



Gulf Coast Site Plan and Maintenance Dredging

Environmental Assessment



January 2023

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**United States Department of the Interior
National Park Service
Everglades National Park**

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Environmental Assessment**

January 2023

The National Park Service (NPS) proposes to address the damages resulting from Hurricane Irma at the Gulf Coast site of Everglades National Park by redeveloping the site facilities and supporting infrastructure. Some of the site improvements included in the action alternative were articulated and analyzed in the park's 2015 Final General Management Plan/East Everglades Wilderness Study/Environmental Impact Statement (GMP/EEWS). These include the construction of a new visitor center, an improved canoe-kayak launch, and improved existing parking areas. The construction of the new visitor center would fulfill Congress' direction to construct and designate the "Marjory Stoneman Douglas Visitor Center" in commemoration of the vision and leadership shown by Mrs. Douglas in the protection of the Everglades. Additional improvements not previously considered, however, are needed to improve site resiliency and energy efficiency, and include raising the elevation of the site to address projected sea level rise over the next 50 years, reconstructing the bulkheads, performing maintenance dredging in the marina and boat channels, and replacement of all site utilities. More recently, Hurricane Ian resulted in additional damages to the facility and its infrastructure which emphasizes the need for resilient improvements at the Gulf Coast site.

NPS prepared this environmental assessment (EA) to evaluate one action alternative and a no-action alternative, which would maintain the existing site infrastructure conditions at the Gulf Coast site. The EA describes the environment that would be affected by the alternatives and assesses the environmental consequences of implementing the alternatives. This EA examines potential impacts on species of special concern and wildlife; essential fish habitat; vegetation, wetlands, and soils; socioeconomics, and visitor use and experience. This EA has been prepared in accordance with the National Environmental Policy Act, Council of Environmental Quality implementing regulations (April 20, 2022) (40 Code of Federal Regulations [CFR] 1500–1508) and NPS Director's Order 12: *Conservation Planning, Environmental Impact Analysis, and Decision-making* (NPS 2011) and its accompanying handbook (NPS 2015a) to assess the alternatives and their impacts on the environment.

Public Review and Comment

This EA will be available for public review for 30 days. If you wish to comment, you are encouraged to submit your comments directly through the NPS Planning, Environment, and Public Comment (PEPC) website: <https://parkplanning.nps.gov/GulfCoast>. You may also mail written comments to: Everglades National Park, Superintendent, Gulf Coast Site Plan and Maintenance Dredging EA, 40001 State Road 9336, Homestead FL 33034

Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment, including your personal identifying information, may be made publicly available. While you can ask in your comment to withhold your personal identifying information from public review, NPS cannot guarantee that it will be able to do so.

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CHAPTER 1: PURPOSE AND NEED

INTRODUCTION AND PROPOSED ACTION

The National Park Service (NPS) is proposing to implement comprehensive improvements to the Gulf Coast facilities and infrastructure and dredge the marina basin and boat channels to address damages to the site resulting from Hurricane Irma. The Gulf Coast site is located in Everglades National Park (Everglades NP or “the park”) in Everglades City, Florida. The Gulf Coast site is located five miles south of US-41/Tamiami Trail and is the gateway for exploring the Ten Thousand Islands, which is comprised of islands and waterways that extends to Flamingo and Florida Bay, and the Wilderness Waterway, a 99-mile waterway that connects Everglades City and Flamingo.

In September 2017, Hurricane Irma made landfall in Florida as a Category 4 hurricane. The wind and wind-driven water (storm surge) from the hurricane damaged the visitor center and other facilities, the site was flooded, and the utilities and marina bulkhead were compromised. The receding floodwaters deposited sediment into the marina boat basin and nearby boat channels.

The Gulf Coast developed area, hereon referred as the Gulf Coast site, is approximately 20 acres. Prior to Hurricane Irma the site included a two-story Visitor Center, picnic pavilion, a marina, an elevated maintenance building, one house, and trailer pads for seasonal staff and volunteers.

As a result of the hurricane, the visitor center was condemned and demolished, and the visitor center functions, office space for interpretive and law enforcement rangers, concession operations and commercial services, and restroom facilities were relocated into temporary buildings (trailers). The site is the primary operations center for all visitor activities in the Gulf Coast District. The temporary facilities support visitor orientation, boat tours, nature walks, astronomy programs, day and multi-day canoe/kayak rentals, snack vending, retail sales, visitor education and interpretation, staging and permitting for wilderness operations, and visitor safety and resources protection operations.

During the preparation of this EA, in September 2022 Hurricane Ian made landfall in Florida as a Category 4 hurricane. Strong winds, rain accumulation, and storm surge left devastating impacts in Florida as the storm proceeded to cross the state to the Atlantic Ocean where it turned to make landfall again in South Carolina. The flooding and storm surge experienced at the Gulf Coast site resulted in extensive damages to the two temporary trailers which served as the visitor center and law enforcement offices. The visitor center trailer has since been condemned and removed. Other facilities damaged included dock ramp, metal and wooden accessibility ramps, fuel system, chain link fence around the maintenance area, among others.

The purpose of this plan is to address the hurricane damages to the Gulf Coast site infrastructure and marina while aligning the proposed improvements with guidance from previous planning documents including the park’s 2015 General Management Plan/East Everglades Wilderness Study (GMP/EEWS). In addition, this plan proposes sitework improvements not previously analyzed in detail including raising of the site, dredging of the marina, rehabilitating bulkheads, installing a living shoreline, constructing a new entrance road, constructing a separate concession building, new utilities, and new landscaping. The overall goal of

the proposed improvements is to increase resiliency and maintainability of the site and associated infrastructure in light of projected sea level rise, continued tidal impact and flooding hazard.

This plan would be implemented in tiers as funding is secured. Construction would continue as supplemental funding becomes available. The first component would include the construction of a new visitor center, plaza, and remote concessions building in the vicinity of the canoe/kayak launch; elevating the site, grading and hardscaping around the visitor center; landscaping near the waterfront and visitor center; remove the fuel pump at the marina and relocate inland near the existing law enforcement building; and the installation of new utilities. This includes stormwater piping, sanitary sewer, electrical, site lighting, and domestic water/fire piping. The second component would include grading and elevating the parking lot and access road, paving, gravel overflow parking lot and new entry drive and deceleration lane and other hardscapes; landscaping the remainder of the site; construction of a new seawall between the waterfront bulkhead and the existing road (Copeland Avenue); dredging and placement of material on the site; demolishing the existing ramp and providing a new ramped kayak launch. The third component would include construction of new bulkheads; expanding the existing marina basin landwards 25 linear feet towards the west with the new bulkhead; replacing existing floating docks with a new floating dock system with accessible ramps; and construction of the living shoreline.

A consideration in planning efforts for infrastructure and park management is climate change. The effects of rising temperatures, changing precipitation patterns, stronger storm events and rising sea levels, are evident in the national park system. The NPS recognizes the importance of addressing the effects of current and future climate change in planning efforts. The design of the proposed action has a primary focus of hurricane resiliency features to support an optimal visitor experience for the next 50 years. Since the site would be designed to be resilient during King Tide events, sea level rise and storm events, optimizing visitor experience at different sea level elevations is key in providing a positive experience at water levels today and in the future. The materials to be used comply with Florida Building Code using products designed to meet and exceed the neighboring Miami-Dade County construction standards. This EA considers the effects of climate change in its analysis.

This EA has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA); Council on Environmental Quality (CEQ) implementing regulations effective April 20, 2022, [40 Code of Federal Regulations (CFR) 1500-1508]; NPS Director's Order 12: *Conservation Planning, Environmental Impact Analysis, and Decision making* (NPS 2011) and NPS NEPA Handbook (NPS 2015a). Compliance with Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended (54 USC 306108), and Section 7 of the Endangered Species Act (ESA) is being conducted concurrently with the NEPA process.

BACKGROUND

In 1928, the United States (US) Congress passed legislation to investigate the feasibility of creating Everglades NP. The park was authorized by US Congress on May 30, 1934 and was officially dedicated by President Truman on December 6, 1947 at the Gulf Coast site. Through efforts by many supporters and funding provided by the State of Florida, Everglades NP was formally established as a national park in 1947. The park was the first national park in the US set aside solely for its biological resources rather than its scenic or historic values. The park covers 1.5 million acres and encompasses approximately 2,350 square

miles of freshwater sloughs, sawgrass prairies, mangrove forests, and estuaries extending from US-41/Tamiami Trail south into Florida Bay (see **Figure 1**).

In 1978, nearly 86%, or approximately 1.3 million acres of the park, was designated as permanent wilderness, preserving essential primitive conditions, including the natural abundance, diversity, behavior, and ecological integrity of the unique flora and fauna. More than 60 years after the park was established, protection of natural resources and the ecosystem remains a primary focus of park management.

A wide variety of recreational opportunities is available to visitors throughout Everglades NP. Popular activities include wildlife viewing, nature hikes, fishing, camping, bicycling, motor boating and kayaking/canoeing. The 99-mile-long Wilderness Waterway runs through the western portion of the park which provides backcountry boating and camping experiences. Five visitor centers throughout the park provide visitors with interpretation, educational information and opportunities including access to the Ten Thousand Islands and western backcountry, Florida Bay, Whitewater Bay and the backcountry and the Upper Keys.

The Gulf Coast site is a 20-acre administrative site at the edge of Chokoloskee Bay. The Gulf Coast site serves as the gateway for exploring the Ten Thousand Islands, a maze of mangrove islands and waterways that extends to Flamingo and Florida Bay (see **Figure 1**). It is located five miles south of US-41/Tamiami Trail in Everglades City, on the southwestern coast of Florida (see **Figure 2**). The Gulf Coast site is located on the open coast of the Gulf of Mexico, with nearshore shallow tidal flats and barrier islands. The Gulf of Mexico has historically experienced tropical storm activity that presents a hazard to infrastructure located on the coastline. The site regularly sees King Tide events, rendering the site activities non-operational. Daily high tides typically break the existing marina's seawall.

The site is composed primarily of filled land with sediment either from the original dredging of the harbor and its approaches or from commercial sources during the site's original development in the early 1960s. Additional material from more recent dredging of the harbor has been placed into a low, swampy area, prone to flooding that was previously used as a city landfill. Figure 2

Since Hurricane Irma in 2017 and more recently Hurricane Ian in September 2022, visitor use and experience at this corner of the park has been significantly impacted. The visitor center and related facilities at Gulf Coast are critical in supporting the NPS mission as the site has been the cornerstone of the community, providing unique recreational opportunities to over 350,000 neighbors and visitors.

Previous Planning and Compliance Efforts (1990-2015) - Several planning and compliance efforts have been completed in the last three decades to update, replace, or alter the Gulf Coast Visitor Center and associated facilities. Budgetary constraints have inhibited the continuation of previous proposed improvements beyond planning and compliance and preliminary design.

Gulf Coast Development Concept Plan (1990) - The most significant planning and compliance effort for the Gulf Coast site was initiated in 1989 when Congress, through the enactment of the Everglades National Park Protection and Expansion Act of 1989, authorized and directed the Secretary of the Interior to expedite construction of a new visitor center at Everglades City. An EA was completed in 1990 as part of this effort and evaluated a new visitor center and second boat basin for concessions to separate visitor activities from

park operations. Other alternatives, including modifying the existing development and providing a new off-site development, were analyzed but ultimately rejected due to prohibitive costs, because they would maintain or increase safety hazards and physical barriers, or because they would continue to limit visitor experiences. In February of 1991, a Finding of No Significant Impact was approved for the Gulf Coast Development Concept Plan/Environmental Assessment, but the project was not implemented due to lack of funding.

Final General Management Plan/East Everglades Wilderness Study (GMP/EEWS) (2012-2015) - In 2012, site planning for the site was reinitiated as part of the park's General Management Planning (GMP) effort. Conceptual drawings were developed, a public meeting was held, and public input gathered to inform the long-term direction of the site. The facilities improvements resulting for the site planning were carried forward and analyzed in the park's 2015 GMP/EEWS, which provides long-term guidance for management of the park (NPS 2015). This plan identifies planning issues and concerns across the park, including impacts from climate change, storm surge, sea level rise and the cost and economic feasibility of new development at Everglades NP. The GMP/EEWS articulates the park's mission, purpose, and significance, and defines desired resource conditions and visitor experiences to be achieved parkwide over a 20-to-30-year planning horizon. It also provides a framework for protecting resources, managing visitor experience and use, and determining the need for development in or near the park. Maintaining high levels of visitor satisfaction with park experiences is an important management goal for the NPS. The 2015 GMP/EEWS Record of Decision directed that the NPS would construct the congressionally mandated Marjory Stoneman Douglas Visitor Center while other areas of the site would be reclaimed or rehabilitated. In addition, the GMP directed that nonessential on-site park maintenance functions would be relocated off-site in order to minimize the administrative and maintenance footprint and improve visitor experience by removing visual clutter and noise associated with park maintenance functions. The guidance from the 2015 GMP/EEWS has been incorporated in the proposed site improvements discussed in this EA.

This EA tiers off the GMP/EEWS and incorporates it by reference. "Tiering" refers to the coverage of general matters in broader or programmatic NEPA documents and focusing successive NEPA processes on the particular issues ripe for decision (40 CFR 1508.1). The 2015 GMP/EEWS generally analyzes the impacts associated with the facility improvements at the Gulf Coast site. A copy of the GMP/EEWS can be found at <https://parkplanning.nps.gov/GulfCoast> under "Document List". This EA analyzes site-specific impacts on species of special concern and wildlife, vegetation, wetlands and soils, cultural resources, and other resources.

Construction of a new visitor center would be consistent with the conceptual drawings developed in 2012 and carried forward as part of the selected alternative of the 2015 GMP/EEWS. In addition to constructing a new visitor center designed to meet the latest Florida building codes for coastal hazard zones, the site would also be raised to address projected sea level rise over the next 50 years. The marina boat basin, boat channels and area near the canoe/kayak launch would be dredged to its previously excavated depth and restore navigational access to the marina and visitor access to the canoe/kayak launch.

As documented in NPS Director's Order 2: Park Planning, general management planning for units of the national park system is conducted through a "portfolio planning" approach. Rather than relying on one regularly revised comprehensive document to meet a park's statutory requirements for park planning, parks may instead meet individual requirements through more targeted planning efforts that focus on specific

sites, uses, or resources. These targeted efforts can either provide entirely new guidance or can update existing guidance. This EA is part of the planning portfolio for Everglades NP. While the proposed improvements have been discussed in previous planning efforts, this document also addresses the extensive damage caused to the facilities from Hurricane Irma. The action alternative analyzed in this EA would enable the park to restore visitor services, as well as park and concession operations at the Gulf Coast site.

This EA describes two alternatives, including the no action alternative, and analyzes the environmental consequences of the alternative actions proposed in the Gulf Coast Site Plan and Maintenance Dredging (or “Site Plan”).



Figure 1. Project Vicinity Map



Figure 2. Project Location Map – Existing Conditions

PURPOSE AND NEED FOR ACTION

Purpose of Action

The purpose of this action is to address damages to the Gulf Coast site infrastructure and marina that resulted from Hurricane Irma while increasing resiliency, maintainability, and enhancing visitor experience consistent with the guidance from the park's 2015 GMP/EEWS.

Need for Action

The need for the proposed project is to restore visitor use and experience and park operations to conditions prior to Hurricane Irma and to prevent further damage to the site and marina bulkhead from king tides, storms and hurricanes. The site is the primary operations center for all visitor activities in the Gulf Coast District. Without the proposed improvements, visitor services would continue to degrade with limited access to land and water based opportunities. Park-owned vessels would only have off-site access to the water which would impede park operations, and concession operations would remain congested in the marina boat basin.

Objectives in Taking Action

Objectives are more specific statements of purpose that provide additional basis for comparing the effectiveness of alternatives in achieving the desired outcomes of the action (NPS 2015). The alternatives carried forward for detailed analysis must meet all objectives to a large degree and must resolve the purpose of and need for action. The following objectives were identified by the planning team for this project:

- Address hurricane damages to the Gulf Coast site's infrastructure by implementing improvements presented in the GMP/EEWS
- Increase infrastructure resiliency by raising the elevation of the Gulf Coast site, including the parking areas, roads, buildings, and the bulkheads
- Improve traffic flow and enhance visitor experience by creating a new public entryway alignment off Copeland Avenue
- Dredge the marina boat basin and boat channels to previously excavated depth
- Conduct on-going maintenance dredging in the marina boat basin and boat channel in the future, as needed
- Fulfill Congress' direction to construct and designate the "Marjory Stoneman Douglas Visitor Center"

ISSUES AND IMPACT TOPICS

The NPS, participating agencies and stakeholders, and members of the public identified specific issues and concerns related to implementing the proposed action, or any alternative within the Site Plan, during civic engagement conducted in May 2022. Those issues and concerns were retained for detailed analysis and are included in the impact topics that are discussed in the "Affected Environment and Environmental Consequences" chapter of this EA. NPS organizes the discussions of the affected environment and

environmental consequences by “impact topics,” which are headings that represent the affected resources associated with the issues refined during civic engagement and internal coordination.

Impact Topics Analyzed for Detailed Analysis

As described in the preceding section, this EA analyzes issues and impact topics for the project area. Impact topics are related to the following resources and values: species of special concern and wildlife; vegetation, wetlands, and soils; and visitor use and experience. Issues analyzed in detail in this EA were identified with support from an interdisciplinary team established for this project.

Impact Topics Considered but Dismissed from Further Analysis

NEPA and the CEQ regulations direct agencies to prepare NEPA documents that are “concise, clear and to the point.” Several issues and impact topics were considered during the development of the EA but ultimately were dismissed from detailed analysis for the following reasons: potential environmental impacts associated with the issue are not central to the proposal or of critical importance and/or a detailed analysis of environmental impacts related to the issue is not necessary to make a reasoned choice between alternatives. In addition, in cases where impacts are not anticipated, or are expected to be minimal, the impact topics were dismissed. Details on the dismissal for these issues are described in the following subsections.

Air Quality

Everglades NP is located within a designated attainment area under the Clean Air Act. The Site Plan would have negligible effects on air quality compared to regional emissions. The proposed action would result in the temporary discharge of greenhouse gas emissions and dust into the atmosphere as a result of construction activities. The air emissions from construction activities, while quantifiable at a site-specific level, would not be appreciable. There would be short term, temporary impacts during the construction period from the use of construction equipment. However, these impacts would be negligible, and only occur while construction equipment is in use. Air quality has therefore been dismissed from further analysis in this EA.

Nonnative or Exotic Species

There is the potential for the importation and promotion of nonnative or exotic species as a result of construction activities, including the new fill required to be brought to the site for the proposed site elevations. The proposed improvements include the removal of nonnative and exotic species in order to construct the new permanent facilities, landscaping, and other elements at the site. Construction equipment and methods restrictions would minimize the potential introduction and/or spread of nonnative and exotic species and are discussed under “Mitigation Measures Associated with Alternative B”. Because the potential to introduce nonnative or exotic species to the project area is minimal, this topic has been dismissed from further analysis in this EA.

Cultural Resources

In 2012, the NPS conducted an archeological and historical survey of the project site for a previous park planning effort. The 2012 survey area identified one previously unrecorded archeological site (Circa 1955 Landfill – 8CR1169), two previously unrecorded historic structures (Boat Basin-8CR1172 and Seawall-

8CR1173) and four previously unrecorded historic buildings (Visitor Center-8CR1170, Housing Unit 1-8CR1174, Housing Unit 2-8CR1175 and Housing Unit 3-8CR1176). These sites were determined to be ineligible for listing on the National Register of Historic Places (NRHP) by the NPS and the State Historic Preservation Officer (SHPO). It should be noted that the Visitor Center-8CR11720 has since been demolished. This 2012 survey did not include the entirety of the area of potential effect (APE) for this EA.

In July 2022, the NPS conducted an archeological inventory of the project area to examine the 2012 survey work and to identify and survey areas not previously examined. The July 2022 survey did not identify any additional archeological or historic properties. As such, there are no known archeological or historic resources in the project area. Mitigation measures would be implemented should unknown archeological or prehistoric/historic resources be discovered during construction. To protect any unknown archeological or prehistoric/historic resources during construction, a cultural resources monitor would be used if excavation occurs beyond the extent of previous disturbance. Because there are no known eligible archeological or historic resources in the project area, cultural resources have been dismissed from further analysis in this EA.

Lightscares

National parks are some of the best places to see the night sky. Astronomy based activities are some of the most popular visitor programs offered in parks. However, natural lightscares in many parks have been diminished by light pollution. In addition to visitor experience, natural lightscape conditions are important for wildlife habitat, enhancing wilderness character and wayfinding. At Everglades NP, the NPS endeavors to limit the use of artificial outdoor lighting other than what is necessary for basic safety requirements, ensuring outdoor lighting is shielded to the maximum extent possible and keep light on the intended subject and out of the night sky (GMP 2015).

The existing lighting at the Gulf Coast site consists of temporary, downward facing LED lighting on the pilings in the marina and on the wayfinding signage. These temporary lighting fixtures would be removed after new lighting is installed. The proposed permanent lighting incorporates the use of LED, dark sky-friendly lighting. Nineteen low-fixture bollards (2 – 3 feet) would be installed around the visitor center and along the marina. One light fixture (10 – 11 feet) would be located in the paved parking lot. Step lights would be embedded in the stairs of the visitor center, eight lights would be installed on the lower-level exterior of the visitor center and nineteen turtle safe lights would be installed on the deck of the visitor center. Mitigation measures would be implemented regarding the use of dark sky-friendly lighting and timing lights to turn off outside of visitor center hours to minimize effects to lightscares. Manual override switches would be installed to turn on and off exterior lighting on the visitor's center, deck and stairs for park events. Therefore, the proposed improvements would not adversely affect lightscares as a result of the proposed action.

Environmental Justice

In keeping with Executive Order 12898 and 14008, which directs federal agencies to “make achieving environmental justice part of its mission in identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low-income populations”, an environmental justice review was conducted to determine if a disproportionate number of minority or low-income persons would be affected by the proposed action. The United States Environmental Protection Agency's (USEPA) Environmental Justice Screening and

Mapping Tool identified minority (Hispanic, Black or African American, Native American, and Other Race) and low-income populations in the vicinity of the Gulf Coast site. The proposed action is not anticipated to have any impacts on human health and the environmental effects are discussed in Chapter 3. Therefore, this topic was dismissed from further analysis.

Soundscapes

The construction activities would have short term, temporary impacts on natural soundscapes. Any adverse impacts on visitors from construction-related noise and to reduce noise pollution is discussed under “Visitor Use and Experience” and “Mitigation Measures Associated with Alternative B”. Any impacts on wildlife from construction noise are discussed under “Species of Special Concern and Wildlife”. Therefore, soundscapes was dismissed from further analysis in this EA.

Floodplains

Executive Order 11988 instructs federal agencies to avoid, to the extent possible, the long and short-term adverse effects associated with the occupancy and modification of floodplains and to avoid direct or indirect support of development in floodplains wherever there is a practicable alternative. The NPS guidelines for compliance with Executive Order 11988 state that structures can only be placed in the coastal high hazard area when the structures or facilities are for management and legislated use of the affected area. Topography throughout the park is characterized by low elevation and areas of very low relief [less than 10 feet North American Vertical Datum of 1988 (NAVD) above sea level]. Since the entire park is within the 100-year floodplain, park development and reconstruction in the floodplain has been the only practicable alternative. Therefore, most park infrastructure is at risk of flooding during hurricanes or other major storms.

The Gulf Coast site is in an area that has been filled to approximately 5 feet (NAVD) above mean sea level and is completely within the coastal high hazard zone VE, with a base flood elevation of 13 feet (NAVD). The proposed improvements would be within already disturbed areas, and therefore do not introduce new impacts on floodplain values. The design of the new structures would incorporate methods for minimizing storm damage as contained in the National Flood Insurance Program’s Floodplain Management Criteria for Flood-Prone Areas (44 CFR section 60.3) and in accordance with local, county or state requirements for flood-prone areas. The new visitor center would be built to withstand a 15-foot storm surge with elevated floor elevations. The space below the lowest floor would be free of obstructions to minimize impact on the structure by abnormally high tides and storm surges.

Floodplains within the park have been altered over time and would experience no more than negligible adverse effects by the proposed action; actions taken in floodplains would be short-term and support long-term floodplain functions. In accordance with Executive Order 11988 and Director’s Order 77-2: *Floodplain Management*, a Floodplain Statement of Findings (FSOF) was prepared for this project as part of the 2015 GMP/EEWS and is an appendix of the GMP/EEWS. Through coordination with the NPS’s Water Resources Division in March 2022, the FSOF prepared during the 2015 GMP/EEWS remains valid for this EA (see **Appendix B**).

Marine Resources

Marine resources are described as submerged aquatic vegetation (such as seagrass, algae and sponges), corals, and other invertebrates. These resources play an important role in ecosystem functions such as providing a food source for marine fish and facilitating the decomposition of organic matter. Maintenance

dredging, replacement of bulkheads within the marina boat basin and along the shoreline, improvements to the existing ramp to allow the launch of park-owned motorized vessels for administrative purposes and canoe/kayak launch improvements are proposed for this project. Dredging is proposed in the marina boat basin, the boat access channel, and along the face of the outer bulkheads on either side of the marina boat basin entrance. The dredging extends to the area in the vicinity of the canoe/kayak launch area (see **Figure 4**). The dredging would restore historical water depths prior to Hurricane Irma. Additionally, the proposed living shoreline may lead to localized impacts to the Chokoloskee Bay bottom.

According to January 2018 Google Earth imagery, several locations with darker signatures that could be submerged aquatic vegetation, or detritus debris, was identified in the imagery. A benthic survey was conducted to determine if these dark areas in the imagery were fixed benthic resources. In December 2021, the park conducted a benthic resource assessment to evaluate the presence or absence of marine resources in the area proposed to be dredged and impacted as a result of the living shoreline. The seawalls, pilings and man-made structures were also surveyed. No corals or submerged aquatic vegetation was documented in the project area during the benthic survey. The sediment samples collected were a silty, mud mixture with no indication of submerged aquatic vegetation, live or dead. It was concluded that the project area would be extremely difficult for substantial submerged aquatic vegetation recruitment and survival, as the sediments are extremely loose packed, water column turbidity is constantly high, and strong wind events can push the water out of the bay leaving shallower areas exposed at low tide. In addition, these conditions are not viable habitat for coral growth. Because no submerged aquatic vegetation nor corals exist in the project area, impacts to marine resources are not anticipated to occur as a result of dredging or other construction activities for this project.

Water Quality and Quantity

The existing property is developed with two existing buildings and a parking lot. The present stormwater runoff sheet flows towards the open spaces and ultimately into Chokoloskee Bay. The existing site does not have a defined stormwater system. Concerns for water quality include direct stormwater runoff from the existing and proposed impervious areas during flood events, in addition to short-term impacts as a result of construction activities from increased turbidity or oil or petroleum leaking from construction equipment. Best Management Practices (BMPs), such as silt fencing and turbidity barriers surrounding the limits of construction activities, would be implemented to ensure there is no degradation of adjacent wetlands and surface waters. The proposed improvements include additional impervious areas for the visitor plazas, parking lot and new entrance road. These improvements are within previously disturbed areas. A new drainage system with retention ponds is proposed to help mitigate flooding throughout the site. A series of new shallow (approximately 2-3 feet deep), dry retention ponds adjacent to the parking lots and access driveways would be utilized to capture stormwater runoff for water quality treatment. The onsite dry retention ponds propose to manage the attenuation requirements of the improvements and meet the criteria of the South Florida Water Management District (SFWMD) and the City of Everglades. Two basins are proposed: Basin 1 is located on the east side of the property and is composed of a series of dry retention areas interconnected by a series of pipe and eventually discharge to the Chokoloskee Bay through a control structure. Basin 2 is located towards the west side of the property and is composed of a series of dry retention areas interconnected by a series of pipe and eventually discharge to the west through a control structure. The retention ponds would capture stormwater runoff via sheet flow for water quality treatment and would ultimately discharge into the Chokoloskee Bay. The short-term, temporary impacts to water quality are

limited to the construction activities and the proposed improvements would contribute to the long-term beneficial effects to water bodies. Therefore, the impacts on water quality and quantity would be negligible and long-term benefits are anticipated with the implementation of the new drainage system. Impacts on water quality and quantity are mitigated for and discussed under “Mitigation Measures Associated with Alternative B.”

Wilderness

The Gulf Coast site is located outside of managed Wilderness. However, the Gulf Coast site is the starting point for access to the Wilderness waterway, backcountry and wilderness areas. The intent of this plan is to aid in the preservation of wilderness and wildlife by confining visitor and administrative developments to the periphery of the park. In addition, this plan is also intended to afford increasing numbers of visitors the best possible opportunity to enjoy, experience, appreciate, and understand wilderness and other significant natural and cultural values of the park. Any impacts on wilderness character related to increased visitation is discussed under “Visitor Use and Experience.” No other impacts to wilderness are anticipated as a result of the proposed action, therefore wilderness was dismissed from further analysis in this EA.

CHAPTER 2: ALTERNATIVES

CEQ implementing regulations for NEPA provide guidance on the consideration of alternatives in an EA. These regulations require the decision-maker (NPS) to consider the environmental effects of the proposed action and a range of alternatives, including no action (40 CFR 1502.14). The alternatives analyzed in this EA are based on the result of internal scoping and civic engagement. NPS explores and objectively evaluates two alternatives in this EA:

- Alternative A (no action)
- Alternative B (proposed action and preferred alternative) – Gulf Coast Site Plan Improvements

ALTERNATIVE A (NO ACTION ALTERNATIVE)

Under Alternative A (no action), the existing conditions at the Gulf Coast site would be maintained and continue to serve operation needs and visitors at less than desired levels. As a result of Hurricane Ian, the temporary facilities (trailers) were condemned and will not be replaced with temporary or permanent structures. No dredging of the marina boat basin or boat channels would occur. The canoe/kayak launch would not be improved and would continue to operate at sub-optimal standards for visitors to utilize canoes/kayaks. The administrative boat ramp would not be replaced, and park operations would continue to pay to use a private boat ramp located off the Gulf Coast property. No changes would be made to the temporary facilities onsite and concessions area, the canoe/kayak ramp and administrative boat ramp, or other infrastructure at the site. The site, including the parking lot and temporary facilities (trailers), would continue to flood during rainfall/storm events and King Tides. Per the 2015 GMP, the on-site park maintenance functions would be relocated off-site to the Oasis maintenance facility at Big Cypress National Preserve in order to minimize the administrative and maintenance footprint. The no action alternative is used as a basis to compare and evaluate the action alternative.

ALTERNATIVE B (PROPOSED ACTION AND PREFERRED ALTERNATIVE)

Under Alternative B, the preferred alternative, the proposed improvements would include redevelopment of the entire Gulf Coast site (see **Figure 3**). Construction of a visitor center building, sidewalks and greenspace with plazas and gathering areas would be built. A new 4,100 square foot (sf.) elevated visitor center, including the concessions area and restrooms would be constructed, designed to withstand 175 mph winds and a 15-foot storm surge to support an optimal visitor experience throughout 50 years of projected sea level rise. The visitor center would meet the latest Florida building code for coastal high hazard zones and would be a solid, concrete modular building, elevated above the flood zone. A new 799 sf. shared building for remote concessions and NPS storage would be constructed in the vicinity of the canoe/kayak launch area. The new visitor center and surrounding green space, plazas, gathering areas, remote concessions building, and main parking lot would be raised 2.3 to 5.4 feet North American Vertical Datum of 1988 (NAVD) above current grade to mitigate tidal impacts, storm events and seasonal flooding. The visitor center would incorporate a Leadership in Energy and Environmental Design (LEED) sustainable

design. The main services are elevated at the upper level, while the area at the ground level includes the first aid/intake room, restrooms, storage, elevator and stair access.

The elevation of the visitor center, plazas and visitor use areas would be achieved through the construction of 284 linear feet of new retaining wall seaward of the site. Replacement bulkheads at a new elevation of 5.4 feet NAVD would be constructed to facilitate the raising of the visitor use areas. Approximately 670 linear feet of bulkhead would be replaced at existing Mean High-Water Line (MHWL) in the marina boat basin and along the shoreline east and west of the boat basin entrance.

Where bulkheads are not replaced, a living shoreline of approximately 0.28-acres would be constructed in the southeastern area of the site by excavating the previously filled areas along the shoreline and planting native red and black mangroves to enhance coastal resilience against future major storm events. Red mangroves would be planted approximately 40 feet seaward. Black mangroves would be planted approximately 12 feet landward from the edge of the red mangroves. Post-planting maintenance would include daily site inspections, debris removal, removal of barnacles or pests and/or the replacement of sick/dead mangroves would occur. Approximately 80 linear feet of bulkheads would be replaced landward of the MHWL near the west side of the living shoreline and retaining wall/seawall extension.

The existing canoe/kayak launch and administrative boat ramp would be demolished and the area restored to natural/adjacent grade elevations. The new and improved ramp would be relocated slightly to the east for improved site flow with adjacent improvements (parking area and bulkhead) and to enhance visitor access to the water. The ramp would be improved by providing a prefabricated articulated mat system that resists wave action with perimeter riprap for erosion protection. The new 16' x 162' ramp would consist of articulated concrete blocks with pea gravel infill to provide better traction. Bulkheads landward of the existing MHWL would be replaced on the east of the launch/ramp and along the shoreline to the east landward of the riprap.

The marina boat basin would be expanded landward up to 25 linear feet and the boat basin entrance would be expanded by four linear feet, to provide better maneuverability of vessels. Approximately 183 linear feet of bulkhead would be removed and approximately 3,000 sf. of uplands would be excavated to accommodate the expansion of the boat basin entrance and the west side of the boat basin. The existing bulkheads would be replaced and raised by 5.4 feet NAVD.

In addition to the infrastructure improvements at the marina, the marina and boat channels would be dredged to -7.7 feet NAVD (see **Figure 4**) to support the combined administrative boat ramp and canoe/kayak launch. The combined dredge area for the project encompasses approximately 112,000 sf. and would remove approximately 13,000 cubic yards of previously disturbed material from Chokoloskee Bay. This material from the dredging is a fine sediment that is not suitable for construction purposes. Therefore, the dredged material would be placed and dried in a 0.67-acre area northeast of the paved parking lot. The material would be approximately 3-ft. high, and enclosed with a barrier (i.e., lime rock berm, silt fence, hay bale, or geotextile socks) to prevent sediment run-off. This location has been estimated to be able to contain all of the dredged material based upon the bathymetric survey conducted in 2022. Once the material is dry, it would be spread evenly over approximately 2-acres of the graded lawn for upland development. Should additional placement locations be needed, additional compliance would be conducted prior to filling.

Continued maintenance dredging in the project area would be scheduled every 6-10 years, as needed, to ensure the safe navigation of vessels.

In the marina boat basin, dock facilities would be replaced and improved. The six existing boat slips for park and concessioner use would be rearranged. The two park-owned boats would be relocated to the two new aluminum boat lifts. One accessible aluminum gangway (raised walkway) and one accessible floating dock walkway with three dock finger piers would be installed. Cleats and fender piles would be installed in the perimeter of the boat basin. A removable canopy system supported on vertical guide piles would be installed to help protect the park's administrative boats from the elements. The removable canopy would be designed for wind speeds up to 105 miles per hour without removal or repositioning. The existing boat fuel facility at the marina would be removed and relocated northeast of the overflow parking area near the existing law enforcement building to minimize flooding hazard. A new dispensing station would be installed at the marina.

A parking lot with delineated parking spaces would be installed at the current, existing grassy overflow parking area for the canoe/kayakers to park vehicles; this parking lot would be gravel to help minimize flooding. To improve traffic and pedestrian flow, a new entrance road to the visitor center would be constructed. The new entrance road would be constructed south of the current site entrance and would include an optimized visitor drop off area at the new visitor center. Existing paved parking, roads, sidewalks, and waterfront areas would be elevated to 2.3 feet NAVD. Hardscape elements such as seat boulders, stone benches, shade structures, picnic tables, bicycle racks, an outdoor shower near the canoe/kayak launch, kayak storage, engraved interpretive paving, and an outdoor classroom with seat-walls would be installed. Native landscaping and rain gardens, designed to increase rain run-off reabsorption into the soil, would be planted throughout the site. New drainage consisting of a series of shallow, dry retention ponds would be installed adjacent to the parking lots and access driveways and would be utilized to capture stormwater runoff for water quality treatment. All of the utilities on site would be replaced and brought up to code. This includes stormwater piping, sanitary sewer, electrical, site lighting, and domestic water/fire piping. Refer to **Appendix A** for select construction drawings that provide additional details on the proposed action.



Figure 3. Alternative B – Proposed Action and Preferred Alternative

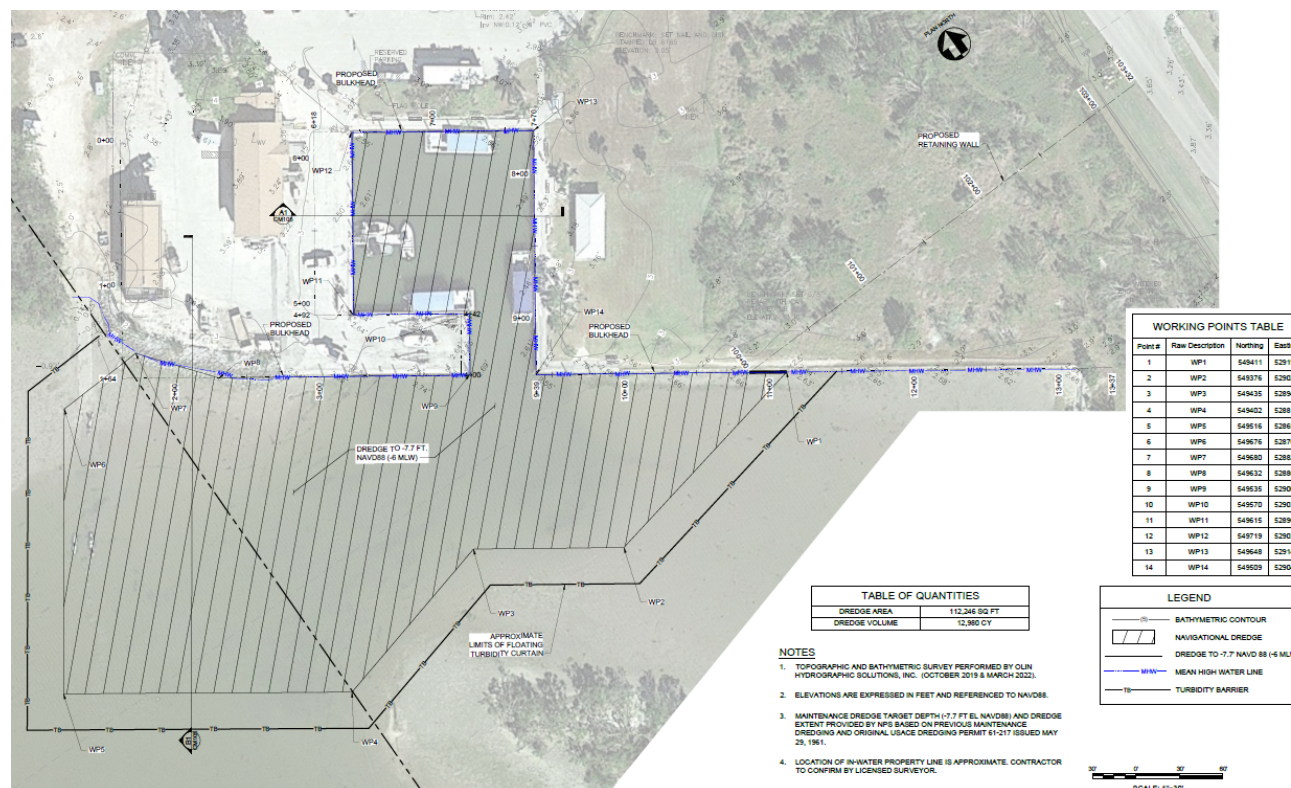


Figure 4. Maintenance Dredging Plan - Alternative B

Construction Timing. Contractor staging areas would be located on site within the limits of construction. The sequence of construction for Alternative B would be performed in four phases over approximately two years:

Phase 1: The temporary restrooms would be relocated to the grassy, overflow parking lot. Construction fencing would be installed. The existing overflow parking lot would be used for public parking. Public access to the restrooms, grassy overflow parking lot, marina and canoe/kayak launch would be available.

Phase 2: Access to the temporary restrooms would be maintained. The marina, docks, concessions area and canoe/kayak launch and administrative boat ramp would be under construction with no public access. The fuel tanks would be removed and relocated during this phase. To prevent disruptions to visitor and park access, the dredging and marina and boat ramp construction would be conducted during the hurricane season (June-October). The marina, canoe/kayak launch and boat tours would be temporarily closed while work is conducted in those areas.

Phase 3: Construction of the new visitor center would begin and the new entry road to the site would be constructed. The temporary restrooms, grassy overflow parking lot, marina and canoe/kayak launch would be accessible to the public.

Phase 4: Landscaping would be performed throughout the site and the new visitor center construction would continue until completion. There would be public access to the temporary restrooms until the new

visitor center construction is complete. Visitors would utilize the main parking area and would have access to the marina and canoe/kayak launch.

MITIGATION MEASURES ASSOCIATED WITH ALTERNATIVE B

NPS places a strong emphasis on avoiding, minimizing, and mitigating potentially adverse environmental impacts. In order to protect natural and cultural resources as well as visitor use and experience, the following mitigation measures and BMPs would be included for Alternative B.

General Resource Management

- All resource protection measures would be clearly stated in the construction specifications, and workers would be instructed to avoid conducting activities outside the project area. Areas of natural or cultural resource concern would be clearly indicated on construction drawings.
- A preconstruction meeting would be held to inform contractors about sensitive areas and resources and provide procedures for identifying and addressing any unanticipated discoveries.
- Staging and storage areas for construction vehicles, equipment, materials, and soils would be sited in previously disturbed or paved areas approved by the park. These areas would be outside high visitor use areas and clearly identified in advance of construction.
- The dredge material would be spread across a 0.67-acre low area on the lawn east of the temporary visitor facility previously utilized for this purpose. The material would be spread in this area until there is no more room and coordination with the National Park Service would be conducted to identify other sites to place the dredge material.
- No utilities nor ground disturbing activities shall cross or impact the previous city landfill cap.
- Dark sky-friendly lighting specifications would be implemented. Turning lights off outside of visitor center hours would help minimize effects to night skies. Manual override switches would be installed to turn off and on all exterior lighting when necessary.
- Construction would only occur during daylight hours to reduce light pollution and to avoid nighttime noise disruption.
- Standard noise abatement measures would be followed during construction and include a schedule that minimizes impacts on adjacent noise-sensitive resources, the use of best available noise control techniques wherever feasible, and the use of hydraulically or electrically powered tools when feasible.

Cultural Resources

- In accordance with the 2008 National Park Service Programmatic Agreement Section VI, if cultural resources are discovered during project implementation all work in that area must stop and the Superintendent, Chief of Cultural Resources, or Park Archeologist must be notified immediately.
- If items protected by the Native American Graves Protection and Repatriation Act (NAGPRA) are discovered during project implementation, all activity must cease in the area of discovery and immediate notice made to the Superintendent and Chief of Cultural Resources. The Superintendent

or Chief of Cultural Resources will notify the appropriate Federally recognized Indian Tribes/Organizations and State Historic Preservation Officer (SHPO).

- A cultural resources monitor and/or fencing may be required for any work near archeological and prehistoric/historic resources as determined by the Chief of Cultural Resources.

Vegetation and Wetlands

- To avoid or minimize the introduction or spread of non-native, invasive plant and animal species, disturbed areas would be allowed to recover naturally. If necessary, and in coordination with the park Botanist, any fill, mulch, reseeding, and sod material brought into the park must be free of non-native, invasive plants and animals, and noxious weeds.
- Special attention would be devoted to preventing the spread of invasive nonnative plants. Standard measures would include the following elements: ensure that construction related equipment arrives on site free of mud or seed-bearing material; certify all seeds and straw material as weed-free; identify areas of invasive nonnative plants before construction; treat nonnative plants or infested topsoil before construction (i.e., topsoil segregation, storage, herbicide treatment); and revegetate with appropriate native species.
- All construction base, fill, and finish materials sourced from outside of the park would be acquired from a certified seed and weed free source.
- To ensure newly planted trees, shrubs, and groundcover get established, watering and maintenance would begin immediately after planting and continue through the following twelve months. New plantings would be hand watered through the establishment period per agreed upon watering guidelines with the park.

Species of Special Concern and Wildlife

- Implement the United States Fish and Wildlife Service's (USFWS) *Standard Protection Measures for the Eastern Indigo Snake* during project construction.
- Implement the USFWS *Standard Manatee Conditions for In-Water Work* during project construction.
- Observers for manatees would be present at the site during construction for Important Manatee Areas as described in the U.S. Army Corps of Engineers (USACE) Manatee Key (2013).
- Implement the National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries) Sea Turtle and Smalltooth Sawfish Construction Conditions during project construction.
- Conduct a Limited Roost Survey for the Florida bonneted bat and tricolored bat in the project area prior to construction to include a thorough inspection of the administrative buildings that would be impacted by the proposed consolidation of those facilities. Document survey results and provide report to USFWS. If the Florida bonneted bat or tricolored bat is found to be roosting in structures identified for demolition, work would stop and consultation with USFWS would be reinitiated to determine next steps.
- Conduct any additional species-specific surveys required by the consultation with the USFWS.
- If evidence of eastern indigo snakes, Florida bonneted bats, tricolored bats, American crocodiles, West Indian manatees, piping plover, red knot, eastern black rail or other listed species are present or observed at a proposed work location during construction, work will be postponed until

individuals leave the area. Park Biologists and appropriate representatives from the Biological Resources Branch will be notified immediately of the time and location of the sighting(s) to determine if further mitigations are necessary.

- All work would only be conducted during daylight hours to minimize disturbance to wildlife.

Water Quality and Quantity

- An Erosion and Sediment Control and Stormwater Pollution Prevention Plan (SWPPP) would be developed to comply with the current FDEP National Pollutant Discharge Elimination System (NPDES) requirements and a FDEP NPDES Construction General Permit coverage would be obtained. The SWPPP would be developed to address all stormwater management Best Management Practices (BMPs).
- During waterside construction and dredging activities, turbidity levels would be monitored to ensure that applicable water quality standards are maintained and construction methods are in accordance with applicable regulatory permits and BMPs.
- Appropriate measures would be employed to prevent or control spills of fuels, lubricants, or other contaminants from entering waterways or wetlands. Actions would be consistent with state water quality standards and Clean Water Act, Section 401 certification requirements.
- The developed area (especially the parking lot) would use techniques such as backsloping to allow percolation and filtration of runoff through the soils to avoid potential pollution of bay waters by stormwater runoff contaminated by oil and other petroleum products.
- Implement pre-and post-construction erosion control BMPs for drainage, erosion and sediment control to prevent or reduce runoff from entering the water column.
- Inspect and maintain erosion and sediment control BMPs on a regular basis and after each measurable rainfall to ensure they are functioning properly.
- Adhere to all BMPs resulting from required regulatory permits.

Visitor Use and Experience

- Visitors would be informed in advance of construction activities through information posted at the park website, social media, and visitor centers.
- Construction activities would be avoided or limited during peak visitor-use periods to the extent possible.
- Temporary short-term full closure of areas may be necessary on limited occasions. Such full closures would be for the minimal time required to complete the work activity. To the extent possible, partial and/or limited closures of visitor access should be used.
- Construction fencing and closure signage would be placed around construction areas, as needed, to discourage visitors from entering active construction areas.

Visitor safety concerns would be integrated into park educational programs. Directional signs would continue to orient visitors, and education programs would continue to promote understanding among visitors.

CHAPTER 3: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes the affected environment, which is intended to document the existing conditions of the park. These descriptions serve as a baseline for understanding the resources that could be impacted by implementation of the proposed action. This chapter also includes an analysis of the environmental consequences or “impacts” of the no-action alternative and action alternative, immediately following the affected environment descriptions for each resource topic. The resource topics addressed in this chapter include species of special concern and wildlife; vegetation, wetlands and soils; and visitor use and experience.

ANALYSIS METHODS FOR ESTABLISHING IMPACTS

The analysis of impacts follows CEQ implementing regulations (40 CFR 1500-1508), Director’s Order 12 procedures (NPS 2011), NPS *NEPA Handbook* (NPS 2015a), and NPS *NEPA Handbook Supplemental Guidance: Preparing Focused and Concise EAs* (NPS 2015b). The intensity of the impacts is assessed in the context of the park’s purpose and significance and any resource-specific context that may be applicable. The methods used to assess impacts vary depending on the resource being considered, but generally are based on a review of pertinent literature and park studies, information provided by on-site experts and other agencies, professional judgment, and park staff knowledge and insight.

The environmental consequences for each resource were identified and characterized based on impact type (adverse or beneficial), area of analysis, and duration.

In accordance with Council on Environmental Quality regulations finalized in 2022 [40 CFR 1508.1 (g)], effects or impacts are defined as follows:

Effects or impacts means changes to the human environment from the proposed action or alternatives that are reasonably foreseeable and have a reasonably close causal relationship to the proposed action or alternatives, including those effects that occur at the same time and place as the proposed action or alternatives (direct effects), may include effects that are later in time or farther removed in distance from the proposed action or alternatives, but are still reasonably foreseeable (indirect effects) and may include effects that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions (cumulative effects).

(1) Effects include ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic (such as the effects on employment), social, or health effects, whether direct, indirect or cumulative. Effects may also include those resulting from actions that may have both beneficial and detrimental effects, even if on balance the agency believes that the effect will be beneficial.

(2) A “but for” causal relationship is insufficient to make an agency responsible for a particular effect under NEPA. Effects should generally not be considered if they are remote in time, geographically remote, or the

product of a lengthy causal chain. Effects do not include those effects that the agency has no ability to prevent due to its limited statutory authority or would occur regardless of the proposed action.

AREA OF ANALYSIS FOR IMPACTS

Area of analysis refers to the geographic setting within which an impact may occur, such as the affected region. For the purposes of this EA, the area of analysis is local to the Gulf Coast site unless otherwise noted.

TYPE OF IMPACT

The potential impacts of the alternatives are described using the following terminology:

- *Short-term impacts:* Impacts that would occur as a result of the construction activities of the action alternatives. Depending on impact topic, impacts may be intermittent (days or weeks) or continuous during construction.
- *Long-term impacts:* Impacts that would occur after construction is complete and continue for years or decades.
- *Beneficial:* A favorable change in the condition or appearance of the resource, or a change that moves the resource toward a desired condition.
- *Adverse:* A change that declines, degrades, and/or moves the resource away from a desired condition or detracts from its appearance or condition.

PAST, PRESENT AND REASONABLY FORESEEABLE ACTIONS

NEPA regulations require an assessment of cumulative impacts in the federal decision-making process. Cumulative impacts are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions” [40 CFR 1508.1(g)]. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

To determine potential cumulative impacts, past, present and foreseeable future actions were identified in or near the project area. Cumulative impacts are considered for the no-action alternative and the proposed action, by combining the impacts of the alternatives being considered with other past, present and reasonably foreseeable future actions and are presented at the end of each impact topic discussion.

SPECIES OF SPECIAL CONCERN AND WILDLIFE

Area of Analysis

The area of analysis for wildlife and species of special concern includes the areas directly affected by the proposed improvements as well as the adjacent natural habitat.

Affected Environment

Species of special concern include federally listed species which are designated as threatened or endangered by the USFWS and NOAA Fisheries under the Endangered Species Act (ESA). While the project footprint and surrounding area is bordered by an airport and a residential area with a marina and is more developed than other more remote areas of Everglades NP, the area of analysis provides suitable foraging and roosting habitat for a number of species of special concern and other wildlife. Species of special concern and wildlife known to occur or that may occur within the area of analysis are described below. The Everglades NP-specific species list identified 16 listed species and designated critical habitat for two of these species in this area of the park and this list was consulted with park staff to determine which species could occur within the project area.

Federally Listed Species

American crocodile (*Crocodylus acutus*)

The project falls within the designated consultation area for the American crocodile which is listed as federally threatened by USFWS. This species has a grayish green back with a lighter underside and a narrow jaw. The American crocodile is known to inhabit brackish and saltwater estuaries, mangrove swamps, low-energy mangrove lined bays and inland swamps in South Florida and will nest on coastal shoreline or raised creek beds. Within Everglades NP, crocodiles are common along the mainland shoreline of Florida Bay and mangrove habitat in Key Largo. The Gulf Coast site is not conducive to crocodile nesting. While the area of analysis lacks suitable nesting habitat, and no nesting has been documented at the site, the project occurs within and adjacent to Chokoloskee Bay which includes low energy brackish habitat and mangrove shorelines. The first evidence of crocodile nesting in the general area was reported in 2022. Although there has been recent evidence of nesting within one mile of the project area, there has not been any records of activity at the Gulf Coast site. Therefore, this species may migrate through or occur within the project area.

Eastern indigo snake (*Drymarchon corais couperi*)

The eastern indigo snake is listed as federally threatened by the USFWS. The project falls within the known range of this species. This species is bluish black with reddish chin, cheeks and throat and will utilize underground refugia, such as gopher tortoise burrows. The eastern indigo snake will inhabit a variety of habitats including upland areas (e.g., pine flatwoods, scrubby flatwoods, dry prairie, hardwood hammocks), agricultural fields, human altered areas such as disturbed uplands, and edges of freshwater marshes. There are no known occurrences of this species at the Gulf Coast site, but the area of analysis includes suitable habitat, such as wetland hardwoods, mangroves and disturbed uplands. Therefore, this species may occur within the project area.

Eastern black rail (*Laterallus jamaicensis jamaicensis*)

The eastern black rail is listed federally threatened by USFWS. The project falls within the known range for this species. This subspecies of black rail is a small marsh bird that inhabits salt, brackish and freshwater wetlands. Habitats occupied by this species are typically composed of fine-stemmed emergent plants (e.g., rushes, grasses and sedges) with high stem density and a dense canopy cover (Flores and Edelman 1995). However, it is thought that structure rather than species of plant is important for predicting habitat for this species as this species requires dense vegetative cover for safe movement from predators. While black rails have been documented in other areas of Everglades NP, the area of analysis lacks suitable habitat and there

have been no known occurrences documented at the Gulf Coast site. Therefore, the species is not anticipated to occur within the analysis area.

Piping plover (*Charadrius melodus*)

The piping plover is listed as threatened by USFWS and the project falls within the designated consultation area. This small shorebird does not breed in Florida but does winter in Florida. Suitable habitat for this species includes coastal beaches, mudflats and sandflats for foraging and dry sandy dune habitat for roosting. The closest known occurrence of this species is approximately a half-mile to the east on shoreline adjacent to Copeland Avenue (Cornell Lab of Ornithology via Biodiversity Information Serving Our Nation Database). The area of analysis lacks suitable roosting habitat, but the species may forage along small areas of shoreline that are exposed at low tide. Therefore, although the likelihood of occurrence is low, this species may occur within the area of analysis.

Red knot (*Caladrius canatus rufus*)

The project is within the known range for the red knot, a shorebird listed as threatened by USFWS. This species only winters in Florida and will forage along sandy beaches, mangroves and brackish lagoons and roost within dry sandy dune habitat. Due to bill morphology, this species is limited to foraging in water shallower than 0.8 to 1.2 inches. Suitable foraging habitat in the project area is limited to mangroves within existing rip-rap infrastructure as well as the shoreline adjacent to the existing seawall east of the marina and the boat ramp during low tide. The project lacks suitable roosting habitat for this species. Therefore, this species may occur within the project area, but the likelihood of occurrence is low.

Florida bonneted bat (*Eumops floridanus*)

The project falls within the designated consultation area, but outside proposed critical habitat, for the Florida bonneted bat, which is listed as endangered by USFWS. This species is endemic to Florida and is the largest species of bat found within the state. Its range includes 17 counties within central and southern Florida including Collier County. The Florida bonneted bat is an insectivore and will forage over open areas (e.g., uplands, wetlands, parks, golf courses and other surface waters). Open freshwater and wetlands provide primary foraging habitat, but this species also will forage over ponds and streams and will drink when flying over open water (Marks and Marks 2008). Suitable roosting habitat for this species requires tall, mature trees or artificial roost structures (e.g., utility poles, artificial structures). Preferred habitat includes pine flatwoods, scrubby flatwoods, pine rocklands, royal palm hammocks, mixed or hardwood hammocks, cypress, sand pine scrub or other forest types. Structural characteristics such as snags, cavities, hollows, deformities, crevices or loose bark (USFWS Florida Bonneted Bat Guidance and Consultation Key 2019) are important for protection during daytime roosting. The bat has been documented in trees greater than 33 feet in height, greater than 8 inches in diameter at breast height (DBH), with cavity elevations higher than 16 feet above ground level (Braun de Torrez 2019).

In September 2022, an acoustic monitoring survey was conducted by park biologists over the course of 14 nights following the recommendations in the *USFWS 2019 Florida bonneted bat Consultation Key*. No Florida bonneted bat calls were detected during this survey. While this species has been documented within Everglades NP, there are no documented occurrences of this species at the Gulf Coast site, or within the surrounding area of analysis. However, the area of analysis provides suitable foraging habitat and forested habitat with the potential for roosting. Therefore, this species has the potential to occur within the area of analysis.

Tricolored bat (*Perimyotis subflavus*)

As of September 20, 2022, the USFWS has proposed to list the tricolored bat as endangered. This species is wide ranging across the eastern and central United States and portions of southern Canada, Mexico and Central America. The tricolored bat is an insectivore and in the winter are found in caves, abandoned mines and tunnels. Although, in the southern United States they are found roosting in road-associated culverts and forage during warm nights. During the spring, summer and fall they are found in forested habitats where they roost in trees, primarily among leaves of live or recently dead deciduous hardwood trees, Spanish moss, pine trees and occasionally artificial structures. In September 2022, an acoustic monitoring survey was conducted by park biologists over the course of 14 nights. A total of 17 tricolored bat calls were detected on nine (9) of the 14 nights; seven (7) nights had two (2) detections and two (2) of the nights had one (1) detection. Although the acoustic survey detected calls from the tricolored bat, the project area has limited suitable habitat for the tricolored bat. Therefore, this species has the potential to occur within the area of analysis.

West Indian manatee (*Trichechus manatus*)

The project falls within designated consultation area for the West Indian manatee, listed as threatened by USFWS. The West Indian manatee inhabits coastal waters and freshwater rivers throughout Florida. This species will forage on seagrass and other submerged aquatic vegetation. Therefore, the species is likely to occur within the area of analysis.

West Indian manatee Critical Habitat

The area of analysis includes the waters of Chokoloskee Bay which are designated as critical habitat for the West Indian manatee. Chokoloskee Bay falls within the Southwest Management Unit for critical habitat and includes seagrass beds bordering mangrove systems, even though the project area lacks seagrass or aquatic vegetation suitable for foraging. However, due to the location and nature of the proposed improvements, conversions of habitat suitable for the West Indian manatee is not likely to occur.

Garber's spurge (*Chamaesyce garberi*)

Garber's spurge is a small herbaceous perennial plant with stems reaching up to 12 inches long and is listed as threatened by USFWS. This species occurs on beach dune and pine rockland communities within Everglades NP in Miami-Dade and Monroe Counties. A single specimen was collected in Collier County in 1967, outside of Everglades NP. Site surveys by park biologists over the years have not resulted in detection of Garber's spurge and the species is considered absent from the Gulf Coast site. This species was not observed during the more recent field reviews and the closest known occurrence is at Northwest Cape Sable to the southeast and Cape Romano (Collier County) to the northwest. The plant occurs in open habitat with sandy soils or pine rocklands, coastal flats, hammocks and grasslands and beach ridges at low elevations. The area of analysis lacks suitable habitat for this species and, therefore, the species is not likely to occur within the project area.

Green sea turtle (*Chelonia mydas*), Hawksbill sea turtle (*Eretmochelys imbricata*), Kemp's Ridley sea turtle (*Lepidochelys kempii*), Leatherback sea turtle (*Dermochelys coriacea*), Loggerhead sea turtle (*Caretta caretta*)

The project occurs within the species range for five protected (threatened or endangered) sea turtles known to utilize the coastal waters of south Florida. These species typically occur within open water habitat but also utilize inshore areas such as bays and lagoons and nest on sandy coastal shoreline. The area of analysis includes portions of Chokoloskee Bay which these species may migrate through. Two species, leatherback and hawksbill, are less likely to occur in the project area due to their life history and foraging requirements. Leatherback turtles are a deepwater pelagic species, that forage primarily on jellyfish. Hawksbill turtles typically inhabit coral reef habitat and forage on sponges. The area of analysis lacks seagrass habitat, a primary food source for the green turtle, but may provide food sources for Kemp's ridley and loggerhead turtles including mollusks and crustaceans. The project lacks suitable nesting habitat for any of the five species. Based on the conditions of benthic habitat in the area of analysis, relatively shallow waters and lack of shoreline nesting habitat, the likelihood of these species occurring within the area of analysis is low.

Nassau grouper (*Epinephelus striatus*)

The Nassau grouper, listed as threatened by NOAA Fisheries, can be found in the coastal waters of south Florida. Adults are primarily found inhabiting reef habitat in deeper waters offshore, but nearshore habitat with submerged aquatic vegetation or macroalgae, or mangrove lined shorelines provides habitat for juveniles. The area of analysis includes open waters of Chokoloskee Bay and mangrove lined shorelines. Therefore, while the likelihood of occurrence is low, the species may occur in Chokoloskee Bay within the area of analysis.

Smalltooth sawfish (*Pristis pectinata*)

The project occurs within the known species range of the smalltooth sawfish, listed as endangered by NOAA Fisheries. This species of sawfish inhabits waters as shallow as less than one foot deep as juveniles, with muddy or sandy bottoms nearshore, such as sheltered bays and estuaries. Mangrove shoreline also provides foraging habitat and shelter. The project area lacks natural mangrove shoreline, but there is mangrove fringe habitat adjacent to the project area within the area of analysis. The area of analysis also includes waters within Chokoloskee Bay, a low energy bay with shallow euryhaline water and muddy substrate. Furthermore, this species has been observed along the shoreline south of the existing seawall bulkheads and is expected to occur periodically within the project area. Additionally, the project falls within the Ten Thousand Islands/Everglades (TTI/E) critical habitat unit for the United States distinct population segment. Therefore, this species is likely to occur within the area of analysis.

Non-Listed Wildlife

The project area provides habitat for mammals such as deer, mice, squirrels and many other native mammals that may occur within the project area. Additionally, the project area provides foraging, roosting and breeding habitat for resident wading and migratory birds. Reptiles and amphibians such as turtles, frogs and alligators, as well as fish species can also be found within the project area.

According to the Everglades National Park Foundation Document (NPS 2017), trends for protected species and non-listed wildlife within the park are mixed. Habitat quality and quantity have diminished due to climate change, saltwater intrusion, altered fire regimes, introduction of exotic vegetation and increased development outside the boundaries of the park. In turn, these changes have led to downward trends for

some species (e.g., small- and mid-sized mammals due to the introduction of the invasive Burmese python). However, restoration of natural habitat and management of invasive species throughout the Everglades have helped stabilize certain ecosystems and led to positive trends for certain species (e.g., upward trend for crocodiles due to canal plug installation). Continuing forward, NPS will identify additional park management strategies and opportunities to shift trends in a positive direction while also addressing infrastructure, safety and visitor experience needs for the park.

While the Gulf Coast site is part of the greater Everglades NP and includes natural habitat similar to other areas of the park, such as mangroves, wetlands and estuarine habitat within Chokoloskee Bay, the localized project area is more disturbed and surrounded by developed areas like an airport and residential community. Therefore, trends at the Gulf Coast site may differ slightly compared to those for the park as a whole.

Environmental Consequences

No Action Alternative

Under the No Action Alternative, the existing conditions at the Gulf Coast site would remain the same. Only routine maintenance of the existing facilities and infrastructure would continue. Therefore, no impacts to any natural areas, including wetlands, would occur, and the No Action Alternative would not affect species of special concern, including federally listed species, nor wildlife.

Cumulative Impacts

Parkwide, there are on-going efforts to manage invasive species and implement ecosystem restoration plans to improve degraded habitat that would provide long-term beneficial impacts to species of special concern and wildlife. Additionally, park restrictions and protection measures, such as keeping certain areas closed to recreation, limiting boat speeds and prohibiting the use of motorized boats in select areas, would continue to provide beneficial effects to protected species within the park. Climate change would likely cause long-term adverse impacts to protected species and wildlife by altering suitable habitat (i.e., salt-water intrusion into freshwater habitat, increased water temperature and habitat fragmentation). Other actions that would cause long-term adverse impacts to species of special concern and wildlife include continued development in the surrounding region and nutrient enrichment caused by agricultural runoff. The No Action Alternative would not contribute to any past, present or reasonably foreseeable actions on species of special concern or other wildlife. When the impacts of the No Action Alternative are combined with the past, present, and reasonably foreseeable actions, there would be long-term beneficial cumulative impacts with the implementation of parkwide species protection measures and ecosystem restoration plans.

Impacts of Alternative B

Under Alternative B, the construction of the new elevated visitor center and parking improvements would result in the permanent fill of 0.53 acres of a mixed coastal wetland habitat with 24-49% exotic coverage. This wetland contains mixed vegetation, such as red mangroves (*Rhizophora mangle*), black mangroves (*Avicennia germinans*), white mangroves (*Laguncularia racemosa*), mahogany (*Swietenia mahagoni*), Brazilian pepper (*Schinus terebinthifolius*), morning glory vine (*Ipomea sp.*), seagrape (*Coccoloba uvifera*), bushy broomsedge (*Andropogon glomeratus*), sea oxeye daisy (*Borrchia frutescens*), saltwort (*Batis maritima*), sea purslane (*Sesuvium portulacastrum*), and green buttonwood (*Conocarpus erectus*). Construction of the new bulkheads would permanently impact 0.03 acres of mangrove habitat growing in existing shoreline stabilization infrastructure. The maintenance dredging would result in 2.6 acres of

impacts within the boundaries of the permitted marina boat basin and boat channels previously authorized by the USACE under Permit No. 61-217 issued on May 29, 1961. The total acreage of dredge and filled area of the mixed coastal wetland habitat (0.53 acres), bulkhead construction in the mangrove rip-rap area (0.03 acres) and maintenance dredging of the marina boat basin and boat channels (2.6 acres) would be 3.16 acres.

The area of analysis does not include suitable habitat for the eastern black rail within the general project area or wetland areas that would be impacted by the proposed work, and the species is not known to inhabit the Gulf Coast site. Therefore, Alternative B is not anticipated to cause any short or long-term adverse impacts and will have ***no effect*** on the eastern black rail.

While Garber's spurge is known to occur within Everglades NP, the area of analysis lacks suitable habitat for this species and there are no known occurrences of this species within the Gulf Coast site. Therefore, Alternative B is not anticipated to cause any short or long-term adverse impacts and will have ***no effect*** on the Garber's spurge. Although the area of analysis does not include suitable roosting habitat for the piping plover or red knot, these shorebirds may still forage at the Gulf Coast site. Alternative B proposes impacts to foraging habitat, limited to a small 0.03-acre area of mangroves that has incidentally grown in existing infrastructure. Potential effects could occur as a result of noise during construction and the removal of 0.03 acres of foraging habitat. Effects from noise during construction are expected to be insignificant given the amount of activity and associated noise that regularly occurs in the area. Birds are expected to flush the area during construction activities; therefore, direct effects to individual piping plover and red knots are not anticipated. Any flushing is expected to be short-term and not expected to result in a significant change to normal foraging behaviors. The loss of 0.03 acres of foraging habitat is considered insignificant given the small amount of habitat proposed for removal in comparison to the amount of available foraging habitat in the area. Therefore, project impacts to these species are limited to potential disturbances or behavioral changes during construction activities. Therefore, Alternative B ***may affect, but is not likely to adversely affect*** the piping plover and red knot.

The area of analysis contains suitable habitat for the eastern indigo snake including wetland hardwood habitat impacted by Alternative B. Potential effects to the eastern indigo snake could occur as a result of 0.53 acres of potential habitat loss; however, wetland hardwoods are not the preferred habitat for this species and only a small amount of marginal habitat would be removed in comparison to available habitat within the area. Therefore, any adverse effects to the eastern indigo snake as a result of habitat loss are considered insignificant. Additionally, ground disturbing activities associated with construction may cause temporary disturbances or displacement of this species, or temporarily alter this species behavior. To minimize the potential for direct impacts to individuals, the park would implement and adhere to the USFWS *Standard Protection Measures for the Eastern Indigo Snake* (2013). Therefore, Alternative B ***may affect, but is not likely to adversely affect*** the eastern indigo snake.

While the American crocodile is not typically found in this area of Everglades NP, this species may inhabit or migrate through the waters of Chokoloskee Bay. During construction, disturbances from noise and dredging activities could affect the species; therefore, turbidity barriers would be utilized during construction to prevent American crocodiles from entering the area. These barriers would be secured and made of a material that prevents entanglement or entrapment. Barriers would be removed once construction is complete. The temporary, short-term exclusion from the construction area is not expected to result in

significant changes to American crocodile behaviors. Therefore, Alternative B *may affect, but is not likely to adversely affect* the American crocodile.

Forested areas suitable for the Florida bonneted bat are limited within the Gulf Coast site, but vegetation with roosting potential exists. This potential roosting habitat includes mahoganies, oaks and exotics that are greater than 33 feet tall and have a DBH greater than 8 inches. While the project will permanently impact mature trees and the current building infrastructure that have the potential for Florida bonneted bat roosting, ample roosting habitat would remain in the surrounding area. Additionally, potential roosting features to be impacted were surveyed, and no suitable roosting structure nor evidence of utilization was observed. Therefore, removal of these mature trees would not cause adverse impacts to this species. The Gulf Coast site also includes suitable foraging habitat for this species, including open water and mowed and maintained lawns. In-water work would not permanently convert or fill open water habitat. Although the project site would be altered, the majority of the Gulf Coast site would remain as maintained lawns similar to existing conditions. To ensure no individuals are impacted, additional surveys would be conducted prior to construction to check all large mature trees and buildings to be impacted. If any bats are observed roosting during this survey, consultation with USFWS would be reinitiated prior to the start of construction. Therefore, during construction there would be short-term adverse impacts. Alternative B *may affect, but is not likely to adversely affect* the Florida bonneted bat.

Although recent acoustic surveys documented calls from the tricolored bat, the area of analysis does not contain suitable habitat for the tricolored bat. While the project will permanently impact mature trees and artificial structures that have potential for roosting, ample roosting habitat would remain in the surrounding area. To ensure no individuals are impacted, additional surveys would be conducted prior to construction to check large trees and artificial structures to be impacted. If any bats are observed roosting during this survey, consultation with USFWS would be reinitiated prior to the start of construction. Therefore, during construction there would be short-term adverse impacts and Alternative B *may affect, but is not likely to adversely affect* the tricolored bat.

The West Indian manatee may migrate through Chokoloskee Bay. While Alternative B includes in-water work, the Gulf Coast site lacks suitable foraging habitat (seagrass). Therefore, no impacts or conversion of foraging habitat would occur as a result of Alternative B. The park would obtain all required permits, including a Section 404 permit from the USACE under the Clean Water Act (CWA). The proposed in-water work meets the criteria in the USACE Manatee Key (2013) (Pathway: B>C>D>E>F>G>N>O>P). Although improvements to the marina, including expansion of the entrance are proposed, the marina would continue to provide access to park and concession staff only and would not create additional marine vessel use. In addition, the expansion does not increase docks or provide new access. These improvements would improve the existing operations of marine vessels.

Turbidity curtains would be utilized during construction to prevent individuals from entering active work zones and preventing water quality impacts outside the active work zones. Additionally, the USFWS *Standard Manatee Conditions for In-Water Work* would be implemented during construction to reduce the potential for impacts, such as vessel strikes, to manatees that may occur within the project area. Observers would be present on-site during construction for Important Manatee Areas as described in the USACE Manatee Key. Access to active work zones would be restricted during construction, but access to the Gulf Coast site or Chokoloskee Bay would not be restricted. Furthermore, there would be no long-term, adverse

impacts to water access within the Gulf Coast site. Any potential impacts to the West Indian manatee are limited to construction activities, which are short-term and temporary, and unlikely to significantly alter West Indian manatee behaviors. Therefore, Alternative B ***may affect, but is not likely to adversely affect*** the West Indian manatee.

Chokoloskee Bay is also part of the Southwest Management Unit for manatee critical habitat. Alternative B would not impact suitable foraging habitat, permanently convert or remove suitable habitat, permanently restrict access to Chokoloskee Bay or create additional motorized boat traffic. The in-water work would be short-term during construction activities and would not result in a reduction or modification of suitable habitat. Therefore, Alternative B ***may affect, but is not likely to adversely affect*** designated critical habitat for this species.

The Gulf Coast site includes open water habitat that is suitable for five sea turtle species known to utilize the waters of south Florida. Leatherback and hawksbill turtles are less likely to occur within the area based on life history and foraging preferences. The Gulf Coast site lacks seagrass habitat, a primary food source for green turtles. Therefore, these four species are less likely to occur but may still migrate through the area. Loggerhead turtles are the most likely to occur as they forage on mollusks and crustaceans that may inhabit the benthic habitat within the area. Proposed maintenance dredging would not alter suitable habitat beyond creating a deeper profile in the existing marina boat basin and boat channel. The Gulf Coast site does not include suitable nesting habitat and therefore, would not impact nesting habitat for any of the five species of sea turtles. The proposed improvements are covered under Activity 2 – Pile-supported structures, Activity 3 – Maintenance Dredging, Activity 6 – Boat Ramps and Activity 7 – Aquatic Habitat Enhancement, Establishment and Restoration. The project would adhere to the project design criteria (PDCs) in order to be covered by USACE Jacksonville District Programmatic Biological Opinion (JAXBO). These PDCs include, but are not limited to, installing and maintaining turbidity curtains. Turbidity curtains would be used to reduce the spread of suspended sediments and would be secured to prevent entanglement by sea turtles. The project would follow the NOAA Fisheries Southeast Regional Office *Protected Species Construction Conditions and Vessel Strike Avoidance Measures* to reduce the potential for direct injury to marine species. In order to prevent impacts to individuals during construction, turbidity curtains would prevent access to active work zones and would be secured and made of material that prevents entrapment or entanglement. To prevent vessel strikes, Alternative B would implement the NOAA Fisheries Southeast Regional Office *Protected Species Construction Conditions and Vessel Strike Avoidance Measures*. Temporary avoidance of the area by these species may occur during construction. Therefore, impacts to sea turtles associated with this project are limited to short-term temporary impacts and Alternative B ***may affect, but is not likely to adversely affect*** these species.

The project area contains aquatic habitat suitable for the Nassau grouper and the smalltooth sawfish. While adult Nassau grouper are not likely to occur within the project area, juveniles may use patches of macroalgae or mangrove lined shorelines within the project area. Alternative B would not impact mangrove shoreline, except for existing shoreline infrastructure above the MHWL near the canoe/kayak launch inaccessible to these species. Short-term impacts to the benthic habitat, including attached macroalgae communities, would occur during dredging activities. Nassau grouper are mobile unspecialized feeders and could utilize similar habitat outside the construction area. The proposed improvements are covered under Activity 2 – Pile-supported structures, Activity 3 – Maintenance Dredging, Activity 6 – Boat Ramps and Activity 7 – Aquatic Habitat Enhancement, Establishment and Restoration. The project would adhere to the PDCs in order to be

covered by JAXBO. Turbidity curtains would be used to reduce the spread of suspended sediments. The project would follow the NOAA Fisheries Southeast Regional Office *Protected Species Construction Conditions and Vessel Strike Avoidance Measures* to reduce the potential for direct injury to marine species. Once construction is complete, the conditions of the benthic habitat would be similar to existing conditions with a slightly deeper profile. The reconstruction of the marina would temporarily remove manmade shelter for juvenile Nassau grouper, but the species could utilize similar nearby habitat. The construction of a living shoreline would provide additional habitat for this species and would have long-term beneficial impacts. Any impacts to these species associated with Alternative B are expected to be short-term and temporary; therefore, Alternative B ***may affect, but is not likely to adversely affect*** the Nassau grouper.

Smalltooth sawfish habitat includes mangrove shorelines and the shallow open water of Chokoloskee Bay. Similar to the Nassau grouper, short-term adverse impacts to suitable in-water habitat for the sawfish would occur during construction. Access to active work zones would be restricted by the use of turbidity curtains. Disturbances including noise associated with construction may lead to short-term avoidance of the project area. However, the adjacent areas of Chokoloskee Bay provide ample suitable habitat for this species. In addition, the construction of a living shoreline would provide additional mangrove shoreline habitat suitable for this species and would have long-term beneficial impacts. Any potential impacts to the smalltooth sawfish are considered short-term and temporary and unlikely to significantly alter smalltooth sawfish behaviors. The proposed improvements include work covered under Activity 2 – Pile-supported structures, Activity 3 – Maintenance Dredging, Activity 6 – Boat Ramps and Activity 7 – Aquatic Habitat Enhancement, Establishment and Restoration. The project would adhere to PDCs in order to be covered by JAXBO. The PDCs include, but are not limited to, installing and maintaining turbidity curtains around active construction areas and would be secured to prevent entanglement by the smalltooth sawfish. Therefore, Alternative B ***may affect, but is not likely to adversely affect*** the smalltooth sawfish.

Chokoloskee Bay is part of the TTI/E critical habitat unit for the smalltooth sawfish. Essential features of critical habitat within the project area include red mangroves and euryhaline water with depths between the MHWL and three feet NAVD measured at Mean Lower Low Water (MLLW). The boat channel and marina boat basin would be dredged to six feet NAVD below MLW. However, per 50 CFR part 226 § 226.218(c), the channel and marina are not considered critical habitat as they were existing federally permitted features (USACE Permit No. 61-217, May 29, 1961) when the critical habitat designation was finalized in September 2009. Also, the 0.03 acres of mangroves proposed to be impacted are not considered essential features as they did not exist and were not physically accessible to sawfish at the time of critical habitat designation. Therefore, no essential features of critical habitat occur within the project area and no adverse impacts to critical habitat are anticipated as a result of Alternative B. In addition, the living shoreline construction would provide additional essential features of critical habitat. Therefore, Alternative B ***may affect, but is not likely to adversely affect*** designated critical habitat for the smalltooth sawfish.

The following effect determinations were made for the federally listed species and their critical habitat:

- ***No Effect***: Eastern black rail, Garber's spurge
- ***May Affect, Not Likely to Adversely Affect***: American crocodile, Eastern indigo snake, piping plover, red knot, Florida bonneted bat, tricolored bat, West Indian manatee, West Indian manatee critical habitat, green sea turtle, hawksbill sea turtle, Kemp's Ridley sea

turtle, leather back sea turtle, loggerhead sea turtle, Nassau grouper, smalltooth sawfish and smalltooth sawfish critical habitat

Cumulative Impacts

Past, present and reasonably foreseeable actions within Everglades NP, such as habitat restoration and invasive species management, have had beneficial effects and improved conditions for species of special concern and wildlife. However, threats such as habitat loss, fragmentation or degradation from human development and climate change are anticipated to continue to create long-term negative impacts to protected species and wildlife. Alternative B would contribute to habitat loss due to the permanent conversion of wetland habitat for the new access road. However, there is ample habitat available near the project area. Alternative B is not anticipated to have long-term negative effects to species of special concern or wildlife. When the impacts of Alternative B are combined with the impacts of past, present and reasonably foreseeable actions, there would be long-term beneficial cumulative impacts to species of special concern and wildlife.

ESSENTIAL FISH HABITAT

Area of Analysis

The area of analysis for Essential Fish Habitat (EFH) includes the in-water habitat directly affected by the proposed improvements and the adjacent open water habitat of Chokoloskee Bay.

Affected Environment

The 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act established a new requirement to identify and describe in order to protect, conserve and enhance EFH for the benefit of the federally managed fisheries. EFH is defined as waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity. Based on a review of the NOAA Fisheries EFH Mapper the project area includes the following EFH types: water column habitat, soft bottom habitat, submerged aquatic vegetation, and mangrove habitat; and supports the following managed fisheries species: blacknose shark (*Carcharhinus acronotus*), sandbar shark (*Carcharhinus plumbeus*), red drum (*Sciaenops ocellatus*), various reef fish species, coastal migratory pelagic species (Spanish mackerel – *Scomberomorus maculatus*) and pink shrimp (*Penaeus duorarum*). These designated EFH types were evaluated for the potential to exist within the project area. Based on the parameters of the project area, including depth, benthic habitat and habitat preferences, these EFH types were included for review in this EA. These EFH types and managed fisheries are managed by the Gulf of Mexico Fishery Management Council (GMFMC) and the Highly Migratory Species Management Division.

The project area is within Everglades NP and includes habitat similar to other areas of the park, such as mangroves, wetlands and estuarine habitat within the Chokoloskee Bay. However, the project area is in a more disturbed area compared to other areas of the park due to the marina basin use and associated history of maintenance dredging. Therefore, trends at the Gulf Coast site differ slightly compared to other more undisturbed areas of Everglades NP.

Environmental Consequences

No Action Alternative

Under the No Action Alternative, the existing conditions of aquatic habitat within the area of analysis would remain the same. Only routine maintenance of existing facilities and infrastructure within the Gulf Coast site would continue. Therefore, no impacts to any in-water habitat or EFH would occur.

Cumulative Impacts

There are on-going efforts made by the park to protect EFH including boater education, idle zones, pole/troll zones, permit programs, slow speed areas and seagrass restoration projects. These efforts help reduce impacts to EFH from propellor scarring and boat groundings, reduce fishing pressure on managed fisheries and provide long-term beneficial impacts. Climate change would cause long-term adverse impacts to EFH by altering habitat (i.e., increased water temperature and changes to water quality have already led to large seagrass die off events). Other actions that would cause long-term adverse impacts include continued nutrient enrichment caused by agricultural and direct stormwater runoff. The No Action Alternative would not impact EFH. Overall, past and reasonably foreseeable actions combined with the No Action Alternative would not contribute to any cumulative impacts on EFH and managed fisheries species.

Impacts of Alternative B

The proposed in-water work associated with Alternative B has the potential to impact EFH and species within associated Fisheries Management Plans (FMPs) which have been developed by the GMFMC and the Highly Migratory Species Management Division. The dredging and marina improvements would require 2.6 acres of dredging and construction of new seawall bulkheads within 18-inches of the existing footprint. Dredging would result in direct impacts to the benthic substrate and associated soft bottom and possibly limited areas of submerged aquatic vegetation EFH habitat. The benthic substrate consists of a silty, mud mixture which supports the settlement of eggs and larvae and provides foraging habitat for later life stages. Additionally, construction activities may cause temporary displacement of managed species. Impacts to the water column would be short-term and limited to increased turbidity within active work zones. However, these adverse impacts would be short-term and limited to the duration of construction as no alteration to these habitat types would occur. This project includes work covered under Activity 2 – Pile-supported structures, Activity 3 – Maintenance Dredging, Activity 6 – Boat Ramps and Activity 7 – Aquatic Habitat Enhancement, Establishment and Restoration. The project would adhere to the PDCs for these activities in order to be covered by JAXBO. These PDCs include, but are not limited to, installing and maintaining silt fencing and turbidity curtains around active construction areas to minimize turbidity. Turbidity would be monitored and reported in accordance with standard water quality compliance criteria and permit conditions. The post-construction conditions would be similar to current conditions.

A SWPPP would be implemented to prevent erosion from upland activities from entering the bay. Alternative B would not cause any impacts to mangrove habitat accessible to managed fisheries as impacted mangroves are located above the MHWL. A benthic sampling evaluation found no submerged aquatic vegetation, including seagrass, within the project area. Aerial imagery indicates dark areas that could potentially be sparse areas of macroalgae. However, disturbances to macroalgae communities would be short-term during construction and any macroalgae disturbed should resettle after construction. Therefore, Alternative B would result in short-term adverse impacts to EFH as a result of construction activities.

Cumulative Impacts

On-going water quality restoration efforts made by the park provide long-term beneficial impacts to EFH. However, climate change and nutrient enrichment from continued agricultural runoff would cause long-term adverse impacts to EFH by altering habitat. Alternative B would have short-term adverse impacts on EFH and managed fisheries species during construction activities. However, after construction, Alternative B would contribute to long-term beneficial impacts to EFH through the proposed stormwater treatment as part of the new drainage system. Collectively, these impacts would not contribute to the cumulative effects of other past, present and reasonably foreseeable future actions in the project area.

VEGETATION, WETLANDS AND SOILS

Area of Analysis

The area of analysis for vegetation, wetlands and soils includes the areas directly affected by the proposed improvements as well as the adjacent natural habitat that may be impacted by the project.

Affected Environment

Everglades NP includes a range of ecosystems from cypress prairies and domes, freshwater sloughs, pinelands, mangrove forest and marine and estuarine environments. The three primary ecosystems that occur in the Gulf Coast region of the park are coastal prairie, mangrove forest and estuarine. The Gulf Coast site is primarily filled land built up in the past 35 years by dredging sand into a swampy area previously used as a city landfill. The site is only five feet NAVD above sea level and generally contains mangrove wetlands and isolated, mixed coastal wetlands of hardwoods and mangroves within the project footprint. The remainder of the area consists of a mowed lawn and scattered trees. In general, the Gulf Coast site is surrounded by jurisdictional wetland habitat which consists of estuarine and marine habitat with some areas consisting of hydric soils. Mangrove forests in the park consist mainly of red, white, and black mangroves along with buttonwood species.

Mangrove wetlands occur along the shoreline of the existing maintenance facility facing Chokoloskee Bay, west of the existing mangrove fringe, and consists of an existing concrete seawall that is not continuous but faced by a rip-rap shoreline. The rip-rap area includes sparse Brazilian pepper, mahoe, scattered red mangroves, black mangroves, a few white mangroves, and morning glory vine growing in the rip-rap along the end of the existing concrete deck. The majority of the vegetation is located at or above the MHWL and is characterized by tidal flushing. A review of aerial imagery indicates that the rip-rap was installed or reinforced and expanded at the site around 2009. In addition, a mangrove wetland is located in the southeastern corner of the site bordering Chokoloskee Bay.

An isolated, mixed coastal wetland is located east of the existing visitor facility and picnic facility and consists of a mix of native wetland vegetation, exotics and mangroves. The wetland is located within the previously filled and developed footprint of the Gulf Coast site and is considered artificial and incidental. There are a few wooden benches along the mowed trail within this general area to encourage visitors to utilize the site. This wetland area is characterized as an isolated, non-tidally influenced, low functioning, highly disturbed coastal wetland with mixed species that includes hydric soils. Vegetation identified in and adjacent to this jurisdictional habitat includes red mangroves, black mangroves, white mangroves (which

are primarily growing in the roadside ditch on the eastern side of the property), mahogany, Brazilian pepper, morning glory, seagrapes, bushy broomsedge, sea oxeye daisy, Saltwort, sea purslane and green buttonwood. While these species are primarily salt tolerant vegetation, this wetland appears to have developed as a combined result of drainage patterns of the overall site, slow draining fill in the wetland area, the adjacent roadway to the east and an existing swale on the east boundary of the property that conveys stormwater to the Chokoloskee Bay. The entire wetland area was mowed and maintained as lawn until approximately 2006 when regular maintenance was stopped as part of the development of a pilot native planting and mowing reduction program by the park. It is unclear if planting occurred in that specific location, if the present vegetation developed through natural recruitment, or a combination of both. Regardless, vegetation present at the site has developed since 2006. The wetland function at this site is limited and current wetland values are thought to be limited. Since 2006, mechanical and chemical control of non-native species has been carried out at the site intermittently by park staff.

The proposed improvements are located in low elevation areas and experience periodic flooding. Due to constraints of the project area, such as the location of the historic city landfill, operational and public safety concerns, stormwater management, avoiding impacts to smalltooth sawfish critical habitat, dredge material placement and tidal flooding, storm surge, sea level and coastal flood risks, the proposed action was determined to result in unavoidable impacts to wetlands; therefore, the wetland evaluation for this project was based upon several factors that contribute to the functional value of a wetland including previous disturbances, coverage by undesirable vegetation, existing hydrology and from expected wildlife use and access to and from the site.

Most of Florida's remaining mangrove forests are located in the Everglades and in national wildlife refuges along the coast. Shark River Slough supplies freshwater to the southern portion of the greater Everglades System in a southwesterly direction toward the Gulf Coast. As the slough reaches the southwestern portion of the park, it disperses into a web of small streams that form the coastal mangrove estuaries. The streams, canals, a neighborhood and the main road lie between the Gulf Coast site and the wetlands at Big Cypress National Preserve. The most direct hydrologic connection to the site is through the waterfront marine areas, which is fairly disconnected to the site. Therefore, there is little hydrological connection to the Gulf Coast site. There are on-going restoration programs being conducted and implemented throughout Everglades NP to improve hydrology and water quality/quantity within the park.

Climate change is expected to increase the frequency of coastal flooding from storm surges and sea level rise. This potential effect on wetlands could include saltwater intrusion leading to conversion of freshwater wetlands. Climate change could impact landscape and soils as a result of increased storm intensity and duration. Increasing sea levels and salinity in the mangrove and salt marsh areas, and in other areas where changes in sea level may alter the water table or soil characteristics, may lead to the loss of these communities and transition to other vegetation communities. Saltwater intrusion could result in coastal erosion, inundation and changes to wetlands and vegetation across areas of south Florida.

Environmental Consequences

No Action Alternative

Under the No Action Alternative, the existing conditions at the Gulf Coast site would remain the same. Only on-going routine maintenance of the existing temporary structures would continue. Therefore, no impacts to any natural areas, including wetlands, would occur.

Cumulative Impacts

Projects associated with Everglades restoration plans have the potential to improve water quality and quantity and distribution of flow allowing for more natural hydrology and assist in restoring natural plant communities and wetlands. Over the course of ongoing projects in Everglades NP, degraded ecological conditions are expected to improve, resulting in beneficial impacts on park vegetation and wetlands. Other ongoing resource management activities in the park such as invasive and nonnative plant management that have goals of returning park ecosystems to more natural and healthy conditions have beneficial impacts on natural resources. The No Action Alternative would not contribute to any meaningful additive or interactive impacts from other ongoing activities in the park. When the incremental impact of the No Action Alternative is added to past, present and foreseeable future actions, there would be long term beneficial cumulative impacts.

Impacts of Alternative B

Alternative B would include the redevelopment of the entire Gulf Coast site. The location of the visitor center and facilities were determined to specifically avoid a historic city landfill which lies northeast of the current visitor center facility. The proposed higher elevation and bulkhead improvements near the combined canoe/kayak launch and administrative boat ramp are necessary for flood and coastal resiliency. It is anticipated that Alternative B would result in permanent impacts to 0.56 acres of sparsely vegetated, exotic invaded and disturbed mangrove fringe and isolated, mixed coastal wetlands.

Along the shoreline of the existing maintenance facility, the park would remove the existing rip-rap and continue the concrete bulkhead with a return wall along the shoreline facing the canoe/kayak launch. The new bulkhead is proposed to impact approximately 0.03 acres of the existing sparsely vegetated mangrove fringe in this area. This entire 0.03-acre wetland area would be impacted by the removal of the existing rip rap and reconstruction of the bulkhead.

The project's proposed design of the new, elevated entrance road and visitor drop off area would result in direct impacts of approximately 0.53 acres of the isolated, mixed coastal wetland habitat. The construction of a living shoreline would replace existing bulkhead and adjacent filled areas with red and black mangroves, characteristic of the area's shorelines. This living shoreline would be beneficial as it would create natural habitat, offset mangrove impacts and increase shoreline resiliency. Alternative B was designed to avoid impacts to mangrove wetlands along the western edge of the property near the overflow parking lot and mangrove wetlands on the eastern side of the property, just south of the proposed living shoreline.

A Uniform Mitigation Methodology Assessment (UMAM) scoring system was used to calculate wetland functionality for the wetlands that would be impacted under this alternative. The Little Pine Island (LPI) functional assessment procedure was created prior to the UMAM scoring system was implemented. The

LPI functional assessment was used to calculate wetland functionality for the wetlands that would be impacted under this alternative. A total of approximately 0.245 forested saltwater wetland mitigation credits would be required for impacts to the mangrove wetlands near the canoe/kayak launch and the isolated, mixed coastal wetland under Alternative B. The park anticipates that compensatory mitigation for impacts would be conducted through the purchase of wetland mitigation credits from an offsite mitigation bank, such as the LPI Mitigation Bank, as part of the USACE Section 404 permitting process under the CWA. The LPI Mitigation Bank is directly connected to the same receiving water body as the Gulf Coast site, the Gulf of Mexico. The vegetative species composition is expected to be similar, and the wetland function would generally be the same despite the differences in salinity. Coastal and mangrove wetlands found at LPI are similar to those found at the Gulf Coast site and have the same functions and water quality benefits. The park would mitigate potential wetland impacts associated with this alternative such that the project would result in no net loss of wetlands. Both wetland areas that would be impacted by the implementation of the Site Plan are considered by the park to be present solely as a result of the existing developed conditions and specific management actions taken at the Gulf Coast site. Based on the guidance outlined in the NPS Procedural Manual #77-1: *Wetland Protection*, both the mangrove wetland near the canoe/kayak launch and the isolated mixed coastal wetland are incidental, artificial and of low value .

The natural vegetation community structure and composition in the Everglades is dependent on the timing, distribution, and amount of flooding. With the exception of the existing mangrove wetland and isolated, mixed coastal wetland, vegetation within the Gulf Coast site consists of maintained lawns, shrubs, and other plantings. There would be short-term adverse impacts on vegetation as a result of construction-related activities. Changes in management of various areas and stream segments along the Gulf Coast are not expected to have a detectable impact on vegetation. Existing hydric soils within the project footprint of the elevated roads, parking lot, visitor center and surrounding plazas would be permanently converted to upland fill and would result in long-term localized adverse impacts. However, the proposed drainage, retention ponds, and proper erosion control and stormwater pollution prevention plan measures would be implemented to avoid and minimize any secondary impacts from construction and visitor use.

Alternative B would enhance the resiliency of the Gulf Coast site. Some of the activities would be conducted on previously disturbed land, while others would be reclaimed and rehabilitated. The proposed impacts to the mangrove wetland near the canoe/kayak launch and isolated, mixed coastal wetland would not adversely impact wetlands, vegetation or soils since mitigation for any net loss of wetlands would be accounted for. In addition, there would be long-term beneficial impacts from the construction of a new living shoreline by improving vegetation and shoreline resiliency. BMPs would be included and would be implemented during construction to prevent indirect impacts to offsite wetlands during construction.

Cumulative Impacts

Projects associated with Everglades restoration plans have the potential to improve water quality and quantity and distribution of flow allowing for more natural hydrology and assist in restoring natural plant communities and wetlands. Restoration projects in Everglades NP would have long-term beneficial impacts on vegetation and wetlands. Other park activities, such as invasive and nonnative plant management that have goals of returning park ecosystems to more natural and healthy conditions have long-term beneficial impacts on natural resources. Alternative B would impact approximately 0.56 acre of low quality wetlands, which would have adverse impacts to wetlands when compared to other present, past and foreseeable planned actions occurring in Everglades NP, which all have the purpose of restoring habitat. However, the

creation of the living shoreline would create long-term beneficial impacts to the Gulf Coast site by creating new mangrove habitat and littoral habitat not currently present on site which would directly benefit the smalltooth sawfish, an endangered species which inhabits the coastal waters in the general project vicinity. When this impact is added to present, past and foreseeable planned actions, and taking into account the quantity of high-quality wetland habitats present nearby, there would be long term beneficial cumulative impacts to vegetation, wetlands and soils.

SOCIOECONOMICS

Area of Analysis

The area of analysis includes the Gulf Coast site and the surrounding area, including Everglades City. The analysis used information obtained from NPS data on concessioner-related visitation at the Gulf Coast site.

Affected Environment

Everglades NP is an element to the overall tourism and visitor economy of south Florida (NPS 2015). The Gulf Coast site is the primary operations for all visitor activities in the Gulf Coast District. The Gulf Coast site provides many interfaces with the nearby communities in Everglades City. Everglades City is the immediate gateway to the Ten Thousand Islands and the Wilderness Waterway, the famous Everglades backcountry route linking Everglades City to Flamingo. With the establishment of Everglades NP, Everglades City looks to the natural environment for economic viability through nature-related tourism and fishing industries. Everglades City provides attractions such as the Museum of the Everglades, restaurants, air boat tours and fishing charters. There are also motels and other accommodations for visitors to extend stays to visit Everglades NP, Big Cypress National Preserve and Fakahatchee Strand State Preserve. The primary activity at the Gulf Coast site is taking the concessioner-operated boat tours out of the marina to view and experience the Ten Thousand Islands, Wilderness Waterway, and mangrove wilderness areas of the park. A variety of concessioner-operated boat tours are offered daily at the Gulf Coast site. In addition, canoes/kayaks and equipment can be rented from the concessioner.

In 2015, concessioner-related visitation at the Gulf Coast site was 54,969 and decreased to 28,834 in 2016 due to Gulf Coast site closures as a result of increased tropical storm/hurricane activity in southwest Florida. Concessioner-related visitation was 27,613 in 2017 until Hurricane Irma impacted the project area in September and the site was closed to the public. From September through December 2017, the concession operations were closed due to the damages at the Gulf Coast site. Based on a financial feasibility analysis conducted by the park, it was determined that it takes up to two years to recover from a Category 4 or higher hurricane. In 2018, concessioner-related visitation decreased to 13,266, due to the previous concessioner abandoning the contract, which resulted in concession operations closure. After 2019, concessioner-related visitation has been increasing year by year with 14,886 in 2020, 17,549 in 2021 and 25,399 in 2022 to date. Overall, visitation in the park is increasing, which in turn impacts the local economy.

Environmental Consequences

No Action Alternative

The No Action Alternative would retain the existing temporary visitor and administrative facilities (trailers) at the Gulf Coast site. There would only be maintenance of the existing, outdated facilities and infrastructure at the Gulf Coast site. Space for the concession operations would remain limited, resulting in congestion and inconvenience which would result in long-term adverse impacts on visitor use and experience and thereby the local economy. The economic contributions associated with concession operations at the Gulf Coast site would continue. Establishments in Everglades City would be impacted by visitor spending at the Gulf Coast site; visitor spending at local stores, motels and other tourism-related businesses and attractions in Everglades City would accompany the visitation at the Gulf Coast site.

The continued use of temporary facilities onsite, which are not designed to withstand high intensity storm events thereby making them susceptible to failure, would be expected to result in business opportunity losses for the concessions and the local community during future storm events. The existing conditions at the site along with limited visitor use and opportunities would not incentivize long-term visitors, and visitation may decrease due to the conditions of existing buildings and infrastructure and its continuing deterioration. A recent example of this was witnessed after the passage of Hurricane Ian in September 2022 which resulted in the flooding of the two temporary trailers serving as the visitor and law enforcement offices. Since then, the visitor center trailer has been condemned while the law enforcement trailer will require rehabilitation. In early November 2022, the site was reopened to the public. However as of mid-December 2022, park staff continue to work offsite from Big Cypress National Preserve facilities while concession operations are being supported from private commercial property across the street from the Gulf Coast site.

In its current condition, the site would not support the visitation growth that has been an overall trend throughout the park. As a result of decreased visitation, there would be no additional benefit from the concession-related spending to the local economy of Everglades City. Therefore, the no-action alternative would result in long-term, adverse effects on socioeconomics in the project area.

Cumulative Impacts

The impacts of present and reasonably foreseeable actions would be beneficial to the socioeconomic environment of Everglades City. There is an overall trend of increased visitation throughout Everglades NP which is beneficial to the economy of the gateway communities from more employment opportunities and visitor spending. The No Action Alternative would have an adverse impact on the socioeconomics of Everglades City because making no improvements at the Gulf Coast site would result in ongoing deterioration, which does not invite nor encourage the parkwide increased visitation at this site. In addition, the No Action Alternative would result in lost opportunities to support the local economy, such as providing additional jobs and increased spending at businesses in the local area. When the impacts of the No Action Alternative are combined with present and reasonably foreseeable actions, there would be no cumulative impacts to socioeconomics.

Impacts of Alternative B

As the main attraction in the area, Alternative B would encourage and support extended and repeated visitation with the new visitor center, improved canoe/kayak launch, and new amenities and enhanced

concession operations (i.e., remote concessions building by canoe/kayak ramp to support tours and canoe/kayak rentals). Annual visitor use under alternative B would be expected to increase to about 300,000 annual visitors over the life of this plan – returning to levels comparable to those in the peak visitor use levels at the site in the early 1990s. As discussed in the “Visitor Use and Experience” section, visitation had been slowly recovering at the Gulf Coast site post Hurricane Irma in 2017 and before Hurricane Ian in September 2022. The new visitor center is anticipated to attract more visitors, incentivize longer visits, thereby increasing visitation and business opportunities for the local community. With new concession contracts offering kayak rentals and large boat tours and three new concessions offering small boat tours, visitation levels at the Gulf Coast site are anticipated to continue to recover. Retail and other tourism-related spending at the Gulf Coast site would accompany increased visitor spending in Everglades City.

The financial feasibility analysis determined that the concession-related visitation is anticipated to triple under Alternative B. The design of the new visitor center would be resilient to storm events eliminating any issues of concern related to lack of concession operations and site closures. If another storm impacts the local area, concession operations and associated activities would be able to resume soon after the storm, as opposed to the No Action Alternative which would require anywhere ranging from a few to multiple months to re-open to the public. Alternative B would restore visitor use and spending to levels prior to Hurricane Irma and would have beneficial long-term impacts as an economic anchor in the community. Visitor-related economic impacts from spending at nearby businesses and attractions (Museum of the Everglades, restaurants, air boat tours and other tours) are anticipated to increase. Economic impacts related to the implementation of the proposed action would be a one-time capital cost and would be short-term and negligible to the regional economy. Overall, the visitor-spending related economic impacts would be long-term and beneficial to the Gulf Coast site and would restore spending in Everglades City.

Construction activities may result in short-term adverse impacts as a result of a reduction in visitors and associated spending at the Gulf Coast site and Everglades City. However, the sequence of construction activities would be planned in a manner to avoid disruption to concession operations to the extent practicable. Access to the temporary parking area (existing grassy overflow parking lot) at the site would be maintained at all times. The boat tour operations are expected to continue throughout construction. The canoe/kayak launch would be continuously maintained for public use between November 1st and May 31st. The canoe/kayak launch would have a maximum three-month closure between June 1st and November 1st.

Cumulative Impacts

The impacts of present and reasonably foreseeable actions would have a beneficial impact to socioeconomics. The overall trend of increased visitation throughout Everglades NP would be beneficial to the local economy due to additional employment and visitor spending. Alternative B would provide a noticeable benefit to socioeconomics by creating construction jobs and attract more business opportunities and employment in the local community. Additionally, Alternative B is consistent with the Everglades City 2045 Comprehensive Plan (Everglades City 2022). Alternative B would sustain longer and repeat visits that would help support the local tourism industry. Overall, there would be long-term beneficial cumulative impacts on socioeconomics.

VISITOR USE AND EXPERIENCE

Area of Analysis

The area of analysis for visitor use and experience encompasses the Gulf Coast site.

Affected Environment

Enjoyment of park resources and values by the public is a fundamental purpose of the national park system. NPS is committed to providing the appropriate, high-quality opportunities for visitors to enjoy national park units, and NPS will maintain within the parks an atmosphere that is open, inviting and accessible to the public (NPS 2006). Recreational visitation to Everglades NP including the Gulf Coast Site is highly seasonal. Peak visitation occurs within the winter months, from December to April, with a low season from June to September. Seasonal weather differences are a major influence on recreational use, with heat and mosquitoes discouraging visitation in the summer, tropical storm/hurricane season deterring visitors in the fall, and thereby, increased visitor use in the winter months. Bird watching is also popular in the winter as a result of bird migrations. (NPS 2015).

Because much of Everglades NP is impenetrable by land unless developed roads are present, or boardwalks or trails are provided, the ability to explore the Everglades via boat is a great asset to the Gulf Coast site (NPS 1990). The Gulf Coast site is the entry point to the marine backcountry and wilderness of Everglades NP, which provides access to recreational activities including launching canoes/kayaks for fishing, camping, wildlife viewing and the simple pleasure of just paddling (NPS 2015). The site attracts visitors primarily for boat related activities and the current infrastructure lacks the capacity to handle pre-hurricane levels of visitors. The Gulf Coast site is bordered by Copeland Avenue to the east, undeveloped forest to the west and Chokoloskee Bay to the south and west. There is a short interpretive trail that runs along the water's edge near the southern portion of the site. The western portion of the site consists of paved and unpaved parking areas with several scattered trees surrounding a marina. The ranger station is located within a temporary modular building northeast of the grassy overflow parking area. Paved bus and visitor car parking for the temporary visitor facility and concessioners are provided north of the temporary visitor facility. Other facilities at the site include employee residences and RV sites. The site has outdoor seating, shade structures, and information kiosks, and a temporary restroom trailer to support visitor activities.

The marina boat basin at the site supports a small, low capacity, temporary floating dock for administrative vessels. The canoe/kayak launch is most accessible to all vessels at high tide. Administrative trailers cannot be launched from the canoe/kayak launch because wooden posts prevent a trailer from backing down into the water. The canoe/kayak launch is a bottleneck to the marine backcountry as the paddler launch area can handle only one or two groups launching and retrieving at a time. Once past the canoe/kayak launch, the area offers approximately 50 square miles of expansive natural habitat that is rarely crowded. The visitor center distributes backcountry permits for camping within the Ten Thousand Islands. For a guided experience, concessioner operate boat tours from the marina providing another way for visitors to explore the area via water.

The viewsheds provided at the Gulf Coast site are unobstructed views of the Chokoloskee Bay. The main viewshed is from the existing open grassy area near the picnic shelter. Currently, the viewshed from the

picnic shelter is viewable only from the ground level, as there is no higher vantage point. The interpretive trail meanders through tropical maritime vegetation and mangrove shoreline and offers another vantage point facing the entry point of the Ten Thousand Islands.

Visitation levels have decreased at the Gulf Coast site since Hurricane Irma and the infrastructure is no longer adequate for high volume visitation following the damages from the hurricane. At its visitation peak in 1992, the Gulf Coast site was welcoming approximately 300,000 visitors annually. Pre-Hurricane Irma, visitation in 2017 was 44,916. In 2018, visitation reduced to 28,773 and then steadily increased with the new concession until the COVID pandemic shut down operations and greatly reduced visitation. Visitation was 35,247 in 2020, 32,699 in 2021 and has increased to 52,285 in 2022 so far. Parking for visitors at the Gulf Coast site consists of 62 parking spaces with seven ADA spaces, with overflow parking in a grassy lot just north of the canoe/kayak launch. This parking lot is commonly flooded during rain, storm and high tide events.

Although visitor use is at an all-time low due to hurricane damage, visitor use is expected to return to previous levels of 300,000 visitors annually from 1992. In addition to restoring visitor use to pre-Hurricane Irma levels, visitor use is also expected to increase over time as the population of Collier County increases. Collier County is expected to increase 20,000-40,000 over the next few years. As the Gulf Coast site is the entry point to the Ten Thousand Islands, the marine area is vast enough that dispersal of visitors will naturally avoid compacted impacts. Campsites which may become more sought after already have capacity limits in place to adequately maintain natural character and minimize impacts.

Environmental Consequences

No Action Alternative

Under the No Action Alternative, no improvements to the buildings or facilities at the Gulf Coast site would be made. The visitor contact station and restrooms would continue to operate out of temporary trailers, a permanent visitor center would not be provided and viewsheds would not be enhanced. The canoe/kayak launch area would not be dredged and would continue to require paddlers to wade into mud in order to launch. The administrative boat ramp would continue to operate offsite due to the un-dredged, shallow conditions. Although visitor use has decreased after Hurricane Irma, the current conditions at the Gulf Coast site would not support higher capacities of visitors if pre-Irma levels were to return. Concessions would continue to operate out of the shared temporary visitor facility. Visitor use and experience would continue to be limited in regard to resources and capacity of the site. The site would continue to have temporary closures as a result of common flooding and be insufficient for issues such as sea level rise and coastal resiliency.

Cumulative Impacts

The impacts of present and reasonably foreseeable actions would have a net beneficial impact to visitor use and experience. There are planned improvements to provide dedicated bicycle lanes and improved sidewalks throughout Everglades City, including along Copeland Avenue. These improvements would improve pedestrian and bicyclist mobility in the area and enhance connections to the Gulf Coast site. There is an overall trend of increased visitation at Everglades NP. The No Action Alternative would maintain less than desirable conditions at the Gulf Coast site and would not support increased visitation. The site would remain unchanged from current conditions, thereby, not providing an optimal park experience. When the

impacts of the No Action Alternative are combined with the present and reasonably foreseeable actions, there would be an adverse effect on visitor use and experience.

Impacts of Alternative B

Under Alternative B, changes to the Gulf Coast site would include a new, two-story visitor center, a new remote concession building in the vicinity of the canoe/kayak ramp, raising of the surrounding areas of the visitor center and parking lot to reduce flooding, dredging in the marina boat basin and near the canoe/kayak launch, and new and improved restrooms. Alternative B would include enhanced pedestrian walkways, outdoor seating and provide an outdoor classroom. In addition, native plantings and landscaping throughout the site would enhance aesthetics of the site. To enhance visitor safety, permeable pavers to reduce flooding and resilient materials to withstand storms would be used for construction of the outdoor paved areas and visitor center. The construction activities would take approximately two years to complete and would maintain visitor access to portions of the site at a time. Construction would be avoided or limited during peak season, and partial closures (rather than full closures) would be used to the greatest extent possible. Temporary closures of the marina, concessions areas, and canoe/kayak launch would take place during hurricane/low season to minimize disruptions to visitors. Construction fencing would safely keep visitors out of construction zones. The operation of construction equipment would result in noise that would temporarily disrupt visitor experience. Therefore, construction activities would cause short-term, temporary adverse effects to visitor use and experience and viewsheds.

Following construction, visitor experience and access to viewsheds would be restored and enhanced. Alternative B would improve the visitor experience by providing an efficient visitor drop-off and entrance road, outdoor seating and gathering areas, and scenic landscaping, thereby encouraging visitors and paddlers to spend more time enjoying the features of the Gulf Coast site. The new visitor center would support a large observation deck where the viewshed of the Gulf Coast site and Chokoloskee Bay could be fully appreciated by visitors. With larger indoor space within the visitor center and a significant increase in outdoor seating and shading proposed surrounding the visitor center, more visitors and larger groups would feel comfortable and not overcrowded during peak season. An additional 21 paved parking spaces are proposed to accommodate larger groups and peak season. Architectural Barriers Act (ABA) accessibility would be improved throughout the new visitor center, plaza, concessions area and at the floating docks at the marina. Visitation levels are expected to return to early 1990s visitation levels, with new concession contracts offering kayak rentals and large boat tours, three new concessions offering small boat tours, and the design and rebuilding of the destroyed visitor center and associated facilities.

Since there are no changes proposed to camping areas near the Gulf Coast site, no changes to overnight/camping use are anticipated as a result of Alternative B. However, visitor day use within wilderness areas would likely increase due to the restored and enhanced Gulf Coast site facilities. However, due to the expansiveness of this area of the park and availability of camping sites, the increase in visitor use at the Gulf Coast site would be expected to be negligible.

The new entrance road, new turn lane, visitor drop off area, and improved parking areas would create a safer transit to and from the Gulf Coast site while allowing a better flow of entry/exit traffic. The canoe/kayak launch would be improved, and the surrounding area would be dredged to accommodate access to the water during lower tides. Concessions would have a designated area in the second floor of the new visitor center, which would improve the guest check-in and booking process for guided boat tours out of

the marina. Alternative B would create a more authentic and curated experience to showcase the uniqueness of the Gulf Coast site and Everglades NP to enhance visitor experience, safety, and longevity.

In summary, Alternative B would result in short-term, temporary adverse effects to visitor use and experience as a result of construction activities. However, long-term beneficial effects are anticipated as the proposed improvements would restore visitor use and experience to levels prior to Hurricane Irma, and improve and enhance the visitor center, facilities and infrastructure on site.

Cumulative Impacts

The impacts of present and reasonably foreseeable actions would have a net beneficial impact to visitor use and experience by providing bicycle lanes and improved sidewalks in Everglades City which would enhance access to the Gulf Coast site. Parkwide, there is an overall trend of increased visitation. Alternative B would provide a new and improved visitor center and amenities and support the trend of increased visitation at the park. Alternative B would support an optimal park experience for visitors. Overall, there would be long-term beneficial cumulative impacts to visitor use and experience with improved bicyclist/pedestrian improvements in the project area and Alternative B contributing to new and improved development to support visitor services and increased visitation at the park.

CHAPTER 4: CONSULTATION AND COORDINATION

The NPS places a high priority on public involvement in the NEPA process and on giving the public an opportunity to review the proposed action. Consultation and coordination with federal, state, and local agencies, as well as American Indian tribes, were conducted to identify issues and concerns related to natural and cultural resources within the park. This chapter describes the public involvement and agency and tribal consultation used during the preparation of the Gulf Coast Site Plan/EA.

PUBLIC INVOLVEMENT

Civic Engagement

Civic engagement was conducted in April and May 2022 to provide the public and update on the plans to redevelop the Gulf Coast site. The park issued a press release to local media outlets and outside agencies and email announcements were prepared and distributed on the NPS' email distribution list on April 13, 2022, and to the Florida State Clearinghouse on April 14, 2022. The park posted project information, including the newsletter, on the NPS Planning, Environment and Public Comment (PEPC) website, the park website and social media accounts. The park invited the public to provide questions or suggestions on the project electronically, through the PEPC website, or by mailing written comments. No public meetings were held for this project.

Comments were received during the public comment period between April 13th and May 13th 2022. Comments were received through PEPC and via email. The public raised concerns regarding impacts to threatened and endangered species, wildlife and benthic resources and ideas for additional sustainable and resilient infrastructure improvements. In general, commenters expressed support for the proposed improvements.

Environmental Assessment Review

The EA will be available for a 30-day public comment period. The public comment period will be announced by press release, posts on the PEPC website, and by electronic mail sent to the park mailing list. Agencies and tribes also will be notified by letter. Hardcopies of the EA will be available for review at Everglades NP headquarters. During this time, the public can provide feedback and questions online at <https://parkplanning.nps.gov/GulfCoast> or mail comments to Superintendent, Attn: Gulf Coast Site Plan & Maintenance Dredging, Everglades National Park Headquarters, 40001 State Road 9336, Homestead, Florida 33034. After the close of the public comment period, all public comments will be reviewed and analyzed prior to the release of a NPS decision document.

AGENCY AND TRIBAL CONSULTATION

NPS initiated consultation with relevant agencies during the preparation of the EA. Consultation efforts, as described in the following section, with the USACE, USFWS, NOAA Fisheries, SFWMD, SHPO and Native American Tribes, began during civic engagement and continued through the preparation of the Site Plan/EA. All agencies will be provided with a copy of the EA for review and comment.

Endangered Species Act Section 7 Consultation

Section 7 of the Endangered Species Act requires federal agencies to ensure that the actions they authorize, fund, or carry out do not jeopardize the continued existence of listed species nor destroy or adversely affect critical habitat. The NPS conducted early coordination with the USFWS and NOAA Fisheries on this project. A Biological Assessment was prepared, and the NPS will complete Section 7 consultation prior to finalizing the NPS decision document for this plan.

Section 106 of the National Historic Preservation Act Consultation

The NPS consulted with the State Historic Preservation Officer on July 29, 2022. There were no comments from the SHPO. The NPS prepared an Assessment of Effect for this plan which resulted in no historic or archeological properties affected. Section 106 consultation is complete for this plan.

Tribal Consultation

The NPS consulted with the Seminole Nation of Oklahoma and the Seminole and Miccosukee Tribe of Florida on August 1, 2022. The Tribal Historic Preservation Office acknowledged that the project falls within Seminole Tribe of Florida area of interest. Tribal consultation is complete for this plan.

CHAPTER 5: PREPARERS AND PLANNING TEAM

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Jay Hood, Landscape Architect

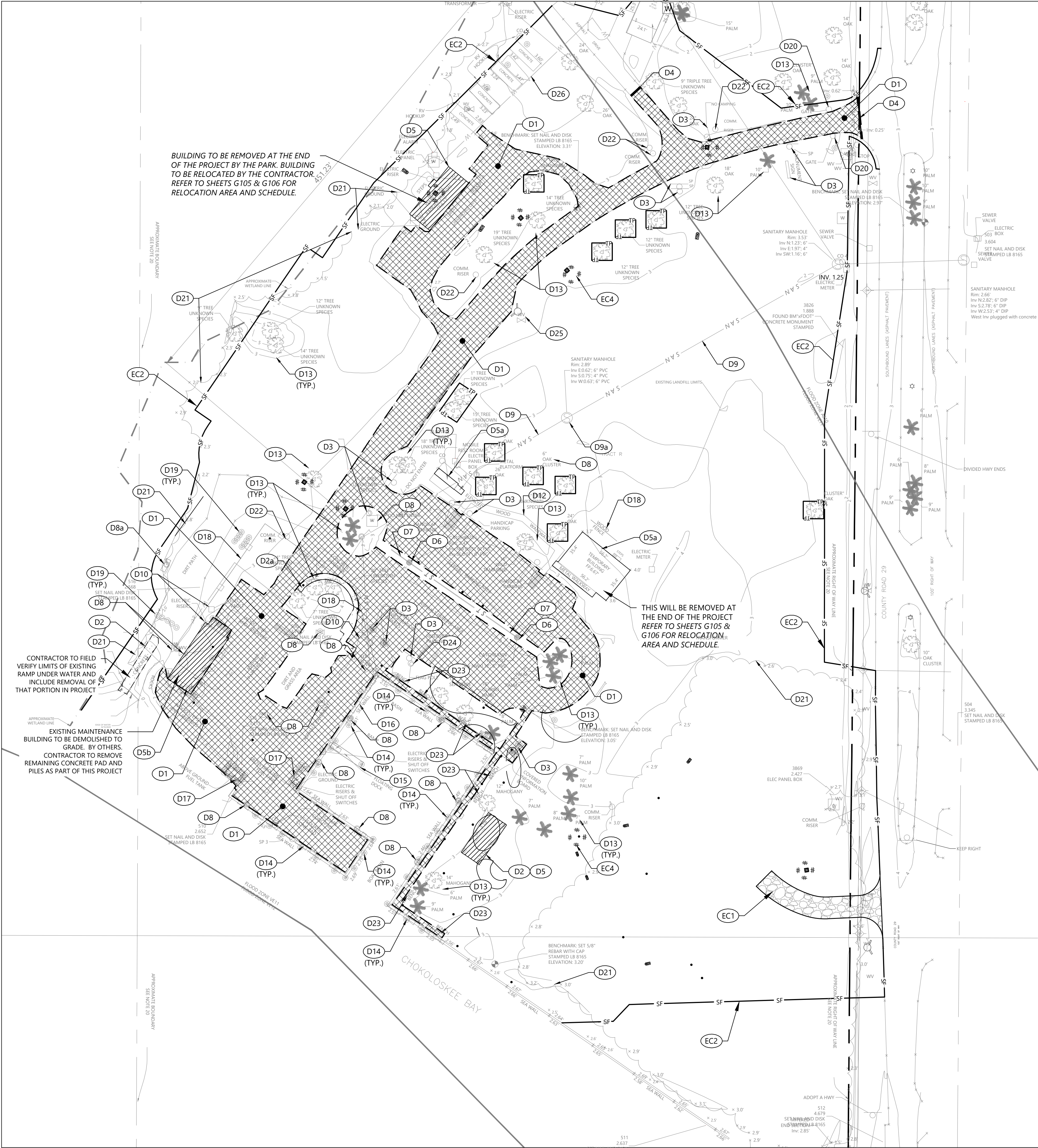
Boris Wong, Landscape Architect

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APPENDIX A – CONSTRUCTION DRAWINGS



SITE DESCRIPTION AND NOTES:

THE SITE IS LOCATED ON PARCEL 83492120007 IN EVERGLADES CITY, COLLIER COUNTY, FLORIDA. CONSTRUCTION ACTIVITY ON THIS SITE WILL CONSIST OF DISTURBING APPROXIMATELY 10.14± ACRES TO CONSTRUCT NATIONAL PARK SERVICE.

- APPROXIMATE CONSTRUCTION TIME TABLE:
BEGIN CONSTRUCTION - [DECEMBER 2022]
COMPLETE CONSTRUCTION - [DECEMBER 2024]
- CONSTRUCTION SEQUENCE:
 - ATTEND PRE-CONSTRUCTION MEETING.
 - INSTALL CONSTRUCTION ENTRANCE AND PERIMETER CONTROL MEASURES.
 - CONTACT LOCAL ENVIRONMENTAL AGENCY - EROSION CONTROL INSPECTOR FOR INSPECTION OF EROSION CONTROL DEVICES TO OBTAIN GRADING PERMIT.
 - CLEAR AND GRUB THE REMAINING SITE.
 - CONSTRUCT REMAINING SITE ACCORDING TO APPROVED PLANS, INCLUDING ALL ADDITIONAL EROSION CONTROL DEVICES.
 - UPON PERMANENT SITE STABILIZATION APPLY PERMANENT CONTROL MEASURES.
 - REMOVE ALL TEMPORARY EROSION CONTROL DEVICES PRIOR TO AS-BUILT APPROVALS.
- TOTAL PROJECT AREA = 1288069.2 SF (29.57± AC.)
DISTURBED AREA = 441,607 S.F. (10.14± AC.)
- SEE SHEET C100 FOR GENERAL CONSTRUCTION NOTES AND FOR EROSION CONTROL NOTES.

EROSION CONTROL NOTES:

- EROSION PREVENTION AND SEDIMENT CONTROL MEASURES MUST BE IN PLACE AND FUNCTIONAL BEFORE EARTH MOVING OPERATION BEGINS AND MUST BE CONSTRUCTED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. TEMPORARY MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORKDAY BUT MUST BE REPLACED AT THE END OF THE WORKDAY.
- THE FOLLOWING RECORDS SHALL BE MAINTAINED ON OR NEAR SITE: THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR; THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; THE DATES WHEN STABILIZATION MEASURES ARE INITIATED; INSPECTION RECORDS AND RAINFALL RECORDS.
- THE CONTRACTOR SHALL MAINTAIN A RAIN GAUGE AND DAILY RAINFALL RECORDS AT THE SITE OR USE A REFERENCE SITE FOR A RECORD OF DAILY AMOUNT OF PRECIPITATION.
- PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED MORE THAN 10 DAYS PRIOR TO GRADING OR EARTH MOVING UNLESS THE AREA IS SEEDED AND/OR MULCHED OR OTHER TEMPORARY COVER IS INSTALLED.
- CONSTRUCTION MUST BE SEQUENCED TO MINIMIZE THE EXPOSURE TIME OF GRADED OR DENUDED AREAS.
- SEDIMENT SHOULD BE REMOVED FROM SEDIMENT TRAPS, SILT FENCES, SEDIMENTATION PONDS AND OTHER SEDIMENT CONTROLS AS NECESSARY AND MUST BE REMOVED WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%.
- THE CONTRACTOR SHALL REMOVE SEDIMENT FROM ALL DRAINAGE STRUCTURES BEFORE ACCEPTANCE BY LOCAL GOVERNING AGENCY.
- THE CONTRACTOR SHALL REMOVE THE TEMPORARY EROSION AND WATER POLLUTION CONTROL DEVICES ONLY AFTER A SOLID STAND OF GRASS HAS BEEN ESTABLISHED ON GRADED AREAS.

LEGEND

- BUILDING TO REMOVE
- CONCRETE TO REMOVE
- ASPHALT PAVEMENT TO REMOVE
- SILT FENCE
- TREE PROTECTION
- TREES TO BE REMOVED
- INLET PROTECTION

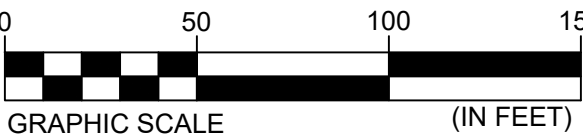
EROSION CONTROL KEYNOTES		
CODE	DESCRIPTION	DET #/SHT #
EC1	TEMPORARY CONSTRUCTION ENTRANCE	1/C103
EC2	SILT FENCE	2/C103
EC3	INLET PROTECTION	3/C103
EC4	TREE PROTECTION	4/C103

DEMOLITION KEYNOTES	
CODE	DESCRIPTION
D1	REMOVE EXISTING ASPHALT PAVEMENT
D2	REMOVE EXISTING CONCRETE PAVEMENT
D2a	REMOVE EXISTING CONCRETE SIDEWALK
D3	REMOVE EXISTING SIGN
D4	EVENLY SAWCUT
D5	REMOVE EXISTING BUILDING/STRUCTURE
D5a	EXISTING BUILDING TO BE TEMPORARILY RELOCATED PER PHASED CONSTRUCTION SEQUENCE TO MAINTAIN PARK OPERATIONS
D5b	EXISTING MAINTENANCE BUILDING IS TO BE DEMOLISHED WITH A SEPARATE PMIS PROJECT PRIOR TO THIS PROJECT BEGINNING
D6	REMOVE EXISTING DRAINAGE STRUCTURE
D7	REMOVE EXISTING STORM LINE
D8	REMOVE EXISTING WATERLINE & APPURTENANCES
D8a	EXISTING APPURTENANCES TO BE RELOCATED
D9	REMOVE EXISTING SANITARY SEWER LINE
D9a	REMOVE EXISTING SANITARY STRUCTURE
D10	REMOVE EXISTING UTILITY LINE & APPURTENANCES
D11	EXISTING UTILITY LINE TO BE ABANDONED IN PLACE
D12	REMOVE EXISTING BOARDWALK
D13	REMOVE EXISTING TREE
D14	REMOVE EXISTING PILINGS
D15	REMOVE EXISTING FLOATING DOCK (SEE COASTAL DRAWINGS)
D16	REMOVE EXISTING SEA WALL (SEE COASTAL DRAWINGS)
D17	EXISTING FUEL STATION TO BE REMOVED
D18	REMOVE EXISTING FENCE
D19	REMOVE EXISTING BOLLARD
D20	REMOVE EXISTING GATE
D21	REMOVE EXISTING LIMITS OF VEGETATION
D22	REMOVE EXISTING COMM. RISER
D23	REMOVE EXISTING PARK BENCH
D24	REMOVE EXISTING FLAG POST AND REPLACE
D25	REMOVE EXISTING FIRE HYDRANT ASSEMBLY
D26	ABANDON EXISTING WATER LINE IN PLACE

NOTES:
1. SEE SHEET C100 FOR GENERAL AND DEMOLITION NOTES.



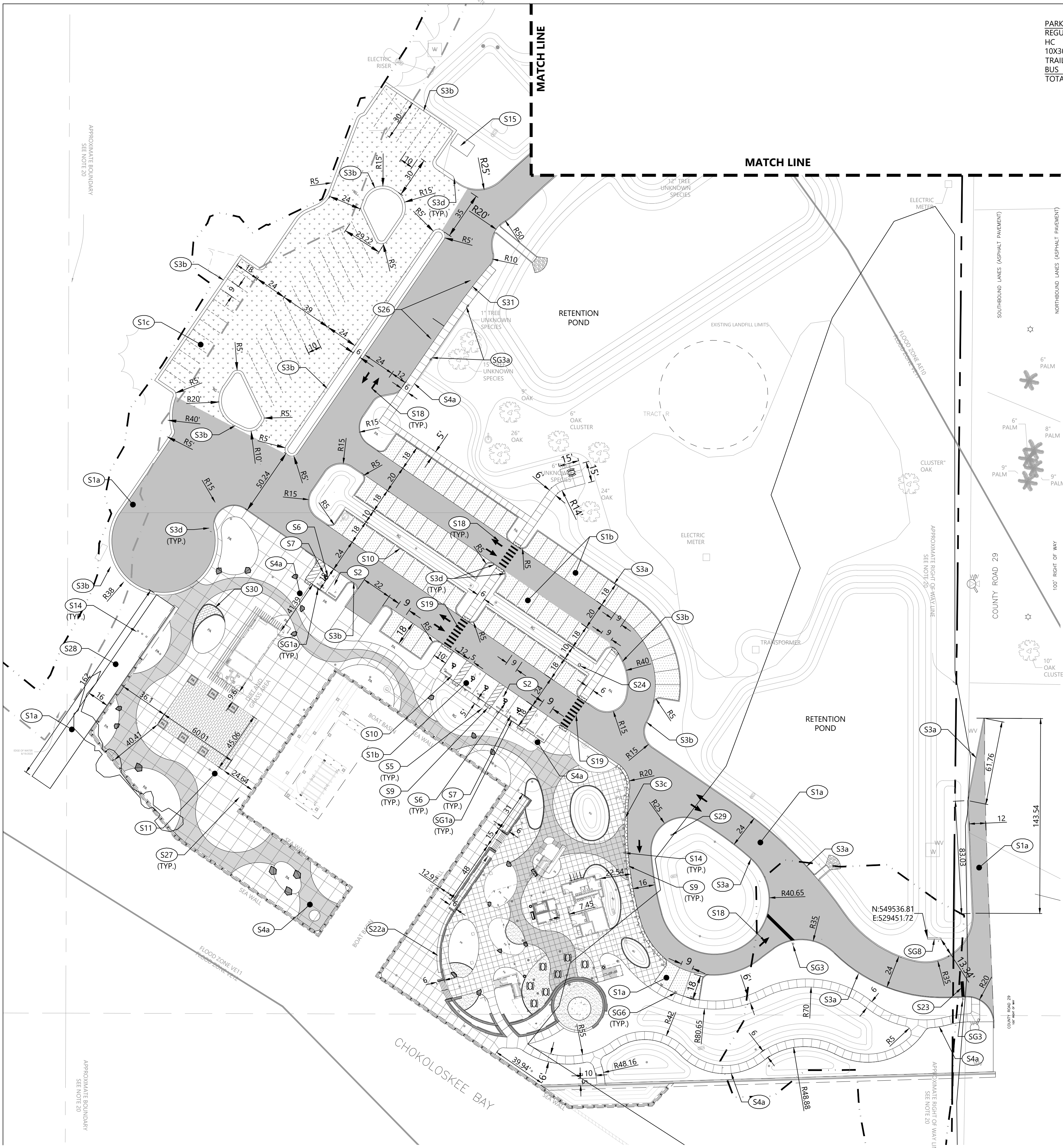
Know what's below.
Call before you dig.



<div>A/E FIRM</div> <div>CROFT & ASSOCIATES</div> <div>KENNESAW, GEORGIA</div>	DESIGNED:	SUB SHEET NO.	LOCATION WITHIN PARK	DRAWING NO.
	SG		GULF COAST VISITOR CENTER	160
	<div>0109</div> JS	C102	TITLE OF SHEET	168516
	TECH REVIEW:		DEMOLITION & EROSION CONTROL PLAN	PMIS/PKG NO.
	BE			244476
DATE:		EVERGLADES NATIONAL PARK	SHEET	
6/22/2022			OF 205	

APPROXIMATE BOUNDARY
SEE NOTE 20

APPROXIMATE BOUNDARY
SEE NOTE 20

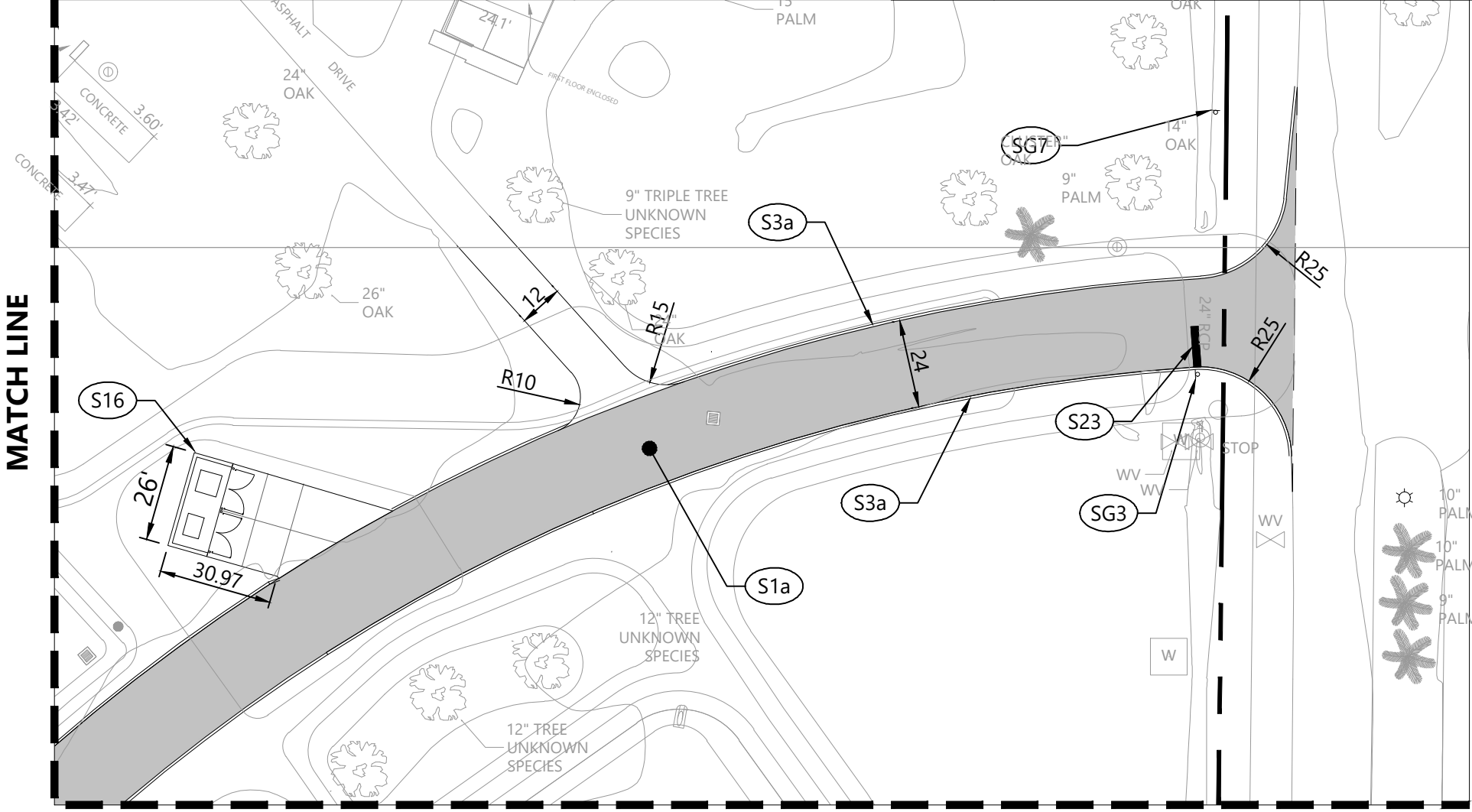


PARKING COUNT:	
REGULAR PARKING	96
HC	6
10X30	6
TRAILER	13
BUS	2
TOTAL	123

PROPOSED FEATURES LEGEND	
ACCENT CONCRETE PAVEMENT	
HEAVY DUTY PAVEMENT	
LIGHT DUTY PAVEMENT	
AGGREGATE	
CONCRETE PAVING	
PAINTED STRIPE	
CONCRETE CURB	
CENTERLINE	
NOTES: 1. SEE SHEET C100 FOR GENERAL NOTES.	

SITE SIGNAGE KEYNOTES		
CODE	DESCRIPTION	DET #/SHT #
SG1a	ACCESSIBLE PARKING SIGN	7/C110
SG3	"STOP" SIGN	8/C110
SG3a	"BUS PARKING ONLY" SIGN	8/C110
SG4	"DO NOT ENTER" SIGN	8/C110
SG8	MAIN PARK ENTRY SIGN, PER NPS STANDARDS	

SITE LAYOUT KEYNOTES		
CODE	DESCRIPTION	DET #/SHT #
S1a	ASPHALT PAVEMENT - HEAVY DUTY	1/C110
S1b	ASPHALT PAVEMENT - LIGHT DUTY	1/C110
S1c	GRAVEL PARKING AREA	
S2	CONCRETE PAVEMENT	2/C110
S3a	CONCRETE FDOT TYPE "D" CURB	FDOT INDEX 520-001
S3b	CONCRETE RIBBON CURB	14/C110
S3c	CONCRETE RIBBON CURB WITH TACTILE WARNING SURFACE	14/C110
S3d	CURB TRANSITION	FDOT INDEX 520-001
S4a	CONCRETE SIDEWALK	13/C110
S5	SIDEWALK JOINTS	5/C110
S6	ACCESSIBLE SYMBOL	7/C111
S7	ACCESSIBLE PARKING SPACE	6/C110
S9	TACTILE WARNING SURFACE (REQUIRED)	FDOT INDEX 522-002
S10	CONCRETE WHEELSTOP	4/C110
S14	REMOVABLE BOLLARD	9/C110
S15	UTILITY PAD	4/C111
S16	DUMPSTER ENCLOSURE	9/C110
S18	DIRECTIONAL ARROWS	10/C110
S19	PEDESTRIAN CROSSWALK	FDOT INDEX 711-001
S22a	CONCRETE SEAT/RETAINING WALL	SEE HARDSCAPE
S23	PAINTED STOP BAR (24")	11/C110
S24	ELECTRIC VEHICLE CHARGING STATION	SEE ELECTRICAL
S26	BUS PARKING	
S27	SCORED CONCRETE	SEE HARDSCAPE
S28	CANOE/KAYAK LAUNCH (NPS BOAT RAMP) SEE COASTAL DRAWINGS	
S29	FLAG POLE	3/C110
S30	OUTDOOR SHOWER	SEE ARCH.



A/E FIRM CROFT & ASSOCIATES KENNESAW, GEORGIA	DESIGNED: SG JAS TECH REVIEW: BE DATE: 8/18/2022	SUB SHEET NO. C105	LOCATION WITHIN PARK GULF COAST VISITOR CENTER TITLE OF SHEET LAYOUT PLAN EVERGLADES NATIONAL PARK	DRAWING NO. 160 168516
				PMIS/PKG NO. 244476
				SHEET
				17 OF 207

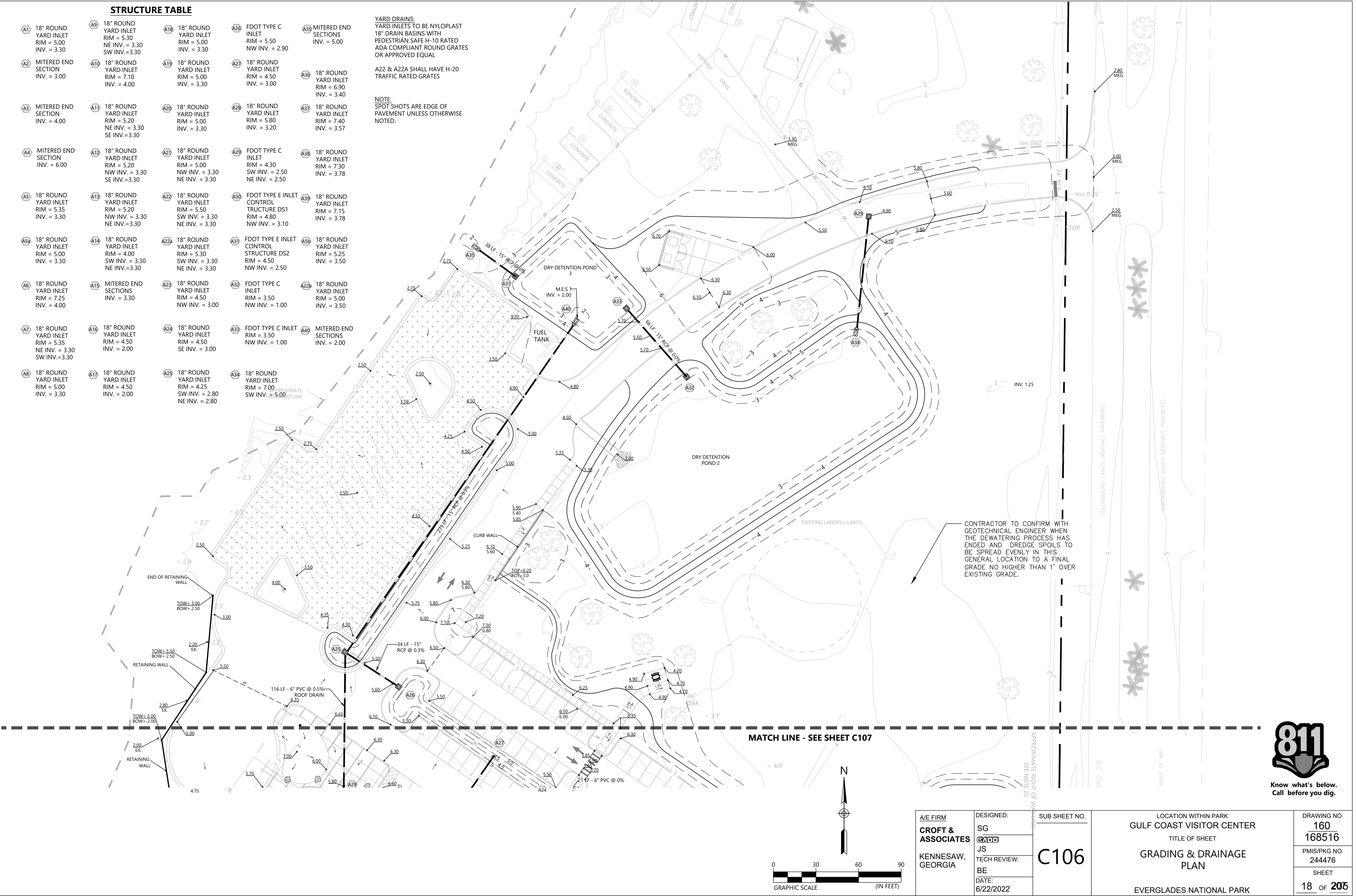
STRUCTURE TABLE

A1 18" ROUND YARD INLET RIM = 5.00 INV. = 3.30	A9 18" ROUND YARD INLET RIM = 5.30 NE INV. = 3.30 SW INV.=3.30	A18 18" ROUND YARD INLET RIM = 5.00 INV. = 3.30	A26 FDOT TYPE C INLET RIM = 5.50 NW INV. = 2.90	A35 MITERED END SECTIONS INV. = 5.00
A2 MITERED END SECTION INV. = 3.00	A10 18" ROUND YARD INLET RIM = 7.10 INV. = 4.00	A19 18" ROUND YARD INLET RIM = 5.00 INV. = 3.30	A27 18" ROUND YARD INLET RIM = 4.50 INV. = 3.00	A36 18" ROUND YARD INLET RIM = 6.90 INV. = 3.40
A3 MITERED END SECTION INV. = 4.00	A11 18" ROUND YARD INLET RIM = 5.20 NE INV. = 3.30 SE INV.=3.30	A20 18" ROUND YARD INLET RIM = 5.00 INV. = 3.30	A28 18" ROUND YARD INLET RIM = 5.80 INV. = 3.20	A37 18" ROUND YARD INLET RIM = 7.40 INV. = 3.57
A4 MITERED END SECTION INV. = 6.00	A12 18" ROUND YARD INLET RIM = 5.20 NW INV. = 3.30 SE INV.=3.30	A21 18" ROUND YARD INLET RIM = 5.00 NW INV. = 3.30 NE INV. = 3.30	A29 FDOT TYPE C INLET RIM = 4.30 SW INV. = 2.50 NE INV. = 2.50	A38 18" ROUND YARD INLET RIM = 7.30 INV. = 3.78
A5 18" ROUND YARD INLET RIM = 5.35 INV. = 3.30	A13 18" ROUND YARD INLET RIM = 5.20 NW INV. = 3.30 NE INV.=3.30	A22 18" ROUND YARD INLET RIM = 5.50 SW INV. = 3.30 NE INV. = 3.30	A30 FDOT TYPE E INLET CONTROL STRUCTURE DS1 RIM = 4.80 NW INV. = 3.10	A39 18" ROUND YARD INLET RIM = 7.15 INV. = 3.78
A5a 18" ROUND YARD INLET RIM = 5.00 INV. = 3.30	A14 18" ROUND YARD INLET RIM = 4.00 SW INV. = 3.30 NE INV.=3.30	A23a 18" ROUND YARD INLET RIM = 5.30 SW INV. = 3.30 NE INV. = 3.30	A31 FDOT TYPE E INLET CONTROL STRUCTURE DS2 RIM = 4.50 NW INV. = 2.50	A59 18" ROUND YARD INLET RIM = 5.25 INV. = 3.50
A6 18" ROUND YARD INLET RIM = 7.25 INV. = 4.00	A15 MITERED END SECTIONS INV. = 3.30	A23 18" ROUND YARD INLET RIM = 4.50 NW INV. = 3.00	A32 FDOT TYPE C INLET RIM = 3.50 NW INV. = 1.00	A22a 18" ROUND YARD INLET RIM = 5.00 INV. = 3.50
A7 18" ROUND YARD INLET RIM = 5.35 NE INV. = 3.30 SW INV.=3.30	A16 18" ROUND YARD INLET RIM = 4.50 INV. = 2.00	A24 18" ROUND YARD INLET RIM = 4.50 SE INV. = 3.00	A33 FDOT TYPE C INLET RIM = 3.50 NW INV. = 1.00	A40 MITERED END SECTIONS INV. = 2.00
A8 18" ROUND YARD INLET RIM = 5.00 INV. = 3.30	A17 18" ROUND YARD INLET RIM = 4.50 INV. = 2.00	A25 18" ROUND YARD INLET RIM = 4.25 SW INV. = 2.80 NE INV. = 2.80	A34 18" ROUND YARD INLET RIM = 7.00 SW INV. = 5.00	

YARD DRAINS:
YARD INLETS TO BE NYLOPLAST
18" DRAIN BASINS WITH
PEDESTRIAN SAFE H-10 RATED
ADA COMPLIANT ROUND GRATES
OR APPROVED EQUAL

A22 & A22A SHALL HAVE H-20
TRAFFIC RATED GRATES

NOTE:
SPOT SHOTS ARE EDGE OF
PAVEMENT UNLESS OTHERWISE
NOTED.



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STRUCTURE TABLE					
18" ROUND YARD INLET RIM = 5.00 INV. = 3.30	18" ROUND YARD INLET RIM = 5.30 NE INV. = 3.30 SW INV. = 3.30	18" ROUND YARD INLET RIM = 5.30 INV. = 3.30	FDOT TYPE C INLET RIM = 5.50 NW INV. = 2.90	MITERED END SECTIONS INV. = 5.00	
MITERED END SECTION INV. = 3.00	18" ROUND YARD INLET RIM = 7.10 INV. = 4.00	18" ROUND YARD INLET RIM = 5.00 INV. = 3.30	18" ROUND YARD INLET RIM = 4.50 INV. = 3.00	18" ROUND YARD INLET RIM = 6.90 INV. = 3.40	
MITERED END SECTION INV. = 4.00	18" ROUND YARD INLET RIM = 5.20 NE INV. = 3.30 SE INV. = 3.30	18" ROUND YARD INLET RIM = 5.00 INV. = 3.30	18" ROUND YARD INLET RIM = 5.80 INV. = 3.20	18" ROUND YARD INLET RIM = 7.40 INV. = 3.57	
MITERED END SECTION INV. = 6.00	18" ROUND YARD INLET RIM = 5.20 NW INV. = 3.30 SE INV. = 3.30	18" ROUND YARD INLET RIM = 5.00 INV. = 3.30	FDOT TYPE C INLET RIM = 4.30 NW INV. = 2.50 NE INV. = 2.50	18" ROUND YARD INLET RIM = 7.30 INV. = 3.78	
18" ROUND YARD INLET RIM = 5.35 INV. = 3.30	18" ROUND YARD INLET RIM = 5.20 NW INV. = 3.30 NE INV. = 3.30	18" ROUND YARD INLET RIM = 5.50 SW INV. = 3.30 NE INV. = 3.30	FDOT TYPE E INLET CONTROL STRUCTURE DS1 RIM = 4.80 NW INV. = 3.10	18" ROUND YARD INLET RIM = 7.15 INV. = 3.78	
18" ROUND YARD INLET RIM = 5.00 INV. = 3.30	18" ROUND YARD INLET RIM = 4.00 SW INV. = 3.30 NE INV. = 3.30	18" ROUND YARD INLET RIM = 5.30 SW INV. = 3.30 NE INV. = 3.30	FDOT TYPE E INLET CONTROL STRUCTURE DS2 RIM = 4.50 NW INV. = 2.50	18" ROUND YARD INLET RIM = 5.25 INV. = 3.50	
18" ROUND YARD INLET RIM = 7.25 INV. = 4.00	MITERED END SECTIONS INV. = 3.30	18" ROUND YARD INLET RIM = 4.50 SE INV. = 3.00	FDOT TYPE C INLET RIM = 3.50 NW INV. = 1.00	18" ROUND YARD INLET RIM = 5.00 INV. = 3.50	
18" ROUND YARD INLET RIM = 5.35 NE INV. = 3.30 SW INV. = 3.30	18" ROUND YARD INLET RIM = 4.50 INV. = 2.00	18" ROUND YARD INLET RIM = 4.50 SE INV. = 3.00	FDOT TYPE C INLET RIM = 3.50 NW INV. = 1.00	MITERED END SECTIONS INV. = 2.00	
18" ROUND YARD INLET RIM = 5.00 INV. = 3.30	18" ROUND YARD INLET RIM = 4.50 INV. = 2.00	18" ROUND YARD INLET RIM = 4.25 SW INV. = 2.80 NE INV. = 2.80	18" ROUND YARD INLET RIM = 7.00 SW INV. = 5.00		

NOTE:
SPOT SHOTS ARE EDGE OF
PAVEMENT UNLESS OTHERWISE
NOTED.

YARD DRAINS:
YARD INLETS TO BE NYLOPLAST
18" DRAIN BASINS WITH
PEDESTRIAN SAFE H-10 RATED
ADA COMPLIANT ROUND GRATES
OR APPROVED EQUAL

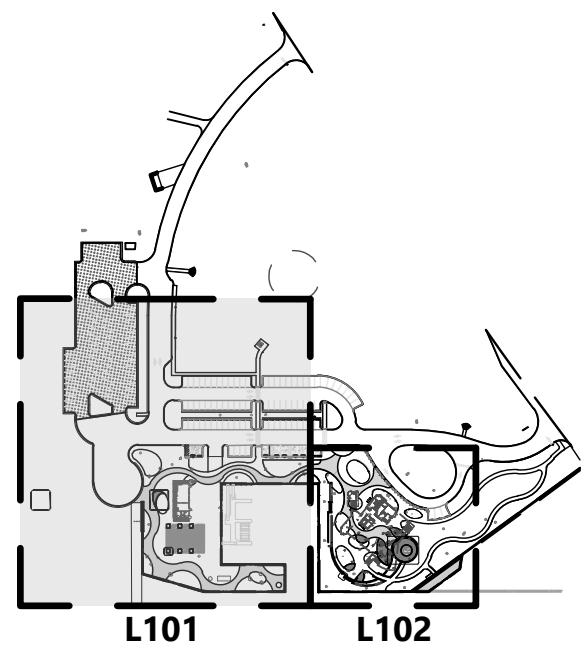
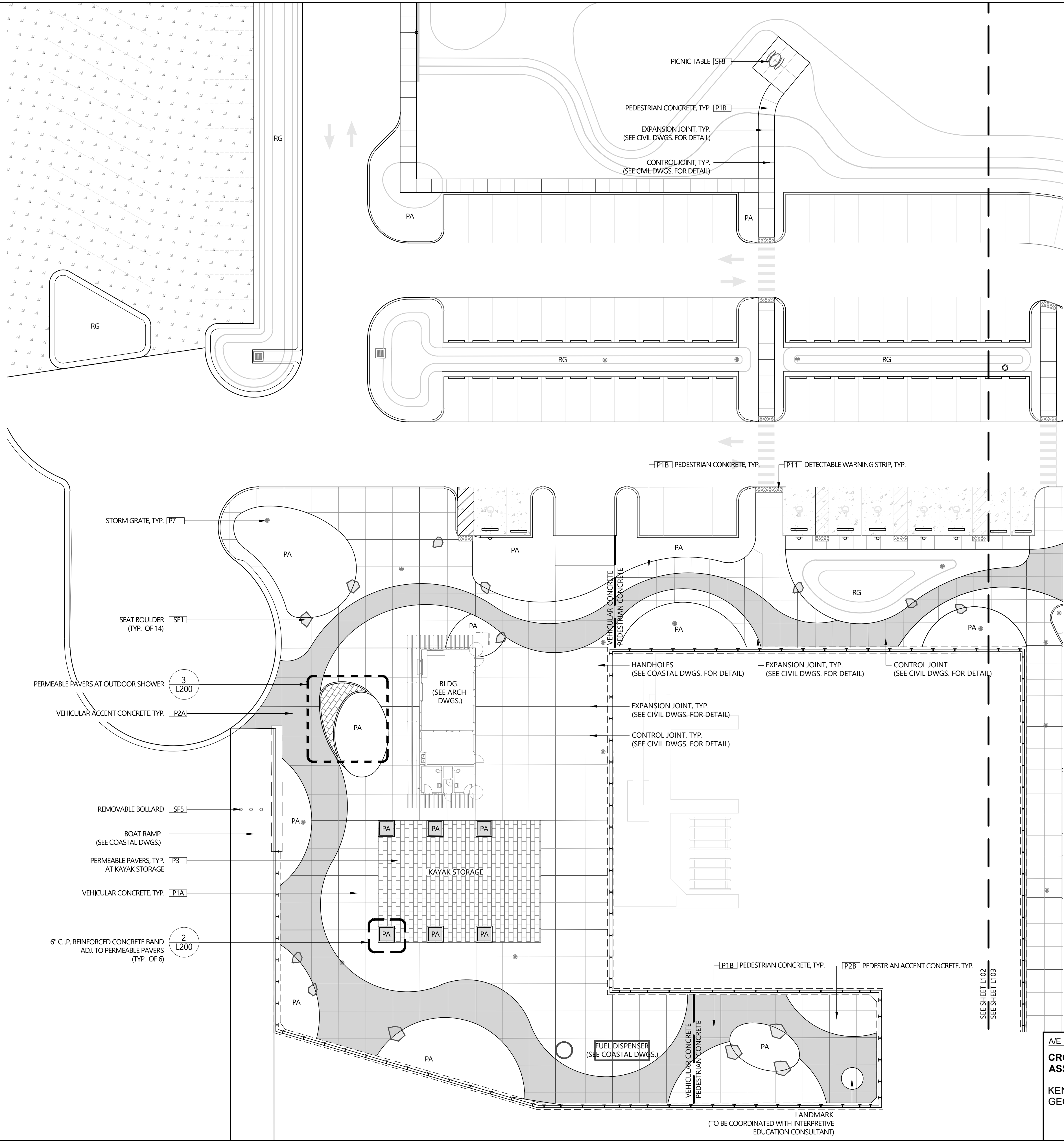
A22 & A22A SHALL HAVE H-20
TRAFFIC RATED GRATES

MATCH LINE - SEE SHEET C106



Know what's below.
Call before you dig.

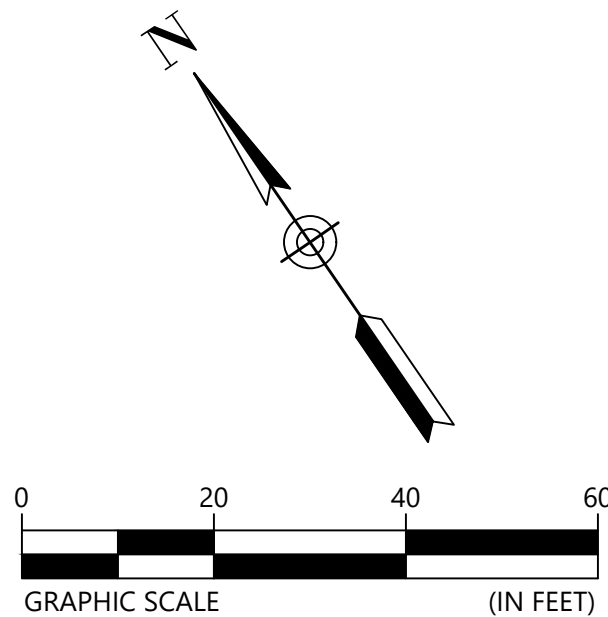
<div>A/E FIRM</div> <div>CROFT & ASSOCIATES</div> <div>KENNESAW, GEORGIA</div>	DESIGNED: <div>SG</div> <div><div>C&A</div>JS</div>	<div>SUB SHEET NO.</div> <div>C107</div>	<div>LOCATION WITHIN PARK</div> <div>GULF COAST VISITOR CENTER</div> <div>TITLE OF SHEET</div> <div>GRADING & DRAINAGE PLAN</div> <div>EVERGLADES NATIONAL PARK</div>	<div>DRAWING NO.</div> <div>160</div> <div>168516</div>
	TECH REVIEW: <div>BE</div>			<div>PMIS/PKG NO.</div> <div>244476</div>
	DATE: <div>6/22/2022</div>			<div>SHEET</div>
				<div>19</div> OF <div>205</div>



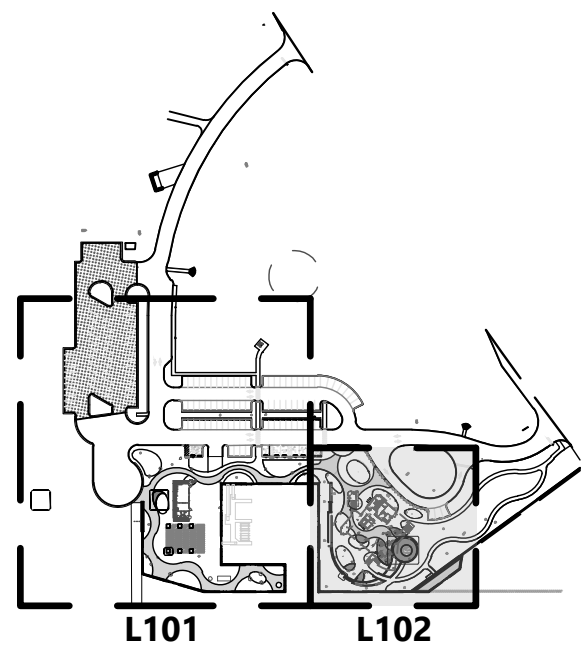
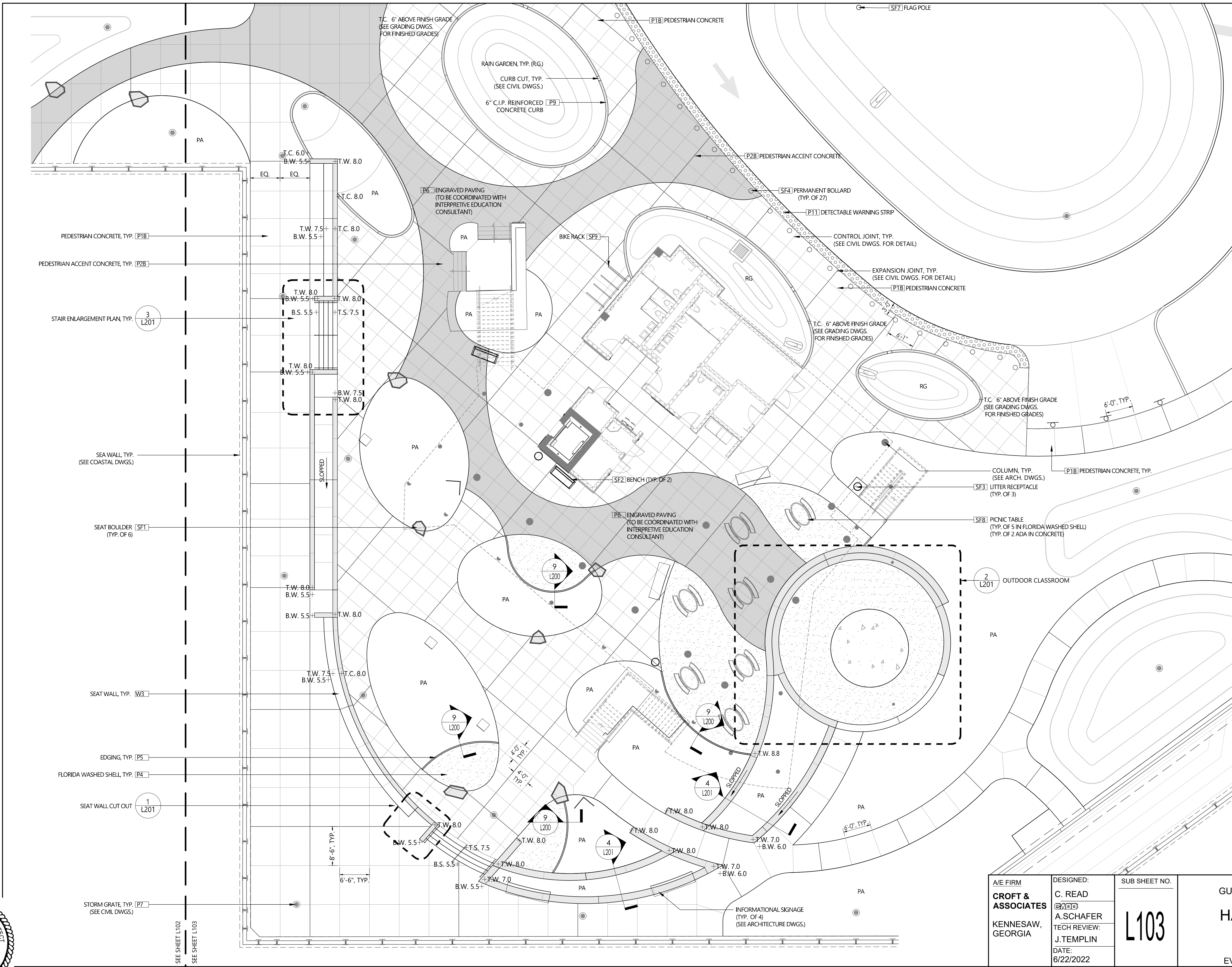
KEY PLAN

ABBREVIATIONS	
TYP. -	TYPICAL
DWGS. -	DRAWINGS
BLDG. -	BUILDING
ARCH. -	ARCHITECTURAL
PA -	PLANTING AREA
RG -	RAIN GARDEN
EQ. -	EQUAL
T.W. -	TOP OF WALL
B.W. -	BOTTOM OF WALL
T.C. -	TOP OF CURB
T.S. -	TOP OF STEPS
B.S. -	BOTTOM OF STEPS

GENERAL NOTES:
1) SEE GRADING DWGS. FOR ADDITIONAL GRADES
2) SEE ARCH. DWGS. FOR BLDG. INFORMATION
3) SEE LANDSCAPE DWGS. FOR PLANTING PLANS



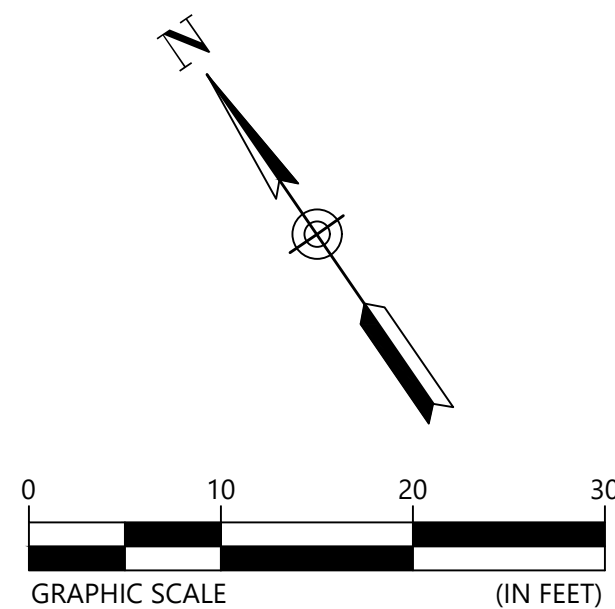
A/E FIRM CROFT & ASSOCIATES KENNESAW, GEORGIA	DESIGNED: C. READ	SUB SHEET NO. L102	LOCATION WITHIN PARK GULF COAST VISITOR CENTER TITLE OF SHEET HARDSCAPE PLAN EVERGLADES NATIONAL PARK	DRAWING NO. 160 168516
	TECH REVIEW: A.SCHAFFER J.TEMPLIN			PMIS/PKG NO. 244476
	DATE: 6/22/2022			SHEET 27 OF 206



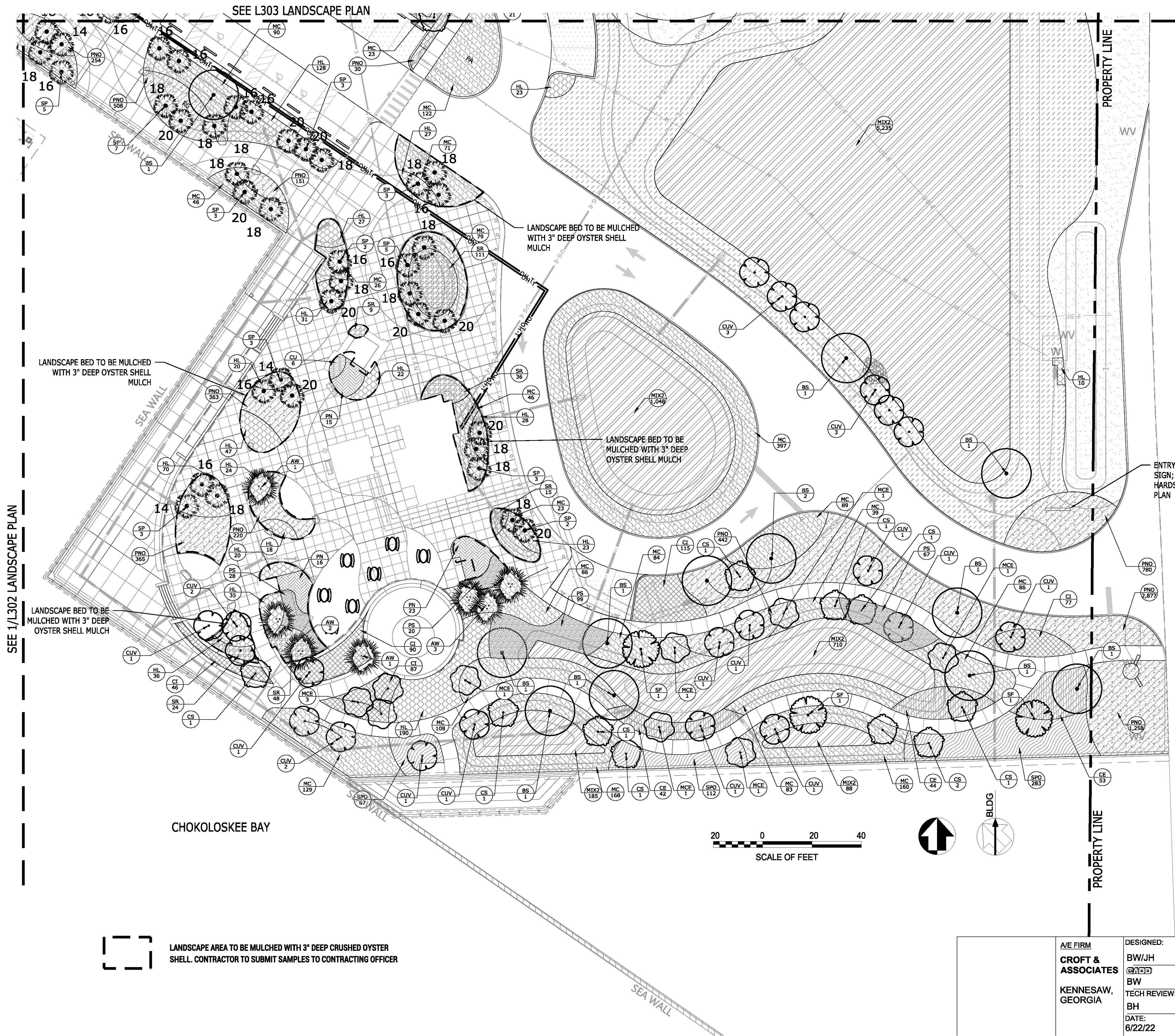
KEY PLAN

ABBREVIATIONS	
TYP.--	TYPICAL
DWGS.--	DRAWINGS
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GENERAL NOTES:	
1.)	SEE GRADING DWGS. FOR ADDITIONAL GRADES
2.)	SEE ARCH. DWGS. FOR BLDG. INFORMATION
3.)	SEE LANDSCAPE DWGS. FOR PLANTING PLANS



A/E FIRM CROFT & ASSOCIATES KENNESAW, GEORGIA	DESIGNED: C. READ CHECKED: A.SCHAFFER TECH REVIEW: J.TEMPLIN DATE: 6/22/2022	SUB SHEET NO. L103	LOCATION WITHIN PARK GULF COAST VISITOR CENTER TITLE OF SHEET HARDSCAPE PLAN		DRAWING NO. 160 168516
			EVERGLADES NATIONAL PARK		PMIS/PKG NO. 244476
					SHEET
					28 OF 205



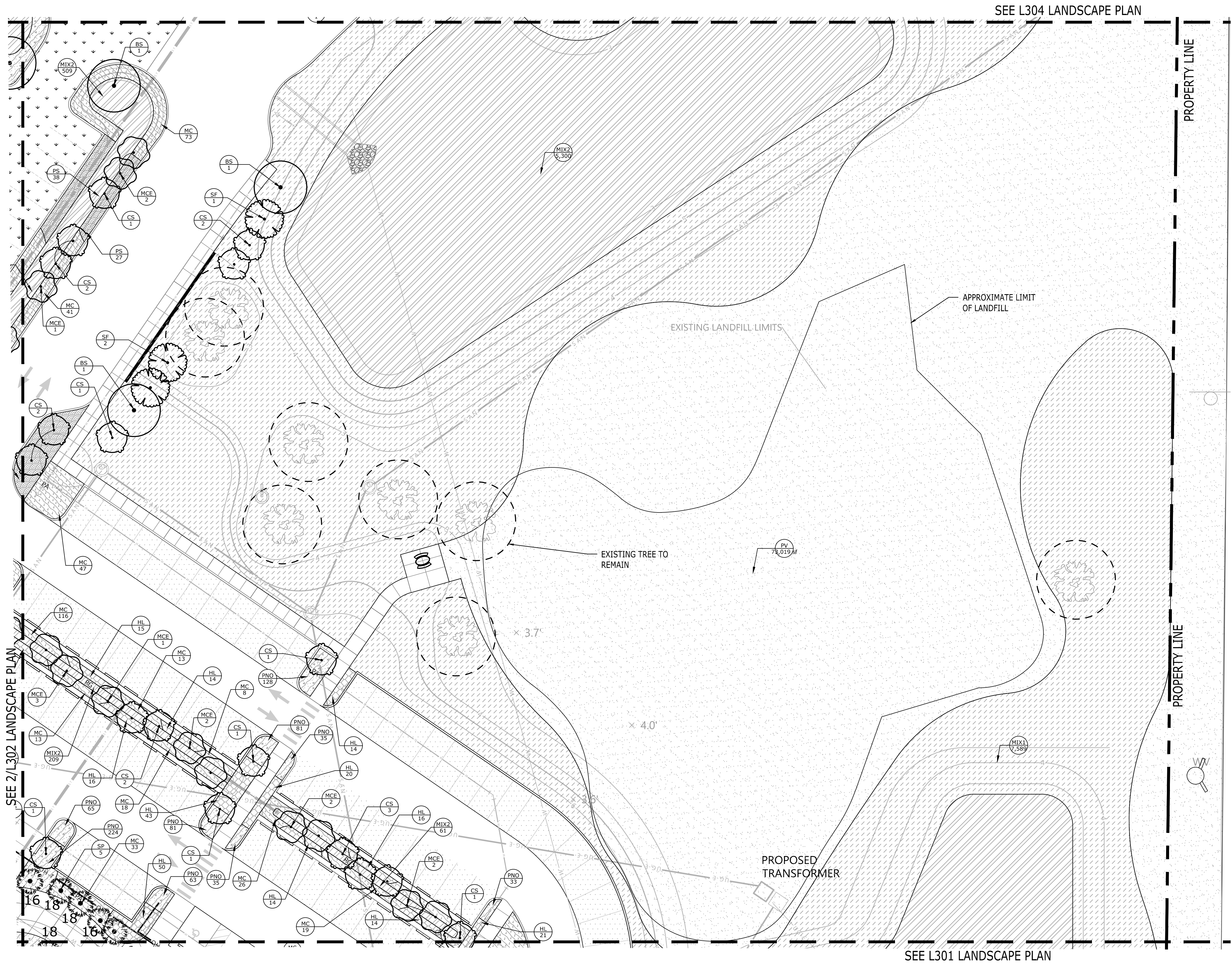
PLANT SCHEDULE

CANOPY TREES	CODE	BOTANICAL / COMMON NAME
	BS	Bursera simaruba / Gumbo Limbo
	SF	Sideroxylon foetidissimum / Wild Mastic
PALM TREES	CODE	BOTANICAL / COMMON NAME
	AW	Acoelorrhaphes wrightii / Paurotis Palm
	SP	Sabal palmetto / Cabbage Palmetto
UNDERSTORY TREES	CODE	BOTANICAL / COMMON NAME
	CUV	Coccoloba uvifera / Sea Grape
	CS	Cordia sebestena / Orange Geiger Tree
	MCE	Morella cerifera / Wax Myrtle
SHRUBS	CODE	BOTANICAL / COMMON NAME
	MF	Myrcianthes fragrans / Simpson's Stopper
SHRUB AREAS	CODE	BOTANICAL / COMMON NAME
	CI	Chrysobalanus icaco / Coco Plum
	CU	Coccoloba uvifera / Sea Grape
	CE	Conocarpus erectus / Buttonwood
	HL	Hymenocallis latifolia / Spider Lily
	MC	Muhlenbergia capillaris / Pink Muhly Grass
	MIX1	Planting Mix I Muhlenbergia capillaris / Pink Muhly Grass (70%) Borreria frutescens / Sea Oxeye Daisy (10%) Solidago sempervirens / Seaside Goldenrod (10 %) Phyla nodiflora / Frogfruit (10%)
	MIX2	Planting Mix II Spartina bakeri / Sand Cordgrass (80%) Cladium jamaicense / Sawgrass (20%)
	PS	Plumbago scandens / Wild Plumbago
	PN	Psychotria nervosa / Wild Coffee
	SR	Serenoa repens / Saw Palmetto
GROUND COVERS	CODE	BOTANICAL / COMMON NAME
	PNO	Phyla nodiflora / Frogfruit
	SPO	Sesuvium portulacastrum / Shoreline Seapurslane
SOD/SEED	CODE	BOTANICAL / COMMON NAME
	PV	Paspalum vaginatum / S.F. Certified Supreme Paspalum Sod Solid Sod, must be obtained from a certified supplier.
		EXISTING TREES TO REMAIN

NOTE:
ALL LANDSCAPE MATERIALS SHALL BE FLORIDA
NATIVE, PREFERABLY - EVERGLADES GULF COAST.

LANDSCAPE AREA TO BE MULCHED WITH 3" DEEP CRUSHED OYSTER SHELL. CONTRACTOR TO SUBMIT SAMPLES TO CONTRACTING OFFICER

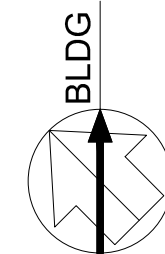
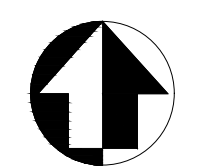
A/E FIRM CROFT & ASSOCIATES KENNESAW, GEORGIA	DESIGNED: BW/JH BW TECH REVIEW: BH DATE: 6/22/22	SUB SHEET NO. L301	LOCATION WITHIN PARK GULF COAST VISITOR CENTER TITLE OF SHEET LANDSCAPE PLAN EVERGLADES NATIONAL PARK	DRAWING NO. 160 168516 PMIS/PKG NO. 244476 SHEET 35 OF 207



PLANT SCHEDULE

CANOPY TREES	CODE	BOTANICAL / COMMON NAME
	BS	Bursera simaruba / Gumbo Limbo
	SF	Sideroxylon foetidissimum / Wild Mastic
PALM TREES	CODE	BOTANICAL / COMMON NAME
	AW	Accelorrhaphe wrightii / Paurotis Palm
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UNDERSTORY TREES	CODE	BOTANICAL / COMMON NAME
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	CS	Cordia sebestena / Orange Geiger Tree
	MCE	Morella cerifera / Wax Myrtle
SHRUBS	CODE	BOTANICAL / COMMON NAME
	MF	Myrcianthes fragrans / Simpson's Stopper
SHRUB AREAS	CODE	BOTANICAL / COMMON NAME
	CI	Chrysobalanus icaco / Coco Plum
	CU	Coccoloba uvifera / Sea Grape
	CE	Conocarpus erectus / Buttonwood
	HL	Hymenocallis latifolia / Spider Lily
	MC	Muhlenbergia capillaris / Pink Muhly Grass
	MIX1	Planting Mix I Muhlenbergia capillaris / Pink Muhly Gras (70%) Borrchia frutescens / Sea Oxeye Daisy (10%) Solidago sempervirens / Seaside Goldenrod (10 %) Phyla nodiflora / Frogfruit (10%)
	MIX2	Planting Mix II Spartina bakeri / Sand Cordgrass (80%) Cladium jamaicense / Sawgrass (20%)
	PS	Plumbago scandens / Wild Plumbago
	PN	Psychotria nervosa / Wild Coffee
	SR	Serenoa repens / Saw Palmetto
GROUND COVERS	CODE	BOTANICAL / COMMON NAME
	PNO	Phyla nodiflora / Frogfruit
	SPO	Sesuvium portulacastrum / Shoreline Seapurslane
SOD/SEED	CODE	BOTANICAL / COMMON NAME
	PV	Paspalum vaginatum / S.F Certified Supreme Paspalum Sod Solid Sod, must be obtained from a certified supplier.
		EXISTING TREES TO REMAIN

NOTE:
ALL LANDSCAPE MATERIALS SHALL BE FLORIDA
NATIVE, PREFERABLY - EVERGLADES GULF COAST.



A/E FIRM CROFT & ASSOCIATES KENNESAW, GEORGIA	DESIGNED: BW/JH BW TECH REVIEW: BH DATE: 6/22/22	SUB SHEET NO. L303	LOCATION WITHIN PARK GULF COAST VISITOR CENTER TITLE OF SHEET LANDSCAPE PLAN EVERGLADES NATIONAL PARK	DRAWING NO. 160 168516
				PMIS/PKG NO. 244476 SHEET 37 OF 207

Trees



Gumbo Limbo
Bursera simaruba
Native, Florida Friendly



Geiger Tree
Cordia sebestena
Native, Florida Friendly



Wax Myrtle
Myrica cerifera
Native, Florida Friendly



Seagrape Tree
Coccoloba uvifera
Native, Florida Friendly



Yellow Mastic Tree
Sideroxylon foetidissimum
Native, Florida Friendly

Palms



Paurotis Palm
Acoelorrhaphe wrightii
Native, Florida Friendly



Sabal Palm
Sabal palmetto
Native, Florida Friendly

Shrubs and Groundcover



Cocoplum
Chrysobalanus icaco
Native, Florida Friendly



Pink Muhly Grass
Muhlenbergia capillaris
Native, Florida Friendly



Green Buttonwood
Conocarpus erectus
Native, Florida Friendly



Wild Plumbago
Plumago scandens
Native, Florida Friendly



Spider Lily
Hymenocallis latifolia
Native, Florida Friendly



Seagrapes
Coccoloba uvifera
Native, Florida Friendly



Saw Palmetto
Sereona repens
Native, Florida Friendly



Wild Coffee
Psychotria nervosa
Native, Florida Friendly



Simpson Stopper
Myrcianthes fragrans
Native, Florida Friendly



Frogfruit
Phyla nodiflora
Native, Florida Friendly



Sea Oxeye Daisy
Borrchia frutenscens
Native, Florida Friendly



Seaside Goldenrod
Solidago sempervirens
Native, Florida Friendly



Sawgrass
Cladium jamaicense
Native, Florida Friendly



Cordgrass
Spartina bakeri
Native, Florida Friendly

Sod



Shoreline Seapurslane
Sesuvium portulacastrum
Native, Florida Friendly



Seashore paspalum
Paspalum vaginatum
Native, Florida Friendly

NOTE:
ALL LANDSCAPE MATERIALS SHALL BE FLORIDA NATIVE, PREFERABLY - EVERGLADES GULF COAST.

	A/E FIRM	DESIGNED:	SUB SHEET NO.	LOCATION WITHIN PARK GULF COAST VISITOR CENTER TITLE OF SHEET LANDSCAPE PALETTE EVERGLADES NATIONAL PARK	DRAWING NO. 160 168516
	CROFT & ASSOCIATES	BW/JH			
	KENNESAW, GEORGIA	TECH REVIEW: BH			
		DATE: 6/22/22			
			L306		PMIS/PKG NO. 244476
					SHEET 40 OF 207

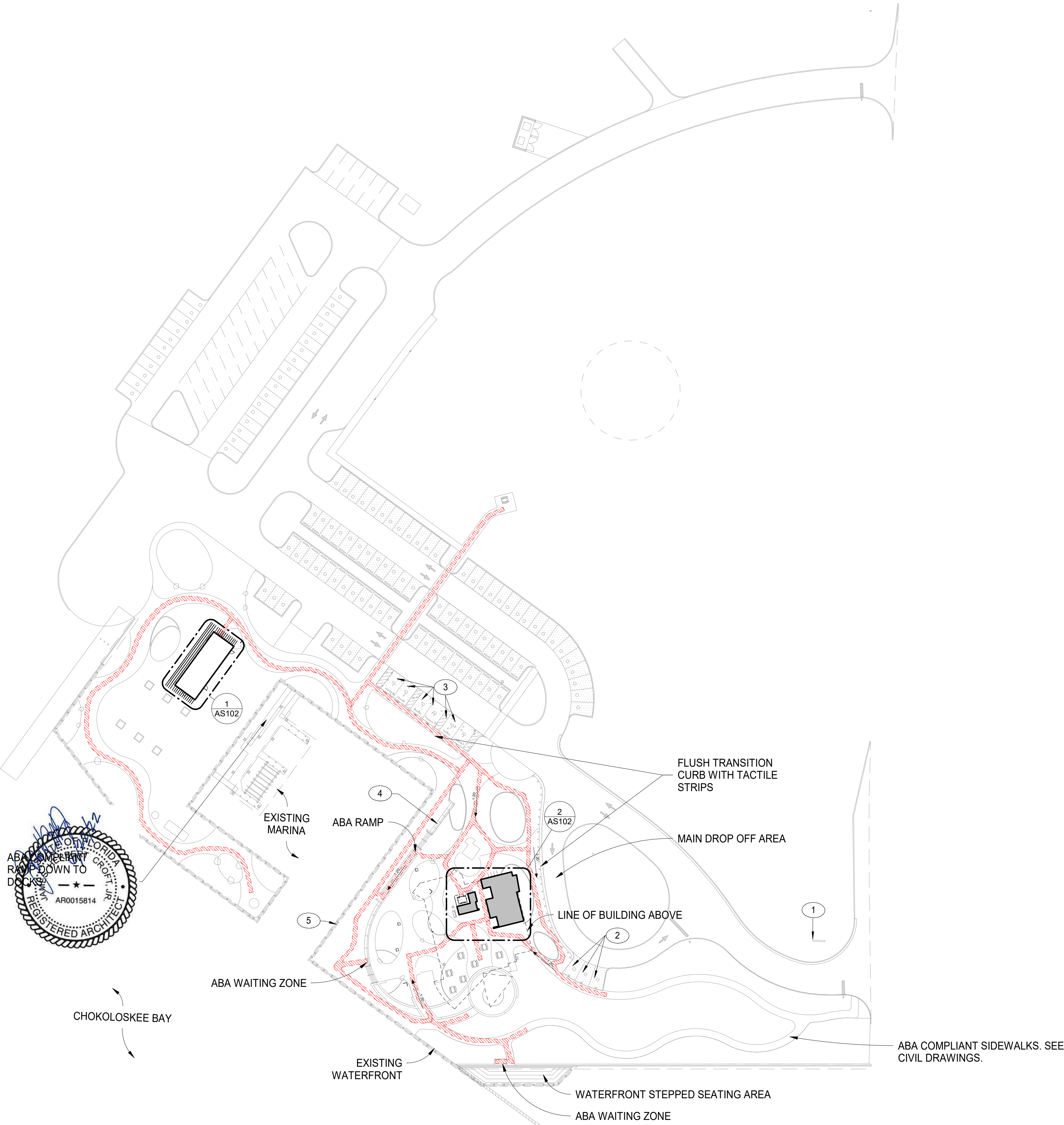
GENERAL NOTES:

A. SEE CIVIL, LANDSCAPE, AND COASTAL DRAWINGS FOR FULL SCOPE

LEGEND

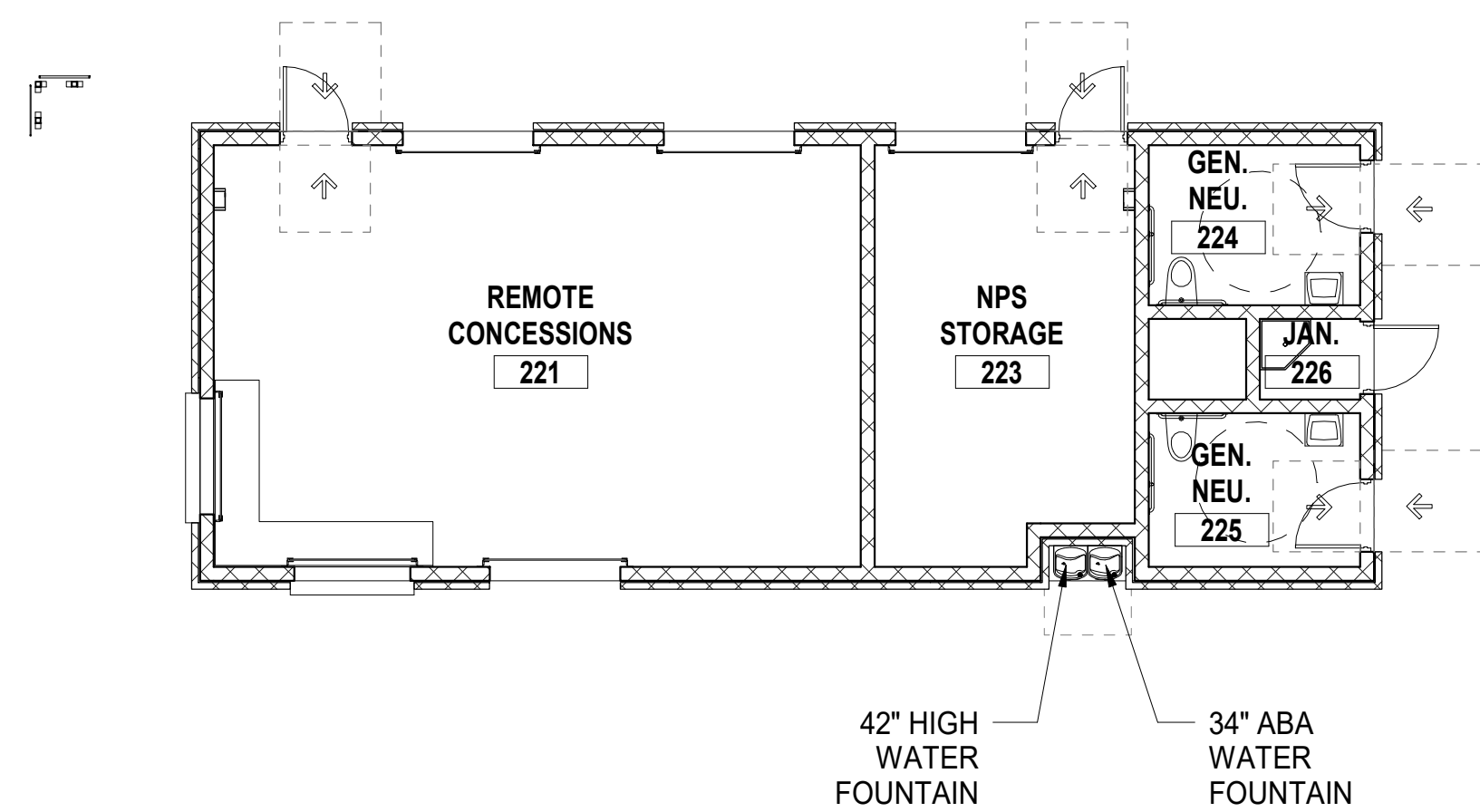
3'-0" ABA PATHWAY

KEYNOTES - SITE PLAN	
SEE MASTER KEY ON G102 FOR COMPLETE LIST	
TAG #	TAG DESCRIPTION
1	ENTRY / WELCOME SIGN. SEE CIVIL DRAWINGS.
2	"AUTHORIZED PERSONNEL ONLY" PARKING SPACES WITH (3) SIGNAGE. SEE CIVIL DRAWINGS.
3	ACCESSIBLE PARKING SPACES (7). SEE CIVIL DRAWINGS.
4	LANDSCAPED AREA. SEE LANDSCAPE DRAWINGS.
5	BULKHEAD REPLACEMENT. SEE COASTAL DRAWINGS.

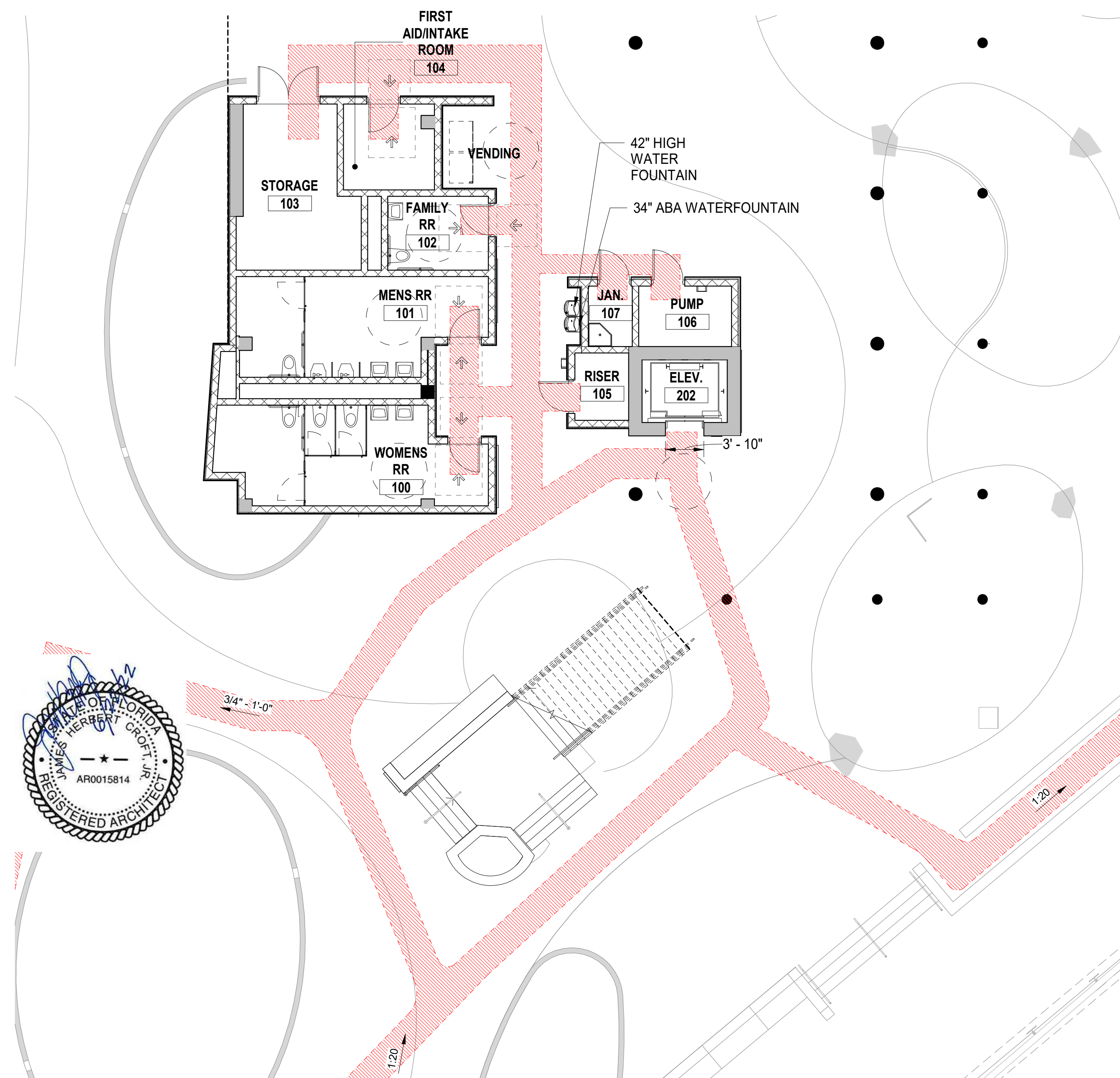


1 ARCHITECTURAL ACCESSIBILITY SITE PLAN

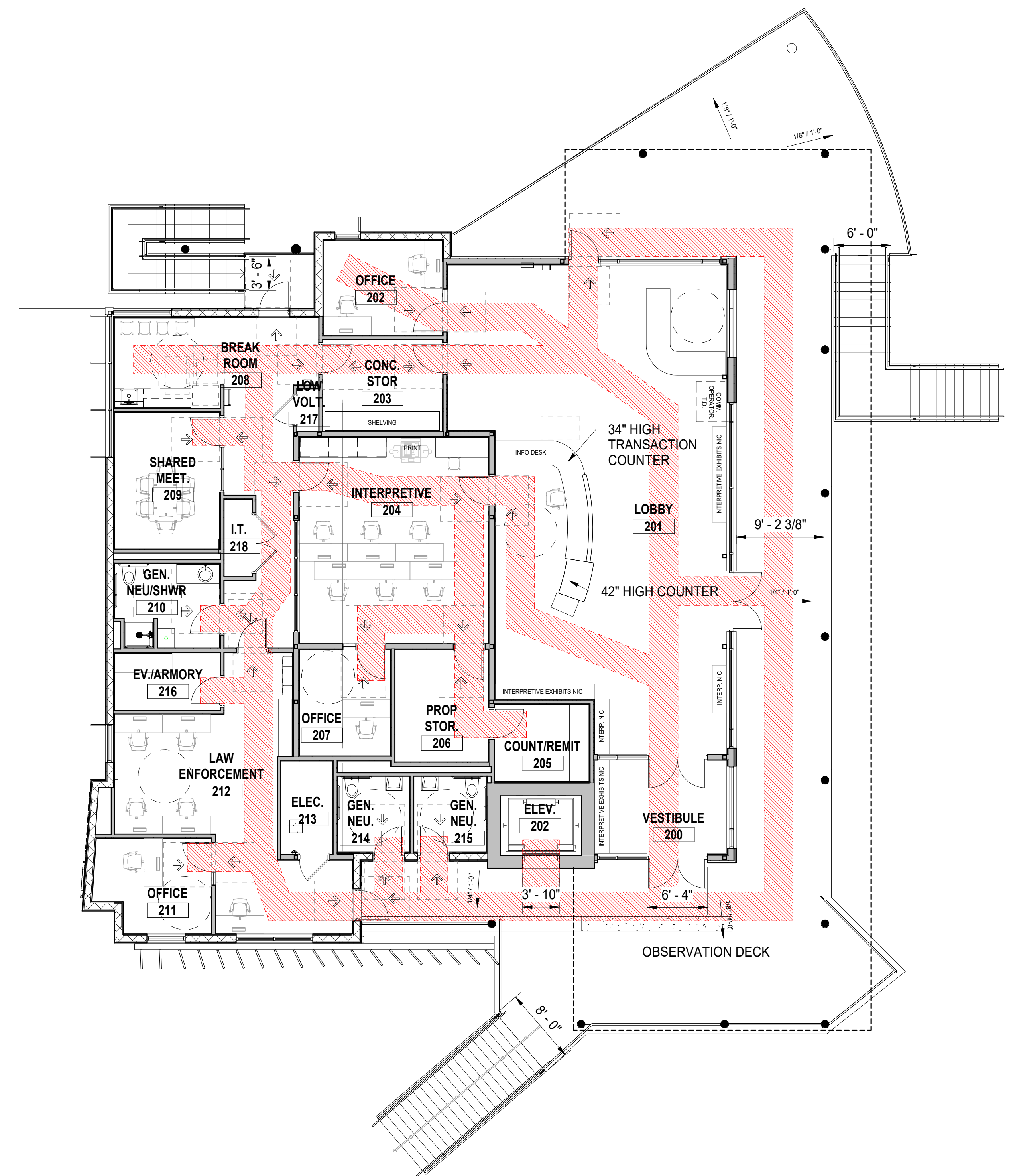
A/E FIRM CROFT & ASSOCIATES KENNESAW, GEORGIA	DESIGNED: D.ESTERLINE	SUB SHEET NO. AS101	LOCATION WITHIN PARK GULF COAST VISITOR CENTER	DRAWING NO. 160
	TECH REVIEW: D.ESTERLINE		TITLE OF SHEET ACCESSIBILITY SITE PLAN	PMIS/PKG NO. 244476
	DATE: 6/22/22		EVERGLADES NATIONAL PARK	SHEET 43 OF 205



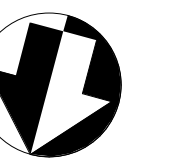
1 REMOTE CONCESSIONS ACCESSIBILITY PLAN
AS102



2 LEVEL 01 - VISITOR CENTER ACCESSIBILITY PLAN
AS102



3 LEVEL 02 - VISITOR CENTER ACCESSIBILITY PLAN
AS102



A/E FIRM CROFT & ASSOCIATES KENNESAW, GEORGIA	DESIGNED:	SUB SHEET NO. <div style="font-size: 48pt; font-weight: bold;">AS102</div>	LOCATION WITHIN PARK GULF COAST VISITOR CENTER TITLE OF SHEET <div style="font-size: 24pt; font-weight: bold;">ACCESSIBILITY BUILDING PLAN</div> EVERGLADES NATIONAL PARK	DRAWING NO. <div style="font-size: 24pt; font-weight: bold;">160</div> <div style="font-size: 24pt; font-weight: bold;">168516</div>
	D. ESTERLINE			PMIS/PKG NO. <div style="font-size: 24pt; font-weight: bold;">244476</div>
	CAAD M. LAROSA			SHEET <div style="font-size: 24pt; font-weight: bold;">44</div> OF <div style="font-size: 24pt; font-weight: bold;">205</div>
	TECH REVIEW: D. ESTERLINE DATE: 6/22/22			



1 MAIN ENTRY
A901



3 NORTH ELEVATION
A901



2 SOUTHEAST ELEVATION
A901



4 REMOTE CONCESSIONS
A901

*IMAGES FOR REPRESENTATION ONLY, REFER TO DRAWINGS & DETAILS FOR CONSTRUCTION



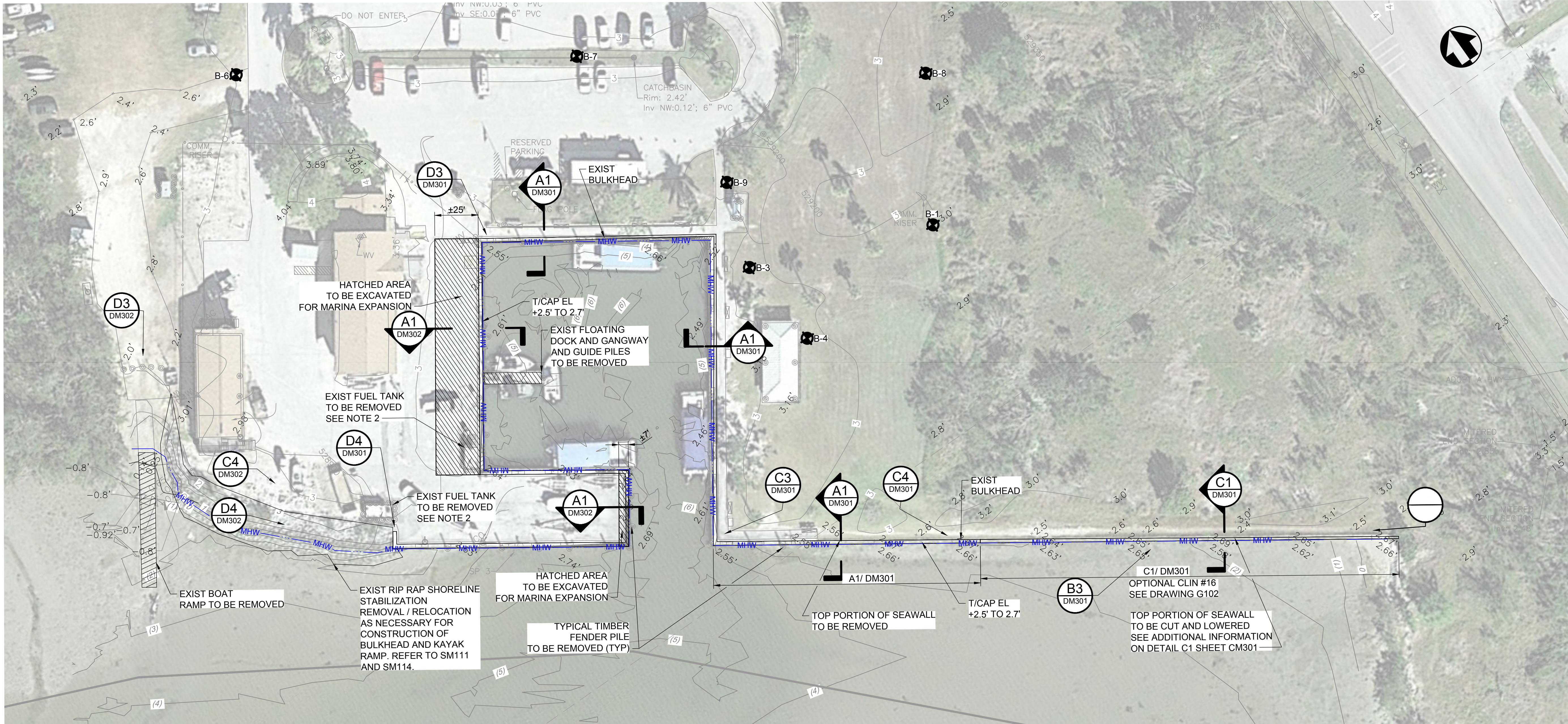
A/E FIRM
CROFT & ASSOCIATES
KENNESAW, GEORGIA

DESIGNED:
D. ESTERLINE
M. LAROSA
TECH REVIEW:
D. ESTERLINE
DATE:
6/22/22

SUB SHEET NO.
A901

LOCATION WITHIN PARK
GULF COAST VISITOR CENTER
TITLE OF SHEET
PERSPECTIVES
EVERGLADES NATIONAL PARK

DRAWING NO.
160
168516
PMIS/PKG NO.
244476
SHEET
79 OF **207**



A1
DM101

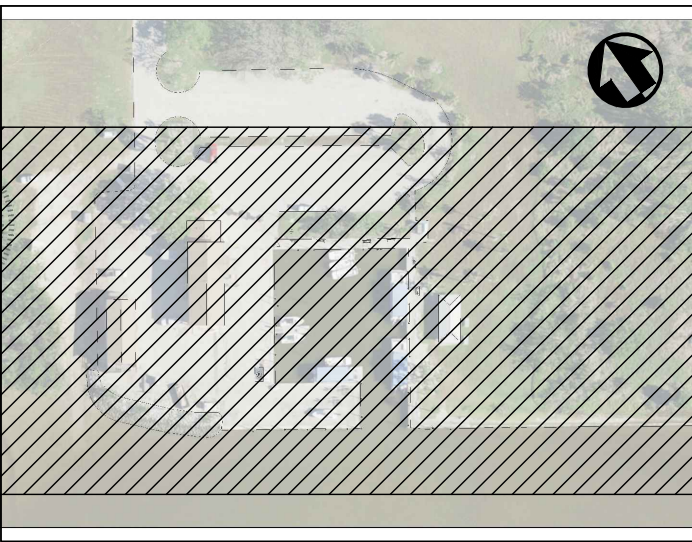
OVERALL DEMOLITION PLAN
SCALE: 1" = 30'

QUANTITIES	
EXIST BULKHEAD TO BE DEMOLISHED	1054 LF ±
EXCAVATION FOR BASIN EXPANSION	3367 SF (1260 CU YD)
FLOATING DOCK	180 SF ±
GANGWAY	32 SF ±
TIMBER PILES	26 ±
BOAT RAMP	950 SF ±

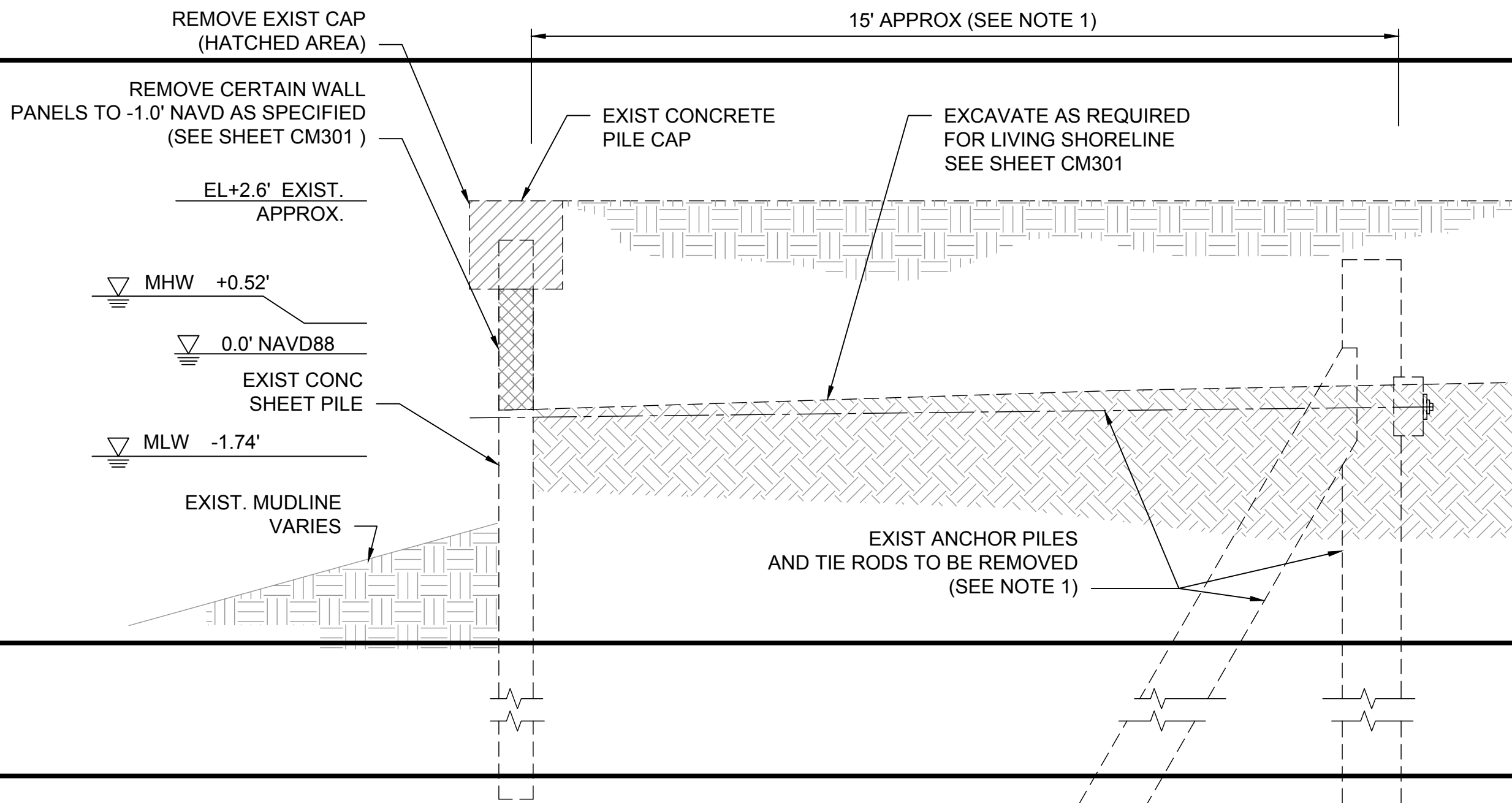
LEGEND	
	BATHYMETRIC CONTOUR
	MEAN HIGH WATER LINE
	EXISTING BULKHEAD
	APPROX LOCATION OF SPT BORING
	EXISTING TOPO EL
	EXCAVATION FOR BASIN EXPANSION

NOTES

- THIS PLAN REPRESENTS DEMOLITION OF WATERFRONT ELEMENTS ONLY. REFER TO SITE DEMOLITION PLANS FOR UPLAND DEMOLITION AND COORDINATE ACCORDINGLY.
- REFER TO FUEL DRAWINGS FOR EQUIPMENT AND UTILITIES DEMOLITION AND COORDINATE WORK ACCORDINGLY.



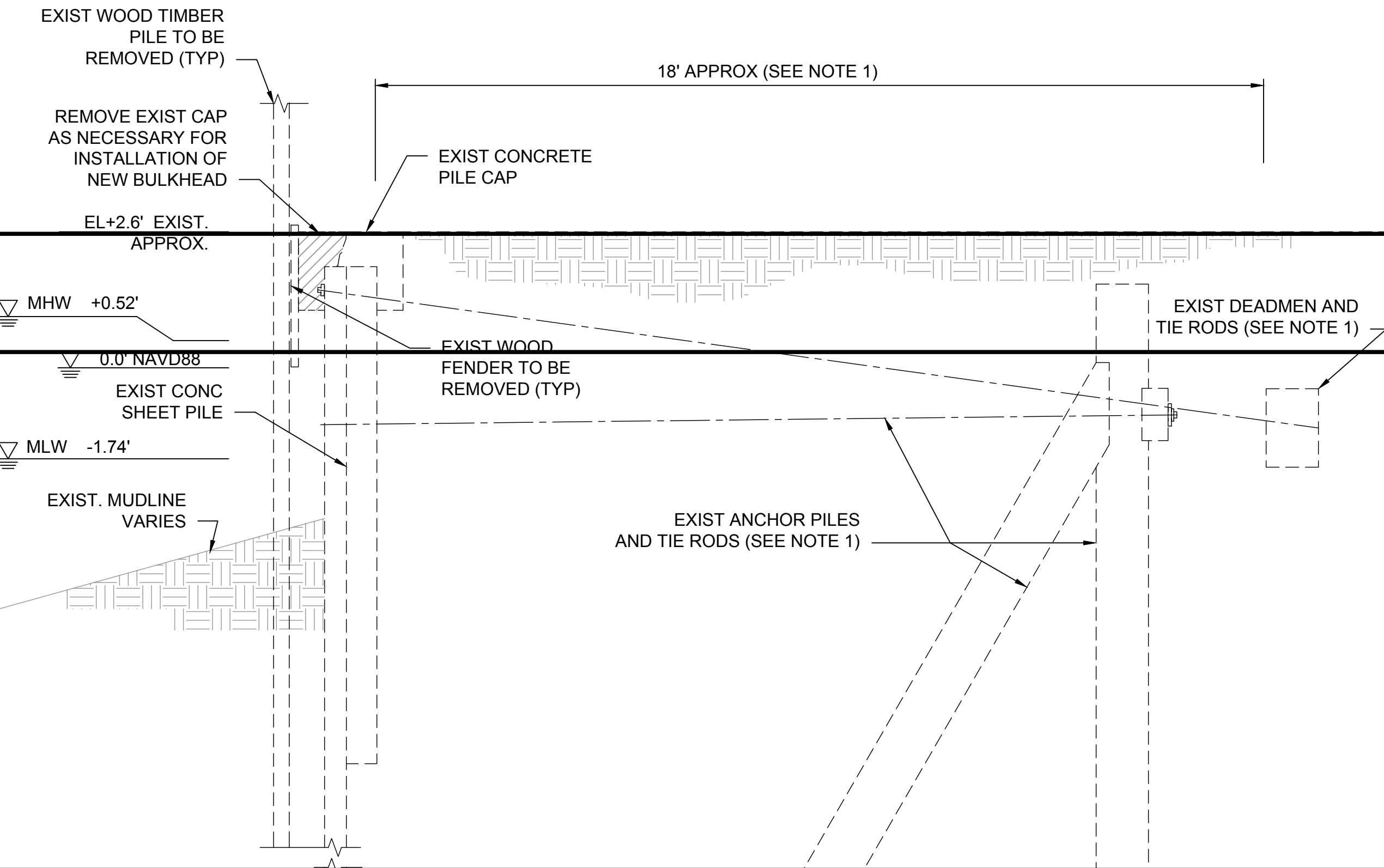
A/E FIRM CROFT & ASSOCIATES MOFFATT & NICHOL MIAMI, FLORIDA	DESIGNED: LRB 	SUB SHEET NO.
	RAW TECH REVIEW: GWS	DM101
	DATE: 11/29/2022	



D3 PHOTO - MARINA
DM101 SCALE: NTS

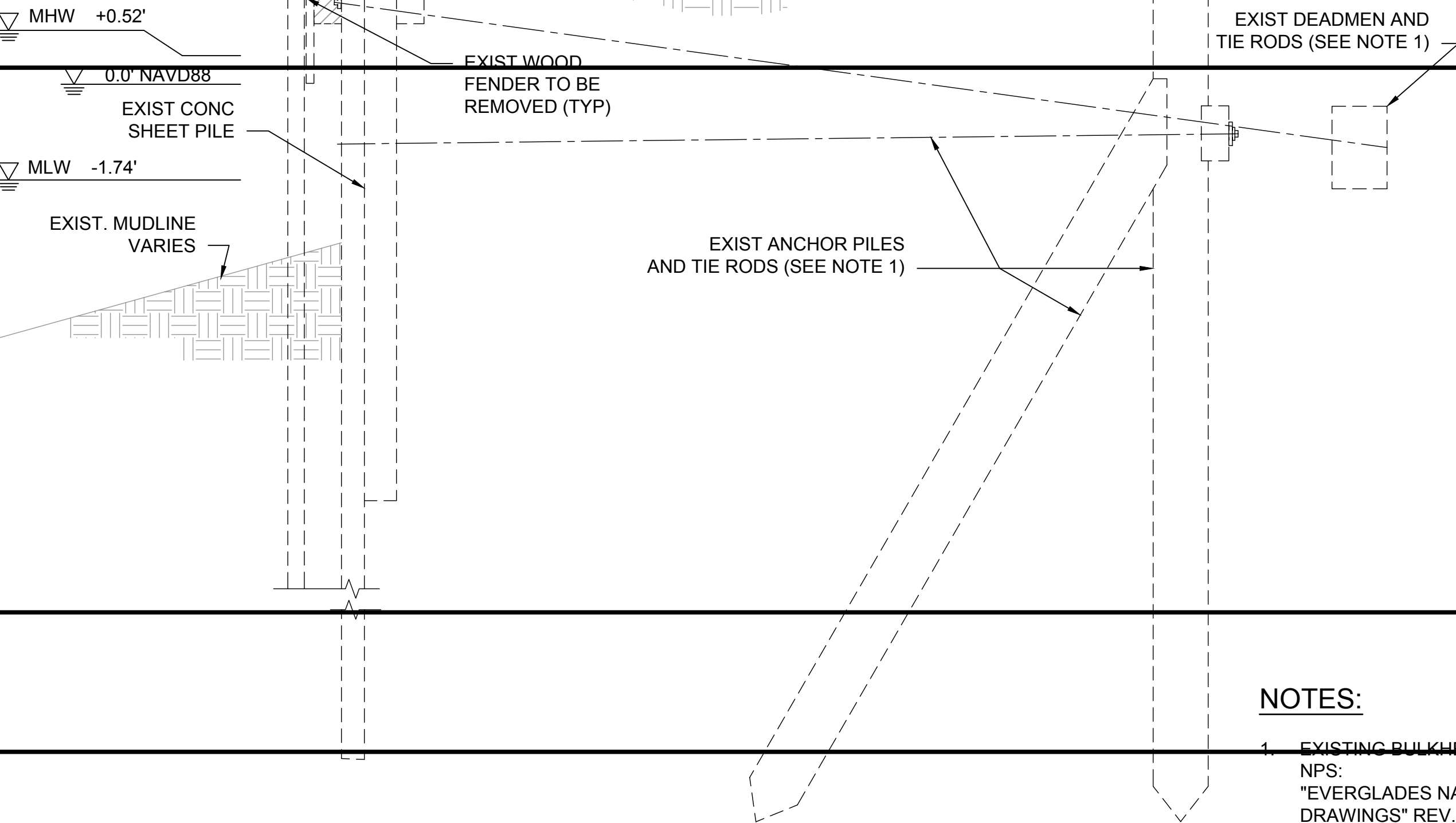
D4 PHOTO - BULKHEAD WEST SIDE
DM101 SCALE: NTS

C1 BULKHEAD DEMOLITION SECTION - LIVING SHORELINE
DM101 SCALE: 1/2" = 1'-0"



C3 PHOTO - MARINA ENTRY
DM101 SCALE: NTS

C4 PHOTO - EXISTING BULKHEAD
DM101 SCALE: NTS

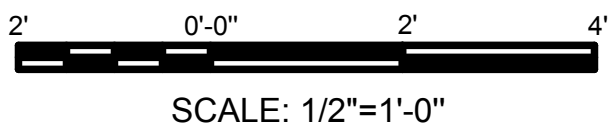


B3 PHOTO - BULKHEAD FROM WATERSIDE
DM101 SCALE: NTS

B4 PHOTO - BULKHEAD EAST END
DM101 SCALE: NTS

NOTES:

1. EXISTING BULKHEAD SYSTEM BASED THE FOLLOWING RECORD DRAWINGS PROVIDED BY NPS:
"EVERGLADES NATIONAL PARK GULF COAST DREDGING AND BULKHEAD - AS BUILT DRAWINGS" REV. DATE 4-18-62.
"NATIONAL PARK SERVICE EVERGLADES CITY MARINA - AS-BUILDS" BY URS DATED 12/12/06



SCALE: 1/2"=1'-0"

A1 BULKHEAD DEMOLITION SECTION - TYPICAL
DM101 SCALE: 1/2" = 1'-0"

A/E FIRM
CROFT & ASSOCIATES

MOFFATT & NICHOL
MIAMI,
FLORIDA

DESIGNED:
LRB
CHECKED:
RAW
TECH REVIEW:
GWS
DATE:
6/22/2022

SUB SHEET NO.

DM301

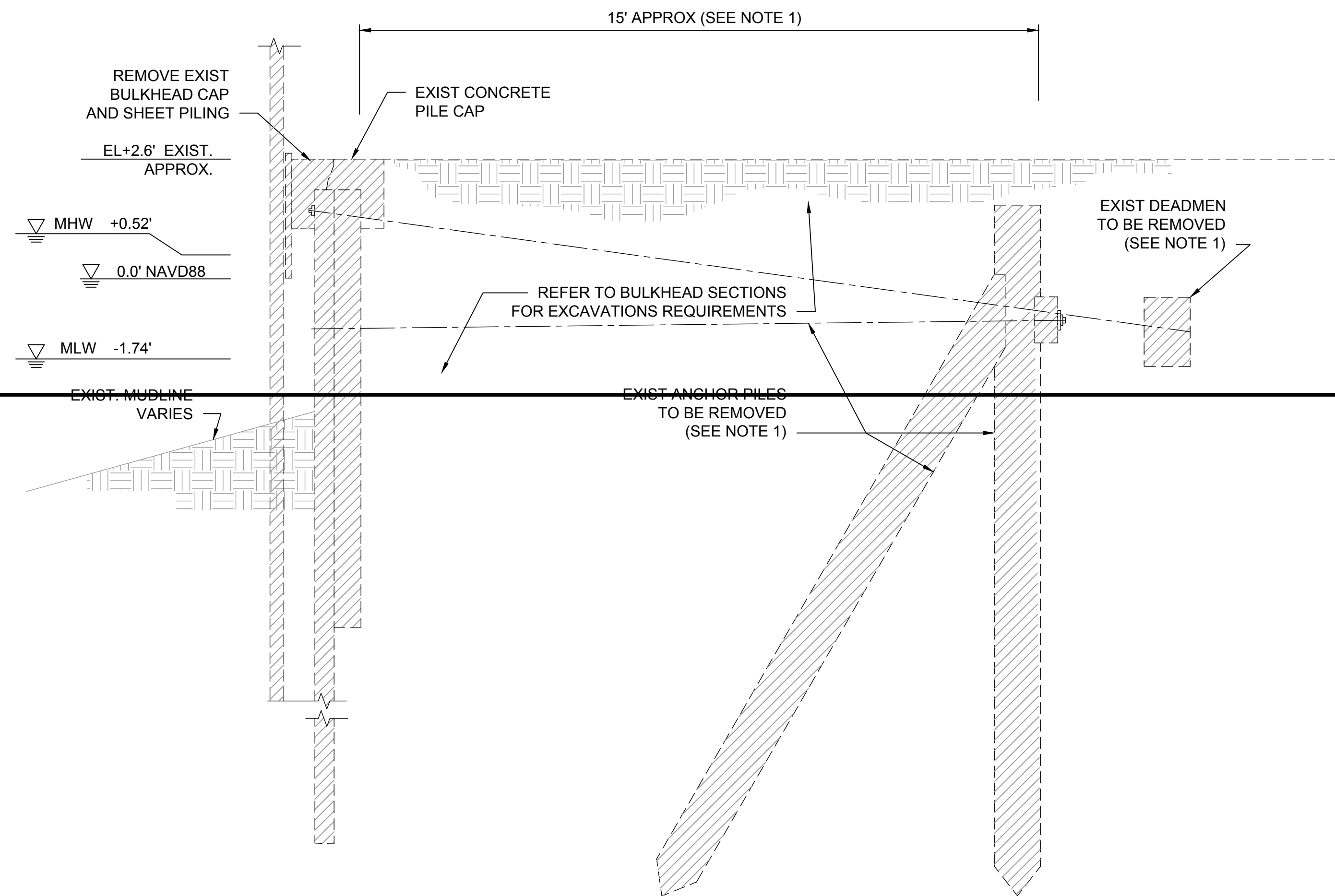


D3
DM101

PHOTO - EXISTING BOAT RAMP
SCALE: NTS



D4
DM101



C4
DM101

A1
DM101

BULKHEAD DEMOLITION SECTION- AT EXPANSION
SCALE: 1/2" = 1'-0"

NOTES:

1. EXISTING BULKHEAD SYSTEM BASED THE FOLLOWING RECORD DRAWINGS PROVIDED BY NPS:
"EVERGLADES NATIONAL PARK GULF COAST DREDGING AND BULKHEAD - AS BUILT DRAWINGS"
REV. DATE 4-18-62.
"NATIONAL PARK SERVICE EVERGLADES CITY MARINA - AS-BUILDS" BY URS DATED 12/12/06.
2. REMOVAL AS SHOWN MAY VARY AS NECESSARY FOR INSTALLATION AND COMPLETION OF
BULKHEAD AND/OR TIE-BACK SYSTEM.

A/E FIRM
**CROFT &
ASSOCIATES**

**MOFFATT &
NICHOL**
MIAMI,
FLORIDA

DESIGNED:
LRB

RAW

TECH REVIEW:
GWS

DATE:
6/22/2022

SUB SHEET NO.

DM302

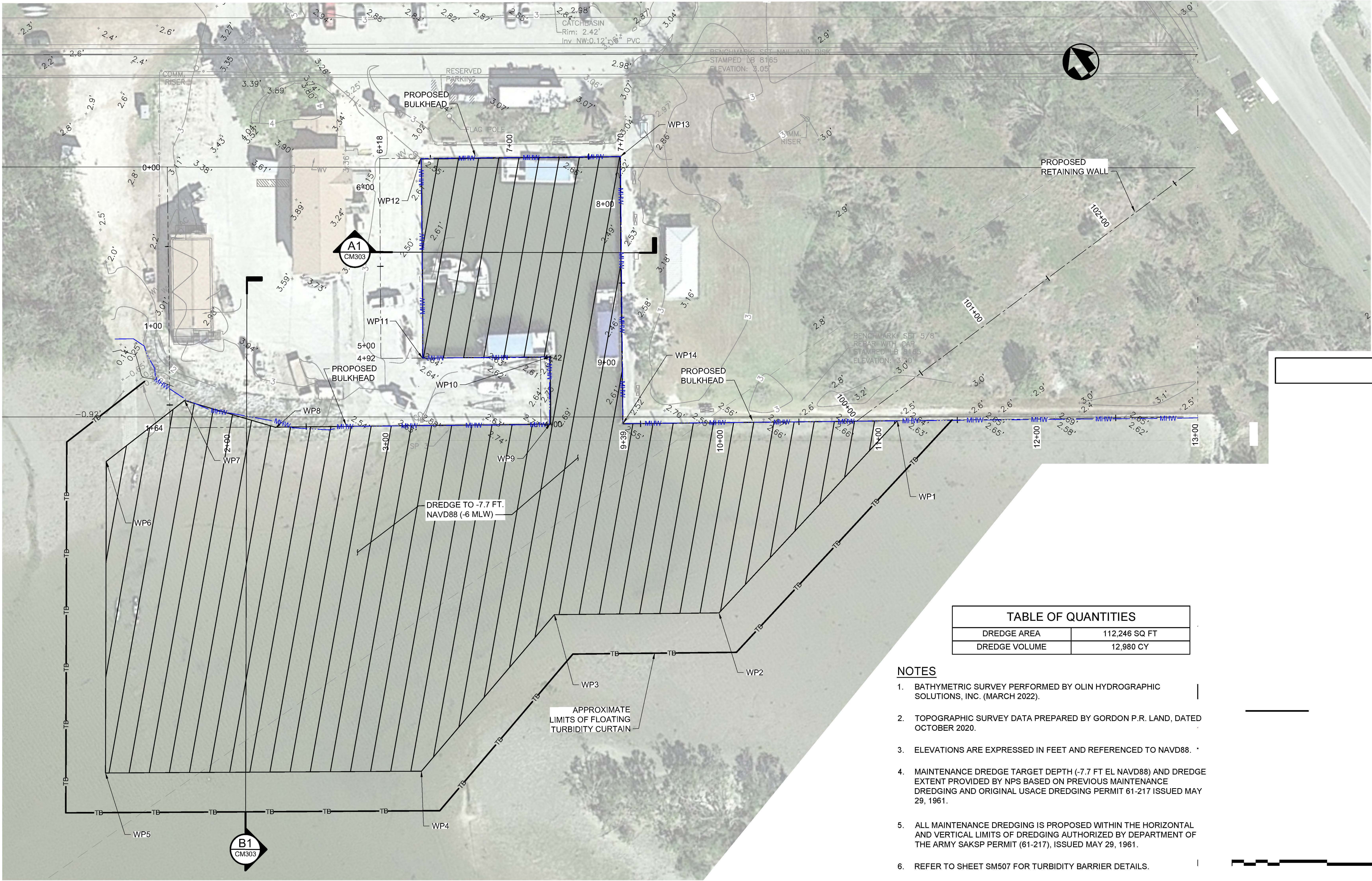


TABLE OF QUANTITIES	
DREDGE AREA	112,246 SQ FT
DREDGE VOLUME	12,980 CY

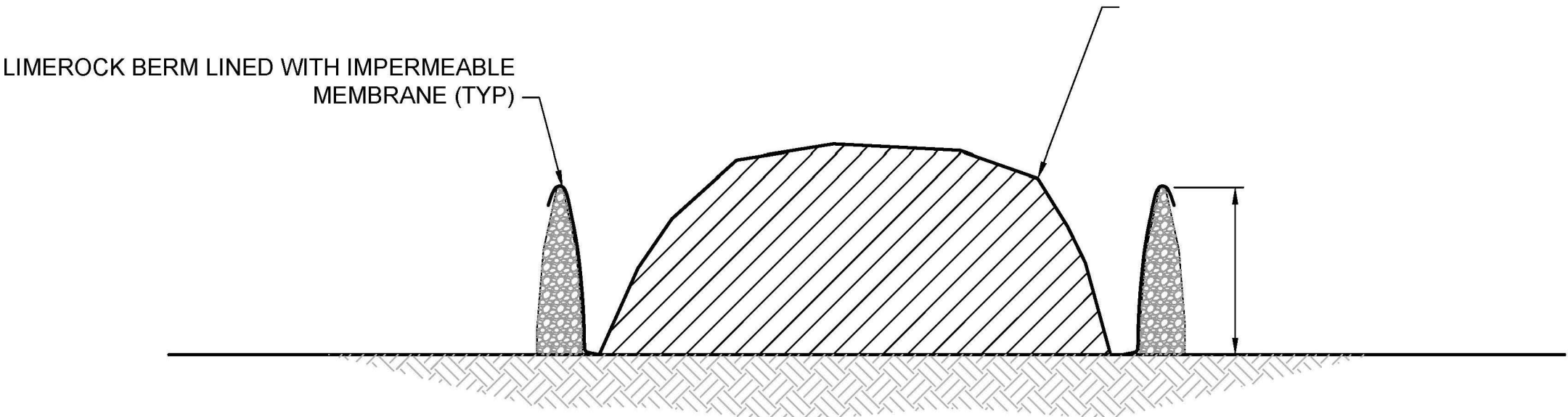
- NOTES
- BATHYMETRIC SURVEY PERFORMED BY OLIN HYDROGRAPHIC SOLUTIONS, INC. (MARCH 2022).
 - TOPOGRAPHIC SURVEY DATA PREPARED BY GORDON P.R. LAND, DATED OCTOBER 2020.
 - ELEVATIONS ARE EXPRESSED IN FEET AND REFERENCED TO NAVD88.
 - MAINTENANCE DREDGE TARGET DEPTH (-7.7 FT EL NAVD88) AND DREDGE EXTENT PROVIDED BY NPS BASED ON PREVIOUS MAINTENANCE DREDGING AND ORIGINAL USACE DREDGING PERMIT 61-217 ISSUED MAY 29, 1961.
 - ALL MAINTENANCE DREDGING IS PROPOSED WITHIN THE HORIZONTAL AND VERTICAL LIMITS OF DREDGING AUTHORIZED BY DEPARTMENT OF THE ARMY SAKSP PERMIT (61-217), ISSUED MAY 29, 1961.
 - REFER TO SHEET SM507 FOR TURBIDITY BARRIER DETAILS.



NOTES

- BATHYMETRIC SURVEY PERFORMED BY OLIN HYDROGRAPHIC SOLUTIONS, INC. (MARCH 2022).
- TOPOGRAPHIC SURVEY DATA PREPARED BY GORDON P.R. LAND, DATED OCTOBER 2020.
- ELEVATIONS ARE EXPRESSED IN FEET AND REFERENCED TO NAVD88.
- ALL PLACEMENT OF DREDGED MATERIAL IS ASSUMED TO BE PLACED IN THE ADJACENT UPLAND AREA. DREDGE PLACEMENT SHALL BE COORDINATED WITH CIVIL AND LANDSCAPE DESIGN.
- LOCATION AND DIMENSIONS OF CONTAINMENT AREA ARE APPROXIMATE BASED ON AVAILABLE AREA AND EXPECTED PRODUCTION RATES. CONTRACTOR TO ESTABLISH FINAL CONFIGURATION OF THE CONTAINMENT AREA ON-SITE BASED ON UPLAND AVAILABILITY AND DREDGING RATES. CONTRACTOR TO CONFIRM THE FINAL EXTENT OF THE CONTAINMENT AREA WITH THE CONTRACTING OFFICE.
- CONTAINMENT AREA SHALL BE ENCLOSED BY LIMEROCK BERM OR SILT FENCES, HAY BALES OR GEOTEXTILE SOCKS TO PREVENT SEDIMENT RUNOFF AND COMPLY WITH PERMIT REQUIREMENTS AND WATER QUALITY STANDARDS.

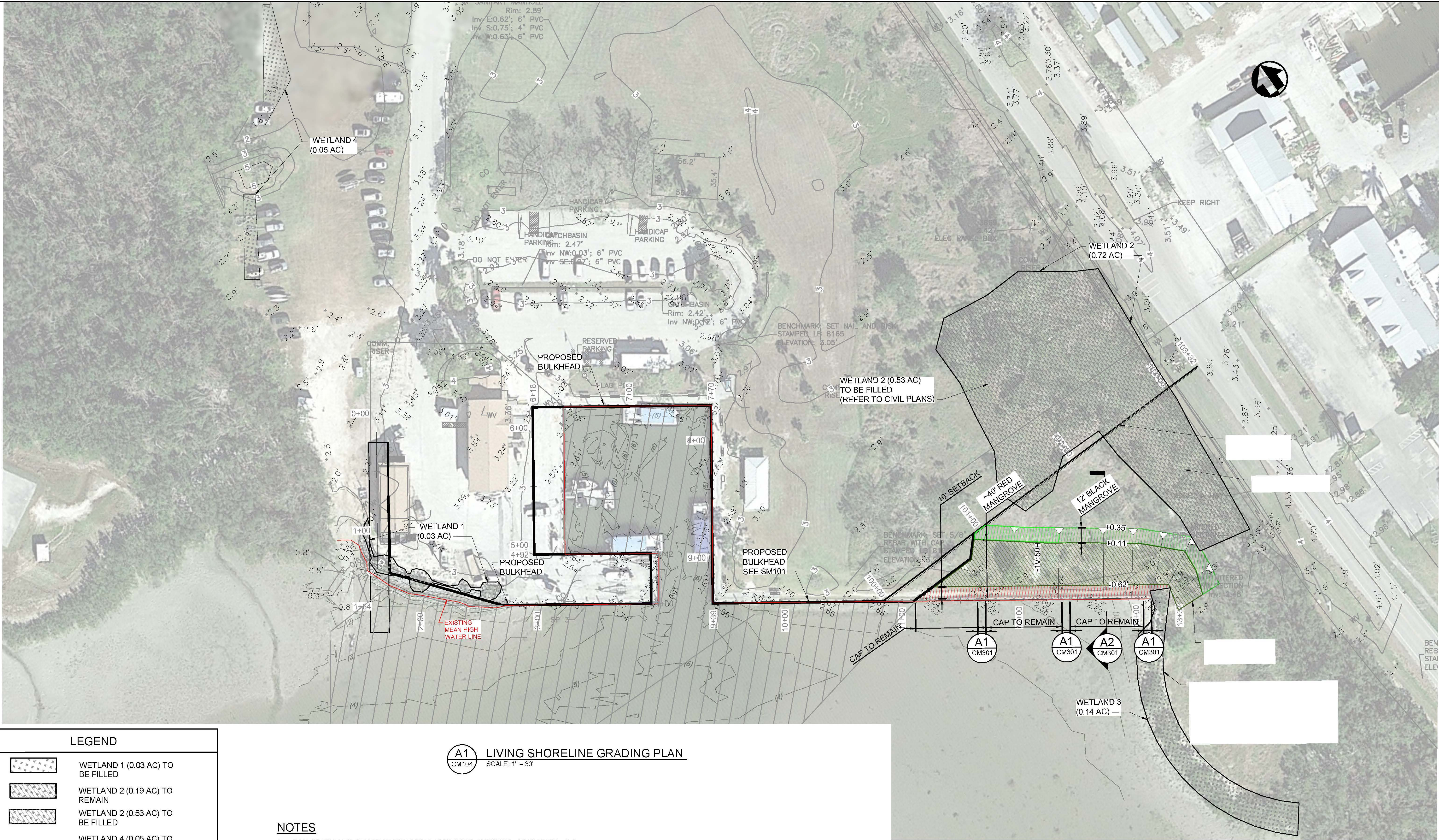
LEGEND	
	SPOILS LOCATION (29102 SF - 0.67 ACRES ±)



C3 CM103 DREDGED MATERIAL HANDLING SECTION
SCALE: NTS



A/E FIRM CROFT & ASSOCIATES MOFFATT & NICHOL MIAMI, FLORIDA	DESIGNED: JMB BY RAW	SUB SHEET NO.	CM103	207
	TECH REVIEW: TKB			
	DATE: 6/22/2022			



LEGEND

- WETLAND 1 (0.03 AC) TO BE FILLED
- WETLAND 2 (0.19 AC) TO REMAIN
- WETLAND 2 (0.53 AC) TO BE FILLED
- WETLAND 4 (0.05 AC) TO BE FILLED
- SHALLOW EURYHALINE HABITAT RESTORATION AREA ELEVATION RANGE: (-1.0' ~ -0.62')
- RED MANGROVE ELEVATION RANGE: (-0.62' ~ +0.18')
- BLACK MANGROVE ELEVATION RANGE: (+0.18' ~ +0.35')
- DIRECTION OF SLOPE
- MEAN HIGH WATER LINE

A1 LIVING SHORELINE GRADING PLAN
SCALE: 1" = 30'

NOTES

- MANGROVE TO GROW BETWEEN ELEVATIONS -0.62(MSL +3' SLR) TO +3.4 (MHW + 3' SLR) FT NAVD88
- ASSUMES TOTAL MANGROVE WIDTH = 52'
- SEAWARD 40 FT: RED MANGROVES ZIGZAGGED @1.5' SPACING
- UPLAND 10 FT: BLACK MANGROVES @ 3' SPACING
- ASSUMES 10' SETBACK FROM EXISTING SEAWALL TO ALLOW FOR FUTURE ARMORING, TEMPORARY STRUCTURAL SUPPORT, ETC.

WETLANDS QUANTITIES

NET AREA (SF - AC)	EXISTING	TO BE REMOVED
WETLAND 1	1155 SF - 0.03 AC	1155 SF - 0.03 AC
WETLAND 2	0.72 AC	0.53 AC
WETLAND 3	0.14 AC	0
WETLAND 4	0.05AC	0

A/E FIRM
CROFT & ASSOCIATES

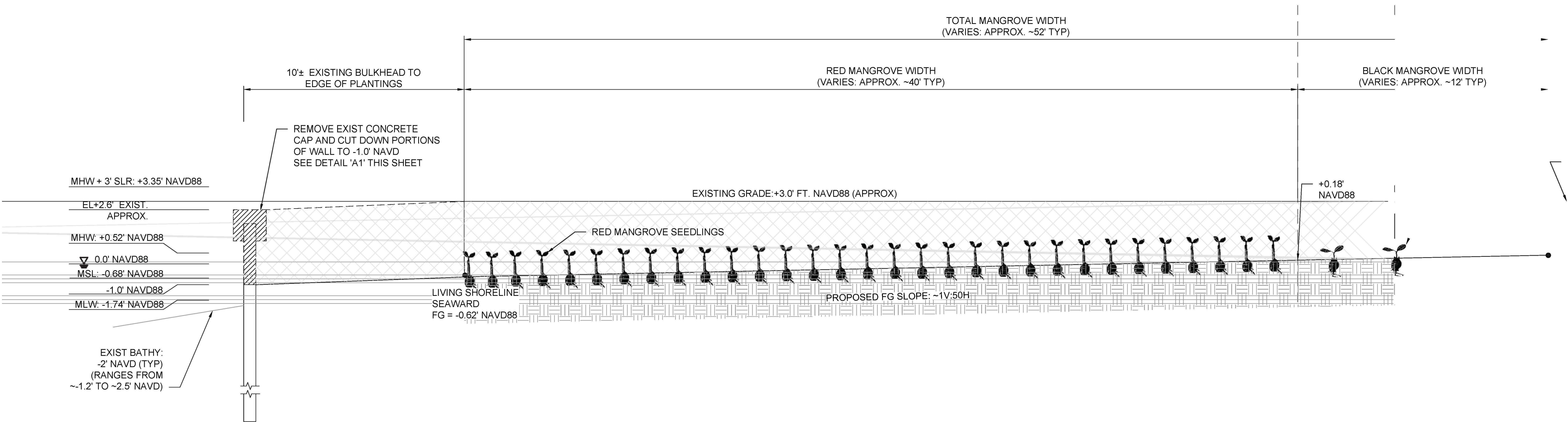
MOFFATT & NICHOL
MIAMI, FLORIDA

DESIGNED:
MB

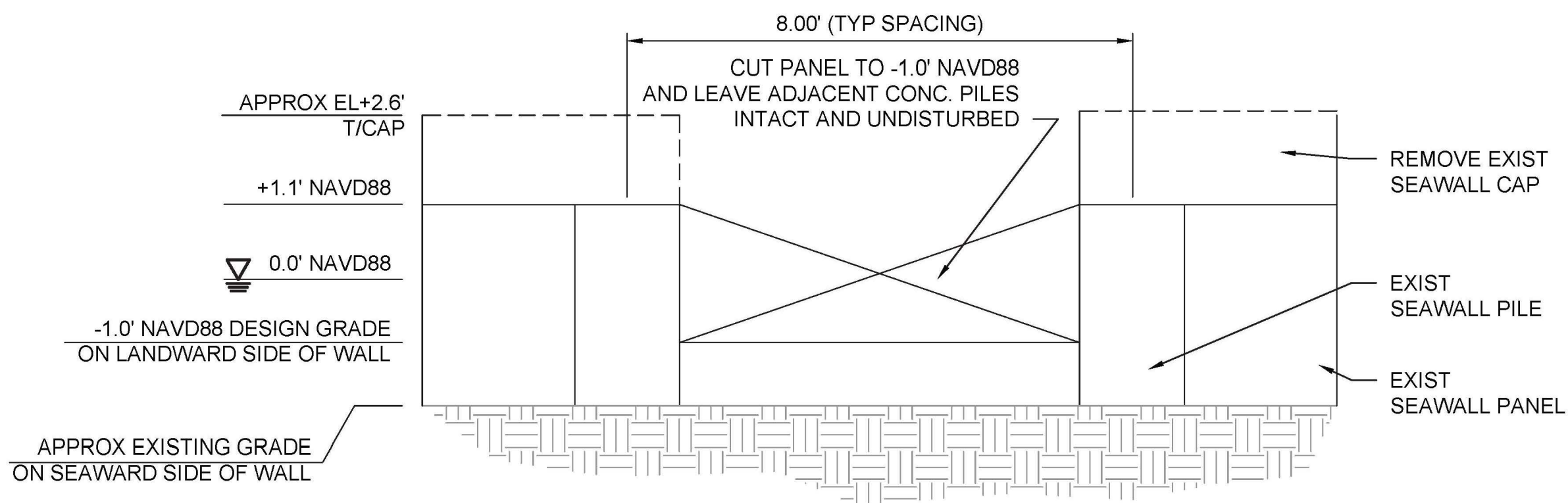
RAW
TECH REVIEW:
PS
DATE:
11/29/2022

SUB SHEET NO.

CM104

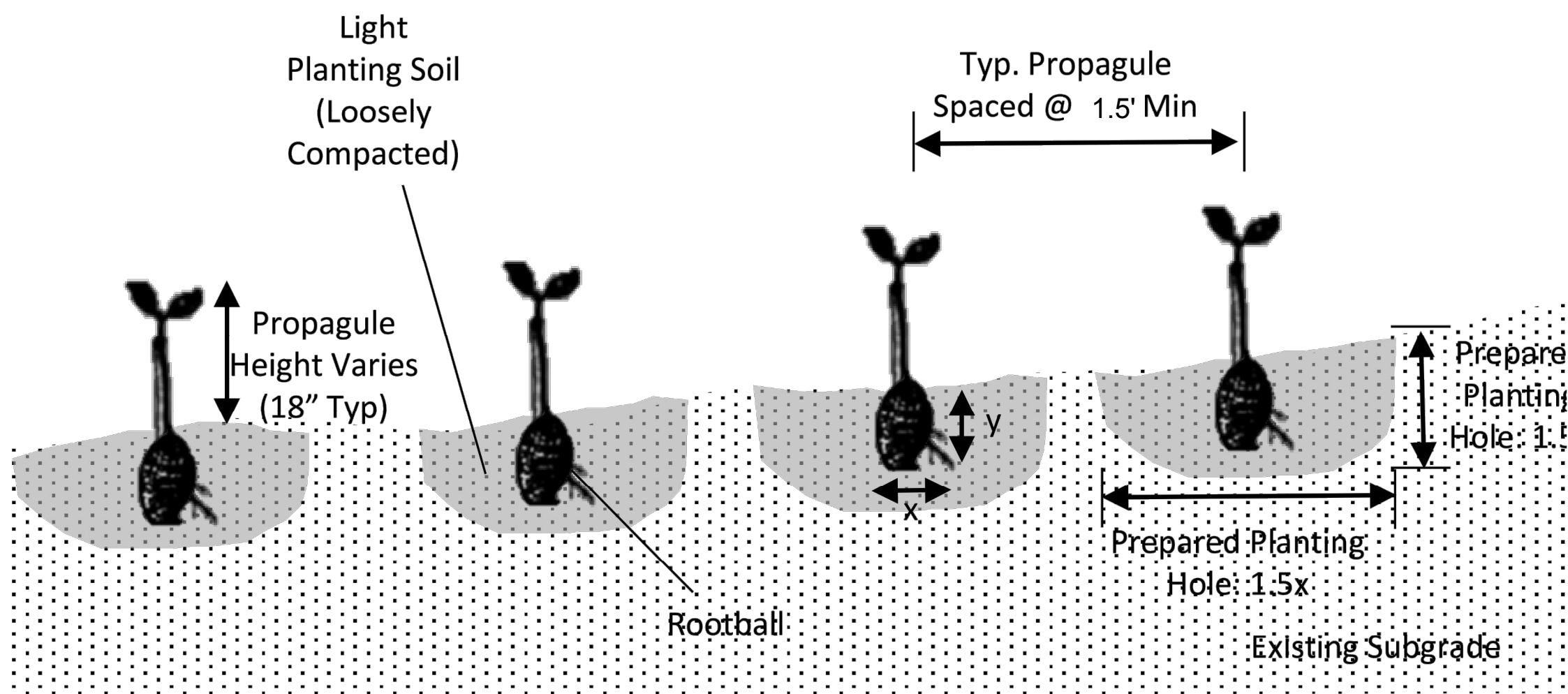


A2 PROPOSED CROSS-SECTION
CM104 SCALE: 3/8" = 1'-0"

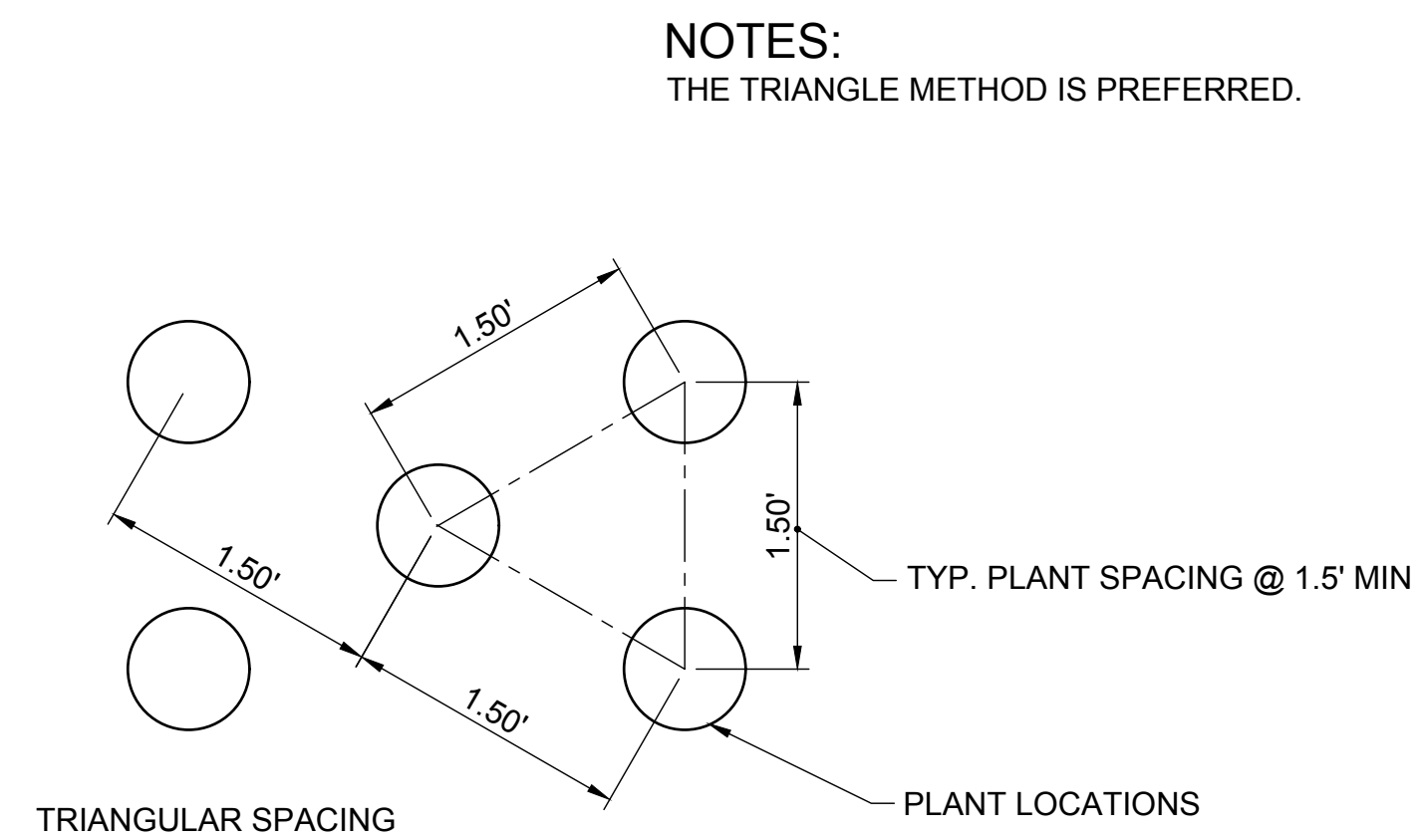


A1 FLUSHING OPENING DETAIL - ELEVATION VIEW
CM104 SCALE: 1/2" = 1'-0"

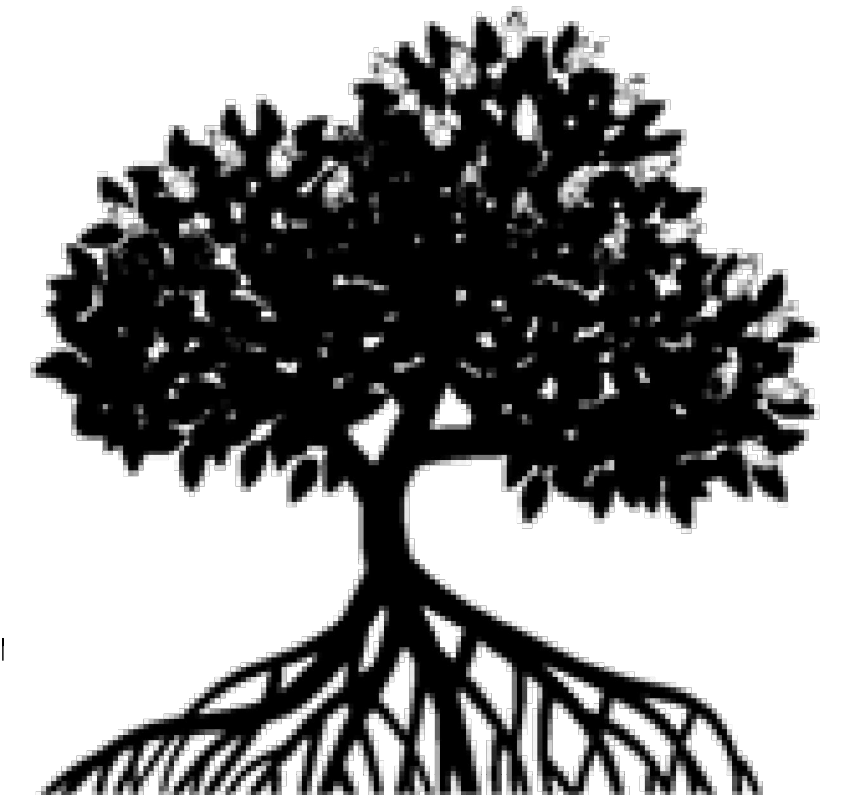
A/E FIRM CROFT & ASSOCIATES MOFFATT & NICHOL MIAMI, FLORIDA	DESIGNED: MB	SUB SHEET NO. CM301
	RAW	
	TECH REVIEW: PS	
	DATE: 6/22/2022	



1 RED MANGROVE (RHIZOPHORA MANGLE) PLANTING DETAIL
CM302 SCALE: NTS

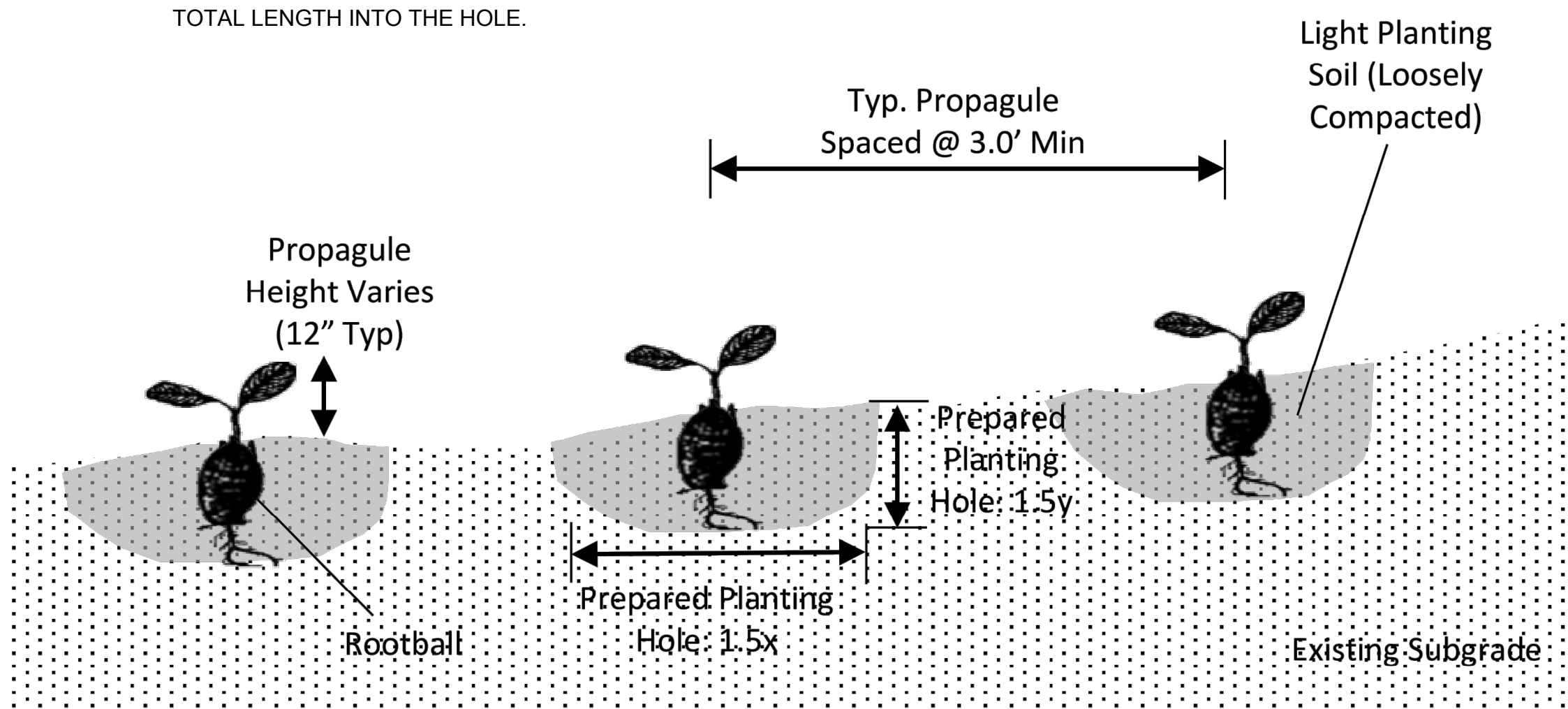


2 RED MANGROVE (RHIZOPHORA MANGLE) GROUNDCOVER SPACING
CM302 SCALE: NTS

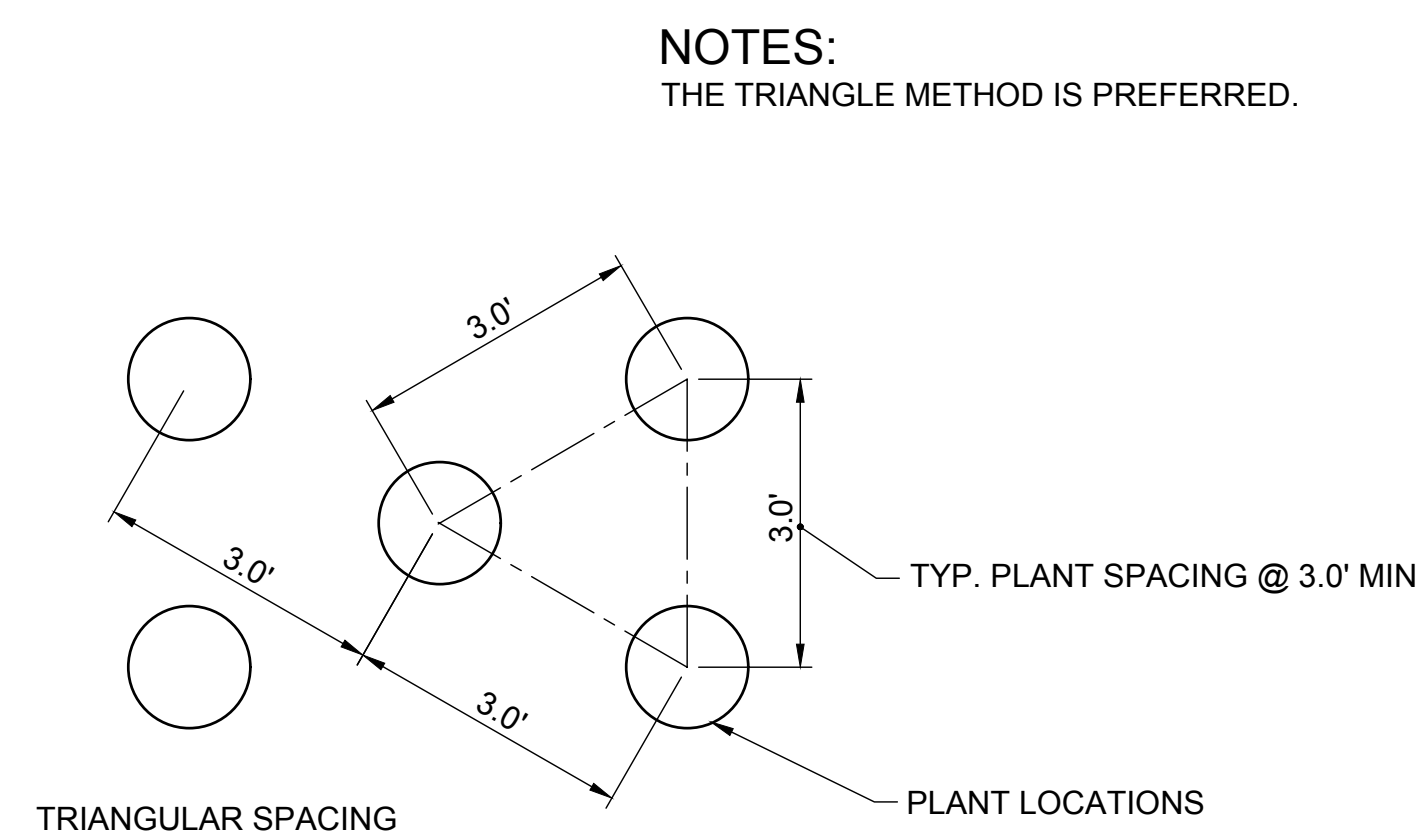


NOTES:

1. PLAN PROPEGULE SUCH THAT 1/3 OF THE TOTAL LENGTH INTO THE HOLE.



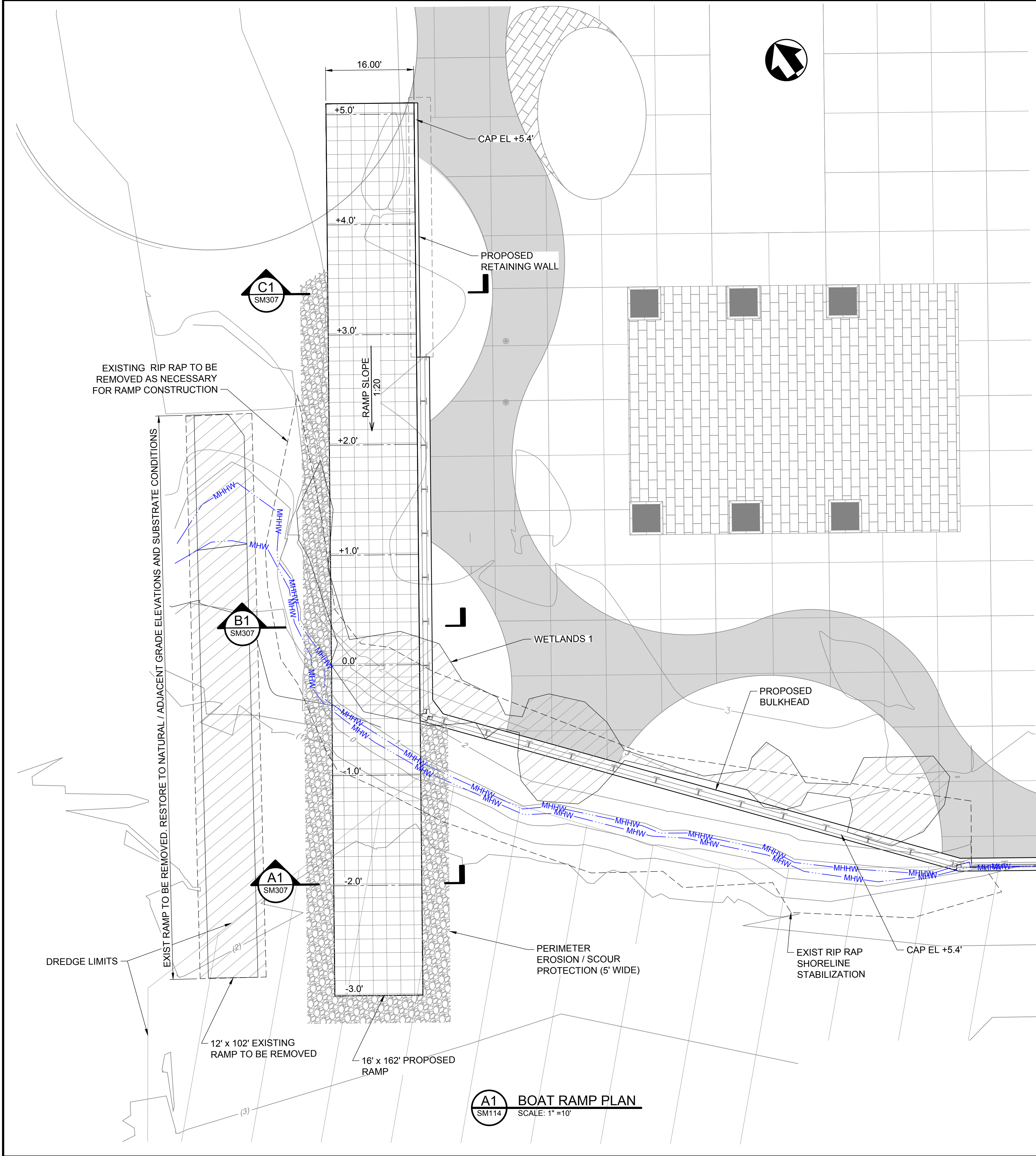
4 BLACK MANGROVE (AVICENNIA GERMINANS) PLANTING DETAIL
CM302 SCALE: NTS



5 BLACK MANGROVE (AVICENNIA GERMINANS) GROUND SPACING
CM302 SCALE: NTS

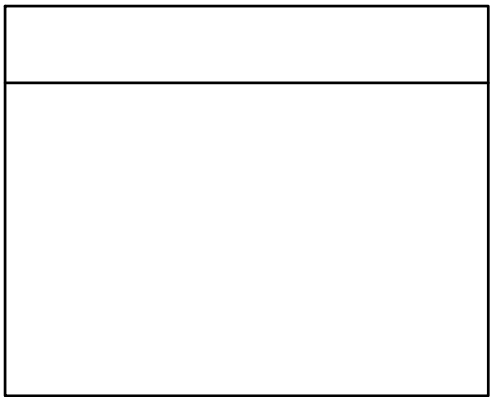
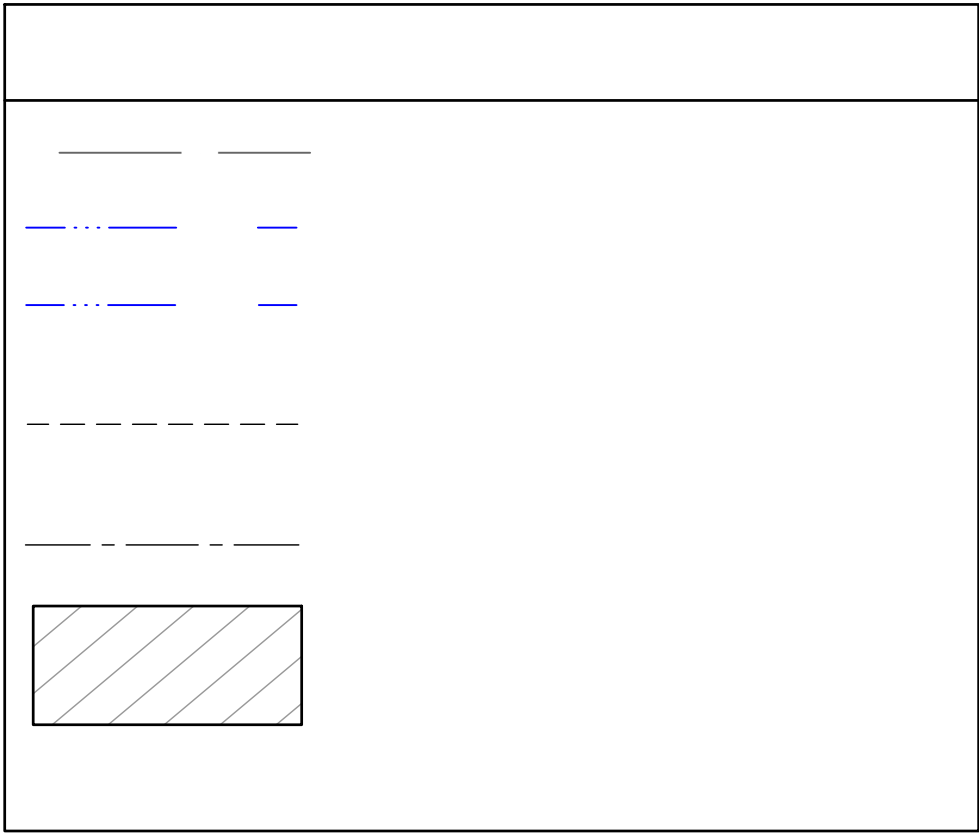


A/E FIRM CROFT & ASSOCIATES MOFFATT & NICHOL MIAMI, FLORIDA	DESIGNED:	SUB SHEET NO.
	MB	CM302
	RAW	
	TECH REVIEW:	
	PS	
	DATE:	
	6/22/2022	



NET AREA (SF)		
ARTIFICIAL SUBSTRATE *		
RIP RAP STABILIZATION (3265 SF EXISTING)		
WETLANDS 1 (1155 SF EXISTING)		
SCOUR PROTECTION		

ALL QUANTITIES ARE ESTIMATED.
* AREAS INDICATED ARE BETWEEN MHW AND -3' MLLW.



A/E FIRM
CROFT & ASSOCIATES

MOFFATT & NICHOL
MIAMI,
FLORIDA

DESIGNED:
LRB

RAW

TECH REVIEW:
GWS

DATE:
6/22/2022

SUB SHEET NO.

SM114

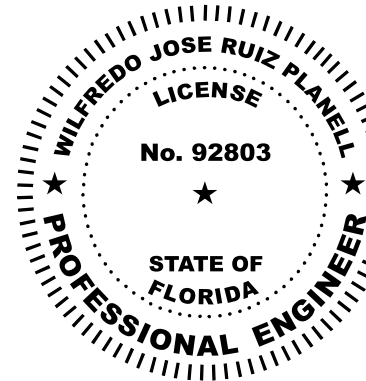
207



A1
FD101

FUEL DEMOLITION PLAN

SCALE: 1" = 10'



A/E FIRM
**CROFT &
ASSOCIATES**

**MOFFATT &
NICHOL**
MIAMI,
FLORIDA

DESIGNED:
RW
RG
TECH REVIEW:
AK
DATE:
6/22/2022

SUB SHEET NO.

FD101

ABOVEGROUND
2000 GAL FUEL
STORAGE TANK

A2
EM502

UNDERGROUND
2" SEMI-FLEXIBLE
DOUBLE WALLED PIPE

A2
EM502

A2
EM502

PROPOSED
DOCK

EMERGENCY
BUTTON PEDESTAL

FUEL DISPENSER

PROPOSED
BULKHEAD

HOUSE KEEPING PAD
FIRE EXTINGUISHER

PROPOSED
BULKHEAD

A1
F-101

FUEL PLAN - OVERALL
SCALE: 1" = 40'

NOTES:

1. PROVIDE PROTECTIVE BOLLARDS AROUND THE TANK. PROTECTIVE BOLLARDS SHALL BE COORDINATED WITH NPS UPLAND.
2. REFER TO CIVIL DRAWINGS FOR PROPOSED GRADING AND ELEVATIONS.

LEGEND

FL FUEL LINE

A/E FIRM
**CROFT &
ASSOCIATES**

**MOFFATT &
NICHOL**
MIAMI,
FLORIDA

DESIGNED:
RW
RG
TECH REVIEW:
AK
DATE:
11/29/2022


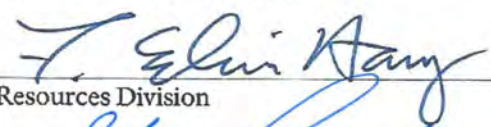
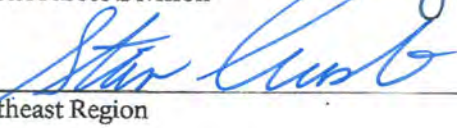
SUB SHEET NO.

F-101

APPENDIX B – 2015 GENERAL MANAGEMENT PLAN FLOODPLAIN STATEMENT OF FINDINGS

STATEMENT OF FINDINGS
FOR
EXECUTIVE ORDER 11988 FLOODPLAIN MANAGEMENT

EXISTING AND PROPOSED SITE DEVELOPMENT
EVERGLADES NATIONAL PARK
FLORIDA

Recommended: 	4/24/15
Superintendent, Everglades National Park	Date
Concurred: 	4/28/15
Chief, Water Resources Division	Date
Approved: 	5/18/15
Director, Southeast Region	Date

The above signatures certify that this document is technically adequate and consistent with NPS policy.

INTRODUCTION

Executive Order 11988, “Floodplain Management” requires the National Park Service (NPS) and other federal agencies to evaluate the likely impacts of actions in floodplains. The objectives of the executive order is to avoid to the extent possible the long-term and short-term adverse impacts associated with occupancy, modification, or destruction of floodplains and to avoid indirect support of development and new construction in such areas wherever there is a practicable alternative.

The NPS guidelines for compliance with Executive Order 11988 allow construction within a 100-year floodplain for recreational facilities such as parking and trails. The guidelines also state that in coastal areas structures can only be placed in the coastal high hazard area when the structures or facilities are for management and legislated use of the affected area. The guidelines go on to state that “their placement and construction shall be at locations least likely to be affected by the actions of coastal storms and flooding.” The purpose of this Statement of Findings is to present the rationale for the location of a proposed action (building a new visitor center at the NPS Gulf Coast administrative site) in the floodplain, the continued use of existing park infrastructure and development within the floodplain, and to document the anticipated effects on floodplain values.

PROPOSED ACTION

The National Park Service would propose to implement the NPS preferred alternative of the *Final General Management Plan / East Everglades Wilderness Study / Environmental Impact Statement*. The most significant action in the preferred alternative with respect to new development is the construction of the Marjory Stoneman Douglas Visitor Center and related improvements at the Gulf Coast

administrative site. Construction of the visitor center was included in park legislation.

The proposed action would be to replace the existing 45-year-old wood-frame visitor center. The new building would incorporate innovative design to achieve net zero energy use. It would be a concrete modular design prefabricated at a facility 131 miles from the park and transported to the site. Earlier environmental analysis documented that there are no wetlands in the Gulf Coast site (NPS 1990). Because no wetlands would be impacted by this project, this Statement of Findings is for floodplains only.

The proposed action has been designed to meet the needs of the increasing numbers of visitors to the Gulf Coast area of the park, to enhance the quality of their experiences there, and to ensure safety and improved efficiency of management and operations. Previously, the National Park Service prepared and made available for public review the *Gulf Coast Development Concept Plan and Environmental Assessment* (DCP) that documented the alternatives considered for development at the Gulf Coast administrative site of Everglades National Park (NPS 1990). The *Gulf Coast Development Concept Plan and Environmental Assessment* assessed alternative planning strategies and potential environmental impacts of implementation. The current project proposal is slightly different from that described in the 1990 *Gulf Coast Development Concept Plan and Environmental Assessment*, so this Statement of Findings supersedes the 1990 version.

No alternatives have been carried forward other than construction. Moving administrative functions off-site was considered and rejected because it would not be as cost-effective or efficient operationally as the proposed project. The existing facilities were constructed on the same site in Everglades City where President Truman dedicated the park in 1947. In 1989, Congress

called for construction of the Marjory Stoneman Douglas Visitor Center at this site (see appendix A), and Ms. Douglas attended the dedication there. This establishes extraordinary context to interpret and educate visitors, as well as implementing the will of Congress.

FLOODPLAINS WITHIN THE EVERGLADES GULF COAST PROJECT AREA

The Everglades Gulf Coast administrative site is a 20-acre site within Everglades City and outside Everglades National Park boundary proper. The site was purchased by the National Park Service in 1959 for the development of park administrative and visitor use facilities. The administrative site is composed primarily of filled land built up in the past 30 years by dredging sand into a swampy area previously used as a city dump.

The floodplains of Everglades City in Collier County, Florida, were mapped in 1986 by the Federal Emergency Management Agency. About 25% of Everglades City is within the “coastal flood with velocity hazard (wave action)” zone (coastal high hazard area); the rest of the city is within the base elevation for 100-year flooding.

The Gulf Coast site is in an area that has been filled to approximately 5 feet above mean sea level and is completely within the coastal high hazard area zone VE, with a base flood elevation of 13 feet. The coastal high hazard area is an area where high winds, high waves, and tidal flooding can be expected. At the Gulf Coast site, the combined storm surge and wave elevation is 13 feet above mean sea level. In recent years several storms (hurricanes or tropical depressions) have required personnel and equipment evacuation and closure of the facilities. These storms, coupled with high tides and westerly winds, have caused minor flooding at the Gulf Coast site. Most of the damage to the facilities at Gulf Coast has been wind induced.

The Proposal in Relation to Floodplains

The major Gulf Coast development actions called for in the GMP preferred alternative are constructing a new visitor center and concession facility, improving the parking area, and building a new canoe/kayak ramp and launch. Approximately 8 acres of land would be used for the total site development and planted with turf grass as exists at the current site.

The planned structures and facilities are limited to those necessary to meet the minimum needs for visitor use projected for the next several years to provide a quality visitor experience while minimizing impacts on the park’s resources and site management. The planned construction actions would occur in areas of the site already impacted with development, therefore not introducing significant new impacts on floodplain values.

The site, being totally within the coastal high hazard area, could potentially have floodwater elevations as deep as 13 feet. The design of new structures would incorporate methods for minimizing storm damage as contained in the National Flood Insurance Program’s Floodplain Management Criteria for Flood-Prone Areas (44 CFR section 60.3) and in accordance with local, county, or state requirements for flood-prone areas.

The proposed replacement of the existing visitor center at a new site within the coastal high hazard area would have floor elevations above the combined storm surge and wave height calculated for the site. The space below the lowest floor would be free of obstructions to minimize impact on the structure by abnormally high tides and wind-driven water (storm surges).

Interpretation and natural resources management would emphasize perpetuation of floodplain and wetland values. The park staff would actively assist private landowners and federal, state, and local regulatory agencies in protecting wetlands that are

outside the park boundary, but whose use may affect park resources. Moreover, wetlands and floodplains would be used for their educational, recreational, and scientific qualities through expanded interpretive programs and possibly research emphasis.

JUSTIFICATION FOR CONTINUED USE OF THE FLOODPLAIN

Most of Everglades National Park is in 100-year or 500-year floodplains. Park development and public use at the main developed areas including Headquarters/Pine Island, Shark Valley, Key Largo, Chekika, the Tamiami Trail Ranger Station, Flamingo, Gulf Coast, and along the main park road have been in place for many years.

Actions proposed in the NPS preferred alternative include the retention or replacement of existing visitor services and park operation facilities within floodplains, as well as restoration of previously impacted areas within floodplains as is the case in the East Everglades Addition and at the Tamiami Trail Ranger Station. The preferred alternative does not propose any new development outside of previously developed areas in the floodplain. The justification for retaining these structures in the 100-year floodplain is as follows:

- The Gulf Coast site is the only land-based access to the park on the west coast of Florida, providing access for the public and park staff to Ten Thousand Islands, Wilderness Waterway, Gulf of Mexico, and Florida Bay. The facilities are historically and functionally dependent on their locations. Moving the entire administrative and visitor services site out of the floodplains would be cost-prohibitive and may not meet the will of Congress.
- Relocating existing facilities, infrastructure, and services at the main

developed areas in the park may be infeasible and very costly, both financially and from a level and quality of service perspective.

- All existing infrastructure and development within the park is on disturbed ground. Moving and attempting to relocate existing visitor services and park operations facilities within or outside the park would likely result in adverse impacts and the loss of other natural resource values in the area.

SPECIFIC FLOOD RISKS

In recent years, several severe storms (hurricanes or tropical depressions) have required the evacuation of personnel and equipment and facility closures. These storms, coupled with high tides and westerly winds, have caused minor flooding at the Gulf Coast site and other developed areas in the park. As noted above, the Gulf Coast site has the potential for floodwater elevations as deep as 13 feet. Most of the damage to the facilities within the park has been wind induced. Ample notice of severe weather is provided by the National Weather Service and other agencies, making warning and evacuation a practical option for protection of human life.

There would be no additional storage facilities for fuels or toxic materials or museum collections in a floodplain proposed by the NPS preferred alternative.

MITIGATION

The situations that lead to storm-caused high water events, and the scope and duration of these events, are known by park staff, making warning and evacuation a practical option for protection of human life. Everglades National Park will continue to maintain an active hurricane evacuation plan. The plan details responsibilities of individual park employees for advanced preparedness measures at the

onset of the hurricane season (June through October). These include removing or securing park property, records and utility systems during a hurricane warning; monitoring communications during a hurricane; and conducting rescue and salvage operations following a hurricane. The hurricane plan has proven effective in maintaining safety and reducing property damage during storms, and it will be annually reviewed and updated.

The design of new structures throughout the park would incorporate methods for minimizing storm damage as contained in the National Flood Insurance Program's Floodplain Management Criteria for Flood-Prone Areas (44 CFR section 60.3) and in accordance with local, county or state requirements for flood-prone areas.

The proposed replacement of the existing Gulf Coast visitor center would have floor elevations above the combined storm surge and wave height calculated for the site. The space below the lowest floor would be free of obstructions to minimize impact on the structure by abnormally high tides and wind-driven water (storm surges). By elevating the structure in this way, natural floodplain functions and values would be preserved and adverse impacts would be minimized.

The new facility would be a concrete modular design entirely prefabricated at a facility 131 miles from the park. This process achieves a level of construction efficiency that is impossible using conventional methods. Advantages include a shorter construction period, superior quality control, reduced labor and transportation costs, and reduced construction site pollution and solid waste disposal.

As previously identified in the *Flamingo Commercial Services Plan Findings of No Significant Impact and Statement of Findings (2008)*, the overall development footprint of the Flamingo area would be considerably reduced from existing levels with the elevation of structures comprising most of the facilities to be rebuilt. Up to an additional 50 acres of

floodplain (the former B and C campground loops and a majority of the former lodge and cottage site) would be restored.

To avoid potential pollution of bay waters by stormwater runoff contaminated by oil and other petroleum products, the developed area (especially the parking lot) would use techniques such as backsloping to allow percolation and filtration of runoff through the soils.

The environmental analysis contained in the *Final General Management Plan / East Everglades Wilderness Study / Environmental Impact Statement* and this Statement of Findings constitute the environmental compliance necessary to implement the Gulf Coast development should the NPS preferred alternative be selected.

SUMMARY

The National Park Service has determined that implementing the NPS preferred alternative would not result in any additional disruption of floodplains. Risk to life from storms and high water can be mitigated. The National Park Service would allow the existing visitor center to be replaced, the parking area improved, and a new canoe/kayak ramp and launch in the current Gulf Coast administrative site because there are no reasonable alternative sites. Construction of the visitor center would replace an existing facility with a sustainable structure that meets National Flood Insurance Program standards. Visitors would be informed of changes caused by storm events through regular interpretation and local media.

The replacement, restoration, or development facilities and infrastructure within the park would not expand beyond currently disturbed areas. The design of new structures throughout the park would incorporate methods for minimizing storm damage as contained in the National Flood Insurance Program's Floodplain Management Criteria for Flood-Prone Areas (44 CFR section 60.3)

and in accordance with local, county, or state requirements for flood-prone areas.

Therefore, the National Park Service finds that the proposed action would not have any additional adverse impacts on floodplains and their associated values.

Statement of Findings References:

Executive Order 11988, “Floodplain Management” (May 28, 1980). Executive Order of the President of the United States.

National Park Service, 2006. *Management Policies 2006*. National Park Service, Washington, D.C.

National Park Service, 2003. Director’s Order 77-2: *Floodplain Management*. Washington Office, Washington, D.C.

National Park Service, 1990. *Gulf Coast Everglades National Park Development Concept Plan / Environmental Assessment*. Everglades National Park, Homestead, Florida.



As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under US administration.

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