

VICINITY MAP  
NOT TO SCALE

- NOTES:
- ALL COORDINATES REFER TO THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE (#4204), NORTH AMERICAN DATUM OF 1983 (2011 ADJUSTMENT), US FEET. ALL BEARINGS ARE LAMBERT GRID BEARINGS AND ALL DISTANCES ARE GRID. THE COMBINED SCALE FACTOR IS 1.00004678 AND CONVERGENCE ANGLE IS +01° 04' 41.5".
  - COORDINATES AND ELEVATIONS ARE BASED ON NGS MONUMENT:  
NGS MONUMENT "877 90038 B" (PUBLISHED POSITION)  
N: 13,275,073.31'  
E: 2,677,168.40'  
ELEV: 3.8' NAVD 88
  - ALL OTHER MONUMENTS AS SHOWN HEREON.
  - ALL POSITIONS AND ELEVATIONS RECORDED USING SURVEY GRADE, RTK GPS. EQUIPMENT: HEMISPHERE S320 AND/OR TRIMBLE R10.
  - THE STATE OWNERSHIP BOUNDARY IS BASED ON THE MEAN HIGHER HIGH WATER (MHHW) CONTOUR. MHHW ELEVATION OF 0.96' NAVD88 WAS DETERMINED IN ACCORDANCE WITH A LOCAL SITE STUDY AS COMPARED TO THE PUBLISHED VALUE FOR THE NOAA GAUGE AT ARANSAS WILDLIFE REFUGE, TEXAS. STATION ID: 8774230.
  - TO CONVERT FEET TO VARAS MULTIPLY BY 0.36.
  - REFERENCE ACCOMPANYING REPORT CONTAINING FIELD NOTES DATED JULY 2021 FOR ADDITIONAL INFORMATION.
  - BACKGROUND IMAGERY SOURCED FROM MICROSOFT BING AND DOES NOT REFLECT CONDITIONS ON THE GROUND AT TIME OF SURVEY.

I, JAMES M. NAISMITH, HEREBY STATE THAT THIS DRAWING REPRESENTS A SURVEY THAT IS CORRECT; IN ACCORDANCE WITH SECTION 21.042 TEXAS NATURAL RESOURCES CODE, 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

**2022-00086 CORRECT**

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.

SURVEYED: JUNE 28, 2021  
SURVEY PERSONNEL: CLAY COTTLE, QUINTIN DOBRENSKI

*JMN*  
JAMES M. NAISMITH  
LICENSED STATE LAND SURVEYOR  
12/21/2021

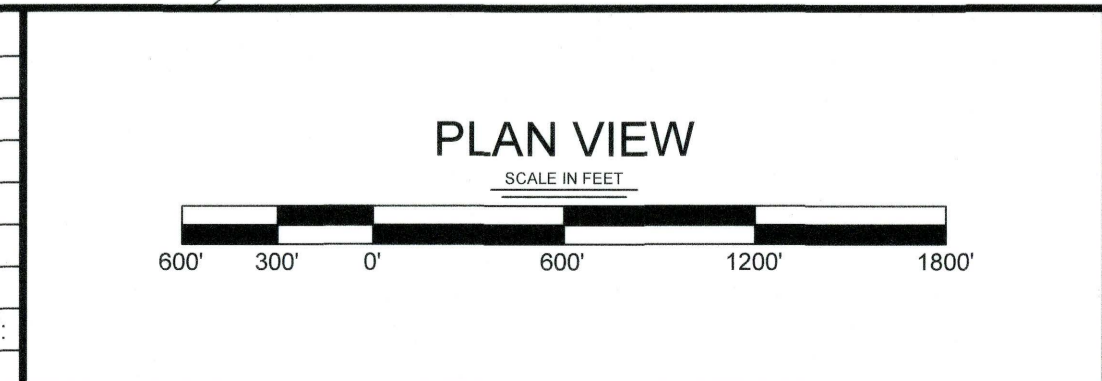
TEXAS GENERAL LAND OFFICE  
Art. 33.136, Natural Resources Code  
Co. *Calhoun* SK No. *9*  
File Date *06/27/2021* by *K. Seheiber*

NOTES:

|        |  |
|--------|--|
| FND.   | FOUND  |
| P.O.B. | POINT OF BEGINNING                           |
| P.O.T. | POINT OF TERMINATION                         |
| R.O.W. | RIGHT-OF-WAY                                 |
| MHHW   | MEAN HIGHER HIGH WATER                       |
|        | MHHW LINE, JUNE 2021, EL. EV. = 0.96' NAVD88 |
|        | APPARENT PROPERTY LINE                       |
|        | APPROXIMATE SURVEY LINE                      |

| REV. NO. | REV. DATE | REV. DESCRIPTION | REV. BY: |
|----------|-----------|------------------|----------|
| 00       |           |                  |          |

REVISIONS



3854 FM 1069  
ARANSAS PASS, TEXAS 78336  
WWW.TBSMITH.COM  
TBPLS #10194575

|               |                                       |              |           |
|---------------|---------------------------------------|--------------|-----------|
| DRAWN BY:     | JTR                                   | APPROVED BY: | JMN       |
| DATE:         | 12/14/2021                            | JOB NO.:     | 2021.0216 |
| DRAWING NAME: | 2021_0216_MATAGORDA_BREACHES-CBS_FILL |              |           |
| PROJECTION:   | TEXAS SOUTH CENTRAL ZONE              |              |           |
| GEO. DATUM:   | NAD83 (2011)                          |              |           |
| VERT. DATUM:  | NAVD88                                |              |           |
| GRID UNITS:   | US SURVEY FEET                        |              |           |
| SHEET NO.:    | 1                                     | OF           | 4         |

COASTAL BOUNDARY SURVEY

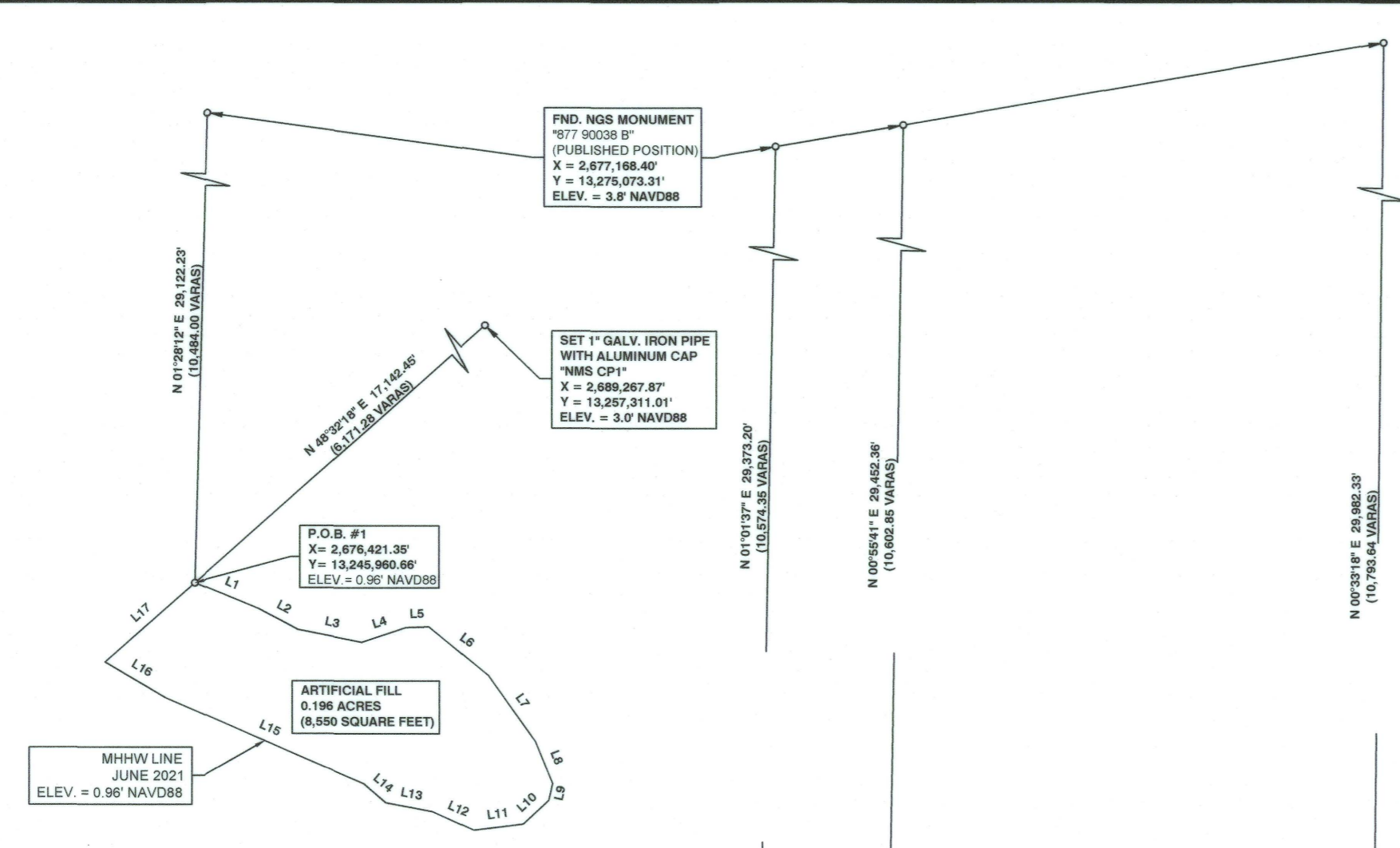
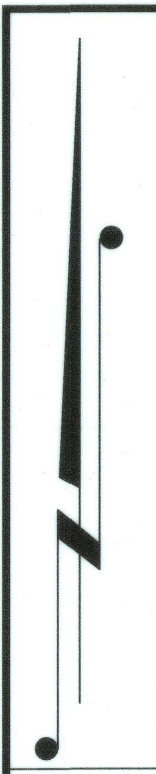
HDR ENGINEERING, INC.

COASTAL BOUNDARY SURVEY/ARTIFICIAL FILL AT SHORELINE BREACHES AT ARANSAS NATIONAL WILDLIFE REFUGE ON MATAGORDA ISLAND SITUATED IN THE JAMES POWER & JAMES W. HEWETSON SURVEY, ABSTRACT 30 CALHOUN COUNTY, TEXAS

12/17/2021 - P:\12021\0216\DWG\2021\_0216\_MATAGORDA\_BREACHES-CBS\_FILL.DWG

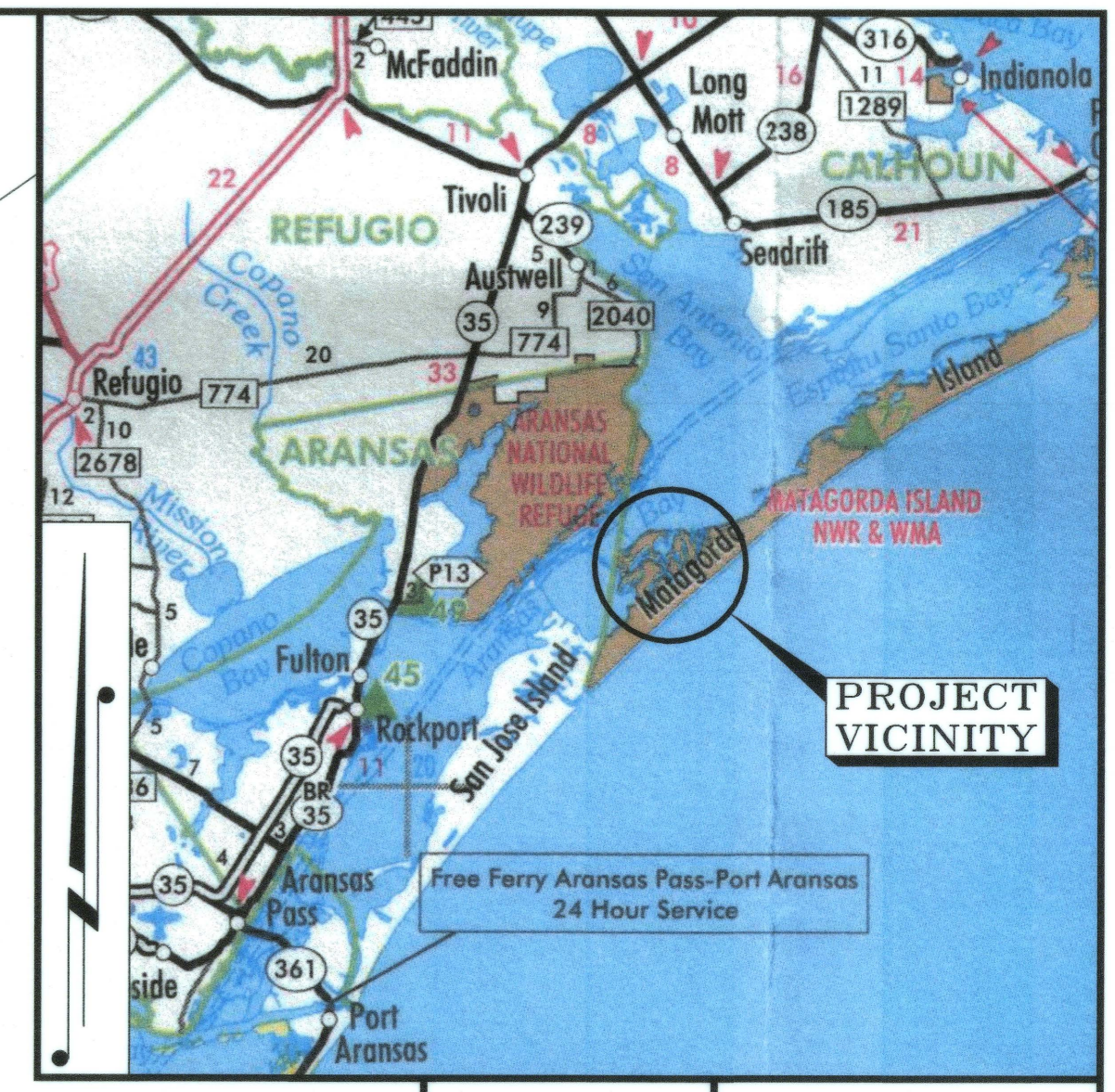


12/17/2021 - P:\Y-2021\2021.0216\DWG\2021\_0216\_MATAGORDA\_BREACHES-CBS\_FILL.DWG



JAMES POWER & JAMES W. HEWETSON SURVEY, ABSTRACT 30

JAMES POWER & JAMES W. HEWETSON SURVEY, ABSTRACT 30



VICINITY MAP NOT TO SCALE

| LINE | BEARING       | DISTANCE | VARAS  |
|------|---------------|----------|--------|
| L1   | S 67°38'19" E | 27.02'   | 9.73V  |
| L2   | S 62°18'21" E | 17.64'   | 6.35V  |
| L3   | S 78°42'34" E | 25.45'   | 9.18V  |
| L4   | N 71°36'33" E | 18.41'   | 6.63V  |
| L5   | N 88°17'31" E | 9.08'    | 3.27V  |
| L6   | S 50°43'10" E | 30.24'   | 10.89V |
| L7   | S 35°25'34" E | 32.07'   | 11.54V |
| L8   | S 21°56'44" E | 17.78'   | 6.40V  |
| L9   | S 12°05'56" W | 6.73'    | 2.42V  |
| L10  | S 47°09'31" W | 13.65'   | 4.91V  |
| L11  | S 82°44'20" W | 19.52'   | 7.03V  |
| L12  | N 65°44'44" W | 18.01'   | 6.48V  |
| L13  | N 79°03'00" W | 18.77'   | 6.76V  |
| L14  | N 49°27'29" W | 11.37'   | 4.09V  |
| L15  | N 66°26'10" W | 84.83'   | 30.54V |
| L16  | N 59°34'52" W | 27.85'   | 10.03V |
| L17  | N 48°37'02" E | 47.05'   | 16.94V |
| L18  | S 86°22'33" E | 7.30'    | 2.63V  |
| L19  | S 23°52'56" E | 21.61'   | 7.78V  |
| L20  | S 66°22'09" E | 5.42'    | 1.95V  |
| L21  | S 16°32'29" E | 18.58'   | 6.69V  |
| L22  | S 59°54'35" W | 16.14'   | 5.81V  |
| L23  | N 27°55'35" W | 13.62'   | 4.90V  |
| L24  | N 57°29'35" W | 5.77'    | 2.08V  |
| L25  | N 09°27'59" E | 6.34'    | 2.28V  |
| L26  | N 21°11'05" W | 22.33'   | 8.06V  |
| L27  | N 44°40'52" E | 8.49'    | 3.05V  |
| L28  | S 27°18'42" E | 26.53'   | 9.55V  |
| L29  | S 75°18'13" E | 31.33'   | 11.28V |
| L30  | S 62°13'35" E | 14.66'   | 5.28V  |
| L31  | S 18°40'08" E | 7.30'    | 2.63V  |
| L32  | S 08°57'39" W | 12.47'   | 4.49V  |
| L33  | S 30°39'15" W | 13.50'   | 4.86V  |
| L34  | S 05°47'46" W | 12.52'   | 4.51V  |
| L35  | S 67°06'40" W | 26.79'   | 9.64V  |
| L36  | S 88°12'38" W | 8.72'    | 3.14V  |
| L37  | N 46°23'03" W | 16.42'   | 5.91V  |
| L38  | N 33°18'43" W | 27.78'   | 10.00V |
| L39  | N 18°16'47" W | 16.12'   | 5.80V  |
| L40  | N 00°51'47" E | 8.16'    | 2.94V  |
| L41  | N 24°36'54" E | 14.68'   | 5.28V  |
| L42  | N 28°12'34" W | 10.61'   | 3.82V  |
| L43  | N 43°48'56" E | 7.62'    | 2.74V  |
| L44  | N 61°33'21" E | 12.59'   | 4.53V  |
| L45  | N 23°27'00" W | 38.88'   | 14.00V |
| L46  | N 49°38'48" W | 6.24'    | 2.25V  |
| L47  | N 23°17'45" W | 48.37'   | 17.41V |
| L48  | N 35°35'37" W | 16.03'   | 5.77V  |
| L49  | N 20°45'10" W | 18.32'   | 6.59V  |
| L50  | N 09°48'45" W | 25.14'   | 9.05V  |
| L51  | N 30°37'20" W | 45.20'   | 16.27V |
| L52  | N 19°05'47" W | 29.73'   | 10.70V |
| L53  | N 11°31'44" W | 31.76'   | 11.43V |
| L54  | N 16°20'23" W | 23.79'   | 8.56V  |
| L55  | N 33°48'36" W | 15.81'   | 5.69V  |
| L56  | N 19°03'05" W | 50.48'   | 18.17V |
| L57  | N 03°46'03" E | 14.33'   | 5.16V  |
| L58  | N 07°30'42" E | 13.03'   | 4.69V  |
| L59  | N 12°17'21" E | 11.37'   | 4.09V  |
| L60  | N 74°40'14" E | 10.86'   | 3.91V  |
| L61  | S 28°43'18" E | 26.01'   | 9.36V  |
| L62  | S 51°00'55" E | 40.36'   | 14.53V |
| L63  | S 35°22'52" E | 25.69'   | 9.25V  |
| L64  | S 26°31'06" E | 26.61'   | 9.58V  |
| L65  | S 34°56'59" E | 67.39'   | 24.26V |
| L66  | S 24°06'17" E | 17.20'   | 6.19V  |
| L67  | S 09°13'04" E | 6.69'    | 2.41V  |
| L68  | S 34°24'02" W | 9.56'    | 3.44V  |
| L69  | S 13°50'42" W | 15.02'   | 5.41V  |
| L70  | S 21°24'14" E | 98.96'   | 35.82V |
| L71  | S 46°12'02" E | 10.20'   | 3.67V  |
| L72  | S 19°10'31" E | 26.61'   | 9.58V  |
| L73  | S 43°16'40" W | 61.51'   | 22.14V |

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NGS MONUMENT "877 90038 B" (PUBLISHED POSITION)  
N: 13,275,073.31'  
E: 2,677,168.40'  
ELEV: 3.8' NAVD88
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  - TO CONVERT FEET TO VARAS MULTIPLY BY 0.36.
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2022-00086 CORRECT

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SURVEYED: JUNE 28, 2021

SURVEY PERSONNEL: CLAY COTTLE, DREW DOBENSKI

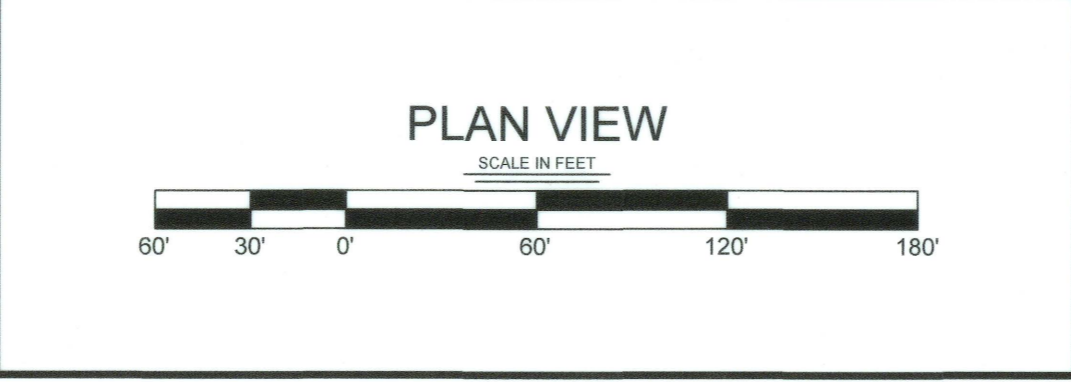
JMA  
JAMES M. NAISMITH  
LICENSED STATE LAND SURVEYOR  
12/14/2021



NOTES:

|        |  |
|--------|--|
| FND.   | FOUND                                      |
| P.O.B. | POINT OF BEGINNING                         |
| P.O.T. | POINT OF TERMINATION                       |
| R.O.W. | RIGHT-OF-WAY                               |
| MHHW   | MEAN HIGHER HIGH WATER                     |
| ---    | MHHW LINE, JUNE 2021, ELEV. = 0.96' NAVD88 |
| ---    | APPARENT PROPERTY LINE                     |
| ---    | APPROXIMATE SURVEY LINE                    |

| REV. NO. | REV. DATE | REV. DESCRIPTION | REV. BY |
|----------|-----------|------------------|---------|
| 00       | ---       | ---              | ---     |



**TBS T. BAKER SMITH, LLC**  
A CENTURY OF SOLUTIONS

3854 FM 1069  
ARANSAS PASS, TEXAS 78336  
WWW.TBSMITH.COM  
TBLPS #10194575

|               |                                       |              |           |
|---------------|---------------------------------------|--------------|-----------|
| DRAWN BY:     | JTR                                   | APPROVED BY: | JMN       |
| DATE:         | 12/14/2021                            | JOB NO.:     | 2021.0216 |
| DRAWING NAME: | 2021_0216_MATAGORDA_BREACHES-CBS_FILL |              |           |
| PROJECTION:   | TEXAS SOUTH CENTRAL ZONE              |              |           |
| GEO. DATUM:   | NAD83 (2011) VERT. DATUM: NAVD88      |              |           |
| GRID UNITS:   | US SURVEY FEET                        |              |           |
| SHEET NO.:    | 2                                     | OF           | 4         |

**COASTAL BOUNDARY SURVEY**

HDR ENGINEERING, INC.

COASTAL BOUNDARY SURVEY/ARTIFICIAL FILL AT SHORELINE BREACHES AT ARANSAS NATIONAL WILDLIFE REFUGE ON MATAGORDA ISLAND SITUATED IN THE JAMES POWER & JAMES W. HEWETSON SURVEY, ABSTRACT 30 CALHOUN COUNTY, TEXAS



12/17/2021 - P:\Y-2021\2021-0218\DWG\2021\_0216\_MATAGORDA-BREACHES-CBS-FILL.DWG

| LINE | BEARING       | DISTANCE | VARAS  |
|------|---------------|----------|--------|
| L74  | N 62°03'20" E | 25.84'   | 9.30V  |
| L75  | N 44°41'51" E | 28.30'   | 10.19V |
| L76  | N 57°42'51" E | 16.89'   | 6.01V  |
| L77  | N 75°30'32" E | 20.38'   | 7.34V  |
| L78  | S 53°57'10" E | 6.85'    | 2.47V  |
| L79  | N 71°02'57" E | 18.31'   | 6.59V  |
| L80  | N 34°06'30" E | 21.14'   | 7.61V  |
| L81  | N 72°19'36" E | 8.44'    | 3.04V  |
| L82  | N 85°44'02" E | 17.56'   | 6.32V  |
| L83  | S 73°24'17" E | 21.56'   | 7.76V  |
| L84  | S 31°34'49" E | 3.95'    | 1.42V  |
| L85  | S 21°06'01" W | 9.49'    | 3.42V  |
| L86  | S 40°34'33" W | 24.57'   | 8.85V  |
| L87  | S 71°53'50" W | 16.03'   | 5.77V  |
| L88  | N 71°13'03" W | 15.23'   | 5.48V  |
| L89  | S 68°45'52" W | 21.23'   | 7.64V  |
| L90  | S 36°29'23" W | 11.37'   | 4.09V  |
| L91  | S 71°53'51" W | 16.90'   | 6.09V  |
| L92  | S 57°11'11" W | 35.01'   | 12.50V |
| L93  | S 43°09'41" W | 17.14'   | 6.17V  |
| L94  | S 29°28'27" W | 16.63'   | 5.99V  |
| L95  | S 03°34'24" W | 22.73'   | 8.18V  |
| L96  | N 16°23'23" W | 60.79'   | 21.89V |
| L97  | S 74°20'57" W | 7.51'    | 2.70V  |
| L98  | S 40°39'25" W | 13.81'   | 4.97V  |
| L99  | S 63°10'11" W | 41.65'   | 15.00V |
| L100 | S 32°20'44" W | 12.77'   | 4.60V  |
| L101 | S 49°22'37" W | 31.34'   | 11.28V |
| L102 | S 21°26'34" W | 15.35'   | 5.53V  |
| L103 | S 55°04'08" W | 18.11'   | 6.52V  |
| L104 | S 33°18'15" W | 32.74'   | 11.78V |
| L105 | S 64°37'29" W | 10.24'   | 3.69V  |
| L106 | S 84°38'27" W | 24.60'   | 8.85V  |
| L107 | N 72°56'27" W | 50.46'   | 18.17V |
| L108 | N 44°12'34" W | 33.62'   | 12.10V |
| L109 | N 06°51'20" W | 14.65'   | 5.27V  |
| L110 | N 17°13'10" E | 6.72'    | 2.42V  |
| L111 | N 39°43'56" E | 9.73'    | 3.50V  |
| L112 | S 76°34'56" E | 23.79'   | 8.56V  |
| L113 | N 79°31'19" E | 40.17'   | 14.46V |
| L114 | N 60°28'28" E | 14.52'   | 5.23V  |
| L115 | N 44°13'13" E | 62.59'   | 22.53V |
| L116 | N 50°55'37" E | 46.27'   | 16.86V |
| L117 | N 33°08'59" E | 36.52'   | 13.15V |
| L118 | N 76°41'10" E | 7.08'    | 2.55V  |
| L119 | S 32°55'05" E | 73.05'   | 26.30V |

P.O.B. #5  
X = 2,678,168.82  
Y = 13,250,203.09  
ELEV. = 0.96' NAVD88

FND. NGS MONUMENT  
"877 90038 B"  
(PUBLISHED POSITION)  
X = 2,677,168.40  
Y = 13,275,073.31  
ELEV. = 3.8' NAVD88

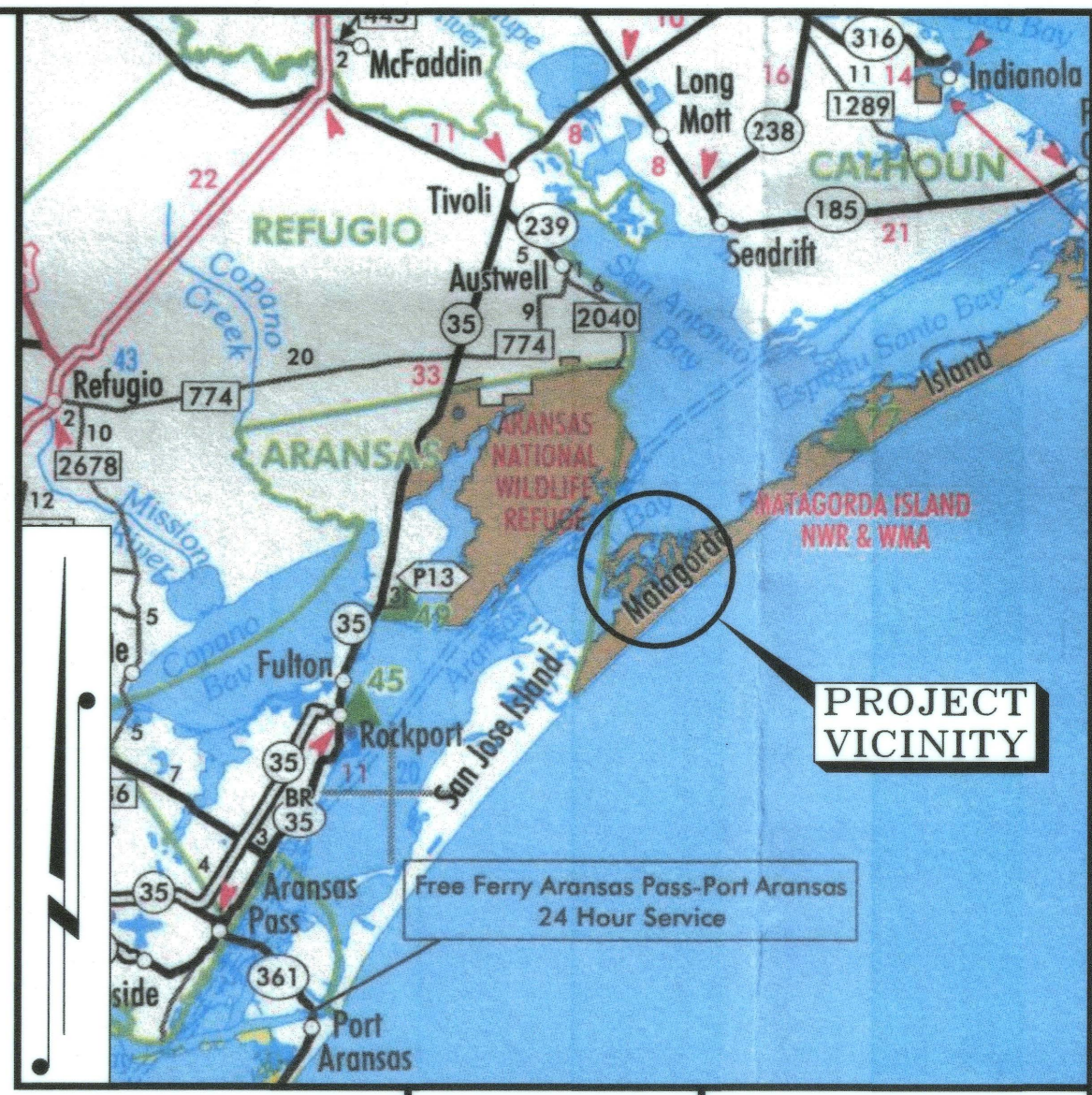
SET 1" GALV. IRON PIPE  
WITH ALUMINUM CAP  
"NMS CP"  
X = 2,688,267.87  
Y = 13,257,311.04  
ELEV. = 3.97' NAVD88

SET 1" GALV. IRON PIPE  
WITH ALUMINUM CAP  
"NMS CP"  
X = 2,688,811.17  
Y = 13,287,204.21  
ELEV. = 2.9' NAVD88

P.O.B. #8  
X = 2,678,573.49  
Y = 13,280,311.04  
ELEV. = 0.96' NAVD88

JAMES POWER & JAMES W.  
HEWETSON SURVEY, ABSTRACT 30

JAMES POWER & JAMES W.  
HEWETSON SURVEY, ABSTRACT 30



VICINITY MAP  
NOT TO SCALE

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2022-00086 OPRCLT

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SURVEYED: JUNE 28, 2021

SURVEY PERSONNEL: CLAY COTTLE, QUINN DOBSON

JAMES M. NAISMITH  
LICENSED STATE LAND SURVEYOR  
12/21/2021

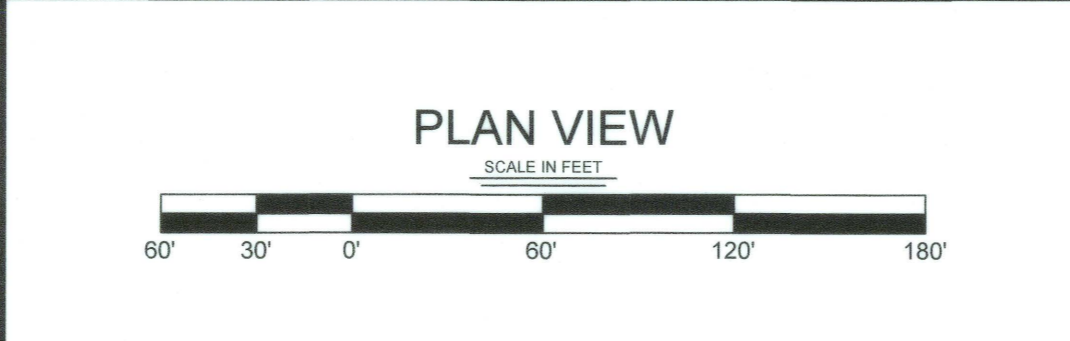


TEXAS GENERAL LAND OFFICE  
Art. 33.136, Natural Resources Code  
Co. Calhoun, SR No. 9  
File Date 06/23/2022 by K. Seiber

NOTES:

|        |  |
|--------|--|
| FND.   | FOUND                                      |
| P.O.B. | POINT OF BEGINNING                         |
| P.O.T. | POINT OF TERMINATION                       |
| R.O.W. | RIGHT-OF-WAY                               |
| MHHW   | MEAN HIGHER HIGH WATER                     |
| ---    | MHHW LINE, JUNE 2021, ELEV. = 0.96' NAVD88 |
| ---    | APPARENT PROPERTY LINE                     |
| ---    | APPROXIMATE SURVEY LINE                    |

| REV. NO. | REV. DATE | REV. DESCRIPTION | REV. BY |
|----------|-----------|------------------|---------|
| 00       | --/--     |                  |         |



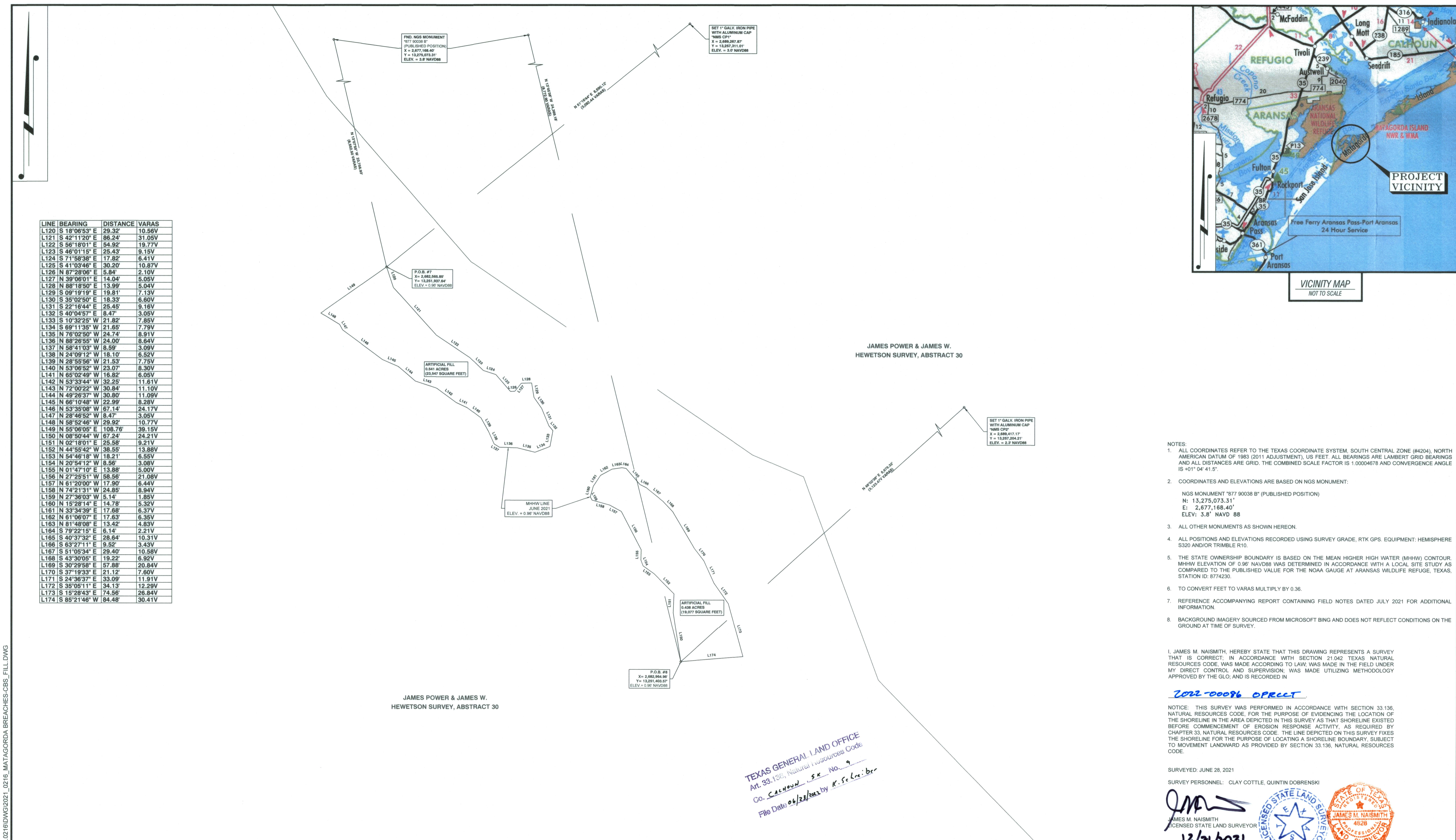
**TBS T. BAKER SMITH, LLC**  
A CENTURY OF SOLUTIONS

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ARANSAS PASS, TEXAS 78336  
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TBPLS #10194575

|               |                                       |              |           |
|---------------|---------------------------------------|--------------|-----------|
| DRAWN BY:     | JTR                                   | APPROVED BY: | JMN       |
| DATE:         | 12/14/2021                            | JOB NO.:     | 2021.0216 |
| DRAWING NAME: | 2021_0216_MATAGORDA-BREACHES-CBS_FILL |              |           |
| PROJECTION:   | TEXAS SOUTH CENTRAL ZONE              |              |           |
| GEO. DATUM:   | NAD83 (2011)                          |              |           |
| GRID UNITS:   | US SURVEY FEET                        |              |           |
| SHEET NO.:    | 3                                     | OF           | 4         |

**COASTAL BOUNDARY SURVEY**  
HDR ENGINEERING, INC.  
COASTAL BOUNDARY SURVEY/ARTIFICIAL FILL AT SHORELINE BREACHES AT ARANSAS NATIONAL WILDLIFE REFUGE ON MATAGORDA ISLAND SITUATED IN THE JAMES POWER & JAMES W. HEWETSON SURVEY, ABSTRACT 30 CALHOUN COUNTY, TEXAS





| LINE | BEARING      | DISTANCE | VARAS  |
|------|--------------|----------|--------|
| L120 | S 18°06'53\" | 29.32'   | 10.56V |
| L121 | S 42°11'20\" | 86.24'   | 31.05V |
| L122 | S 56°18'01\" | 54.92'   | 19.77V |
| L123 | S 46°01'15\" | 25.43'   | 9.15V  |
| L124 | S 71°58'38\" | 17.82'   | 6.41V  |
| L125 | S 41°03'46\" | 30.20'   | 10.87V |
| L126 | N 87°28'06\" | 5.84'    | 2.10V  |
| L127 | N 39°06'01\" | 14.04'   | 5.05V  |
| L128 | N 88°18'50\" | 13.99'   | 5.04V  |
| L129 | S 09°19'19\" | 19.81'   | 7.13V  |
| L130 | S 35°02'50\" | 18.33'   | 6.60V  |
| L131 | S 22°16'44\" | 25.45'   | 9.16V  |
| L132 | S 40°04'57\" | 8.47'    | 3.05V  |
| L133 | S 10°32'25\" | 21.82'   | 7.85V  |
| L134 | S 69°11'35\" | 21.65'   | 7.79V  |
| L135 | N 76°02'50\" | 24.74'   | 8.91V  |
| L136 | N 88°26'55\" | 24.00'   | 8.64V  |
| L137 | N 58°41'03\" | 8.59'    | 3.09V  |
| L138 | N 24°09'12\" | 18.10'   | 6.52V  |
| L139 | N 28°55'56\" | 21.53'   | 7.75V  |
| L140 | N 53°06'52\" | 23.07'   | 8.30V  |
| L141 | N 65°02'49\" | 16.82'   | 6.05V  |
| L142 | N 53°33'44\" | 32.25'   | 11.61V |
| L143 | N 72°00'22\" | 30.84'   | 11.10V |
| L144 | N 49°26'37\" | 30.80'   | 11.09V |
| L145 | N 66°10'48\" | 22.99'   | 8.28V  |
| L146 | N 53°35'08\" | 67.14'   | 24.17V |
| L147 | N 28°46'52\" | 8.47'    | 3.05V  |
| L148 | N 58°52'46\" | 29.92'   | 10.77V |
| L149 | N 55°06'05\" | 108.76'  | 39.15V |
| L150 | N 08°50'44\" | 67.24'   | 24.21V |
| L151 | N 02°18'01\" | 25.58'   | 9.21V  |
| L152 | N 44°55'42\" | 38.55'   | 13.88V |
| L153 | N 54°46'18\" | 18.21'   | 6.55V  |
| L154 | N 20°54'12\" | 8.56'    | 3.08V  |
| L155 | N 01°47'10\" | 113.88'  | 5.00V  |
| L156 | N 27°25'51\" | 58.56'   | 21.08V |
| L157 | N 61°20'00\" | 17.90'   | 6.44V  |
| L158 | N 74°21'31\" | 24.85'   | 8.94V  |
| L159 | N 27°36'03\" | 5.14'    | 1.85V  |
| L160 | N 15°28'14\" | 14.78'   | 5.32V  |
| L161 | N 33°34'39\" | 17.68'   | 6.37V  |
| L162 | N 61°06'07\" | 17.63'   | 6.35V  |
| L163 | N 81°48'08\" | 13.42'   | 4.83V  |
| L164 | S 79°22'15\" | 6.14'    | 2.21V  |
| L165 | S 40°37'32\" | 28.64'   | 10.31V |
| L166 | S 63°27'11\" | 9.52'    | 3.43V  |
| L167 | S 51°05'34\" | 29.40'   | 10.58V |
| L168 | S 43°30'05\" | 19.22'   | 6.92V  |
| L169 | S 30°29'58\" | 57.88'   | 20.84V |
| L170 | S 37°19'33\" | 21.12'   | 7.60V  |
| L171 | S 24°36'37\" | 33.09'   | 11.91V |
| L172 | S 35°05'11\" | 34.13'   | 12.29V |
| L173 | S 15°28'43\" | 74.56'   | 26.84V |
| L174 | S 85°21'46\" | 84.48'   | 30.41V |

JAMES POWER & JAMES W.  
HEWETSON SURVEY, ABSTRACT 30

- NOTES:
- ALL COORDINATES REFER TO THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE (#4204), NORTH AMERICAN DATUM OF 1983 (2011 ADJUSTMENT), US FEET. ALL BEARINGS ARE LAMBERT GRID BEARINGS AND ALL DISTANCES ARE GRID. THE COMBINED SCALE FACTOR IS 1.00004678 AND CONVERGENCE ANGLE IS +01°04'41.5\"
  - COORDINATES AND ELEVATIONS ARE BASED ON NGS MONUMENT:  
NGS MONUMENT '877 90038 B\" (PUBLISHED POSITION)  
N: 13,275,073.31'  
E: 2,677,168.40'  
ELEV: 3.8' NAVD 88
  - ALL OTHER MONUMENTS AS SHOWN HEREON.
  - ALL POSITIONS AND ELEVATIONS RECORDED USING SURVEY GRADE, RTK GPS. EQUIPMENT: HEMISPHERE S320 AND/OR TRIMBLE R10.
  - THE STATE OWNERSHIP BOUNDARY IS BASED ON THE MEAN HIGHER HIGH WATER (MHHW) CONTOUR. MHHW ELEVATION OF 0.96' NAVD88 WAS DETERMINED IN ACCORDANCE WITH A LOCAL SITE STUDY AS COMPARED TO THE PUBLISHED VALUE FOR THE NOAA GAUGE AT ARANSAS WILDLIFE REFUGE, TEXAS, STATION ID: 8774230.
  - TO CONVERT FEET TO VARAS MULTIPLY BY 0.36.
  - REFERENCE ACCOMPANYING REPORT CONTAINING FIELD NOTES DATED JULY 2021 FOR ADDITIONAL INFORMATION.
  - BACKGROUND IMAGERY SOURCED FROM MICROSOFT BING AND DOES NOT REFLECT CONDITIONS ON THE GROUND AT TIME OF SURVEY.

I, JAMES M. NAISMITH, HEREBY STATE THAT THIS DRAWING REPRESENTS A SURVEY THAT IS CONDUCTED IN ACCORDANCE WITH SECTION 21.042, TEXAS 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.

**2022-00096 OPRCLT**

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.

SURVEYED: JUNE 28, 2021  
SURVEY PERSONNEL: CLAY COTTLE, QUINTIN DOBRENSKI

*JMN*  
JAMES M. NAISMITH  
LICENSED STATE LAND SURVEYOR

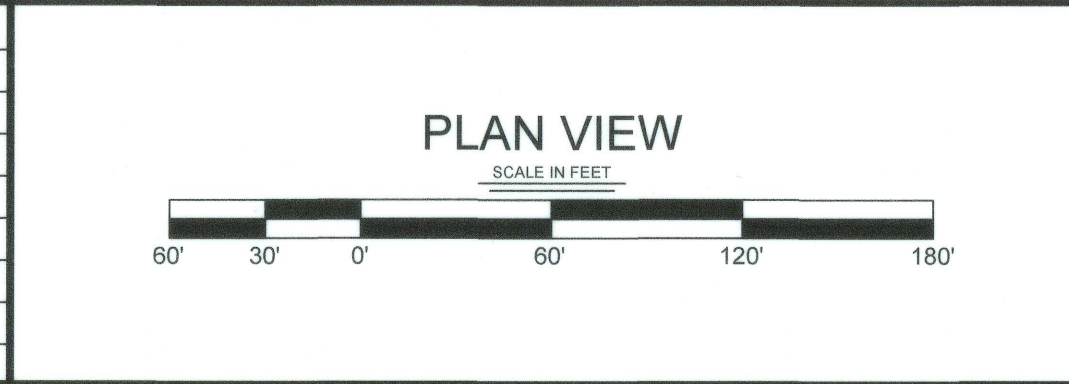
12/21/2021

TEXAS GENERAL LAND OFFICE  
Art. 33.136, Natural Resources Code  
Co. Calhoun, S.K. No. 9  
File Date 06/23/2021 by K. S. Lee: bcr

NOTES:

|        |  |
|--------|--|
| FND.   | FOUND                                      |
| P.O.B. | POINT OF BEGINNING                         |
| P.O.T. | POINT OF TERMINATION                       |
| R.O.W. | RIGHT-OF-WAY                               |
| MHHW   | MEAN HIGHER HIGH WATER                     |
| ---    | MHHW LINE, JUNE 2021, ELEV. = 0.96' NAVD88 |
| ---    | APPROXIMATE PROPERTY LINE                  |
| ---    | APPROXIMATE SURVEY LINE                    |

| REV. NO.  | REV. DATE | REV. DESCRIPTION | REV. BY: |
|-----------|-----------|------------------|----------|
| 00        | ---       | ---              | ---      |
| REVISIONS |           |                  |          |



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ARANSAS PASS, TEXAS 78336  
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TBPLS #10194575

|               |                                       |              |           |
|---------------|---------------------------------------|--------------|-----------|
| DRAWN BY:     | JTR                                   | APPROVED BY: | JMN       |
| DATE:         | 12/14/2021                            | JOB NO.:     | 2021.0216 |
| DRAWING NAME: | 2021_0216_MATAGORDA BREACHES-CBS_FILL |              |           |
| PROJECTION:   | TEXAS SOUTH CENTRAL ZONE              |              |           |
| GEO. DATUM:   | NA83 (2011)                           | VERT. DATUM: | NAVD88    |
| GRID UNITS:   | US SURVEY FEET                        |              |           |
| SHEET NO.:    | 4                                     | OF           | 4         |

**COASTAL BOUNDARY SURVEY**

**HDR ENGINEERING, INC.**

COASTAL BOUNDARY SURVEY/ARTIFICIAL FILL AT SHORELINE BREACHES  
AT ARANSAS NATIONAL WILDLIFE REFUGE ON MATAGORDA ISLAND  
SITUATED IN THE JAMES POWER &  
JAMES W. HEWETSON SURVEY, ABSTRACT 30  
CALHOUN COUNTY, TEXAS

12/17/2021 - P:\Y-2021\2021\_0216\DWG\2021\_0216\_MATAGORDA BREACHES-CBS\_FILL.DWG





TEXAS GENERAL LAND OFFICE  
GEORGE P. BUSH, COMMISSIONER

**Surveying Division  
Coastal Boundary Survey Approval**

- Project:** Shoreline Breaches-ANWR-James Power & James W. Hewetson, Calhoun County A30
- Project No:** CEPRA 1687 (Matagorda Island Marsh Restoration).
- Project Manager:** Amy Nuñez, Manager, Corpus Christi-Lower Coast Texas General Land Office
- Surveyor:** James M. Naismith, Licensed State Land Surveyor (T. Baker Smith)
- Description:** Coastal Boundary Survey, by James M. Naismith, Licensed State Land Surveyor, dated December 21, 2021. A coastal boundary survey of artificial fill at three shoreline breaches was conducted at Aransas National Wildlife Refuge on Matagorda Island situated in the James Power & James W. Hewetson Survey, Abstract 30, Calhoun County, Texas, and being along the Mean Higher High Water (MHHW) contour. The Survey is associated with CEPRA No. 1687. The coordinates of its mid-point being, 28°09'39.77"N, 96°47'43.44"W, WGS84. A copy of the survey has been recorded in 2022-00086, Official Public Records of Calhoun County, Texas.

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 Klotz, RPLS, LSLS  
Surveying Services

3/15/2022  
Date

Approval Filed as:

*Tex. Nat. Res. Code* Article 33.136 Calhoun County, Sketch No. 9

TEXAS GENERAL LAND OFFICE  
Art. 33.136, Natural Resources Code  
Co. CALHOUN, SK No. 9  
File Date 06/23/2022 by K. Schreiber



T. Baker Smith, LLC

www.tbsmith.com

(361) 334-5719

FIRM #10194575



JULY 2021

COASTAL BOUNDARY SURVEY OF ARTIFICIAL FILL AT SHORELINE BREACHES  
AT ARANSAS NATIONAL WILDLIFE REFUGE ON MATAGORDA ISLAND  
SITUATED IN THE JAMES POWER & JAMES W. HEWETSON SURVEY, ABSTRACT 30  
CALHOUN COUNTY, TEXAS

This report accompanies a map of survey dated June 28, 2021.



Figure 1: Typical shoreline at Breach #1

TEXAS GENERAL LAND OFFICE  
Art. 33.136, Natural Resources Code

Co. CALHOUN, SR No. 9

File Date 06/23/2022 by K. Schreiber



A coastal boundary survey of artificial fill at three shoreline breaches was conducted at Aransas National Wildlife Refuge on Matagorda Island situated in the James Power & James W. Hewetson Survey, Abstract 30, Calhoun County, Texas. All survey work was performed using survey grade RTK GPS base and rover: Hemisphere S320 and/or Trimble R10 receivers. The survey was conducted on June 28, 2021.



**Figure 2:** Typical shoreline at Breach #2





**Figure 3:** Typical shoreline at Breach #3



**CONTROL:** One NGS survey marker was used as primary control:

“877 90038 B” (N: 13,275,073.31, E: 2,677,168.40, EL: 3.8’ NAVD88), published position,

And two secondary control points were set:

“NMS CP1” (N: 13,257,311.01, E: 2,689,267.87, EL: 3.0’ NAVD88), 1” galvanized iron pipe with aluminum cap,

“NMS CP2” (N: 13,257,204.21, E: 2,689,417.17, EL: 2.3’ NAVD88) 1” galvanized iron pipe with aluminum cap,

**Table 1:** Primary and secondary control for the survey.

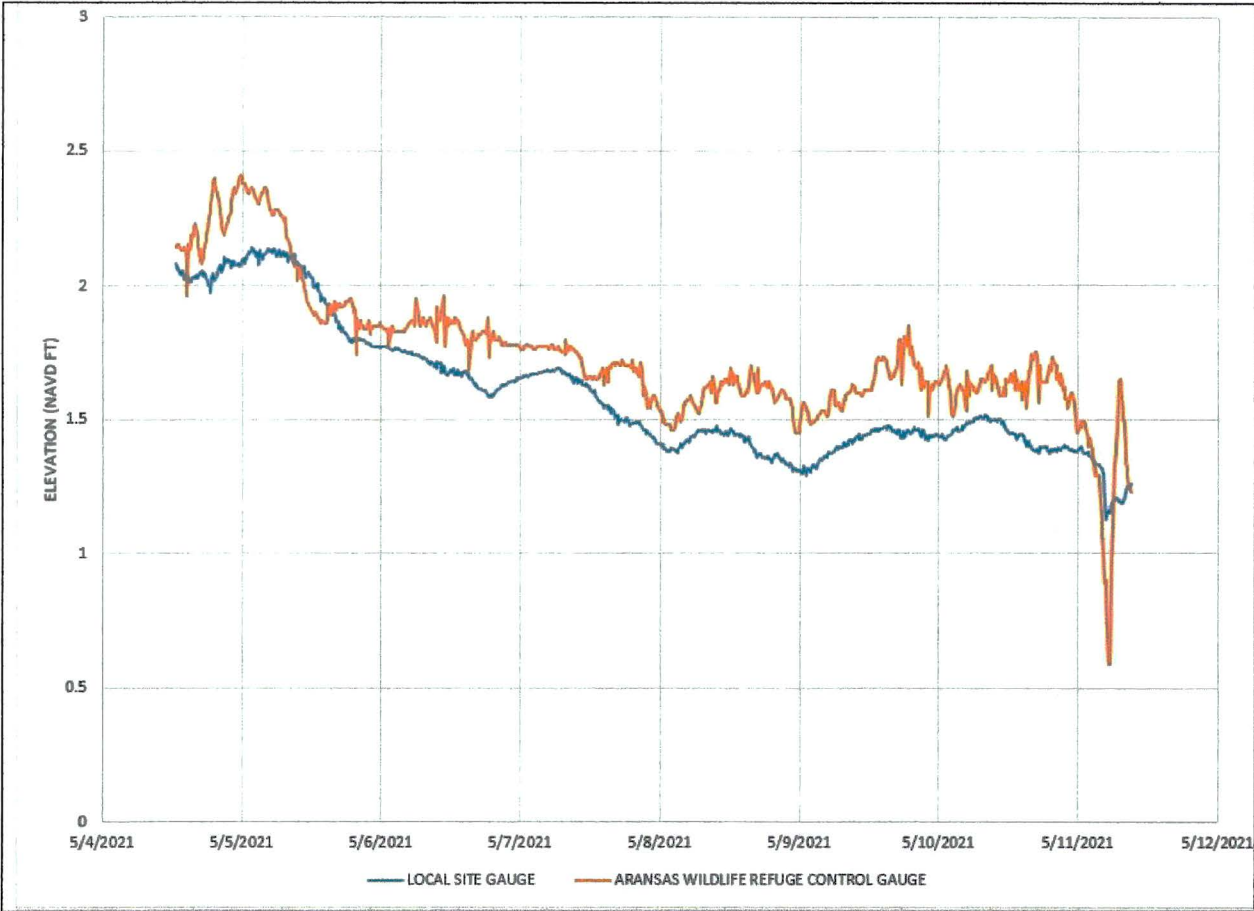
|   | Northing      | Easting      | Elevation |
|---|---------------|--------------|-----------|
| <b>NGS BENCHMARKS</b>                                 |               |              |           |
| “877 90038 B” (published position)                    | 13,275,073.31 | 2,677,168.40 | 3.8’      |
| “NMS CP1” (1” galvanized iron pipe with aluminum cap) | 13,257,311.01 | 2,689,267.87 | 3.0’      |
| “NMS CP2” (1” galvanized iron pipe with aluminum cap) | 13,257,204.21 | 2,689,417.17 | 2.3’      |



**Figure 4:** NGS benchmark “877 90038 B” (N: 13,275,073.31, E: 2,677,168.40, EL: 3.8’ NAVD88), published position.



**STATE OWNERSHIP BOUNDARY:** As referenced to this survey, the state ownership boundary is based on the mean higher high water (MHHW) contour. MHHW elevation of 0.96' NAVD88 was determined in accordance with a local site study as compared to the published value for the NOAA Gauge at Aransas Wildlife Refuge, Texas, Station ID: 8774230.



**Figure 5: Tidal Chart**

**FIELD NOTES** for the littoral boundary of artificial fill at three shoreline breaches at Aransas National Wildlife Refuge on Matagorda Island situated in the James Power & James W. Hewetson Survey, Abstract 30, Calhoun County, Texas. Distances, bearings, and Coordinates are grid, North American Datum of 1983 (2011), South Central Zone (4204) of the Texas Coordinate System;

**Breach #1 – Northerly Side-Artificial Fill (POB #1)**

**Beginning** on the MHHW (Mean Higher High Water) line on the northerly side of Breach #1, (N: 13,245,960.66, E: 2,676,421.35, EL: 0.96' NAVD88), from which a 1" galvanized iron pipe with aluminum cap set for secondary control "NMS CP1" (N: 13,257,311.01, E: 2,689,267.87, EL: 3.0' NAVD88) bears N 48°32'18" E a distance of 17,142.45' (6,171.28V) and NGS monument "877 90038 B" (N: 13,275,073.31, E: 2,677,168.40, EL: 3.8' NAVD88) bears N 01°28'12" E a distance of 29,122.23' (10,484.00V);



**Thence** along the northerly side of Breach #1 and with said MHHW line, the following courses and distances:

S 67°38'19" E a distance of 27.02'(9.73V);  
S 62°18'21" E a distance of 17.64'(6.35V);  
S 78°42'34" E a distance of 25.45'(9.16V);  
N 71°36'33" E a distance of 18.41'(6.63V);  
N 88°17'31" E a distance of 9.08'(3.27V);  
S 50°43'10" E a distance of 30.24'(10.89V);  
S 35°25'34" E a distance of 32.07'(11.54V);  
S 21°56'44" E a distance of 17.78'(6.40V);  
S 12°05'56" W a distance of 6.73'(2.42V);  
S 47°09'31" W a distance of 13.65'(4.91V);  
S 82°44'20" W a distance of 19.52'(7.03V);  
N 65°44'44" W a distance of 18.01'(6.48V);  
N 79°03'00" W a distance of 18.77'(6.76V);  
N 49°27'29" W a distance of 11.37'(4.09V);  
N 66°26'10" W a distance of 84.83'(30.54V);  
N 59°34'52" W a distance of 27.85'(10.03V);

**Thence** N 48°37'02" E a distance of 47.05'(16.94V) back to the Point of Beginning, containing 0.196 acres (8,550 square feet), more or less;

#### **Breach #1 – Northerly Island-Artificial Fill (POB #2)**

**Beginning** on the MHHW (Mean Higher High Water) line on a northerly island at Breach #1, (N: 13,245,704.83', E: 2,676,641.92, EL: 0.96' NAVD88), from which NGS monument "877 90038 B" (N: 13,275,073.31, E: 2,677,168.40, EL: 3.8' NAVD88) bears N 01°01'37" E a distance of 29,373.20' (10,574.35V);

**Thence** around said northerly island at Breach #1 and with said MHHW line, the following courses and distances:

S 86°22'33" E a distance of 7.30' (2.63V);  
S 23°52'56" E a distance of 21.61' (7.78V);  
S 66°22'09" E a distance of 5.42' (1.95V);  
S 16°32'29" E a distance of 18.58' (6.69V);  
S 59°54'35" W a distance of 16.14' (5.81V);  
N 27°55'35" W a distance of 13.62' (4.90V);  
N 57°29'35" W a distance of 5.77' (2.08V);  
N 09°27'59" E a distance of 6.34' (2.28V);  
N 21°11'05" W a distance of 22.39' (8.06V);

**Thence** N 44°40'52" E a distance of 8.49' (3.05V) back to the Point of Beginning, containing 0.018 acres (777 square feet), more or less;



**Breach #1 – Southerly Island-Artificial Fill (POB #3)**

**Beginning** on the MHHW (Mean Higher High Water) line on a southerly island at Breach #1, (N: 13,245,624.81', E: 2,676,691.30, EL: 0.96' NAVD88), from which NGS monument "877 90038 B" (N: 13,275,073.31, E: 2,677,168.40, EL: 3.8' NAVD88) bears N 00°55'41" E a distance of 29,452.36' (10,602.85V);

**Thence** around said southerly island at Breach #1 and with said MHHW line, the following courses and distances:

- S 27°18'42" E a distance of 26.53' (9.55V);
- S 75°18'13" E a distance of 31.33' (11.28V);
- S 62°13'35" E a distance of 14.66' (5.28V);
- S 18°40'08" E a distance of 7.30' (2.63V);
- S 08°57'39" W a distance of 12.47' (4.49V);
- S 30°39'15" W a distance of 13.50' (4.86V);
- S 05°47'46" W a distance of 12.52' (4.51V);
- S 67°06'40" W a distance of 26.79' (9.64V);
- S 88°12'38" W a distance of 8.72' (3.14V);
- N 46°23'03" W a distance of 16.42' (5.91V);
- N 33°18'43" W a distance of 27.78' (10.00V);
- N 18°16'47" W a distance of 16.12' (5.80V);
- N 00°51'47" E a distance of 8.16' (2.94V);
- N 24°36'54" E a distance of 14.68' (5.28V);
- N 26°12'34" W a distance of 10.61' (3.82V);
- N 43°48'56" E a distance of 7.62' (2.74V);

**Thence** N 61°33'21" E a distance of 12.59' (4.53V) back to the Point of Beginning, containing 0.097 acres (4,216 square feet);

**Breach #1 – Southerly Side-Artificial Fill (POB #4)**

**Beginning** on the MHHW (Mean Higher High Water) line on the southerly side of Breach #1, (N: 13,245,092.38, E: 2,676,878.02, EL: 0.96' NAVD88), from which NGS monument "877 90038 B" (N: 13,275,073.31, E: 2,677,168.40, EL: 3.8' NAVD88) bears N 00°33'18" E a distance of 29,982.33' (10,793.64V) and a 1" galvanized iron pipe with aluminum cap set for secondary control "NMS CP2" (N: 13,257,204.21, E: 2,689,417.17, EL: 2.3' NAVD88) bears N 45°59'35" E a distance of 17,433.49' (6,276.06V);

**Thence** along the southerly side of Breach #1 and with said MHHW line, the following courses and distances:

- N 23°27'00" W a distance of 38.88'(14.00V);
- N 49°38'48" W a distance of 6.24'(2.25V);
- N 23°17'45" W a distance of 48.37'(17.41V);



N 35°35'37" W a distance of 16.03'(5.77V);  
 N 20°45'10" W a distance of 18.32'(6.59V);  
 N 09°48'45" W a distance of 25.14'(9.05V);  
 N 30°37'20" W a distance of 45.20'(16.27V);  
 N 19°05'47" W a distance of 29.73'(10.70V);  
 N 11°31'44" W a distance of 31.76'(11.43V);  
 N 16°20'23" W a distance of 23.79'(8.56V);  
 N 33°48'36" W a distance of 15.81'(5.69V);  
 N 19°03'05" W a distance of 50.48'(18.17V);  
 N 03°46'03" E a distance of 14.33'(5.16V);  
 N 07°30'42" W a distance of 13.03'(4.69V);  
 N 12°17'21" E a distance of 11.37'(4.09V);  
 N 74°40'14" E a distance of 10.86'(3.91V);  
 S 28°43'18" E a distance of 26.01'(9.36V);  
 S 51°00'55" E a distance of 40.36'(14.53V);  
 S 35°22'52" E a distance of 25.69'(9.25V);  
 S 26°31'06" E a distance of 26.61'(9.58V);  
 S 34°56'59" E a distance of 67.39'(24.26V);  
 S 24°08'17" E a distance of 17.20'(6.19V);  
 S 09°13'04" E a distance of 6.69'(2.41V);  
 S 34°24'02" W a distance of 9.56'(3.44V);  
 S 13°50'42" W a distance of 15.02'(5.41V);  
 S 21°24'14" E a distance of 98.96'(35.62V);  
 S 46°12'02" E a distance of 10.20'(3.67V);  
 S 19°10'31" E a distance of 26.61'(9.58V);

**Thence** S 43°16'40" W a distance of 61.51'(22.14V) back to the Point of Beginning, containing 0.486 acres (21,173 square feet);

**Breach #2 – Westerly Side-Artificial Fill (POB#5)**

**Beginning** on the MHHW (Mean Higher High Water) line on the westerly side of Breach #2, (N: 13,250,203.09, E: 2,678,164.82, EL: 0.96' NAVD88), from which NGS monument "877 90038 B" (N: 13,275,073.31, E: 2,677,168.40, EL: 3.8' NAVD88) bears N 02°17'40" W a distance of 24,890.18' (8,960.46V) and a 1" galvanized iron pipe with aluminum cap set for secondary control "NMS CP1" (N: 13,257,311.01, E: 2,689,267.87, EL: 3.0' NAVD88) bears N 57°22'25" E a distance of 13,183.34' (4,746.00V);

**Thence** along the westerly side of Breach #2 and with said MHHW line, the following courses and distances:

N 62°03'20" E a distance of 25.84'(9.30V);  
 N 44°41'51" E a distance of 28.30'(10.19V);  
 N 57°42'51" E a distance of 16.69'(6.01V);  
 N 75°30'32" E a distance of 20.38'(7.34V);  
 S 53°57'10" E a distance of 6.85'(2.47V);



N 71°02'57" E a distance of 18.31'(6.59V);  
N 34°06'30" E a distance of 21.14'(7.61V);  
N 72°19'36" E a distance of 8.44'(3.04V);  
N 85°44'02" E a distance of 17.56'(6.32V);  
S 73°24'17" E a distance of 21.56'(7.76V);  
S 31°34'49" E a distance of 3.95'(1.42V);  
S 21°05'01" W a distance of 9.49'(3.42V);  
S 40°34'33" W a distance of 24.57'(8.85V);  
S 71°53'50" W a distance of 16.03'(5.77V);  
N 71°13'03" W a distance of 15.23'(5.48V);  
S 68°45'52" W a distance of 21.23'(7.64V);  
S 36°29'23" W a distance of 11.37'(4.09V);  
S 71°53'51" W a distance of 16.90'(6.09V);  
S 57°11'11" W a distance of 35.01'(12.60V);  
S 43°09'41" W a distance of 17.14'(6.17V);  
S 29°28'27" W a distance of 16.63'(5.99V);  
S 03°34'24" W a distance of 22.73'(8.18V);

**Thence** N 16°23'23" W a distance of 60.79'(21.89V) back to the Point of Beginning, containing 0.119 acres (5,200 square feet), more or less;

**Breach #2 – Easterly Side-Artificial Fill (POB #6)**

**Beginning** on the MHHW (Mean Higher High Water) line on the easterly side of Breach #2, (N: 13,250,311.04, E: 2,678,573.49, EL: 0.96' NAVD88), from which a 1" galvanized iron pipe with aluminum cap set for secondary control "NMS CP2" (N: 13,257,204.21, E: 2,689,417.17, EL: 2.3' NAVD88) bears N 57°33'23" E a distance of 12,849.17' (4,625.70V) and NGS monument "877 90038 B" (N: 13,275,073.31, E: 2,677,168.40, EL: 3.8' NAVD88) bears N 03°14'52" W a distance of 24,802.10' (8,928.76V);

**Thence** along the easterly side of Breach #2 and with said MHHW line, the following courses and distances:

S 74°20'57" W a distance of 7.51'(2.70V);  
S 40°39'25" W a distance of 13.81'(4.97V);  
S 63°10'11" W a distance of 41.65'(15.00V);  
S 32°20'44" W a distance of 12.77'(4.60V);  
S 49°22'37" W a distance of 31.34'(11.28V);  
S 21°26'34" W a distance of 15.35'(5.53V);  
S 55°04'08" W a distance of 18.11'(6.52V);  
S 33°18'15" W a distance of 32.74'(11.78V);  
S 64°37'29" W a distance of 10.24'(3.69V);  
S 84°38'27" W a distance of 24.60'(8.85V);  
N 72°56'27" W a distance of 50.46'(18.17V);  
N 44°12'34" W a distance of 33.62'(12.10V);  
N 06°51'20" W a distance of 14.65'(5.27V);



N 17°13'10" E a distance of 6.72'(2.42V);  
N 39°43'56" E a distance of 9.73'(3.50V);  
S 76°34'56" E a distance of 23.79'(8.56V);  
N 79°31'19" E a distance of 40.17'(14.46V);  
N 60°28'28" E a distance of 14.52'(5.23V);  
N 44°13'13" E a distance of 62.59'(22.53V);  
N 50°55'37" E a distance of 46.27'(16.66V);  
N 33°08'53" E a distance of 36.52'(13.15V);  
N 76°41'10" E a distance of 7.08'(2.55V);

**Thence** S 32°55'05" E a distance of 73.05'(26.30V) back to the Point of Beginning, containing 0.347 acres (15,104 square feet), more or less;

**Breach #3 – Northwesterly Side-Artificial Fill (POB #7)**

**Beginning** on the MHHW (Mean Higher High Water) line on the northwesterly side of Breach #3, (N: 13,251,937.64, E: 2,682,565.85, EL: 0.96' NAVD88), from which a 1" galvanized iron pipe with aluminum cap set for secondary control "NMS CP1" (N: 13,257,311.01, E: 2,689,267.87, EL: 3.0' NAVD88) bears N 51°16'44" E a distance of 8,590.12' (3,092.44V) and NGS monument "877 90038 B" (N: 13,275,073.31, E: 2,677,168.40, EL: 3.8' NAVD88) bears N 13°07'55" W a distance of 23,756.93' (8,552.50V);

**Thence** along the northwesterly side of Breach #3 and with said MHHW line, the following courses and distances:

S 18°06'53" E a distance of 29.32'(10.56V);  
S 42°11'20" E a distance of 86.24'(31.05V);  
S 56°18'01" E a distance of 54.92'(19.77V);  
S 46°01'15" E a distance of 25.43'(9.15V);  
S 71°58'38" E a distance of 17.82'(6.41V);  
S 41°03'46" E a distance of 30.20'(10.87V);  
N 87°28'06" E a distance of 5.84'(2.10V);  
N 39°06'01" E a distance of 14.04'(5.05V);  
N 88°18'50" E a distance of 13.99'(5.04V);  
S 09°19'19" E a distance of 19.81'(7.13V);  
S 35°02'50" E a distance of 18.33'(6.60V);  
S 22°16'44" E a distance of 25.45'(9.16V);  
S 40°04'57" E a distance of 8.47'(3.05V);  
S 10°32'25" W a distance of 21.82'(7.85V);  
S 69°11'35" W a distance of 21.65'(7.79V);  
N 76°02'50" W a distance of 24.74'(8.91V);  
N 88°26'55" W a distance of 24.00'(8.64V);  
N 58°41'03" W a distance of 8.59'(3.09V);  
N 24°09'12" W a distance of 18.10'(6.52V);  
N 28°55'56" W a distance of 21.53'(7.75V);  
N 53°06'52" W a distance of 23.07'(8.30V);



N 65°02'49" W a distance of 16.82'(6.05V);  
N 53°33'44" W a distance of 32.25'(11.61V);  
N 72°00'22" W a distance of 30.84'(11.10V);  
N 49°26'37" W a distance of 30.80'(11.09V);  
N 66°10'48" W a distance of 22.99'(8.28V);  
N 53°35'08" W a distance of 67.14'(24.17V);  
N 28°46'52" W a distance of 8.47'(3.05V);  
N 58°52'46" W a distance of 29.92'(10.77V);

**Thence** N 55°06'05" E a distance of 108.76'(39.15V) back to the Point of Beginning, containing 0.541 acres (23,547 square feet), more or less;

**Breach #3 – Southwesterly Side-Artificial Fill (POB #8)**

**Beginning** on the MHHW (Mean Higher High Water) line on the southwesterly side of Breach #3, (N: 13,251,403.57, E: 2,682,964.96, EL: 0.96' NAVD88), from which NGS monument "877 90038 B" (N: 13,275,073.31, E: 2,677,168.40, EL: 3.8' NAVD88) bears N 13°45'38" W a distance of 24,369.18' (8,772.90V) and a 1" galvanized iron pipe with aluminum cap set for secondary control "NMS CP2" (N: 13,257,204.21, E: 2,689,417.17, EL: 2.3' NAVD88) bears N 48°02'38" E a distance of 8,676.32' (3,123.47V);

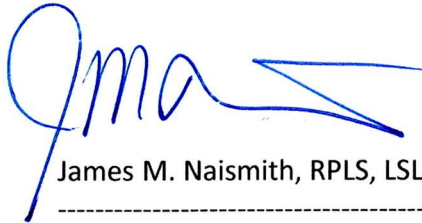
**Thence** along the southwesterly side of Breach #3 and with said MHHW line, the following courses and distances:

N 08°50'44" W a distance of 67.24'(24.21V);  
N 02°18'01" E a distance of 25.58'(9.21V);  
N 44°55'42" W a distance of 38.55'(13.88V);  
N 54°46'18" W a distance of 18.21'(6.55V);  
N 20°54'12" W a distance of 8.56'(3.08V);  
N 01°47'10" E a distance of 13.88'(5.00V);  
N 27°25'51" W a distance of 58.56'(21.08V);  
N 61°20'00" W a distance of 17.90'(6.44V);  
N 74°21'31" W a distance of 24.85'(8.94V);  
N 27°36'03" W a distance of 5.14'(1.85V);  
N 15°28'14" E a distance of 14.78'(5.32V);  
N 33°34'39" E a distance of 17.68'(6.37V);  
N 61°06'07" E a distance of 17.63'(6.35V);  
N 81°48'08" E a distance of 13.42'(4.83V);  
S 79°22'15" E a distance of 6.14'(2.21V);  
S 40°37'32" E a distance of 28.64'(10.31V);  
S 63°27'11" E a distance of 9.52'(3.43V);  
S 51°05'34" E a distance of 29.40'(10.58V);  
S 43°30'05" E a distance of 19.22'(6.92V);  
S 30°29'58" E a distance of 57.88'(20.84V);  
S 37°19'33" E a distance of 21.12'(7.60V);  
S 24°36'37" E a distance of 33.09'(11.91V);



S 35°05'11" E a distance of 34.13'(12.29V);  
S 15°28'43" E a distance of 74.56'(26.84V);

**Thence** S 85°21'46" W a distance of 84.48'(30.41V) back to the Point of Beginning, containing 0.438 acres (19,077 square feet), more or less;

  
James M. Naismith, RPLS, LSLs  
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T. Baker Smith, LLC  
12/21/2021

