



VICINITY MAP

DISTANCE | DISTANCI LINE BEARING FEET VARAS L1 N 54'29'29" E 49.17' 17.701 VS L2 N 51'46'44" E 152.61' 54.940 VS L3 N 7817'03" E 97.66' 35.157 VS L4 N 15'40'52" E 157.16' 56.578 VS L5 N 62°31'37" E 133.48' 48.052 VS L6 N 39'14'59" E 246.16' 88.617 VS L7 N 59'09'05" E 163.51' 58.863 VS L8 N 35°17'25" E 182.52' 65.706 VS L9 N 64°51'09" E 212.53' 76.511 VS L10 N 64'03'45" E 222.22' 80.000 VS L11 S 85°01'26" E 133.35' 48.005 VS L12 N 64"19'04" E 124.67' 44.882 VS L13 N 65°18'54" E 240.69' 86.648 VS L14 N 69'47'50" E 257.34' 92.642 VS L15 S 85"18'56" E 124.64' 44.870 VS L16 S 78'30'41" E 141.11' 50.801 VS L17 S 31°31'19" E 123.01' 44.282 VS L18 S 27'17'14" E 81.02' 29.169 VS L19 N 82'49'48" E 59.52' 21.427 VS L20 N 50°51'54" E 64.51' 23.225 VS L21 S 00°05'28" W 96.07' 34.585 VS L22 S 58'57'42" W 163.14' 58.729 VS L23 S 18°45'53" E 57.64' 20.751 VS L24 S 06°45'25" E 256.78' 92.439 VS L25 S 63*53'16" W 184.35' 66.366 VS L26 S 52*57'11" W 141.48' 50.934 VS L27 S 48*22'19" W 175.75' 63.269 VS L28 S 43"14'48" W 186.66' 67.198 VS L29 S 22'02'08" W 249.45' 89.801 VS L30 S 19°24'16" W 59.73' 21.503 VS

LINE	BEARING	DISTANCE	DISTANCE VARAS
L31	S 07°21'29" E	38.88'	13.998 VS
L32	S 51°52'14" E	39.07'	14.067 VS
L33	N 83°30'16" E	50.61'	18.220 VS
L34	N 58°23'46" E	224.88'	80.955 VS
L35	N 69°33'43" E	198.57'	71.484 VS
L36	N 52°07'50" E	191.42'	68.911 VS
L37	N 49°25'09" E	146.66'	52.796 VS
L38	N 72°18'11" E	208.81'	75.173 VS
L39	N 37°55'45" E	272.18'	97.985 VS
L40	N 45'39'40" E	173.58'	62.489 VS
L41	N 67°20'44" E	154.31'	55.553 VS
L42	N 30°59'01" E	129.89'	46.761 VS
L43	N 11°10'16" E	114.95'	41.384 VS
L44	N 06°22'41" W	102.15'	36.775 VS
L45	N 23°29'51" W	109.69'	39.488 VS
L46	N 29°30'50" W	130.80'	47.086 VS
L47	N 11°30'22" W	31.32'	11.276 VS
L48	N 23°45'57" E	27.11'	9.761 VS
L49	N 63°27'08" E	59.97'	21.587 VS
L50	N 60'39'31" E	96.22'	34.638 VS
L51	N 42'39'37" E	18.08'	6.508 VS
L52	N 66°23'13" W	8.24'	2.967 VS
L53	S 74°30'55" W	18.32'	6.596 VS
L54	S 64°03'39" W	181.64'	65.389 VS
L55	S 63*41'44" W	150.88'	54.316 VS
L56	S 64*50'22" W	83.58'	30.090 VS
L57	S 59°01'34" W	200.99'	72.358 VS
L58	N 85°34'17" W	19.75'	7.111 VS
L59	N 06"21'03" W	24.19'	8.708 VS
L60	N 52°58'34" E	21.36'	7.689 VS

I DICTANCE | DICTANCE]

LINE	BEARING	DISTANCE FEET	DISTANCE
L61	N 02°36'16" E	24.76'	8.913 VS
L62	N 13°57'57" W	20.88'	7.518 VS
L63	N 25°32'48" W	105.27'	37.897 VS
L64	N 25°34'43" W	99.13'	35.688 VS
L65	N 29°23'00" W	96.26'	34.655 VS
L66	N 25°57'57" W	125.16'	45.059 VS
L67	N 40°17'16" W	100.87'	36.314 VS
L68	N 48°12'33" W	113.20'	40.752 VS
L69	N 14°57'27" W	72.26'	26.013 VS
L70	N 32°21'52" W	70.83'	25.498 VS
L71	N 58°35'23" E	15.68'	5.645 VS
L72	S 67°03'58" E	104.79'	37.724 VS
L73	N 84°40'13" E	68.14'	24.529 VS
L74	S 83°35'27" E	149.67'	53.880 VS
L75	N 54*52'51" E	45.46'	16.365 VS
L76	N 60°24'17" E	86.71'	31.215 VS
L77	N 12°43'07" E	42.48'	15.294 VS
L78	S 86°38'38" E	135.82'	48.896 VS
L79	N 77°04'27" E	92.81'	33.412 VS
L80	N 80°48'50" E	105.08'	37.827 VS
L81	N 86°05'26" E	102.48'	36.895 VS
L82	N 78°50'56" E	105.67'	38.043 VS
L83	N 84°16'39" E	95.67'	34.442 VS
L84	N 55°06'55" E	80.61'	29.019 VS
L85	S 63°00'03" W	177.44'	63.879 VS

NOTE:

1) All coordinates and bearings shown hereon are grid values referenced to the Texas Coordinate System of 1983, South Central Zone - NAD 83 (2001) and NGS Monument "HGCSD 62". All distances shown hereon are surface distances unless noted and may be converted to grid distances by multiplying by a scale factor of 0.999864323.

2) This survey reflects boundary information of the uplands as per a survey preformed by Hall & Johnson Surveyors, dated September 20, 1995 (provided by client).

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 meander 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.

I, William E. Merten, Licensed State Land Surveyor in and for the State of Texas, do hereby certify that on March 10, 2005, I have located the natural contour line of Mean High Water on the ground, according to law and with the personnel stated, and that the meanders of said contour line are true and correct as shown hereon. To the best of my knowledge, no artificial fill or any development, other than as shown hereon, that would cause alteration to said contour line has occurred within the area surveyed. Reference is hereby made to the accompanying report by me of the same date.

Field Personnel: Donald Britt Morgan Ashworth

William E. Merten Licensed State Land Surveyo

TEXAS GENERAL LAND OFFICE Art. 33.136. Natural Resources Code

Co.Galveston , Sketch No. 32

File Date 6-29-2005 by D. J. H.

SURVEYORS REPORT SURVEY OF THE LINE OF MEAN HIGH WATER ALONG THE WEST BAY OF GALVESTON BAY WITHIN A PORTION OF SECTION 1, TRIMBLE AND LINDSEY SURVEY OF GALVESTON ISLAND, GALVESTON COUNTY, TEXAS

At the request of the Galveston Bay Foundation and in my capacity as a Licensed State Land Surveyor in Texas, I have determined the line of Mean High Water along the West Bay of Galveston Bay within a portion of Section 1 of the Trimble and Lindsey Survey of Galveston Island in Galveston County, Texas. This survey was performed as per the requirements outlined in the Coastal Public Lands Management Act of 1973, as amended, Chapter 33, Natural Resources Code, and specifically per Section 33.136, Natural Resources Code, "Property Rights: Preservation of Littoral Rights".

The purpose of this survey was to evidence "...the location of the shoreline in the area depicted in this survey as that shoreline existed before commencement of erosion response activity..."(Section 33.136(b), Natural Resources Code).

This site, in general, is located on the southern shore of the West Bay of Galveston Bay approximately 1/2 mile west of the entrance of Offatts Bayou and this site is tidally influenced.

In the case of Humble Oil & Refining Co. vs. Sun Oil Co. (190 F 2d 191), the court held that "grants issued by the King of Spain and the Mexican State before the adoption of common law in Texas, the boundary between sea and upland must be determined in accordance with principals announced in Las Siete Partidas, the basic law of Spain and Mexico which defines "shore" as all ground covered with water at high tide during the whole year, whether in winter or summer."

In a decision by the Texas Supreme Court in the case of Luttes vs. State (324 SW 2nd 167, on remand 328 SW 2nd 920) it was found that the littoral boundaries for civil law grants differs from the boundaries of common law grants. The court states that for civil law grants (grants by Spain and Mexico) the boundary is the line of Mean Higher High Water (MHHW) and for common law grants (grants made by the Republic and State of Texas) the boundary is the line of Mean High Water (MHHW). This case described that the best method of determining MHHW and MHW is to employ the use of scientific tide gauges.

The Luttes case defined MHHW as a tidal datum that is the average of the higher of the two daily tides observed over a specific 19 year period (epoch) and MHW as a tidal datum that is the average of all high tides over a specific 19 year period (epoch). Tides being defined as the regular and predictable rise and fall in sea level due to the gravitational pull of the sun and moon. Also, sea levels are influenced by weather conditions, geographical location and topography of the coastline. The combination of these conditions can result in a wide variation in the elevation of the tidal datum from location to location.

Surveyors Report Galveston Bay Foundation Page 2 of 3

Due to this variation, the tidal datum had to be determined at the project location. Because of the impracticality of obtaining 19 years of tide readings at a specific location, methods have been developed to correct short term observations between project site staff gauges and a primary tide gauge (gauges with more than 19 years of observations).

Tide gauges along the Texas coastline are installed, operated and maintained by a joint effort involving the National Oceanic and Atmospheric Administration (NOAA), the Conrad Blucher Institute (CBI) and Lamar University. Tidal datum's, benchmarks and gauge readings are published and available from NOAA and CBI.

The project site is located in the general vicinity of the Galveston Pier 21 Tide Gauge, a primary gauge in use since 1908. Recently, NOAA has adopted new procedures to compute accepted tidal datum's in the Galveston area based on more recent observations. This procedural change is due to the rise in sea level in the Galveston area, being over 0.02 feet per year, which far exceeds the U.S. average rise of 0.005 feet per year. Currently the published tidal datum for the two gauges is based on the 19-year epoch from 1983 to 2001. Due to this relatively rapid change in sea level I felt it was necessary to compute data on a more current epoch in lieu of using the published datum's. A new tidal datum for the Galveston Pier 21 Tide Gauge was calculated for the 19-year epoch ending in January, 2005.

A site staff gauge was installed and observed simultaneously with the Galveston Pier 21 Tide Gauge for three days (six high tide cycles). These reading were compared to the Galveston Pier 21 Tide Gauge using the amplitude ratio method resulting in a calculated elevation for mean high water at the site staff gauge.

The project site is along approximately 4000 linear feet of coast line which runs west from 103rd Street to approximately 2000 feet east of Anderson Ways.

Using the calculated elevation from the site staff gauge, points were located on the natural contour line of Mean High Water along the entire shoreline for the entire project length. These points were incorporated into surveyed meanders delineating the littoral boundary between the state owned seabed and privately owned uplands.

The surveyed meander line was tied to the Texas Coordinate System of 1983, South Central Zone – NAD 83 using NGS Monuments "HGCSD 62" and "162+87.6" for reference. Scale factor for this project is 0.999864323.

Galveston Co. NRC Art. 33.136 Sketch 32 (Report)

Surveyors Report Galveston Bay Foundation Page 3 of 3

To the best of my knowledge, except as shown on the accompanying plat, no artificial fill or development that would cause alteration to the line of mean high water has occurred within the area surveyed.

A plat showing the results of this survey was prepared and filed with this report.

Respectfully submitted,

William E. Merten Licensed State Land Surveyor GeoSurv, LLC P.O. Box 246 League City, Texas 77474 281-554-7739 March 31, 2005

