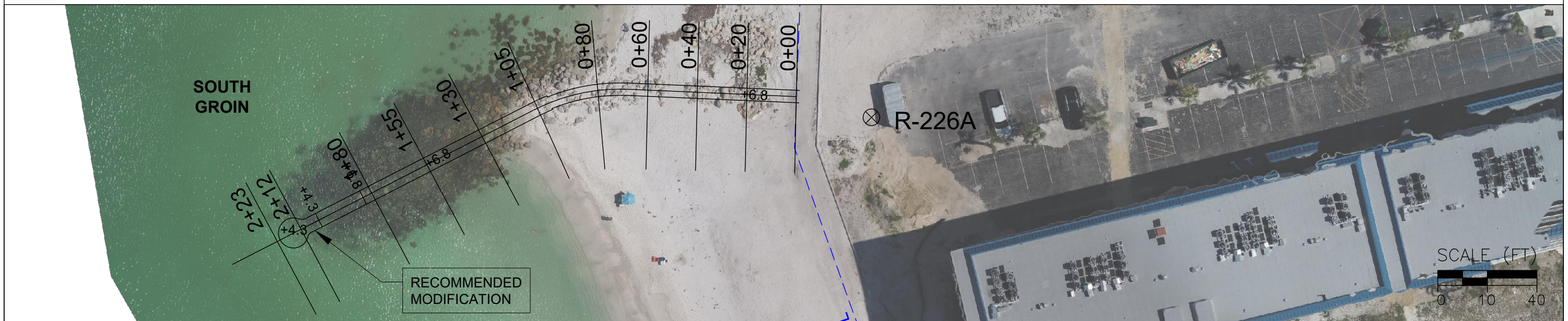
CHECKED BY: KB DATE: 10/11/2023

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of 22



— SAND GRADE (05/16/2023)

— ROCK BOULDERS (05/16/2023)



- NOTES:
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CONCEPT DRAWING
NOT FOR CONSTRUCTION

REVISIONS			
LTR	DESCRIPTION	BY	DATE



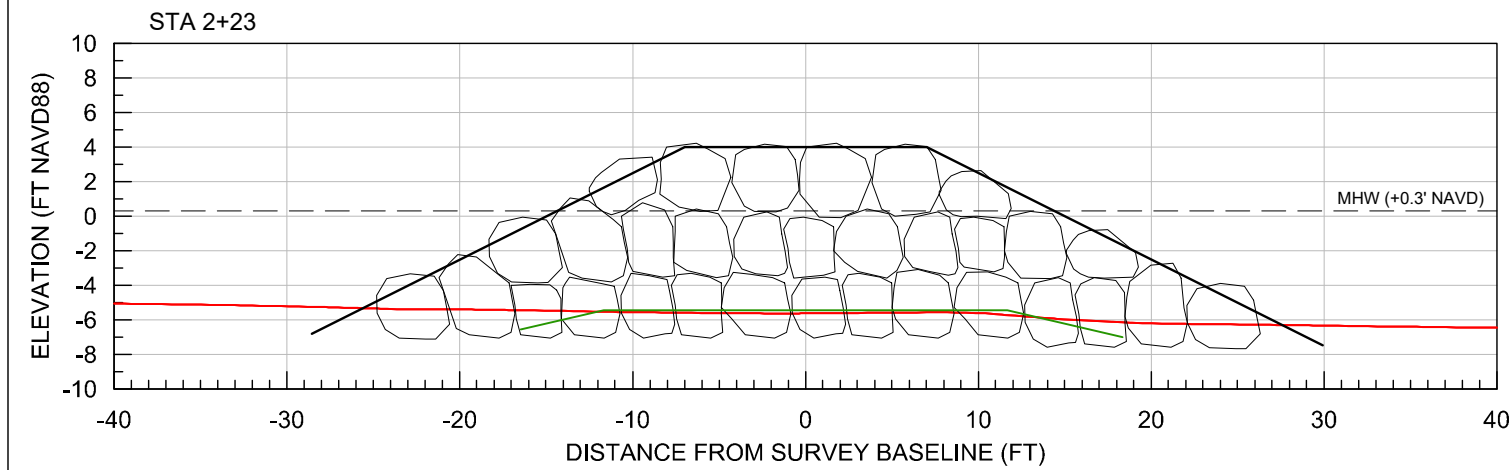
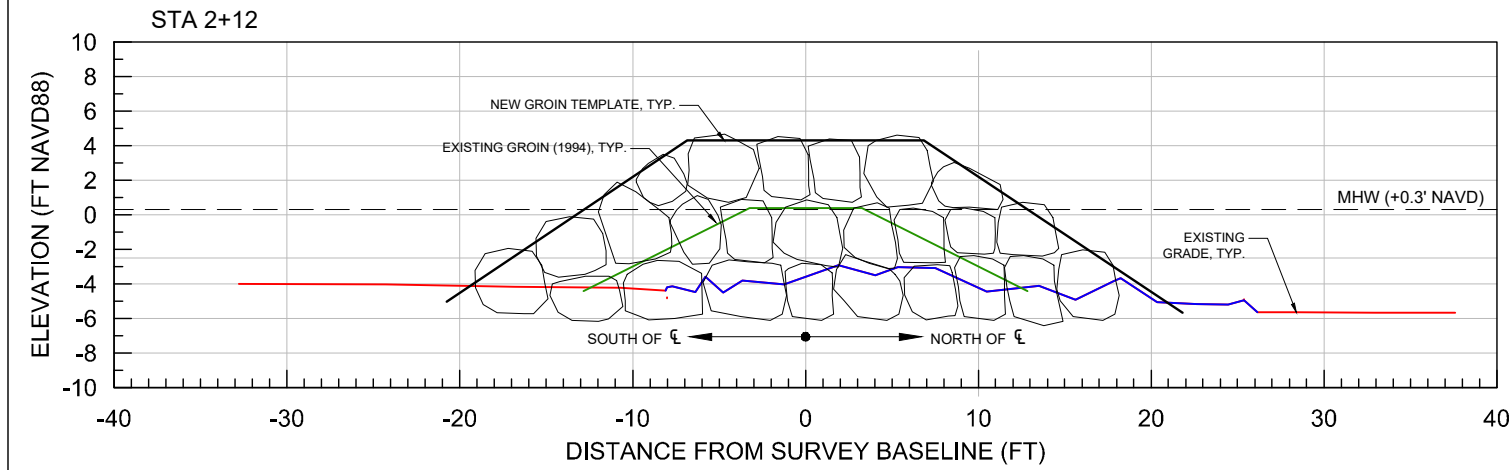
BONITA BEACH, LEE COUNTY, FL
GROIN REHABILITATION

SOUTH GROIN - SECTIONS (2)

DRAWN BY: ML DATE: 10/11/2023

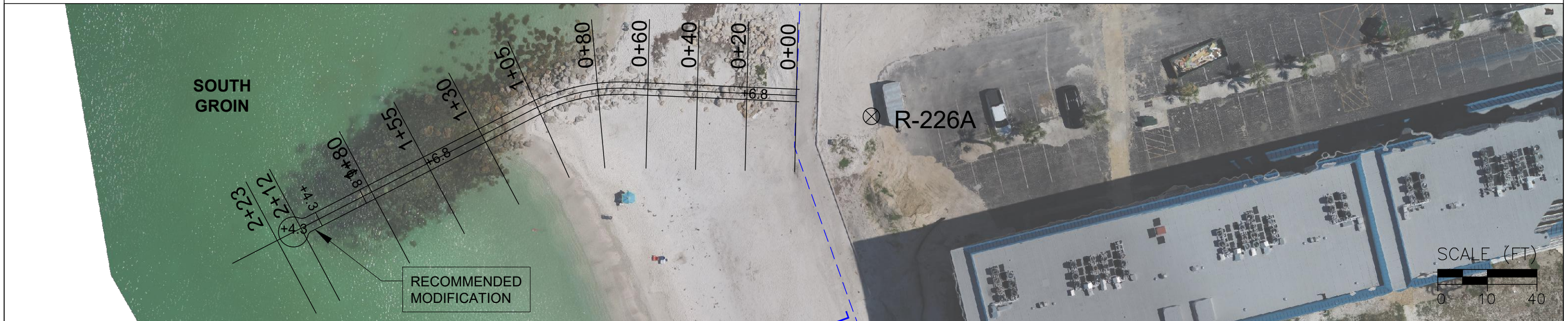
CHECKED BY: KB DATE: 10/11/2023

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of 22



— SAND GRADE (05/16/2023)

— ROCK BOULDERS (05/16/2023)



NOTES:

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CONCEPT DRAWING
NOT FOR CONSTRUCTION

REVISIONS			
LTR	DESCRIPTION	BY	DATE



BONITA BEACH, LEE COUNTY, FL
GROIN REHABILITATION

SOUTH GROIN - SECTIONS (3)

DRAWN BY: ML DATE: 10/11/2023
CHECKED BY: KB DATE: 10/11/2023

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of 22

Attachment B:

Surveyor Report and Survey Drawings for May 2023
Surveys, by Coastal Engineering Consultants Inc

BIG HICKORY PASS CHANNEL 2023 MONITORING SURVEY

PREPARED FOR:
LEE COUNTY

INDEX:

1. COVER SHEET
2. PLAN VIEW
3. 2022 CONTOUR MAP
4. 2023 CONTOUR MAP
5. 2022 - 2023 CHANGE CONTOUR MAP
6. CROSS SECTIONS: 0+00 - 4+00
7. CROSS SECTIONS: 5+00 - 14+00
8. CROSS SECTIONS: 15+00 - 29+00
9. CROSS SECTIONS: 30+00 - 40+00

LEGEND:

- 0+00 = CHANNEL STATION
R-226 = REFERENCE MONUMENT

NOTES:

1. MONITORING SURVEYS COMPLETED BY COASTAL ENGINEERING CONSULTANTS, INC. ON 8/10/2022 AND 5/16/2023.
2. ELEVATIONS SHOWN HEREON ARE BASED ON NORTH AMERICAN VERTICAL DATUM (NAVD 1988), U.S. COAST & GEODETIC SURVEY BENCH MARK E 248, PID# AG1335 (+22.08 FT).
3. PLANE COORDINATES ARE BASED ON THE TRANSVERSE MERCATOR PROJECTION FOR THE WEST ZONE OF FLORIDA AND REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD 83).
4. HYDROGRAPHIC SURVEY ACCURACIES AND PROCEDURES ARE IN ACCORDANCE WITH GENERAL SURVEY STANDARDS, AS DEFINED BY THE U.S. ARMY CORPS OF ENGINEERS, HYDROGRAPHIC SURVEY MANUAL.
5. INFORMATION SHOWN HEREON REFLECTS CONDITIONS AS THEY EXISTED ON THE SURVEY DATE SHOWN AND CAN ONLY BE CONSIDERED INDICATIVE OF CONDITIONS AT THAT TIME.
6. AERIAL PHOTOGRAPHY OBTAINED FROM LEE COUNTY, DATED JANUARY 2022.
7. POSITIONING DATA WAS COLLECTED USING RTK GPS.
8. MHW: +0.3 FT (NAVD88)
MLW: -1.61 FT (NAVD88)
TIDAL EPOCH: 1983 - 2001
OBTAINED FROM LABINS POINT 100234, FDEP MEAN HIGH WATER PROCEDURE APPROVAL INQUIRY.



COASTAL ENGINEERING CONSULTANTS, INC.
FLORIDA BUSINESS AUTHORIZATION NO. LB 2464

RICHARD J. EWING, VP
PROFESSIONAL SURVEYOR AND MAPPER
FLORIDA CERTIFICATE NO. 5295
NOT VALID WITHOUT THE SIGNATURE AND
THE ORIGINAL RAISED SEAL OF A FLORIDA
LICENSED SURVEYOR AND MAPPER

SHEET 1
FILE NO.: 23079-BHC-1

**COASTAL
ENGINEERING
CONSULTANTS
INC.**
Serving Florida Since 1977
28421 BONITA CROSSINGS BLVD
BONITA SPRINGS, FLORIDA 34135

COASTAL & MARINE ENGINEERING
ENVIRONMENTAL & GEOLOGICAL SERVICES
SURVEY & MAPPING
ENGINEERING: CA 2464
SURVEYING: LB 2464
PHONE: (239)643-2324
FAX: (239)643-1143
www.coastalengineering.com
E-Mail: info@ceciff.com

CLIENT:

LEE COUNTY

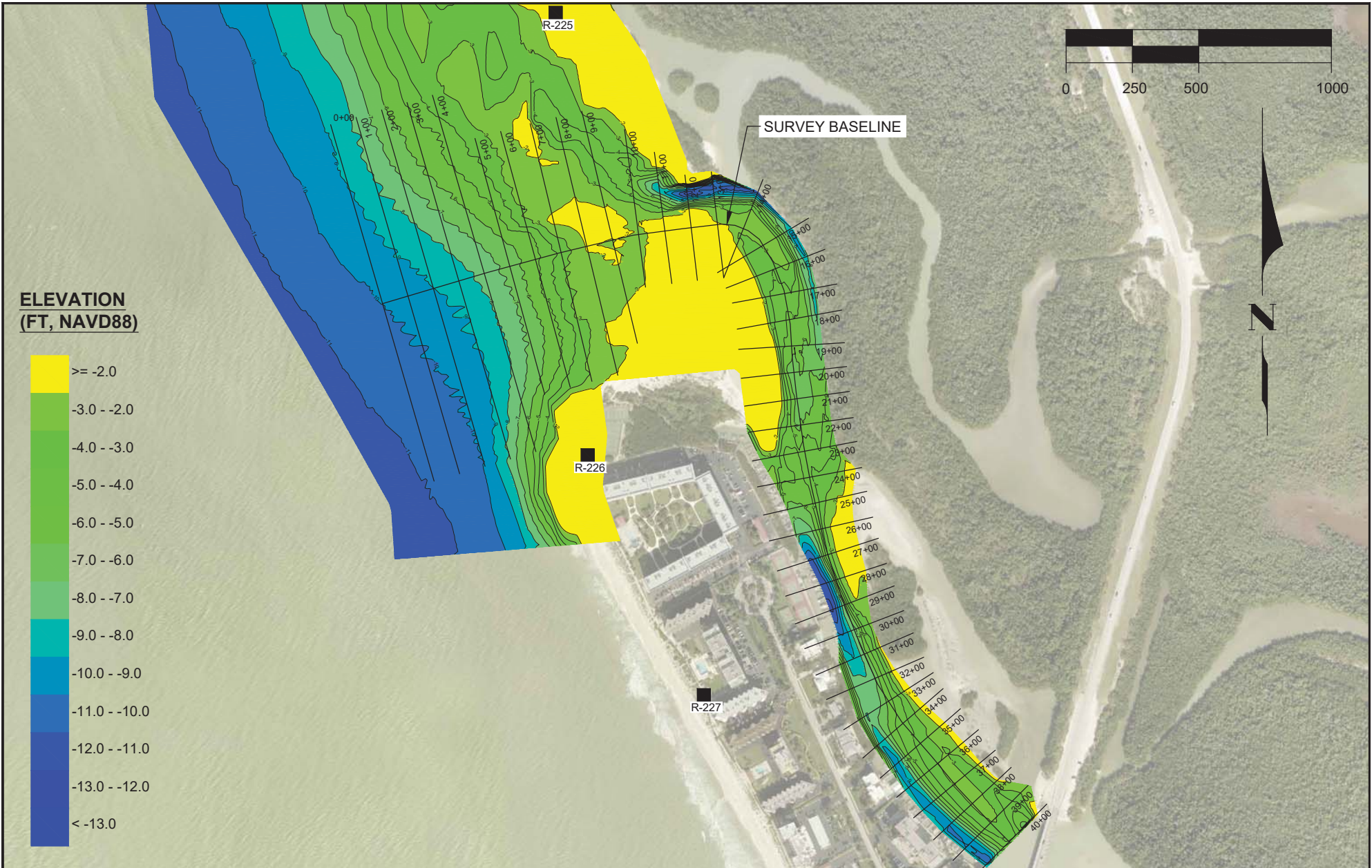
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BIG HICKORY PASS CHANNEL
COVER SHEET

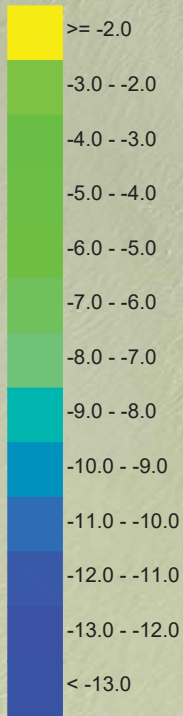
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CHECKED:	MTP	PG.	
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ACAD. NO.	23079 Big Hickory Pass Mon Survey.dwg		
REF. NO.	23.079	NO.	DATE BY REVISION DESCRIPTION



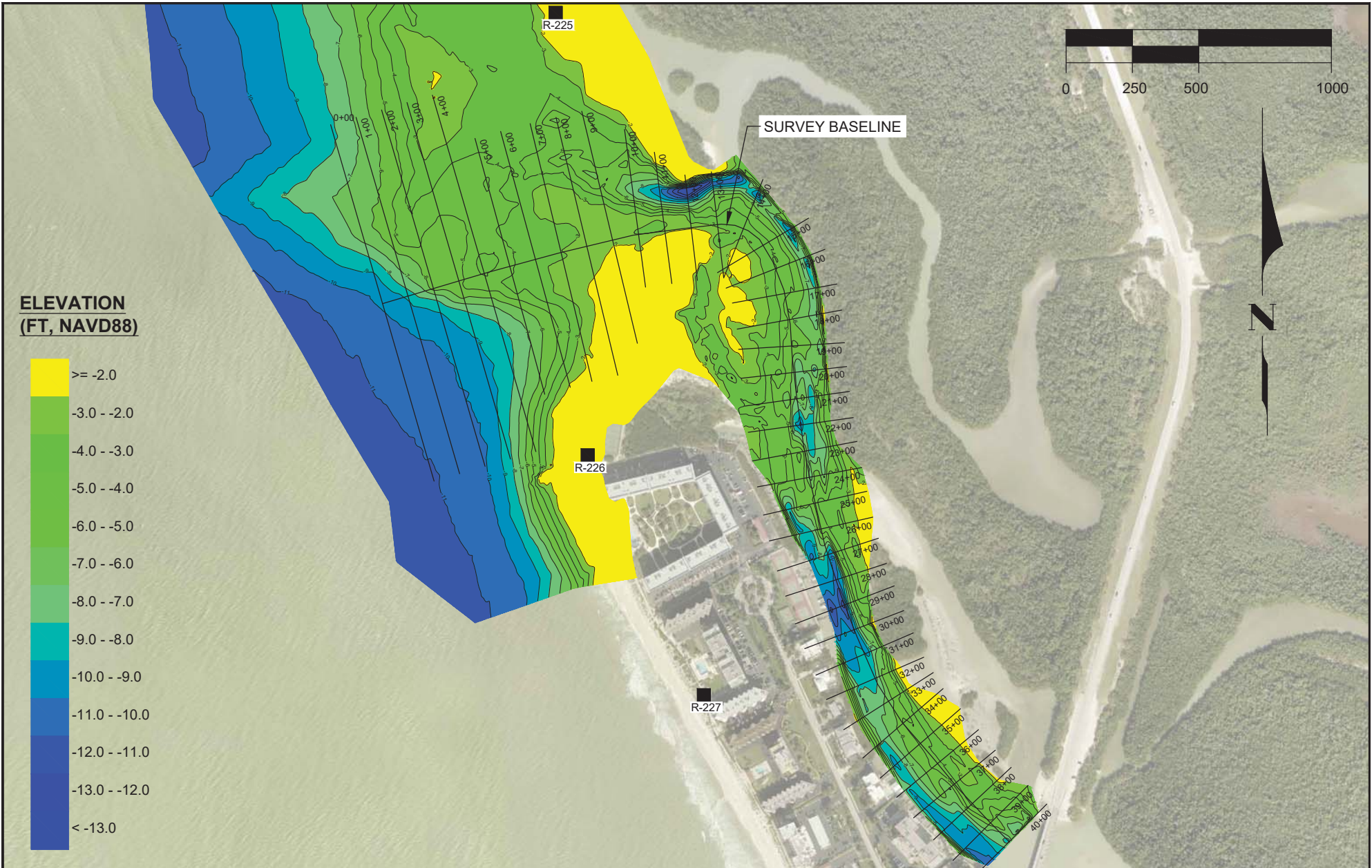
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	PHONE: (239)643-2324 FAX: (239)643-1143 www.coastalengineering.com E-Mail: info@ceciff.com			TITLE: BIG HICKORY PASS CHANNEL PLAN VIEW		DRAWN: VVA		F.B.					
						CHECKED: MTP		PG.					
						SEC. TWP. RNG.							
						ACAD. NO. 23079 Big Hickory Pass Mon Survey.dwg							
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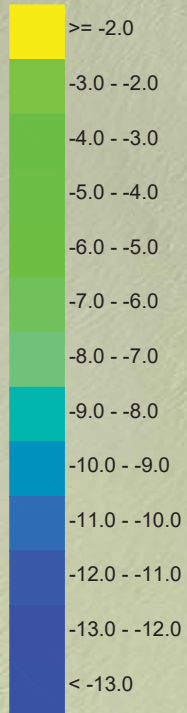
**ELEVATION
(FT, NAVD88)**



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			TITLE:	BIG HICKORY PASS CHANNEL 2022 CONTOUR MAP				DRAWN:	VVA	F.B.					
								CHECKED:	MTP	PG.					
								SEC.	TWP.		RNG.				
								ACAD. NO.	23079 Big Hickory Pass Mon Survey.dwg						
								REF. NO.	23.079	NO.	DATE	BY	REVISION DESCRIPTION		



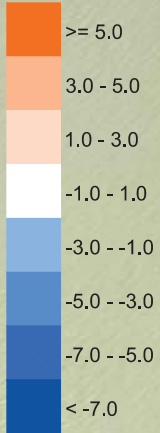
**ELEVATION
(FT, NAVD88)**



SHEET NO. 23079-BHC-3  COASTAL ENGINEERING CONSULTANTS INC. Serving Florida Since 1977 28421 BONITA CROSSINGS BLVD BONITA SPRINGS, FLORIDA 34135	COASTAL & MARINE ENGINEERING ENVIRONMENTAL & GEOLOGICAL SERVICES SURVEY & MAPPING ENGINEERING: CA 2464 SURVEYING: LB 2464 PHONE: (239)643-2324 FAX: (239)643-1143 www.coastalengineering.com E-Mail: info@ceciff.com	CLIENT: LEE COUNTY	DATE: 5/18/2023	SCALE: AS SHOWN					
			TITLE: BIG HICKORY PASS CHANNEL 2023 CONTOUR MAP	DRAWN: VVA	F.B.				
				CHECKED: MTP	PG.				
				SEC.	TWP.	RNG.			
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			REF. NO. 23.079						
			NO.	DATE	BY	REVISION DESCRIPTION			

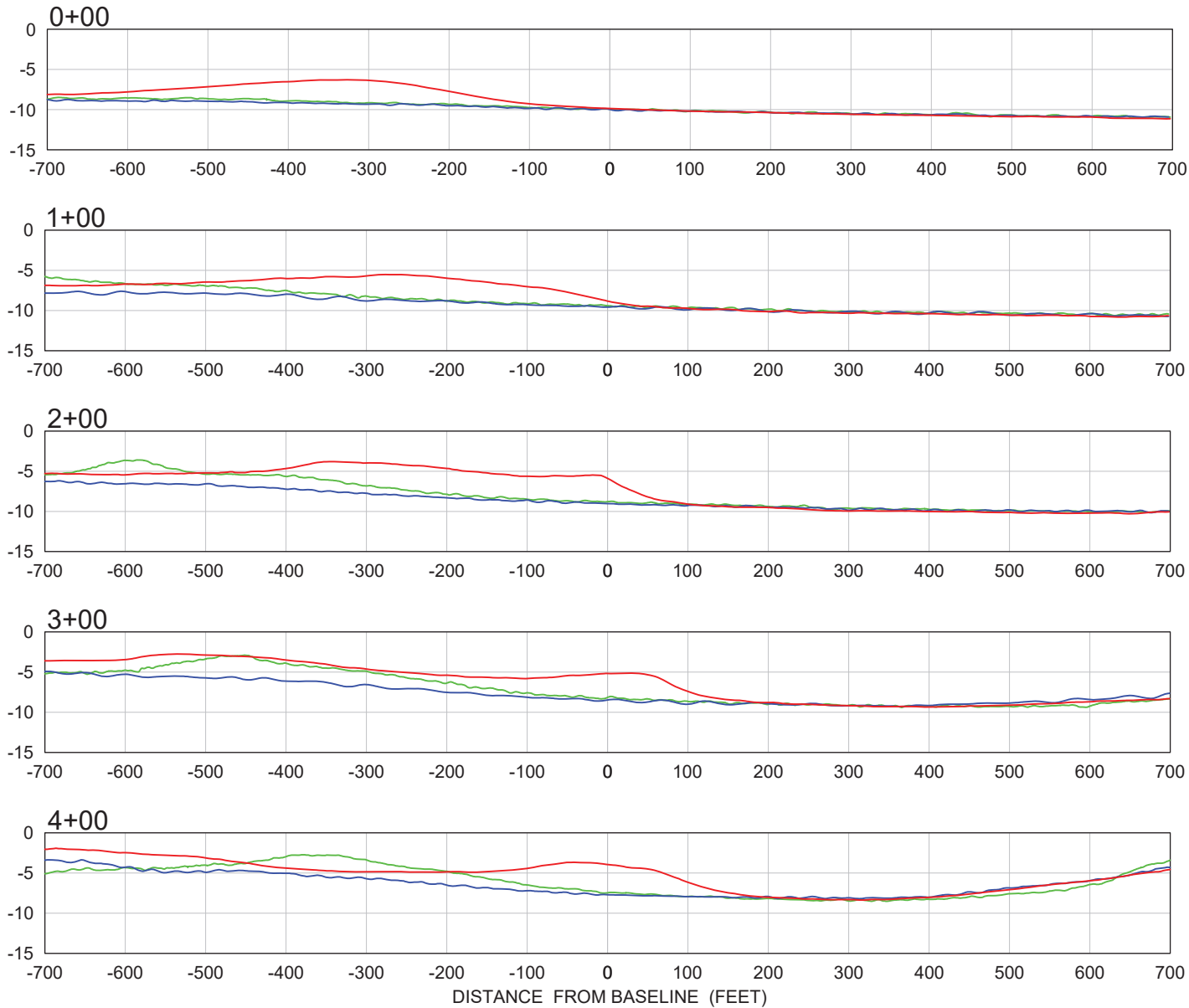


CHANGE (FT)
+ = SHOALING
- = SCOURING



SHEET 5 FILE NO.: 23079-BHC-5	 COASTAL ENGINEERING CONSULTANTS INC. Serving Florida Since 1977 28421 BONITA CROSSINGS BLVD BONITA SPRINGS, FLORIDA 34135	COASTAL & MARINE ENGINEERING ENVIRONMENTAL & GEOLOGICAL SERVICES SURVEY & MAPPING ENGINEERING: CA 2464 SURVEYING: LB 2464 PHONE: (239)643-2324 FAX: (239)643-1143 www.coastalengineering.com E-Mail: info@ceciff.com	CLIENT:	LEE COUNTY		DATE:	5/18/2023	SCALE:	AS SHOWN				
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						CHECKED:	MTP	PG.					
						SEC.	TWP.	RNG.					
						ACAD. NO.	23079 Big Hickory Pass Mon Survey.dwg						
			REF. NO.				23.079			NO.	DATE	BY	REVISION DESCRIPTION

ELEVATION (FT NAVD88)



LEGEND

- = 8/10/2021 MON SURVEY
- = 8/10/2022 MON SURVEY
- = 5/16/2023 MON SURVEY

SCALE:
Horiz: 1" = 200'
Vert: 1" = 20'

SHEET 6
FILE NO.: 23079-BHC-6

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E-Mail: info@ceciff.com

CLIENT:

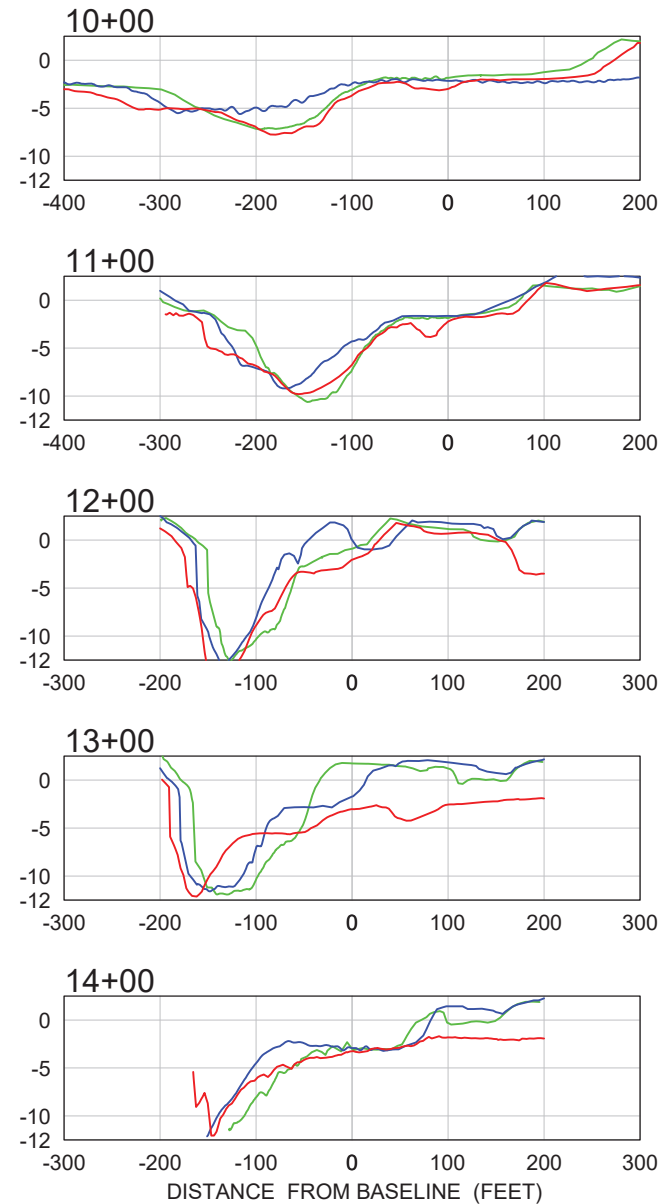
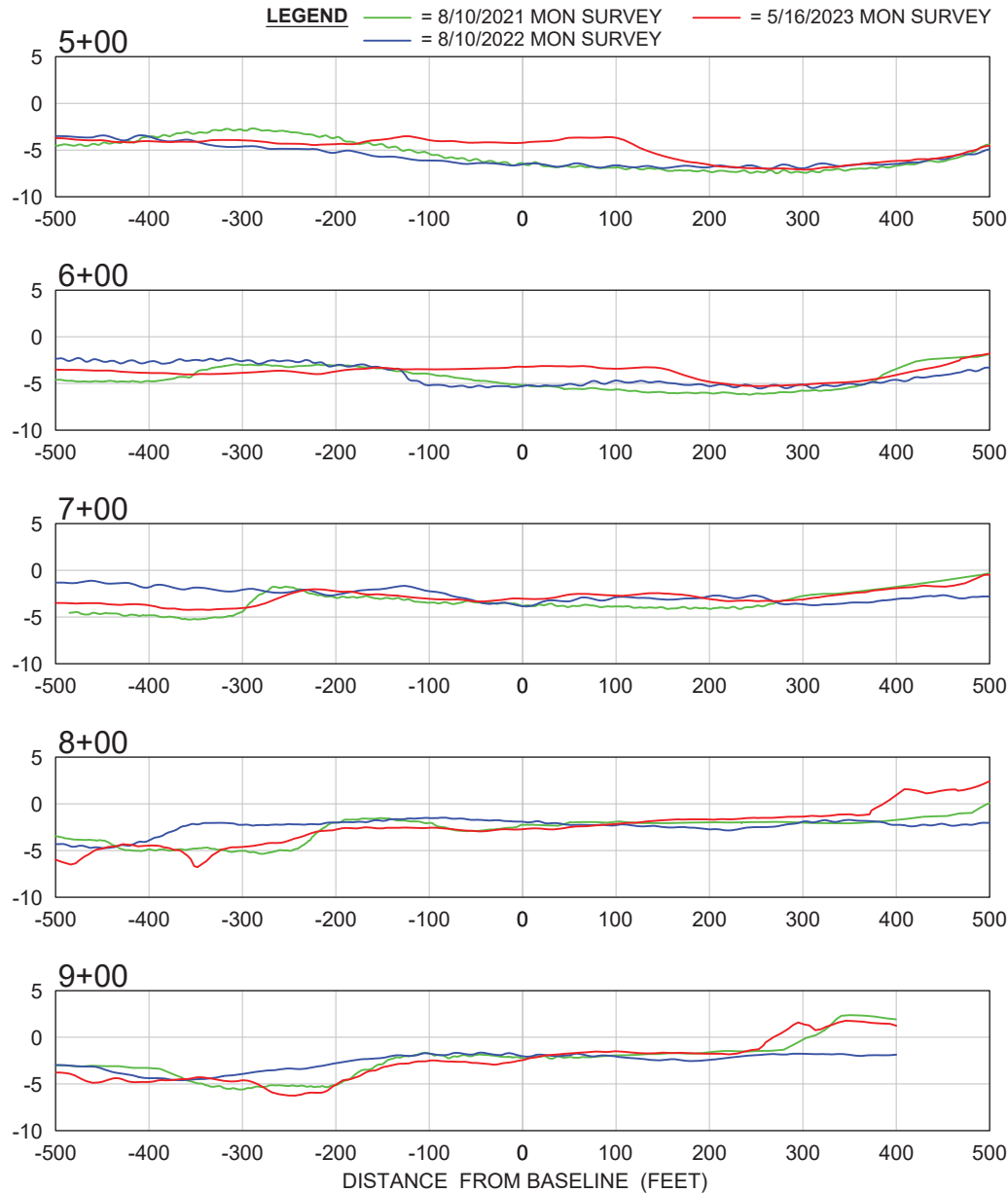
LEE COUNTY

TITLE:

BIG HICKORY PASS CHANNEL
CROSS SECTIONS 0+00-4+00

DATE:	5/18/2023	SCALE:	AS SHOWN
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CHECKED:	MTP	PG.	
SEC.	TWP.	RNG.	
ACAD. NO.	23079 Big Hickory Pass Mon Survey.dwg		
REF. NO.	23.079	NO.	DATE BY REVISION DESCRIPTION

ELEVATION (FT NAVD88)



SCALE:
Horiz: 1" = 200'
Vert: 1" = 20'

SHEET 7
FILE NO.: 23079-BHC-7

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CLIENT:

LEE COUNTY

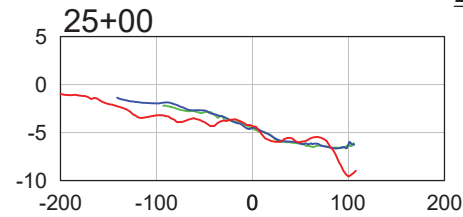
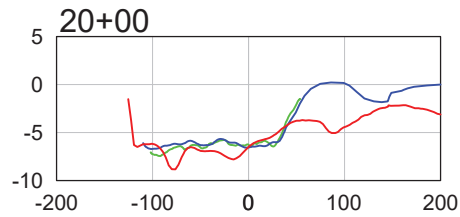
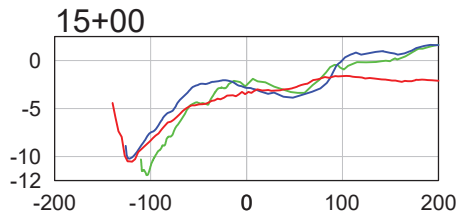
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BIG HICKORY PASS CHANNEL
CROSS SECTIONS 5+00-14+00

DATE:	5/18/2023	SCALE:	AS SHOWN
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REF. NO.	23.079	NO.	DATE

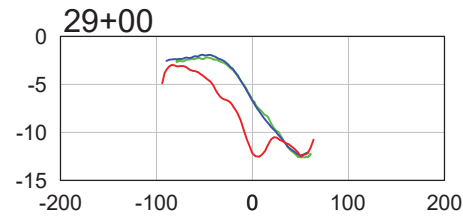
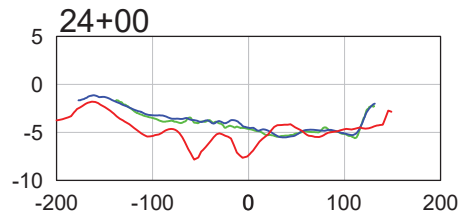
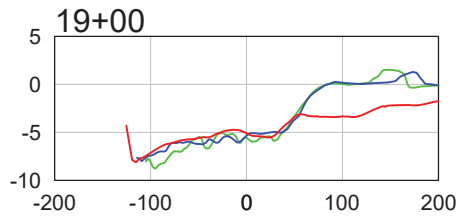
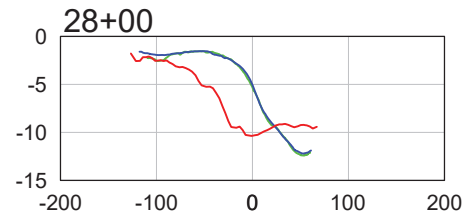
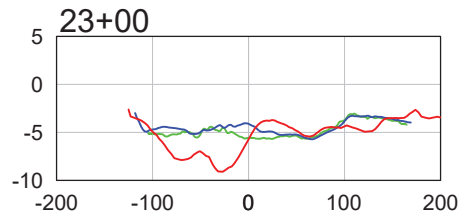
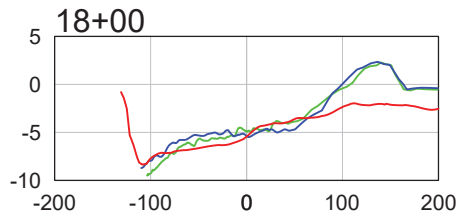
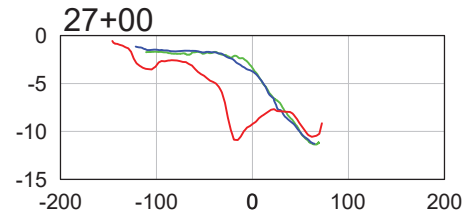
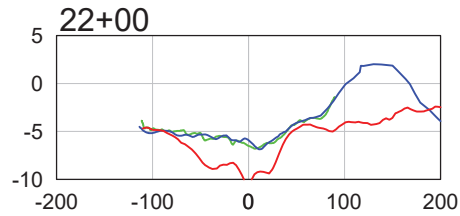
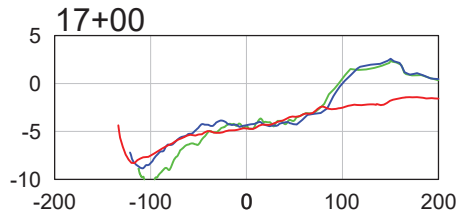
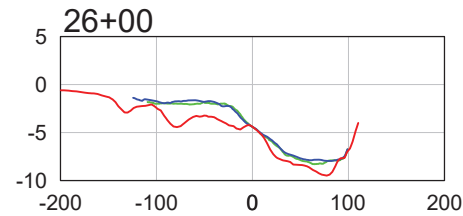
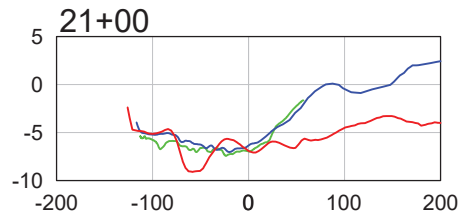
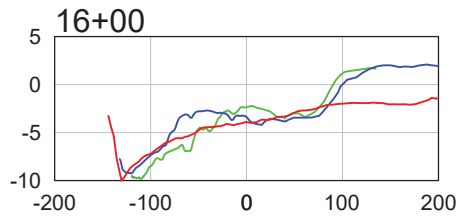
NO.	DATE	BY	REVISION DESCRIPTION

ELEVATION (FT NAVD88)



LEGEND

- 8/10/2021 MON SURVEY
- 8/10/2022 MON SURVEY
- 5/16/2023 MON SURVEY



SCALE:
Horiz: 1" = 200'
Vert: 1" = 20'

SHEET 8
FILE NO.: 23079-BHC-8

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www.coastalengineering.com
E-Mail: info@ceciff.com

CLIENT:

LEE COUNTY

TITLE:

BIG HICKORY PASS CHANNEL
CROSS SECTIONS 15+00-29+00

DATE:

5/18/2023

SCALE:

AS SHOWN

DRAWN:

VVA

F.B.

CHECKED:

MTP

PG.

SEC.

TWP.

RNG.

ACAD. NO.

23079 Big Hickory Pass Mon Survey.dwg

REF. NO.

23.079

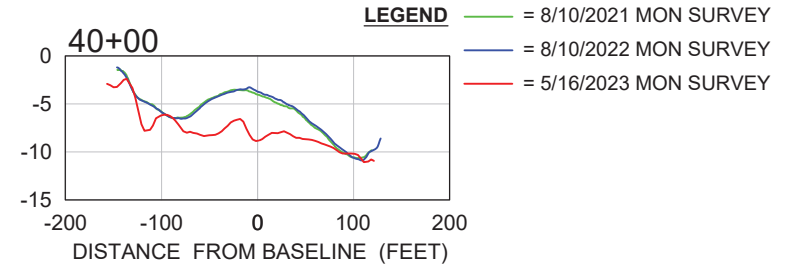
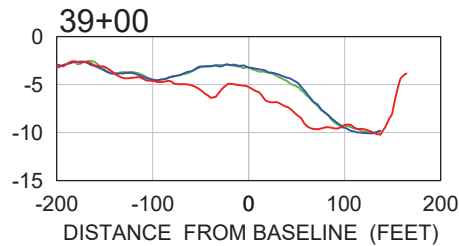
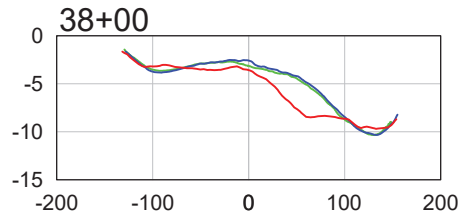
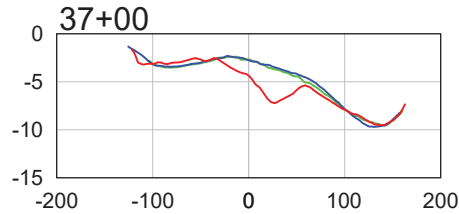
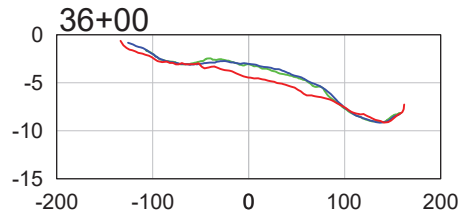
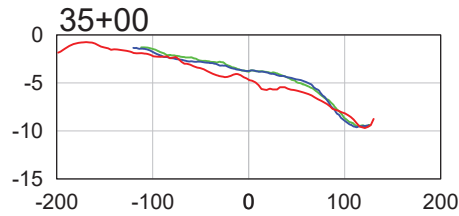
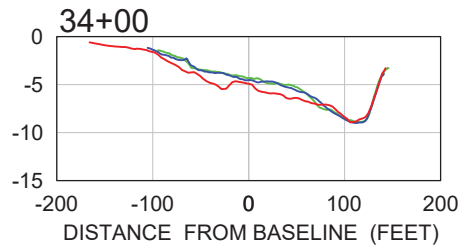
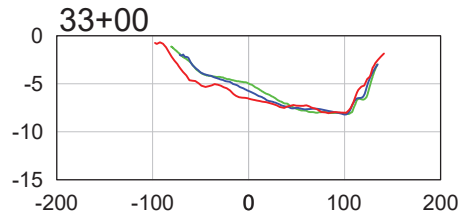
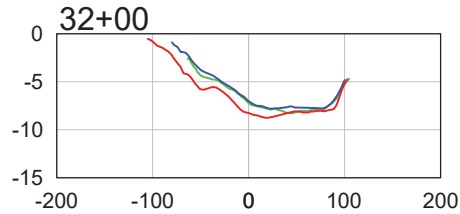
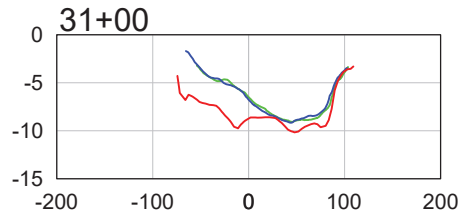
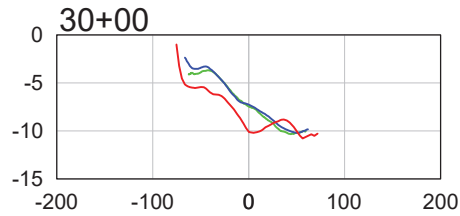
NO.

DATE

BY

REVISION DESCRIPTION

ELEVATION (FT NAVD88)



LEGEND

- = 8/10/2021 MON SURVEY
- = 8/10/2022 MON SURVEY
- = 5/16/2023 MON SURVEY

SCALE:
Horiz: 1" = 200'
Vert: 1" = 20'

SHEET 9
FILE NO.: 23079-BHC-9

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FAX: (239)643-1143
www.coastalengineering.com
E-Mail: info@ceciff.com

CLIENT:

LEE COUNTY

TITLE:

BIG HICKORY PASS CHANNEL
CROSS SECTIONS 30+00-40+00

DATE:	5/18/2023	SCALE:	AS SHOWN
DRAWN:	VVA	F.B.	
CHECKED:	MTP	PG.	
SEC.	TWP.	RNG.	
ACAD. NO.	23079 Big Hickory Pass Mon Survey.dwg		
REF. NO.	23.079	NO.	DATE BY REVISION DESCRIPTION

2023 BONITA BEACH / LOVERS KEY / BIH HICKORY PASS ANNUAL MONITORING SURVEY**SURVEY REPORT**

CEC conducted the monitoring surveys of Lovers Key, Big Hickory Island, and Bonita Beach on May 11-12, 2023. CEC conducted the monitoring survey of Big Hickory Pass including the ebb tidal shoal and two existing groins on May 16, 2023. Surveys were conducted utilizing multiple Trimble Real Time Kinematic (RTK) Global Positioning Systems (GPS). All GPS control during this survey was referenced from previously established Florida Department of Environmental Protection (FDEP) Bureau of Beaches and Coastal Systems (BBCS) and meets or exceeds Geospatial Positioning Accuracy Standards, Range VIII.

All “R monument” and intermediate beach profiles were collected on the State Plane Coordinate System Grid, Florida West Zone and survey data was collected along FDEP established grid bearings as outlined in the project Scope of Work. The horizontal and vertical datums were North American Datum (NAD) of 1983/2011 Adjustment and North American Vertical Datum (NAVD) of 1988, Geoid 2012A, respectively.

All survey control was established as part of the upland topographic survey control work and conducted in accordance with the FDEP Monitoring Standards for Beach Erosion Control Projects. These surveys meet the requirements set forth in Chapter 5J-17 (F.A.C.) Florida Administrative Code. The following published FDEP vertical control was used during the surveys:

USGS E248 1965, PID No. AD1334
Northing: 742689.561’
Easting: 701857.275’
Elevation: 22.09’ NAVD 1988

USGS D248 1965, PID No. AD1312
Northing: 736847.789’
Easting: 702767.371’
Elevation: 11.95’ NAVD 1988

Equipment

Upland: CEC employed two Trimble Real Time Kinetic (RTK) GPS rover receivers with GLONASS capability systems for the upland surveys. These systems are capable of delivering RTK positions with coordinate accuracy of $\pm 10\text{mm} + 2\text{ppm}$. Wireless Bluetooth technology allows our surveyors to collect data seaward of the Mean High Water line in the “surf zone” up to 5 feet deep.

Offshore: The survey vessel used for this work was a 20-foot fiberglass hull powered by an outboard motor. A CEE ECHO single beam echo sounder was used with a side mounted transducer. A Trimble R8 GPS antenna with GLONASS capability was installed on the side mount bracket directly above the transducer. The Trimble R8 receiver was integrated with the on-board computer system. Hypack 2017 software package was the hydrographic guidance program utilized.

QA/QC Procedures

CEC employs an advanced QA/QC program to ensure work performed by us meets the FDEP accuracy standards. CEC upland field crews utilize RTK systems for data collection. CEC also incorporates the necessary equipment on the survey vessel to collect bathymetric survey data "Real-Time". To meet the specification calling for an approximate 50-foot overlap in data between the boat and the upland crew, CEC implements the following procedure. Utilizing "Real-Time" data collection, the boat crew immediately accounts for the tide correction, as well as the draft, and reports measured water depth in NAVD88 at each profile with the upland crew. This gives the upland crew, who simultaneously collects the upland and nearshore profile data, the necessary information to achieve the "overlap" specification.

Upland Data Collection: CEC mobilized one operator and GPS rover unit to collect survey data from the approximate MHW line landward while an additional operator and unit collected data just landward of MHW seaward to wading depth or approximately -5 feet NAVD88. The recorded data was maintained within tolerances of ± 3.00 feet horizontal and ± 0.16 feet vertical. QA/QC procedures were maintained by both comparison of values with higher accuracy and by repeat measurement.

An electronic list of R-monument coordinates and profile azimuths was loaded into the rover units and measurements were recorded along the azimuth line at intervals no greater than 25 feet or wherever geographical features dictated. The measurements were taken landward along the azimuth line to a minimum of 150 feet landward of the R-monument or to the edge of a building or road, whichever is the most seaward. When possible, a measurement was taken on the R-monument. The extent of the vegetation line and prominent features such as seawalls were also noted in the data collection. The measurements were taken seaward along the azimuth line to a minimum depth of -5 feet NAVD88 or as far as conditions dictated, to maintain a minimum of 50 feet of overlap with the data being collected by the offshore survey crew. This data was then compiled and merged with the offshore data to produce the profile drawings.

Offshore Data Collection: All survey equipment was properly calibrated and operated in accordance with FDEP standards. Bar checks to calibrate the fathometer were performed periodically throughout the survey. Bathymetric survey data collection was conducted in calm seas. Maximum wave heights during the data collection period were less than 3 feet. The data was collected at intervals not exceeding 25 feet and at all grade breaks along the profile sufficient to accurately describe the bathymetry at the profile locations. The beach profile survey extended seaward to a minimum of 3,000 feet from MHW.

COASTAL ENGINEERING CONSULTANTS, INC.
FLORIDA BUSINESS AUTHORIZATION NO. LB 2464

Richard J. Ewing, P.S.M.
Professional Surveyor and Mapper
Florida Certificate No. 5295
NOT VALID WITHOUT THE SIGNATURE AND
THE ORIGINAL RAISED SEAL OF A FLORIDA
LICENSED SURVEYOR AND MAPPER
CEC FILE NO. 23.079
DATE OF SIGNATURE:

BONITA BEACH GROIN SURVEY

PREPARED FOR:
OLSEN ASSOCIATES, INC.

INDEX:

1. COVER SHEET
2. PLAN VIEW
3. BEACH PROFILES
4. GROIN PROFILES AND SECTIONS

LEGEND:

■ R-226 = REFERENCE MONUMENT

NOTES:

1. SURVEY COMPLETED BY COASTAL ENGINEERING CONSULTANTS, INC. ON 5/16/2023.
2. ELEVATIONS SHOWN HEREON ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), GEOID18.
3. U.S. COAST & GEODETIC SURVEY BENCH MARK E 248, PID# AG1335 (+22.08 FT).
4. PLANE COORDINATES ARE BASED ON THE TRANSVERSE MERCATOR PROJECTION FOR THE WEST ZONE OF FLORIDA AND REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83).
5. HYDROGRAPHIC SURVEY ACCURACIES AND PROCEDURES ARE IN ACCORDANCE WITH GENERAL SURVEY STANDARDS, AS DEFINED BY THE U.S. ARMY CORPS OF ENGINEERS, HYDROGRAPHIC SURVEY MANUAL.
6. INFORMATION SHOWN HEREON REFLECTS CONDITIONS AS THEY EXISTED ON THE SURVEY DATE SHOWN AND CAN ONLY BE CONSIDERED INDICATIVE OF CONDITIONS AT THAT TIME.
7. AERIAL PHOTOGRAPHY OBTAINED FROM FLORIDA AERIAL SURVEY TECHNOLOGIES, DATED 5/19/2023.
8. POSITIONING DATA WAS COLLECTED USING RTK GPS.
9. MHW: +0.3 FT (NAVD88)
MLW: -1.61 FT (NAVD88)
TIDAL EPOCH: 1983 - 2001
OBTAINED FROM LABINS POINT 100234, FDEP MEAN HIGH WATER PROCEDURE APPROVAL INQUIRY.



COASTAL ENGINEERING CONSULTANTS, INC.
FLORIDA BUSINESS AUTHORIZATION NO. LB 2464

RICHARD J. EWING, VP
PROFESSIONAL SURVEYOR AND MAPPER
FLORIDA CERTIFICATE NO. 5295
NOT VALID WITHOUT THE SIGNATURE AND
THE ORIGINAL RAISED SEAL OF A FLORIDA
LICENSED SURVEYOR AND MAPPER

SHEET 1
FILE NO.: 23179-BBGR-1

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FAX: (239)643-1143
www.coastalengineering.com
E-Mail: info@ceciff.com

CLIENT:

LEE COUNTY

TITLE:

BONITA BEACH GROIN SURVEY
COVER SHEET

DATE:	6/19/2023	SCALE:	AS SHOWN
DRAWN:	VVA	F.B.	
CHECKED:	MTP	PG.	
SEC.	TWP.	RNG.	
ACAD NO.	23179 Bonita Beach Groin Survey.dwg		
REF. NO.	23.179	NO.	DATE BY REVISION DESCRIPTION



SHEET 2
FILE NO.: 23179-BBGR-2



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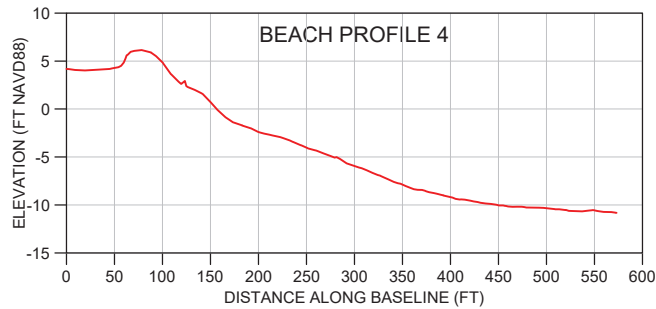
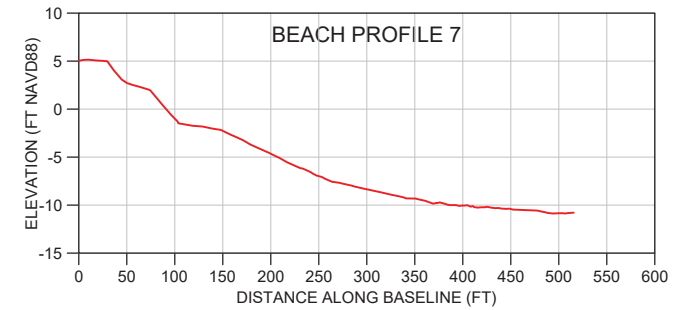
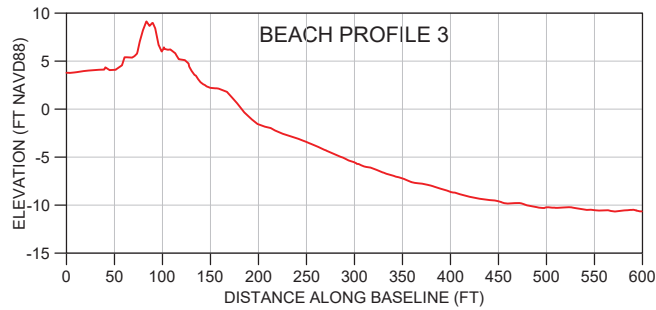
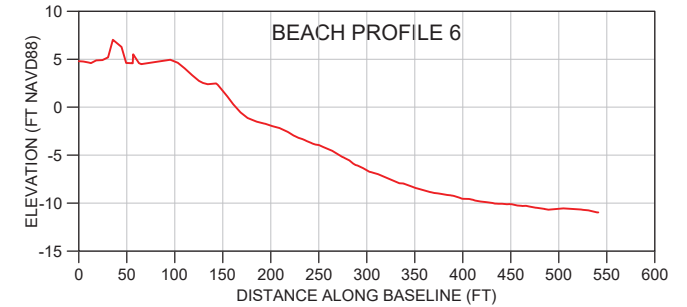
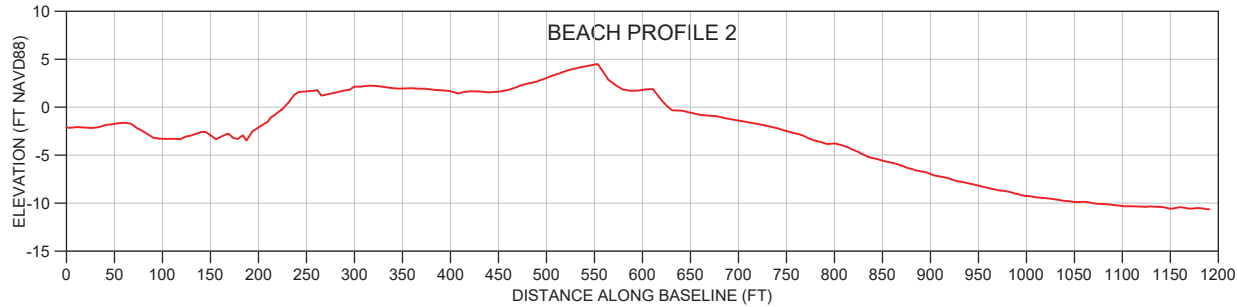
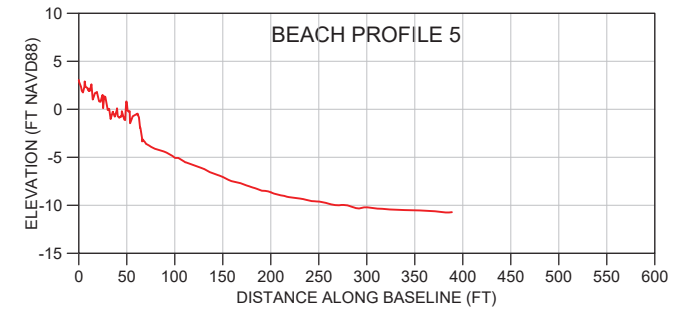
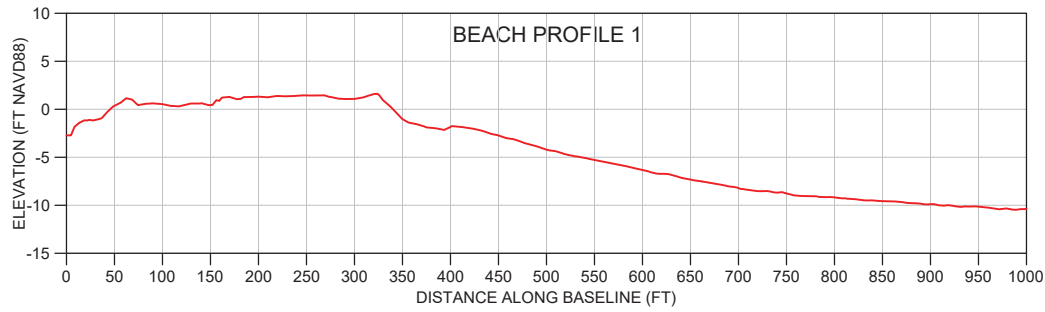
CLIENT: LEE COUNTY

TITLE: BONITA BEACH GROIN SURVEY
PLAN VIEW

DATE: 6/19/2023
DRAWN: VVA
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ACAD NO. 23179 Bonita Beach Groin Survey.dwg
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NO.	DATE	BY	REVISION DESCRIPTION	



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 Horiz: 1" = 200'
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SHEET 3
 FILE NO.: 23179-BBGR-3

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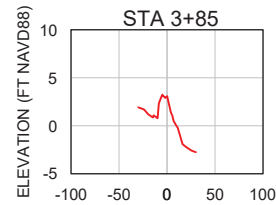
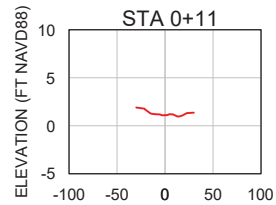
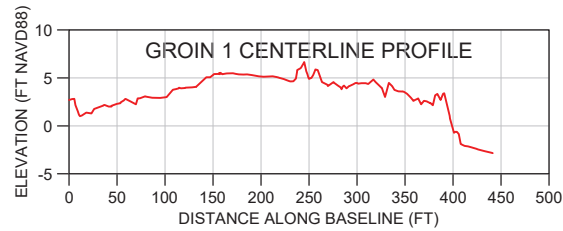
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LEE COUNTY

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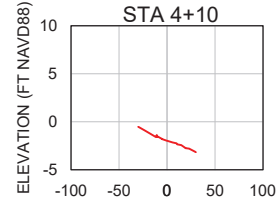
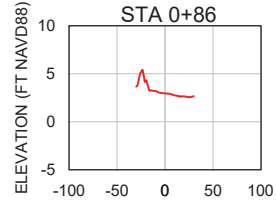
BONITA BEACH GROIN SURVEY
 BEACH PROFILES

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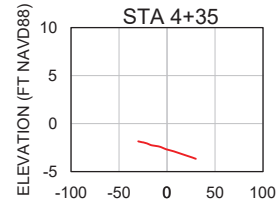
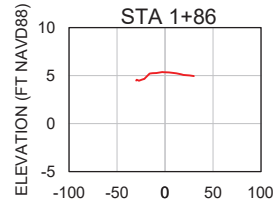
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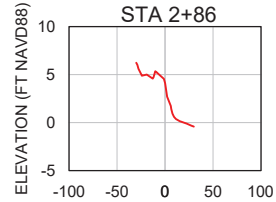
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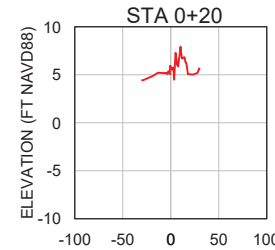
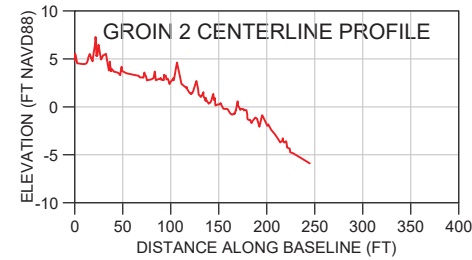


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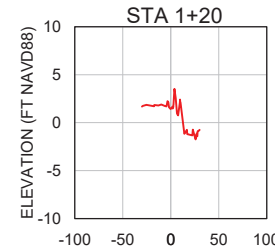
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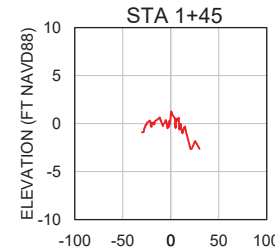
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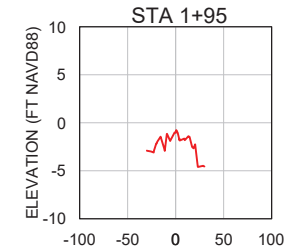
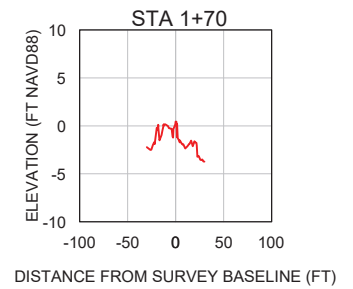
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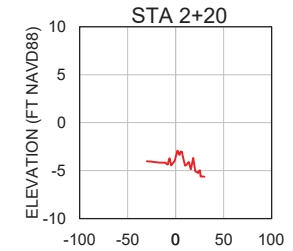
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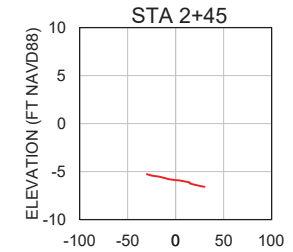
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DISTANCE FROM SURVEY BASELINE (FT)

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Horiz: 1" = 200'
Vert: 1" = 20'

SHEET 4
FILE NO.: 23179-BBGR-4

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CLIENT:

LEE COUNTY

TITLE:

BONITA BEACH GROIN SURVEY
GROIN PROFILES AND CROSS SECTIONS

DATE:	6/19/2023	SCALE:	AS SHOWN
DRAWN:	VVA	F.B.	
CHECKED:	MTP	PG.	
SEC.	TWP.	RNG.	
ACAD NO.	23179 Bonita Beach Groin Survey.dwg		
REF. NO.	23.179	NO.	DATE BY REVISION DESCRIPTION

Survey Report
Bonita Beach – Beach Survey
Lying in Sections 24 & 25, Township 47 South, Range 24 East
And Section 31, Township 47 South, Range 25 East.
Lee County, Florida

Project Scope:

Project consisted of mapping the upland portion of Bonita Beach from the waterline to approximately the line of construction after Hurricane Ian. The limits of the survey are The Collier County/Lee County Line to the South North to Little Hickory Pass.

Survey Methodology:

Photography:

The survey was conducted using photogrammetry and processing to obtain a 3-dimensional surface of the existing beach. The photographs were collected using a DJI Phantom 4 Pro RTK unit on May 19, 2023. A total of 1,515 photographs were collected with a 70% forward and 70% side overlap. The photographs were processed using PIX4D Mapper and PIZ4D Survey to obtain the final surface.

Survey Control:

The survey was controlled using a total of 25 control points. The points were supplied to us in the Florida State Plane Coordinate System – West Zone based on the North American Datum of 1983 1990 HARN adjustment (NAD 83/90 HARN). The vertical datum used was the North American Vertical Datum of 1988 (NAVD '88).

Survey Control Statistics:

A total of 25 control points were used to conduct the survey. Ten control points were held as fixed control points and 15 were floated as check points. The maximum error of the fixed control points was 0.058' (X), 0.043' (Y) and 0.066' (Z). The maximum error on the floated check points was 0.0976' (X), 0.226' (Y) and 0.243' (Z). The quality report for the project is attached to this report.

Deliverables:

A complete surface of the beach was delivered as a Land XML file as well as a point grid derived for the final surface.



Certification:

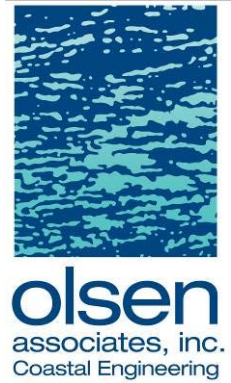
The survey was conducted, and the final surface derived meet the specifications for MONITORING STANDARDS FOR BEACH EROSION CONTROL PROJECTS May 2014 (Edited: October 2014) Section 01000 - as defined to comply with Florida Statute 161.

David S. Dagostino, PSM
Florida Reg. No. 5762

ASSESSMENT & RECOMMENDATIONS FOR BONITA BEACH GROIN REPAIR. LEE COUNTY, FLORIDA.

Prepared by:

Olsen Associates, Inc.
Kevin Bodge, Ph.D., P.E.
Luis F. de Valderrama, E.I.T.



Prepared for:
West Coast Inland Navigation District (WCIND)

31 October 2023

Executive Summary

The two rock groins at the north end of the Bonita Beach nourishment project (Lee County, Florida) were significantly damaged by Hurricane Ian in September 2022. The purpose of the two groins, designed and originally constructed in 1994 - 1995, is to maintain a finite beach width along the project shoreline without over-impounding sand, provide a practical renourishment interval, and prevent the fill sand from flooding and shoaling Big Hickory Pass. The present study concludes that the two groins have performed successfully per their design intent pursuant to the initial beach nourishment in 1995 and subsequent renourishments in 2004 and 2014.

The groins' functionality is presently compromised by damage from Hurricane Ian, and both groins require physical repair. In executing the repair, no changes to the groins' overall location or layout appear warranted or recommended; however, it is recommended that the groins' elevation be increased by about 2 feet and their seaward length correspondingly extended by at least 18 to 20± ft (at the waterline), relative to their existing 1994/95 design conditions. This adjustment is recommended in order to reflect historical and near-term sea level changes and the corresponding increases in beach elevation. Additionally, in repairing the two groins, the armor stone size should be increased relative to the groins' existing conditions toward 3- to 4-ft boulder sizes (assuming limestone), particularly along the South Groin and the seaward ends of both groins. These recommended modifications should be undertaken as part of the post-Hurricane Ian repair. These modifications will increase the resiliency of the groins and the groins' functionality -- by improving the structures' stability (storm durability) and keeping up with rising sea level. A 2-ft increase in elevation reflects the rise in mean sea level since the groin's construction in 1995, plus 50-year projection at the current contemporary rate of sea level rise, as measured at the Fort Myers tide gauge. Details and descriptions are provided below.

Introduction & Background

The purpose of this report is to document the condition of two rock groins at the north end of Bonita Beach (Lee County, FL) after damage from Hurricane Ian in late September 2022, and to provide recommendations for the repair of those groins – including potential improvements or modifications to the groins to mitigate future damage, and optimize performance of the Bonita Beach and regional shoreline/inlet management projects. Beyond the descriptions and graphics presented below, this report includes a 22-page supplement (**Attachment A**, 11”x17”) with figures that describe detailed results of a May 2023 physical & aerial survey of the groins’ conditions, including reference to the original design and recommended potential modifications thereof. **Attachment B** includes a compilation of shoreline images & locations from 1994 through 2023 in the vicinity of the groins, adjacent Big Hickory Pass, and Bonita Beach shoreline project area.

The two rock groins were constructed between 10 July and 24 October 1995, as part of initial construction of beach nourishment along the northern 4,100 feet of Little Hickory Island (Bonita Beach), immediately south of Big Hickory Pass. That project placed 217,000 cubic yards of sand dredged from the outer ebb shoal of New Pass, in October-November 1995. The purpose of the groins is to retain the north (downdrift) end of the beach nourishment project in order to maintain a finite beach width along the project area, slow the project’s erosion rate and extend its renourishment interval to practical levels, and prevent the beach fill sand from ‘flooding’ into and shoaling Big Hickory Pass and the interior docks. The project design utilizes two ‘terminal’ groins, such that the northernmost groin “steps-down” the beach width from the project shoreline to the inlet. Prior to the construction of the 1995 project, there was little to no sand beach along this shoreline; and the north end of the project area (at the groins’ location) featured only a seawall with no dry beach. **Figure 1** shows photographs of the north end of Little Hickory Island before construction of the initial nourishment, after construction of the groins, and after placement of the initial 217,000 cubic yards of beach fill nourishment.



Figure 1: North end of Bonita Beach before construction of the terminal groins (left), after construction of the terminal groins (middle), and after placement of 217,000 cy of sand¹ (right).

¹ Olsen Associates, Inc., December 1998. Bonita Beach Restoration Project: Year-Three Monitoring Report.

Over the 27 years since the groins were initially constructed (1995), routine maintenance was conducted by Lee County after select storm events to repack armor stone, etc. In particular, the South Groin was repaired in summer 2003 after damage from T. S. Gabrielle (14 Sept 2001). That repair was constructed by Kelly Brothers, Inc. and rehabilitated the groin to its original 1994 design by recovering displaced rock and importing new rock as required, under contract to Lee County. The maintenance/repair of the two groins has not otherwise modified the structures relative to their initial 1994-95 design and construction.

Since its initial construction in 1995, the Bonita Beach project has been nourished two times: in May 2004 and Summer 2014. The fill history is summarized as follows (FDEP, 2023):

- Fall 1995: 217,000 cy R225.5 – R230 [source - New Pass ebb shoal]
- Spring 2004: 150,000 cy R226 – R230 [source – Big Carlos Pass ebb shoal]
- Summer 2014: 134,484 cy R226 – R230 [source – Big Carlos Pass ebb shoal]

Hurricane Ian. On or about 25-26 September 2022, high waves and storm surge from Hurricane Ian caused severe beach erosion along all of Lee County and significant damage to the two rock groins at Big Hickory Pass. **Figure 2** shows representative photographs of the rock groins as of 26 September 2023.



Figure 2: South groin (photo - 9/26/2023), 1 year after Hurricane Ian. At top: seaward end. At left: central stem and landward end.

Figure 2 is continued, next page.



Left – South Groin, central & seaward end.
Above – South Groin, landward end.



North Groin – Seaward End (9/26/2023).



North Groin – Profile (9/26/2023), with scattered rock stockpiled along the beach berm at right. [The deposition of a low sand berm along the shoreline, evident in the photograph above, is a residual result of Hurricane Idalia in late August 2023.]

Figure 2 is continued, next page.



Left – Landward end of North Groin at beach berm.

Below (middle): Landward extension of North Groin looking east into Big Hickory Pass.

Below (bottom): Landward end of North Groin looking southeast toward Big Hickory Island, with Big Hickory Pass to center & right (composited images).



Figure 2: Photographs of the Bonita Beach terminal groins on 26 September 2023, one year after Hurricane Ian, continued from Page 2. **Figure 2** is concluded on next page.

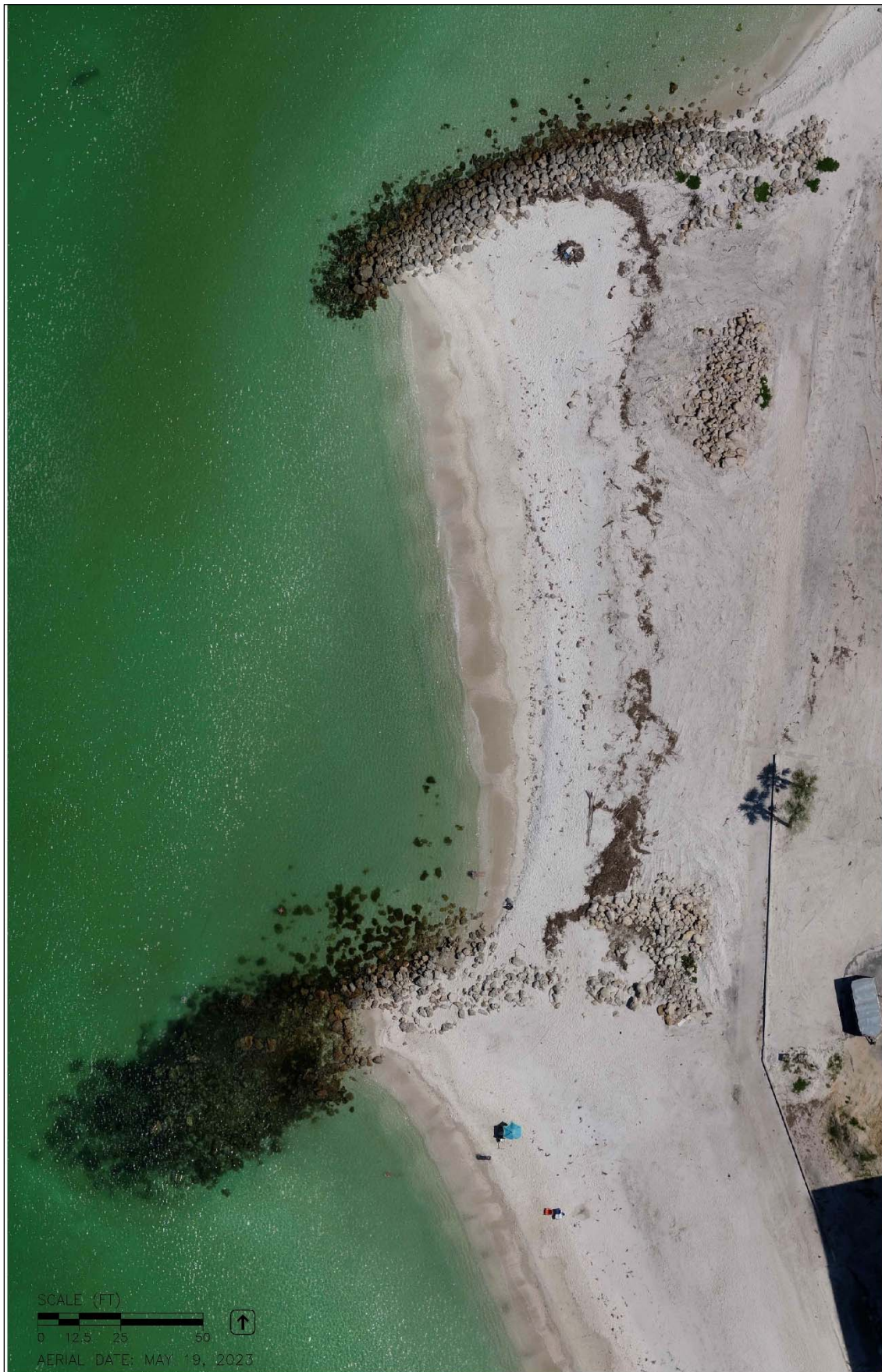


Figure 2 (concluded): Aerial photograph of the terminal groins from 19 May 2023.

Figure 3 illustrates typical conditions of the two groins *prior* to Hurricane Ian, in May 2021.



Figure 3: Left – South groin. Right – North groin. Pre-Ian. 4 May 2021. Photos by Vadim Alymov (Coastal Engineering Consultants, Inc.)

Original Permits & Design.

The beach project and its two terminal groins were designed and permitted by Erik Olsen and Kevin Bodge of Olsen Associates, Inc. (OAI) in 1992-1994, for Lee County (Board of County Commissioners). The original design and permits are expressed in NAD'27 and NGVD'29 datums. At this location, NGVD'29 is 1.2 feet below NAVD'88 (0 ft NAVD'88 = +1.2 ft NGVD'29). For purposes of this report, all of the current drawings and descriptions are reported in NAD'83 and NAVD'88, unless otherwise noted. The project's permits were:

- Florida Department of Environmental Protection Permit DBS900263 LE, issued 1 February 1995, with Notice to Proceed issued 8 June 1995;
- Florida Department of Environmental Regulation permit No. 361800579, initially issued on 15 March 1993; and
- USACE Permit Number 199002600 (IP-JG), issued on 15 August 1994.
- The 2003 repairs to the South Groin were authorized in FDEP permit 0202291-001-EE on 16 Aug 2002, and per NWP #3 in USACE permit 199002600 (NW-MN) on 26 Nov 2002.

There is a specific purpose survey and State Submerged Lands lease area for each of the two groins, which are shown in **Figure 4** (2 pages), from drawings prepared by Morgan & Eklund, Inc. dated 8/25/1993.

A State Submerged Lands consent of use (#361800579) was issued on or about 9 January 1995, including the rock groins. An Erosion Control Line was established and adopted by the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida on 9 March 1995.

Attachment C includes a compilation of the permits, SSL and ECL documents prepared by OAI for the project's initial construction in 1995.

Superposition of the 1994/95 construction plans upon the SSL drawings and permit drawings indicate that the groins were constructed in accordance with (i.e., within) the SSL and permit drawings, as noted below.

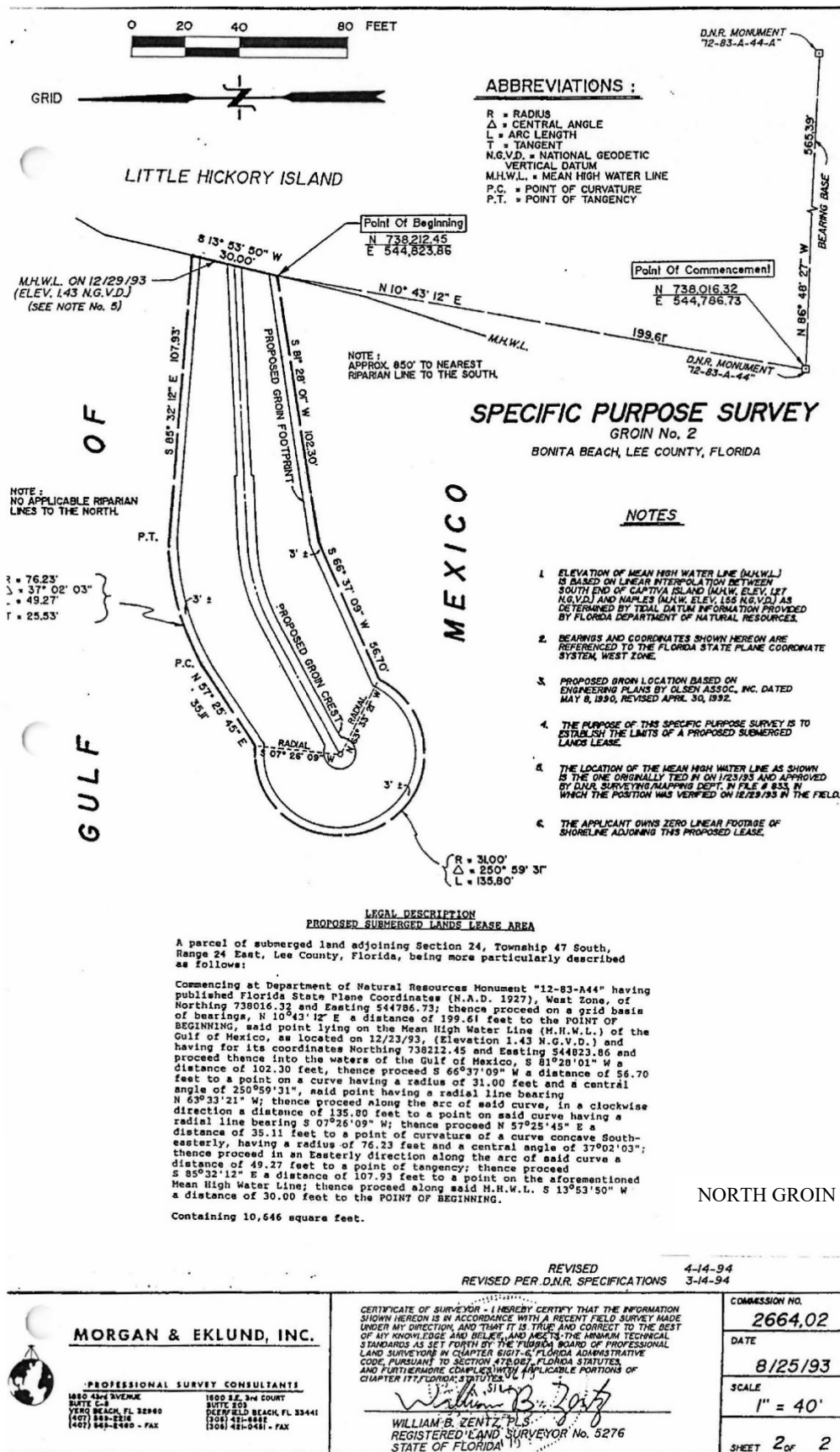


Figure 4: Specific purpose survey and submerged lands easement for North Groin. Extracted from permit DBS900263 LE.

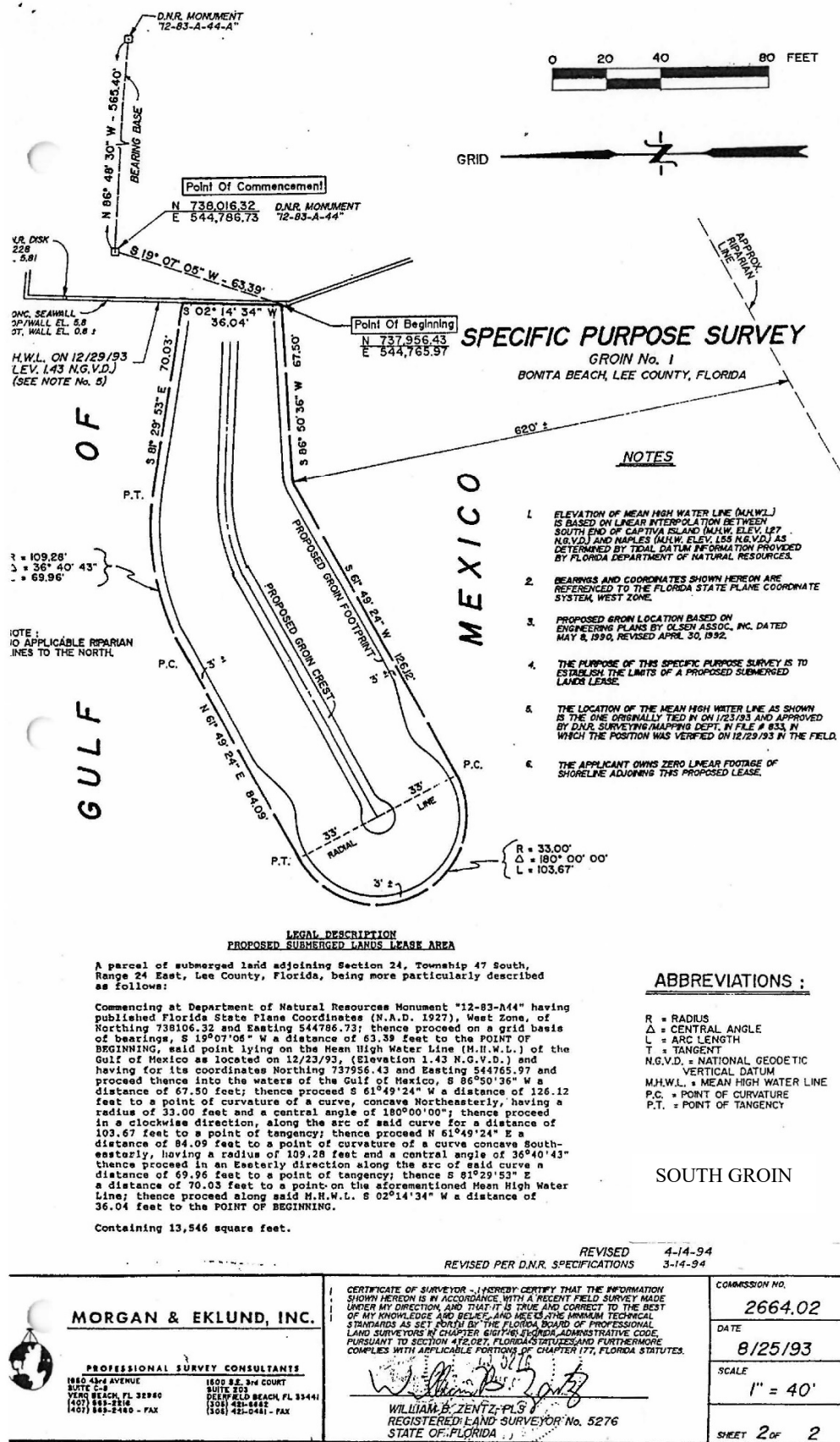


Figure 4 (continued): Specific purpose survey and submerged lands easement for South Groin.
Extracted from permit DBS900263 LE.

The DBS permit describes the north groin as being 335 feet as measured along the crest, extending to a maximum of 200 feet seaward (and 135 feet landward) of the existing revetment (now buried), with a crest width that varies from 4 to 7.5 feet (and 12 feet at the terminus). The permit describes the south groin as being 208 feet in length as measured along the crest, wholly seaward of the existing revetment, with a crest width that varies from 5 to 6.5 feet (and 12 feet at the terminus). Both groins are described as having a crest elevation that varies from +6 ft NGVD along its crest to +3.5 feet NGVD at seaward end (+4.8 to +2.3 ft NAVD), and side slopes of 2 horizontal to 1 vertical.

The construction plans for the groins (c. 1995) follow that described in the permits and SSL easement area. For this study, we did not find our original complete set of construction plans; but we did find most of the early CADD drawings used in the plans. The elevations and layout of the two groins are illustrated in **Figure 5**. Within the footprint of the submerged lands easement, the groin crest elevations are specified as +4.8' NAVD (+6' NGVD) along the stems and thence sloping 1:10, to elevation +2.3' NAVD (+3.5' NGVD) along the seaward 23-ft crest length of each groin. Per the plans and permit, the original groins included a filter-cloth foundation layer, but did not include internal sand-tightening by an interior geotextile or sheetpile.

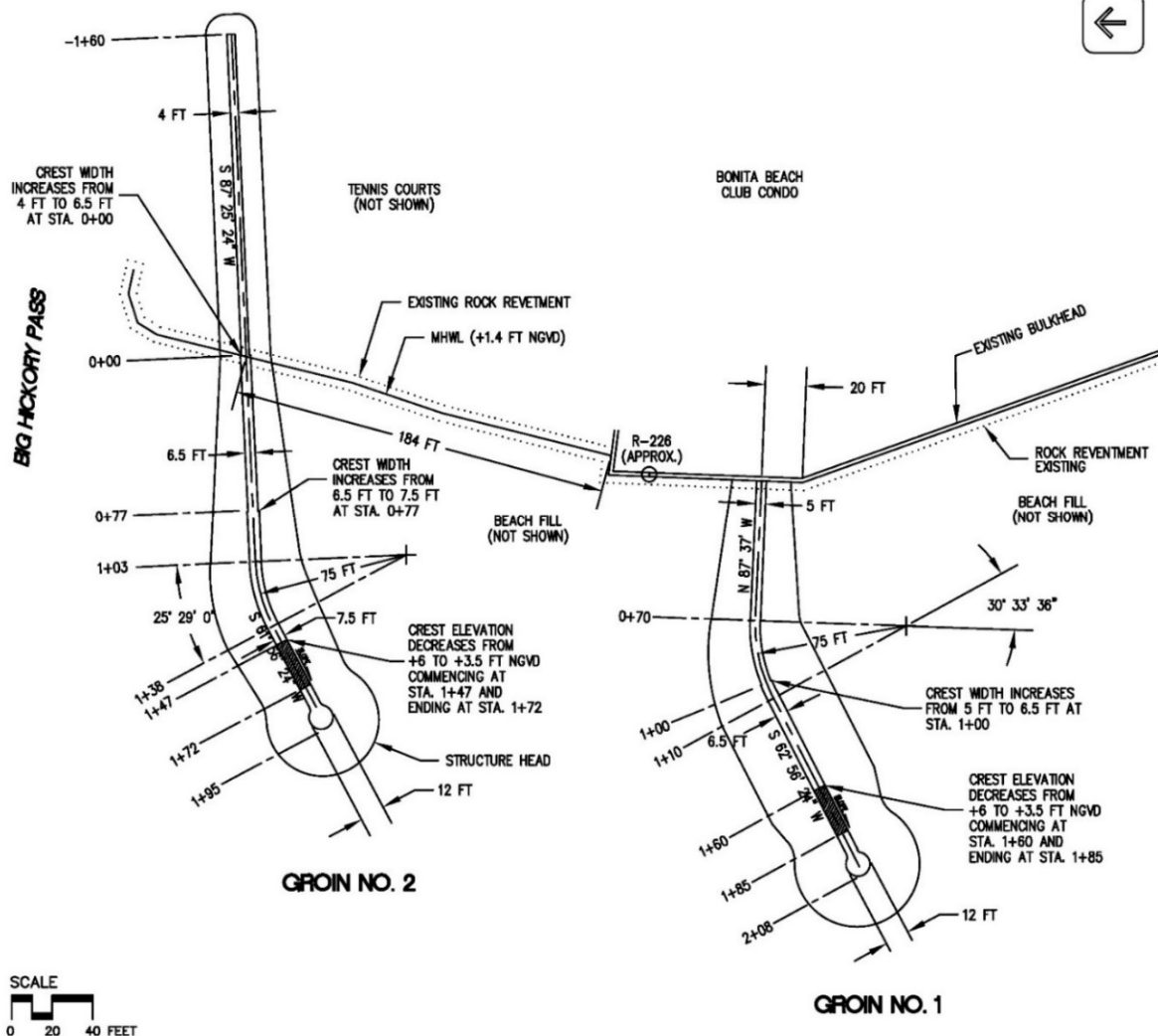


Figure 5: Layout and elevations of the 1995 groins. Drawing extracted from the 1995 plans of the Bonita Beach Restoration Project (OAI).

The original 1995 project also included a beach fill template with a flat design berm elevation of +4.3 feet NAVD, and seaward slope of 1V:10H. On 14 December 2022, FDEP issued permit modification 03111811-004-JM (CEC, 2023) which raises the berm elevation to +4.9 ft NAVD at its seaward edge, sloping therefrom 1:200 upland, and sloping 1:10 seaward below +4.9 ft NAVD.

Surveys & Assessment of Post-Ian Condition

A comprehensive bathymetric and LiDAR survey was completed in May 2023, approximately 7 months after Hurricane Ian, to assess damage to the two terminal rock groins, pursuant to task order from the West Coast Inland Navigation District (WCIND). The survey was completed by Coastal Engineering Consultants under subcontract to Olsen Associates, Inc. and appended CEC's normal annual monitoring survey scope with the following additional tasks:

- Representative sections of each groin, including centerline and cross-sections.
- Ebb shoal and Big Hickory Pass channel lines spaced at 200-ft intervals, following historic survey baselines.
- Seven (7) beach profiles along the north end of Little Hickory Island.
- Elevations and outline of features along the upland edge (i.e., sidewalks, apparent vegetation, lawn, etc.) and the location of exposed boulders that are strewn about the beach and seabed.
- LiDAR survey data and drone aerial imagery covering the ground (above water) of Little Hickory Island north of R-226.5.

Attachment D includes the surveyor report and survey drawings for the LiDAR survey and wading/offshore surveys conducted in spring 2023, after Hurricane Ian, for purposes of this engineering assessment.

Figure 6 illustrates the May 2023 CEC survey data coverage, including those survey lines conducted for the present groin-specific survey and the regional annual monitoring survey.

The coordinates of the beach profile monuments and the groin baselines that are used in this report, as reflected in this report's figures and those of **Attachment A**, are presented at the end of this report. See **Table 2** and **Figure 20**, page 37.

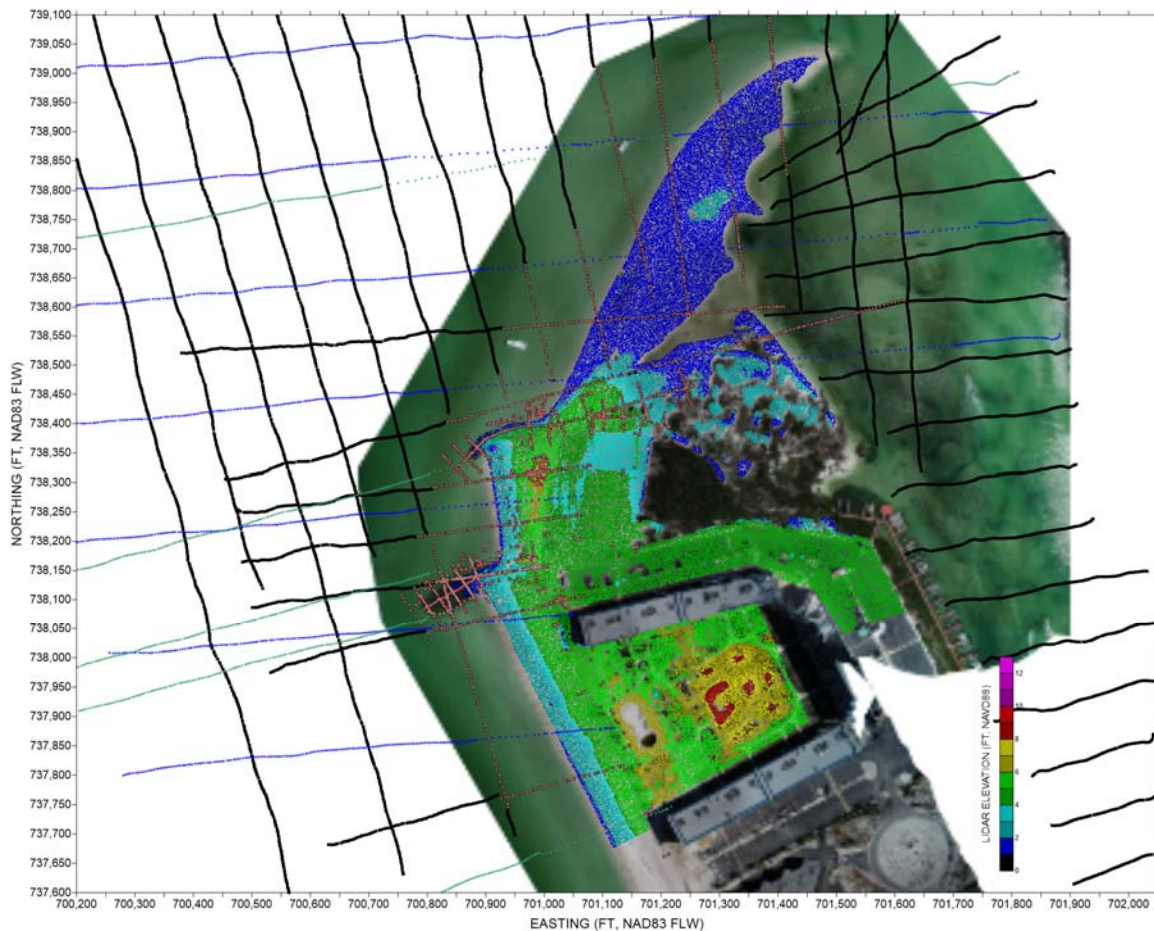


Figure 6: May 2023 survey data coverage.

Figure 7 illustrates the seabed elevation changes from August 2022 to May 2023, utilizing all available data from 2022 and 2023. Red shading indicates seabed erosion, and green/blue areas indicate seabed accretion, from 2022 to 2023 (i.e., pre- to post-Ian). The volume changes within the total area displayed in **Figure 7** indicate a gross volume gain of +104,500 cy and a gross volume loss of -112,200 cy, for a *net* volume change of only -7,700 cy. Within the smaller (blue) rectangle area specific to the Bonita Beach north-end groin area, Big Hickory Pass, and the south end of Big Hickory Island, there was a gross volume gain of +67,900 cy and gross volume loss of -63,900 cy, for a *net* volume change of only +4,000 cy.

It is surprising and interesting that the overall change from the pre- to post-Ian seabed elevations indicate a nearly negligible net volume change, relative to fairly significant gross changes. Of particular interest is the very substantial gross increase in the offshore ebb delta volume of Big Hickory Pass – which resulted from seaward transport of sand (erosion) from the nearshore/interior Pass and the south end of Big Hickory Island. In contrast, there is little equivalent signature of effect from the terminal groins at the north end of Bonita Beach, except that the beach eroded (as expected) and there was deposition of a sand spit immediately north of the North Groin, owing to leakage through both groins. Instead, an enormous amount of sand was removed from Big Hickory Pass and southern Big Hickory Island and deposited offshore (seaward of -5' NAVD). As illustrated in the second part of Figure 7, this resulted in an unprecedented large ebb shoal platform seaward of Big Hickory Pass.

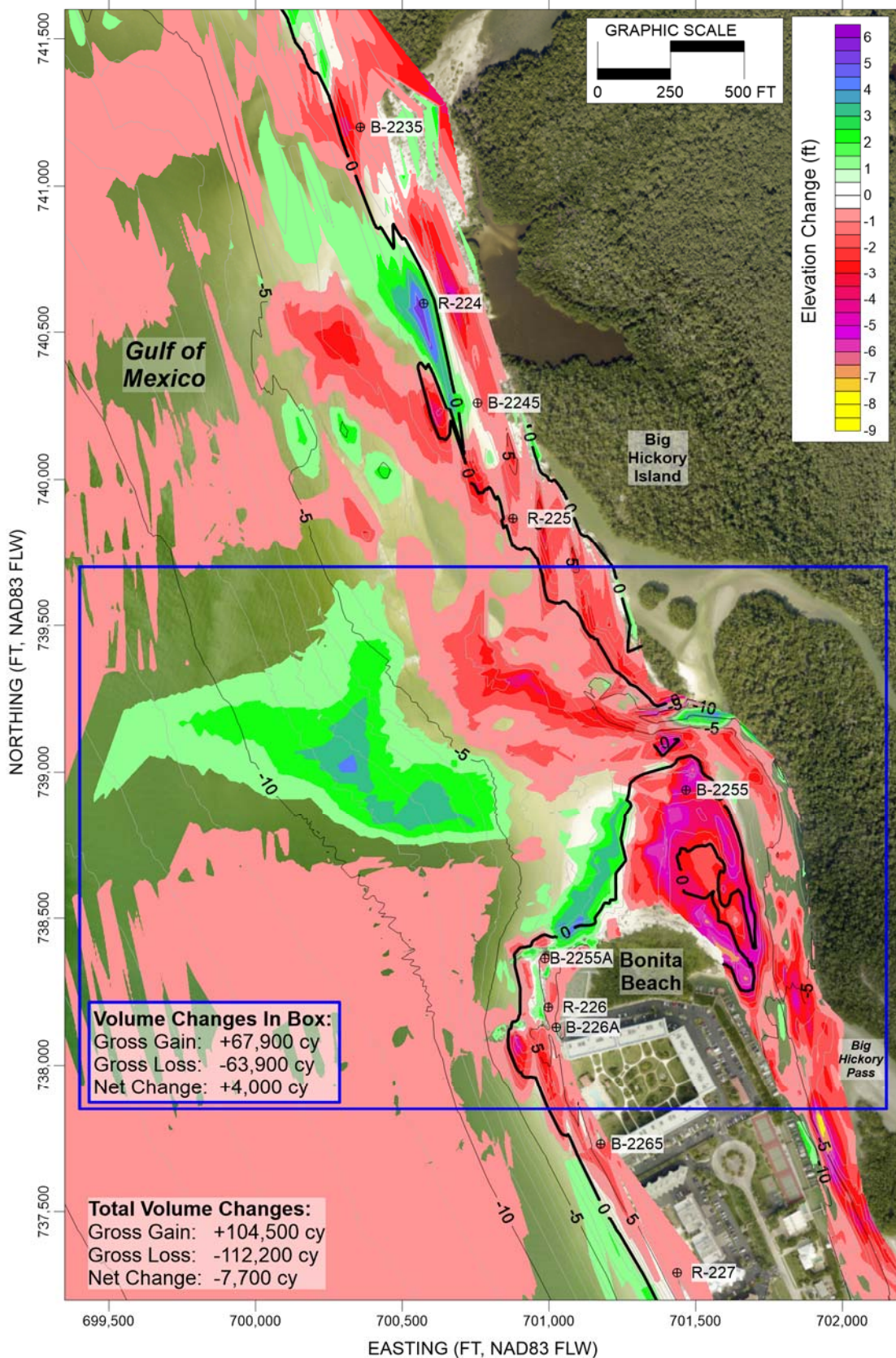


Figure 7: Seabed elevation changes from August 2022 to May 2023.

Contour lines display the August 2022 bathymetry. Filled areas display the seabed elevation changes from August 2022 to May 2023. “Volume changes in box” refer to volume changes in the area delimited by the blue box (90 acres). Total volume changes refer to volume changes delimited by the overall graph limits (188 acres).

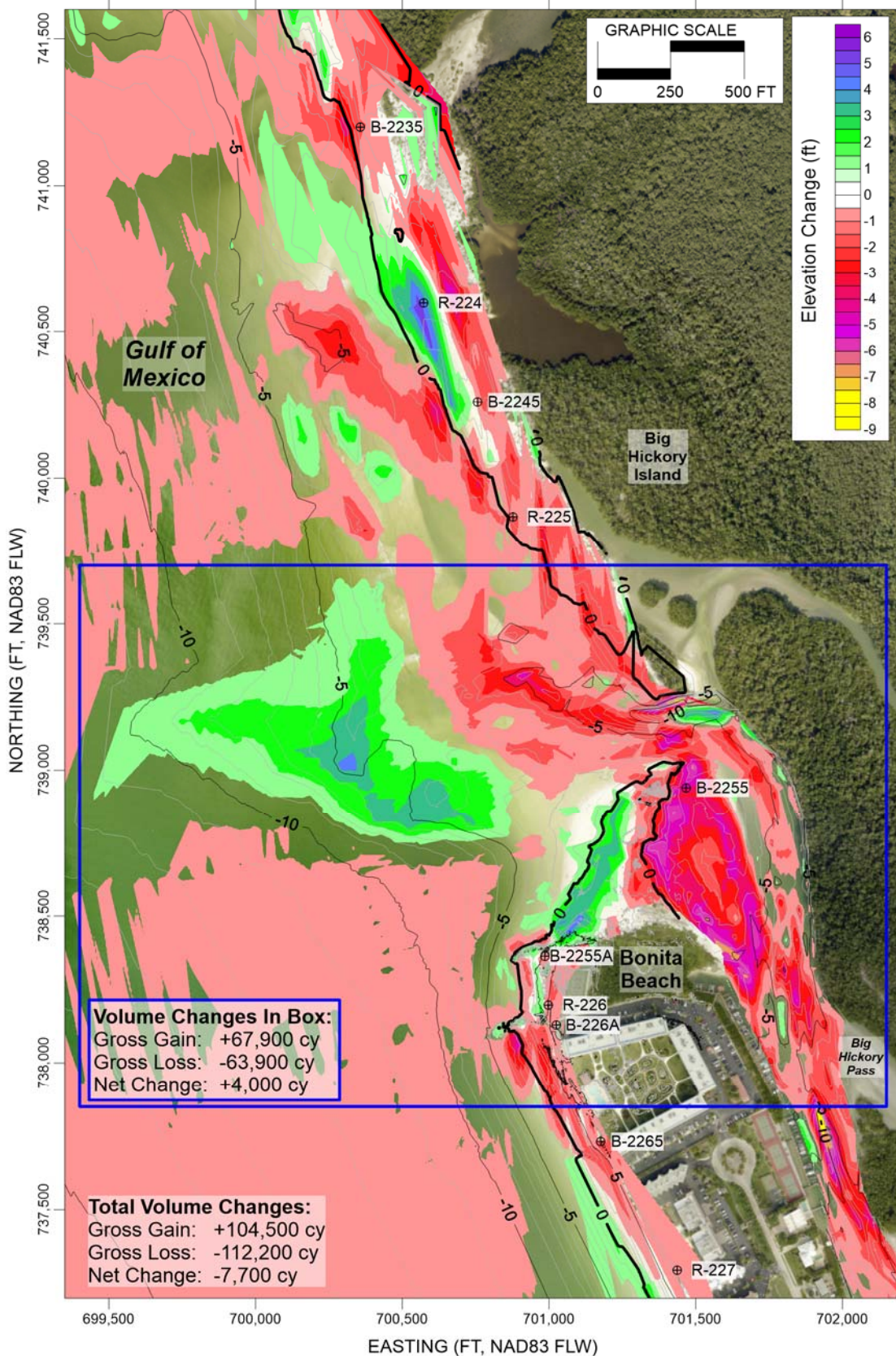


Figure 7 (continued): Seabed elevation changes from August 2022 to May 2023.

Contour lines display the May 2023 bathymetry. Filled areas display the seabed elevation changes from August 2022 to May 2023. “Volume changes in box” refer to volume changes in the area delimited by the blue box (90 acres). Total volume changes refer to volume changes delimited by the overall graph limits (188 acres).

Attachment A (11x17" drawings, 22 sheets) depicts detailed results of the May 2023 survey and post-Ian damage conditions. It likewise includes overlays of the original groin designs (c. 1994) and recommended modifications (c. 2024) in both plan and section view. In **Att A**:

- Sheets 2 – 10 show the existing topographic details & aerial photo of the two groins and north end of Little Hickory Island.
- Sheets 11 – 12 illustrate the original plan and recommended modifications to the two groins.
- Sheets 13 – 22 depict each of the two groins in both profile and section views, illustrating the existing grade (rock vs sand), original 1994 design grade, and recommended modifications.

Figure 8 and **Figure 9**, following page, show representative sections of the North and South Groins, respectively, excerpted from **Attachment A**. In the figures – including those of Attachment A – the blue portions of the existing grade indicate exposed rock (as of the May 2023 survey), and the red portions indicate surficial sand. The green lines indicate the 1994 design template of the original 1995 groin construction. The station locations (STA) are the distance in feet seaward from the Erosion Control Line (landward end of groins' baseline); see Sheet 5 of Attachment A.

As of May 2023, the North Groin is about 1' below the 1994 design crest elevation everywhere (more or less) – except along its 20-ft seaward end, where the rock groin is over 2' below the design crest elevation. Within about 60-ft of the ECL, on both landward and seaward sides, the existing grade is nearly equal to the design groin elevation; but it is sand that is presumably overlaying rock that is presumably 1+ ft below grade (except for some exposed and stockpiled stones). See *Sheet 13* of **Attachment A** for a profile view of the North Groin.

Along the South Groin, the landward 75-ft is about 1' below the 1994 design crest elevation. The central 55-ft is between 2' and 4.5' below the design crest elevation. The seaward 90-ft is 4.5' to 5.5' below the design crest elevation; that is, deficient by at least two boulder diameters. See *Sheet 19* of **Attachment A** for a profile view of the South Groin.

The rocks that comprise both groins are porous limestone. Typical sizes are 26" to 44" along the North Groin. Typical sizes along the South Groin are 18" to 26", with 26" being the most prevalent, and very few between 36" and 46". The rock stockpiles between the groins, along the landward edge of the beach, are comprised of armor stone between 18" and 32", more or less. Overall, the existing stone at the site – including along both groins – is broadly characterized as about 18" to 32" (1.5' to 2.7'). Probably less than 15% of the stone is 36" to 42" (3' to 3.5').

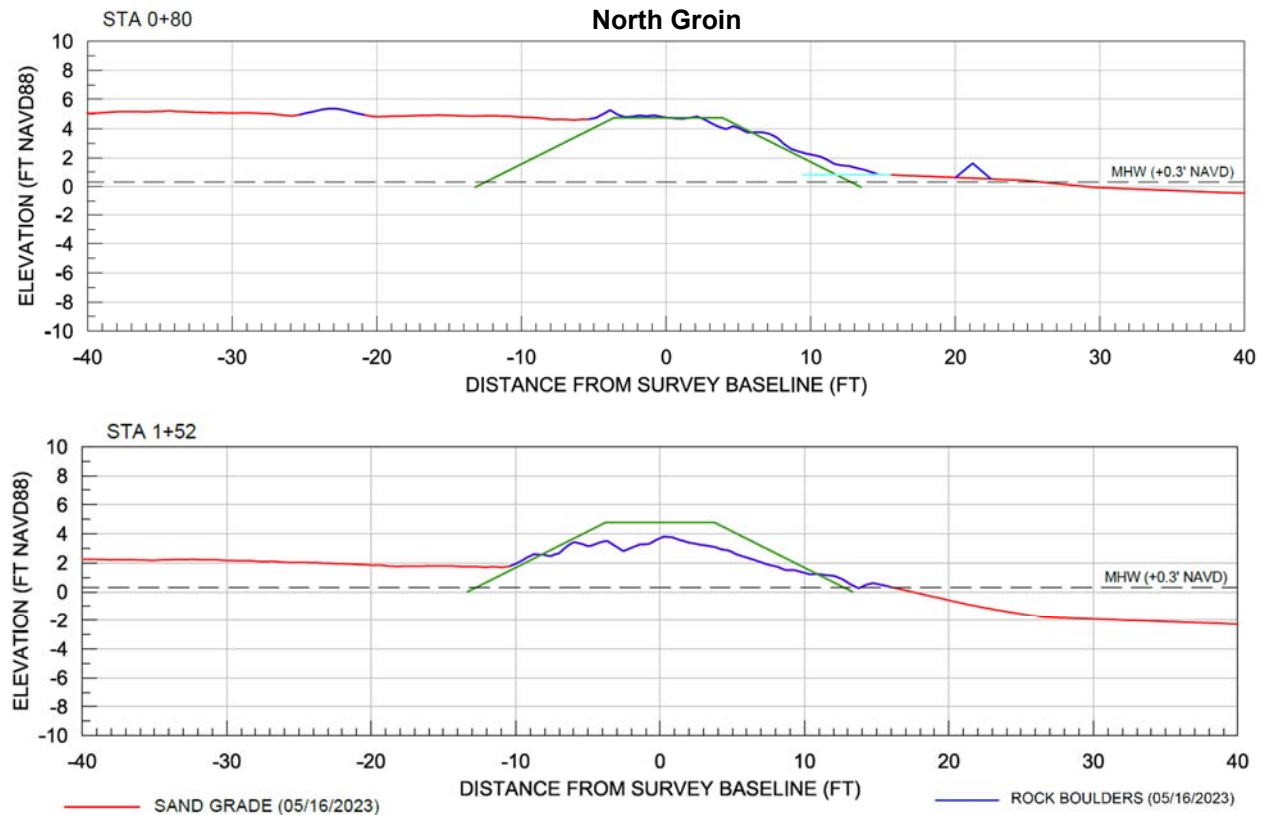


Figure 8: Representative cross-sections of the **North Groin** with May 2023 existing grade and rock boulders (red and blue line, respectively) and 1994 groin plan (green line).

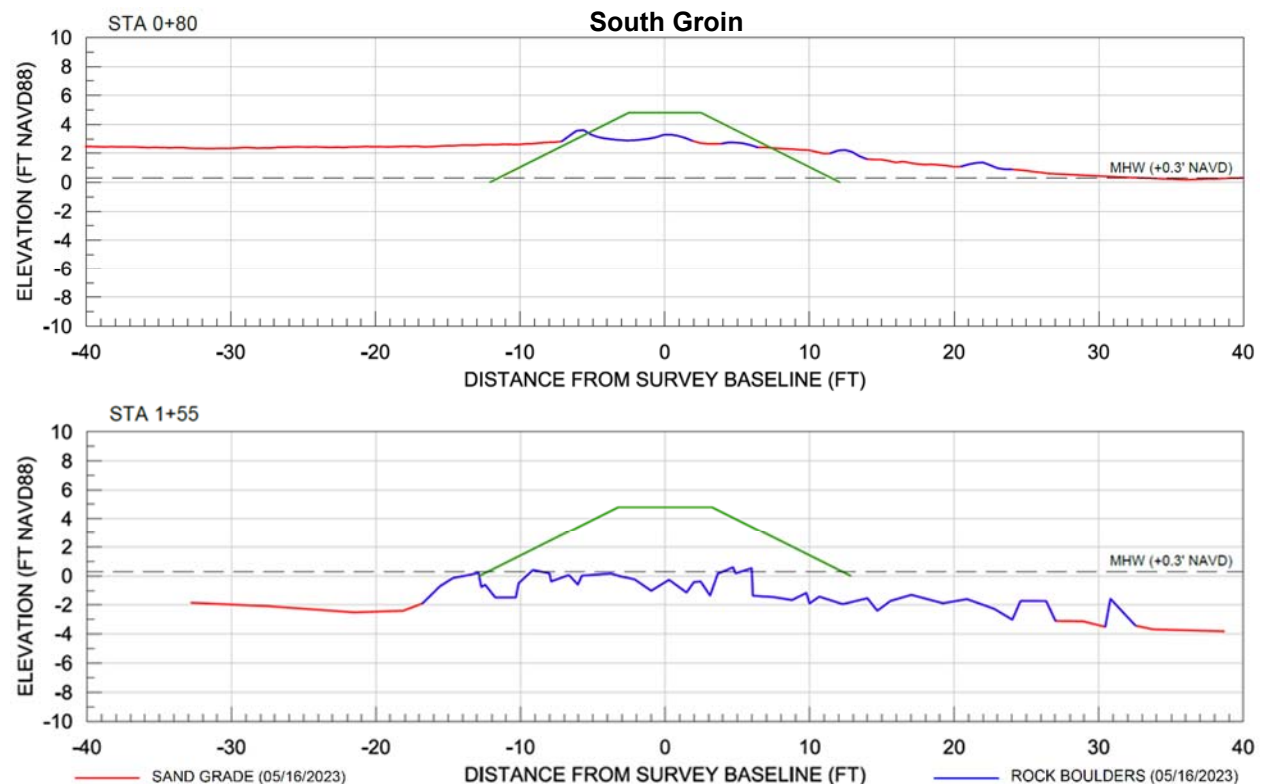


Figure 9: Representative cross-sections of the **South Groin** with May 2023 existing grade and rock boulders (red and blue line, respectively) and 1994 groin plan (green line).

Historical Shoreline Performance

To better understand the patterns of shoreline behavior in the vicinity of the groin field, the approximate shorelines along the north end of Little Hickory Island were traced and overlaid from 24 different aerial images from Dec 2003 through 2023 (plus one image from March 1994, a year prior to the groins' construction). Each of the images were scaled and overlaid to common (fixed) upland features in Autocadd. The apparent shoreline location (approximately corresponding to mid/low-tide) was traced from each photo. All of the traced shorelines were then combined in a single drawing. Enlargements were made of two particular areas, each comprising about 1000-ft of shoreline: (1) within the immediate vicinity of the groins, and (2) within about ½-mile south of the groins, along Bonita Beach. **Attachment B** includes all of the aerial images (1994 – 2023) aligned at common upland features, the shoreline delineated from each photo, and an overlay of all of the traced shorelines, including a set of enlarged images in the area encompassing the groins.

Figure 10, following two pages, depicts the overlay of all shorelines traced from 1994 through 2023. The two sub-study areas – indicated by the rectangles on the following page – are shown as enlargements on the second page: viz., the shorelines at the groin area (red rectangle), and the shorelines within ½-mile south of the groins (green rectangle). The *date* of each individual shoreline is *not* indicated because this analysis examines the coherence (or scatter) of the sampled shorelines, irrespective of date. (And, practically, there are insufficient colors to differentiate 24+ shorelines in the figures.) In all, several observations are evident from these shoreline tracings.

First, the overall shoreline locations are fairly coherent (tightly-grouped) within and immediately updrift (south) of the groins. That is, over 24+ images and 20 years since the groins were constructed, the shoreline location immediately updrift of the South Groin and between the two groins is fairly consistent. The shoreline variability at the groins is much narrower than along the “open” beach within ½-mile south of the groins. This indicates that the original groins resulted in a predictable, relatively invariant shoreline position that was determined and modulated by the groins – per their original design intent.

Second, there is a fairly consistent landward (eastward) declination of the shorelines approaching the groins from the south. That is, the two groins resulted in the desired “step-down” of the shoreline from the updrift beach to Big Hickory Pass. They did not result in a “widening” of the beach on the updrift (south) side of the South Groin; i.e., they did not result in excessive impoundment that would be otherwise classically observed on the updrift side of an excessively long, impermeable groin. Instead, they resulted in a slight declination (narrowing) of the beach at the South Groin by 30 to 50 feet – which is illustrated in greater detail in **Figure 11** at the end of this section. This again indicates that the original groin design was not overly long, but instead maintained the updrift shoreline at a modest “step-down” location that did *not* overly impound sand beyond that minimally needed to semi-stabilize (regulate) beach fill losses south of the groins.

Third, there is considerable scatter of the downdrift “spit” shorelines north of the North Groin and into Big Hickory Pass – as would be expected. However, it is interesting that all of these seemingly random spit/shoal shorelines fall within a relatively small and well-defined overall spatial envelope. This suggests that the North Groin is modulating the sand bypass into the Pass to some extent – which is consistent with the groins' original design and lay-out to achieve a “step-down” of the shoreline from the Bonita Beach fill project into Big Hickory Pass.



Figure 10 (continued on next page): Comparison of the Bonita Beach shoreline as observed from aerial photographs from 1994 through 2023. Each line represents the Bonita Beach shoreline from a different aerial photograph (ranging from 1994 to 2023). Figure **adapted** from **Attachment B**.

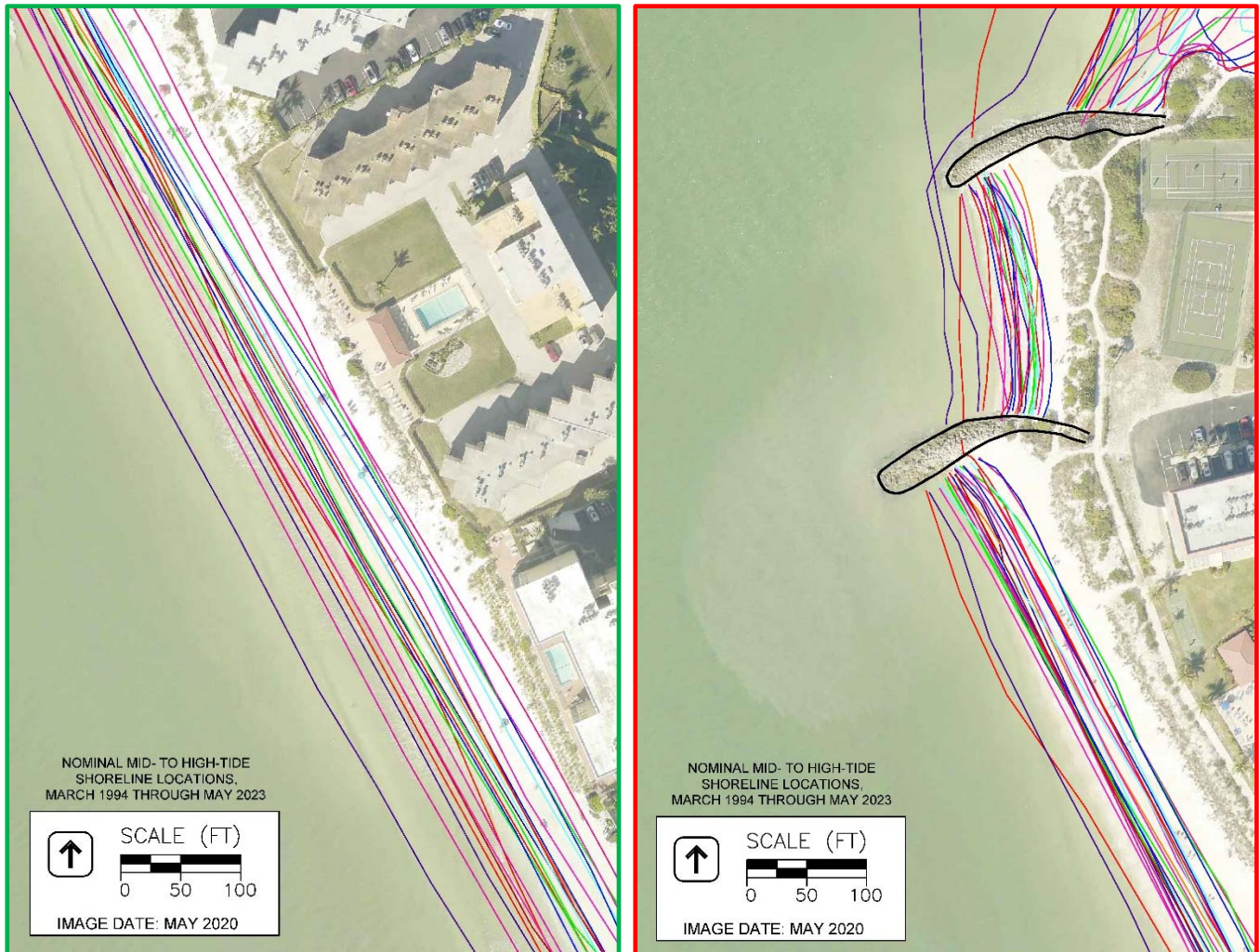


Figure 10 (Continued from prior page): Comparison of the Bonita Beach shoreline as observed from aerial photographs from 1994 through 2023. Each line represents the Bonita Beach shoreline from a different aerial photograph (ranging from 1994 to 2023). Figure adapted from **Attachment B**.

As noted above, all of the aerial images indicate that there is a typically (consistent) declination of the shoreline of between 30 and 50 feet within 500 to 1,000 feet of the south groin, after 1994. That is, the shoreline – which is mostly straight along the northern 3,500 feet of Little Hickory Island, north of R-230 – exhibits a slight landward, clockwise declination within 500 to 1,000 feet of the south groin. An example of this is shown in **Figure 11**, following page. This indicates that the groins have not had an overly aggressive effect on the shoreline; that is, that the groins have maintained a relatively consistent stabilizing effect upon the Bonita Beach (Little Hickory Island) shoreline without resulting in a wide fillet or excessive impoundment signal at the groins' location. This is noted in essentially all of the available aerial photographs (after the groins' construction), of which Figure 11 is a representative example, and among which no photograph indicates an anomalous seaward advance of the shoreline at the groins' location.



Figure 11: Aerial photograph of Little Hickory Island depicting a shoreline declination within 500–1,000 feet of the south groin. Aerial photograph dated February 2017 obtained from Google Earth. This landward declination of the shoreline, by 30 to 50 ft, is common to mostly all of the 2003-2023 aerial photographs.

Historical Beach Profiles vs Groin Profiles

Figure 12 compares contemporary pre-storm beach profiles immediately adjacent to the two groins with the existing and design profiles of the groins at each beach-profile location:

- The top graph depicts beach profiles at R-225.5A overlaid with the adjacent North Groin profile.
- The bottom graph depicts beach profiles at R-226A overlaid with the adjacent South Groin profile.

Note that beach profiles at R-225.5A and R-226A are each immediately updrift of the North and South Groins, respectively. See Sheets 2 and 5 of **Attachment A** for the profile locations, relative to the groin locations. The beach profiles (from 2014 to 2022) are from CEC's annual monitoring surveys, prior to Hurricane Ian.

The profile at R-225.5A (top) indicates that the rocks along the North Groin centerline are generally about 1' to 2' lower than the 1994 design (as of May 2023), as described previously. The profile at R226A (bottom) indicates that the rocks along the South Groin centerline are 1' to 5.5' lower than the 1994 design (as of May 2023), with the discrepancy increasing toward the groin's seaward end, as described previously. This reflects the extensive damage from Hurricane Ian. In the figures, the bold black line indicates exposed rock boulders along the groins' centerline, whereas the thin black line that indicates surficial sand (vs. rock) along the centerline.

Most notably, **Figure 12** indicates that the existing groin elevations and the 1994 groin design elevation are low relative to contemporary pre-storm beach conditions, as evidenced along the berm and majority length of the profiles. For example, within 40 to 230 feet seaward of the R-monument, all beach profiles at R-225.5 (North Groin) from 2020 through 2022 are about 1.5 to 2 feet higher than the 1994 design groin elevation. Similarly, within 100 feet seaward of the R-monument, beach profiles from 2020 through 2022 at R-226A (South Groin) are about 1.5 to 2 feet higher than the 1994 design groin elevation. And, as such, the beach profiles are at least 1.5 to 2 feet (or more) higher than the existing groin elevations. Therefore, this suggests that reconstruction/repair of the groins should involve raising the crest elevation by at least 1.5 to 2 feet, to reflect – or keep up with – contemporary observed pre-storm beach conditions immediately adjacent to each groin.

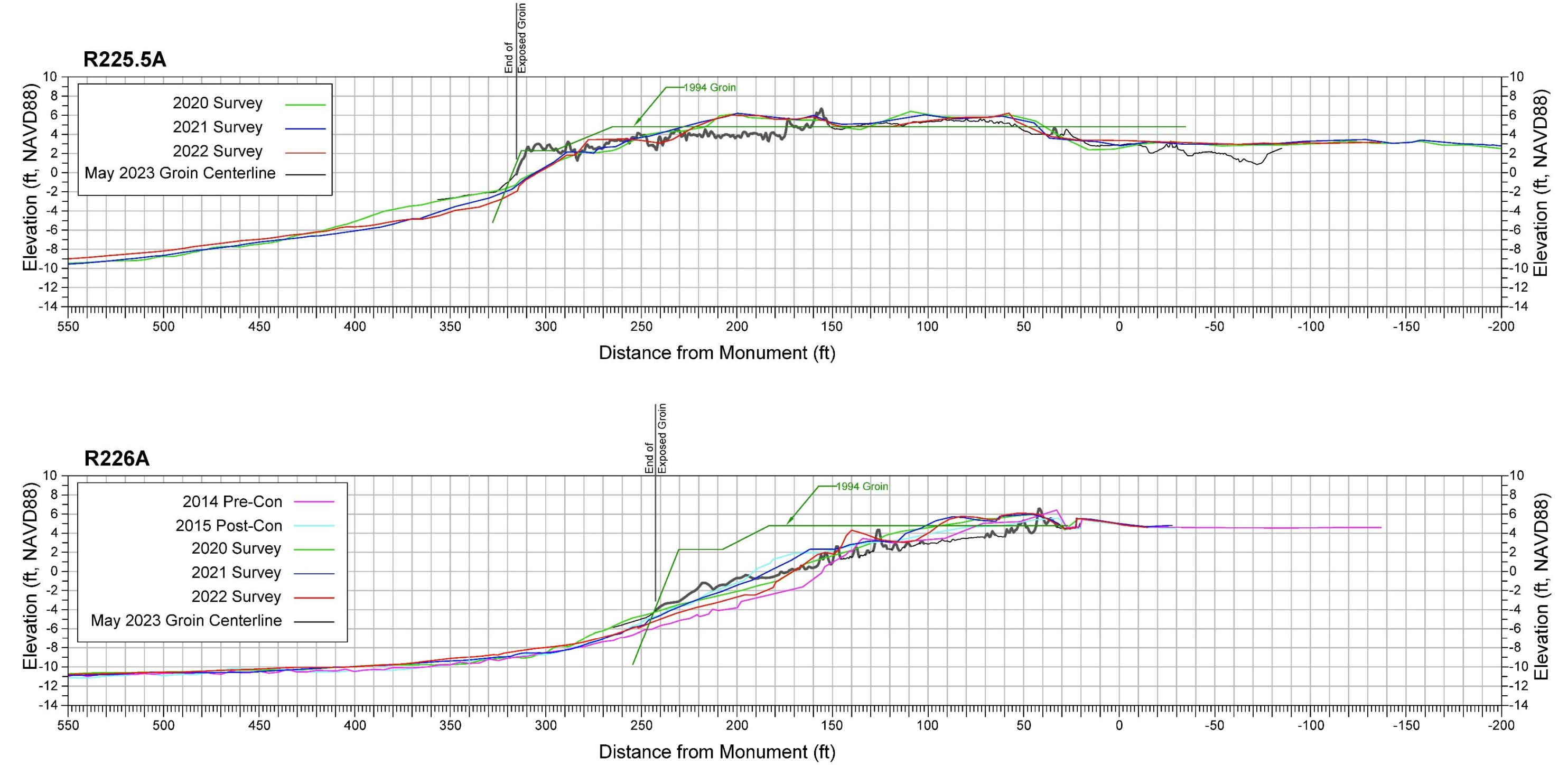


Figure 12: Beach profile plots at R-225.5A, North Groin (top); and R-226A, South Groin (bottom). The distance is from the R-monuments. The approximate 1994 design profile for each groin is indicated by the dark green lines. The existing conditions along each groin (May 2023) are indicated by the black lines, with exposed rock indicated by the thicker line.

Figure 12 also shows a very consistent closure of the beach profiles, especially at R-226A, within about 250 feet off the seaward end of groins. This and **Figure 10** (discussed above) evidence that the groins were performing well by stabilizing the shoreline at a fairly consistent and predictable profile (i.e., regulating the beach width and profile at the two groins).

Sediment Budget. This profile stabilization & regulation was accomplished without completely restricting the natural northward sand supply from Bonita Beach – which is estimated at 17,300 cy/yr (net) northward from the South Groin, as indicated in the 2022 Sediment Budget by Olsen Associates Inc.² Per the sediment budget, this rate is supported by a net volume loss of about 15,300 cy/yr from the northern 3400 ft of the Bonita Beach fill shoreline (R-226 to R-229.5), plus 2,000 cy/yr from the southern 5000 ft of Bonita Beach (R229.5 to R235), relative to an average annual long-term renourishment rate of about +18,700 cy/yr for the Bonita Beach project (R226-R230), from 1995 through 2022.

Beach Fill Permit Modification vs Permitted Groin Profile. On 14 December 2022, FDEP issued permit modification 03111811-004-JM, which modifies the beach fill template by raising the design berm elevation from +4.3 ft NAVD to +4.9 ft NAVD at its seaward end – including a 1:200 slope upward therefrom to the landward edge of the beach fill. With the latter, beginning about 500 feet south of the South Groin (beyond the taper), the berm width is about 180 feet, such that the upland edge of the berm fill will be at about +5.8 ft NAVD. With +6” tolerance, the berm fill elevation will be thus between +5.4 and +6.3 ft NAVD, from its seaward to landward extents. In comparison, the existing 1994/95 design crest elevation along the groins’ stems is only +4.8 ft NAVD (and +2.3’ NAVD at the seaward ends). That is between 0.6 and 1.5 ft lower than the high-tolerance elevation of the beach fill template located between 0 and 500 feet, respectively, south of the South Groin.³

The plan-view of the 2022-permitted beach fill template is shown in **Figure 13**, as extracted from the drawings by Coastal Engineering Consultants⁴. To compare the modified beach fill template to the existing groin plan, the berm of the modified beach fill template was linearly projected from R-226.5–228 (the northern 1500-ft length of the principal beach fill, neglecting the taper) to R-226A and compared to the existing South Groin profile. This projection of the beach fill (relative to the existing 1994/95 South Groin template) is shown in **Figure 14**. Because the beach fill template tapers from R-226.5 to R-226A, the beach fill template shown in **Figure 14** is not the template of the beach fill that will be placed at R-226A, though it is a good conservative check to see how the new template compares to the existing groin when the fill profile is projected 500-ft northward to the location of the South Groin.

² Olsen Associates Inc., 2 June 2022. “Estero Barriers Regional Inlet Management Study, Lee County, Florida – Sediment Budget”.

³ Note – neglecting the 500-ft taper from R226.5 to the South Groin, this beach fill elevation otherwise requires that a sill or back-slope dune be constructed along the north end of the fill, because the existing upland elevation in the vicinity of the South Groin is only about +4.5 to +5.5 NAVD. See Sheets 2, 8, and 10 of **Attachment A**.

⁴ Coastal Engineering Consultants, Inc., 10 December 2021. “Bonita Beach and Lovers Key Nourishment” Drawings. Drawing dated 10 December 2021; sealed on 4 March 2023.

Figure 14 shows that *the existing 1994/95 groin profile is up to 2.5-ft lower and at least 80-ft shorter than the projection of the 2022-permitted beach fill template at R-226A (South Groin)*, as measured relative to the seaward end of the groin's currently permitted (1994/95) crest elevation and location at R-226A. Noting that there is a 500 ft taper to the beach fill, and that the northern 500+ ft of the fill shoreline has historically exhibited a 30- to 50-ft landward declination relative to the rest of the south shoreline (owing to the groin design), the discrepancy between the beach fill profile and the South Groin profile will be less – say, 40 feet (vs 80 feet). But the overall conclusion is that the existing 1994/95 profile of the groin is on the order of 2-ft lower and at least 40-ft shorter than the reasonably projected, current beach fill template along Bonita Beach.

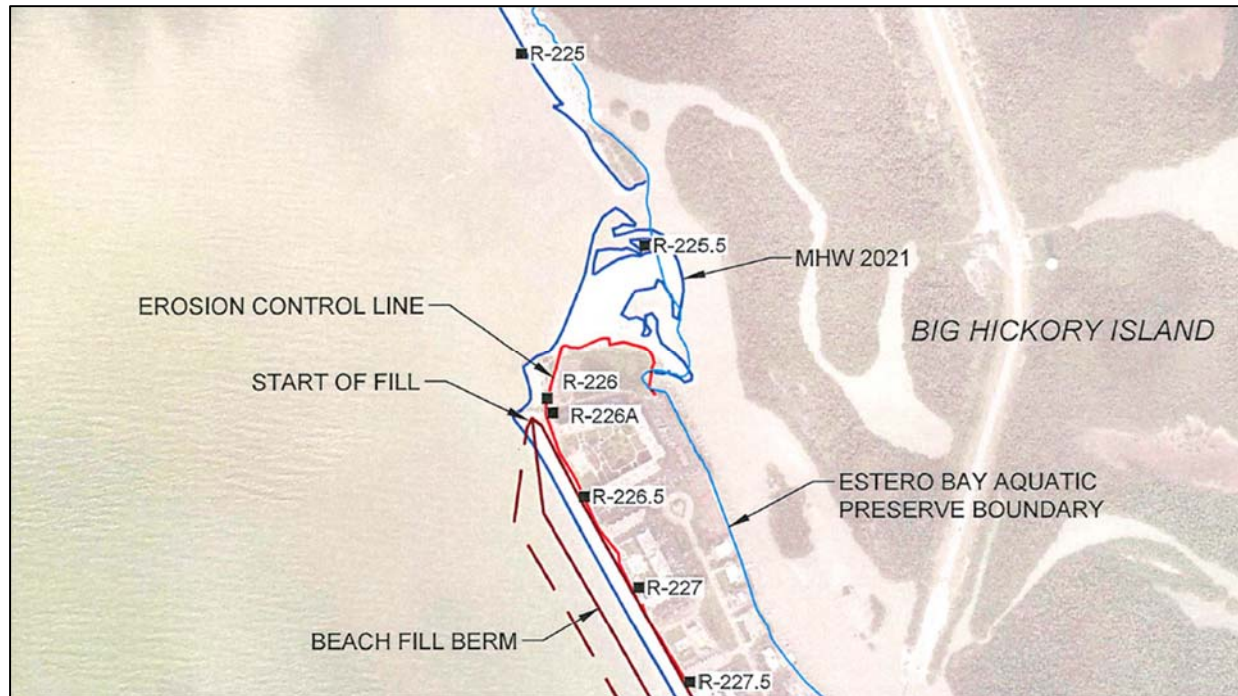


Figure 13: Beach fill template along the north end of Little Hickory Island as drawn by Coastal Engineering Consultants. Image extracted from permit drawings by CEC⁴.

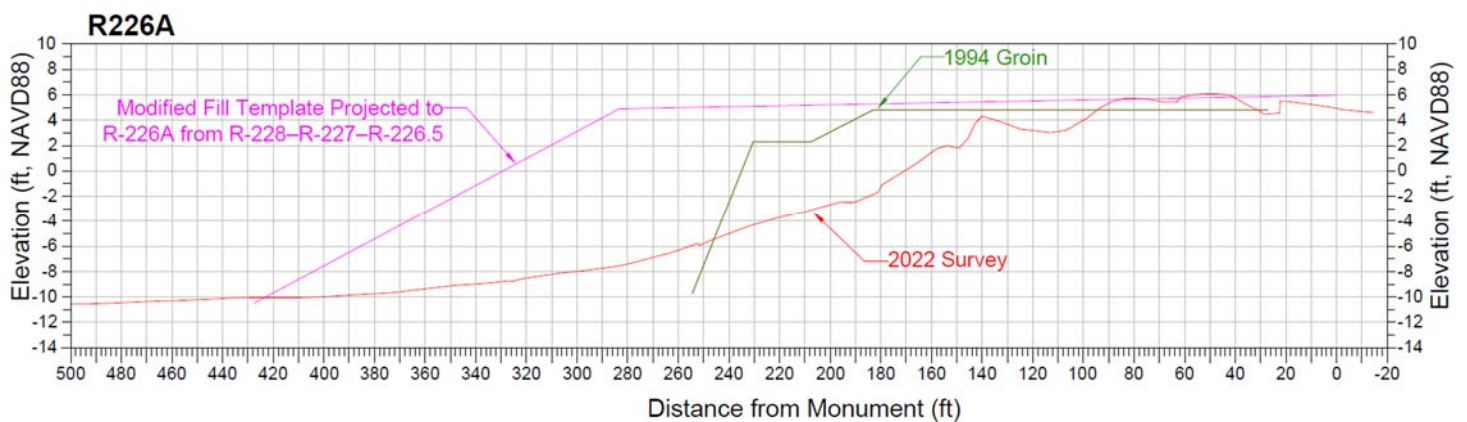


Figure 14: Beach profile plot at R-226A displaying the South Groin and the 2022-permitted Modified Beach Fill Template projected northward to the location of the South Groin near R-226A.

Sea Level Rise

Figure 15 displays the annual mean water level at Fort Myers (NOAA Station 8725520), from 1969 to 2022, as computed from *measured* hourly water levels. The graph illustrates that water level has been rising from 1969 to the end of 2022, at a 54-year rate of 1.5 feet per century. But the water level increase has been greatest in the last decade. The trend of water level rise from 2015 to the end of 2022 is about 2.7 feet per century. Since design and construction of the groins in 1994/95 through 2022, the measured mean sea level has risen by 0.6 feet (or 0.63 ft projected through 2023).

At the current contemporary *measured* rate of 2.7 ft/century, reasonably projected to a 50-yr design life from present, the future design water level is predicted to be about 1.35 ft above present – plus 0.63-ft historically measured sea level rise since the groins' construction in 1995 through 2023 – for a total of 1.98 ft of sea level rise (say, +2.0 feet) relative to the original 1994/95 groin design and permit conditions.

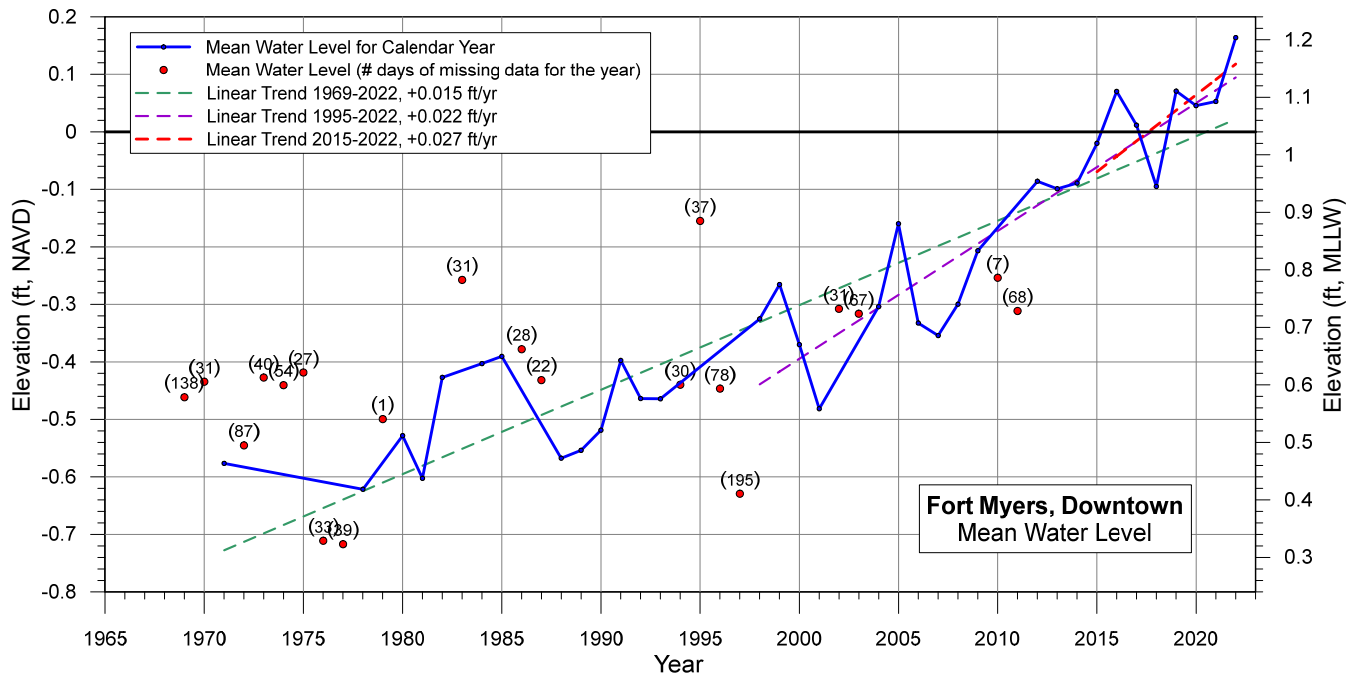


Figure 15: Annual mean sea level as measured in Fort Myers (NOAA Station 8725520). Annual mean water level as computed from hourly water levels. Red dots display the mean water level computed for years in which data was not available for all hours of the year. The number above the point indicates the equivalent days of data missing in that year. Linear trends were computed only using years with full data available, that is, without counting red points.

Armor Rock Sizing

As noted above, the limestone boulders that comprise both groins are typically 26” to 44” along the North Groin, and 18” to 26” along the South Groin, with 26” most prevalent, and a very few between 36” and 46”. Overall, the existing stone at the site – including along both groins – is broadly characterized as about 18” to 32” (1.5’ to 2.7’). Probably less than 15% of the stone is 36” to 42” (3’ to 3.5’), including those stones stockpiled at the upland near the groins. Sheets 8 and 10 of **Attachment A** illustrate the locations and approximate diameter of boulders scattered from the two groins per the May 2023 survey. Among those 110 scattered boulders noted in the survey, the sizes ranged from 14” to 42”, with observed mean (and median) size of 24”.

The armor stones that characterize the existing groins appear to be on the small side of the 2’ to 5’ size class that was described in the original permits and drawings. The South Groin exhibits the most damage, with prevalent stone size of about 26”, but also noting that it was most directly impacted by Ian’s southwest waves and is in deeper water. The North Groin exhibits less damage, with slightly larger prevalent stone size of about 30” (more or less).

The Hudson Equation⁵ was used to assess the nominal armor stone requirement for the South Groin and the North Groin, for both the existing conditions (1994/95 design) and for a proposed 2-ft increase in the groins’ elevations (described in the next section). The ambient seabed depths at each groin were adopted from the current May 2023 survey, at about 40-ft seaward of the groin heads: i.e., about -7.3’ NAVD for the South Groin, and about -3.5’ NAVD for the North Groin. The seabed depths were taken as 2-ft shallower for the groin stems.

The water level and depth-limited breaking wave heights (H) were selected to develop a ‘worst case’ condition: where the breaking wave crest is about ½-ft above the groins’ crest – such that the full face of the wave is slamming upon the end of the rock structures with minimal overtopping. This condition occurs at water levels that range from -0.5’ to +3’ NAVD (that is, from low tide to a modest storm tide), depending upon which groin location and condition is being considered. The corresponding design wave heights, for maximum wave slamming, range from H = 3.2 to 6.2 feet. The following additional input conditions were assumed for rock density w_r , boulder stability coefficient K_d , sideslopes Θ , and the relationship between armor stone weight W and nominal rock diameter D:

$w_r = 140 \text{ lb/cf}$ (sp.gr. = 2.24) limestone. Alt: $w_r = 162.2 \text{ lb/cf}$ (sp.gr. = 2.6) granitic.

$K_d = 1.6$ (head) = 2.0 (stem)

$\cot\Theta = 2.0$ (head) = 1.5 (stem)

$W = 0.65 w_r D^3$

For ‘existing’ 1994/95 design conditions (head = +2.3’ NAVD; stem = +4.8’ NAVD), the following requisite median rock weights and corresponding sizes were calculated. The values for both the existing limestone rock – and for an alternative granitic rock – are each included for completeness. See **Table 1a**, below.

⁵ September 2011. Coastal Engineering Manual, Part VI, Chapter 5. Equation VI-5-85.

Table 1a: Median Boulder Weight & Size for the Groins' EXISTING (1994/95) Design Condition					
	Limestone			Granitic	
	NORTH Groin	SOUTH Groin		NORTH Groin	SOUTH Groin
HEAD	860# (25")	4400# (44")		460# (20")	2360# (34")
STEM	1400# (30")	4100# (43")		750# (23")	2200# (33")

The armor stone requirement at the South Groin is 3 to 5 times heavier than the North Groin. This is because the ambient water depth around the South Groin is nearly 4-ft deeper than at the North Groin, at least as of the May 2023 survey. Per these current conditions, the requisite limestone boulder size at the South Groin is about 44". That is considerably larger than the prevalent existing boulder size of about 26" (neglecting a few boulders that approach 46"), which partly explains why the damage to the South Groin was more severe than the North Groin.

The requisite limestone boulder size at the North Groin is about 25" to 30", per current conditions. This is consistent with the 26" to 44" stone observed along this groin. That is, the existing boulders at the North Groin appear to be more consistent with the calculated stability requirements, relative to the South Groin, and per the current (May 2023) conditions.

Table 1b, below, summarizes the requisite median rock weights and corresponding sizes calculated for a recommended 2-ft increase in the groins' crest elevations (viz., head = +4.3' NAVD, and stem = +6.8' NAVD). For limestone, the requisite boulder size increases to about 50" along the South Groin and about 36" along the North Groin; that is, nominal median rock diameter of 3 to 4 ft. That would suggest an overall range requirement of 2 to 5 ft limestone; however, the great bulk of the stone must be in the 3'-4' class, with the South Groin requiring the larger stone.

Table 1b: Median Boulder Weight & Size for the Groins' RECOMMENDED Design Condition					
	Limestone			Granitic	
	NORTH Groin	SOUTH Groin		NORTH Groin	SOUTH Groin
HEAD	2000# (34")	6350# (49")		1100# (26")	3400# (38")
STEM	2900# (38")	6900# (51")		1570# (30")	3700# (39")

Use of denser granitic (igneous) rock, say from south Georgia, decreases the nominal rock diameter by about 8 to 12 inches – that is, by 0.7 to 1 ft – based upon the calculations from the Hudson Equation, included in the tables above. Alternately, one can conservatively retain the rock diameter required for limestone – but use granite instead – which results in a heavy, conservative structure, although at least 15+ to 25+% more costly structure, since construction costs are estimated by tonnage and freight distance.

Recommendations

Per the analysis described above, the two terminal groins at the north end of the Bonita Beach nourishment project appear to have performed per expectations and objectives relative to their initial design and construction in 1994-95, at least prior to extensive damage experienced from Hurricane Ian in September 2022. Specifically, these two “step-down” groins have more or less maintained the design beach berm and shoreline condition along the Bonita Beach (Little Hickory Island) coastline from the project’s initial construction in 1995 through pre-Ian conditions, with periodic renourishment at 9- and 10-year intervals (in 2004 and 2014, respectively). The groins have regulated losses from the beach nourishment project while allowing sand transport northward past the groins across and/or into Big Hickory Pass, and they have resulted in a fairly consistent sand beach along the north end of the island where there was otherwise no dry beach prior to the 1995 groin and beach nourishment project construction.

The South Groin provides a partial terminus to the net north-directed transport from the Bonita Beach renourishment project, but without excessive impoundment (bulge) on the groin’s updrift side. In fact, the shoreline is actually declined 30’ to 50’ landward along the updrift side of the South Groin, as described above. The shorter North Groin provides a “step-down” to protect the north end of the island while promoting a sand transfer platform into Big Hickory Pass. Contrary to initial concerns raised in the permitting process, the introduction of substantial beach nourishment along Bonita Beach did not result in wholesale shoaling or closure of Big Hickory Pass nor chronic shoaling of the interior waterway and docks. (Some dredging is periodically required along the interior docks, but not necessarily more frequent than in pre-project conditions.)

Overall, the general lay-out, geometry, and scale of the two groins appears to be prudent and successful. However, in contemporary conditions – nearly 30 years after the groins were designed and constructed – and looking toward the next 30+ years of design life, the two groins are low (and therefore correspondingly short) relative to current and near-term future sea level and beach conditions. No changes to the groins’ overall location or layout appear warranted or recommended, but it is recommended that the groins’ elevation be increased by about 2 feet and their seaward length correspondingly extended by at least 18 to 20± feet (at the waterline), relative to their existing 1994/95 design conditions, to reflect historical and near-term sea level changes and the corresponding increases in beach elevation.

These modifications should be ideally incorporated to the post-Ian repair of the two groins. Additionally, in repairing the two groins, the armor stone size should be increased relative to existing conditions toward 3’ to 4’ median size (assuming limestone boulders) along the seaward ends, with the minimum requirement within this range being greatest along the South Groin. This would result in a slight increase in the groins’ crest widths (by ~2’) along their seaward ends. As described below, internal sand-tightening of the re-built groins by fabric and/or sheetpile does not necessarily appear warranted.

The recommended modification would increase the 1994/95 design crest elevation of the groins by 2 feet: from +4.8 ft NAVD (+6 ft NGVD) to +6.8 ft NAVD along the stems, and from +2.3 ft NAVD (+3.5’ NGVD) to +4.3 ft NAVD at the heads. And, it would correspondingly

increase their seaward lengths by 18 to 20 feet at the waterline. The latter reflects a 2-ft increase in beach/sea level x nominal 1(v):9(h) beachface slope; viz., $2' \times 1:9 = 18 \text{ ft}$. (Or, 20 ft with a 1:10 beachslope.)

The recommended 2-ft elevation increase reflects the 0.63-ft measured rise in sea level since the groins' design/construction in 1994/95 through 2023, plus a projected increase of 1.35-ft over the next 50 years (based upon the current measured trend of 2.7 ft/century since 2015) – for a total of 1.98 ft sea level rise; or, approximately +2.0 ft. The requirement for this elevation increase is *already* indicated by the existing (pre-Ian) beach berm profiles adjacent to the groins – which are on the order of 1.5 to 2 ft higher than the groins' existing design crest elevations, as previously described in this report.

And, as previously described, the current permitted and proposed elevation of the berm fill along Bonita Beach, beyond the 500-ft taper south of the South Groin, is +5.4 and +6.3 ft NAVD, from the berm's seaward to landward extents (including +6" tolerance). This is 0.6 to 1.5 feet higher than the existing 1994/95 design crest elevation along the groins' stems (+4.8 ft NAVD). And, the [northward-projected] fill elevation is 2.5 ft higher than the groins' seaward ends. Northward projection of the Bonita Beach renourishment fill, across the 500-ft taper and to the South Groin, indicates that the beach fill is 80-ft wider [seaward] than the existing permitted end of the South Groin at the waterline. Accounting for a typical $40 \pm$ ft landward declination of the shoreline within $500 \pm$ ft south of the groin, this yet indicates that the fill width is on the order of 40-ft seaward of the existing permitted end of the South Groin at the waterline. Thus, an 18 to 20 ft lengthening of the groins would not overly exceed the adjacent, projected beach fill shoreline. (In fact, it would be yet 20 to 22 feet narrower than that projected beach fill shoreline, at the waterline, including consideration of the shoreline's landward declination within 500+ ft south of the South Groin.) All of this suggests that an increase in groin elevation of at least +2 ft is warranted, and that a seaward extension of at least 18 to $20 \pm$ ft is warranted; but, for conservatism, an increase of +2 ft height and minimum 18 to 20 ft length extension is recommended herein.

This recommendation would result in the North Groin being 257.5 feet in length, extending 205.5 feet seaward of the ECL (as measured along the crest), and the South Groin being 221.5 feet in length, extending 221.5 feet seaward of the ECL (as measured along the crest). The recommended crest width is 7 to 8 feet along the seaward stem and 14 feet at the head, with nominal sideslopes of 2V:3H, except the heads and the north face of the North Groin would slope at 1V:2H. The seaward 18+ feet (minimum) of the groin crests would be +4.3 ft NAVD, thence slope up to +6.8 ft NAVD on a 1V:10H slope. These lengths and valuations are preliminary (conceptual) and subject to further engineering verification.

Figure 16 and **Figure 17** show beach profile plots at R-225.5A and R-226A with the recommended modifications and the 1994/95 templates of the North and South Groins.

Figure 18 and **Figure 19** show representative cross sections of the North and South Groins, respectively, with the recommended modifications. **Attachment A** (Sheets 11-22) includes additional cross-sections and plan-view drawings of the recommended modifications, relative to existing elevations from the May 2023 survey and the existing 1994/95 permitted groin templates.

The original groins included a filter-cloth foundation layer, but did not include sand-tightening by an interior geotextile or sheetpile. It is our present recommendation that reconstruction of the groins would not require a filter-cloth foundation layer along the existing groin footprints, because this footprint already consists of a foundation composed of stable stone, which need not be removed. However, the seaward extension of each groin would prudently require placement of a geotextile foundation along the groins' seaward extension, since most of that extension's footprint would be placed atop sand. Such foundation might be composite geogrid/geotextile, with the former being a biaxial geogrid with ~2" aperture stitched to a non-woven 1200 to 1600 fabric. A marine mattress foundation (under the extended groin heads) is a conservative alternative; but marine mattresses at the heads are probably not warranted owing to the fact that extensive seabed scour around the seaward heads of the structures has not appeared to be a problem over the original 25+ years of the structures' lives (at least so long as the updrift beach nourishment project along Little Hickory Island is maintained through periodic renourishment).

Internal sand-tightening of the re-built groins (by geotextile or sheetpile) is not necessarily warranted so long as the rock structures are re-built as a compact mass – such as the case when groins are built with land-based equipment with a well-graded mix of armor stone and chinking stone. Internal sand-tightening by a geotextile barrier is warranted and/or preferable along approximately 100-ft of the landward length of each groin (i.e., 100' waterward of the ECL), to ensure the stability of the sand berm updrift of each groin. But because the groins are intended to be terminal structures to stabilize and regulate the updrift beach nourishment, but not complete littoral barriers, structural measures to block all sand transport through (or over) the groins is not necessarily warranted along their entire lengths. Incorporation of sheetpile within the rebuilt structures is not presently recommended, in favor of constructing a consolidated boulder mass (such as mostly existed prior to hurricane damages). Sheetpile confounds the difficulty of constructing a wholly interlocking rock boulder mound because the vertical sheets bisect the structure. And, it is inherently difficult to lay-up angular boulders against the vertical corrugated sheetpiles without leaving many large voids between the rocks and the sheetpile. Practically, it would also be difficult to drive sheetpile along the footprint of the existing groins because this would require removing all of the buried rock. In the present project case, a sheetpile 'core' is not indicated to necessarily improve the long-term structural stability of a well-constructed, consolidated rock groin. And, unlike other cases, construction of a groin that is wholly impermeable to sand transport (i.e., via a sheetpile core) is not required to meet the overall objectives of the present project, so long as the groins are rebuilt as a compact, interlocked, and mostly impermeable mass.

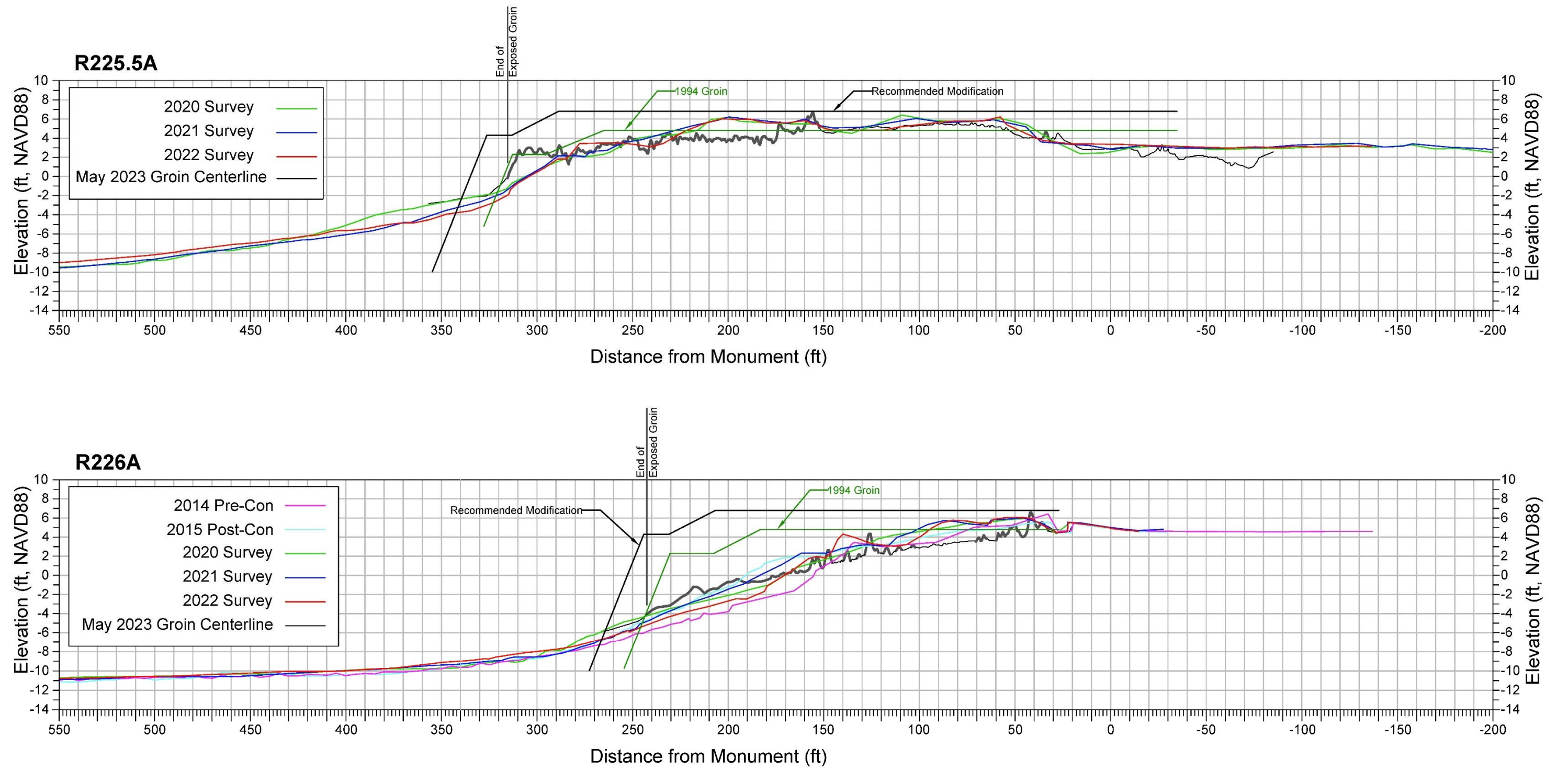


Figure 16: Beach profile plots from at R-225.5A (top) and R-226A (bottom) with the proposed recommendations and 1994 North Groin (top) and South Groin (bottom). Rock along the “May 2023 Groin Centerline” is indicated with thicker line.

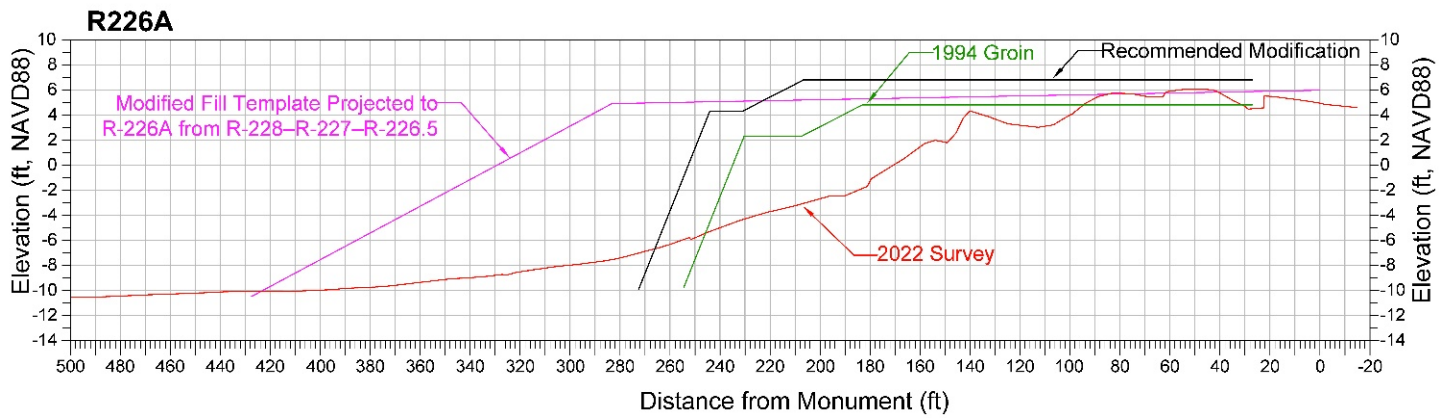


Figure 17: Beach profile plot at R-226A displaying the South Groin and the New Beach Fill Template with the recommended modification.

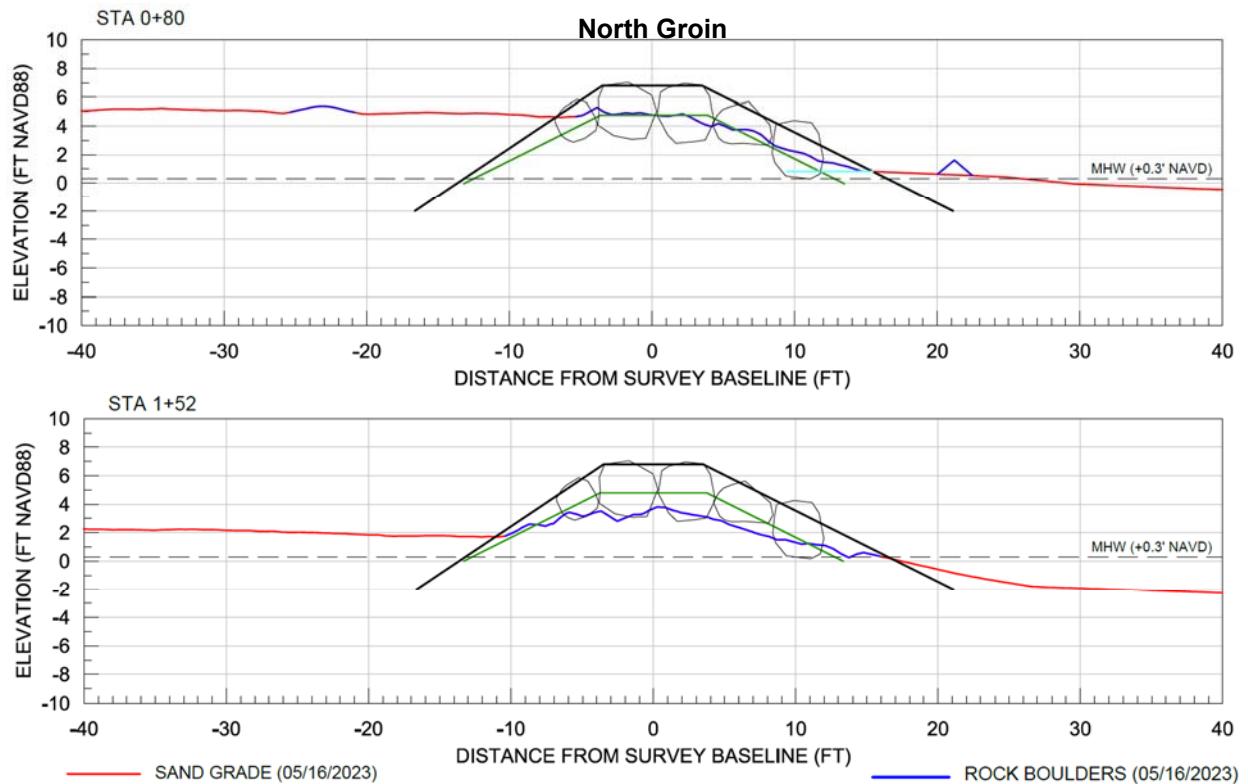


Figure 18: Representative cross-sections of the **North Groin** with May 2023 existing grade and rock boulders (red and blue line, respectively), recommended modification (black line) and 1994 groin plan (green line).

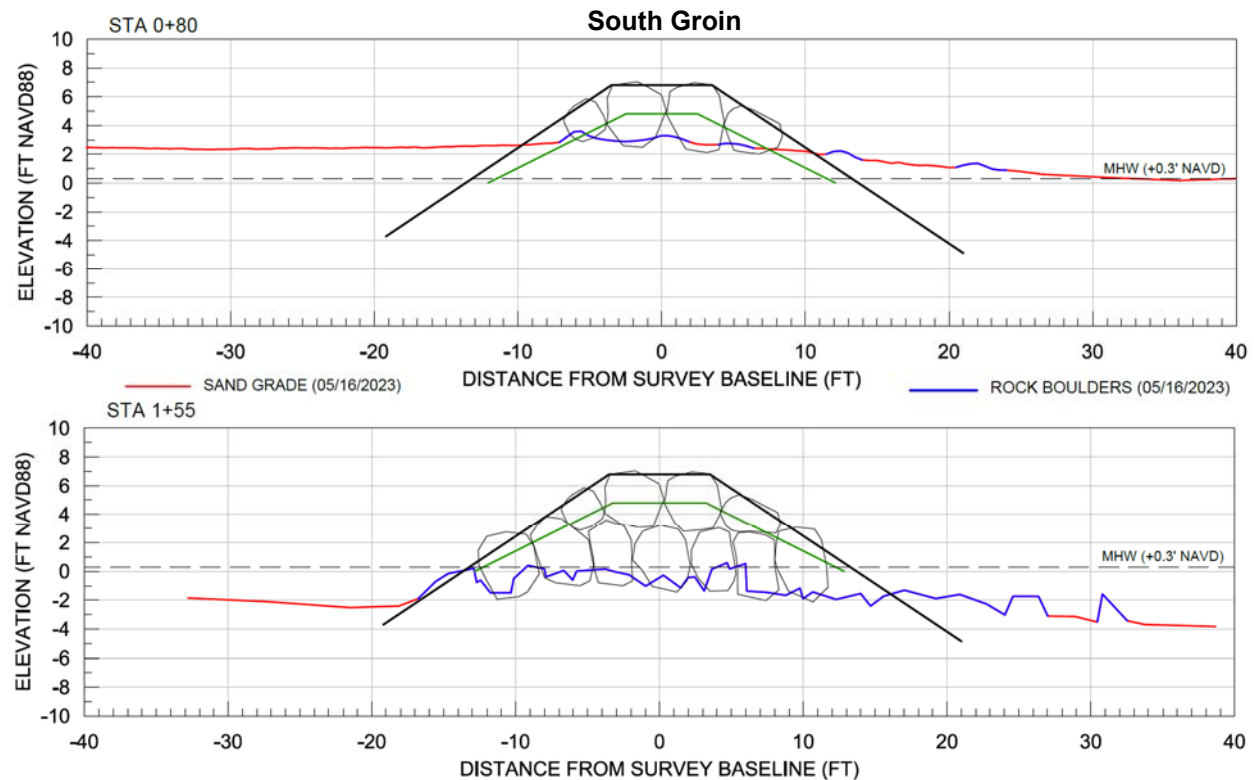


Figure 19: Representative cross-sections of the **South Groin** with May 2023 existing grade and rock boulders (red and blue line, respectively), recommended modification (black line) and 1994 groin plan (green line).

Approximate Rock Deficit in Template

The estimated rock needed to fill the original 1994/95 template is about 300 cubic yards for the North Groin, and about 600 cubic yards for the South Groin. Assuming a rock specific gravity of 2.24 (per the 1994 permit drawings) and a well-packed structure with 25% voids allowance (with chinking stone), the equivalent rock weight is about 430 tons for the North Groin and 850 tons for the South Groin, for a total estimated rock requirement of ~1,280 tons.

The estimated rock needed to fill the recommended modification template is about 800 cubic yards for the North Groin, and about 1,130 cubic yards for the South Groin. Assuming a rock specific gravity of 2.24 and a well-packed structure with 25% voids allowance (with chinking stone), the equivalent rock weight is about 1130 tons for the North Groin and 1670 tons for the South Groin, for a total estimated rock requirement of ~2,800 tons.

These estimated rock “import” requirements for both the original and modified groin templates reflect (i) 100% of the deficit between the existing rock surface and the template, plus (ii) between 30% (North Groin) and 60% (South Groin) of the existing surface rock within at least one armor stone height (~3.5') below the template which will be displaced by the requisite larger 3' to 4' armor stone. That is, the latter assumes that some of the existing (smaller) armor rock must be displaced by the recommended requisite (larger) armor rock, in order to repair the groins to either their original or modified templates.

Among the two rock piles identified near the rock groins, including that at the beach between the groins and that north of the northern tennis court, there is an estimated rock volume of at least 75 cubic yards, which equates to approximately 92 tons of rock (S.G. = 2.24 and voids = 35±%). There is also at least about 4 cy of rock out of the north groin template, and about 61 cy of rock out of the south groin template, which equates to about 80 tons. Of the latter, about 1/3 is estimated to be below mean high water. Additionally, there are at least 110+ boulders scattered around the project area (see Sheets 8 and 10 of **Attachment A**) with an average size of 2 feet, which equates to about 38 tons. (These were exposed boulders identified in the May 2023 survey, to indicate the minimum extent to which boulders are scattered near the groins after Ian.) In sum, there is estimated total of about $92+80+38 = 210$ tons of boulders that are stockpiled and/or displaced beyond the groin templates, more or less.

In summary, there is a total of about 1,280 tons of rock required to fill the original 1994/95 template, and about 2,800 tons of rock required to fill the recommended modification template, as of the May 2023 survey. There is an estimated 210 tons available from the rock piles, out of the template, and scattered boulders. Assuming that all 210 tons can be recovered and reused, there is an estimated deficit of armor rock (nominal 3' to 4' boulders) of approximately:

- $1,280-210 = 1,070$ tons to repair the groins to the original template, and
- $2,800-210 = 2,590$ tons to repair the groins to the recommended modification.
- With, say, ~15% contingency, these values equate to approximately 1,250 tons and 3,000 tons of armor rock deficit that requires import, in order to repair the groins to the original 1994/95 template and recommended modified template, respectively, more or less.

Note that these are preliminary values and the estimated quantities are subject to change.

Practical Requirements

Optimally, the recommended modifications would be incorporated to the groins' post-Ian reconstruction. This is particularly true because the recommended 2-ft increase in groin elevation exceeds the size of the requisite boulders (3' to 4' nominal). And so, increasing the elevation of the groins by 2 feet beyond their existing permitted height would require dismantling the crest of the re-built groins in order to "re-pack" new boulders to the recommended height. [A conceivable, but not necessarily recommended, alternative is to re-build the groins to 1' or 2' below their currently permitted elevations, and then add 3' to 4' boulders to achieve the net required increase in crest elevation, and lengthen the groins by 18-20 feet after permitting is completed.] The recommended modifications will conceivably require the following.

Permits. An FDEP and USACE permit will be very likely required to modify the elevation and length of the two groins, relative to their existing 1994/95 design and permits.

Submerged State Lands Easement. An SSL easement will be likely required to extend the seaward length of the groins beyond the existing easements. Such extension is conceptually illustrated on Sheet 12 of **Attachment A**, requiring at least a minimum 15-ft expansion of the seaward end of the existing SSL easement.

Construction. Rehabilitation of the existing groins to their original existing permitted limits, or to the recommended modified limits, will practically require dismantling of most of the existing groins; i.e., removal of the existing boulders above the seabed and within the upper few feet of the beach in order to rebuild proper coherent groin structures. Rock boulders that are embedded in the seabed within the groins' permitted footprint should not be removed, because they provide a stable foundation for the rehabilitated groins. Boulders scattered about the seabed, as indicated in the May 2023 survey (see Sheets 8 and 10 of **Attachment A**), and stockpiled along the upper beach, need to be removed and ideally incorporated to the groins' re-construction.

Construction drawings and specifications for the groins' rehabilitation will be required, for solicitation and award. Experience demonstrates that requirements for the rock boulder sizes should be specified by WEIGHT (tons), versus nominal size, because a weight specification is far easier for contractors to meet. (That is, specify the weights of boulders to be provided and placed to each structure, by % requirements within specified ranges of boulder weights, not by size.)

Backshore Fill Elevations. The elevation of the backshore along the area of the two groins will need to be raised, or addressed, because the new and anticipated future beach fill (back-berm) elevations will be at least 0.5 to 1 ft higher than the existing upland grade. This needs to be addressed along the landward edge of the beach berm by a low seawall, sill, or a dune feature with a back-side that slopes downward to the elevation of the existing upland elevations (i.e., to the existing grade of the sidewalks, curbs, parking lots, tennis courts, etc).

References

- Coastal Engineering Consultants Inc., 6 January 2023. "Lovers Key and Bonita Beach Nourishment Project: Post-Ian Engineering Assessment and Report".
- Coastal Engineering Consultants, Inc., 10 December 2021. "Bonita Beach and Lovers Key Nourishment" Drawings. Drawing dated 10 December 2021; sealed on 4 March 2023.
- FDEP, 2003. "Strategic Beach Management Plan: SW Gulf Coast Region". Office of Resilience and Coastal Protection; Florida Dept of Environmental Protection. May 2023.
- Olsen Associates, Inc., December 1998. "Bonita Beach Restoration Project: Year-Three Monitoring Report".
- Olsen Associates Inc., 2 June 2022. "Estero Barriers Regional Inlet Management Study, Lee County, Florida – Sediment Budget".

Attachments

Attachment A:

Engineering Drawings Including 1994 Design, Existing Condition, and Recommended Modifications (11" x 17")

Attachment B:

Compilation of Shoreline Images & Locations from 1994 Through 2023 in the Vicinity of the Groins

Attachment C:

Compilation of Permits, SSL and ECL Documents for the Project's Initial 1995 Construction in 1995, prepared by Olsen Associates, Inc.

Attachment D:

Surveyor Report and Survey Drawings for May 2023 Surveys, by Coastal Engineering Consultants Inc

Table 1: Beach profile monument control for Bonita Beach, Lee County, used in this report.

Monument	NAD 83		Azimuth (° $\odot$ from N)
	Easting (feet)	Northing (feet)	
R-225	700,877.1	739,867.3	265
R-225.5	701,467.2	738,939.3	260
R-225.5A	701,177.6	738,415.9	255
R-226	700,997.8	738,198.2	255
R-226A	701,024.8	738,130.0	255
R-226.5	701,175.3	737,730.1	250
R-227	701,436.8	737,293.7	245
R-227.5	701,680.7	736,834.8	245
R-228	702,039.1	736,359.0	245
R-228.5	702,381.2	736,159.1	245
R-229	702,589.2	735,730.3	245

**Figure 20:** Coordinate control of groin centerlines as used in the present report.

Table 1

PARCELNO	JV	OWN_NAME	PHY_ADDR1	PHY_CITY	PHY_ZIPCD
254724B20200000CE	-	EGRET CONDOMINIUM	26342 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000010	199,647	MORZILLA TY	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000020	227,040	INSUA JESUS	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000030	188,705	KAREN L SHRADER TRUST +	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000040	250,266	SHRADER DELORES I TR	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000100	209,756	ROWELL ROBERT L TR	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000050	288,944	ELMSTRAND DENNIS W +	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000120	288,349	SCHRECK THOMAS C &	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000200	219,576	LAPOINTE JANN TR	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B20380000CE	-	AMBASSADOR CONDO ASSOCIATION	AMBASSADOR CONDO C/E	BONITA SPRINGS	34134
254724B2003000070	381,797	GRANT WILLIAM D	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000140	251,265	MAY JEFFREY A SR & KAREN J	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000210	232,636	SEXTON TERRY TR	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000080	205,822	RIGBY MARLA TR	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000220	234,827	SAUERS KEVIN & BELINDA L	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000150	261,373	EMPIE JOHN L TR	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000090	291,309	HAWKINS TODD T	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000230	226,369	MUCKLE GARY L & KATHLEEN P	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000160	235,333	VARGA EDWARD L +	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000290	292,389	BARNARD TIMMY ALLEN & LUANN	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B20030A00CE	-	BONITA BCH MOBILE HMS VILL INC	BONITA BEACH MOBILE HMS VILL C/E	BONITA SPRINGS	34134
254724B2003000300	198,251	BARNARD TIMMY A & LUANN	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000240	233,324	VEPRASKAS JOHN & CARLA M	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B200300031A	319,822	ACQUARULO LOUIS	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000180	230,701	FRENCH JEFFREY G TR	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000250	217,220	WILCZEWSKI PAUL & LINDA	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000320	260,940	CALDERON ROBERTO D &	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000190	232,631	MARTIN JAMES ANTHONY &	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000260	251,404	FRANK STEPHAN E	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000330	272,842	LESTER JON	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000270	256,495	VEPRASKAS JOHN & CARLA	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000340	197,782	GILBERT RICHARD	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000280	363,517	FORSYTHE RONALD &	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000350	369,532	14 WILLIAMS ROAD LLC	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B20320000CE	-	HICKORY SHORES CONDO ASSOC	HICKORY SHORES C/E	BONITA SPRINGS	34134
254724B2003000360	248,346	CUMMINGS MICHAEL	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000370	235,535	VAN WIEREN GLENN L &	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000380	233,813	WALKER CHRISTINE	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000390	266,550	MARTINEZ DAVID PEREZ &	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000400	260,892	TOOTHMAN JAMES R TR	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2001K00010	4,708,357	WEST BAY CLUB COMMUNITY ASSOCI	26194 HICKORY BLVD	BONITA SPRINGS	34134
254724B20430000CE	-	SALTY SURF CLUB CONDOMINIUM	SALTY SURF CLUB CONDO C/E	BONITA SPRINGS	34134
254724B2001K00060	2,990,000	LOCKE C THOMAS JR &	26170/172 HICKORY BLVD	BONITA SPRINGS	34134
254724B20400000CE	-	SILVER SANDS OF BONITA BEACH	SILVER SANDS OF BONITA BEACH C/E	BONITA SPRINGS	34134
254724B20410000CE	-	PELICAN POINTE ON THE GULF	26132 HICKORY BLVD	BONITA SPRINGS	34134
254724B2001K00130	6,365,800	CLUB AT MEDITERRA INC	26110 HICKORY BLVD	BONITA SPRINGS	34134
254724B2000020010	347,716	BAYSIDE HOLDINGS ON HICKORY LL	26105 HICKORY BLVD	BONITA SPRINGS	34134
254724B2001K00170	5,993,750	LEE COUNTY	26082 HICKORY BLVD	BONITA SPRINGS	34134
254724B20210000CE	-	CASA BONITA I CONDO ASSOC	CASA BONITA C/E	BONITA SPRINGS	34134
244724B30290000CE	-	CASA BONITA GRANDE CONDO	25902 HICKORY BLVD	BONITA SPRINGS	34134
254724B30220000CE	-	CASA BONITA II CONDO ASSOC	CASA BONITA II C/E	BONITA SPRINGS	34134
244724B30460000CE	-	SNOOK HARBOR CONDO ASSOC	25853 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300000CE	-	DOLPHIN WAY OF HICKORY POINT	DOLPHIN WAY @ HICKORY POINT C/E	BONITA SPRINGS	34134
244724B3000013060	1,004,998	WEAVER SUSAN A	25835 HICKORY BLVD	BONITA SPRINGS	34134
244724B3000013000	2,354,280	DC PETROLEUM INC	25825 HICKORY BLVD	BONITA SPRINGS	34134
254724B30440000CE	-	BAYSCAPE CONDO ASSOC	25815 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340000CE	-	SEASCAPE CONDO PH III	SEASCAPE CONDO PH III C/E	BONITA SPRINGS	34134
244724B40310000CE	-	BONITA BEACH CLUB CONDO ASSOC	BONITA BEACH CLUB C/E	BONITA SPRINGS	34134
244724B3010060000	46,676	BONITA CONSERVATION AUTHORITY	ACCESS UNDETERMINED	BONITA SPRINGS	0
244724B3010061000	51,299	SCHIE33908 INC	ACCESS UNDETERMINED	BONITA SPRINGS	0

PARCELNO	JV	OWN_NAME	PHY_ADDR1	PHY_CITY	PHY_ZIPCD
244724B3047040003	1,430,736	CLACK LANE ALAN & DENISE	25961 HICKORY BLVD	BONITA SPRINGS	34134
244724B3047040001	1,554,418	WHOBREY GENE LOWERY TR	25961 HICKORY BLVD	BONITA SPRINGS	34134
244724B3047040002	1,382,330	YORK KEVIN L & JILL	25961 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F5050	347,786	VOGH MARILYN S TR	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F3090	594,318	HERDER HANS OTTO & HEIDRUN	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F4060	492,609	TOOPS WILLIAM D & TERRY R	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F5040	518,485	MURRAY JAMES C TR	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F2020	456,906	SWANSON GARY L TR	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F4050	342,314	SYBRANT MARYLYN A +	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F4080	561,271	CORCELLI DIANE M	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F5010	364,768	OKEEFE SALLY J	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F4040	510,327	ROBERT H POUCH TRUST +	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F2080	360,304	SCHNEIDER ROBERT J &	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F3020	470,265	BONENBERGER PAUL R &	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F2050	325,859	HENDERSON WILLIAM A &	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F5080	570,244	CONWAY DONNA MYRINE TR	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F5020	487,653	SIMSA BRIGITTE INGEBORG	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F3060	482,639	HANSON BONITA SPRINGS TRUST	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F1040	462,442	TURNER ROBERT L & DEBORAH K TR	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F3050	327,431	ROCCIO WILLIAM +	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F4020	479,980	READER ALFRED W & DIXIE L	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F1060	300,926	HEITINK GERRIT & VERA	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F2090	577,436	MOREM DEBRA M & DAVID N TR	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F2070	361,460	BORRELL GARY P & JANICE M TR	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F1020	424,627	UNGER WILLIAM R & KATHLEEN	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F2060	323,802	ORR RHONDA L & DANNY E	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F1070	335,923	HELLER JEFFERY & SUSAN	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F1010	317,624	MEIERS VILNIS & DOROTHY	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F1050	302,837	RIDINGER JAMES R & AMY L	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F3080	585,831	MAYER LORENZ	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F4010	350,514	SALAMOUN PETER V TR	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F2040	485,794	HANSON PETER J & KIMBERLY M	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F4090	606,596	SALAMOUN PETER	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F2010	333,664	HOYER-BOOTH ELIZABETH	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F1090	549,677	GEORGE F KEYSOR TRUST +	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F3010	351,762	FERRIN TODD & JI-YEON	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F5060	500,484	GEORGE RONALD C & ANN B	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F5090	616,293	858061 ONTARIO LIMITED	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F1080	334,848	BRUNETTA KARIN	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340F3040	499,998	CALDWELL TIMOTHY E &	25800 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300B1040	512,645	ROBINSON JOAN M TR	25840 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300B3050	612,459	OCONNELL THOMAS E &	25840 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300B4040	565,729	GRULKE TEDD D & SANDRA R	25840 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300B3010	612,459	PEACOCK JAMES R III TR	25840 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300B3040	554,278	HUBBS SALLY G	25840 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300B4010	777,575	CHERNIN PHYLLIS A +	25840 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300B2040	538,533	DAVID WASSON TRUST +	25840 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300B2050	595,060	VERICK ARTHUR A & DOLORES	25840 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300B4020	420,191	SMITH TIMOTHY H & SHARON R TR	25840 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300B2030	395,860	TIANGA & COMPANY LLC	25840 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300B1020	512,645	PEACOCK LYNN HAGAN TR	25840 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300B1010	566,455	HALQUIST JULIE ELIZABETH	25840 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300B1050	566,455	REDDY MARY E TR	25840 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300B2010	595,060	ROCOM INC	25840 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300BPH00	1,054,568	THOMPSON THOMAS N II +	25840 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300B3030	407,435	SMITH TIMOTHY H & SHARON R TR	25840 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300B2020	538,533	HACKENBERGER LYNNE E TR	25840 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300B1030	376,831	MARTIN JORGE A & RAQUEL M	25840 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300B3020	554,278	ARCHER BARRIE S D	25840 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300B4030	415,852	MILLER STEPHEN R & LAURIE K	25840 HICKORY BLVD	BONITA SPRINGS	34134

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244724B30300B4050	625,110	GOODMAN BLANE M & JUDITH A	25840 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C2030	372,703	LAZZARO VINCENT & MICHELE	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C1010	367,615	POWELL DIANE D TR	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C3040	383,600	CHANCE CAROLYN A TR	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C1060	354,787	DRABIK RICHARD & ELLEN JOY	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C2060	372,703	HABERSTROH ROBERT W L/E	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C1030	354,787	COREY THOMAS R +	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C2040	372,703	SIENKIEWICZ STEVEN A &	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C2090	584,085	COVINSKY CHRISTOPHER N &	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C3080	383,600	GALT INEZ A	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C1020	354,787	SHORES KIM L & RUTH A	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C1050	354,787	ROGERS KIMBERLY J +	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C2050	372,703	BROWN SUE L TR	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C3060	383,600	WICKMAN SHERYLE	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C1070	354,787	CUPIOLA RICHARD & VIRGINIA	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C3030	383,600	HAAG WAYNE F	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C3070	383,600	CHANCE DAVID M & JILL	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C1080	354,787	FARLEY MARK J & KATHLEEN A	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C3050	383,600	PHILLIPS CHERYL LYN	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C1040	354,787	SORGATZ EDGAR J & CAROLE A TR	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C2010	386,180	MONTELEONE R J & PATRICIA E	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C2080	372,703	DISALVO VINCENZO & DIANE	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C3090	601,162	LEIPNITZ ALERON A & CAROL L	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C2020	372,703	RASMUSSEN PATRICIA H TR	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C3010	397,471	MARTIN RAQUEL MARIA &	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C1090	556,007	DIDIER LEO N TR	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C3020	383,600	SELUCKA ANTHONY TR	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300C2070	372,703	MCKEE MARY A TR	25830 HICKORY BLVD	BONITA SPRINGS	34134
244724B3047010002	1,433,273	CALLAHAN MICHAEL P &	25911 HICKORY BLVD	BONITA SPRINGS	34134
244724B3047010001	1,486,987	MELTON WILLIAM L	25911 HICKORY BLVD	BONITA SPRINGS	34134
244724B3047010003	1,484,424	DAVID H HILL TRUST	25911 HICKORY BLVD	BONITA SPRINGS	34134
244724B3047030003	1,530,132	BLIMKIE BRANDT +	25941 HICKORY BLVD	BONITA SPRINGS	34134
244724B3047030002	1,365,724	ARMADILLO REALTY L C	25941 HICKORY BLVD	BONITA SPRINGS	34135
244724B3047030001	1,414,515	ROYE PAUL F + CYNTHIA W TR	25941 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A3090	601,162	2TLC LLC	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A2090	584,085	WOODS SUSAN BARRY +	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A3020	383,600	TTJ PROPERTIES LLC	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A2070	372,703	STEVENS JEREMY V & AMBER L	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A2010	386,180	SHERIDAN JOHN & JEAN	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A2050	372,703	CIRONE GREGORIO	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A2080	372,703	FLORIDA REAL ESTATE INVESTORS	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A3060	383,600	LUKES LUXURY DOLPHIN PARADISE	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A3040	383,600	GLUFF LINDA J TR	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A1050	354,787	COLE MARK +	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A1040	354,787	SOMOGYI ROSE Z TR	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A3050	383,600	LUKE DAVID W & CYNTHIA J	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A3010	397,471	TILTON RAYMOND G	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A2060	372,703	KAMERER BARBARA L TR	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A1020	354,787	BONILLA JOHN M & ANN	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A3030	383,600	BOEHME JAMES & ANNMARIE	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A1060	354,787	MARSTON DAWN S	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A2020	372,703	BECKER EUGENE E & DAVETTE D	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A1090	556,007	TILTON RAYMOND G	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A1080	354,787	OCONNELL THOMAS J	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A1030	354,787	TURCHYN GEORGE A & SYLVIA J	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A1070	354,787	GIBBLE DARREL R &	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A2030	372,703	ARLEDGE ELIZABETH M	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A1010	367,615	MCGURN MICHAEL & KELLY	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A3080	383,600	2TLC LLC	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30300A3070	383,600	KERSCHNER MAGDALENA E TR	25850 HICKORY BLVD	BONITA SPRINGS	34134

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244724B30300A2040	372,703	PALOMO NELLY +	25850 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D3040	499,998	WILCOX DALE W & ROBIN JONES	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D1040	462,442	ZIEMBA PATRICIA A TR	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D5060	500,484	SCHADE JERRY & LAURA	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D3060	482,639	INWOOD JANICE K +	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D4090	606,596	GUCKEL LINDA TR	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D3010	351,762	1704 ASSOCIATES INC	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D4050	342,314	TYTLA MILAN & JOCELYN	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D5040	518,485	HARRISON DUANE D &	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D2080	360,304	J THOMAS + PATRICIA A BREYER T	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D1050	319,998	MANGER THOMAS + JENNIFER LYNN	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D5050	339,538	PIOTROWSKI MICHAEL &	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D1060	308,236	BEDESKI WILLIAM TR	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D2040	474,273	WYPYSKI CHERYL +	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D1090	549,677	VOLL CHRISTINE R	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D2090	563,741	CARNEVALE MICHAEL R	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D1020	424,164	SCHILLING MARK J TR	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D1080	342,983	INWOOD JON & JANICE	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D5080	570,244	VERTIN PETER G TR	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D5010	356,116	DRAKE WILLIAM J & CHERYL I	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D4020	468,596	MIZZI CHRISTOPHER S	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D3050	335,385	OWEN SAMUEL A TR	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D4060	492,609	DEFABIS MARK V + JOAN S	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D2060	316,123	FITZSIMONS PETER J &	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D4010	382,480	SWANSON ACRES LLC	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D4080	561,271	KADRO OMAR & MARY KATHLEEN	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D3020	459,112	HOWELL-ROBERTS LLC	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D5090	616,293	PRIJATEL FRANK L	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D1070	344,084	INWOOD JON D & JANICE K	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D2020	456,906	RENNER WILLIAM D & AUDREY R	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D4040	510,327	WOLCOTT FAMILY TRUST	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D3080	585,831	J THOMAS + PATRICIA A BREYER T	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D2050	325,859	GROTH GREGORY JOHN & SUSAN	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D3090	594,318	309 RICHEL LLC	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D2070	361,460	DURAN STELLA R +	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D5020	476,087	PAIGE JOANNE	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D1010	325,340	GULF SIDE CONDOMINIUMS LLC	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B30340D2010	333,664	VIDAL HUMBERTO & VIRGINIA TR	25820 HICKORY BLVD	BONITA SPRINGS	34134
244724B3047020001	1,554,179	DEROSA GREGORY J	25921 HICKORY BLVD	BONITA SPRINGS	34134
244724B3047020003	1,433,905	BAUGH SHARON K TR	25921 HICKORY BLVD	BONITA SPRINGS	34134
244724B3047020002	1,502,305	FARRUGGIO GIUSEPPE	25921 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020003020	535,836	BRUMUND ROBERT P TR	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020004020	546,905	DAHLSTROM RICHARD A &	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020007010	592,967	MONTEATH DAVID B & SUSAN E	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020007020	569,096	TOMLINSON CONSTANCE L TR	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020006040	576,570	REAM JOSEPH A TR	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020008040	574,523	R2D2 PROPERTY HOLDINGS LLC	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020008010	598,621	WILLETT SHEILA	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020006010	586,505	MCMAHON GLORIA J TR	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020008050	598,621	ONDERKO JEAN	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020008020	588,480	SOLLMANN DENNIS & RITA	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020009020	579,353	PATRICIA L DIBENEDETO TRUST +	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020005010	593,018	HIGHWAY 64 PROPERTIES LLC	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020004010	569,844	REINERT KIRT &	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020004040	546,905	HOEKSTRA PETER & DIANE M	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020006020	562,895	SALOMON WILLIAM ESTATE &	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020003010	558,310	CHERVITZ MICHAEL J &	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020005040	555,647	ESPOSITO KAREN-VANUSSA	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020009030	593,427	BEEL KEN & CAROLE	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020006030	576,570	23640 HICKORY BLVD INC	26340 HICKORY BLVD	BONITA SPRINGS	34134

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254724B2020005020	555,647	LEINENBACH STEPHEN B &	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020002010	542,451	1899826 ONTARIO LIMITED	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020003050	571,874	HAMILTON SUZANNE TR	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020008030	574,523	MCQUIGHAN THOMAS PAUL	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020005050	578,953	TRANQUILLA BARBARA C TR	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020007040	569,096	23640 HICKORY INC	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020005030	569,146	LONG RODNEY C +	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020004030	546,905	SPINELL LOIS TR	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020003040	535,836	PETRE FREDERICK E	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020006050	586,505	BLENDERMAN CRAIG STUART &	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020002020	520,614	WISNIEWSKI WILLIAM TR	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020007050	607,372	BEREZNICKI HEIDE A	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020009050	618,317	BROITZMAN ROBERT A &	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020009040	593,427	LESCO ENGINEERING CO	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020002040	520,614	BAYNAI BRADLEY M &	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020009010	618,317	BURNS WILLIAM J &	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020002050	542,451	CLARK JANE E TR	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020003030	535,836	CASTRO PETER & LOURDES M	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020007030	569,096	SHERWIN DONALD M &	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020002030	533,262	HUNTER KENNETH & THELMA	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2020004050	569,844	LOST SAILOR LLC	26340 HICKORY BLVD	BONITA SPRINGS	34134
254724B2040004020	970,592	WEBSTER CYNTHIA A	26140 HICKORY BLVD	BONITA SPRINGS	34134
254724B2040002020	923,933	WITT BRYAN & SHARON LEE L	26140 HICKORY BLVD	BONITA SPRINGS	34134
254724B2040001030	1,046,463	STAUTBERG ROBERT J JR +	26140 HICKORY BLVD	BONITA SPRINGS	34134
254724B2040007030	1,185,699	BURDESS HAROLD & MARTHA	26140 HICKORY BLVD	BONITA SPRINGS	34134
254724B2040001020	900,884	AGNER JENNINGS K & ANN B	26140 HICKORY BLVD	BONITA SPRINGS	34134
254724B2040002010	1,084,687	SCHERER ROBERT H TR +	26140 HICKORY BLVD	BONITA SPRINGS	34134
254724B2040001010	1,032,545	TRALONGO ANTOINETTE TR	26140 HICKORY BLVD	BONITA SPRINGS	34134
254724B2040004010	1,139,464	FARRELL RICHARD TR	26140 HICKORY BLVD	BONITA SPRINGS	34134
254724B2040003030	1,116,402	SCHERER LIMITED PARTNERSHIP	26140 HICKORY BLVD	BONITA SPRINGS	34134
254724B2040005030	1,201,789	KLOPP LARRY & JACQUILYN R	26140 HICKORY BLVD	BONITA SPRINGS	34134
254724B2040008030	1,197,006	ALCOTT JACK & JULIE	26140 HICKORY BLVD	BONITA SPRINGS	34134
254724B2040008020	1,044,375	MALLECK MICAH EL TR	26140 HICKORY BLVD	BONITA SPRINGS	34134
254724B2040004030	1,112,439	SIMPSON MARK W &	26140 HICKORY BLVD	BONITA SPRINGS	34134
254724B2040006020	1,023,237	LUCENKO LEONARD K & LARISSA	26140 HICKORY BLVD	BONITA SPRINGS	34134
254724B2040007020	1,009,974	MARTINS FAMOUS PASTRY	26140 HICKORY BLVD	BONITA SPRINGS	34134
254724B2040006030	1,172,779	LUND ALLAN W TR	26140 HICKORY BLVD	BONITA SPRINGS	34134
254724B2040007010	1,185,699	SHAH SYED ANWAR & JANET M TR	26140 HICKORY BLVD	BONITA SPRINGS	34134
254724B2040003020	950,947	MARTINS FAMOUS PASTRY SHOPPE	26140 HICKORY BLVD	BONITA SPRINGS	34134
254724B2040005010	1,157,680	STAUTBERG ROBERT J & TERI M	26140 HICKORY BLVD	BONITA SPRINGS	34134
254724B2040005020	1,010,063	GERSTER THOMAS E &	26140 HICKORY BLVD	BONITA SPRINGS	34134
254724B2040006010	1,172,779	LUCENKO LEONARD & LARISSA	26140 HICKORY BLVD	BONITA SPRINGS	34134
254724B2040002030	1,084,687	LAVETTE BONITA E TR	26140 HICKORY BLVD	BONITA SPRINGS	34134
254724B2040008010	1,197,006	BEWLEY WILLIAM M & MARY W	26140 HICKORY BLVD	BONITA SPRINGS	34134
254724B2040003010	1,116,402	DILLER JOHN C & HOLLY M	26140 HICKORY BLVD	BONITA SPRINGS	34134
254724B3044000040	699,201	TENENBAUM-AGUET JAN	25815 HICKORY BLVD	BONITA SPRINGS	34134
254724B3044000020	640,845	KAASE CAROLE M &	25815 HICKORY BLVD	BONITA SPRINGS	34134
254724B3044000030	640,845	SHANK THEODORE H & JILL N	25815 HICKORY BLVD	BONITA SPRINGS	34134
254724B3044000010	699,201	RUCKER TIMOTHY & CONNIE	25815 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420008C0	604,903	THARP MARK LEE TR	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420009D0	619,732	HAKIM EDMOND R TR	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420004D0	450,397	LARSON PAUL M & LORI G	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420009C0	624,807	FEDERLE BRUCE M & DEBORAH L TR	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B204200PHA0	700,162	FALSETTI FRANK E &	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420009A0	627,135	GARNER CARLOS O & SONDR A B	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420003C0	542,444	HEITMAN KENNETH L &	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420012C0	617,533	BARLEY SUSAN	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420004A0	592,011	HYNAN MARY E	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420007B0	616,033	GILLIS CHRISTOPHER T &	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420003B0	566,273	LYNCH GERALD H & LOIS M	26225 HICKORY BLVD	BONITA SPRINGS	34134

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254724B20420011A0	1,141,156	HAKIM CHRISTIANE M	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420011D0	594,923	WALSH NANCY F & JOHN P	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420002A0	561,460	MEYER RODNEY L & KENDALL B	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420012B0	640,091	PANDAZI MARIA	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420001D0	434,793	GOURLEY GREGORY	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420010B0	631,849	BEYER MICHAEL E	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420012A0	676,362	CALVAGNA CHRISTOPHER &	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420004C0	585,023	SIPE ROSE +	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420010A0	667,654	VERCRUYSSSE DONALD ADDISON TR	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420002D0	418,577	SCHROEDER JAMES R &	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420003D0	466,287	BOWMAN FRED	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420005B0	635,559	FRISCHE DONNA J TR	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420005A0	549,160	SEMENCHUK KEVIN TR	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420007A0	616,033	CURTIN THOMAS V & MARY E	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420006A0	602,128	HOCHGESANG MARK P	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420001C0	530,129	BACON NANCY D TR	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B204200PHC0	639,263	MORGAN JOHN M & LORRAINE A	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420008D0	599,991	PEACOCK JAMES R III TR	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420005C0	594,376	STEVENS JANIS L TR	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420007C0	608,761	OMMEN MARY	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420004B0	592,011	POGUE RICHARD A & JAN R	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420002B0	561,460	GARDNER MICHAEL A & DEANNA TR	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420010D0	590,907	ANTHONY SIELUCKA TRUST	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420003A0	566,273	ARGENTERO ROBERT L SR &	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420006D0	643,848	LOKEY SHIRLEY +	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420006C0	569,838	HALVERSON KAY	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420006B0	609,321	RONALD LEE WRIGHT TRUST +	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420001B0	530,129	YOUNG ROBERT	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B204200PHD0	745,895	LICHTSINN RONALD L TR	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420001A0	566,860	NIELSEN LINDA C TR	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420008A0	621,908	MOE DANIEL MARK & ROBYN ANN	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420002C0	527,035	OLSON KENNETH D & KAREN S	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420007D0	608,761	FICARELLI ROBERT TR	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420009B0	612,262	PICK MARGARET A TR	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420005D0	601,476	DAGHESTANI ALA E &	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420008B0	662,529	CURTIN WILLIAM J III &	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B204200PHB0	700,162	GEYRHALTER ANTJE	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420012D0	632,534	GORDON B DIANE TR	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420010C0	624,391	PFAFF MAUREEN ANN TR	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420011B0	636,145	MCCOMB GREGORY SCOTT + AMY L	26225 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420201B0	490,403	CHARTRAND DEBORAH T TR	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420208C0	582,324	GRAU JOHANNA	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420203C0	431,346	FENNELL WALTER F &	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420209D0	620,495	HUBER DAVID M + MARGARET E L/E	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420207C0	563,142	JOHNSON TERRY R & DEBORAH A	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420212C0	633,312	GEAROU FAMILY LLC	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420209B0	587,220	DVERGSTEN DAVID H TR	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420203B0	580,743	LOVAS LAND COMPANY LLC	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420202D0	419,092	LEITRIM INVESTMENT LLC	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420201D0	398,945	MARLOW GEORGE E & JOANNE A TR	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420201A0	490,403	YARITSKY ALEXANDER &	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420202B0	596,219	HANSON RICHARD A &	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420206D0	602,868	ELLIOTT KATHRYN B TR	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420202PHA0	655,598	VITO ANTHONY &	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B204202PHC0	740,746	KRESSLER RANDALL L &	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420211A0	581,528	ROLLAND MICHAEL J TR	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420202C0	419,092	VILLEGAS SYLVIA ANN TR	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420206A0	649,918	LAPERLE CLAUDE S & BRENDA +	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420205D0	602,215	CALANDRA MARCIE HUNA	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420209A0	647,751	MOELLER ED & NANCY	26235 HICKORY BLVD	BONITA SPRINGS	34134

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254724B20420208B0	615,321	ALBERS MICHAEL H TR	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420205B0	563,192	CLIFFORD F BERTI TRUST +	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420208D0	615,321	ALBERS MICHAEL H TR	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420206B0	610,069	DOLEJS CONSTANCE O TR	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420202A0	548,817	KOCH FRANZ B &	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420211C0	629,408	URBAN WILLIAM & MARIA TR	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420208A0	622,672	MCLEAN ELIZABETH M TR	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420210D0	591,633	TIEDE DUANE D & CONNIE J	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420201C0	408,637	MESSINGER JOSEPH D &	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420204D0	476,504	EATON YVONNE L TR	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420209C0	620,495	MENCHHOFFER GARY E &	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420204B0	631,456	COLLINS LINDSAY M TR	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420206C0	557,006	DESANTO FRED A & MARY ANN	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420205A0	602,215	BRUCE THOMAS MCNEELY TRUST +	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B204202PHB0	692,748	NG FAR LING TR	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420212D0	633,312	DEBOER KORNELIS +	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420212A0	640,878	KAMMAN KENNETH & WENDY P L/E	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420210B0	668,475	ROBERTSHAW DARREN S &	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420204A0	541,184	GMTM HOLDINGS LLC	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420210C0	625,159	FLANAGAN RICHARD J &	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420203D0	431,346	BLUMROSEN STEVEN	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420210A0	610,331	SMOLEN ANTHONY B &	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420212B0	599,350	PSK LLC	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B204202PHD0	692,748	ZEHNDER-DENTON LINDA L +	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420205C0	595,107	TROHA JOE	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420211B0	629,408	GEAROU FAMILY LLC	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420207A0	602,162	GRIM BETTY L +	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420207B0	651,741	TEMPLETON KAREN M +	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420211D0	595,655	WISNIEWSKI CHARLES J &	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420203A0	580,743	CARLISLE NAN E TR	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420204C0	450,951	YAZEL LORENE FRANCES TR	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B20420207D0	614,499	VITO BONNIE J TR	26235 HICKORY BLVD	BONITA SPRINGS	34134
254724B2043000040	237,037	OCONNOR DONALD	26190 HICKORY BLVD	BONITA SPRINGS	34134
254724B2043000070	159,290	PERRY EUGENE D TR	26190 HICKORY BLVD	BONITA SPRINGS	34134
254724B2043000010	158,679	LOCKE ANAMARIA	26190 HICKORY BLVD	BONITA SPRINGS	34134
254724B2043000050	167,675	PACENTA THOMAS & JANICE	26190 HICKORY BLVD	BONITA SPRINGS	34134
254724B2043000020	164,396	OCONNOR DONALD T	26190 HICKORY BLVD	BONITA SPRINGS	34134
254724B2043000030	176,834	OBLÉNIS ROBERT & HILDA L/E	26190 HICKORY BLVD	BONITA SPRINGS	34134
254724B204300005A	231,799	HOLLY DAVID & BARBARA	26190 HICKORY BLVD	BONITA SPRINGS	34134
254724B2043000060	165,868	LOCKE CHARLES THOMAS JR &	26190 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000306	660,867	WOHLFORD PAUL TR	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000502	646,841	OAKLAND PROPERTIES LLC	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000305	623,777	CHRISTOU ANGELINE TR	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000903	659,220	WRIGHT LORRAINE MARIE TR	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000904	670,248	KILBANE CHERE TR	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000704	647,549	HEATER WILLIAM L III	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000204	592,384	BERINGER PATRICIA	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000405	636,663	LYDER DAVID M &	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000906	726,571	MILDRED E HUNA 2004 TRUST +	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000401	685,877	MCCARTHY KATHLEEN	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000205	631,233	EPPICH ROBERT	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000303	609,704	SOMERSET GARY & LINDA L/E	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038001105	790,987	JOHNSTON SCOTT M TR	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038001104	773,256	BEETY THOMAS EDWARD &	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000802	696,596	WEBBER THOMAS G TR	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000404	648,080	GABEL FAMILY TRUST +	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000702	662,496	AMBASSADOR 701 LLC	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000503	632,247	MUELLER EDMUND H &	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000605	655,277	WEBBER THOMAS G TR	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000206	626,865	HOCHGESANG MICHAEL J TR	26300 HICKORY BLVD	BONITA SPRINGS	34134

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254724B2038000701	713,707	AMBASSADOR 701 LLC	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000504	642,825	BEHLEN JAMES M TR	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000202	631,233	BENNIS ZENALOU J	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038001106	818,144	CARLSON DARLENE R TR	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038001101	818,144	DOLMAGE CYNTHIA S &	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000901	726,571	BROKAW RICHARD H &	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038001004	691,692	BRUCE DAVID J & DONNA J	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000302	638,930	SCOTT J KENNEDY TRUST +	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000603	651,209	JOUBRAN EDWARD +	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000402	663,111	MCKISSICK CAROL HERBERT TR	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000606	689,188	TING MANUEL T TR	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000301	671,996	JERONIMUS JULIANN	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000203	602,294	MITCHELL MICHAEL A TR	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000505	673,711	DIETRICH RAINER KOLB TRUST +	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000806	720,514	MILDRED E HUNA 2004 TRUST +	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038001006	732,032	OROURKE JUDITH E TR	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000804	664,661	HUNGRY HIPPO LLC	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000706	713,707	CANHAM DONALD NORRIS +	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000406	669,610	MAKANT KENNETH L &	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000803	664,661	GILMAN OLGA	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038001003	675,286	SHRADER KAREN L TR	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000601	677,775	AILOR EDGAR I III & SUSAN K TR	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038001103	773,256	SCHUBBE PETER J TR	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038001005	707,733	UNKNOWN HEIRS OF	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000602	666,311	BALA JAMES L TR	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038001001	732,032	YOUNG PHILIP W & FRANCES B	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000501	669,049	REESE CANDACE L TR	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000304	619,904	RESCH GERALDINE L TR	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000403	648,080	BERINGER HARRY	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000902	674,436	SHANK THEODORE H & JILL N	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000201	637,421	GNIEWEK DORIS +	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000604	667,029	CHURCHILL STEPHEN B & ALLA	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000905	702,453	RDL INVESTMENT FL 2 LLC	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000801	720,514	TRENSPORTS INC	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000703	647,549	CDF LLC	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000805	668,814	ZEELO PATRICIA TR	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000705	662,496	TRENSPORTS INC	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038001002	707,733	SHRADER KAREN L TR	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038001102	790,987	BRUMAC NEST EGG INC	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2038000506	669,049	LAKRITZ ESTELLE	26300 HICKORY BLVD	BONITA SPRINGS	34134
254724B2032000070	539,702	TOBIAS PETER M	26236 HICKORY BLVD	BONITA SPRINGS	34134
254724B2032000180	550,851	BROOKSHIRE JOHN DAVID &	26236 HICKORY BLVD	BONITA SPRINGS	34134
254724B2032000010	513,913	PISTO JOSEPH D +	26236 HICKORY BLVD	BONITA SPRINGS	34134
254724B2032000110	605,665	JEAN P STEINMEYER TRUST	26236 HICKORY BLVD	BONITA SPRINGS	34134
254724B2032000090	585,561	MCFARLANE DAVIA K TR	26236 HICKORY BLVD	BONITA SPRINGS	34134
254724B2032000040	568,927	LEESON GREGORY SCOTT &	26236 HICKORY BLVD	BONITA SPRINGS	34134
254724B2032000190	559,657	ERRICOLO JAMES P &	26236 HICKORY BLVD	BONITA SPRINGS	34134
254724B2032000210	607,211	CLARKE MICHELLE JENNIFER	26236 HICKORY BLVD	BONITA SPRINGS	34134
254724B2032000060	513,913	LEDoux MARK TR	26236 HICKORY BLVD	BONITA SPRINGS	34134
254724B2032000150	597,657	DENNE JAMES AIDEN	26236 HICKORY BLVD	BONITA SPRINGS	34134
254724B2032000140	618,176	DWYER LAURENCE JOHN TR	26236 HICKORY BLVD	BONITA SPRINGS	34134
254724B2032000200	798,542	SCHAFER JOHN D & CAROL A	26236 HICKORY BLVD	BONITA SPRINGS	34134
254724B2032000020	588,460	MARY ANN MEYEROFF QPRT +	26236 HICKORY BLVD	BONITA SPRINGS	34134
254724B2032000130	550,851	ROSS WILLIAM F JR & LAURA J	26236 HICKORY BLVD	BONITA SPRINGS	34134
254724B2032000230	559,657	DEPTULA DAVID M & CYNTHIA L	26236 HICKORY BLVD	BONITA SPRINGS	34134
254724B2032000100	585,561	FILOTIMO REALTY CORP	26236 HICKORY BLVD	BONITA SPRINGS	34134
254724B2032000220	686,646	HERNANDEZ GEORGINA S TR	26236 HICKORY BLVD	BONITA SPRINGS	34134
254724B2032000080	605,665	1704 ASSOCIATES INC	26236 HICKORY BLVD	BONITA SPRINGS	34134
254724B2032000120	539,702	COST ROBERT C & KAREN M	26236 HICKORY BLVD	BONITA SPRINGS	34134
254724B2032000030	568,927	MEYERHOFF MARY ANN TR	26236 HICKORY BLVD	BONITA SPRINGS	34134

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254724B2032000050	588,460	LEWIS JOSEPH G &	26236 HICKORY BLVD	BONITA SPRINGS	34134
254724B20410002B0	770,797	ABERNETHY THOMAS C &	26130 HICKORY BLVD	BONITA SPRINGS	34134
254724B20410003A0	849,142	AMANCAY CORPORATION	26130 HICKORY BLVD	BONITA SPRINGS	34134
254724B20410004A0	866,682	PETROS ANGELE TR	26130 HICKORY BLVD	BONITA SPRINGS	34134
254724B20410005A0	880,538	WACHTER BARBARA R TR	26130 HICKORY BLVD	BONITA SPRINGS	34134
254724B20410002A0	825,020	SCHWARTZ DOROTHY &	26130 HICKORY BLVD	BONITA SPRINGS	34134
254724B20410005B0	894,963	BRAND SHARON TANURY TR	26130 HICKORY BLVD	BONITA SPRINGS	34134
254724B20410003B0	793,333	WESTFORT RICHARD L &	26130 HICKORY BLVD	BONITA SPRINGS	34134
254724B20410001A0	785,360	MAKOWAN TED J & SANDI L	26130 HICKORY BLVD	BONITA SPRINGS	34134
254724B20410004B0	809,721	CLARK JAY K +	26130 HICKORY BLVD	BONITA SPRINGS	34134
254724B20410001B0	733,743	JOSEPH R DRISCOLL TRUST +	26130 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021003010	685,035	WOLF LLOYD A TR	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021008030	737,995	MCEVOY DONALD F & TERESA A	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021002060	614,228	CASA BONITA ONE CONDO 206 LLC	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021001010	633,580	KENNEFICK KEVIN	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021001020	472,828	WONG CHU YAN	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021008050	725,215	SILVA GLENN A TR	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021005070	710,363	HAMID ISMAT TR	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021008060	750,229	CASA BONITA 1-806 LLC	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021002070	665,575	WILSON JACOB F +	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021004020	656,616	MYERS STEVEN P TR	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021008040	737,995	RUPERT LORI S TR	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021007020	683,259	FEINGOLD ALLAN S & JUTTA	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021005050	686,061	LUHRSEN KRIS & DIANE	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021004070	699,185	CONNERS KENNETH LEO &	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021003040	632,836	EGAN SHIRLEY M TR	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021008010	798,867	RINEHART DOROTHY M TR	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021005040	656,235	ESTHA BONITA LLC	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021006060	675,815	ROBERT A KUNKEL TRUST +	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021002040	614,860	ROHNE JAMES K & MARLENE M	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021002050	614,860	BEAUNITA LLC	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021002020	625,052	GALASSI IRENE M TR	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021003050	632,836	CHEAL WILLIAM J JR	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021003030	632,836	BEAUCHEMIN RICHARD G TR	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021002030	604,212	IRON BUTTERFLY PROPERTIES LLC	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021006050	664,794	PRATTE RICHARD L & CARLA C	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021001050	523,489	ROY SUZANNE	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021005030	656,235	HESLER ROBERT M	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021003070	685,035	BONANNO VINCENT S & LINDA G	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021006010	752,539	FINAN PATRICK +	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021001070	622,608	B5 LLC	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021004010	687,078	MUSKE JANE P TR	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021004040	645,910	LOFTUS JASON MICHAEL &	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021003020	643,326	PARKER DOUGLAS A & JANE M	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021002010	665,575	RUANE RIA A	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021005060	655,561	STAUDT MICHAEL A	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021007010	727,557	PESILLO CLAYTON O & KAREN S	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021001060	503,165	ROGERS DAVID H & MARY E	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021008020	750,229	GRASMAN BARBARA L	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021004030	634,724	WOOD JACOB &	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021006020	675,815	CB ONE 602 LLC	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021007030	660,479	RAIN WILLIAM R & MARY ELLEN	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021004060	656,616	LEO MICHUDA & SON COMPANY	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021007070	727,557	ASHBY JO ELLEN	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021006030	664,794	MARTINEZ GUSTAVO &	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021004050	634,724	CORDOVA MARIA E & RODRIGO	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021007040	672,118	SERCHUK FREDRIC M & SANDRA TR	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021007050	660,479	GHAZI SHAHEEN +	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021003060	643,326	HABERSTROH ROBERT W L/E	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021007060	683,259	STOCKTON DONALD J &	26000 HICKORY BLVD	BONITA SPRINGS	34134

PARCELNO	JV	OWN_NAME	PHY_ADDR1	PHY_CITY	PHY_ZIPCD
254724B2021006070	719,628	GHAIDA KHODHER TRUST	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021005010	710,363	887531 ONTARIO INC	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021005020	655,561	MCHUGH ROBERT T & AMY P	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021008070	798,867	LEE VINCENT N & CHRISTINE M	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2021006040	664,794	CLINKENBEARD DAVID E &	26000 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035008C20	632,370	PIENING RALPH B III +	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035007B20	560,872	RICHTER ROY J TR	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035005A20	532,123	DAVIDSON CODY D & CONDA I	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035004B20	525,272	ANGELO J CALIENDO TRUST +	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035009B20	569,838	JOHNSON JAY L & SHIRLEY D TR	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035004D20	525,272	SOLBERG CRAIG E TR	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035007C20	607,246	BONITCO INC	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035006D20	601,510	TAYLOR NANCY C TR	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035005B20	549,521	REAM DAVID L & CONNIE	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035007D20	627,099	CAMPBELL ENDRES M &	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035009D20	637,124	MACDIARMID PRESTON R &	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035003D20	489,279	ZLUPKO GEORGE M	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035002D20	506,543	POSS LAWRENCE D & TRAYCE L	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035005D20	549,521	MONDELLO THOMAS J &	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035002A20	500,128	BOVE FRANK J TR	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035001B20	501,806	DAVID GEDALECIA TRUST NO ONE +	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035006B20	509,132	HAVERSTOCK RAYMOND & FAYE	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035004A20	525,272	RENZI VINCENT R & LISA J	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035009C20	616,954	MERCKER ANDREW J	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035001D20	492,154	ISLE SEAS YOU HERE LLC	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035002C20	506,543	JAMES P TR	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035003A20	510,459	SASSE CARLOS R + MARGARET C TR	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B203500PHN2	1,341,547	DSI HOLDINGS LLC	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035004C20	525,272	DUNHAM PAUL M + LINDA	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035002B20	532,794	H E REINERT HOLDINGS CORP	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035001C20	508,243	HODGE JAY & STEPHANIE	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B203500PHS2	1,341,547	SOUTHSIDE PHS LLC	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035008B20	565,587	GREENFIELD REAL ESTATE MANAGEM	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035003B20	527,146	RIZZO DIANE E +	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035006A20	537,986	MIEDE DEBORAH H +	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B20350010A2	573,712	PIRET JOHN J & IRENE E	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035001A20	459,859	CAULKINS WILLARD H &	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035007A20	543,116	VOGELBACHER MICHAEL &	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B20350010B2	555,549	LARSON ROBERT G TR	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035005C20	549,521	DEATON WAYNE & PATRICIA	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035008A20	547,682	BELLINA RUSSELL F &	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035006C20	569,250	RAFFIN LOUISE A TR	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B20350010D2	641,455	SEA ISLES HOLDINGS INC	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B20350010C2	621,148	VAUGHN RHETA A TR	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035009A20	551,798	ANDERSON ROBERT W & MARY L	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035003C20	517,008	HUTTON JOHN	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035008D20	632,370	HAUSFELD EILEEN M TR	26171 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035001B10	485,920	TALL OAKS LLC	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B20350010D1	621,148	POBANZ BRIAN P & KAREN A	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035005D10	549,521	JONES WILLIAM TR	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B203500PHN1	1,080,788	CADLE PATRICK R	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035002B10	500,128	EBNER CATHLEEN C +	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035005C10	549,521	WIEDEN JEFFREY P TR	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B20350010B1	555,549	FLACK JOYCE B L/E	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035009C10	616,954	JOSEPH KEITH & DIANE	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035007B10	560,872	HODGES MARSHA	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035008B10	565,587	BARNARD REAL ESTATE HOLDINGS L	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B20350010C1	621,148	SPRINT PRINT INC	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035002A10	500,128	BURKHEIMER DENNIS L &	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035007C10	627,099	HOUSER ELWOOD G & MARY LOU TR	26131 HICKORY BLVD	BONITA SPRINGS	34134

PARCELNO	JV	OWN_NAME	PHY_ADDR1	PHY_CITY	PHY_ZIPCD
254724B2035003B10	510,459	LACLAIR PATRICK M +	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035006B10	555,574	MCLELLAN CAROL A TR	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035006C10	601,510	PAUL L GRAFENBERG TRUST +	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035007D10	627,099	MORGAN GRADY & BETHANY	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035009B10	551,798	ROWLAND JOHNNY L & ELLEN M TR	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035003C10	517,008	SARFF ROBERT & BARBARA	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035005A10	549,521	NUSBAUM KEITH A & KATHY C	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035008A10	565,587	MCINERNEY DEBORAH TR	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035001D10	492,154	FRUEN MARK R & NADENE B	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035001A10	517,659	BROWN HAROLD M JR + BETTE KAY	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B20350010A1	573,712	SHEFFER VIRGIL E TR	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035008C10	612,351	LINSALATA DALE	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035003D10	517,008	CHURCH LESLIE J TR	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035009D10	637,124	EAST GUY M TR	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035005B10	549,521	GALLIER LINDA G	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035009A10	607,058	WALKER JOHN R & ELIZABETH J TR	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035004C10	577,876	JOHN W STEVENS INC	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035002C10	506,543	SPOELHOF CRAIG J TR	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035004B10	525,272	JYD ENETERPRISES	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035004A10	542,445	EMMENECKER STEPHEN J &	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035006D10	601,510	MOLLOY PATRICIA A TR	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035002D10	523,103	BODELL PHYLLIS A TR	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035008D10	673,675	GEORGE JINGER K	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035003A10	510,459	BARNARD RAY F & ANN	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035004D10	542,445	LARSON ARTHUR T JR TR	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035006A10	591,862	RHOADES PAT A TR	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035001C10	492,154	SCHROEDER MICHAEL L &	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B2035007A10	560,872	FINK ROBERT J & DOLORES T	26131 HICKORY BLVD	BONITA SPRINGS	34134
254724B203500PHS1	1,080,788	PAUL SALLY M	26131 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C6320	561,393	BERENS DOUGLAS W TR	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C3340	534,406	JJCS VACATION RENTALS LLC	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C2300	519,225	TIBBITTS GEORGIA HEATH TR	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C2380	581,762	THORESON WESLEY & PATRICIA	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C5360	554,166	LYSINSKI ADAM TR	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C4380	625,987	DONALD C CLAY TRUST	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C3380	613,317	CALANTONE ROBERT + PATRICIA	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C7360	567,578	DALTON STEVEN & KIMBERLY	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C4240	611,140	GUDENKAUF SUSAN J	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C2360	531,839	VRANICAR JON M & CAROL J TR	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C7320	567,578	STUEVEN HARIAN A & KATHLEEN TR	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C5340	554,166	RUSO DAVID +	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C7380	701,106	SWOGGER SCOTT A & CAROLYN J	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C5260	600,459	CJ RIGAS LLC	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C5280	600,459	FLORIDA OASIS LLC	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C6280	561,393	FERREE JOSEPH WILLIAM III TR	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C3300	547,389	BOUREN MARK W & DAWN M	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C2240	581,762	HAGEN JOYCE S TR	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C1260	413,070	BONITA BEACH CLUB CONDO	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C5300	567,628	MENNEN JAMES G &	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C4300	558,696	SEGRO BASIL	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C6260	561,393	INFRASERV CONSULTING LLC	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C4340	558,696	SMITH AYNLEY M & HUGH C TR	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C6340	631,354	DIEDERICH THOMAS C TR	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C6380	644,289	FRISKNEY MICHAEL D	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C5380	613,132	VIZANKO JAMES & KATHLEEN	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C6240	644,289	YORK KAY	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C6300	608,290	MESSANA FARA J TR	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C3260	534,406	VAN HOOGSTRAAT KENT TR	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C7280	610,900	HENRY ELIZABETH P TR	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C7300	567,578	GOTTS CANDIS A TR	25730 HICKORY BLVD	BONITA SPRINGS	34134

PARCELNO	JV	OWN_NAME	PHY_ADDR1	PHY_CITY	PHY_ZIPCD
244724B40310C7240	651,387	YORK RAY	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C6360	561,393	GLASS PAUL K TR	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C5240	698,288	YORK KAY	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C7260	610,900	MUNGO DAVID & MICHELLE S	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C2280	531,839	RYAN JANICE M TR	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C3360	534,406	KAYLOR KEN +	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C5320	554,166	MOORE MARY SUE TR	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C4260	545,446	CZUBARUK KAREN +	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C2260	562,599	DEWOLF GLORIA I TR	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C2320	531,839	HOWARD NANCY L TR	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C3280	547,389	ENGLISH THOMAS F &	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C4320	545,446	SAUTER KAREN TR	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C1360	290,771	KRAGE PAUL H & JOANNE M	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C3320	547,389	RUDYK DAVID + KAREN	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C7340	610,900	LYSINSKI ADAM TR	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C2340	519,225	ROSS KEVIN LEE & DEBRA LEE TR	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C3240	609,529	BLUMENFELD JENNIFER J TR	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C4360	558,696	SIAPNO RODRIGO R & EMILY T	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310C4280	545,446	SCHAEFFER ROBERT P	25730 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E2560	489,511	POZO OSCAR DANILO & NORMA E	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E6560	529,265	MCCANN JAMES R & MELVIA L	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E1540	270,294	RYERSON ERIC	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E6520	595,353	KROMM ROGER E & BARBARA A	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E6600	542,123	WALTHER RICHARD E L/E	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E3560	516,062	DELPEZZO STEVE & ELLEN	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E4520	592,493	SPARKS GARNET B & JULEEN E	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E6540	573,478	JANIS BUCHBINDER SUSAN +	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E7560	535,096	BUCHANAN ANDREA C	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E3580	503,823	ANNE MARIE RAZZA TRUST +	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E2520	550,634	POLANKA KENNETH J TR	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E4560	514,230	LATHAM STUART H & CARLA P	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E3620	566,733	GEORGE E RUSSELL TRUST +	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E5520	587,688	HENRY KURT D	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E5540	522,451	CARSON SUNSET PROPERTIES LLC	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E7540	535,096	KOPYTEK KRISTYNA TR	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E5620	601,965	JOAN AND FRED LLC	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E7620	616,534	KIERNAN TERENCE P TR	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E2540	501,402	SWAYZEE JAMES C	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E6620	609,817	KONDES JOYCE TR	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E5600	535,143	HAUGDAHL STEVEN J &	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E2620	564,010	SWOGGER SCOTT +	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E7520	601,911	MARIC GORAN +	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E7580	575,938	DACHROTH JANET TR	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E5580	522,451	EMERY MARGUERITE TR	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E3540	503,823	KDH REALTY INC	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E4600	514,230	CHANDLER SHARON	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E4580	566,926	MUELLER JEFFREY J & JILL H	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E3600	503,823	ISHAM FREDERICK L TR	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E7600	548,095	NESI KATHLEEN MORO TR	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E4620	592,493	SAUTER LAURETTE	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E3520	566,733	LALKA STEPHEN F TR	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E2600	489,511	BKP INVESTMENTS LLC	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E2580	489,511	RUSSELL GEORGE E & JUDITH A	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E6580	529,265	FREDA RICHARD L +	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E5560	522,451	TURNER ROBERT T & JO ANNE	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310E4540	514,230	DRESS STEPHEN TR	25750 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D5400	587,688	MINECK COREY W TR	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D6480	529,265	GIBBS JAMES P JR &	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D4420	514,230	CHESNUTT MICHAEL A &	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D7420	535,096	BARNETT DANIEL G & MARY L	25740 HICKORY BLVD	BONITA SPRINGS	34134

PARCELNO	JV	OWN_NAME	PHY_ADDR1	PHY_CITY	PHY_ZIPCD
244724B40310D7440	535,096	BARTELS MARLENE K TR	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D2480	501,402	HANNASCH BRIAN P TR	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D7460	535,096	FRICHTEL MARK & MELISSA	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D4460	514,230	LEVENE JOHN A &	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D5460	535,143	HELLER JOHN A TR	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D4400	578,441	RUSO MARLA J	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D5480	522,451	IVETICH MICHAEL J & SYLVIA	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D2500	550,634	WELLS JENNIFER & ZACHARY	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D3500	580,501	RJT PROPERTY INVESTMENTS LLC	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D3440	503,823	BARKER MELVIN E & ANNELLA	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D6440	542,123	DALESSANDRO JAY J +	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D7400	668,037	SULLIVAN TIMOTHY P &	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D2420	489,511	WELLS CHARLES RANSOME III &	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D5500	587,688	CHARLES E BRASHEARS TRUST +	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D2460	489,511	MCCANN JENIFER D &	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D1420	270,294	MCKENZIE SALLY A TR	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D7500	616,534	HAYHURST THOMAS E &	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D6420	587,409	VALENTE VINCENT P & NOEL M	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D2400	611,126	ZAJAC GREGORY	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D5420	522,451	PETIT FAMILY TRUST	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D4480	514,230	OWNBY HAROLD EMMETT	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D4500	578,441	FLYNN PATRICK BRYAN	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D3420	503,823	CARSON DANA	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D5440	562,328	VANDREUMEL JAMES W &	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D3400	566,733	AGRICOLA GREGORY A +	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D6460	529,265	MEHBOD DARLENE TR	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D6400	595,353	DAVIS DAVID M JR TR	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D3460	503,823	FRIESZ CAROL L	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D2440	543,287	HANNIGAN DALLAS & HOLLY	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D7480	535,096	JEROME R KIPKE TRUST +	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D4440	514,230	RETO ROBERT J & MARY A	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D3480	503,823	INTERNATIONAL CAPITAL	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310D6500	609,817	FRICHTEL MARK A TR	25740 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B4180	557,187	WILLIAM M CHANDLER TRUST +	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B4120	592,493	BBC412 LLC	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B2140	489,511	SWAIN KRISTIN A	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B6220	640,795	ALBREGTS THOMAS A & ERIN M +	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B5120	601,965	PETSCH WILLIAM M &	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B2200	489,511	BAB 220 LLC	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B5180	522,451	LUDES MARK F &	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B3140	503,823	ENGLISH-ARENSON LAURA J TR	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B6200	573,478	HOMMERDING W J & CAROLINE L	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B6160	529,265	DYE JAMES M TR	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B7200	535,096	CLIFFORD JOHN C & KATHRYN L	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B4140	514,230	CREMERS SOUTH LLC	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B5160	535,143	HOJNICKI CHESTER J &	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B2120	550,634	MCKEEN BRIAN J	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B1180	270,294	DEMAAR JOHN ANDREW & JAMIE	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B4160	526,723	KONDES JOYCE M TR	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B2160	489,511	NEWELL WILLARD F & CHERYL W	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B5200	522,451	25720 HICKORY BLVD UNIT 520 LL	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B6180	529,265	KORB ANJA	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B3160	503,823	CLARK MELINDA	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B7180	548,095	IANNUZZI JOHN F TR	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B5220	632,545	CLUGH LARRY R & LOU ANN	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B3180	516,062	MORISSEAU LORENE A TR	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B2180	489,511	BULLERMAN IVAN +	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B7160	535,096	GOODMAN MARILYN JUNE M TR	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B7120	601,911	SWAN JOHN R & BARBARA S	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B4200	526,723	SIZEMORE AMY P +	25720 HICKORY BLVD	BONITA SPRINGS	34134

PARCELNO	JV	OWN_NAME	PHY_ADDR1	PHY_CITY	PHY_ZIPCD
244724B40310B3120	566,733	SPRING RUN 906 LLC	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B5140	566,095	SUCHODOLSKI NATALYA TR	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B6140	529,265	SCHAEFER STEPHEN M &	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B7220	616,534	LATHAM JEFF B & LEIGH B	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B6120	660,758	WALKINSHAW DOUGLAS &	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B3220	566,733	HEGG KYLE R & KATHERINE S	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B4220	637,716	SWAER DEAN A & JUDITH A	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B3200	503,823	PRAIRIE DUANE E & ANITA R L/E	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B7140	535,096	RYAN JANICE M TR	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310B2220	550,634	9 GRANDKIDS LLC	25720 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A3080	516,062	DUFFY TERRENCE J & TARA A	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A2100	550,634	N2N HOMES LLC	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A4020	514,230	STRAWN AMY MARGARETHA +	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A7040	535,096	GRIEG GARY S +	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A4040	514,230	PAOLA DONNA L TR	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A4000	592,493	YOUNG ROGER A & PAMELA S TR	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A5080	535,143	HENRY CHRISTOPHER G &	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A6100	595,353	GLODEK SANDRA LEE	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A7020	535,096	BROZEK ANTHONY P &	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A1060	270,294	BERG JOHN &	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A3100	580,501	SCHNEIDER KENNETH J &	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A4060	514,230	RITCH JERRY M & MARSHA M	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A6080	542,123	THACKER WILLIAM L TR	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A6040	573,478	RUSSELL C KOOP TRUST +	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A2040	489,511	ELWOOD JOHN A	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A4100	578,441	MILLS FREDERIC ALLEN &	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A3000	580,501	PAALMAN JOHN K +	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A6060	529,265	ELWOOD JOHN A TR	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A5040	535,143	TONIGAN HENRY C	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A6020	529,265	DEARWESTER MICHAEL & LYNNE	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A5060	535,143	HETZER CHRISTOPHER J TR	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A7060	535,096	STOREY SCOTT A TR	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A3020	503,823	RITCH JERRY & MARSHA	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A5020	522,451	LUKE DAVID W & CYNTHIA J	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A3040	503,823	MKMI PROPERTIES LLC	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A4080	514,230	HOMESTAR LLC	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A3060	503,823	GAZDA SANDRA ANNE	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A2080	489,511	EMANON SOUTH LLC	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A5100	587,688	HENRY CHRISTOPHER G &	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A2000	635,633	HANSON DEBRA E TR	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A5000	601,965	REUTCKY MATTHEW A &	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A2060	501,402	DIMEO JOHN & CLARA	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A2020	489,511	GOEDEKING VAN L TR	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A7000	616,534	CHOICE INVESTMENTS LLC	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A7080	535,096	LAMB LINDA S TR	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A6000	656,362	GLASS PAUL KENNETH TR	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40310A7100	693,367	LUKE STEPHEN & DONNA	25710 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E3020	580,374	SANDPIPER FLORIDA LLC	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E0PS0	1,182,628	POWELL DIANE D TR	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E6080	388,337	DRENTH KENNETH R & CAROL R TR	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E6070	558,729	DELTORCHIO JOHN JR TR	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E4010	590,659	BAILEY NORMA JEAN	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E6100	647,637	DAVID J DVORAK TRUST +	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E3080	347,004	LEGNOLA LAWRENCE L &	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E6010	607,929	WILCOX BARBARA L TR	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E2020	516,760	ROHOWSKY GEORGE & COLLEEN	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E0PNO	1,230,068	DHH LAND HOLDINGS LLC	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E3030	366,667	SAVOLDI WALTER A &	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E2050	530,708	PERRY RICHARD TR	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E6040	572,302	LARKIN SUZANNE J TR	25810 HICKORY BLVD	BONITA SPRINGS	34134

PARCELNO	JV	OWN_NAME	PHY_ADDR1	PHY_CITY	PHY_ZIPCD
244724B40340E5080	359,834	CALLANDER BRUCE &	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E4080	354,172	BOUDREAULT MICHEL &	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E5040	551,535	LLP INVESTORS LLC	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E6030	388,337	JAYE FAMILY LAND TRUST +	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E5060	580,181	MID ATLANTIC VENTURES LLC	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E1020	503,870	JADEZUK WALTER TR	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E1030	320,939	RAGAN DONALD H &	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E4020	556,044	HOFFMAN NANCY J & JAMES A	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E4060	557,508	LIVINGSTON JAMES G TR	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E6020	558,729	KIMBO LLC	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E4090	542,856	SMITH RICHARD L & DENISE A	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E2010	598,990	BAILEY BILL L & NORMA JEAN	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E4050	571,053	MANSOUR BRIAN A & DENISE M	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E5020	551,535	SAMUELSON JANE S TR	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E6050	573,810	RAYMOND W SIWIEC TRUST +	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E1070	491,919	IPSON JOHN H III & GLORIA A	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E1080	320,939	COLUCCI NICHOLAS	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E3040	531,870	ECKLOFF ALVIN A &	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E2030	337,147	NEUKAM FRITZ A & HELGA E	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E5070	551,535	HOUT ANN N	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E5100	600,101	DAVIDSMEIER WILLIS G & PAT	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E3060	546,226	PAUL MICHAEL P & KATHY A	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E4100	576,650	ZIEMBA JOHN S TR	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E6060	626,140	BAUSS DOROTHY C TR	HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E4070	578,315	STITLE ALLISON N	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E1060	505,197	CHAMIZO JUAN +	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E5090	551,535	BRACHER-RADECKER TANJA +	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E3050	559,495	JADEZUK WALTER TR	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E5050	580,181	PEARSON BRUCE E & CAROLE M	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E1040	491,919	KENGOTT RANDY J	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E3100	578,705	THOMAS GORDON HOPKINSON TRUST	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E2080	337,147	MOLITIERNO SALVATORE V &	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E3090	531,870	GRIMM NANCY J TR	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E2040	516,760	SIWIEC RAYMOND W TR	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E3070	531,870	SEASCAPE LLC	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E2070	529,314	BIANCANIELLO ELIZABETH M TR	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E3010	578,705	MARANGOLA JOHN P &	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E2060	579,108	HOLZWORTH MARIANN T TR	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E1050	505,197	GEORGE MARIE +	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E5030	359,834	STILWELL TIMOTHY G &	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E6090	572,302	RUSSELL BRIAN P & ERIN K +	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E4030	354,172	LUKES LUXURY BEACHFRONT PROPER	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E1010	556,673	BAILEY NORMA JEAN	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E4040	542,856	BEETY THOMAS E & BARBARA J	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E1100	570,196	BERKMAN LINDA S TR	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E2100	598,990	SCHUMAKER ALBERT H II	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E1090	503,870	SEARAY LLC	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E5010	585,870	ALLIBONE PAUL M & LINDA	25810 HICKORY BLVD	BONITA SPRINGS	34134
244724B40340E2090	516,760	GAROFALO ROBERT S SR &	25810 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022005020	697,622	ELBOGEN LISA M TR	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022005050	644,871	THOMPSON BRIAN K &	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022002020	708,238	CBER LLC	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022008030	725,215	PALMER MARLENE J TR	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022005040	674,180	NICHOLLS GERALD	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022005070	742,850	FORBES JOHN K +	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022001020	494,452	WADE JOANNE TR	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022006070	752,539	CARBONI TOM TR	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022002050	604,212	1704 ASSOCIATES II LLC	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022001010	651,081	MARTIN JAMES A & DONNA F	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022002070	683,960	CASA BONITA 207 LLC	25870 HICKORY BLVD	BONITA SPRINGS	34134

PARCELNO	JV	OWN_NAME	PHY_ADDR1	PHY_CITY	PHY_ZIPCD
254724B3022008020	784,538	DEKONING THOMAS TR	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022004060	645,246	PAUL A SHIVELY TRUST	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022002010	696,013	CHAN JOSE AGUSTIN &	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022001050	523,489	LANIER TIMOTHY L &	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022002060	653,637	GALASSI GARY F TR	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022005030	656,235	MONGE GLORIA L/E	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022004020	645,246	DYE JAMES W &	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022007040	672,118	ROWLES RODGER EARLE TR	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022006050	695,009	PRICE KAREN OLIVOLA TR	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022003050	621,878	REAM CYNTHIA L & NORMAN H TR	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022004050	663,572	ABDELALL MONA & FATHY M L/E	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022004030	634,724	MATHERS CRAIG A & JUDITH A TR	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022006020	675,815	MCGEOUGH PETER & MARGARET	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022006030	653,282	HOGAN KEVIN & LUCY ANN LIND TR	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022008070	798,867	RANDALL TODD P & BARBARA J	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022001060	494,452	SCORDO PAT & LUCREZIA	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022003060	643,326	SHANKS ELIZABETH S	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022008050	758,176	LUKE DAVID W & CYNTHIA J	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022007060	714,507	HUDSON CHRISTOPHER A &	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022007050	660,479	TODD SUSAN K TR	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022003010	716,363	JAY T PEARSON TRUST +	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022003040	661,598	HERMANN MICHAEL L TR	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022007030	672,118	STEPHENSON SCOTT B &	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022008010	798,867	BONITA BEACH 801 LLC	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022006040	682,974	SHEA CHRISTOPHER H +	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022008060	750,229	AURAY DENNIS R & JENNIFER N	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022006010	752,539	MCGEOUGH PETER & MARGARET +	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022007070	760,829	KRESACH DANNY J &	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022005010	742,850	WINDLEY ANN O	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022008040	771,537	DALAO MHD MOUHANNAD &	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022001070	651,081	ROBBINS-PENNIMAN GUS E &	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022003020	632,187	BENSMAN DANIEL A & LORI A	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022007020	683,259	FREE DEXTER S & BONNIE L	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022006060	675,815	MURRAY J ROY & SHERRY W	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022004040	663,572	CLARK VIRGINIA D TR	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022004070	699,185	SL FRY LLC	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022004010	731,161	H E REINERT HOLDINGS CORP	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022003030	621,878	SORZANO SHANNON H TR	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022007010	760,829	BASALT RIVERVIEW LTD	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022002030	631,673	HAUGHEY BRADLEY &	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022002040	604,212	MEYER CAROL J TR	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022005060	667,113	KAELIN DEBRA A TR	25870 HICKORY BLVD	BONITA SPRINGS	34134
254724B3022003070	703,958	RAWSKY JAMES R & ANN E	25870 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029006050	646,162	1704 ASSOCIATES INC	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029003040	604,448	JOHN T WESTERMAN JR TRUST +	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029002030	587,277	CASA BONITA GRANDE 203 LLC	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029006070	819,754	BASALT RIVERVIEW LDT	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029003050	590,638	COLAVITO FRANK L & JEAN L L/E	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029005020	637,843	LEVI RYAN	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029001010	721,733	GALANTE TIMOTHY & MARY TR	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029001070	721,733	BB107 LLC	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029007070	783,541	MALLOY JOHN R TR	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029003060	615,099	FREEH THOMAS D & BEA KAY	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029006030	646,162	HEITMANN RONALD F	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029004040	627,806	MASON JOSEPH R & SANDRA A	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029001020	568,897	HACIAS KYLE A	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029002050	587,277	ALBRECHT ROBERT R &	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029004070	796,467	KORTEN MARGARET W TR	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029006060	646,162	STUART JUDITH A	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029001050	508,817	PLOHG TIMOTHY H +	25900 HICKORY BLVD	BONITA SPRINGS	34134

PARCELNO	JV	OWN_NAME	PHY_ADDR1	PHY_CITY	PHY_ZIPCD
244724B3029008030	702,206	FRASER THOMAS J &	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029005010	809,201	CARUOLO REBECCA RAFAELIAN TR	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029004010	796,467	KRATZ BEVERLY A TR	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029007010	783,541	TITAN INVESTMENT LLC	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029002070	758,180	SCHWYN CASA BONITA LLC	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029008020	702,206	MASCIOLA MICHAEL & ELAINE	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029007060	653,280	TABET BECHARA GEORGE	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029006020	646,162	WITTENBURG JUDITH E TR	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029005060	637,843	GATTO KENNETH V TR	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029005030	626,797	LEE-MACHIZ MARY ESTER TR	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029007020	627,299	DOPPEL RICHARD C & JANET I	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029005050	612,475	BONNEY TRACY M TR	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029002010	758,180	BASALT RIVERVIEW LTD	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029003070	780,347	PANDAZI HELEN TR	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029006010	819,754	WAGNER R ROBERT & ANNE C	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029003020	615,099	BALDUCCI LISA ZARRO &	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029003010	780,347	BENSON JOAN S +	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029004050	616,935	CRISP JEREMY & IRENE	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029008040	702,206	MOUKIE LLC	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029001060	559,046	ZBORIL DAVID R & LISA K	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029008050	702,206	TJC RAD 1 LLC	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029004030	627,806	RILEY WILLIAM IRVING &	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029005040	637,843	THOMAS JANE N	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029002060	597,626	KELLEY RANDALL D &	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029005070	809,201	HABERMAN GENE A & BARBARA A TR	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029007040	616,437	LANDO LAWRENCE J & KAREN C	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029006040	634,972	SIWA KEVIN TR	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029002040	597,626	DEBS MICHAEL E & ZEINA K	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029004020	627,806	WYMAN ARTHUR N & DIANE M	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029007050	627,299	CHAPMAN PATRICIA N	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029007030	653,280	MURPHY WILLIAM AL	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029004060	627,806	DANGELO LOU & DIANE	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029002020	597,626	WAGNER R R & ANN C	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029008070	916,079	MASCIOLA MICHAEL & ELAINE	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029008060	702,206	ROHMAR COMPANY LTD	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029003030	615,099	ACOSTA PABLO J & HOPIE M +	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3029008010	916,079	BLACK TERRY P + KIMBERLY K	25900 HICKORY BLVD	BONITA SPRINGS	34134
244724B3046000003	1,155,586	BINA INC	25851 HICKORY BLVD	BONITA SPRINGS	34134
244724B3046000002	1,019,357	OLIVER LESLEY SUSAN TR +	25851 HICKORY BLVD	BONITA SPRINGS	34134
244724B3046000001	1,105,787	LENDON H MAURA TR	25851 HICKORY BLVD	BONITA SPRINGS	34134
244724B3045004020	638,623	STUTTGEN JANET T BUZZELL TR	25875 HICKORY BLVD	BONITA SPRINGS	34134
244724B3045004010	642,900	BANE KENNETH +	25875 HICKORY BLVD	BONITA SPRINGS	34134
244724B3045003010	620,481	WILLIAMS BARBARA W	25875 HICKORY BLVD	BONITA SPRINGS	34134
244724B3045003020	658,545	JOHN F ONEILL JR TRUST +	25875 HICKORY BLVD	BONITA SPRINGS	34134
244724B3045002020	622,717	BENDER DELORES A TR	25875 HICKORY BLVD	BONITA SPRINGS	34134
244724B3045002010	594,609	DAUTERMAN WILLIAM D &	25875 HICKORY BLVD	BONITA SPRINGS	34134
244724B3045005010	753,401	BACHMAN BARBARA TR	25875 HICKORY BLVD	BONITA SPRINGS	34134
244724B3045005020	784,556	ERIC J LOEFFLER TRUST +	25875 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033001060	436,017	KERZAN GORDON J TR	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033004030	457,362	SHEA CHRISTOPHER H +	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033006010	646,124	HAIMES CHARLES N	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033004060	443,843	BRINK JOHN M TR	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033001050	423,040	RAUSCHER DAVID C & KELLY M	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033002050	417,155	ZAVLIN BORIS PAUL & NI JIA	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033002060	450,104	SCHAEFER GARY H & ANN L TR	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033004070	613,201	SUSHACK PROPERTIES LLC	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033003060	434,860	ALLEN DOROTHEA T & MARK G	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033006060	464,870	MENZONE VINCENT A TR	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033002070	552,420	MATOUSEK STEPHEN P	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033003050	436,918	CUPIOLA RICHARD & VIRGINIA	25901 HICKORY BLVD	BONITA SPRINGS	34134

PARCELNO	JV	OWN_NAME	PHY_ADDR1	PHY_CITY	PHY_ZIPCD
244724B3033003010		616,383 CHRISTOFERSON JANE A & LEE	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033004050		466,845 FARLAND LEE M & KATHLEEN M	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033005010		639,173 JOHNSTON HUGH W SR	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033005040		445,227 BRAFMAN KENNETH A & CAROL M	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033005060		458,885 SMURDON JAMES A	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033002030		435,375 ORTMAN TOMMY ROY &	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033006020		456,821 SHELMET JOHN JOSEPH &	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033006030		484,991 CONLEY JAMES J	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033004020		443,843 LONG JAN M & SUSAN L	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033003020		475,241 BERWICK DAVID G & MONICA	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033005050		453,073 SONG RUIYA & HE YIQIN	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033002010		598,873 LOVETT RICHARD N JR	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033006040		451,034 DEVRIES JUDITH D	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033005070		639,173 FREEMAN RUSSELL F &	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033002040		417,155 BUSCH DAVID L TR	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033001020		428,467 RUCKER TIMOTHY M & CONNIE J	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033006050		458,981 LONNEMAN THOMAS C &	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033001070		556,483 HILL TERRY K & JUDY P	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033005030		464,673 WILLIAMS MICHAEL J &	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033004040		438,221 HOLLYER PHYLLIS J +	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033003070		580,769 VER HULST CLARK A TR	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033005020		458,885 HILDEBRAND MICHAEL BRADLEY &	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033003030		436,918 KERINUK DEBORAH W	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033006070		646,124 UNKNOWN HEIRS OF	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033001010		530,053 CLOGGAM INVESTMENTS LLC	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033002020		422,507 BROUILLARD WILLIAM L L/E +	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033003040		453,682 KOZIOL PATRICK A &	25901 HICKORY BLVD	BONITA SPRINGS	34134
244724B3033004010		590,543 DEFINO JOSEPH F & CARLEEN D	25901 HICKORY BLVD	BONITA SPRINGS	34134
254724B20370000CE		- BONITA RESORT + CLUB CONDO	26103 HICKORY BLVD	BONITA SPRINGS	34134
254724B20350000CE		- SEA ISLES CONDO	SEA ISLES CONDO C/E	BONITA SPRINGS	34134
254724B2000020030	1,330,207	SAKAUSKAS ROLANDAS &	26201 HICKORY BLVD	BONITA SPRINGS	34134
254724B2000130000	17,350	SILVIO BATTISTA TRUST	ISLAND	BONITA SPRINGS	34134
244724B3010062000	1,259	BONITA CONSERVATION AUTHORITY	ISLAND	BONITA SPRINGS	34134
254724B204400002A	620,590	SAUBER JERRY S & VALERIE TR	26325 HICKORY BLVD	BONITA SPRINGS	34134
254724B204400001A	649,416	SAUBER JERRY S & VALERIE TR	26321 HICKORY BLVD	BONITA SPRINGS	34134
254724B2000060010	955,578	SAUBER JERRY S + VALERIE TR	26315 HICKORY BLVD	BONITA SPRINGS	34134
254724B2000050000	981,420	SAUBER JERRY TR	26307 HICKORY BLVD	BONITA SPRINGS	34134
254724B2000040000	968,292	SAUBER JERRY TR +	26301 HICKORY BLVD	BONITA SPRINGS	34134
254724B20030000CE	-	BONITA BEACH MOBILE HOME	BONITA BEACH MOBILE HOME VILLAS C/E	BONITA SPRINGS	34134
254724B20420000CE	-	BAY HARBOR CLUB CONDO PH I &	26225/235 HICKORY BLVD	BONITA SPRINGS	34134
254724B2000140000	1,420	BONITA CONSERVATION AUTHORITY	ISLAND	BONITA SPRINGS	34134
254724B2000020020	956,392	BAYSIDE HOLDINGS ON HICKORY LL	26107 HICKORY BLVD	BONITA SPRINGS	34134
244724B30330000CE	-	CASA BONITA ROYALE CONDO	25903 HICKORY BLVD	BONITA SPRINGS	34134
244724B30450000CE	-	GULF HARBOR CONDO	25875 HICKORY BLVD	BONITA SPRINGS	34134
244724B2000030000	90,879	LEE COUNTY	GOVT LOT	BONITA SPRINGS	34134
244724B30470000CE	-	SOLENZARA CONDO ASSN	SOLENZARA C/E	BONITA SPRINGS	34134
254724B2032000160	973,501	WALSER GAIL L TR	26236 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000110	203,433	CAMPBELL PHYLLIS S	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B2003000170	259,024	MULDER CHARLOTTE H +	26275 HICKORY BLVD	BONITA SPRINGS	34134
254724B203700101B	1,608,880	BONITA RESORT + CLUB CONDO	26101 HICKORY BLVD	BONITA SPRINGS	34134

TOTAL JV \$ 630,167,253

RESOLUTION NO. _____

A RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF LEE COUNTY, FLORIDA, APPROVING AND SUPPORTING THE PROPOSED ACTIVITIES AS OUTLINED IN THE 2025/26 LOCAL GOVERNMENT FUNDING REQUEST TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND AFFIRMING THE COUNTY'S COMMITMENT TO PROVIDE LOCAL FUNDING

WHEREAS, beaches provide vital economic, recreational, storm damage reduction, and environmental benefits, and

WHEREAS, Lee County has supported previous federal, state and local initiatives in correcting beach erosion problems throughout the County, and

WHEREAS, Lee County prepared and submitted a Long Range Beach Erosion Control Budget Plan (Budget Plan) in March 1997, and has annually submitted updated information in accordance with guidelines developed by the Florida Department of Environmental Protection, and

WHEREAS, Lee County seeks to update the Budget Plan for the next Florida Department of Environmental Protection Fixed Capital Outlay Legislative Budget Request, and

WHEREAS, Lee County supports the Florida Department of Environmental Protection's beach and coastal management programs in accordance with Section 161.101 and 161.161, Florida Statutes, and

WHEREAS, Lee County supports all components of the Budget Plan consistent with the Lee County Comprehensive Plan and agrees to fund the local government share of all County beach and inlet projects approved for funding by the Florida Legislature in Fiscal Year 2025-2026 through the existing dedicated tourism development tax revenues, special taxing units, or other funding resources as applicable, and

WHEREAS, Lee County agrees to serve as the local sponsor for all County projects identified in the Budget Plan.

NOW, THEREFORE, BE IT RESOLVED by the Board of County Commissioners, Lee County, Florida, that:

Section 1. Lee County is requesting state funding and providing its support for the Bonita Beach Nourishment, Bonita Beach Groin, and the Lovers Key Nourishment Projects, and affirms its ability to provide the local match as necessary to implement state-funded beach and inlet projects as requested.

Section 2. The County hereby supports Project regionalization where possible to conserve sand resources and/or reduce project costs and will work with the City of Bonita Springs to coordinate bidding and construction of the Lovers Key Nourishment, and Bonita Beach Nourishment where possible.

Section 3. The County Manager or Deputy County Manager of the Lee County Board of County Commissioners is hereby authorized to execute change orders and amendments for existing and future grant agreements as previously approved by the Florida Department of Environmental Protection and Lee County Board of County Commissioners under the State of Florida Beach Management Funding Assistance Program that do not result in a change to the local cost share percentage or require a budget amendment resolution.

Commissioner _____ made the motion to adopt the foregoing resolution, seconded by Commissioner _____. The vote was as follows:

Kevin Ruane	_____
Cecil L Pendergrass	_____
Ray Sandelli	_____
Brian Hamman	_____
Mike Greenwell	_____

DULY PASSED AND ADOPTED this ____ day of _____, 2024.

ATTEST:
KEVIN C. KARNES, CLERK

BOARD OF COUNTY COMMISSIONERS
LEE COUNTY,

BY: _____

Chairman

APPROVED AS TO FORM FOR THE
RELIANCE OF LEE COUNTY ONLY

BY: _____
Office of the County Attorney