



## **Jekyll Island Environmental Assessment Procedure (EAP):**

**Report summarizing the findings of the EAP Committee considering the condo development concept proposed for Jekyll Harbor Marina, known as “The Moorings”.**

**Date of EAP Committee meeting:** 03/04/2019

### **EAP Committee members:**

Ben Carswell, Director of Conservation, JIA  
Cliff Gawron, Director of Landscape and Planning, JIA  
Yank Moore, Land Conservation Manager, JIA  
David Steen, Research Ecologist, JIA – Georgia Sea Turtle  
Karl Burgess, Assistant Director, GADNR Coastal Resources Div.  
Ashby Worley, Coastal Resilience Manager, The Nature Conservancy, Georgia Chapter  
Whit Vick, Community Member

### **Project under consideration**

Carolina Holdings Group (CHG), in partnership with the ownership group of Jekyll Harbor Marina (JHM), proposes to develop a condominium component in association with the existing marina property and restaurant. The develop concept calls for 5 buildings totaling 48 units. The JHM parcel is unique because it includes approximately 5 acres of land that has been relatively untouched since the inception of the JHM lease in 1990. The entirety of the leased parcel is classified as “Developed” in regards to the statutory requirements in State law constraining development on Jekyll Island. However, a substantial amount of land within the lease boundaries currently exists in a natural state with associated ecological functions and services.

### **Assessment**

The EAP Committee finds this that this concept poses no inherent conflicts with the Jekyll Island Conservation Plan, meaning that it is not foreseen that the project would be likely to cause impacts that could compromise the Authority’s ability to preserve, maintain, manage, and restore Jekyll Island’s natural communities and species diversity.

However, the Committee is emphatic in calling attention to the fact that this project, if constructed, would be more exposed to risk of near term coastal flooding impacts and long term sea-level rise impacts than any other residential property on Jekyll Island.



Conditions of the committee's favorable assessment of this project follow. *Requirements* are essential to the committee's favorable assessment. *Recommendations* are also provided that the Committee believes would be broadly beneficial investments in the property. Most points pertain to design and construction, but some points pertain to the operation of the new facilities, should they be built. Note that this review does not absolve or supersede any other regulatory, permitting, or mitigation requirements imposed by the JIA, Glynn County, State, or Federal authorities. JIA staff stand ready to consult with the project team regarding implementation of any points presented in this report.

### ***Commendations***

The Committee was made aware of the concept-development dialogue between the development team and the JIA Design Review Committee that preceded presentation of the concept proposal to the JIA Board. The changes advanced through this process from the earliest preliminary concepts were substantial and important in the finding that, as conceptually proposed, the project does not pose an inherent conflict with the Jekyll Island Conservation Plan. In particular, the reduction in the hardscape footprint achieved by planning for parking below the living spaces, minimal manicured landscaping, and the earnest eye towards green-building and renewable-energy investments, are lauded by the EAP Committee.

### ***Requirements***

**1. Engagement of an independent, specialized coastal risk/resiliency/engineering consultant** to make recommendations concerning a current and future risk of coastal flooding. The figures that follow this report are intended to convey the seriousness of this requirement and the type of information with coastal risk consultant should be interpreting for the development team. JIA will approve the scope of work before the consultant is hired.

- The property has been observed during recent spring tide events, coinciding with northeasterly wind flow, to be on the cusp of tidal flooding. This means that relatively small increases in water level, due to storm surge, tidal anomalies, or longer term sea-level rise, have a clear potential to flood areas of the property proposed for development. The Committee was not satisfied with the depth of the development team's previous response, dated November 8, 2018, to JIA on the question of sea level rise. Furthermore, the committee emphasized that, although the language in the Jekyll Island Master Plan calling for new projects to plan for between 1.3 and 2.3 feet of sea level rise by 2060, is an important policy, the importance of flood resiliency is immediate and not just an issue of the distant future.



- The consultant should present recommendations relative to elevating or otherwise flood-proofing and optimizing critical infrastructure, including but not limited to, HVAC, water/sewer, site drainage, trash/recycling, etc. The consultant should work with the development team to develop a flood-impact preparation and recovery plan to-be submitted to the JIA along with recommended design/development modifications to reduce and mitigate the risk of flood impacts. The consultant should confirm that this project will not compromise future advancement of Jekyll Island’s class rating under the Community Rating System.
- There is no doubt that a competitive field of prospective consultants exists that could offer services in this arena. Although neither the Committee, nor the JIA, endorse any particular company or individual, one that was brought to the attention of the Committee is called Coastal Risk Consulting, <https://floodscores.com/>. Any other appropriately qualified and accredited firms may of course also be considered.

## **2. Parking**

- The Committee calls for the reduction of 11 parking spaces by eliminating three “bays” marked PP-6, PP-2, and PP-3, east of the road leading to Building A and the Marina Operations Area. This is related to the priority placed by the Jekyll Island Conservation plan on maintaining wildlife movement corridors. The refinements to the concept plan made in collaboration with the JIA Design Review Committee moved the project close to where it needs to be to avoid unacceptable impacts to an important wildlife corridor. Removing these 11 spaces from the periphery of the area that will maintain wildlife corridor functions is essential to the Committee’s finding of no inherent conflict.
- The development team should submit a basic plan for maintaining the pervious paving elements of the project to ensure that permeability is not lost over time.

## **3. Dredge-material contaminant testing**

- JIA has been informed by the DNR – Coastal Resources Division that in order to satisfy the permit conditions of Coastal Marshlands Protection Act (CMPA) Permit #672, in regards to the upland component (dredged-material dewatering) of Jekyll Harbor Marina’s dredging project, their office will require that a letter be submitted to them explaining why the marina no longer plans to remove the de-watered material and explaining the new plan for the material. CRD will also require a letter from JIA in support of the new plan. JIA’s willingness to provide such a letter is contingent upon the following requirement:
- An environmental consultant shall be engaged to advise the development team and JIA on appropriate testing for potential toxic contaminants in the dredge spoil material. JIA will approve, through the design review process, the scope of work before the consultant



is hired. The consultant should recommend a list of potential contaminants to test for, including any contaminants originating from chemicals used during dredging operations, as well as a methodology for representative and thorough sampling of the material, and identified thresholds for any contaminant levels that would call for mitigating measures due to either public health or ecological concerns. The list of contaminants to be tested for must be approved by the JIA. Our understanding is that some testing of the material has been conducted previously by Jekyll Harbor Marina. However, our impression is that this prior testing was oriented towards evaluating the ability of the material to support plant growth – measuring soil pH, salinity, etc. Our concern is instead with the potential for toxic contamination, such as heavy metals or persistent organic pollutants. Neither the JIA nor the DNR have any records on file of prior testing. If any testing was done to detect toxins, either before or after the material was dredged, please provide it.

#### **4. Construction-site cleanliness and cleanup**

- The [JIA Ordinance Concerning the use of EIFS](#) construction methods must be complied with throughout construction. Fines will be issued for violations.
- During construction, any debris that escapes the boundaries of the site (carried by the wind or in stormwater runoff) should be routinely cleaned up and must not remain beyond the completion of construction.
- Any stormwater conveyances leading off site must be left free of any debris or sediment following construction. All conveyances must comply with post-construction runoff standards.
- Stormwater-management and erosion-control BMPs must be in place in accordance with all county and state regulatory requirements throughout the project.

### ***Recommendations***

#### **1. Irrigation**

- The Committee strongly discourages consideration of applying to JIA for an irrigation well permit on this property. Given the minimalistic landscape architecture proposed in the concept plan, the anticipation of a planting palette dominated by native species, and the closeness of the water-table to the surface elevation on the property, the need for supplemental irrigation should be minimal and should be accommodated from the public-water supply. The JIA is open to discuss options for metering the public water supply for irrigation water to see if we can find a way to make that option more affordable during dry periods when irrigation may be needed.



## 2. “Contained” placement of dredged material

- The Committee recommends that the development team evaluate the feasibility of placing all dredged material directly underneath structural and/or hardscape elements. The importance of this recommendation is to be informed by the results of the contaminant testing (Requirement #3). If no concerning levels of toxic contaminants are found in the material, this recommendation may not be applicable. Otherwise, it could be evaluated as one potential mitigation measure, should it be determined that mitigating measures are called for.

## 3. Electric-vehicle parking

- Mainstream market analysis predicts a rapid expansion in the electric-vehicle market within the coming decade. Georgia, particularly the Atlanta market, already is among the leaders in the nation in electric-car ownership. Infrastructure that prepares to accommodate the likelihood of this demand from future residents/tenants is advisable.

## 4. Recyclable building materials

- When selecting building materials, please strive for any elements that are likely to be replaced within the lifetime of the structure, such as interior design features, to be recyclable.

Figure 1. This photo taken on February 19, 2019 shows the level of tide-water during a spring tide event in conjunction northeasterly wind flow. The water level elevation is estimated at 5.96' (NAVD88 datum – comparable to Mean Sea Level (MSL)) .



Figure 2. This map shows elevations on the JHM leased parcel that fall below 5.96 ft. (Red) and above 5.96 ft. (Green). The elevation data used to generate this map is from 2009.

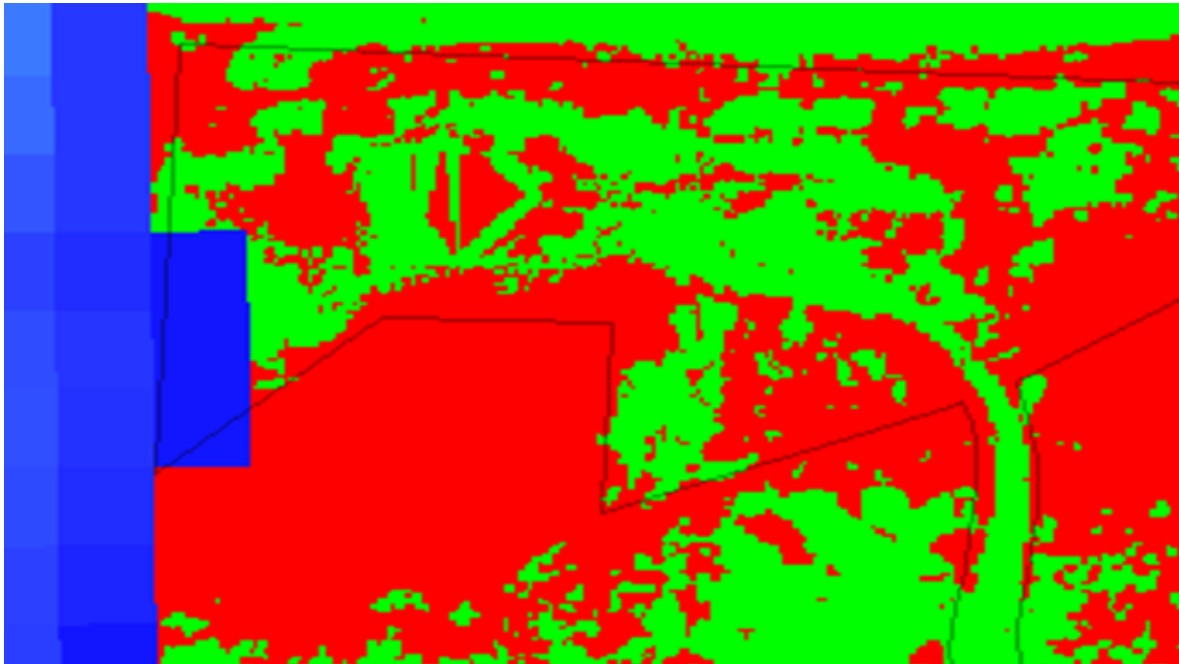




Figure 3. This Graph shows the frequency per year of tide levels of different heights above mean sea level (MSL) and associated historic trend lines. These data are from actual measurements at Fort Pulaski, Georgia, not computer-model projections. Number of tides is on the vertical axis and year is on the horizontal axis. The blue line shows the number times in each year that a high tide exceeded 5-feet above MSL. The yellow line shows the same for 5.5-feet, and the black line for 6-feet. The trend lines show that the rate of increase in the frequency that these “extreme” high tides are occurring has been increasing exponentially since around 1950. This means that a tide event such as the one shown in Figure 1, or higher, can be expected to occur more and more frequently in the future.

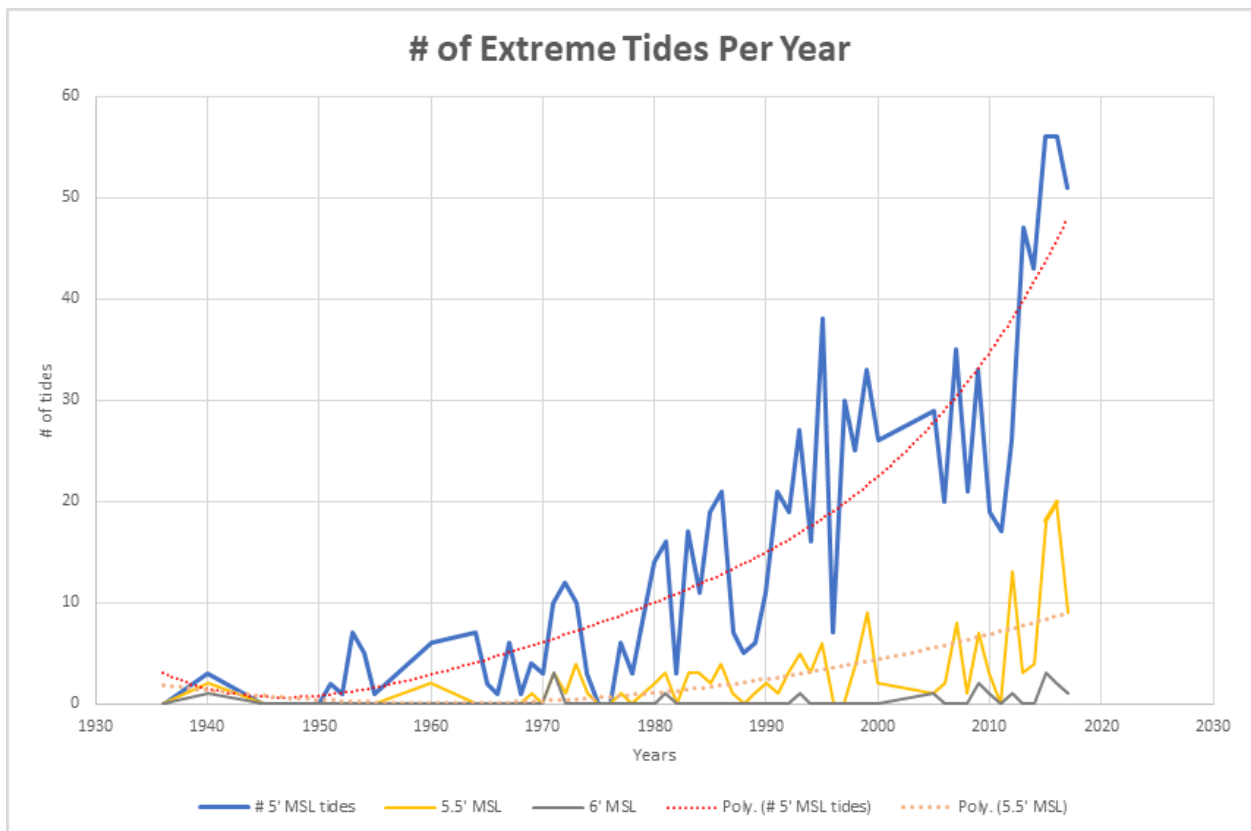


Figure 4. Screen Grab for the NOAA Sea Level Rise Viewer tool. <https://coast.noaa.gov/digitalcoast/tools/slr.html>

This model-based prediction of sea level shows that for intermediate predictions of the rate of future sea-level rise in our area, calling for about 2-feet of rise by the year 2060, the eastern periphery of the Jekyll Harbor Marina lease could be below Mean Higher High Water (MHHW) - the average daily highest tide.

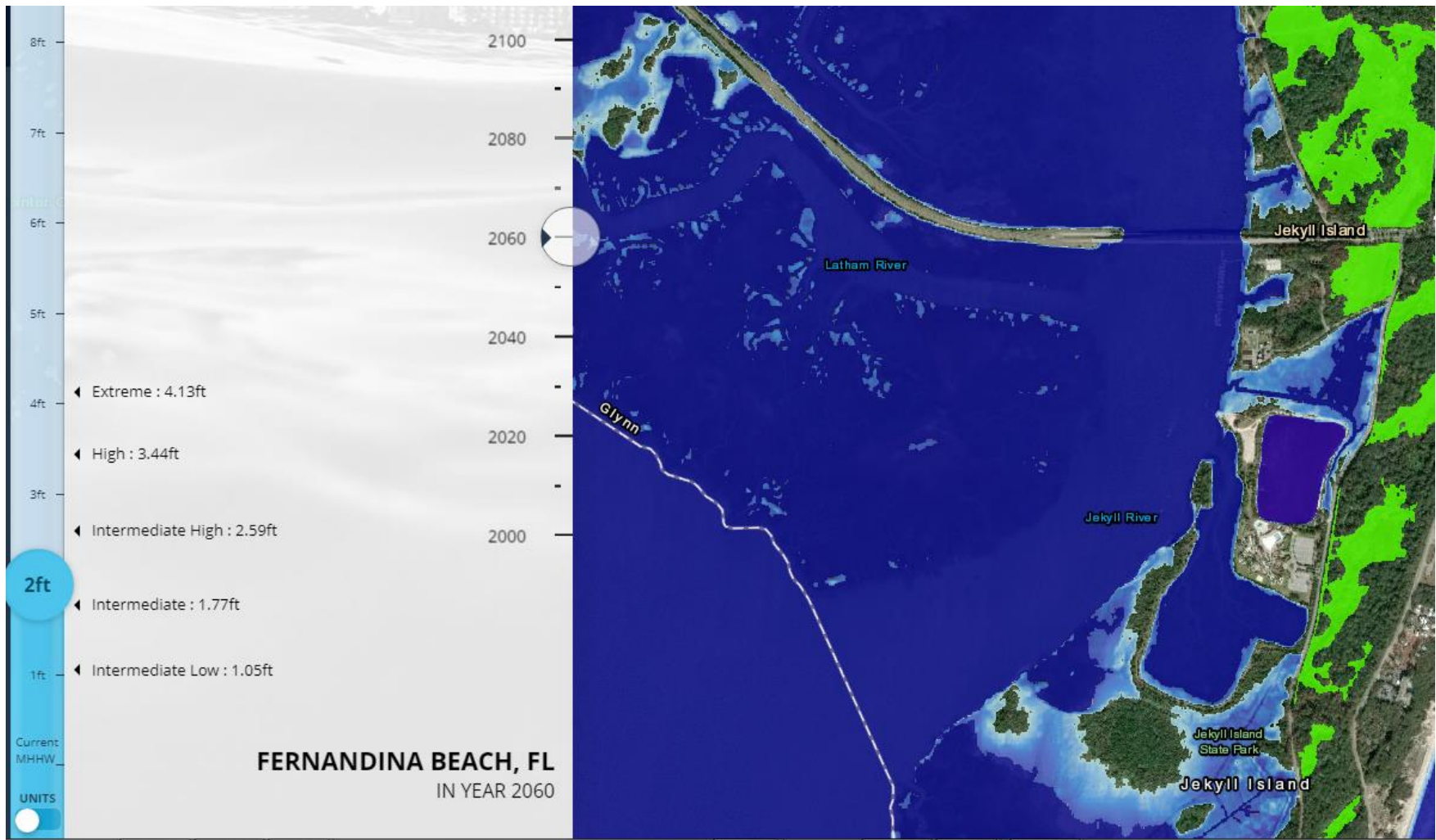
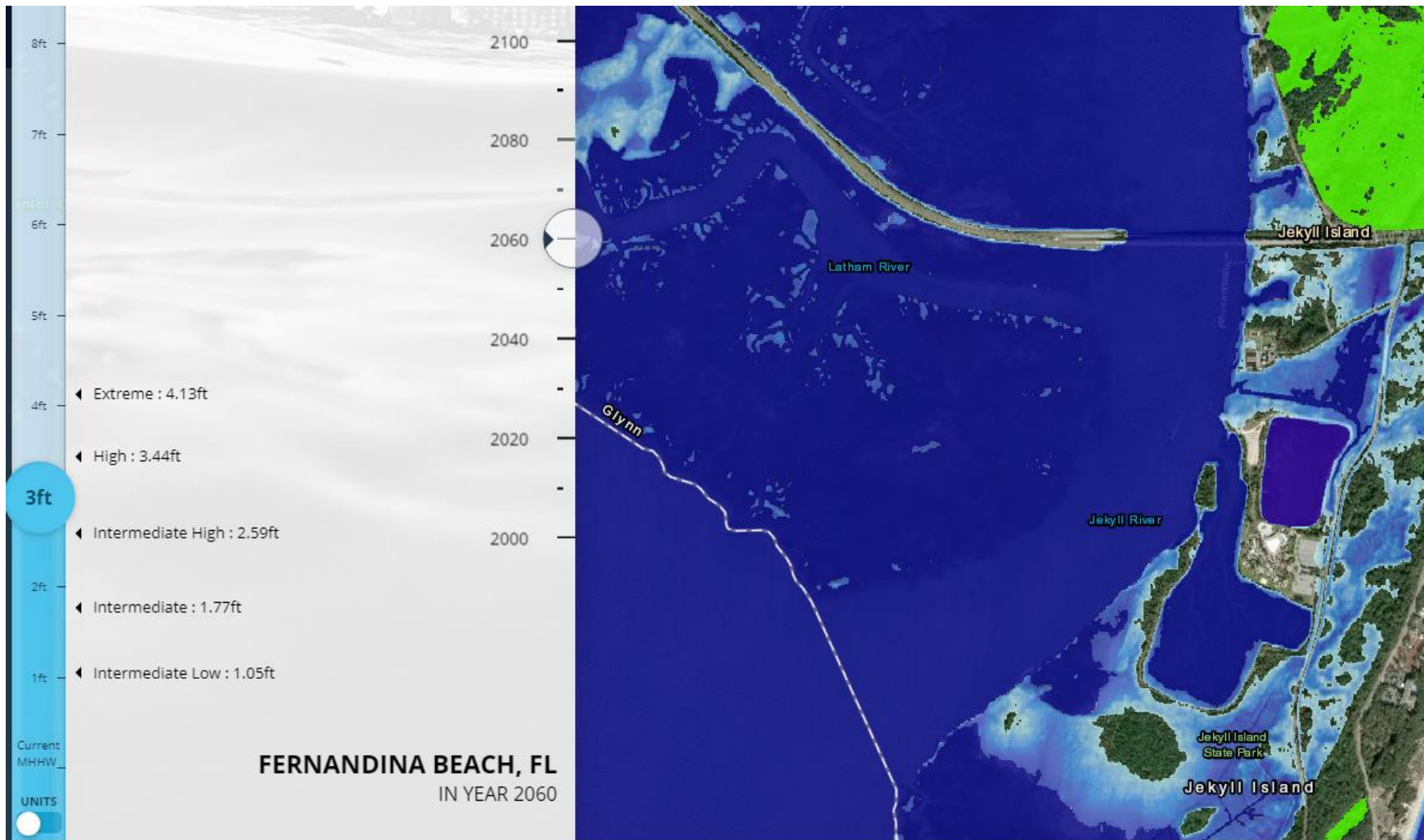




Figure 4. Screen Grab for the NOAA Sea Level Rise Viewer tool. <https://coast.noaa.gov/digitalcoast/tools/slr.html>

This model-based prediction of sea level shows that for higher predictions of the rate of future sea-level rise in our area, calling for about 3-feet of rise by the year 2060, or for more moderate predictions further out in time, a substantial percentage of the Jekyll Harbor Marina lease could be below Mean Higher High Water (MHHW) - the average daily highest tide.



## **Jekyll Island Environmental Assessment Procedure (EAP):**

### **2<sup>nd</sup> Report summarizing the findings of the EAP Committee considering the condo development concept proposed for Jekyll Harbor Marina, known as “The Moorings”**

**Date of 1<sup>st</sup> EAP Committee meeting:** 03/04/2019

**Secondary Meetings:** 07/08/2019, 08/09/2019

**Report finalized:** 8/29/19

#### **EAP Participants:**

Ben Carswell, Director of Conservation, JIA

Cliff Gawron, Director of Landscape and Planning, JIA

Yank Moore, Land Conservation Manager, JIA

David Steen, Research Ecologist, JIA – Georgia Sea Turtle

Karl Burgess, Assistant Director, GADNR Coastal Resources Div.

Jennifer Kline, Coastal Hazards Specialist, GADNR Coastal Resources Div.

Ashby Worley, Coastal Resilience Manager, The Nature Conservancy, Georgia Chapter

Whit Vick, Community Member

Dave Smith, Community Member

#### **Project under consideration**

Carolina Holdings Group (CHG), in partnership with the ownership group of Jekyll Harbor Marina (JHM), proposes to develop a condominium component in association with the existing marina property and restaurant. The development concept calls for 6 buildings totaling 48 units. The JHM parcel is unique because it includes approximately 5 acres of land that has been relatively untouched since the inception of the JHM lease in 1990. The entirety of the leased parcel is classified as “Developed” in regards to the statutory requirements in State law constraining development on Jekyll Island. However, a substantial amount of land within the lease boundaries currently exists in a natural state with associated ecological functions and services. The secondary review summarized here was necessary in order to review changes to the original concept, design/development plans, and the development group’s responses to the initial EAP report.

#### **Assessment**

As in the initial review, the EAP Committee finds this that this concept poses no inherent conflicts with the Jekyll Island Conservation Plan, meaning that it is not foreseen that the project

would be likely to cause impacts that could compromise the Authority's ability to preserve, maintain, manage, and restore Jekyll Island's natural communities and species diversity.

Conditions of the committee's favorable assessment of this project follow. *Requirements* are essential to the committee's favorable assessment. *Recommendations* are also provided that the Committee believes would be broadly beneficial investments in the property. Most points pertain to design and construction, but some points pertain to the operation of the new facilities, should they be built. Note that this review does not absolve or supersede any other regulatory, permitting, or mitigation requirements imposed by the JIA, Glynn County, State, or Federal authorities. JIA staff stand ready to consult with the project team regarding implementation of any points presented in this report.

## **Requirements of Committee's favorable assessment**

### **1. Engagement of an independent, specialized coastal risk/resiliency/engineering consultant**

- a. We have received and reviewed the proposed scope of services with Michael Baker International to consider all appropriate flood-related risks to the project in the near-term through at least the 50-year projected lifetime of the development. The committee requires that their work be informed by the most recent data and reports for sea-level rise produced by NOAA in 2017, and that process and timeline for finalizing construction details allows for accommodation of any potential recommendations that Michael Baker group may present.
- b. Once this report has been finalized, it must be shared with the JIA Design Review Committee and members of the EAP Committee. **Note: As of August 19<sup>th</sup>, what is understood to be a preliminary draft of the Michael Baker report was provided and distributed to members of the JIA Design Review Committee and EAP participants. The JIA Design Review Group will provide feedback to the development team to be accounted for in finalizing the report.**
- c. The JIA Design Review Group should not approve final construction drawings until satisfied with the final Michael Baker report and the development team's intended response(s) to it.
  - a. The sanitary sewer system needs to be fully assessed for capacity and flood resiliency. Currently, it appears in the design/development drawings that the pump is below a level that could flood compromise the system.

### **2. Dredge-material contaminant testing**

- a. The committee appreciates the prompt sampling, testing, and basic interpretation provided by Jekyll Harbor Marina for the dredge material that exists within the project area. These materials have been shared with staff of the Coastal Resources Division at Georgia DNR.

- b. Due to the risk of certain contaminants and the lack of soil contaminant experts within the committee, we require that the services of an environmental consultant with these qualifications be retained to produce a report explaining the findings and any pertinent standards or thresholds. It is also required that three contaminants of concern, known occur locally, be tested-for in addition to what has already been sampled for. These include Atrazine, Aroclor, and Mercury, all of which are known to affect priority wildlife species that are present on Jekyll Island.
- c. Additionally, collection and analysis of control samples is required so the committee and the consultant have a local standard to compare the results to. This could be collected from either off-lease areas adjacent to the dredge material containment site or on-lease areas across the paved entry road to the property.
- d. If contaminants are determined by the consultant to not exceed any threshold levels of concern, and this finding is accepted by JIA and DNR, then dredge materials may be retained on site. JIA staff will convey an opinion in this regard to DNR staff, based upon information provided by the consultant, but a final decision to release the permittee from prior regulatory commitments to remove the material from the site will ultimately fall to DNR staff.
- e. If approved to stay on site, dredge material should not be used in areas that will be calculated as pervious for stormwater management because the material has a high clay-content that will reduce permeability.

### **3. Landscape Plan**

- a. Any non-native species should be restricted to the immediate proximity of structures. Specifically, we require the hatched area on the plan be exclusively native trees, shrubs, and grasses. The aim for this area should be to restore a forest with a multi-age canopy comprised of pine, live oak, and other native canopy species with a relatively open, diverse herbaceous and shrub layer. Where applicable, salt-tolerant native plants are recommended to improve the success and functionality of the site along its wetland boundaries.

### **4. Stormwater management and retention**

- a. The EAP committee's support is contingent upon addition of appropriate stormwater retention on-site, consistent with the guidelines of the Coastal Stormwater Supplement. The lawn space to the west of building B could be utilized at least in part as a bioswale planted with salt-tolerant species. Another option for retaining stormwater on-site could be the existing wetland.
- b. Tide gates must be installed on any stormwater infrastructure that drains to the tidal marsh to prevent flooding of the stormwater system.
- c. Calculate pre and post development runoff rates, infiltration and pollutant removal using the calculation methodology outlined in the Coastal Stormwater Supplement.

## 5. Sewer

- a. The sanitary sewer system must be assessed for capacity and flood resiliency. Currently, it appears that the pump would be below a level that could easily flood and compromise the system.

## Recommendations of the Committee

### 2. Landscape Plan

- d. The Committee recommends that further consolidation and reduction of lawn-space could be achievable and would be more consistent with the “confirmed business points” (“eliminate village green”) specified in the February 2<sup>nd</sup> communication between Carolina Holdings Group and JIA. The committee asks that development team consider lawn consolidation/reduction opportunities in the following areas at minimum- west of building B, east of building A, around parking number 4, across from and adjacent to parking number 7, and the areas behind the mailboxes. The Committee understands and respects the need for minimalistic lawn space immediately adjacent to residential units to provide for the needs of pet-owners, basic structural maintenance, and fire safety.
- e. Consider an alternative to *Cephalataxus* due to its potential to invade natural areas. An alternative for this could be the coontie palm which is similar in structure and can be considered native. Viburnum is likewise not preferred and if used should be sparingly and only in immediate proximity to structures or hardscape rather than in the natural areas. There are a variety of native alternatives that can provide a visual-screening effect.

### 3. Wildlife corridor

- a. The committee appreciates the adjustments and specifications made in the site exhibit provided to JIA, dated 7/18/19, pertaining to a southward shift in the pool area to provide more space to the critical root zones of the trees to its north and 10-foot setback from the wildlife corridor.
- b. The Committee fully supports and applauds the delineation of the wildlife corridor, and the intent to restrict future development of this area in the terms of the lease. This was an essential element of the Committee’s support as guided by the Jekyll Island Conservation Plan.
- c. A minimalistic set-back between Building A and the wildlife corridor, as was provided for the pool area is advised to accommodate building-maintenance and fire-protection needs.



### **Further considerations due to potential flood risk**

- a. Consider an antimicrobial product similar to DensGlass from slab grade level up 2-3ft on the parking level. This will greatly reduce the capacity of flood water to create mold and mildew conditions within the interior of the structures.
- b. With the low elevation and the high water table around the pool, it is recommended that you look into pool anchors (a local example exists on sea island) to anchor the pool from separating away from its foundation in the event of hurricane conditions and severe storm surge.
- c. Based on current trends, many of which are identified in the Natural Resources section of the Jekyll Island Master Plan, stakeholders in this development should not depend upon an expectation of public assistance or support if retreating shorelines should present a hazard to the development in the future.