Environmental Survey Report

Project Name:	**CC Project Number:**
WCIND Phillippi Creek Dredge Feasibility	137100
Date of Survey:	**Date of Report:**
June 11, 12, and 17, 2024	August 30, 2024
Prepared By:	**Prepared For:**
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Introduction

A marine resource survey was performed on June 11, 12, and 17, 2024, by Cummins Cederberg, Inc. (Cummins Cederberg) along a portion of Phillippi Creek (Creek), located in Sarasota County, Florida (**Figure 1**). The West Coast Inland Navigation District (WCIND) is conducting a feasibility study to identify potential maintenance dredge of approximately 6,700 linear feet of the existing channel along the western portion of Phillippi Creek to a depth of -4.0 ft mean low water (MLW) (Project). The goal of the Project is to sustain Phillippi Creek with navigable depths for local recreational use as well as safe ingress and egress for the Sarasota sheriff office's vessels that are moored within the Creek (**Photo A-1**).

The survey was conducted to support and inform potential subsequent design and permitting relative to avoidance and minimization of potential impacts to natural resources (e.g., seagrass, coral, oysters) that may result from the proposed Project activities. Additionally, the survey was conducted in the federally recognized seagrass growing season (between June 1st and September 30th) to support subsequent environmental permit applications.

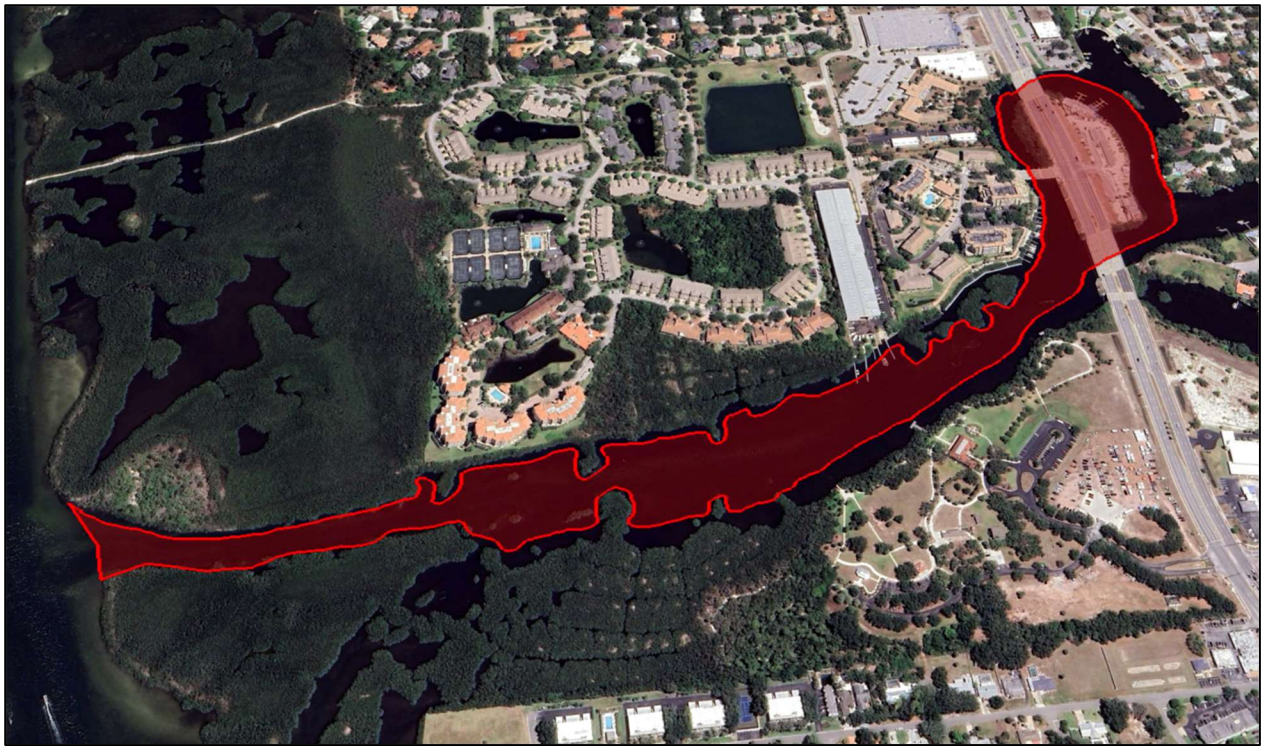

Figure 1. Location of Project Site.

Methods

A Cummins Cederberg marine biologist survey team, inclusive of two qualified marine biologists, conducted the marine resource survey using mask and snorkel from a kayak. The survey was conducted along approximately 6,700 LF along the western portion of Phillippi Creek (**Figure 1**). Survey area extents, as well as existing navigational channel extents, were preloaded into a handheld Trimble GPS device to assist the marine biologist. Additionally, desktop analysis of available resource maps were reviewed prior to fieldwork in order to inform the marine biologists where resources have been located previously.

Marine biologists began by surveying the existing channel extents (approximately 30 ft wide). One surveyor performed S-swims in the water, covering an approximately 15 ft corridor, while the topside surveyor guided the in-water snorkeler along one side of the channel using the Trimble on the kayak. If the bottom of the Creek was not visible from the top on snorkel, snorkelers would conduct breath holds and spot dives and perform the S-swims along the seafloor. Once one half of the channel was surveyed, surveyors transitioned to surveying the other half of the channel, so that the full extent of the channel was covered using this methodolgy. General changes in habitat were noted and documented using the Trimble. If seagrasses or other resources of significance were observed, locations were documented by taking points or polylines on the Trimble, as applicable.

Marine Biologist performed the same method within an approximately 20 ft buffer zone on either side of the channel. Benthic habitat beyond the buffer zone was also surveyed as time allowed. Data was collected on underwater paper and general notes, such as substate type, submerged

aquatic resource presence, if any, and marine species observed were documented. Representative photographs were taken and are provided in **Attachment A**.

Results

The marine resource survey was conducted on June 11, 12, and 17 of 2024. The maximum water depth observed at the time of the survey was approximately 6 ft. Visibility was notably poor throughout the entire survey area, ranging from 0.5 ft to 5 ft, but typically less than 1 ft, and suspended substrate was notable throughout the water column. Aside from slack tide, currents were relatively strong, especially during the outgoing tide.

The substrate observed within the survey area generally consisted of silt and muck with detritus material (**Photos A-2** and **A-3**) on the eastern extents of the survey area and a sandier silt towards the mouth of the Creek with occasional vegetative debris. A hydrogen sulfide odor was present during the survey when the sediment was disturbed, especially upstream where the benthic community was generally devoid of resources.

Oyster shells were located throughout the survey area, both in small clusters and standalone shells, as well as in large shell hash beds. The majority of oysters observed within the channel and buffer zone were deceased with less than 10% (estimated) of oysters living. Notably, the majority of oyster shell was covered in a thin layer of sediment. Oyster locations and extents are depicted on the basemap in **Figure 2**. Scattered, loose shell hash is indicated as “shell hash areas” (**Photo A-4**) whereas more stable and consolidated shell is indicated as “oyster beds” (**Photo A-5**). Sponge, tunicate, and turf algae overgrowth was common on the shell hash area closest to the Creek’s mouth (**Photos A-6** and **A-7**).

Seagrasses were observed to be growing near the mouth of the Creek as it feeds into the Intracoastal Waterway. Shoal grass (*Halodule wrightii*) was documented within the nearshore area along the north side with an overall coverage of approximately 30% (**Photo A-8**). On the south side of the mouth, an intermixed bed of *H. wrightii* and star grass (*Halophila engelmannii*) was documented with a varying coverage of approximately 10% to 30% (**Photo A-9**). Seagrasses within these beds extend beyond the survey area to the north and south. Small patches of macroalgae (*Caulerpa* spp.) were documented throughout both. Additional, discontinuous patches of seagrasses were observed and identified within the middle portion of the survey area, just northwest of Phillippi Estate Park, and included *H. wrightii* and paddle grass (*Halophila decipiens*) (**Photo A-10**). Locations of resources are depicted on the basemap in **Figure 2**. Zoomed in segments of this basemap are included as **Attachment B**. West Indian manatees (*Trichechus manatus*) were observed swimming upstream during the survey.

The shoreline along the survey area was primarily natural mangrove shoreline (**Photo A-11**) from the mouth of the Creek to the eastern extent of the survey area where the shoreline transitioned to seawall stabilization and occasional docking facilities to accommodate upland development. No other marine resources of significance were documented. Typical aids to navigation (ATONs) or channel markers demarcate the channel limits east of the US-41 bridge. West of the US-41 bridge, PVC pipes appear to have been installed to delineate the channel.

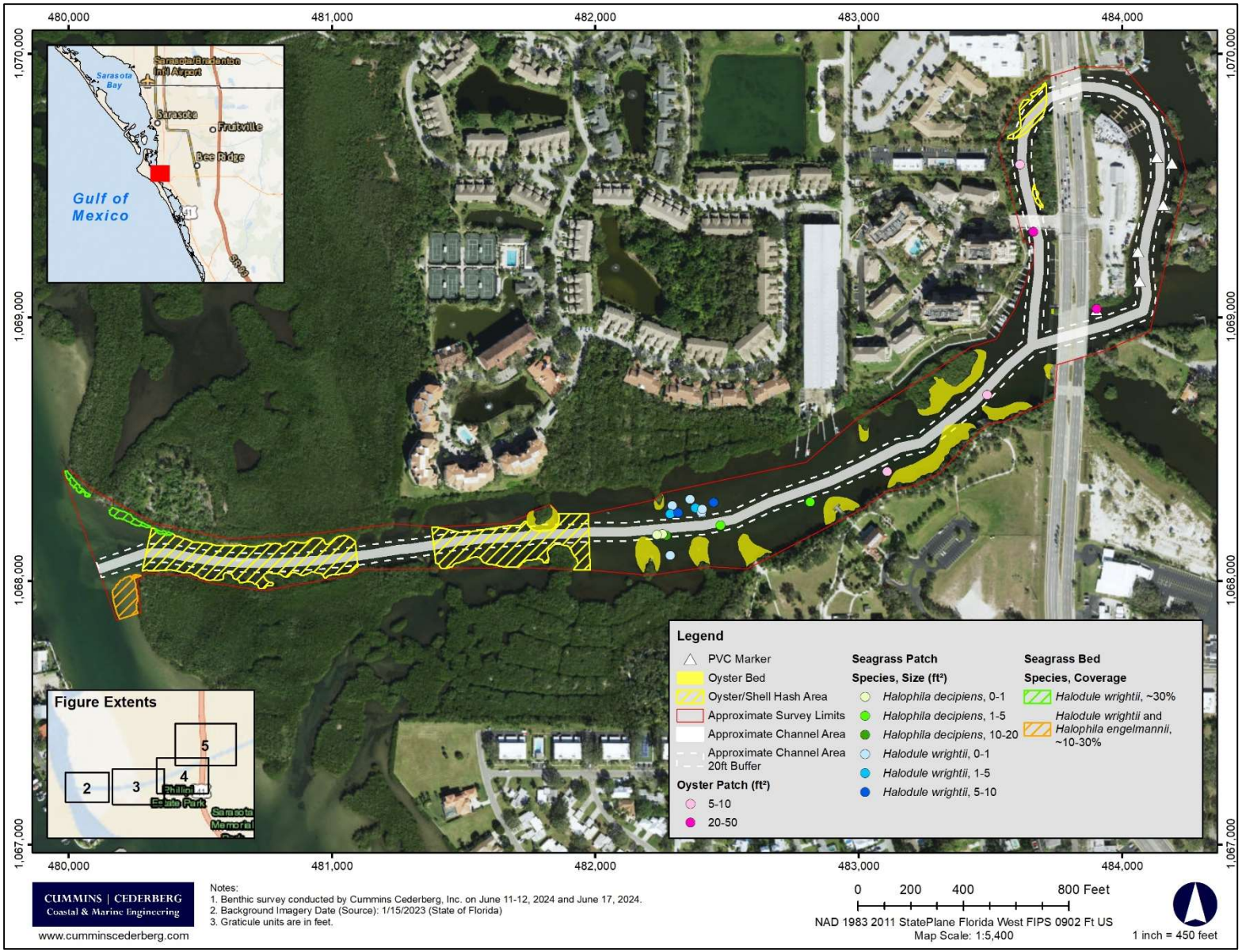

Figure 2. Basemap of documented resources. See **Attachment B** for zoomed in Figure Extents.

Discussion

The Creek within the survey extents supports minimal oyster and seagrass habitat. Three species of seagrass were observed: *H. wrightii*, *H. engelmannii*, and *H. decipiens.* Seagrass was present in intermittent, small patches within a section of the survey area, except for at the mouth of the Creek, where approximately 30% coverage beds were present. Oyster habitat was primarily loose and scattered shell hash, with very few living oysters.

Given the strong outgoing currents, sediment coating on the oyster shells and seagrass, and thick, soft sediment layers, it is likely that material is carried down the Creek from further upstream on a regular basis. The thick muck layer and hydrogen sulfide odor, specifically on the eastern extent of the survey area with the “loop”, is indicative of poor substrate quality and/or decaying material, which likely does not support thriving benthic communities. However, the Creek does appear to be a travel corridor for the West Indian manatee as multiple were observed to be utilizing the creek during the survey period.

Attachment A

REPRESENTATIVE PHOTOGRAPHS

Photo 0-1. Sarasota County sheriff vessel docked at Phillippi Landings.

Photo 0-2. Detritus material along the Creek bottom.

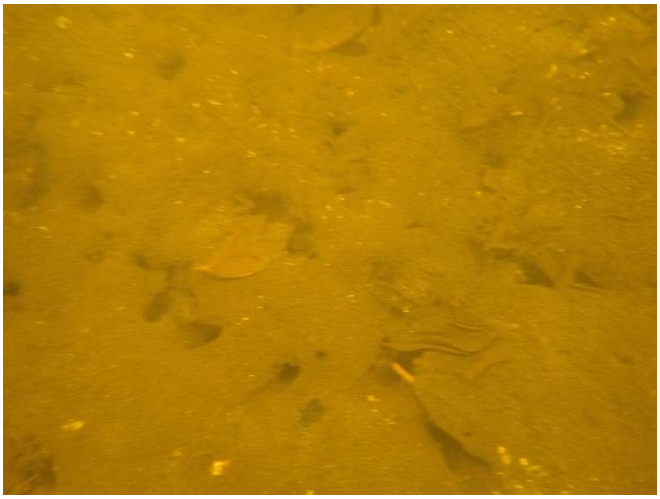

Photo 0-3. Silty muck substrate with occasional detritus material.

Photo 0-4. Example of loose, scattered oyster shell hash.

Photo 0-5. Example of an oyster bed where oyster shell was stabilized. Note sediment film on shells.

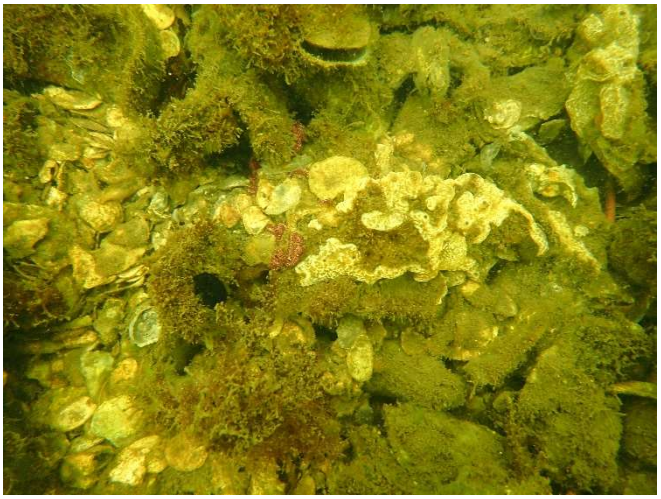

Photo 0-6. Oyster shell hash area closest to the Creek's mouth. Note sponge, tunicate, and turf algae overgrowth.

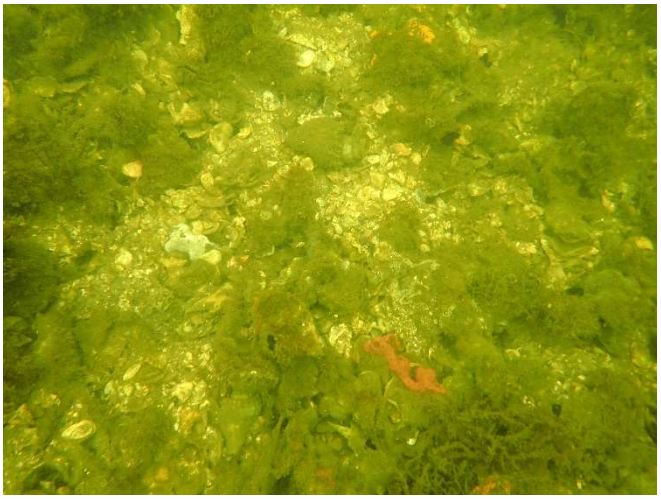

Photo 0-7. Scattered oyster shell hash area closest to the Creek's mouth. Note sponge, tunicate, and turf algae overgrowth.

Photo 0-8. *H. wrightii* bed (~30% coverage) along the north shoreline of the Creek's mouth with *C. Sertularioides*. Note short blade length.

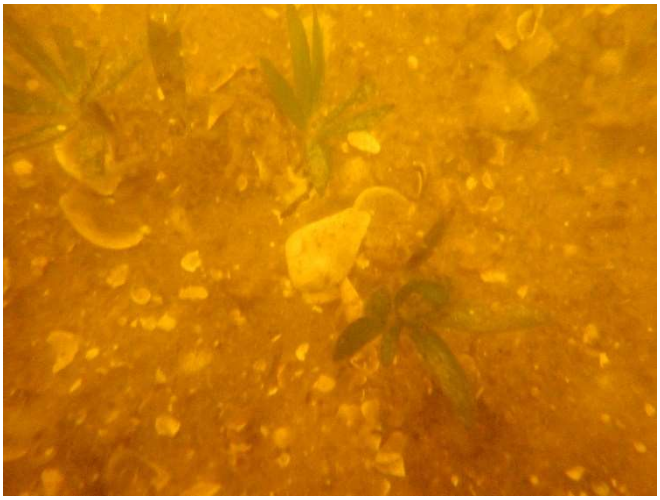

Photo 0-9. *H. engelmannii* observed at the south side of the Creek's mouth.

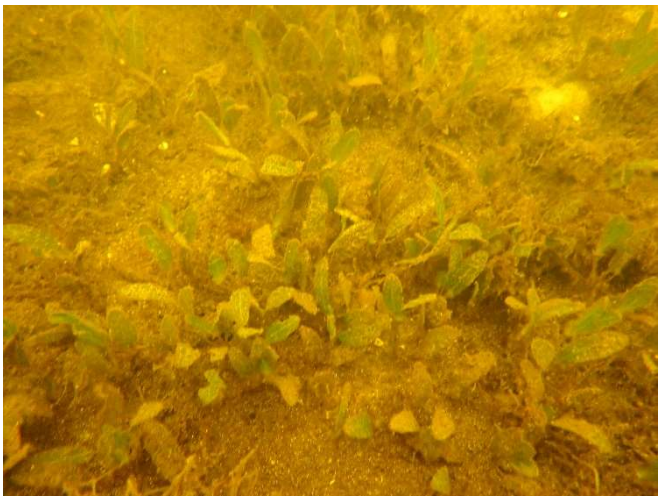

Photo 0-10. A patch of *H. decipiens* observed northwest of Phillippi Estate Park

Photo 0-11. Example natural shoreline vegetated with *R. mangle*.