

GOODLAND BAY DOCK EXTENSION PROJECT

BENTHIC SURVEY REPORT

October 2025

Prepared for

**FL Department of Environmental Protection
Rookery Bay National Estuarine Research Reserve
300 Tower Road
Naples, FL 34113**

Prepared by

**JOHNSON
ENGINEERING
— An Apex Company —**

**2122 Johnson Street
Fort Myers, FL 33901**

TABLE OF CONTENTS

	<u>PAGE</u>
List of Figures and Tables.....	ii
1.0 INTRODUCTION	1
2.0 EXISTING CONDITIONS.....	3
3.0 SURVEY METHODOLOGY	3
4.0 RESULTS	5
5.0 REFERENCES	9

APPENDICES:

Appendix A – Benthic Survey Map

LIST OF FIGURES AND TABLES

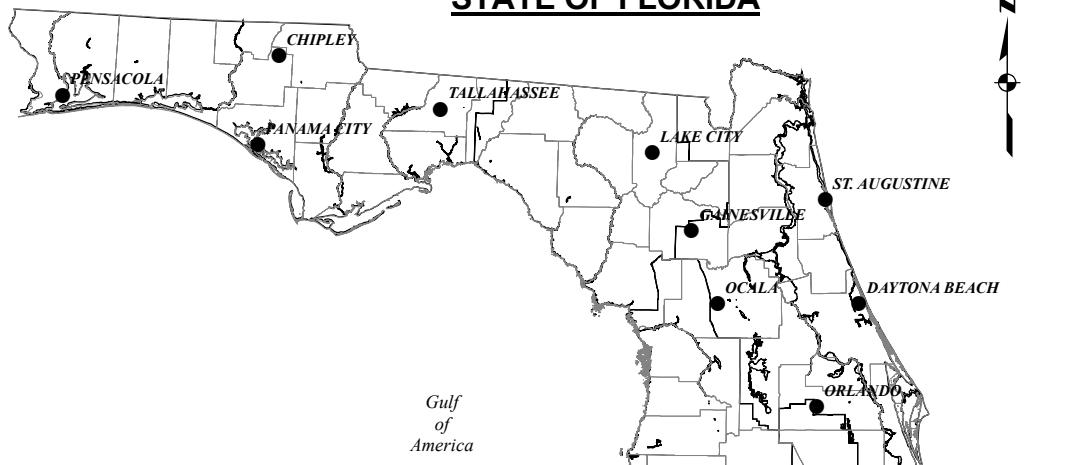
	PAGE
<u>FIGURES :</u>	
Figure 1-1 Location Map	2
<u>TABLES:</u>	
Table 2-1 FLUCFCS Code Descriptions and Acreages.....	3
Table 3-1 Survey Dates, Times, Weather Conditions, and Ecologists.....	5

1.0 INTRODUCTION

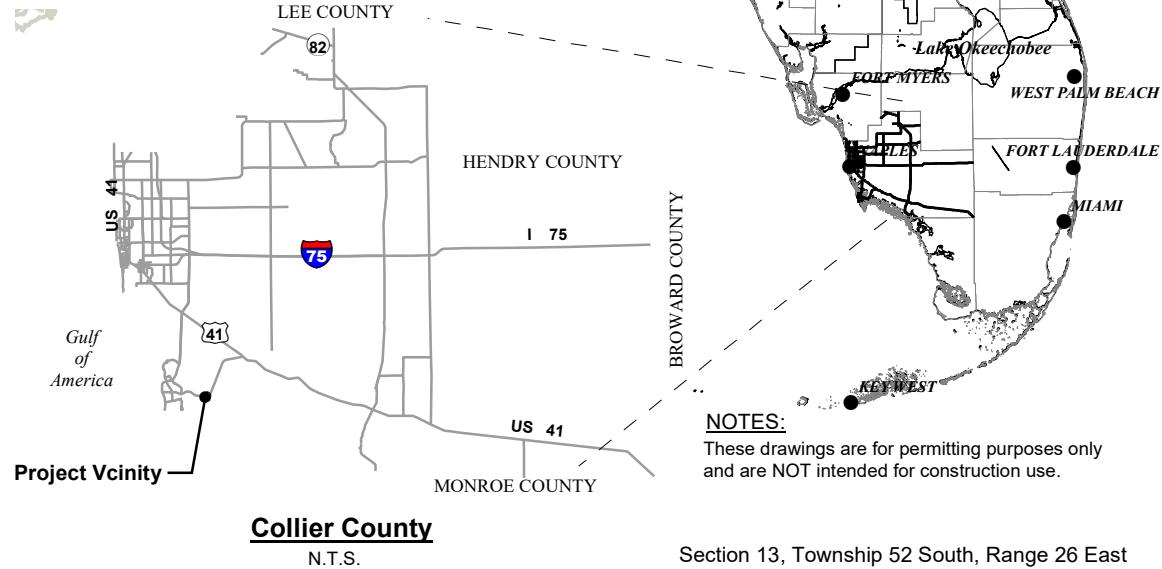
The Florida Department of Environmental Protection (FDEP) proposes dock additions to an existing facility in order to accommodate more vessels and improve operational efficiency. The proposed additions include large pilings that will be emplaced into the seabed and serve as anchor points for the floating concrete dock sections. No alteration to the shoreline vegetation is proposed for the project. The project encompasses 0.08 acres within the Outstanding Florida Water (OFW) known as the Rookery Bay National Estuarine Research Reserve. OFWs are waters worthy of special protection due to their natural attributes (ecological value, recreational value, etc.) and for the intention of protecting and preserving existing water quality under Rule 32-302.700 F.A.C. The project is specifically located near the intersection of San Marco Road (County Road 92) and Goodland Drive, at the western base of the Goodland Bridge in Section 13, Township 52 South, Range 26 East, Collier County, Florida with central coordinates 25°55'55.0" N (25.931952), 81°39'17.8" W (-81.654930). A project location map is provided in **Figure 1**.

The following represents the results of a benthic survey for the project.

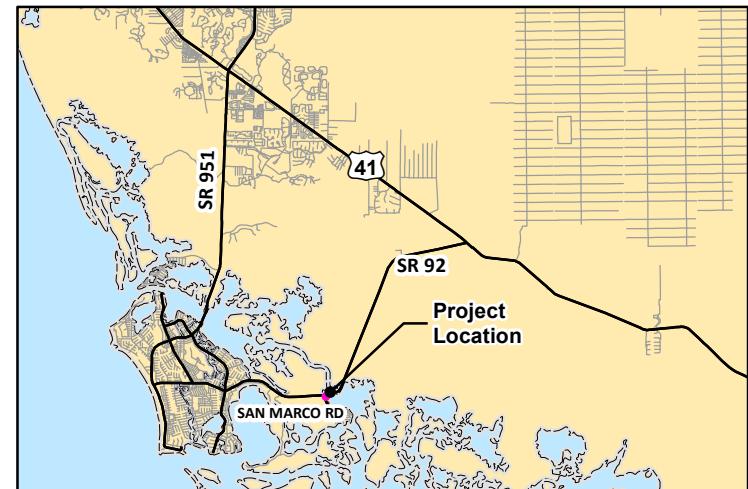
STATE OF FLORIDA



Gulf of America



Section 13, Township 52 South, Range 26 East
Latitude: 25.931952°, Longitude: -81.654930°



VICINITY AERIAL
N.T.S.

Notes: Aerial Photo 2025

Goodland Dock
Collier County, Florida

JOHNSON
ENGINEERING
— An Apex Company —

JOHNSON ENGINEERING, LLC
2122 JOHNSON STREET
FORT MYERS, FLORIDA 33901
PHONE (239) 334-0046
E.B. #642 & L.B. #642

Location Map

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
Sept 2025	25010894		Not to Scale	Figure 1

2.0 EXISTING CONDITIONS

The habitat types were classified based on the nomenclature of the Florida Land Use, Cover and Forms Classification System (FLUCFCS) (Florida Department of Transportation [FDOT], 1999). This system, originally developed by FDOT, allows for a uniform but flexible means of classifying land uses important for determining suitable habitat for protected species. The resulting FLUCFCS Map is provided in **Figure 2**. The approximate acreages and descriptions for the FLUCFCS Codes can be found in **Table 2-1**. A brief description of each surveyed FLUCFCS code is given below.

Table 2-1. FLUCFCS Code Descriptions and Acreages.

FLUCFCS CODE	DESCRIPTION	STATUS	APPROX. ACRES
540	Rookery Bay National Estuarine Research Reserve	SW	0.08
		Total :	0.08

SW = Surface Waters

FLUCFCS Code 540: Rookery Bay National Estuarine Research Reserve

The project area totals 0.08 acres of the Rookery Bay National Estuarine Research Reserve and is comprised of open waters within Goodland Bay. This includes an existing floating dock facility that extends from shore approximately 80 feet into Goodland Bay, near the mouth of Angelwing Creek with mangrove islands, exposed sandbars, and a deeper navigation channel that leads south to Gullivan Bay. The existing dock is bordered by a red mangrove shoreline that extends both north toward the Goodland Bridge and southeast along Goodland Drive.

3.0 SURVEY METHODOLOGY

Prior to the on-site survey, a literature review was conducted, which included the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) Environmental Conservation Online System (ECOS) to identify species which may occur within this geographic region.



An underwater survey was conducted by Johnson Engineering ecologists on September 9, 2025. Linear transects were utilized to survey along the seabed for potential submerged aquatic vegetation (SAV) and other benthic resources. Transects were swam using mask and fins and the locations of any benthic resources encountered were GPS survey located, if applicable. A summary of the date, time, and weather conditions during the survey is shown in **Table 3-1**.

Table 3-1. Survey Dates, Times, Weather Conditions, and Ecologists

Date	Time	Temperature	Conditions	Ecologist
September 9, 2025	2:00pm-3:00pm	80s °F	Clouds, rain, light winds	RDI, GFT

RDI = David Isley, GFT = Greg Thomas

4.0 RESULTS

A strong incoming tide, dark, overcast sky condition, and murky, tannic waters resulted in poor visibility beneath the surface during the survey. Depths throughout the project area ranged from approximately 6 to 8 feet. Direct observation of the seabed was only possible from approximately 6 inches or closer. The project area is characterized as a mud bottom, and the seabed was devoid of SAV and other benthic resources. Below is a summary of the potential listed species that may be found in the project area based on professional knowledge of the region and review of the USFWS IPaC list.

American Crocodile

The American crocodile (*Crocodylus acutus*) is listed as federally threatened and typically prefer brackish and/or saltwater habitats such as rivers, streams, mangrove swamps, and coastal lagoons. The project is located more than 125 miles north of USFWS-designated critical habitat, but within the species' range along the Gulf coast, which extends north to Sarasota County. No individuals were encountered during the survey. Pre-construction and project planning may include best management practices for this species in accordance with regulatory guidelines.

Bald Eagle

The bald eagle (*Haliaeetus leucocephalus*) was removed from the federal list of threatened and endangered species in 2007, though this species retains protection through the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The USFWS has established a standard 660' protection zone around a bald eagle nest for this region [FWS 2007]. According to the Audubon EagleWatch GIS database, no known bald eagle nests exist within one mile of the project area.

Gulf Sturgeon

The Gulf sturgeon (*Acipenser oxyrinchus desotoi*) is listed as federally threatened and has a range primarily from the Florida panhandle to Louisiana. These large fish utilize an assortment of habitats throughout the year, including sandy bottoms of the Gulf of America and its coastal estuaries during the winter, and freshwater rivers during the spring and fall for spawning. The project is several hundred miles south of designated critical habitat for the Gulf sturgeon and no individuals of this species were observed during the survey.

Piping Plover and Rufa Red Knot

Piping plovers (*Charadrius melanotos*) are listed as federally threatened and prefer “sandy beaches, sand flats, and mudflats along coastal areas” (FWC 2024). Although mentioned in the USFWS IPaC list, no suitable habitat for these species exists within the project boundary. The proposed project is not within any sections of USFWS-designated piping plover critical habitat along the Gulf coast.

Rufa red knots (*Calidris canutus rufa*) are listed as federally threatened and prefer “coastal marine and estuarine habitats with large areas of exposed intertidal sediments” (USFWS 2024). Although mentioned in the USFWS IPaC list, no suitable habitat for this species exists within the project boundary. No designated critical habitat has been established by USFWS to date for this species.

Smalltooth Sawfish

The smalltooth sawfish (*Pristis pectinata*) is listed as federally endangered. Juvenile smalltooth sawfish habitats differ from adult habitats. Juveniles inhabit coastal areas such as estuaries, river mouths, and bays year-round. They have been recorded utilizing a variety of habitat types including un-vegetated mud and sand bottoms, especially along red mangrove shorelines, and will use creeks and canals that connect to the main river channels. Potential habitat also includes under docks, bridges, and piers. Adult smalltooth sawfish are typically found in open water habitats but have been encountered near coral reefs and occur inshore during the spring when females give birth.

The project area is located inside of the National Oceanic and Atmospheric Administration (NOAA) Fisheries designated smalltooth sawfish critical habitat. According to the National Marine Fisheries Service (NMFS), essential features for the conservation of smalltooth sawfish in critical habitat are shallow, euryhaline waters with depths of less than three feet measured at mean low low-water (MLLW) and with red mangroves and muddy/sandy substrate. Although water depths within the project area were up to 8 feet deep, adjacent areas contain some of the essential features noted above. As a best management practice (BMP) for this species, regulatory agencies will likely require adherence to the NMFS Sea Turtle and Smalltooth Sawfish Construction Guidelines.

Wading Birds/Rookeries

Listed wading bird species such as the little blue heron (*Egretta caerulea*; state threatened), tricolored heron (*Egretta tricolor*; state threatened), reddish egret (*Egretta rufescens*; state threatened), roseate spoonbill (*Platalea ajaja*; state threatened), and wood stork (*Mycteria americana*; federally threatened) have been known to nest in and around mangroves. Nesting season for many wading bird species in south Florida occurs between March through April, although this can vary for some species based on hydrologic conditions and other factors. No rookeries were observed during the survey. No wading birds were observed during the survey, though most of the listed species can be found foraging in a wide variety of upland and wetland habitats and they may utilize the shorelines and/or mangroves within the project boundary either seasonally or year-round.

West Indian Manatee

The West Indian manatee (*Trichechus manatus*), listed as federally threatened, prefers a mix of marine, brackish, and freshwater environments, such as coastal waters, estuaries, rivers, and canals, where they feed on submerged aquatic vegetation. No individuals of this species were encountered during the survey, although suitable habitat is present. As such, the regulatory agencies may require adherence to the Standard Manatee Conditions for In-water Construction Activities.

5.0 REFERENCES

Audubon EagleWatch. 2024. *Eagle Watch Public View Nest Location Map v2*. Accessed September 22, 2024. <https://eaglewatch-audubon.hub.arcgis.com/>

Florida Department of Transportation, State Topographic Bureau, Thermatic Mapping Section, 1999. Florida Land Use, Cover and Forms Classification System. Procedure No. 550-010-001-a.

Florida Fish and Wildlife Conservation Commission. 2022. *Florida's Endangered Species, Threatened Species, and Species of Special Concern*. Tallahassee, Florida. 13pp.

Florida Fish and Wildlife Conservation Commission. 2024. *Species Profiles*. Accessed September 26, 2025. <https://myfwc.com/wildlifehabitats/profiles/>

U.S. Fish and Wildlife Service. 2024. *Information for Planning and Conservation Environmental Conservation Online System*. Accessed September 26, 2025. <https://ecos.fws.gov/ipac/>

U.S. Fish and Wildlife Service. 2024. *Species Overview*. Accessed September 26, 2025. <https://www.fws.gov/species/rufa-red-knot-calidris-canutus-rufa>

APPENDIX A

Benthic Survey Map

