I, JAMES M. NAISMITH, HEREBY STATE THAT THIS DRAWING REPRESENTS A SURVEY THAT IS CORRECT; WAS MADE ACCORDING TO LAW; WAS MADE IN THE FIELD UNDER MY DIRECT CONTROL AND SUPERVISION; WAS MADE UTILIZING METHODOLOGY APPROVED BY THE GLO; AND IS RECORDED IN

Vol 2, PG 767 Calhoun Co. 7/12/2012

NOTICE: THIS SURVEY WAS PERFORMED IN ACCORDANCE WITH SECTION 33.136, NATURAL RESOURCES CODE, FOR THE PURPOSE OF EVIDENCING THE LOCATION OF THE SHORELINE IN THE AREA DEPICTED IN THIS SURVEY AS THAT SHORELINE EXISTED BEFORE COMMENCEMENT OF EROSION RESPONSE ACTIVITY, AS REQUIRED BY CHAPTER 33, NATURAL RESOURCES CODE. THE LINE DEPICTED ON THIS SURVEY FIXES THE SHORELINE FOR THE PURPOSE OF LOCATING A SHORELINE BOUNDARY, SUBJECT TO MOVEMENT LANDWARD AS PROVIDED BY SECTION 33.136, NATURAL RESOURCES CODE.

NO FILL OR BUILDUP IS LOCATED WITHIN THE SURVEYED AREA AND NO RETAINING WALLS OR STRUCTURAL MODIFICATIONS HAVE BEEN PLACED ALONG THE SURVEYED LITTORAL BOUNDARY.

7/24/2012

JAMES M. NAISMITH
LICENSED STATE LAND SURVEYOR

NOTES:

1. FIELD SURVEY CONDUCTED ON FEBRUARY 23, 2012 BY JAMES M. NAISMITH AND BENJAMIN S. GAMBILL OF NAISMITH MARINE SERVICES.
2. EROSION RESPONSE WORK WILL CONSIST OF THE FOLLOWING:

   A) ENHANCING THE EXISTING BARRIER RIDGE PROTECTING THE ADJACENT WETLANDS BY BENEFICIALLY UTILIZING STOCKPILED DREDGED MATERIAL LOCATED ONSITE. ALL EARTH WORK WILL BE CONDUCTED ON UPLANDS AND WILL NOT IMPACTS WETLANDS OR WATERS OF THE U.S.

   B) BUILDING UP THE SANDY, SHELLY SHORELINE BY ADDING FILL CONSISTING OF BEACH QUALITY SAND.

   C) ERECTING ROCK STRUCTURES CONSISTING OF GROINS AND BREAKWATERS TO PROTECT THE SITE FROM THE FORCES OF EROSION.

   ALL WORK IS TO BE CONDUCTED UNDER GLO LEASE #: CL 20040001

2. ALL BEARINGS ARE LAMBERT GRID BEARINGS AND ALL COORDINATES REFER TO THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (#4204), AS DEFINED BY ARTICLE 21.071 OF THE NATURAL RESOURCES CODE OF THE STATE OF TEXAS, 1983 DATUM, US FEET. ALL DISTANCES AND COORDINATES ARE GRID. THE SCALE FACTOR IS 0.999932026 AND MAPPING ANGLE IS 01d 17' 37".
3. COORDINATES AND ELEVATIONS ARE BASED ON MONUMENTS & ON OPUS SOLUTIONS.

"CAMPO"	1" CAPPED, STEEL ROD
N = 13433597.26	N = 13434667.00
E = 2815271.85	E = 2799047.46
	NAVD 88 = 10.3'

4. MEAN HIGHER HIGH WATER (MHHW) ELEVATION OF 1.1' FOR CARANCAHUA BAY WAS DETERMINED FROM PORT LAVACA TIDE GUAGE DATA.
5. TO CONVERT FEET TO VARAS MULTIPLY BY 0.36.
6. LOT LINES SHOWN HEREON ARE BASED ON CALHOUN COUNTY APPRAISAL DISTRICT MAP.
7. REFERENCE ACCOMPANYING REPORT DATED APRIL, 2012 FOR ADDITIONAL INFORMATION.
8. BACKGROUND IMAGE FROM GOOGLE EARTH.

LINE	BEARING	GRID DISTANCE	GRID DISTANCE
L1	N 02°42'44" E	12.81' (FT)	4.61 (VAR)
L2	N 22°27'33" E	14.97' (FT)	5.39 (VAR)
L3	N 36°10'21" E	42.13' (FT)	15.17 (VAR)
L4	N 45°54'18" E	35.46' (FT)	12.77 (VAR)
L5	N 41°33'12" E	30.17' (FT)	10.86 (VAR)
L6	N 45°19'42" E	76.38' (FT)	27.50 (VAR)
L7	N 49°46'30" E	45.10' (FT)	16.24 (VAR)
L8	N 53°51'46" E	75.93' (FT)	27.33 (VAR)
L9	N 47°26'12" E	43.69' (FT)	15.73 (VAR)
L10	N 47°37'42" E	52.07' (FT)	18.75 (VAR)
L11	N 49°24'08" E	77.02' (FT)	27.73 (VAR)
L12	N 49°24'50" E	63.78' (FT)	22.96 (VAR)
L13	N 50°05'08" E	46.73' (FT)	16.82 (VAR)
L14	N 46°19'26" E	50.78' (FT)	18.28 (VAR)
L15	N 49°59'10" E	35.37' (FT)	12.73 (VAR)
L16	N 44°17'24" E	34.12' (FT)	12.28 (VAR)
L17	N 45°19'19" E	50.32' (FT)	18.12 (VAR)
L18	N 44°32'36" E	49.05' (FT)	17.66 (VAR)
L19	N 45°08'07" E	64.36' (FT)	23.17 (VAR)
L20	N 47°02'12" E	29.09' (FT)	10.47 (VAR)
L21	N 39°24'46" E	30.10' (FT)	10.84 (VAR)
L22	N 42°53'56" E	66.64' (FT)	23.99 (VAR)
L23	N 38°00'42" E	18.14' (FT)	6.53 (VAR)
L24	N 51°40'49" E	29.04' (FT)	10.45 (VAR)
L25	N 68°06'24" E	13.54' (FT)	4.87 (VAR)
L26	N 83°58'27" E	21.80' (FT)	7.85 (VAR)
L27	N 69°13'25" E	14.75' (FT)	5.31 (VAR)
L28	N 16°17'46" E	22.99' (FT)	8.28 (VAR)
L29	N 21°58'47" E	22.92' (FT)	8.25 (VAR)
L30	N 03°30'47" E	13.50' (FT)	4.86 (VAR)
L31	N 19°57'28" W	29.30' (FT)	10.55 (VAR)
L32	N 29°27'01" W	23.23' (FT)	8.36 (VAR)
L33	N 40°26'47" W	55.44' (FT)	19.96 (VAR)
L34	N 31°45'48" W	26.52' (FT)	9.55 (VAR)
L35	N 84°17'24" W	11.97' (FT)	4.31 (VAR)
L36	S 77°03'04" W	15.20' (FT)	5.47 (VAR)
L37	N 71°11'44" W	29.90' (FT)	10.76 (VAR)
L38	N 60°30'00" W	24.82' (FT)	8.94 (VAR)
L39	N 51°09'44" W	40.07' (FT)	14.43 (VAR)
L40	N 44°37'03" W	51.49' (FT)	18.54 (VAR)
L41	N 40°46'22" W	76.74' (FT)	27.63 (VAR)
L42	N 43°22'07" W	61.35' (FT)	22.09 (VAR)
L43	N 33°26'13" W	28.05' (FT)	10.10 (VAR)
L44	N 21°52'44" W	25.71' (FT)	9.26 (VAR)
L45	N 11°16'27" W	15.04' (FT)	5.41 (VAR)
L46	N 03°19'17" W	24.13' (FT)	8.69 (VAR)
L47	N 15°45'27" E	22.75' (FT)	8.19 (VAR)
L48	N 07°20'21" E	14.30' (FT)	5.15 (VAR)
L49	N 18°04'30" W	8.55' (FT)	3.08 (VAR)

P1
JOHN VANCE ET AL
603 S GILBERT
EDNA, TEXAS 77957

NANCY AIMONE
203 FAIRWAY ST.
VICTORIA, TEXAS 77904
INST.#119468 2

P2
DAVID P WAHLBERG
1208 WEST AVE
AUSTIN, TEXAS 78701
FILE#0065468 VOL.263 PG. 431

P3
BEST ATM INC.
C/O/ 7403 FOSTER CREEK DRIVE
RICHMOND, TEXAS 77406-8793
FILE#0069134 VOL.281 PG.892

P4
JOHNNY RUY &
LANETTE MARIE GRESHAM
PO BOX 212
LOUISE, TEXAS 77455
FILE#0067986 VOL.276 PG.150

P5
NOVIAN ALLEN FAMILY TRUST
C/O MADELINE E NOVIAN
806 S WELLS ST
EDNA, TEXAS 77957
WD#27527 VOL.88 PG.34 &
INST.#125150 2

P6
PAUL & PATTY AHRENS
15115 BERKSHIRE GREEN DR
HOUSTON, TEXAS 77083-5691
FILE#0066515 VOL.268 PG.811

P7
JOSEPH W & CAROLYN J HOLUB
12 NORTHSHIRE
VICTORIA, TEXAS 77905-1610
FILE#0059559 VOL.233 PG.277

P8
BECKY WIED
609 N MECHANIC
EL CAMPO, TEXAS 77437
INST.# 105985 4

P9
JAMES W & DEBORAH M LAWSON
4711 DUNLEIGH CT
SUGARLAND, TEXAS 77479
FILE#00087206 VOL.376 PG.175

P10
MICHAEL SCHWENN
5235 HARRIS WOODS TRACE
FULSHEAR, TEXAS 77441
INST.#127578

P11
CESAR VASQUEZ
13306 OLIVE TRL
HOUSTON, TEXAS 77077-2272
VLD.#23465 VOL.67 PG.118 &
INST.#112920

P12
LARRY W & MAXINE A DVORAK
243 CR 307N
PORT LAVACA, TEXAS 77979
WD#40246 VOL.145 PG.238

P13
DARRELL ATKINSON
PO BOX 388
EDNA, TX 77957
FILE#00080696 VOL.361 PG.776

P14–P16
ELISEO GUEVARA
87 SEAGULL ST
PORT LAVACA, TEXAS 77979
FILE#00087468 VOL.377 PG.469 & FILE#00086663 VOL.373 PG.265,

P17
CALHOUN COUNTY
211 S. ANN ST
PORT LAVACA, TX 77979
FILE#00077988 VOL.329 PG.468

TEXAS GENERAL LAND OFFICE
Art. 33.136 Natural Resources Code
Co. Calhoun Sketch No. 5

Naismith Marine Services
Sea Floor Surveying
3765 South Alameda, Suite 205,
Corpus Christi, Texas 78411
(361) 945-0248 www.naismithmarine.com

NO.	DATE:	REVISION

COASTAL BOUNDARY SURVEY OF THE LITTORAL BOUNDARY OF A 10.26 AC UPLAND TRACT IN THE WILLIAM ARNOLD SURVEY, A-2 ADJACENT TO ST 222, CARANCAHUA BAY CALHOUN COUNTY, TEXAS

SCALE:	1" = 60'	DATE:	SHEET:
DRAWN BY:	3SG	MARCH 2012	1 OF 1

NRC Art. 33.136 Calhoun Co. Sketch 5

94633

TEXAS GENERAL LAND OFFICE

JERRY PATTERSON, COMMISSIONER

Surveying Division
Coastal Boundary Survey Approval

Project: Port Alto Beach & Wetlands Restoration

Project No: CL20040001 (GLO)

Project Manager: Amy Nunez (GLO - Lower Coast)

Surveyor: James M. Naismith, Licensed State Land Surveyor

Description: A Coastal Boundary Survey, dated March, 2012, by James M. Naismith, Licensed State Land Surveyor, delineating the littoral boundary of a portion of the William Arnold Survey, Abstract 2, Calhoun County, same line being the west boundary line of State of Texas owned Submerged Land Tract 222, on the western shore of Carancahua Bay as shown on Texas General Land Office, Submerged Area Map No. 2896-423 and being situated on a point of land, approximately one-half mile northeasterly from the community of Port Alto.

A Coastal Boundary Survey for the above-referenced project has been reviewed and accepted; upon completion of public notice requirements, the survey will be filed in the Texas General Land Office, Archives and Records, in accordance with provisions of the *Texas Natural Resources Code*, Chapter 33.136.

Approved:

Signed: David A. Kyle — Surveying Division

July 27, 2012 — Date

Approval Filed as:

Texas Natural Resources Code Article 33.136, Calhoun County, Small Format Sketch No. 5

TEXAS GENERAL LAND OFFICE
Art. 33.136, Natural Resources Code
Co. Calhoun, Sketch No. 5
File Date 06/20/2018 by R. Kartye

Stephen F. Austin Building • 1700 North Congress Avenue • Austin, Texas 78701-1495
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94634

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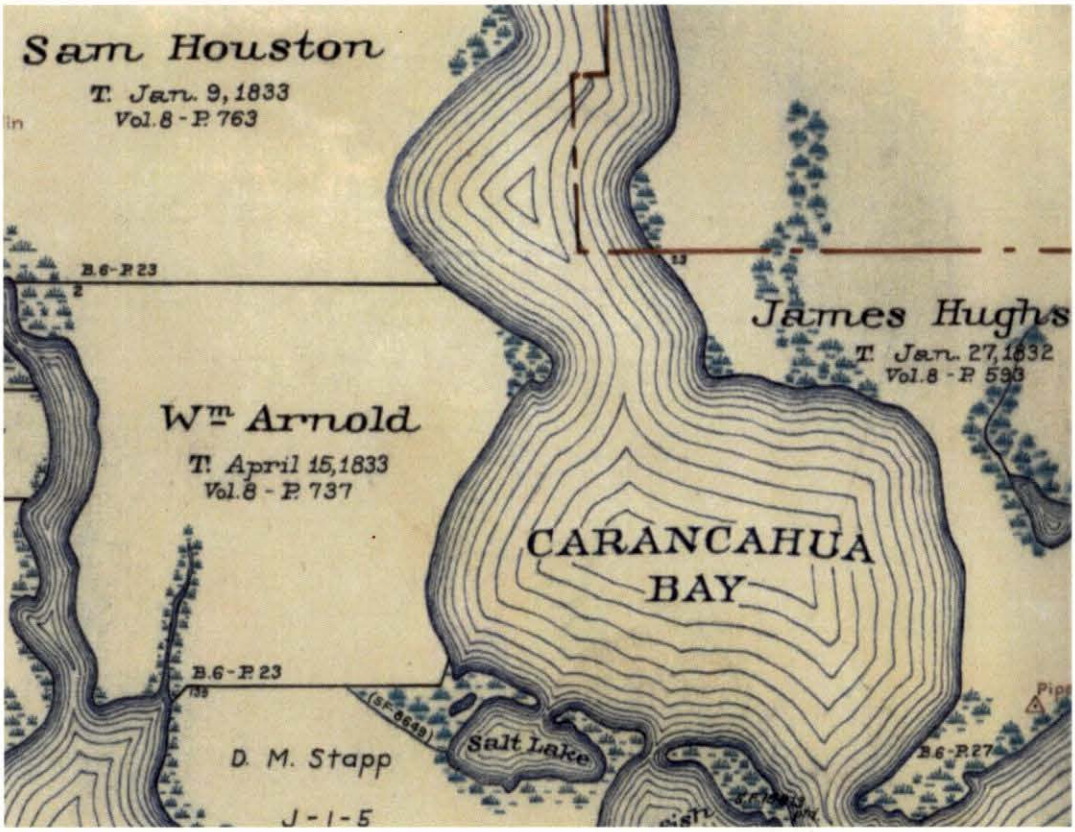
Naismith Marine Services
Sea Floor Surveying

April 7, 2012

Report of a Coastal Boundary Survey for

A 10.26 Ac Tract on Carancahua Bay in the William Arnold Survey, Abstract No. 2 Calhoun County, Texas

This report accompanies a map of survey dated March, 2012.



Survey area is in the William Arnold Survey.

94635

Survey Control

Horizontal control for this project is based on the control point "CAMPO", a benchmark near the survey area, and a 1" capped, steel rod set by Naismith Marine Services at the project site. Multiple OPUS solutions at the 1" capped, steel rod were used to compute coordinates in the South Central Zone of the Texas State Plane Coordinate system. Datum is NAD83(CORS96), US Feet.

Tidal Datums

The tide gauge at "Port Lavaca" and five consecutive days of tidal observations at the project site were used to establish MHHW (Mean Higher High Water) for this survey.

As referenced to this survey, the elevation of MHHW on the Carancahua Bay shoreline is 1.1 feet (datum is NAVD 88).

MHHW Survey

The MHHW line was measured along the shoreline of Carancahua Bay at the 10.26 acre tract. The entire shoreline of the 10.26 acre tract is composed shell and shell hash, except for the north east point of the 10.26 acre tract where rock was previously placed for purposes of shoreline stabilization. Lines L27 through L35 indicate the area of previous shoreline stabilization.

A man-made canal and berm border the 10.26 acre tract along the west boundary of the tract. A 1958 aerial photograph shows evidence of excavation of the canal and creation of the berm adjacent to the canal sometime prior to the photograph.

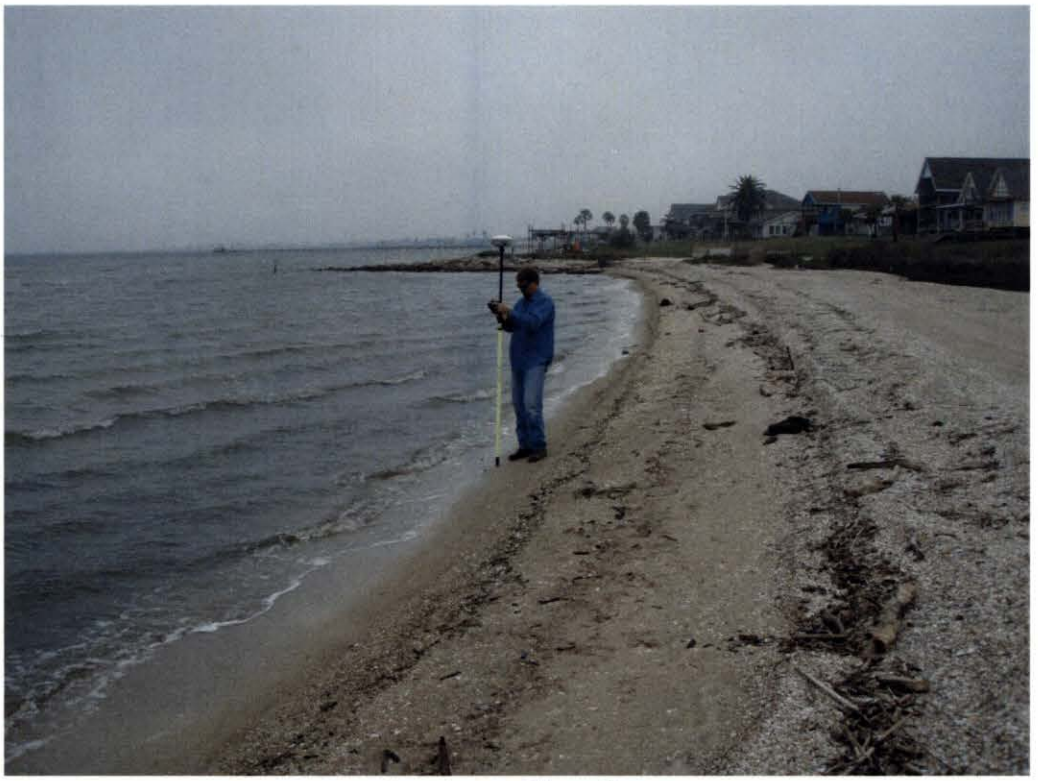
Additional research is necessary to determine ownership of the canal and berm.

Proposed Erosion Response Activity

The nature of the erosion response activities consist of:
1) Enhancing the existing barrier ridge protecting the wetlands by beneficially utilizing stockpiled dredged material located onsite. All earth work will be conducted on uplands and will not impact wetlands or waters of the U.S.
2) Build up the sandy shelly shoreline by adding fill consisting of beach quality sand.
3) Erect rock structures consisting of groins and breakwaters to protect the site from the forces of erosion.

GLO lease #: CL 20040001

Northeast Shoreline



Southeast Shoreline

94637

10.26 Acre Tract in 2011

1958 Aerial Photograph Showing Evidence of Recent Canal Excavation

94638

Field Notes for the littoral boundary of a 10.26 acre tract described in Volume 329, Pages 468 to 477, Official Public Records of Calhoun County, in the William Arnold Survey, A-2, surveyed in 1830, adjacent to State Tract 222 in Carancahua Bay, Calhoun County, Texas. Distances, Bearings, and Coordinates are grid, North American Datum of 1983, Texas South Central Zone.

Beginning at a point , N= 13,434,457.39, E= 2,799,420.85, on the MHHW (Mean Higher High Water) line on the west shoreline of Carancahua Bay; from which "CAMPO" bears S 86°53'38" E a distance of 15,874.32' (5,714.76v);

thence along the MHHW line the following courses:
N 02°42'44" E a distance of 12.81' (4.61v);
thence N 22°27'33" E a distance of 14.97' (5.39v);
thence N 36°10'21" E a distance of 42.13' (15.17v);
thence N 45°54'18" E a distance of 35.46' (12.77v);
thence N 41°33'12" E a distance of 30.17' (10.86v);
thence N 45°19'42" E a distance of 76.38' (27.50v);
thence N 49°46'30" E a distance of 45.10' (16.24v);
thence N 53°51'46" E a distance of 75.93' (27.33v);
thence N 47°26'12" E a distance of 43.69' (15.73v);
thence N 47°37'42" E a distance of 52.07' (18.75v);
thence N 49°24'08" E a distance of 77.02' (27.73v);
thence N 49°24'50" E a distance of 63.78' (22.96v);
thence N 50°05'08" E a distance of 46.73' (16.82v);
thence N 46°19'26" E a distance of 50.78' (18.28v);
thence N 49°59'10" E a distance of 35.37' (12.73v);
thence N 44°17'24" E a distance of 34.12' (12.28v);
thence N 45°19'19" E a distance of 50.32' (18.12v);
thence N 44°32'36" E a distance of 49.05' (17.66v);
thence N 45°08'07" E a distance of 64.36' (23.17v);
thence N 47°02'12" E a distance of 29.09' (10.47v);
thence N 39°24'46" E a distance of 30.10' (10.84v);
thence N 42°53'56" E a distance of 66.64' (23.99v);
thence N 38°00'42" E a distance of 18.14' (6.53v);
thence N 51°40'49" E a distance of 29.04' (10.45v);
thence N 68°06'24" E a distance of 13.54' (4.87v);
thence N 83°58'27" E a distance of 21.80' (7.85v);
thence N 69°13'25" E a distance of 14.75' (5.31v);
thence N 16°17'46" E a distance of 22.99' (8.28v);
thence N 21°58'47" E a distance of 22.92' (8.25v);
thence N 03°30'47" E a distance of 13.50' (4.86v);
thence N 19°57'28" W a distance of 29.30' (10.55v);
thence N 29°27'01" W a distance of 23.23' (8.36v);

thence N 40°26'47" W a distance of 55.44' (19.96v);
thence N 31°45'48" W a distance of 26.52' (9.55v);
thence N 84°17'24" W a distance of 11.97' (4.31v);
thence S 77°03'04" W a distance of 15.20' (5.47v);
thence N 71°11'44" W a distance of 29.90' (10.76v);
thence N 60°30'00" W a distance of 24.82' (8.94v);
thence N 51°09'44" W a distance of 40.07' (14.43v);
thence N 44°37'03" W a distance of 51.49' (18.54v);
thence N 40°46'22" W a distance of 76.74' (27.63v);
thence N 43°22'07" W a distance of 61.35' (22.09v);
thence N 33°26'13" W a distance of 28.05' (10.10v);
thence N 21°52'44" W a distance of 25.71' (9.26v);
thence N 11°16'27" W a distance of 15.04' (5.41v);
thence N 03°19'17" W a distance of 24.13' (8.69v);
thence N 15°45'27" E a distance of 22.75' (8.19v);
thence N 07°20'21" E a distance of 14.30'(5.15v);
thence N 18°04'30" W a distance of 8.55' (3.08v) to the **end** point, N= 13,435,697.63, E= 2,799,916.43 , from which "CAMPO" bears S 82°12'41" E a distance of 15,498.44' (5,579.44v).

JMC 6/22/2012

James M. Naismith, RPLS, LSLS

Naismith Marine Services, Inc.

94640