

## **Submerged Resource Survey**

**899 CAXAMBAS DR.  
MARCO ISLAND, FL 34145  
FOLIO #58106440008**

**SUBMERGED RESOURCE SURVEY REPORT  
OCTOBER 2019**

**PREPARED BY:**

**TURRELL, HALL &  
ASSOCIATES, INC.**   
Marine & Environmental Consulting

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## **1 Introduction**

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Turrell, Hall & Associates, Inc. (THA) has been contracted to provide environmental services in the form of a Submerged Resource Survey (SRS) at a property addressed as 899 Caxambas Dr. in Marco Island, FL 34145 and that can be identified by folio #58106440008. This survey will provide planning assistance to both the property owner and regulating agencies during any review processes for the proposed project, which consists of constructing a private, recreational single-family docking facility with two boatlifts.

The subject property consists of a 0.41-acre parcel that can be found near the south east portion of Marco Island, on Barfield Bay. The parcel currently contains a single-family residence with a natural, mangrove swamp shoreline. The property currently contains an aged "L"-shaped docking facility with 2 boatlifts. The property is neighbored to the north east by the state-owned submerged lands of Barfield Bay and on all other sides by single-family residences. Nearly all surrounding lots contain docking facilities with boatlifts that are similar in size and function to that which is proposed.

The SRS was conducted on October 29<sup>th</sup>, 2019 between approximately 9:00 and 10:00 a.m. Site conditions consisted of mostly clear skies. Water clarity was poor, allowing for submerged visibility of roughly 12 to 18 inches. The ambient air temperature was approximately 81 degrees Fahrenheit and wind speeds averaged 5-10 mph out of the west. The average ambient water temperature was approximately 84 degrees Fahrenheit. Low tide occurred prior to the site visit at approximately 8:42 a.m. and reached approximately -0.4 ft. below the mean low water mark. Hight tide was achieved following the site visit at approximately 2:56 p.m. and reached approximately 3.0 feet above the mean low water mark.

## 2 Objective

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The objective of the SRS was to identify and locate any existing submerged resources within 200 feet of the proposed docking facility expansion. Ordinarily, if seagrasses are present within the vicinity of a project area, an analysis will be required regarding species, percent coverage, and impacts projected by the proposed project. The presence of seagrasses may be ample cause for re-configuration of the design for projects over surface waters in order to minimize impacts. The general scope of work performed during a typical submerged resource survey is summarized below:

- THA personnel will conduct a site visit and swim a series of transects within the project site in order to verify the location of any submerged resources.
- THA personnel will identify submerged resources within the vicinity of the site and produce an estimate of the percent coverage of any resources found.
- THA personnel will delineate the approximate limits of any submerged resources observed via a handheld GPS device.

### **3 Methodology**

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THA biologists intentionally designed the methodology of the SRS to cover not only the entire property shoreline for the proposed dock installation but also the area within 200 ft. of the proposed site. The components utilized for this survey included:

- Reviewing aerial photography of the surveyed area.
- Establishing survey transect lines (spaced approximately 10 feet apart) overlaid onto aerials.
- Physically swimming the transects, GPS locating the limits of any submerged resources found, and determining the percent coverage within the area.
- Documenting and photographing all findings

The surveyed area was evaluated systematically by following the established transect lines throughout the project site as shown on the attached exhibit. Neighboring properties, docking facilities, and other landmarks provided reference markers which assisted in maintaining correct positioning over each transect.

During this SRS, a single THA staff member swam the transect lines using snorkel equipment. Ordinarily, if any resources are found, they are photographed, GPS located, delineated, and analyzed for percent coverage within the area via a half meter square quadrant.

## 4 Results

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The substrate found within the surveyed area consists of silt and shell debris and rocks. With distance from shore, shell debris and rocks become more sparse. Depths increased gradually with distance from the mangrove shoreline to the limits of the survey from approximately 0 to 9 feet.

Although mangroves were present along the entire length of the subject property's shoreline, none will be impacted by construction. During the submerged portion of the survey, no seagrasses, oysters (besides scattered oyster debris found along the shoreline), or other resources were observed in any capacity. Accordingly, no impacts to submerged resources are expected to occur as the result of the proposed project. A list of species observed during the SRS can be seen below in Table 1.

Table 1: Observed species of wildlife and vegetation within the vicinity of the project site

Common Name	Scientific Name
Atlantic sheepshead	<i>Archosargus probatocephalus</i>
Common Snook	<i>Centropomus undecimalis</i>
Mangrove snapper	<i>Lutjanus griseus</i>
Eastern oyster	<i>Crassostrea virginica</i>
Nine-armed sea star	<i>Luidia senegalensis</i>
Common barnacle	<i>Balanus spp.</i>
Red boring sponge	<i>Cliona celata</i>
Caulerpa	<i>Caulerpa spp.</i>

## **5 Conclusion**

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The submerged resource survey was conducted and completed throughout a 200-foot radius surrounding the project site and yielded no results besides the mangroves present along the property's waterfront shoreline, which will not be affected by the construction of a new docking facility. No mangroves, seagrasses, or other resources were observed anywhere within the vicinity of the project site. Accordingly, negative impacts to submerged resources are not expected as a result of the proposed project.



## 6 Photos

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Photo 1: View of the existing docking facility's terminal platform



Photo 2: View of access walkway and uplands



Photo 3: Typical view of bottomlands found within the vicinity of the project site.



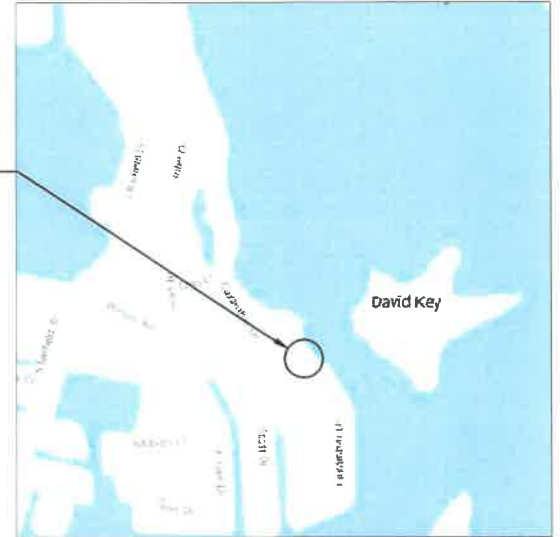
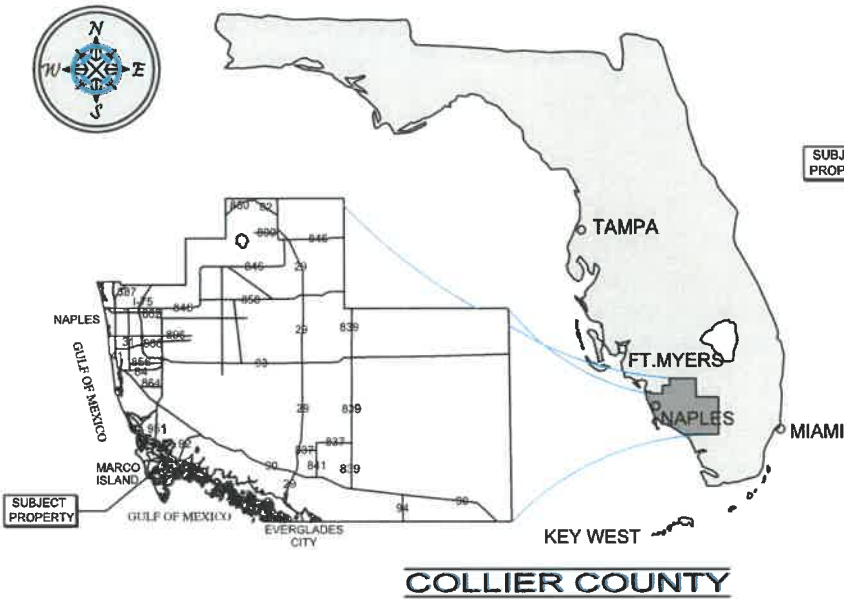
Photo 4: Nine-armed sea star observed on-site



Photo 5: Typical consistency of substrate found on-site

p:\19056.00 havemeier dock - 899 caxambas drive\CD\EXHIBIT\19056-TRANSECT\5.dwg LOCATION 11/16/2019

## STATE OF FLORIDA



### VICINITY MAP

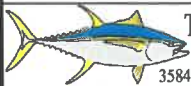
**SITE ADDRESS:**  
↔ 899 CAXAMBAS DR  
NAPLES, FL 34117

**NOTES:**  
↔ THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY  
AND ARE NOT INTENDED FOR CONSTRUCTION USE.

↔ LATITUDE: N 25.913986  
↔ LONGITUDE: W -81.693833



### COUNTY AERIAL



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## HAVEMEIER DOCK LOCATION MAP

THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.

DESIGNED:	HP	1	-	-	-	-
DRAWN BY:	UT	2	-	-	-	-
CREATED:	11-05-19	3	-	-	-	-
JOB NO.:	10009	4	-	-	-	-
SHEET NO.:	01 OF 04	5	-	-	-	-
SECTION- 17		TOWNSHIP- 52S		RANGE- 26E		



D:\19059 DO TOWNHIP DOCK - 359 CAXAMBAS DRIVE\PROJECT\19059 TRANSCTS.dwg EX AERIAL 11/18/2019



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## HAVEMEIER DOCK EXISTING AERIAL

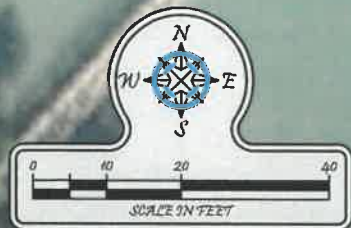
THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY & ARE NOT INTENDED FOR CONSTRUCTION USE.

**NOTES:**

- THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
- ALL DATUM SHOWN HEREON IS REFERENCED TO MLW.
- SURVEY COURTESY OF: "NO SURVEY DATA AVAILABLE"
- SURVEY DATED: MM-DD-YYYY
- APPLICANT OWNED SHORELINE (APPX LF): 128'
- EXISTING OVERWATER STRUCTURE (APPX SF): 527
- WIDTH OF WATERWAY, MHW TO MHW (APPX): 546
- TIDAL DATUM:
  - MHW (NAVD): +6.52'
  - MLW (NAVD): -1.56'

DESIGNED:	NP	DATE	11-18-2019 <th>BY</th> <td>NP<th>DATE</th><td>11-18-2019</td></td>	BY	NP <th>DATE</th> <td>11-18-2019</td>	DATE	11-18-2019
DRAWN BY:	LT	DATE	11-18-2019 <th>BY</th> <td>LT<th>DATE</th><td>11-18-2019</td></td>	BY	LT <th>DATE</th> <td>11-18-2019</td>	DATE	11-18-2019
CREATED:	11-05-19	DATE	11-05-19 <th>BY</th> <td>LT<th>DATE</th><td>11-05-19</td></td>	BY	LT <th>DATE</th> <td>11-05-19</td>	DATE	11-05-19
JOB NO.:	19059	DATE	11-05-19 <th>BY</th> <td>LT<th>DATE</th><td>11-05-19</td></td>	BY	LT <th>DATE</th> <td>11-05-19</td>	DATE	11-05-19
SHEET NO.:	02 OF 04	DATE	11-05-19 <th>BY</th> <td>LT<th>DATE</th><td>11-05-19</td></td>	BY	LT <th>DATE</th> <td>11-05-19</td>	DATE	11-05-19

SECTION- 17      TOWNSHIP- 52S      RANGE- 26E



PROPERTY LINE/LIMIT OF  
DELTONA SETTLEMENT

EXISTING DOCK  
TO BE REMOVED

EXISTING LIFT  
(OPTIONAL COVERED  
BOATLIFT)

PROPOSED FINGER

PROPOSED FINGER

EXISTING  
DOCK

APPROXIMATE  
MHWL

**NOTES:**

- THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES ONLY AND ARE NOT INTENDED FOR PERMITTING OR CONSTRUCTION USE.
- ALL DATUM SHOWN HEREON IS REFERENCED TO MLW
- SURVEY COURTESY OF: "NO SURVEY DATA AVAILABLE"
- SURVEY DATED: "NO DD-YY"
- APPLICANT OVERNIGHT SHORELINE (APPX LF): 126
- EXISTING OVERWATER STRUCTURE (APPX SF): 627
- TOTAL OF WATERWAY, MHW TO MHW (APPX FT): 540
- DATUM: MLW (NAVD) = +0.54'
- MLW (NAVD) = -1.56'
- PROPOSED OVERWATER DOCKS (APPX SF): 890
- PROPOSED COVERED BOATLIFTS (APPX SF): 130
- TOTAL OVERWATER STRUCTURE (APPX SF): 1020
- TOTAL PROTRUSION FROM MEWL: 8



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# HAVEMEIER DOCK

## PROPOSED SITE

DESIGNED:	NP	DATE	BY	CHECKED	DATE
DRAWN BY:	UT	1.	-	-	-
CREATED:	11-05-18	2.	-	-	-
JOB NO.:	19059	4.	-	-	-
SHEET NO.:	03 OF 04	5.	-	-	-
<b>SECTION- 17</b>		<b>TOWNSHIP- 52 S</b>		<b>RANGE- 26 E</b>	



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