

COMMUNITY | RESILIENCY | ECOLOGY | RECREATION | EDUCATION

# OYSTER RIVER PARK

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# VISION STATEMENT

The Oyster River, located on the gulf coast of Florida, presents a great design opportunity. Currently, the site stands heavily isolated from human interaction, riddled with landfill waste and bordered by a forest of mangrove trees. The goal of the project is to transform the site into a park which welcomes families, provides connection to the natural landscape of the Floridian coast, while also educating visitors to the site. The structure of the design is heavily influenced by the formal beauty of the mangrove trees. Our site creates a web of trails that gently moves the visitor through the site. Due to the priority of separation between individuals and the highly sensitive mangrove forest, the proposed design utilizes biophilic design strategies to replicate the feeling of physical interaction with these oceanic trees through form, color, and planting choices. The design also integrates accented features through a motif of tiers, which is a direct influence from the tide table of the coast, while in turn providing views of the coast itself.

The site welcomes all demographics and ability levels with its attention to ADA standards in order to provide educational opportunities to all who seek it. The signage along the trails will provide insight into the natural ecology and wildlife in the landscape which will allow users to feel an elevated connection to the space. The signage will also detail the design choices that were made to ensure the resiliency of the site. Our team has included the implementation of a bioretention garden on the north and south side of the site as a measure to mitigate flooding while providing pleasing aesthetics. An elevated boardwalk snakes through some of the more sensitive areas to minimize footpath disturbance in the wetlands while retaining connectivity and views through the site. The design additionally proposes the use of naturalized materials, such as FSC 100% hardwoods and plants acclimated to zone 10A, such the Bald Cypress and Sabal Palms.

The Oyster River Park includes recreational activity opportunities for children and adults alike. Some recreation opportunities featured are a non-motorized kayak launch, a playground that follows the elegant structure of mangrove roots, a tiered community center, and a boardwalk that provides an array of views and resting points. The design strives to create a space that feels personal to each viewer, aided by the addition of mixed used spaces, such as the pavilion and public green space which allow a variety of activities to ensue and encourages community engagement.

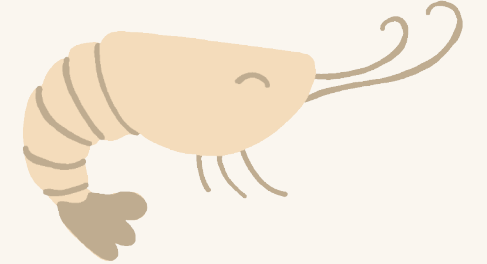
Living in a world where people can feel disconnected at times, whether it be from the prevalence of technology or a post-pandemic culture, the design team has sought to create a space that allows individuals to reconnect. The park provides an opportunity to reconnect with nature, reconnect with other individuals, and reconnect with themselves. While we pay our respect to the mangroves by keeping our distance from them, we hope this site can bring people together in ways that are meaningful and enduring just as the mangroves tie the unique intercoastal ecological communities together.

## COMMUNITY



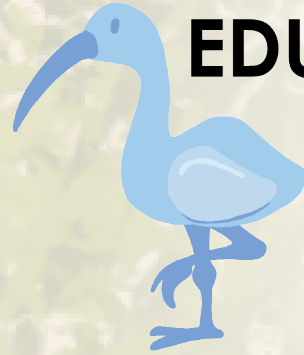
Like the interconnectivity of mangrove tree roots, the site implements features with the intent to bring the community together. The design features a community center and pavilion that is mixed use to allow for a variety of activities to ensue. There is also a playground in proximity to the community center to welcome a younger demographic and a variety of trails and views that are suitable for adults and children alike. The attention to ADA standards ensures that all are welcome and encouraged to visit the site.

## RECREATION



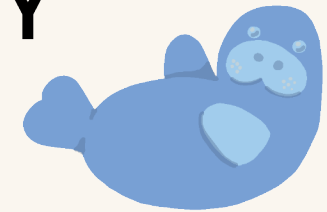
Along with providing educational and recreational opportunities, our team has aimed to create a pedestrian friendly environment by creating three separate pedestrian entrances in addition to the vehicular entrances. The central path brings visitors to the community center while additional pathways branch out throughout the site to allow visitors to meander throughout the park.

## EDUCATION



The central pedestrian path leads to the community center while the others have options for branching out into the rest of the park. Along the pathways we have included signage displaying information about the native wildlife and ecological systems they are likely to encounter on site. Splitting down to the beach from our bio-retention marsh is the non-motorized craft-launch.

## ECOLOGY



The team has sought to preserve the mangrove forests that border the edge of the site by redirecting pedestrian traffic away from the perimeter of the landscape. This design choice also limits disturbance to the wildlife that inhabits the coast. This wildlife includes oysters, shrimp, barnacles, crabs, egrets, mollusks, herrings, spoonbills, ibis, manatees, dolphins, pelicans, and egrets.

## RESILIENCY



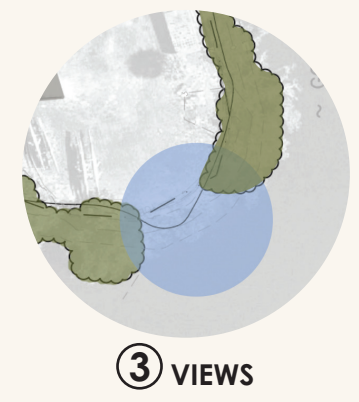
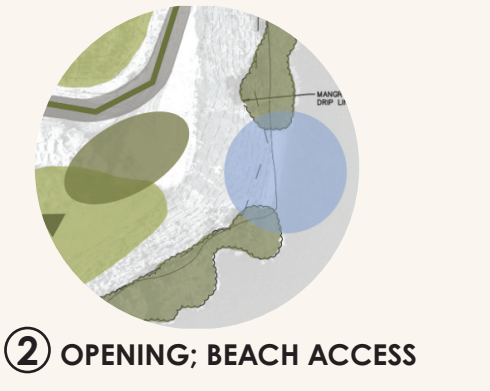
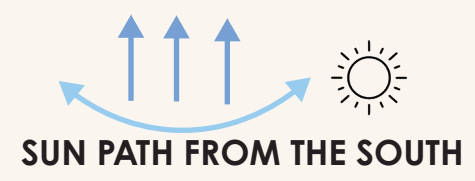
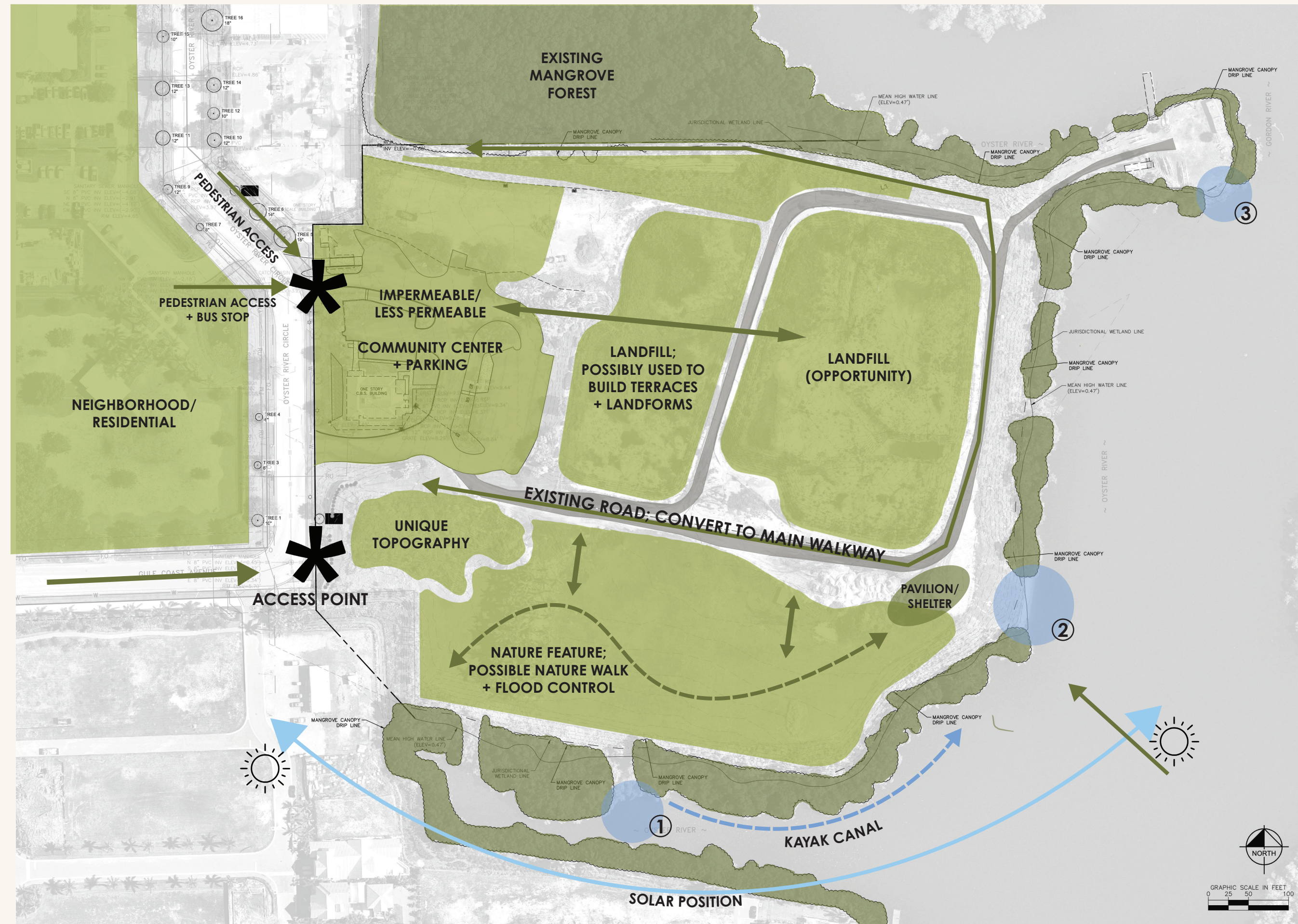
Due to a rise in the sea level and the occurrence of hurricanes/harsh rainfalls, the site is susceptible to flooding. Our team thus implemented a bioretention garden on the north and south side of the site to mitigate flooding and simultaneously provide pleasing aesthetics. Our team also proposes the addition of an elevated boardwalk to minimize footpath disturbance in the wetland area. We have furthermore selected a planting palette of trees that thrive in zone 10A to aid cleaner air and provide an overhead plane for prospect and refuge.

# SITING STUDY





When conducting the site inventory, we wanted to note the existing conditions and see how we could bring our design to life. The most exciting thing that stood out to us was how the site was surrounded by mangrove trees that provided unique views and ecological diversity. We used these mangroves to inspire our circulation and some of our structures like our children's playground. We also wanted to use the leftover landfill material as an opportunity to create fun and innovative landforms. From this material we molded our terraced mounds. Noting that there was compacted soil on the west side of the site we decided to use this area for our main buildings and parking. On the south side we saw this area as a potential flood zone due to its proximity to the river's mouth. Therefore, we decided to address this issue by establishing a more natural bioretention area that could handle controlled flooding and make the site more resilient.



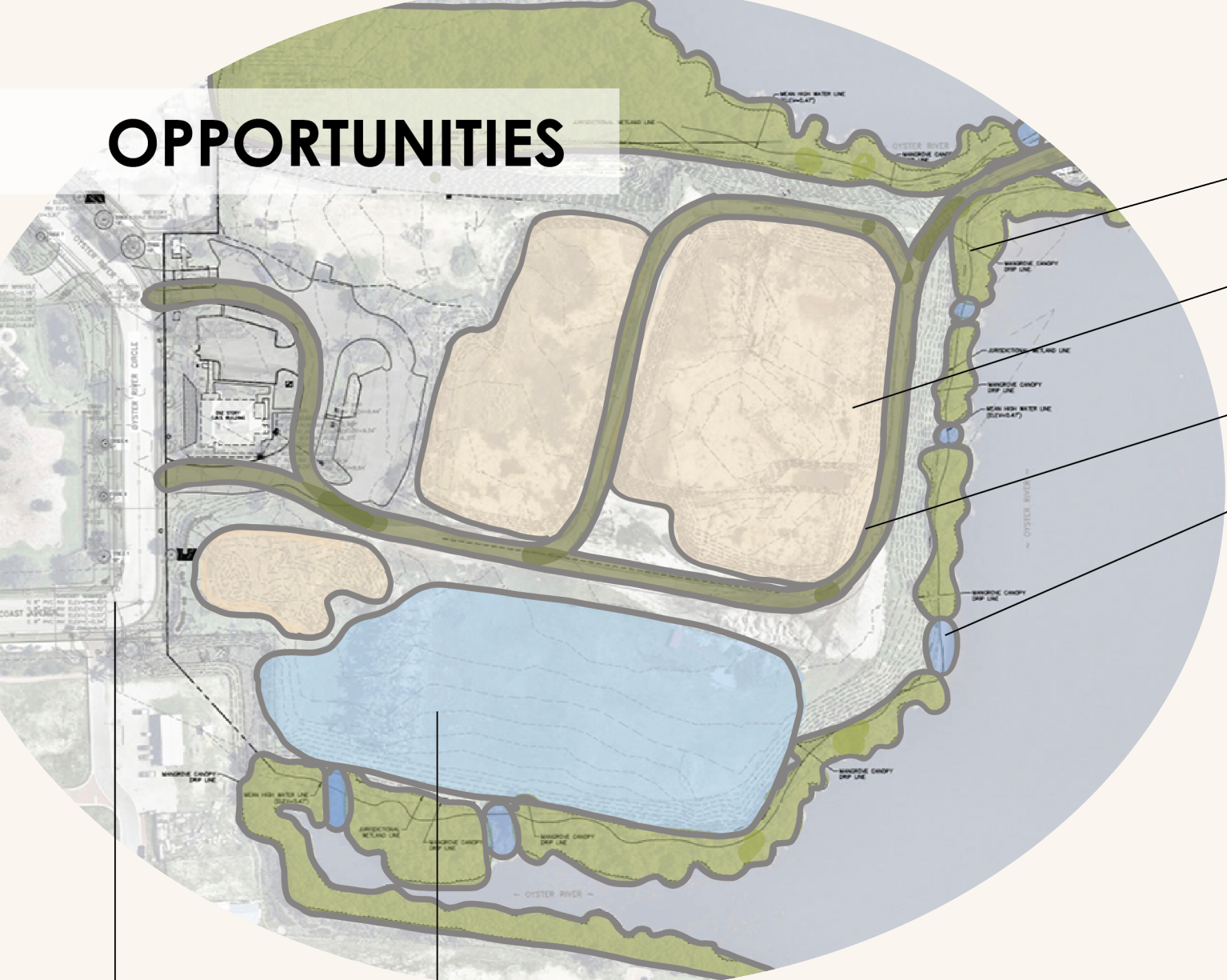
**OCEANIC WILDLIFE**

- OYSTERS
- SHRIMP
- BARNACLES
- CRABS
- MOLLUSKS
- HERRINGS
- SPOONBILLS
- IBIS
- MANATEES
- DOLPHINS
- PELICANS
- EGRETS

**SITE ANALYSIS**



# OPPORTUNITIES



**Mangroves:** The mangroves naturally help preserve the coastline from eroding from tides. The mangroves also help to protect the coast from hurricanes and storm surges.

**Landfill:** The existing organic material serves an opportunity to sculpt the land. The material is not structurally sound, but can serve as fill for berms and as greenspace.

**Existing Roads:** The benefits of having existing roads on site is that there is already the possibility of vehicular circulation and saves money by not having to create roads from scratch.

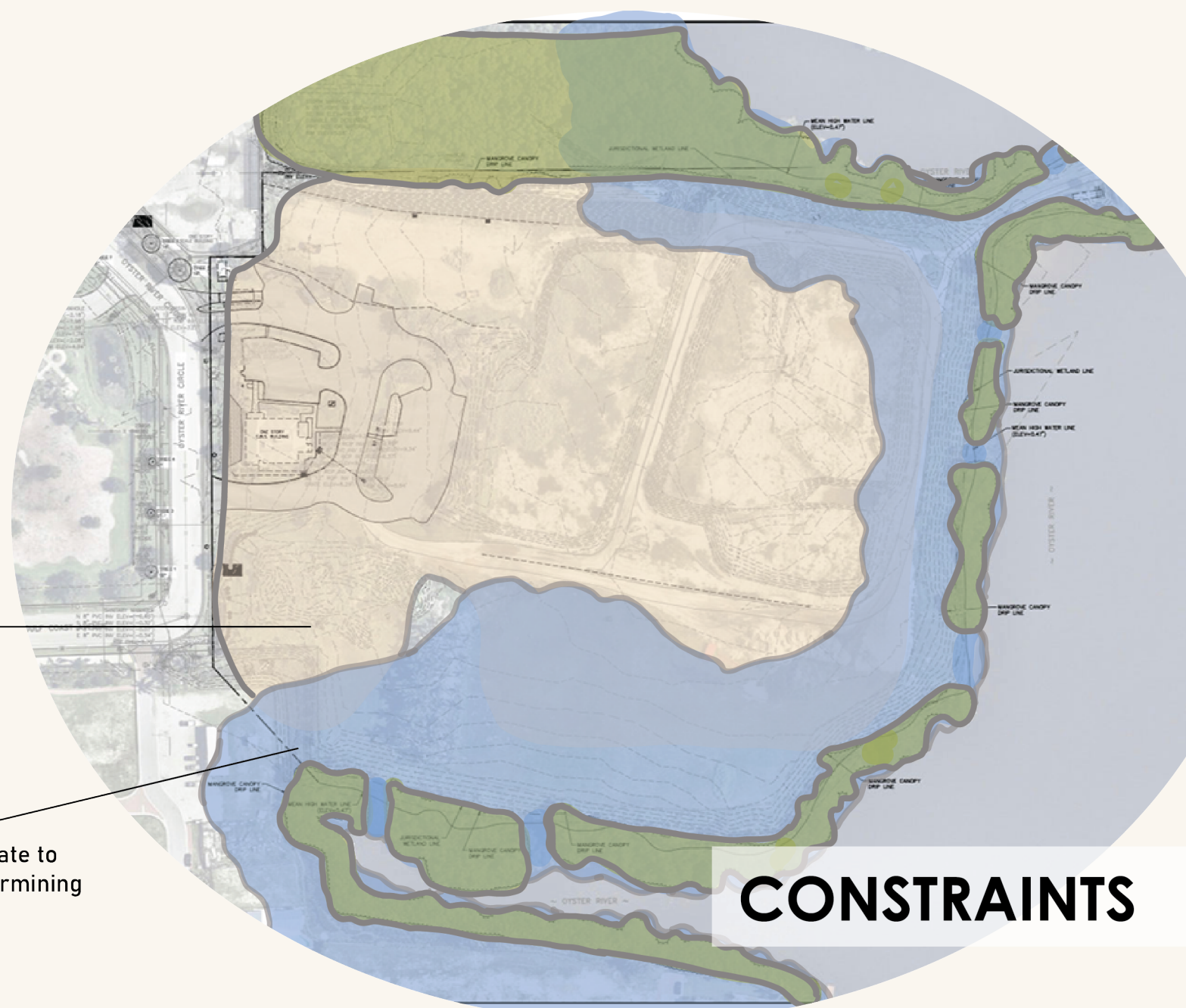
**Access to water:** The mangroves provide natural protection the the coastime and since there are some gaps amongst them, there is access to the river for recreation and non mororized activities.

**Wetlands:** The benefits of natural wetlands range from creating wildlife habitats, erosion control, water filtration just to name a few. With the wetlands on site, they will serve as flooding prevention and a valuable educational opportunity for visitors to the site.

**Access to main road:** By being located by a road already, the site is already accessible by vehicle.

**Sun exposure:** When analysiying an outdoor site in the Southereastern United States, sun exposure is an important factor due to high summer temperatures. Areas of shelter with be important to consider in areas where outdoor activity will be taking place.

**Flooding:** The intercoastal environment of Florida is prone to flooding. The effects of this on our site relate to building placement, where activity hubs are, and determining where the site needs more protection.



# CONSTRAINTS

# MASTER PLAN





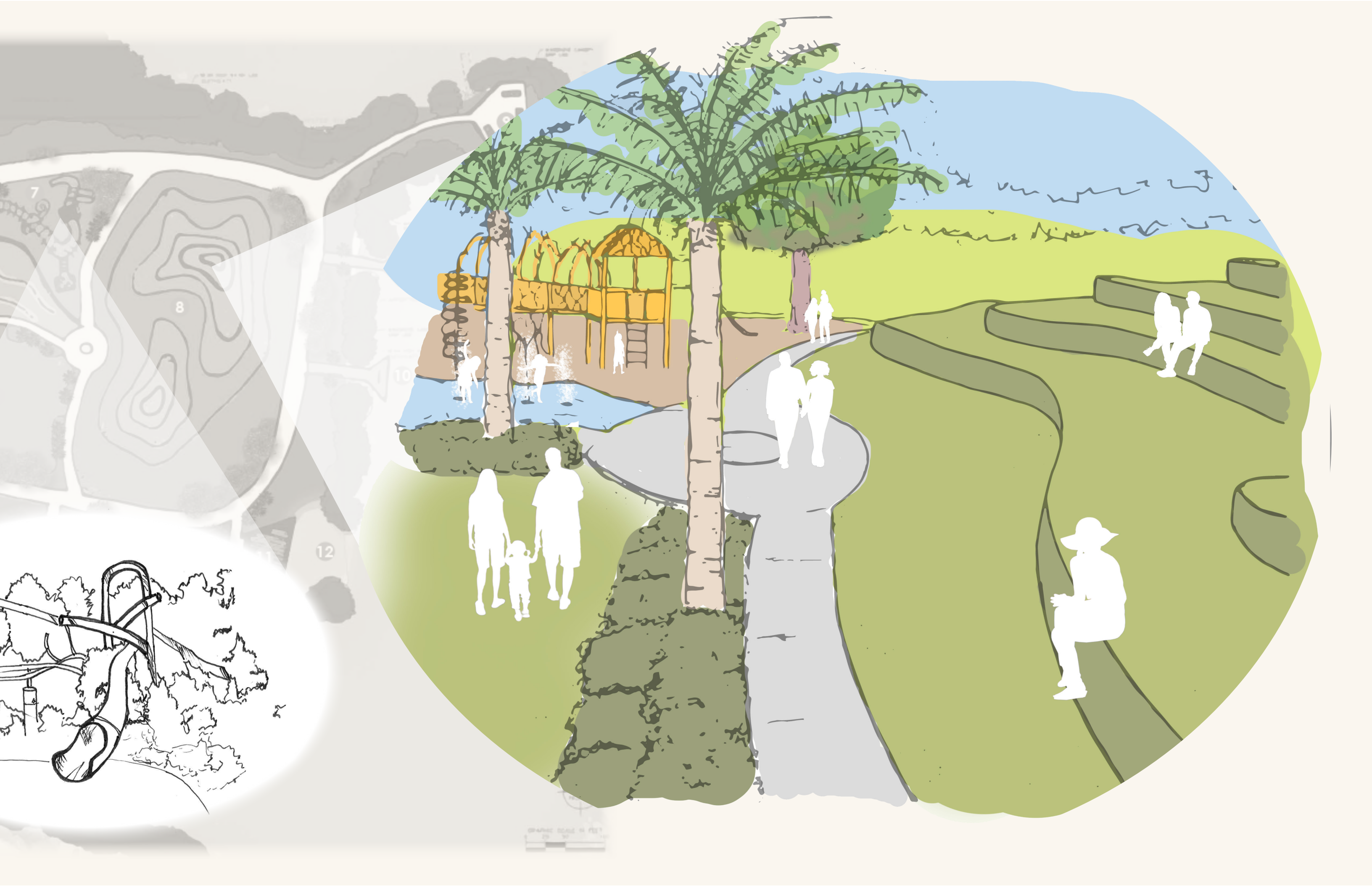
**PLAN LEGEND**

- 1 Main Parking
  - 2 Overflow and Staff Parking
  - 3 Handicap Parking
  - 4 Community Center with cafe, gathering space, viewing deck, and restrooms
  - 5 Open Grass Field
  - 6 Splash Pad
  - 7 Mangrove-inspired Playground
  - 8 Terraced Mounds for seating, climbing, and lounging
- 9 Seating Area with Coastal Views
  - 10 Small Decks to explore the mangroves
  - 11 Seating Pavilion/Storm Shelter with restrooms
  - 12 Lookout Tower with 360 degree views
  - 13 Three-Story Lookout Tower with 360 degree views
  - 14 Kayak/Canoe Launch and Rentals
  - 15 Bioretention and Natural Area for green resilient stormwater management, habitat restoration, and fun exploration. Boardwalks are above flooding and have benches along its path.



# PERSPECTIVES





# FURNISHING

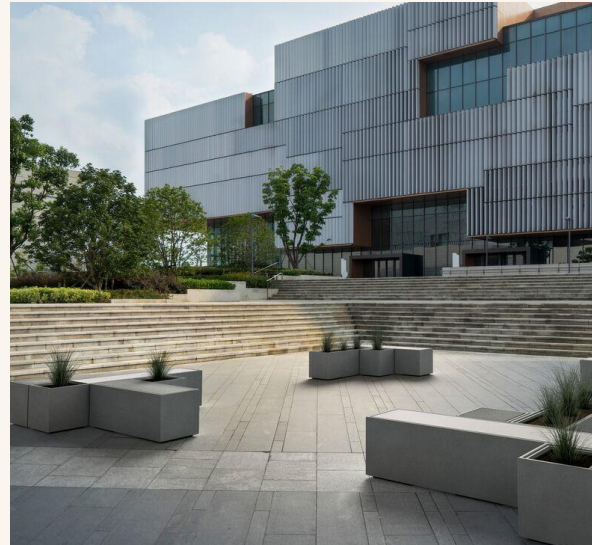
Our group selected products from the TENSLE line incorporating ultra high performing concrete as well as products constructed of FSE 100% hardwood. These longlasting materials are necessary in our site because it is located on a brackish river.



Hudson Bench



Copenhagen Bench



Quadar Seating



Vector Seating



Universal Planter



Column Table



Avivo Table



Soleris Sunshade



Soleris Sunshade



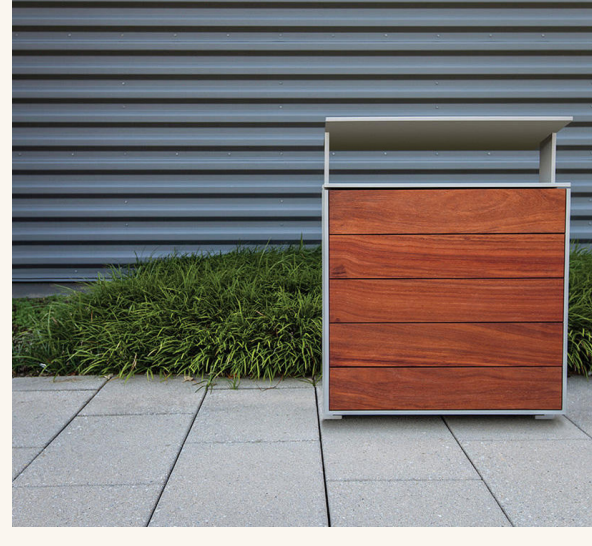
Miter Planter (TENSLE)



Rincon Bollard



Light Column Pathway Bollard



Apex Litter and Recycling Receptor



Triad Litter and Recycling Receptor



Bevel Litter and Recycling (TENSLE)

# MATERIALS

## Pedestrian



Melville Slab



Dimensions Slab



Noon Poecelain

## Light Vehicles



Dublin Cobble



Turfstone

## Heavy Vehicles



Holland Stone

# PLANT PALETTE



Sweetbay Magnolia | *Magnolia virginiana*



Southern Magnolia | *Magnolia grandiflora*



Resilience Overcup Oak | *Quercus lyrata* 'QLR510'



Bald Cypress | *Taxodium distichum*



Red Maple | *Acer rubrum* 'Built to Last'



Bismarck Palm | *Bismarckia nobilis*



Date Palm | *Phoenix dactylifera*



Sabal Palm | *Sabal palmetto*



Saw Palmetto | *Serenoa repens*



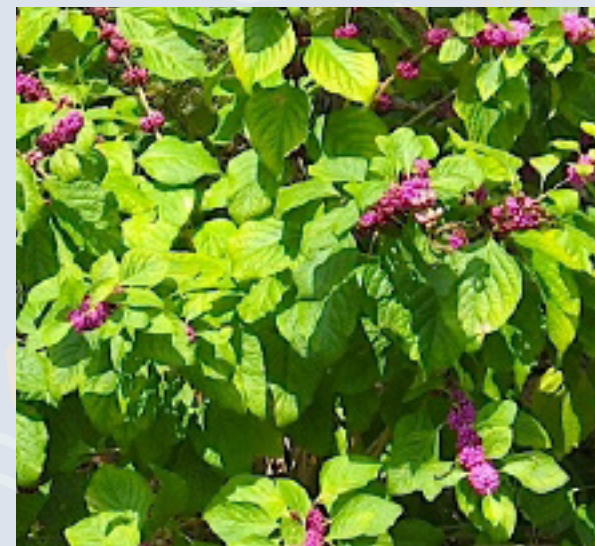
Seagrape | *Coccoloba uvifera*



Wax Myrtle | *Myrica cerifera*



Dwarf Yaupon Holly | *Ilex vomitoria* 'Nana'



American Beautyberry | *Callicarpa americana*



Muhly Grass | *Muhlenbergia capillaris*



Switchgrass | *Panicum virgatum*



# ECOLOGY AND WILDLIFE

## ECOLOGICAL BENEFITS OF MANGROVES

Mangroves, also known as “walking trees” are important to the health of Florida’s coastline and provide wildlife shelter and resources. Mangroves trap and cycle nutrients and organic matter. They protect fish nurseries, crustaceans, and shellfish. They also help to provide food for a variety of marine life ranging from red drum and oysters, to shrimp and snook. Up in the tree tops, birds nest and seek shelter from the elements.

The mangroves unique root systems help to stabilize coastlines, filter water, and protect the uplands from wind storms, waves, and floods. The density of the mangroves determines the amount of protection the coastlines receive.

Over time, urbanization has threatened the mangroves. Along the Florida coastlines large portion of mangroves have been lost before more strict laws were put in place to protect these natural resources. Some of the areas that have seen the largest impact have been:

- Tampa with 44% loss
- Lake Worth with 87% loss
- Charlotte Harbor with 59% loss

## ECOLOGICAL BENEFITS OF BIORETENTION GARDENS

Stormwater runoff carries harmful nutrients from fertilizers, pesticides, waste, etc, that contaminates the water supply. This runoff also erodes streambanks and thus disturbs the aquatic habitat. A bioretention garden is an effective and attractive endeavor to mitigate stormwater runoff and flooding through soil infiltration that removes pollutants and increases groundwater recharge.

Bioretention gardens can remove...  
75% of nitrogen and phosphorus  
95% of metals  
90% of organics, bacteria, and suspended solids

## WILDLIFE ON SITE



SHRIMP

IBIS



OYSTER



SPOONBILL



MANATEE



BARNACLES

# PRECEDENTS

As a group, we found inspiration from world-renowned places including Tikkurila River Park in Vantaa, Finland, HafenCity in Hamburg, Germany and The Garden of Cosmic Speculation in Scotland. In general we researched various community centers, parks and recreational sites.

