TOWN OF PALM BEACH

Town Manager's Office

TENTATIVE-SUBJECT TO REVISION

SHORE PROTECTION BOARD MEETING

AGENDA

THURSDAY, NOVEMBER 21, 2019

9:00 AM

TOWN COUNCIL CHAMBERS
360 SOUTH COUNTY ROAD

WELCOME!

The progress of this meeting may be monitored by visiting the Town's website (www.townofpalmbeach.com**) and selecting "Live Meeting Audio" under the "Your Government" tab. If you have questions regarding that feature, please contact the Office of Information Systems (561) 227-6315. The audio recording of the meeting will appear within 24 hours after the conclusion of the meeting under "Agendas, Minutes, and Audio."**

I. CALL TO ORDER

II. ROLL CALL

E. Llwyd Ecclestone, Chair
Lewis Katz, Vice-Chair
Kane Baker, Shore Protection Board Member
Melissa Ceriale, Shore Protection Board Member
James C. Gavigan, Shore Protection Board Member
Reuben B. Johnson, III, Shore Protection Board Member
Harvey Kinzelberg, Shore Protection Board Member
Warren Belmar, Shore Protection Board Alternate Member

III. PLEDGE OF ALLEGIANCE

IV. APPROVAL OF AGENDA

V. APPROVAL OF THE MINUTES OF THE APRIL 25, 2019 MEETING

VI. COMMUNICATIONS FROM CITIZENS - 3 MINUTE LIMIT PLEASE

VII. CURRENT SHORELINE CONDITIONS
[Robert Weber, Coastal Program Manager]

Post Office Box 2029 * 360 South County Road * Palm Beach, Florida 33480
Telephone (561) 838-5410 * Facsimile (561) 838-5411 * townmanager@townofpalmbeach.com

VIII. COASTAL PROJECTS UPDATE
[Robert Weber, Coastal Program Manager]

- Lake Worth Inlet Maintenance Dredging
- 2019/2020 Mid-Town Beach Nourishment
- 2020 Phipps Ocean Park Beach Nourishment
- 2020 Reach 8 Dune Restoration

IX. THE BREAKERS/CLARKE AVENUE/MID-TOWN TECHNICAL ADVISORY COMMITTEE RECOMMENDATIONS
[Michael Jenkins, Ph.D., P.E, Coastal Engineering Principal, Applied Technology & Management, Inc.]

X. DRAFT ANNUAL SHORE PROTECTION BOARD REPORT TO TOWN COUNCIL
[Robert Weber, Coastal Program Manager]

XI. SCHEDULING OF FUTURE MEETINGS
[Patricia Strayer, P.E., Town Engineer]

XII. COMMUNICATIONS FROM SHORE PROTECTION BOARD MEMBERS

XIII. ANY OTHER MATTERS

XIV. ADJOURNMENT

Note: Disabled persons who need an accommodation in order to participate in the Town Council Meeting are requested to contact the Town Manager's Office at 838-5410 or through the Florida Relay Service by dialing 1-800-955-8770 for voice callers or 1-800-955-8771 for TDD callers, at least two (2) working days before this meeting.

TOWN OF PALM BEACH

Town Manager's Office

MINUTES OF THE SHORE PROTECTION BOARD MEETING
HELD ON THURSDAY, APRIL 25, 2019

I. CALL TO ORDER

The Shore Protection Board meeting was called to order on Thursday, April 25, 2019, at 9:03 a.m. in the Town Council Chambers.

II. ROLL CALL

On roll call, all of the Board Members and alternate board Members were present.

III. PLEDGE OF ALLEGIANCE

Chair Ecclestone led the Pledge of Allegiance.

IV. APPROVAL OF AGENDA

Motion was made by Vice Chair Katz, and was seconded by Board Member Ceriale. The motion carried unanimously.

V. APPROVAL OF THE MINUTES OF THE JANUARY 24, 2019 MEETING

Motion was made by Vice Chair Katz and seconded by Board Member Kinzelberg to approve the January 24, 2019 minutes. The motion carried unanimously.

VI. APPROVAL OF THE MINUTES OF THE MARCH 21, 2019 WORKSHOP

Motion was made by Vice Chair Katz and seconded by Board Member Kinzelberg to approve the March 21, 2019 Workshop minutes. The motion carried unanimously.

VII. COMMUNICATIONS FROM SHORE PROTECTION BOARD MEMBERS

Alternate Board Member Warren Belmar said he is looking forward to today's meeting. Alternate Board Member Stephen Jacoby would like a set precedence and to have the budget approved at this meeting. Board Member Harvey Kinzelberg shared concerns from residents in his neighborhood regarding beach usage. Beach users have migrated from Mid-

Town beach. Board Member Kinzelberg added that due to parking cost, people are not using the beach and are moving to North Ocean Blvd. beaches and private beaches at Root Trail and Wells Road due to the free parking on North County Road. Parking restrictions only go until 5:30pm, there are big beach access signs, no lifeguards, and there are tons of people on those beaches using private property. Neighbors have complained. Board Member Kinzelberg raised a question of whether the Town could implement parking meters or paid parking along North County Road, from Seminole Avenue to Wells Road, and change permit parking signs on east/west streets from 5:30pm to 8:30pm to be in parallel with signs off Mid-Town beach. Chairman Llwyd Ecclestone agrees that it is a good suggestion, however, it is not something the Shore Protection Board can do.

Director of Public Works, Paul Brazil said that it is something that needs to be addressed by Town Council and suggests a written request to the Town Manager to get on a Council agenda and see what can be done. Director Brazil also suggested the SPB to come to a Council meeting and come up on a public comment and see what can be done from there. Board Member Kinzelberg said when asked to leave the beach, people get belligerent. Director Brazil said he has spoken to two (2) neighbors who have identical concerns and suggests to bring it to Town Council. Board Member Melissa Ceriale asked, as far as the beach, they are all public it's a matter of having public access, at what point does the public beach comes to what point, high tide-line, the seawall, where does the beach become public, what is the demarcation. Coastal Program Manager, Rob Weber replied access points at Wells Road, Dunbar, and Atlantic are all public access and are included in the cost sharing with the State. People can have access to the beach to water line along properties. There is an erosion control line established and that line is a demarcation of public and private property. The property line for the homeowner, instead of it going all the way to the Atlantic Ocean, it stops at the erosion control line and any new sand that was brought in 2003 and beyond is State emergent land, it is public land. Board Member Kinzelberg said there was a notice to homeowners, if you want to fix your property line at the current mean high water line, you can do so by signing and returning the notice. He indicated he signed it and it goes way out to the surf, his neighbor didn't sign it and his is very short, there is a variation.

Vice-Chair Lewis Katz said this is the last meeting of the spring season. This is a crucial meeting for the Town, and is disappointed of the turnout to the meeting. It is important, residents need to be present when discussing projects, and there are plans for Reach 8 and it would be nice to have input at meetings. He suggests staff to organize a workshop or whatever is necessary to give residents another chance as it will impact on what is going to be done through the year. Vice-Chair Katz would like another workshop to educate residents. Board Member James Gavigan said he wants a status report on groins. Board Member Melissa Ceriale said she has been approached on how dirty the beaches are, the lack of trash receptacles, and the lack of lighting of public streets at nighttime. Board Member Kane Baker said that during the workshop, SPB gave their four (4) opinions and, when he spoke about shareholder effects of beach renourishment and the inlet, it was mostly about dredging and sand transfer plant, it applies to everybody and the residents should be involved. Chair Ecclestone said he would like a report on the sand transfer plant, is it operational and the groins there is a small budget and would like a discussion.

VIII. COMMUNICATIONS FROM CITIZENS - 3 MINUTE LIMIT PLEASE

Peter Scott speaking on behalf of Richard Kurtz of 680 South Ocean Boulevard and 235 Banyan Road - Reach 5, Mr. Kurtz is concerned of erosion on the beach at Banyan, north and south. Basically he has only been there at hi-tide and the water is up to the seawall. There is beach at low-tide. Mr. Scott compiled information from website which he shared with Mr. Kurtz who feels more community involvement is needed, (1) organizing with the Town for community involvement, (2) and Mr. Kurtz is happy Mid-town and public beaches are being replenished regularly, but feels the gated beaches and tax payers on those beaches deserve equal treatment. Beaches, he feels, do not get the same replenishment. Mr. Kurtz is appreciative of everything. He is concerned with the state of his beach and his property value. Coastal Program Manager Rob Weber will be meeting with Mr. Kurtz to discuss the project, as well as the neighbors.

Joanna Myers of 101 El Vedado Road said the beach is significantly lost from 2015 - present. Ms. Myers has painted the seawall in 2015 and now it is exposed by 6-8 feet of unpainted wall. The seawalls are not maintained and it is going to cause bigger issues. There is zero beach. Ms. Myers agrees, residents should be more involved and feels notices should be put in mailboxes. Town Engineer Patricia Strayer said residents can go to the Town's website and sign up for notices, as notices go posted about all public meetings.

Diane Buehler of Friends of Palm Beach said that the El Brillo stairs were washed away in recent high tide issues with recent storms and now there is a need to enter in a different area. The wall north of El Brillo you cannot walk by it, pieces are falling from the top, and the stairs need replacement. Ms. Buehler has recent approval of a test pilot of shopping baskets which help beach goers pick up trash, starting at Mediterranean and possible Caribbean, it is a stack of 12 shopping baskets to let sand go through but not the trash. Ms. Buehler passed around samples of debris (needles) found in the seaweed. Concerns of the potential of it coming to surface. Ms. Buehler invited everyone for Saturday to the Great American Clean Up, 9:00am-11:00am picking up trash. Chair Llwyd Ecclestone thanked the Friends of Palm Beach for the job they do. Alternate Board Member, Warren Belmar asked who owns seawall. Director of Public Works, Paul Brazil replied that it is private, owners said it is Town's, however, there is no evidence of it being that. The seawall is gummite faced and it is falling off steel sheet pile, it does not mean the seawall is failing. Money is being budgeted to replace it, it is coming due. The best support right now is giving them sand, but the Town and adjacent property owners need to start planning for replacement. Alternative Board Member Belmar asked is it possible that land owners do the work itself and have it done now as opposed to waiting for Town Council. Director Brazil replied the Town Council will provide money for private seawalls. Chair Ecclestone said he does not understand how residents own the seawall. Director Brazil indicated that the DOT owns the road way in that area, there is private property on the east and west of it, sometimes it is communal property sub-division, and sometimes it is owned by the property owner. Chair Ecclestone said it appeared on the SPB's budget and it is the Town's responsibility to replace the wall on South Ocean. Director Brazil said he would leave it to the SPB's recommendation to Town Council to make a decision on whose budget it comes

from. Town Engineer, Patricia Strayer said the only thing budgeted is only what the Town owns, the private area south of Gulfstream Road is not in the budget. Alternate Board Member Belmar suggests to have Town Council ask the Town attorney to put forth a memorandum outlining the rights and responsibility to the Town and land owners pertaining to the beaches. Director Brazil replied it is in the Town Code of Ordinances.

Board Member Kinzelberg commented if the beach is vulnerable, what about putting a revetment in front of the wall to protect the wall when waves crash on the boulders and dissipate energy. Director Brazil said it is permittable in limited circumstances. Because there was not a seawall at North Ocean Boulevard and it was road way protected, staff received an exception, basically you're taking a potential turtle nesting area. It is difficult to get permits for revetment. Board Member Kinzelberg said on Banyan there is a very narrow revetment and the wall is there to protect. Director Brazil said that DOT got permission.

Board Member Johnson said if the wall is failing, is it a possibility for the Town to go to the property owner, or the state who has the highway, come in to inform them? Director Brazil said it is in the Town's Code of Ordinance, it is the property owner's responsibility to maintain the wall, it would be a violation, and it is the owner's responsibility. Vice Chair Katz asked if there is any way for staff to put together the most frequently asked questions to educate and move forward. Board Member Kinzelberg said in the groin report, every groin from Gulfstream to Mar-A-Largo is marked as "remove and replace" which indicates they are not working efficiently, all the more reason to expedite groin project to help that beach.

Tom Warnke of the Surfrider Foundation stated that over the past 20 years, he has researched seawalls, erosion, and revetments. A groin would provide a very small beach. Revetment will protect seawall and create losing beach. Residents should know they can put a revetment, the seawall is the result, but will lose the beach. Mr. Warnke acknowledged Diane Buehler as a volunteer and her work. He gets comments about seaweed all the time. It is not harmful and provides a food source for migrating birds.

Steve Myers, 101 El Vedado, discussed the potential of erosion of property values. There is no beach right now at their home. It lowers the value of the home. The Town seems to put bandaides on things and all these actions have a reaction. It's been a negative consequence as there is no beach. Mr. Myers asked who is responsible for the breach in seawall. It is not clear if it is the property owner's responsibility or the Town's. Board Member Ceriale said the Town has taken tremendous efforts over the last decade to put a very comprehensive Beach Management Program in place. Something that could be helpful is communication to citizens in the Town, bring neighbors together and invite staff or the SPB to make a presentation so residents understand how the Board looks at the beaches. Possibly have residents participate with communication within the Town.

Coastal Program Manager Weber read a letter of resignation from William Lorentzen.

Vice Chair Katz commended Rob Weber and Paul Brazil in making the beaches better.

IX. RECOMMENDATION TO TOWN COUNCIL REGARDING THE PROPOSED FY 2020 COASTAL MANAGEMENT PROGRAM BUDGET

[Robert Weber, Coastal Program Manager]

Coastal Program Manager Rob Weber said last year the process was in April with another meeting in May. His hopes is to review everything in this one meeting. There are two (2) items attached to the back-up. The first is the approved FY2019 budget from Council. The second attachment is the SPB proposed FY2020 budget. There are not many line items in the expenditures, however, every year Coastal Program Manager Weber works with the State and the Town submitting a Local Government Funding Request through the State requesting reimbursement for certain projects. The projects are based on revenue not on expenditures. Coastal Program Manger Weber said FY2020 is what is approved by Town Council. Coastal Program Manager Weber continued with explanation of analysis.

Board Member Johnson said fundamental questions need to be answered, such as liability for groins, the responsibility for groins and care, cost and cost sharing, or is it the responsibility completely of the property owner. Legal questions must be resolved. Town Engineer Patricia Strayer said if the SPB wants to make a recommendation to move forward with Phase 1, staff will bring it to Town Council for approval before any action is taken. Board Member Melissa Ceriale asked if proposing $500,000 for 2019 and moving up to a $5 million for 2020, is there any room for discussion to increase to $5 million for 2019 budget in order to move forward. Town Engineer Strayer said 2019 is approved. The presumption that SPB would want to allocate more than $500,000, there is no guarantee that Town Council will approve at this time.

Motion was made by Board Member James Gavigan for Town Council to accept the implementation of the groin rehabilitation with funds that have already been designated, as well as the $5 million projected amount for the year 2020, and, if possible, begin Phase 1. Seconded by Board Member Kane Baker. The motion carried unanimously. Alternate Board Member Stephen Jacoby voted as Vice-Chair Lewis Katz left the meeting.

Motion to Amend Motion was made by Board Member Johnson, this recommendation tingent upon the Town solving problems of liability and responsibility for funding these projects. Seconded by Board Member Kane Baker. The amended motion carried unanimously. Alternate Board Member Stephen Jacoby voted as Vice-Chair Lewis Katz left the meeting.

Town staff provided a review of the proposed FY 2020 Coastal Management Program. Including all the items requested by the Shore Protection Board totaled $38,263,523 for FY 2020.

Board Member Baker applauded the Town for their efforts.

Motion was made by Board Member Kinzelberg to make Recommendation to Town Council regarding the proposed FY 2020 Coastal Management Program Budget. Seconded by Board Member Gavigan. The motion carried unanimously. Alternate Board Member Stephen Jacoby voted as Vice-Chair Lewis Katz left the meeting.

Board Member Ceriale thanked Mr. Weber for his efforts and the presentation.

X. GOALS AND OBJECTIVES CONTINUED DISCUSSION

[Patricia Strayer, P.E., Town Engineer, and Robert Weber, Coastal Program Manager]

Town Engineer Patricia Strayer: One of the topics at the Workshop were the goals. Staff has laid out the 2009 SPB Goals and an update has been compiled. Goals: Item #1 Restore 100% of the Sediment Trap by the Inlet - this has not been completed, and it is an ongoing effort. Item #2 Pursue Placing Dry Sand or Hot Spots North of Reach 7 South of Reach 8 - this goal has been achieved. Item #3 Examine Coastal Hard Structure technologies - cost impacts, permitting issues, several presentations to SPB have been made. Staff recommends for goal is to implement permitted coastal hard structure technology where appropriate. Board Member Johnson would like to be better informed. Town Engineer Strayer said staff will continue to make presentations on newer technologies as they become available. Item #4 Review Previous SPB Recommendations for Conclusions for Lessons Learned - this item has been achieved. Item #5 Initiate discussion dialogue and problem solving through various guest speakers, this goal has been achieved. Item #6 Work with the State & Federal Agencies to Revise Laws and Regulations for Protecting the Town's Shoreline - staff's recommendation is to continue to work with State and federal agencies to implement projects to protect the shoreline. Item #7 Where Applicable, Cause Regulatory Agencies To Re-Designate Certain Reaches As Engineered Beach Or Critically Eroded - this item has been achieved. Item #8 Investigate Whether Seawalls Should Be Replaced In Erosion Prone Areas - this has been achieved.

The additional items that were part of the workshop, Addressing coastal vulnerability and resiliency and improving staff's communication. The memo will be revised "at this meeting these were the goals recommended for the next year or so". Coastal Program Manager Rob Weber said for the next 10-year plan, the goals will be reviewed, identify the priorities, and go into detail on how to obtain the priorities and goals. Staff and SPB will do the process together.

Alternate Board Member Jacoby asked on item #3, is it reasonable to put a time frame in there, i.e. semi-annually, once a year. Town Engineer Strayer replied, staff will reach out to consultants, get their opinion on new technologies and pull together a list of new technologies and l show SPB and ask you to have staff present on that list.

Alternate Board Member Warren Belmar recognized and thanked Town Engineer, Patricia Strayer as well for her participation with the Shore Protection Board.

XI. CURRENT SHORELINE CONDITIONS

[Robert Weber, Coastal Program Manager]

Coastal Program Manager Rob Weber made presentation of shoreline condition.

XII. COASTAL PROJECTS UPDATE

[Robert Weber, Coastal Program Manager]

Coastal Program Manager, Rob Weber, suggested discussing the Breakers/Clarke Avenue update first and introduced Mike Jenkins from ATM who presented.

TAC Advisory Committee was held April 24, 2019 and it was a productive and effective meeting which modeling what has been the delay and made significant progress and looking at alternatives. The issue is very complex, one focus was balancing of the impacts vs. the improvements of any new or modified structures. The groins holding sand impact beach that issue comes very much into play. TAC is very much engaged, however, no one is at a point that is confident enough at any particular alternative. The condition of the beach at Clarke Avenue is looking very good however it is the beach south of mid-town that a solution is needed. The underlined solution to the problem is the balance and movement of sand. This is the first recommendation.

Board Member Kinzelberg asked has ATM figured out what conditions caused the eroding at the Breakers and Clarke Avenue beaches as it comes back. Mr. Jenkins said at times it will switch to a highly erosive condition due to northeast swell high energy waves coming into that area for an extended period of time, he has not seen it recover as substantially as it has since then. Bypassing at the inlet and supplement with nourishment sand.

Board Member Melissa Ceriale said her impression is the accretion of sand over the last year came from the storm activity from last winter which was unusual. Mr. Jenkins yes that is correct.

Director of Public Works, Paul Brazil said the one of the reasons for TAC the permitting on the State side will be more efficient. This solution can be permitted more quickly through the TAC.

Board Member Kane Baker asked how soon are the permits are coming through. Mr. Jenkins replied that it depends on the extent of action that is proposed. Modified structures are easier then new structures.

XIII. SCHEDULING OF NEXT SPB MEETINGS

[Patricia Strayer, P.E, Town Engineer]

- Discussion to reformat future SPB meeting agendas. Thursday, November 21, 2019:

Board Member Melissa Ceriale shared the 3 minute discussion by the panel is repetitive, and is something that can be gotten to on the agenda ahead of time as Coastal Program Manager Rob Weber reaches out to the Board before each meeting. Town Engineer Patricia Strayer suggests moving communications from the Board to the end of the agenda and also

suggested having the public comments at the beginning of the meeting. All members were in favor.

Board Member Melissa Ceriale said she enjoyed the workshop format but suggests have a meeting during the year in a "workshop format" and, if it is possible, to hold it in another location so it's not such a formal format. Town Engineer Patricia Strayer said staff will investigate other locations, however, the workshop will need to be recorded. Director of Public Works, Paul Brazil said meetings also need to be broadcast. Board Member Johnson agrees with the benefit of a workshop. Alternate Board Member Belmar said a better job of advertising is important as there is not a large turnout. Board Member Johnson asked if Coastal Manager Weber had a chance to look into historical records as discussed in the Workshop as Town Council may ask how did we get where we are. Board Member Kane Baker suggested using call button system.

- Annual Shore Protection Board Report to Town Council

XIV. ANY OTHER MATTERS

XV. ADJOURNMENT

There being no further business, the Shore Protection Board of April 25, 2019, was adjourned at 12:17 p.m.

APPROVED:

_____
E. Llwyd Ecclestone
Chairman

Meeting audio is located at:
https://www.townofpalmbeach.com/853/Meeting-Audio

TOWN OF PALM BEACH

Information for Shore Protection Board Meeting on: November 21, 2019

TO: Shore Protection Board

FROM: Kirk W. Blouin, Town Manager

VIA: Robert Weber, Coastal Program Manager

RE: Coastal Projects Update
Item VIII.

DATE: November 13, 2019

STAFF RECOMMENDATION

Town staff requests the Shore Protection Board (SPB) review the attached information and provide any additional input deemed necessary.

GENERAL INFORMATION

Listed below is a brief update of the ongoing activities for the Coastal Management Program. Town staff will provide more details of each item during the SPB meeting.

Lake Worth Inlet Maintenance Dredging and Sand Forepassing

- The U.S. Army Corps of Engineers (Corps) contractor, Cashman Dredging, began mobilizing equipment to the Town of Palm Beach last week.
- Heavy equipment is being brought onto the beach through the Palmo Way access.
- The Palmo Way access will be restored following demobilization and completion of the project.
- Construction is scheduled to occur in the months of November and December 2019. Cashman Dredging has informed the Corps and the Town that they intend for the project to be completed before Thanksgiving (November 28).
- Due to the overall mild impacts to the Town of Palm Beach during the 2019 hurricane season, the expected volume of sand to be dredged is smaller than anticipated (approximately 60,000 to 70,000 cubic yards). Initial planning projections earlier in the year were on the order of 150,000 to 200,000 cubic yards.
- With this smaller volume, Sand Forepassing will not occur this construction season following completion of the inlet maintenance dredging project.
- Earlier this year, the Town received a grant from the Florida Department of Environmental Protection for Sand Forepassing cost sharing. The Town will not lose the state funding participation because of this changed schedule. The grant does not expire until 2023.

2019/2020 Mid-Town Beach Nourishment

- The Mayor signed the Project Partnership Agreement (PPA) with the Corps for the Mid-Town project on Friday, November 1. The Colonel signed the PPA on Monday, November 4.
- The Corps solicited the Mid-Town project for bids on November 11. Proposals are due on December 11.

- The solicitation includes sand placement from approximately Casa Bendita in Reach 2 to Banyan Road at the southern end of Reach 4.
- The work could start as early as late December and is expected to be completed in February 2020.
- The solicitation also include an alternate bid for interim beach nourishment at Phipps Ocean Park with a stockpile of sand to be later hauled to Reach 8 and Reach 9 (in the Town of South Palm Beach) for dune restoration.
- Including Phipps within the Corps' Mid-Town bid solicitation is expected to reduce Phipps mobilization costs for the Town.

2020 Phipps Ocean Park Beach Nourishment

- The project will utilize FEMA funding associated with both hurricanes Matthew and Irma.
- The project will include a volume of approximately 450,000 cubic yards, all of which is eligible for FEMA cost-sharing due to hurricanes Matthew and Irma.
- The work is anticipated to start immediately following construction of the Mid-Town project (February 2020) and continue until April 2020.

Reach 8

- In an effort to obtain Federal permit issuance for the Town Docks before the FIND grant deadline of September 15, the Town relaxed pressures on the USACE local office pertaining to Reach 8.
- With permit issuance for the Town Docks on September 14, Town staff resumed discussions with the USACE regarding Reach 8.
- A meeting with Town staff, the consultant, and the USACE occurred on October 22.
- The USACE explained the remaining items to be addressed before the USACE could issue a Record of Decision.
    - Endangered Species Act consultation on the artificial reef - USACE is expecting a concurrence letter from the National Marine Fisheries Service.
    - Endangered Species Act consultation on the beach – The intension has always been to apply the National Marine Fisheries Service South Atlantic Regional Biological Opinion (SARBO) and the new SARBO is being released in a few weeks. The USACE will need to be sure that the project fits within the revised SARBO.
    - Essential Fish Habitat consultation on the artificial reef and beach – The USACE needs to be send a formal letter to the National Marine Fisheries Service Habitat Conservation Division requesting that they consider the latest information provided by the Town's consultant.
- If the SARBO document is consistent with the Town's current design and the National Marine Fisheries Service is responsive, the USACE anticipates that the Record of Decision could be issued in January 2020.
- Construction funds are not included in the current Town Council-adopted 10-year plan.
- Reach 8 Dune Restoration is to be constructed concurrently with the Phipps nourishment. Reach 8 Dune Restoration includes a volume on the order of approximately 20,000 cubic yards of sand.
- The dunes are to be restored to their condition prior to hurricanes Matthew and Irma.
- Federal cost-sharing is expected consistent with Reach 8 dune losses from Hurricane Irma.

cc: Jay Boodheshwar, Deputy Town Manager
H. Paul Brazil, P.E., Director of Public Works
Patricia Strayer, P.E., Town Engineer

TOWN OF PALM BEACH

Information for Shore Protection Board Meeting on: November 21, 2019

TO: Shore Protection Board

FROM: Kirk W. Blouin, Town Manager

VIA: Robert Weber, Coastal Program Manager

RE: The Breakers/Clarke Avenue/Mid-Town Technical Advisory Committee Recommendations
Item IX.

DATE: November 14, 2019

STAFF RECOMMENDATION

Town staff requests that the Shore Protection Board (SPB) review the attached information and provides direction deemed necessary.

GENERAL INFORMATION

Applied Technology & Management, Inc. (ATM) began assembling members of a Technical Advisory Committee (TAC) in February 2018. On March 15th, the TAC membership was established including Michael Jenkins, Ph.D., P.E. (ATM), Bob Brantly, P.E. (FDEP), Mohammed Dabees, Ph.D., P.E. (Humiston & Moore Engineers), and Bill Dally, Ph.D., P.E. (Surfbreak Engineering). The first TAC meeting occurred on April 25, 2018, and included both site visits and a focused discussion.

The project area is complex. The latest computer technology available and a collection of expertise has been necessary to find an appropriate solution. After a year and a half, the TAC appears to have come to a collective conclusion. Michael Jenkins of ATM will provide a presentation at the SPB meeting on November 21 to describe the results.

FUNDING/FISCAL IMPACTS

Construction costs for this project were also not included in the Town Council Adopted 10-Year Coastal Management Plan. Funds will need to be allocated if this project moves forward beyond design and permitting.

cc: Jay Boodheshwar, Deputy Town Manager
H. Paul Brazil, P.E., Director of Public Works
Patricia Strayer, P.E, Town Engineer
Michael Jenkins, Ph.D., P.E., Applied Technology & Management, Inc.
Paul Leone, The Breakers Palm Beach

ATM DESIGN ENGINEERING CONSULTING

2047 VISTA PARKWAY, SUITE 101
WEST PALM BEACH, FL 33411
561.659.0041

MEMORANDUM

To: Town of Palm Beach Shore Protection Board
From: M. Jenkins, PhD, PE; ATM Coastal Engineering Principal
Date: 11/14/19

Re: Breakers/Clarke Avenue Numerical Modeling Study
Summary of Conclusions

This memorandum provides a summary of current project status and conclusions associated with the Breakers/Clarke Avenue Numerical Modeling Study. ATM was engaged by the Town to develop a consensus based, comprehensive design to address ongoing erosion concerns within the Breakers/Clarke Avenue/Mid-Town Area (Reaches 3 and 4). The intent of the study was to evaluate project alternatives and recommend solutions that would be feasible, economically viable and permittable.

The Coastal Modeling System (CMS) was used to develop a state of the art morphodynamic model for Reaches 3 and 4 centered around the Breakers/Clarke Avenue area . The CMS-Wave and CMS-Flow modules were used in a coupled mode to simulate wave propagation and morphological changes. The CMS-Wave and CMS-Flow models were coupled to simulate wave- and tide-driven sediment transport. The CMS-Flow model uses tide data (as an input) and wave data from CMS-Wave to model morphological changes. This model was utilized to evaluate shoreline evolution within the study area under various project alternatives over a two year period.

Technical Advisory Committee (TAC)

Given the complexities of the area and the need to engage multiple stakeholders within the process, a Technical Advisory Committee (TAC) was convened and engaged throughout the study. The TAC provided a forum for a consensus based development of project alternatives and evaluation. Formation of the TAC was conducted in conjunction with the Florida Department of Environmental Protection (FDEP) concurrence and participation. Additional seats on the TAC were allotted to technical representatives of relevant stakeholders under mutual agreement between the local sponsor and FDEP. The following Technical Representatives participated in the TAC:

- Mike Jenkins, PhD, PE — ATM - Study Lead
- Peter Seidle, PE — ATM
- Bob Brantley, PE — Florida Department of Environmental Protection
- Mohamed Dabees, PhD, PE — Humiston and Moore Engineers
- Bill Dally, PhD, PE — Surfbreak Engineering

Additional input to the study was provided by Town staff, project stakeholders and interested parties.

TAC members provided critical review, insight and support of major study elements throughout the process and the contributions made by members of the TAC are greatly appreciated.

The original plan of study assumed that three TAC meetings would be required. Ultimately, a total of six TAC meetings were held in support of this study effort on the following dates:

- April 27, 2018
- September 18, 2018
- January 18, 2019
- April 2, 2019
- September 11, 2019
- October 15, 2019

Considerably more effort and time was required to complete the study than originally envisioned. The primary reasons for this were due to the following circumstances.

1. Model calibration and verification: The model was held to a particularly high standard under peer review from the TAC. Issues in the model performance were identified that required direct consultation with the model developers to resolve. Ultimately an acceptably calibrated and verified model was produced, although not without an effort above what is normally required for this type of model study.

2. Complexity of model simulations: The resulting model was numerically intensive and required approximately two weeks of real (computational) time to complete the calculations of one calendar year of model predictions for a single alternative (assuming model stability was maintained throughout the simulation). If model stability was not maintained throughout the model run, corrections were required, and the simulation was restated. Given that seven alternatives (with multiple revisions) were considered, this required a considerable amount of time to complete multiple model runs.

3. Regional considerations: Through interaction with the TAC, the scope of the study expanded beyond the immediate issues associated with Clarke Avenue to include the larger Town and Mid-Town areas and in particular the Breakers groin field. Considerable effort was dedicated to consideration of the Breakers groin field and possible alternatives to improve regional performance of the Mid-Town shoreline.

4. Changed site conditions: Conditions on Clarke Avenue have radically changed since the initiation of this study. The eroded condition which initiated this study has reverted to a condition of onshore sand movement and beach accretion, while areas downdrift have eroded. The study expanded to consider this change in condition and address the long term variability of the shoreline in this area.

5. Consensus building: As intended, the TAC process involved robust engagement by all TAC members and consideration of a range of issues and alternatives from varying perspectives. The process required sufficient time to build consensus within the TAC towards alternatives that were fully vetted and supported.

Project Alternatives

Extensive modeling and analysis was conducted and is summarized within the final numerical modeling report. The executive summary of this report is provided as an attachment to this memorandum. Key alternatives are further discussed below:

1. *South Clarke Boundary structure*

While multiple project alternatives were considered, the only strategies that consistently improved the stability of the beach in the vicinity of Clare Avenue were associated within a coastal structure at the southern terminus of the Clarke Avenue beach. Various alternatives were considered including new structures at the southern boundary as well as the extensions of the northernmost Mid-Town groin (referred to as the Seabreeze Avenue groin). The relative effectiveness of these alternatives were generally proportional to the overall size of the structure. A downdrift impact was apparent due to the influence of the structure, although this impact occurred within the limits of the Mid-Town groin field.

2. *Breaker's Groin Field: Modify existing structures*

Various Modifications to the existing Breakers groin field were evaluated including reductions in structure size and seaward translation of the structures. Emphasis was placed on the potential for measurable improvement in shoreline performance downdrift of the groin field, particularly with respect to Clarke Avenue. In general, modifications of the breakwater portions of the groin field produced negligible shoreline improvement downdrift of the groin field. Limited improvement was observed with the removal of the groin sections of the structures seaward of the rock breakwaters. In particular, removal of the seaward groin segment on the northernmost structure reduced the seaward migration of the nearshore bar around the groin field resulting in modest improvement in downdrift conditions.

3. *Lauder Seawall structures*

Various structure alternatives were considered at the seaward limits of the Lauder seawall to encourage sand transport around the seawall. In general model results suggested that all of these alternatives increased erosion stress downdrift within the Clarke avenue area.

4. *Mid-Town Groin Field: Rehabilitate existing structures*

Rehabilitation of the existing Mid-Town groin field structures to their original dimension was evaluated within the model. These alternatives provided limited improvement within the Clarke avenue area in conjunction with improved performance within the Mid-Town groin field shoreline.

In addition to the above, the TAC discussed modifications to the existing Mid-Town nourishment design to improve project performance. This alternative was not specifically

evaluated, as this alternative would result in impacts to nearshore hardbottom resources. As these impacts would represent a significant impediment to regulatory approval, this alternative was not considered further.

Recommended Action

Based on this model study and in consultation with the TAC the following recommendations are proffered:

1. Extend the Seabreeze Avenue groin:

An extension of the northernmost Mid-Town groin (Seabreeze Avenue groin) represents the best alternative to improve overall performance of the Clarke Avenue shoreline. Based on the model study an extension between 50 to 100 feet would provide the greatest benefit in balance with the potential for impacts to the beach to the immediate south. Extension of this existing groin is preferable to construction of a new groin to the north as the relative cost is less and is a lesser issue from a regulatory perspective. As the area of influence of this extension is well within the interior of the Mid-Town groin field and the area is managed through an established nourishment program, there is a high probability of acceptance of this alternative from a regulatory perspective.

2. Rehabilitate the Mid-Town groin field

A rehabilitation of the Mid-Town groin field to its original dimensions is warranted to both improve beach performance within the Mid-Town groin field and offset potential downdrift impacts from the Seabreeze Avenue groin extension. Rehabilitation of an existing groin field is a generally acceptable alternative from a regulatory perspective. Minor modification (extension) of the groins to the immediate south of the Seabreeze Avenue groin may also be considered if there is a need to further balance and transition the impacts of the Seabreeze Avenue groin extension into the Mid-Town groin field.

3. Remove the seaward groin portions of the Breakers groin field

Removal of the seaward groin portions of structures within the Breakers groin field is recommended to encourage sand migration around (seaward) of the breakwater portions of the groin field. Relocation or modification of the breakwater portions of the structures is not recommended as now appreciable improvement to the downdrift shoreline was observed within the model study.

4. Continue Mid-Town Nourishment

Beach health within the region is directly attributable to a continuation of the Town's ongoing management of this shoreline segment through beach nourishment. No structure modifications would be permittable (other than removal) without continuation of the nourishment program and the overall performance of all beaches are directly tied to the history of nourishment in Reaches 3 and 4.

5. Continue Monitoring and Adaptive Management

Continued monitoring of project performance is recommended to further assess project performance and provide the basis for ongoing adaptive management.

Path Forward

Work to date and the TAC review provides a sufficient basis to initiate a regulatory review of any of the three recommended actions that require permitting (recommendations 1-3). As the recommended actions has been thoroughly vetted by FDEP participation in the TAC, state regulatory review has already been expedited through this process. The Federal process will additionally benefit from this study, including participation by the TAC.

THE BREAKERS / CLARKE AVENUE STUDY
MODEL REPORT

EXECUTIVE SUMMARY

A model study was conducted to assess viable structural alternatives to increase the stability of shoreline within the Mid-Town project area with specific emphasis on the Clarke Avenue area. The results of the study were used as one part of the overall analyses, including desktop and analytical analyses, to make final recommendations regarding structural solutions to the study's shoreline.

The Coastal Modeling System (CMS) was used to develop a model for the study area. The CMS-Wave and CMS-Flow modules were used in a coupled mode to simulate wave propagation and morphological changes. The CMS-Wave and CMS-Flow models are coupled to simulate wave- and tide-driven sediment transport. The CMS-Flow model uses tide data (as an input) and wave data from CMS-Wave to model morphological changes. For this study, bathymetric data collected by the Town and the U.S. Army Corps of Engineers (USACE) National Coastal Mapping Center (NCMP) were used for the model calibration and verification. The wave data published by the National Oceanic and Atmospheric Administration (NOAA) National Centers for Environmental Prediction (NCEP) were the WAVEWATCH III (WW3) hindcast data.

The CMS model was calibrated using the time period from August 10, 2015 to July 23, 2016. While the calibration period follows the completion of a beach nourishment project, the project area was severely eroded during this verification period. Thus, the calibration period is representative of the model performance for a time period with a greater-than-average volume of sand within the project area, and the verification period represents a period when there is a less-than-average amount of sand within the project area. To assess and adjust the model parameters for calibration, the following were evaluated:

- Net longshore sediment transport rate (LSTR)
- Volumetric changes
- Beach profile response
- Planview response

The calibrated CMS model was used to assess the performance of project alternatives. These project alternatives were developed with a goal of increasing the performance of the Town's project in the vicinity of Clarke Avenue and Mid-Town beach without adversely impacting adjacent shorelines. The alternatives were entered into the model based on August 2015 shoreline conditions. Altering the shoreline structures and applying the August 2015 conditions allows for the assessment of model-predicted changes to the performance of the project in comparison to baseline conditions.

The following provides a summary of alternatives modeled and model output in this study:

- Alternative 1 – Modify The Breakers' Breakwaters. This alternative shifts the breakwaters further offshore and alters the length and gap spacing (Figure 1). The model-predicted shoreline for a 2-year simulation period is provided in Figure 2.

Figure 1.
Alternative 1 Modification

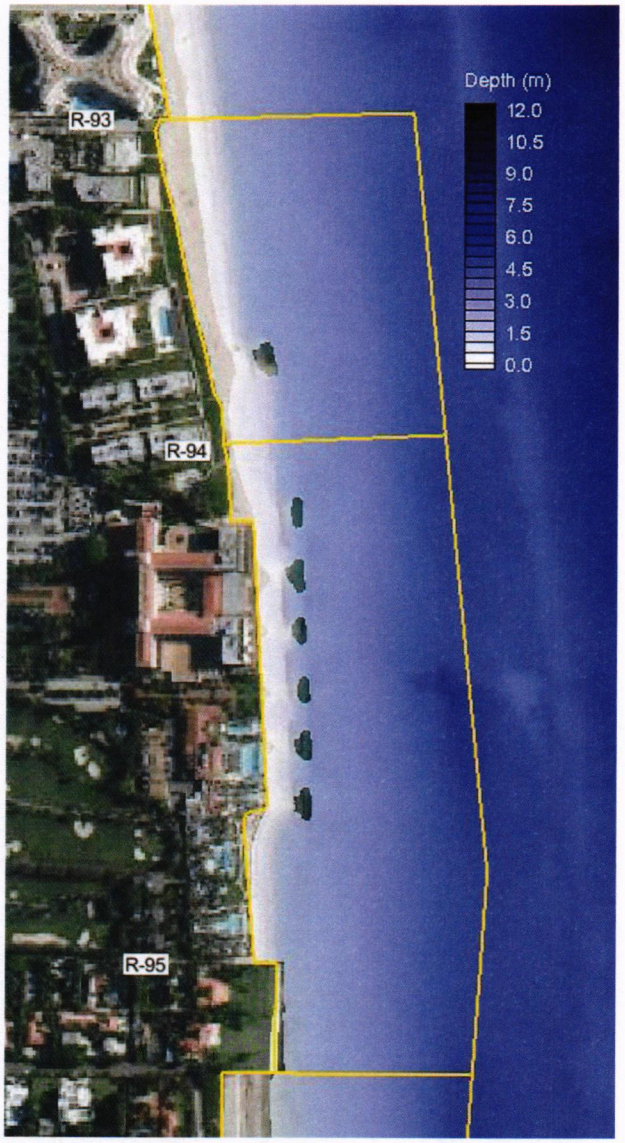

Figure 2.
Model-Predicted Shoreline 2 Years Post-Project
(Alternative 1).

- Alternative 2 – The Breakers Beach Club L-Groin. An L-shaped groin would be added at the southern end of The Breakers beach club. The groin would be adjacent to and attached to the Estee Lauder seawall. The offshore terminus of the groin has an L-shape pointed towards the north (Figure 3). This alternative also includes Alternative 1. The model-predicted shoreline for a 2-year simulation period is provided in Figure 4.

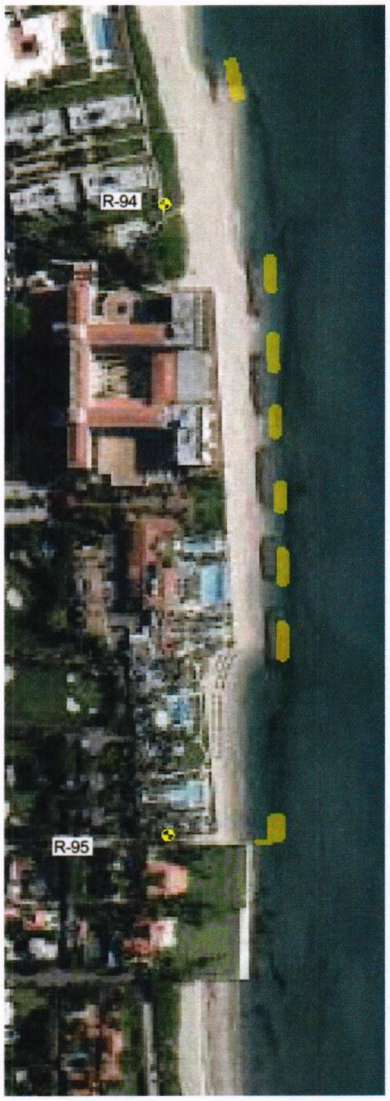

Figure 3.
Alternative 2 Modification

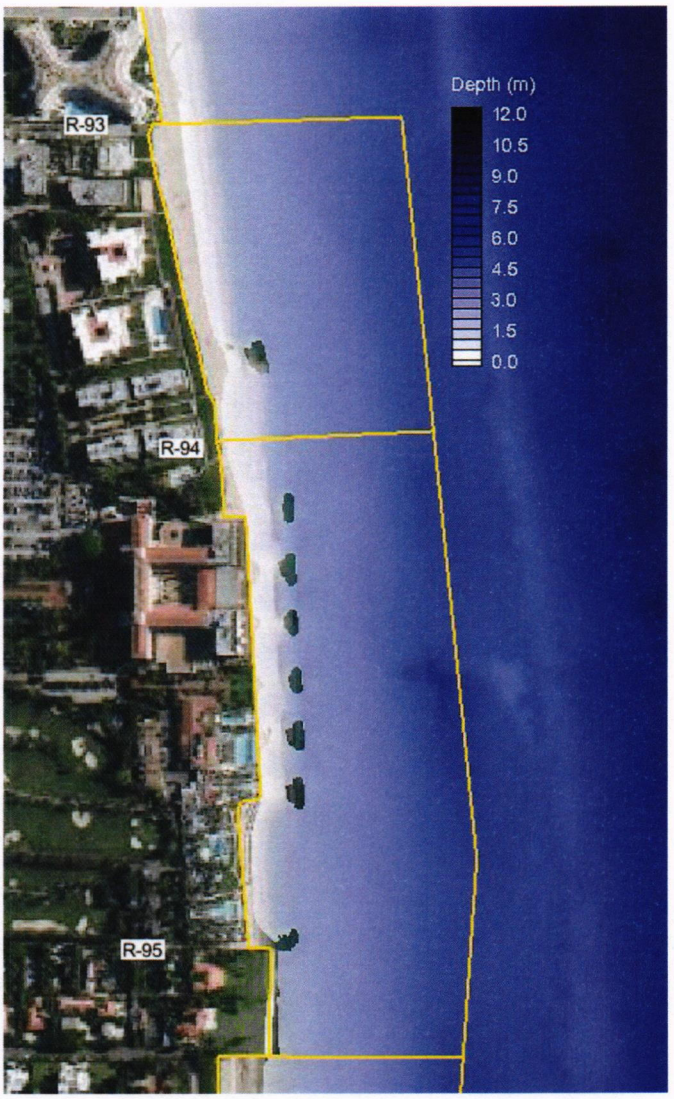

Figure 4.
Model-Predicted Shoreline 2 Years Post-Project
(Alternative 2).

- Alternative 3 – Clarke Avenue Groin (with Mid-Town Groin Rehab). A new groin would be added to the beach in the vicinity of Clarke Avenue (Figure 5). This alternative also includes Alternative 1. The model-predicted shoreline for a 2-year simulation period is provided in Figure 6.

Figure 5.
Alternative 3 Modification

Figure 6.
Model-Predicted Shoreline 2 Years Post-Project (Alternative 3).

- Alternative 4 – Seabreeze Avenue Groin Extension (with Mid-Town Groin Rehab). The Town's northernmost groin of the Mid-Town structures would be extended approximately 100 feet (Figure 7). The design elevation would be 5 feet NAVD, similar to the existing design template. As part of this alternative, the existing groins that are part of the Mid-Town project would undergo maintenance to re-establish their design templates. This alternative also includes Alternative 1. The model-predicted shoreline for a 2-year simulation period is provided in Figure 8.

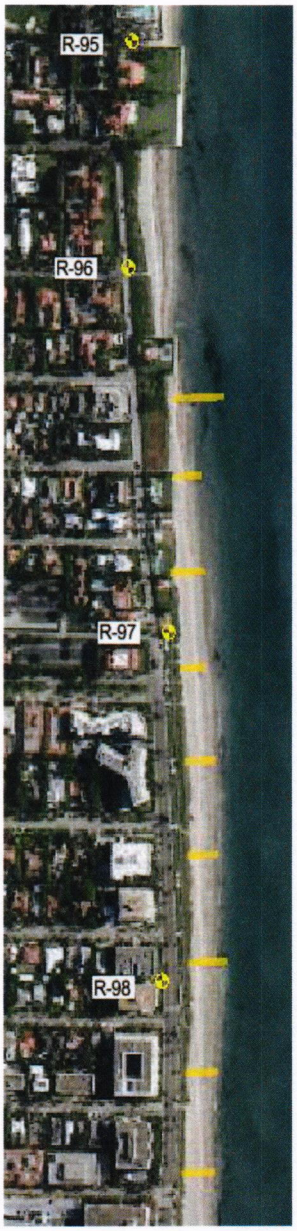

Figure 7.
Alternative 4 Modification

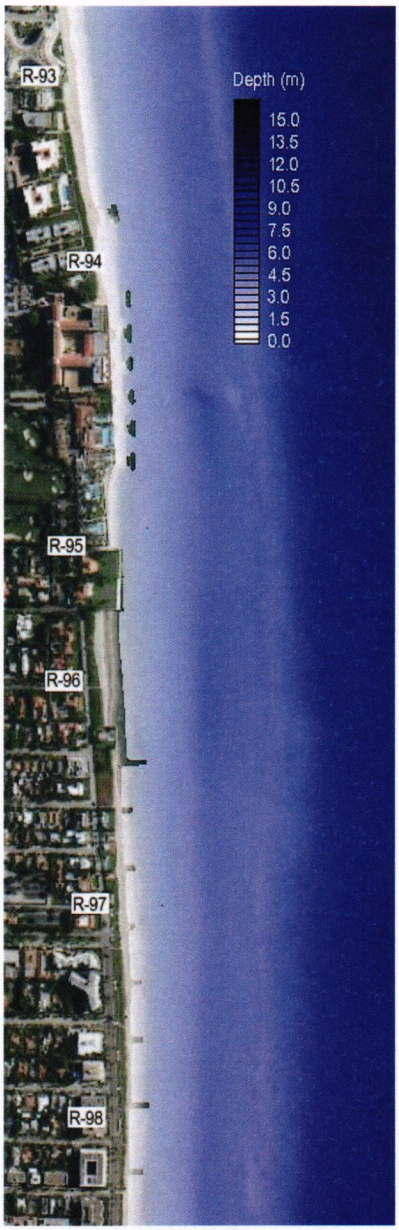

Figure 8.
Model-Predicted Shoreline 2 Years Post-Project (Alternative 4).

v

- Alternative 5 – Estee Lauder Breakwaters. This alternative would construct two breakwaters offshore of the Estee Lauder properties (Figure 9). The placement of the breakwaters would be such that salients would be the prominent shoreline feature rather than tombolo formations. This alternative also includes Alternative 1. The model-predicted shoreline for a 2-year simulation period is provided in Figure 10.

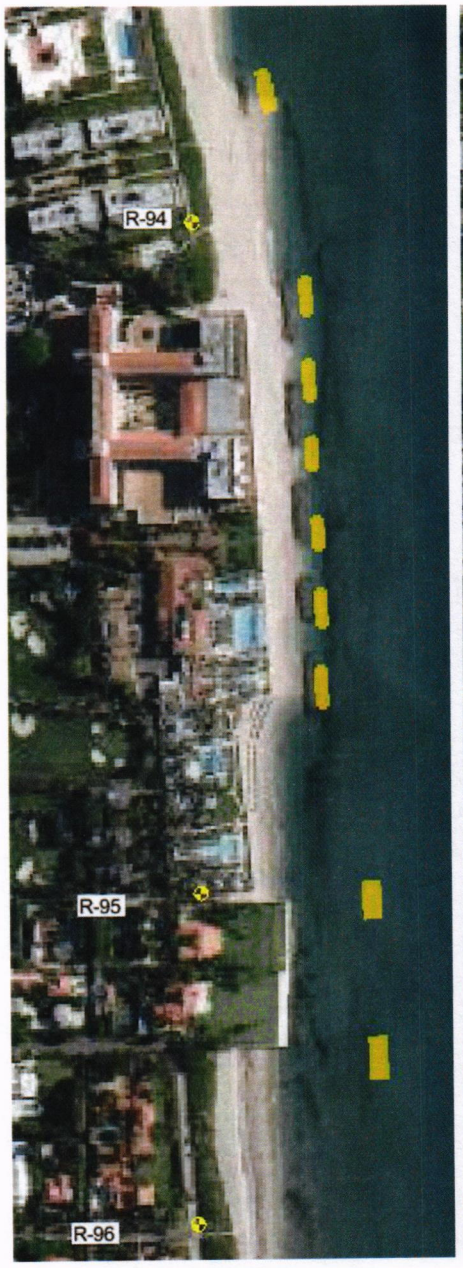

Figure 9.
Alternative 5 Modification

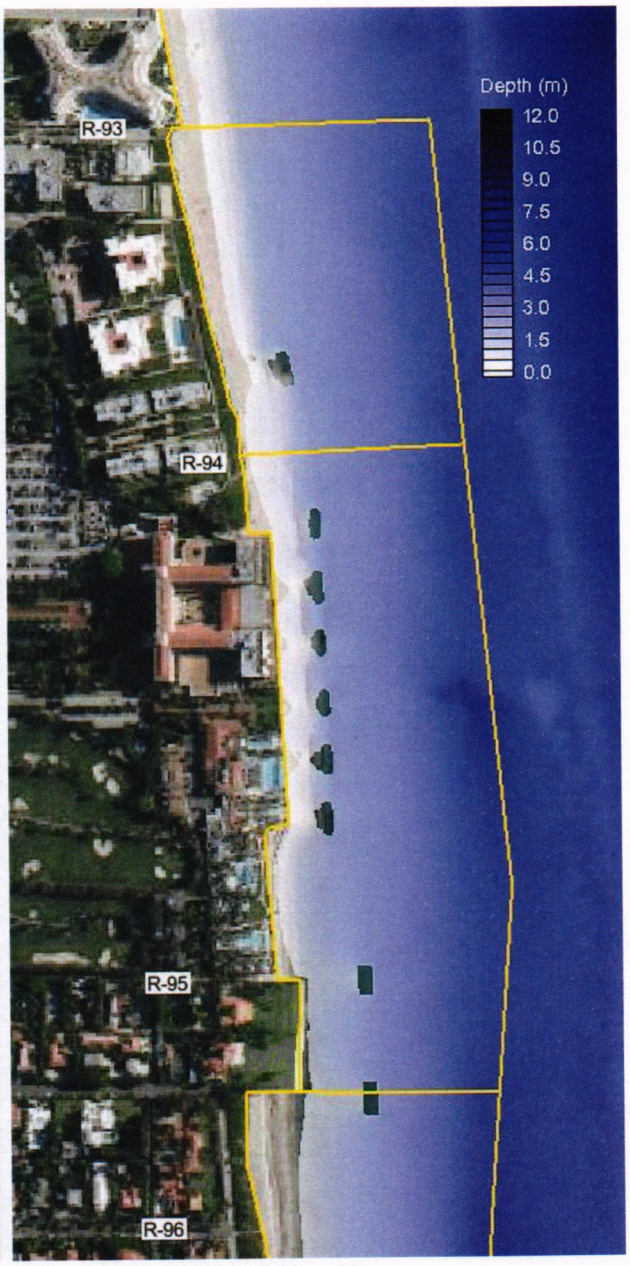

Figure 10.
Model-Predicted Shoreline 2 Years Post-Project
(Alternative 5).

- Alternative 6 – Seabreeze Avenue Groin Extension (Reduced Elevation) (with Mid-Town Groin Rehab). The Town's northernmost groin of the Mid-Town structures would be extended approximately 100 feet, similar to Alternative 4, but the design elevation would be 3.5 feet NAVD. Like Alternative 4, this alternative includes the maintenance of the Mid-Town groin field and re-establishing the existing groins' design template. Unlike Alternative 4, The Breakers' breakwaters would be kept in place, except for the removal of the relic shore-perpendicular portion on the seaward side of the structures (Figure 11). The model-predicted shoreline for a 2-year simulation period is provided in Figure 12.

Figure 11.
Alternative 6 Modification

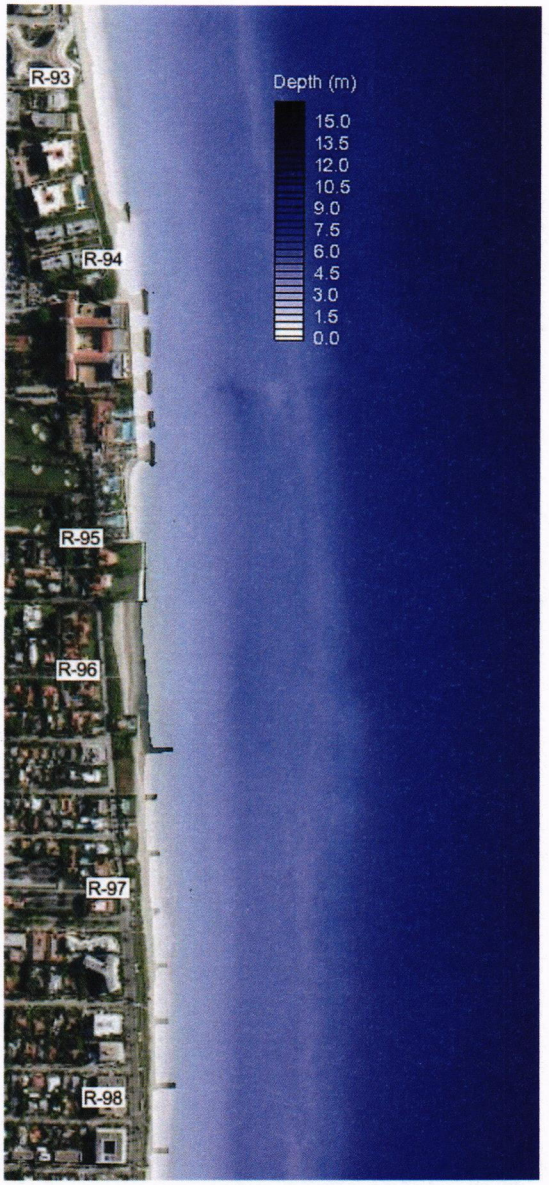

Figure 12.
Model-Predicted Shoreline 2 Years Post-Project (Alternative 6).

- Alternative 7 – Clarke Avenue Groin (with Mid-Town Groin Rehab) and Estee Lauder Breakwaters. This alternative is similar to Alternative 3. A new groin would be added to the beach in the vicinity of Clarke Avenue. This Mid-Town groin field would include groin rehabilitation similar to Alternatives 4 and 6. Unlike Alternative 3, but like Alternative 6, The Breakers' breakwaters would be kept in place, except for the removal of the relic shore-perpendicular portion on the seaward side of the structures (Figure 13). The model-predicted shoreline for a 2-year simulation period is provided in Figure 14.

Figure 13.
Alternative 7 Modification

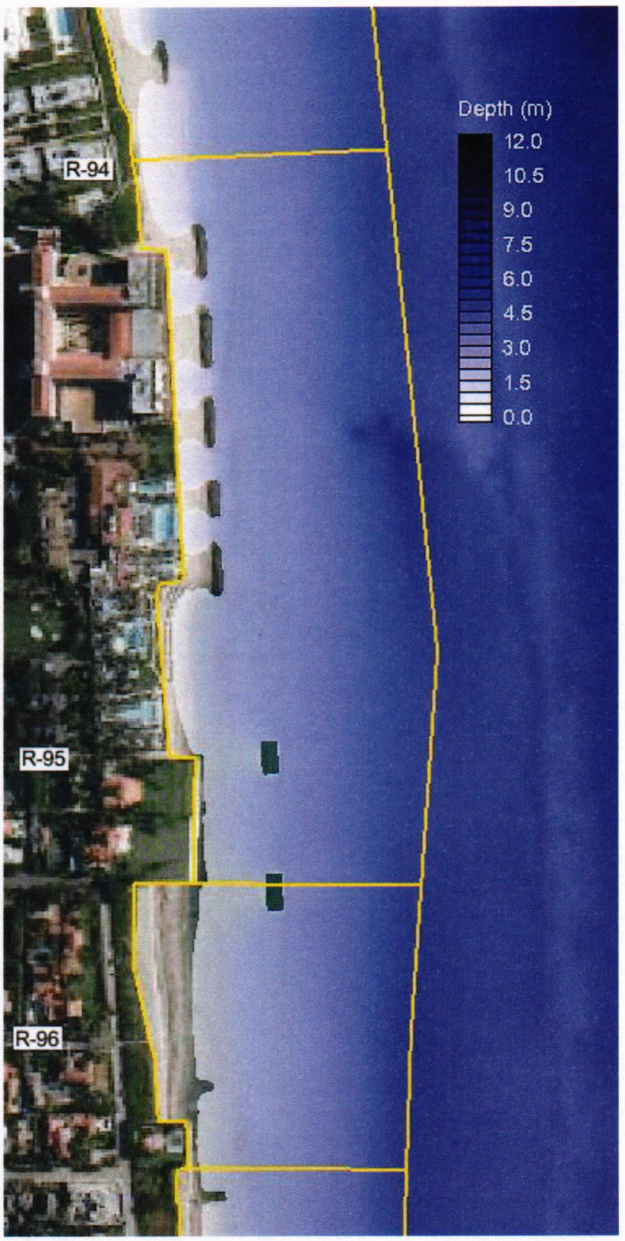

Figure 14.
Model-Predicted Shoreline 2 Years Post-Project
(Alternative 7).

Each alternative was assessed for a period of 2 years using representative wave conditions and predicted tides. The wave conditions are based on the NOAA wave records from 2005 through 2019. For each wave event in the 14-year wave record, an average annual wave recorded was developed for a 1-year period. The tide information is based on NOAA's tidal constituents for the Lake Worth Pier gauge. Based on the model output, the following conclusions can be used in the overall assessment of the project alternatives.

1) Moving the Breakers' breakwaters seaward (Alternative 1) does not provide benefit to the downdrift shoreline. Relative to baseline conditions, the shoreline in the vicinity of Clarke Avenue and Mid-Town will experience a model-predicted 7 to 11 percent reduction in volumetric stability.

2) Adding an L-groin at the southern end of The Breakers beach club beach in the vicinity of the Estee Lauder seawall (Alternative 2) provides notable benefits to the Breaker's shoreline but results in a 23 percent increase in volumetric losses at the Clarke Avenue shoreline and a 50 percent increase in volumetric losses at the Mid-Town shoreline.

3) Adding two breakwaters seaward of the Estee Lauder properties (Alternatives 5 and 7) provides a 75 percent reduction in model-predicted volumetric loss for The Breakers and Estee Lauder shorelines. This project alternative holds a notable amount of sand in a salient formation, which is largely submerged, at the Estee Lauder properties. The sand captured by the breakwaters would result in changes from a model-predicted stable Mid-Town shoreline to losses of 2.2 cubic yards per foot per year (cy/ft/yr) relative to baseline conditions.

4) As modeled, adding a groin on the order of 50 feet long within the Clarke Avenue beach area (Alternatives 3 and 7) does not show notable model-predicted impacts to the shoreline since the groin does not become significantly exposed in the model simulations, based on the 2015 post-project conditions.

5) Extending the Seabreeze Avenue groin (Alternatives 4 and 6), the most northern groin of the Mid-Town reach's groin field, provides increased stability to The Breakers, Estee Lauder and Clarke Avenue shorelines, but results in increased shoreline losses from the Mid-Town shoreline. Project scenarios were modeled for a 100-foot extension at 5 feet NAVD88 and 3.5 feet NAVD88. While the groin extension and rehabilitation of the Mid-Town groins results in 20 to 40 percent reduction in volumetric losses for The Breakers, Estee Lauder and Clarke Avenue shorelines, the Mid-Town shoreline will experience losses of up to 2 cy/ft/yr relative to baseline conditions. Based on the model results, using the lower 3.5-foot NAVD88 elevation (Alternative 6) for the extension provides more benefit to The Breakers, Estee Lauder and Clarke Avenue shorelines and less adverse impacts to the Mid-Town area than using 5-foot NAVD88 elevation (Alternative 4).

6) While moving or re-configuring The Breakers' breakwaters alone (Alternative 1) does not result in model-predicted benefits to the downdrift shorelines, removing the relic shore-

perpendicular portions of breakwaters from the seaward side shows improvement to the performance of the downdrift beaches. For example, comparison of the model results of Alternative 6 to Alternative 4 and the results for Alternative 7 to Alternative 3 can be used to assess the model-predicted impact of re-configuring The Breakers' breakwaters versus removing the relic shore-perpendicular portion seaward of the structures.

TOWN OF PALM BEACH

Information for Shore Protection Board Meeting on: November 21, 2019

TO: Shore Protection Board

FROM: Kirk W. Blouin, Town Manager

VIA: Robert Weber, Coastal Program Manager

RE: Annual Report to Town Council
Item X.

DATE: November 13, 2019

STAFF RECOMMENDATION

Town staff requests that the Shore Protection Board (SPB) review the draft of the Annual Report that will be presented to Town Council and offer comments or revisions.

GENERAL INFORMATION

Each of the Town Council appointed boards and commissions provide annual reports to the Town Council. Town staff has developed a draft version of the report, based on the actions taken by the board during this past year of meetings.

The draft report is to be discussed by the SPB at the November 21, 2019 meeting. Comments by the SPB members will be incorporated into the draft document and Town staff will work with SPB Chairperson, Llwyd Ecclestone, to finalize the document. Each of the SPB members will receive a copy of the Annual Report once the document has been approved by Chairperson Ecclestone. The report is to be presented by Chair Ecclestone to Town Council on December 10, 2019.

Attachment

cc: Jay Boodheshwar, Deputy Town Manager
H. Paul Brazil, P.E., Director of Public Works
Patricia Strayer, P.E., Town Engineer

TOWN OF PALM BEACH

Information for Town Council Meeting on: December 10, 2019

TO: Mayor and Town Council

VIA: Kirk W. Blouin, Town Manager

FROM: E. Llwyd Ecclestone, Shore Protection Board Chairperson
Robert Weber, Coastal Program Manager

RE: Shore Protection Board Annual Report

DATE: November 22, 2019

The Shore Protection Board (SPB) is comprised of seven (7) regular members and three (3) alternate members appointed by the Town Council for three-year terms.

A chairperson and vice-chairperson are selected by the members. The 2019 SPB membership was as follows:

2018 Shore Protection Board Member	Position	Current Term Expires
E. Llwyd Ecclestone	Chairperson	12/2020
Lewis Katz	Vice-chairperson	12/2020
Kane Baker	Regular Member	12/2021
Melissa Ceriale	Regular Member	12/2019
James C. Gavigan	Regular Member	12/2021
Reuben B. Johnson, III	Regular Member	12/2021
Harvey Kinzelberg	Regular Member	12/2019
Stephen Jacoby	Alternate Member	5/2020
Warren Belmar	Alternate Member	5/2020
William Lorentzen	Alternate Member	5/2020

On January 24, 2019, Town Council re-appointed Llwyd Ecclestone and Lewis Katz. Mr. Ecclestone and Mr. Katz are currently serving their final three-year term ending in December 2020. Kane Baker, James Gavigan, and Reuben Johnson are serving their final three-year terms ending in December 2021. Melissa Ceriale and Harvey Kinzelberg are currently serving a partial term and will be eligible to be appointed for two (2) three-year terms. SPB members are allowed to serve for two (2) consecutive three-year terms.

The Board met four (4) times during the 2019 calendar year.

2017 Shore Protection Board Member	Meetings Attended	Absences	Jan 24	Mar 31	Apr 25	Nov 21
E. Llwyd Ecclestone	4	0	P	P	P	P
Lewis Katz	3	1	E	P	P	P
Kane Baker	4	0	P	P	P	P
Melissa Ceriale	4	0	P	P	P	P
James C. Gavigan	4	0	P	P	P	P
Reuben B. Johnson, III	4	0	P	P	P	P
Harvey Kinzelberg	4	0	P	P	P	P
Stephen Jacoby**	3	0	P	P	P	R
Warren Belmar	4	0	P	P	P	P
William Lorentzen*	2	0	P	P	R	R

P = Present
E = Excused
U = Unexcused
R = Resigned

*Will Lorentzen resigned from the Board on March 19, 2019.
**Stephen Jacoby resigned from the Board on September 15, 2019.

CURRENT SHORELINE CONDITION

The Town's proactive on-going coastal management efforts have maintained storm protection along the 12.2 miles of Town shoreline. Despite heavy sand erosion associated primarily with Hurricanes Matthew (2016) and Irma (2017), and the close encounter with Hurricane Dorian in 2019, no buildings are in imminent danger. Sand from the 2015 U.S.Army Corps of Engineers (USACE) Lake Worth Inlet Maintenance Dredging in Reach 1, 2015 Mid-Town Beach Renourishment in Reaches 3 and 4, and 2016 Phipps Ocean Park Beach Nourishment in Reach 7, continue to feed sand into Reaches 2, 5, and 8, respectively, to maintain shoreline stability. Dune Restoration in Reach 3 (2016), Reach 4 (2017) and Reach 8 (2015 and 2016) continue to provide stability to the Town's overall shoreline. The shoreline in Reaches 1, 3, 4, 6, 7, 8 (and Reach 9 in the Town of South Palm Beach) are to be further stabilized with expected sand placement efforts in late 2019 and early 2020.

2019 COASTAL PROTECTION PROJECTS

Sand Transfer Plant operations have continued during 2019 with more than 70,000 cubic yards (CY) of sand bypassed under the inlet, from Singer Island to Palm Beach Island, between January and mid-November 2019. The current volume is less than the volume (more than 100,000 CY) at this time last year and, together with the inlet maintenance dredging, falls short this year of meeting the inlet sand bypassing goals of an average of 202,000 cubic yards per year. The lower volume is likely attributable to the relatively mild weather this year. Long term, the bypassing goals are expected to be met.

Biological, physical, sea turtle nesting, and shorebird monitoring work continued, as required by State's Beach Management Agreement (BMA) and/or Federal permits, as previously approved by Town Council.

The Town continues to await regulatory action by the U.S. Army Corps of Engineers (USACE) for the Reach 8 Environmental Impact Statement (EIS). Action by the USACE, such as publication of a Record of Decision (ROD) and an Intent to Issue, continues to be expected consistent with the Town's preferred alternative. The Shore Protection Board will review and consider a solution in Reach 8, including an FY 2021 budget item, once additional feedback is received by the USACE.

2019 SHORE PROTECTION BOARD ACTIONS

Workshop. On March 21, 2019, the SPB held a public workshop to informally discuss coastal-related topics.

Goals and Objectives. The Board endorsed the 2019 SPB goals with minor revisions. Two new goals were added:

- Coastal Vulnerability and Resiliency
- Communication

Groins. State and Federal permits have been received. The Board recommended that implementation of a Groin Rehabilitation Plan be approved by Town Council in the future, but recognizes that during the current construction window (November 2019 – April 2020) the focus must remain on time-sensitive beach nourishment and dune restoration with our Federal and State partners.

Vulnerability. The Board recommended that Town Council accept the Woods Hole Group Coastal Vulnerability Study and move forward with development of an implementation plan.

Public Education and Communication. The Board recommended that the Town publicize the condition of the beaches and the successes of the Beach Management Agreement with FDEP and the Town's beach nourishment program.

Stakeholder Coordination**.** The Board is to identify any areas of concern regarding both stakeholder and agency coordination and make recommendations to Town Council.

Coastal Vulnerability Assessment. In January, the Shore Protection Board received the draft report from Woods Hole Group. One element of the two-year study was to use a model to help the Town plan for present and future risks of flooding. With the proposed FY 2020 Coastal Management Program budget, the Board recommended development of an implementation plan to address Town infrastructure identified in the Coastal Vulnerability Assessment that is vulnerable to flooding.

The Breakers/Clarke/Mid-Town Area. In November, the Shore Protection Board received the results from the Technical Advisory Committee. A solution to further stabilize this complex shoreline has been identified by coastal engineering experts. Staff will return to the Shore Protection Board with design and permitting estimates to be included with the FY 2021 proposed budget.

FY 2020 Coastal Management Program Budget. In April, the Shore Protection Board unanimously recommended an FY 2020 Coastal Management Program Budget of $38.8 million. To summarize, the budget included carryover for artificial reef construction, Sand Forepassing, Town shared costs associated with FEMA for Mid-Town and Phipps repair projects from hurricanes Matthew and Irma, program maintenance and monitoring requirements. In addition, the SPB's FY 2020 budget recommended adjusting the groin rehabilitation item from $500,000 to $5,000,000 to construct the first phase. Town Council adopted an FY 2020 budget consistent with 39 of the 40 individual items

identified within the SPB recommended FY 2020 Coastal Management Program Budget. The only item approved by Town Council that was inconsistent with the SPB recommendation was groin rehabilitation (which was maintained at an annual appropriation of $500,000). Construction of structural coastal projects, such as groins, can be funded through future bonds and would be considered following the active 2019/2020 construction window for beach projects.

ANTICIPATED 2020 SHORE PROTECTION BOARD ACTIONS

Prior to Town Council review and consideration, the Shore Protection Board will discuss and recommend actions for the following notable items in 2019:

- FY 2021 Coastal Management Program Budget;
- Permitting/implementation of a shoreline solution for Breakers/Clarke/Mid-Town area; and
- Continued considerations for Reach 8 following USACE issuance of a Record of Decision and Town receipt of State and Federal permits.
- Receipt of a resiliency implementation plan.
- Continued project monitoring of Mid-Town and Phipps and continued Townwide physical, biological, sea turtle nesting, and shorebird nesting monitoring in accordance with the BMA.

cc: Jay Boodheshwar, Deputy Town Manager
H. Paul Brazil, P.E., Director of Public Works
Patricia Strayer, P.E., Town Engineer

TOWN OF PALM BEACH

Information for Shore Protection Board Meeting on: November 21, 2019

TO: Shore Protection Board

FROM: Kirk W. Blouin, Town Manager

VIA: Robert Weber, Coastal Program Manager

RE: Scheduling of Future Meetings
Item XI.

DATE: November 13, 2020

STAFF RECOMMENDATION

Town staff requests that the Shore Protection Board (SPB) consider scheduling of future meetings for the 2020 calendar year.

GENERAL INFORMATION

The Town Manager's Office continues to look at opportunities to minimize staff time and operation costs by reducing the number of board and commission meetings. In 2018, it was suggested that Town Council limit the frequency of the SPB meetings to occur on an as-needed basis. It was the consensus of Town Council to allow the Town Manager to work with the SPB to determine the frequency of the meetings.

The 2019 schedule included SPB meetings in January, April, and November. A workshop was held in March. Town staff suggests to follow a similar schedule and suggests the following SPB meeting dates for 2020:

- January 23, 2020 – Establish Annual Goals and Review Annual Sediment Budget
- April 23, 2020 – Recommend FY 2020 Coastal Management Program Budget
- November 19, 2020 – Develop Annual Report to Town Council

cc: Jay Boodheshwar, Deputy Town Manager
H. Paul Brazil, P.E., Director of Public Works
Patricia Strayer, P.E., Town Engineer