

F00421

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE

DESCRIPTIVE REPORT

Type of Survey . . . **HYDROGRAPHIC**
Field No. **AHP-10-7-95**
Registry No. **FE-421**

LOCALITY

State **TEXAS**
General Locality **GULF OF MEXICO**
Sublocality **9 NM SSW OF**
FREEPORT, TEXAS

19 95

CHIEF OF PARTY
LT, K. HARBISON, NOAA

LIBRARY & ARCHIVES

DATE **MAY 6 1996**

DIAGRAM 1283-2

1283-2

Charts

Ref: 11321 - FE 421
Ref: BP 157916

CP5

ST 11321 RS

NA 11330 Appn 7113 h/c TW
RS 11300 EXAM n/c GJK 1/22/97

411 Examined, N/C DBR 9-16-96

NOAA FORM 77-28

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

REGISTER NO. PE-421

HYDROGRAPHIC TITLE SHEET

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NO. AHP-10-7-95

State Texas

General Locality Gulf Of Mexico

Locality Nine Miles SSW of Freeport, Texas

Scale 1:10,000

Date of Survey October 11, 1995

Instructions Dated October 26, 1995

Project No. OPR-K20⁴-AHP

Vessel 770

Chief of Party Lt. Kevin Harbison, NOAA

Surveyed By Castle E. Parker

Soundings taken by echo sounder, hand lead, pole Innerspace Model 448

Graphic record scaled by CEP, DBE, PMW

Graphic record checked by CEP, BAL

Protracted by

Automated plot by HDAPS/BRUNING ZETA (FIELD) (AHB)

Verification by ATLANTIC HYDROGRAPHIC BRANCH personnel

Soundings in ^{feet} ~~meters~~ at MLLW By ^{Approved} Actual Tides

REMARKS: CEP = Castle E. Parker
DBE = David B. Elliott
PMW = Phil M. Wolf

Notes in the original Descriptive Report were made in red during office processing.

AWOIS/SURF 5/8/96 MCR

MAY 6 1996 *SC*

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY FE-421
FIELD NO. AHP-10-7-95
SCALE: 1:10,000
1995
ATLANTIC HYDROGRAPHIC PARTY
CHIEF OF PARTY: LT Kevin Harbison, NOAA

A. PROJECT

This survey was conducted according to Hydrographic Project Instructions OPR-K204-AHP, Galveston Bay, Texas, dated September 16, 1994, change No. 1 dated June 6, 1995, and change No. 2, dated October 26, 1995.

This field examination is in response to a request from the Texas Parks and Wildlife Department, Artificial Reef Program, to determine least depths on the artificial reef formed by the liberty shipwreck *George Vancouver*.

B. AREA SURVEYED

The area surveyed for FE-421 is located in the Gulf of Mexico, nine miles SSW of Freeport, Texas. The approximate survey limits are as follows:

North: 28°47'40"N
South: 28°47'30"N
East: 095°20'46"W
West: 095°20'56"W

This survey was conducted on October 11, 1995 (DN 284).

C. SURVEY VESSELS

Vessel 770, a 21-foot MonArk, was used to collect all survey data. No problems were encountered with the vessel.

D. AUTOMATED DATA ACQUISITION AND PROCESSING - See also section D. of the Evaluation Report.

Version 5.01 of the PC-DAS programs was used for on-line data acquisition. A list of all HP-DPS programs and versions used for data processing can be found in the Appendix* of this report. The NOS program VELOCITY (Ver. 2.10) and WordPerfect (Ver. 6.0) were also used during this survey.

Data filed with field records.

E. SONAR EQUIPMENT

Not Applicable

F. SOUNDING EQUIPMENT

Innerspace depth sounder model 448, serial number 283, was used to collect all echo soundings on this survey.

A standard lead line calibrated in meters, S/N 770, was used during this survey for comparison readings with the echo sounder. The lead line was calibrated using a steel tape on January 25, 1995 for Launch 770.

Least depths on FE-421 exceeded the depth limits of the lead line. The least depth acquired on the wreck for this survey was taken with a polypropylene line attached to a large float.

No problems were encountered with any of the sounding equipment. A sea state of 3 to 4 feet affected the digital depth when changing scales. Adjustment of gain usually corrected the situation. The beam of the wreck is less than 20 meters, which made rapid scale changes necessary along with simultaneous gain adjustments.

G. CORRECTIONS TO ECHO SOUNDINGS

Correctors for the velocity of sound through water were determined from the casts listed below:

<u>Velocity</u> <u>Table No.</u>	<u>Cast</u> <u>No.</u>	<u>Deepest</u> <u>Depth(m)</u>	<u>Applicable</u> <u>DN</u>	<u>Cast</u> <u>Position</u>	<u>Day</u>
1	1	22.2	284	28°47'35"N 095°20'52"W	284

Corrections for the speed of sound through the water column were computed from data obtained with a Seacat Velocity Profiler, Model 19-03, s/n 287. This instrument was calibrated by the manufacturer on November 30, 1994. Data quality assurance tests were performed prior to the cast. Seacat Velocity Profiler Model 19-03, s/n 1477, was used during the least depth determination with the Mod (3) Least Depth Diver Gauge. Program VELOCITY was used for computing the speed of sound correctors. Speed of sound corrections were applied to the sounding plot using the HDAPS program REAPPLY. Copies of the table and support documentation are in the "Survey Separates."^{*}Two velocity profilers were used for comparison during the least depth determination using the Mod (3) Diver Gauge. Copies for the calibrations for the velocity profilers are in the "Survey Separates."^{*}

Filed with field records.

A static draft of 0.3 meters was applied to the final sounding plot by using the HDAPS program REAPPLY. The draft was measured by subtracting the difference from a punch mark on the side of Launch 770, 0.6 meters above the transducer, to the water surface.

Settlement and squat measurements for Launch 770 were determined on January 9, 1995 (DN 009). These measurements were conducted in Clear Lake, Texas using the level method. Data from this test are included in the "Survey Separates."**Settlement and squat correctors were applied online to the soundings acquired by means of the offset table entry in the PC-DAS system on the survey launch.

All soundings on FE-421 are corrected to MLLW unless otherwise specified.

Actual tides downloaded directly through GOES/NESDIS, from the Freeport, Texas tide station 877-2440, (Platform ID 334A9354) using a station corrector of -1.05m and a range ratio of [X 1.03] supplied by the Datums Section, N/OES 231, were used on the final sounding plot and least depth determinations. Approved tide levels were requested from the Product and Services Branch, Datums Section, N/OES231, in a letter dated November 8, 1995. A copy is appended to this report.* Approved tides and zoning were applied during office processing.

No levels were run for this field examination due to logistics and the need for a speedy response.

H. CONTROL STATIONS - See also section H. of the Evaluation Report

The horizontal control datum for this project is the North American Datum of 1983. The Galveston, Texas DGPS beacon was used for control throughout this survey. The beacon's geographic position is listed on the Control Station List included in the "Survey Separates".

I. HYDROGRAPHIC POSITION CONTROL

Differential GPS (DGPS) was used for all hydrographic data acquired on this survey. An Ashtech sensor serial number 700417B1070 with sensor antenna serial number 700391A0504 was used as the remote station on launch 770. The corrector data link between the reference station receiver and the launch sensor was a Communication Systems International, Inc., MBX-1 Beacon Data Receiver, Model 1/02, serial number X-1251. The Galveston, Texas DGPS beacon served as base station for position control.

J. SHORELINE

Not Applicable.

Filed with field records.

K. CROSSLINES

A total of 1.0 linear nautical miles of crosslines were run, which represents approximately 76% of the main scheme hydrography. Four crosslines were run at ten-meter line spacing along the wreck's longitudinal axis.

Crossline soundings agreed with the main scheme soundings within 0.1m to 0.2m for soundings at the same geographic position. Soundings with greater differences are due to the wrecks cargo holds and other openings in the top deck.

L. JUNCTIONS

Not Applicable.

M. COMPARISON WITH PRIOR SURVEYS - See also section M. of the Evaluation Report

Not Applicable.

N. ITEM INVESTIGATION REPORTS

The purpose of this survey was to investigate AWOIS Item 275, the *George Vancouver* wreck. Atlantic Hydrographic Party divers Parker, Elliott, and Wolf dove on the wreck to determine the least depth. Prior to the dive for this survey, on September 8, 1995, AHP divers determined the port stern of the wreck to be the least depth location. Visibility was approximately 30 feet. Surface current was near 2-3 knots with less than 1 knot on the dive site.

Divers used a pneumatic diver gauge and lead line for least depth determination. The least depth determined with the pneumatic diver gauge was 10.162²m (33.33⁴ft), corrected for tides to MLLW. A least depth of 10.153²m (33.5⁴ft), corrected for tides to MLLW, was also obtained using a measured line. The measured line least depth was obtained by attaching a large float to a polypropylene line. The line was secured to the wreck at the least depth location. The float was then positioned directly overhead, while divers annotated a mark on the depth line. The least depth was then measured topside with a steel tape. Both least depths were determined at -1529 UTC, on October 11, 1995.

Main scheme hydrography at 10-meter line spacing was run over the wreck. A total of 15 reference lines were acquired, which covered the wreck's entire length. Cross line hydrography was run as detailed in section K.

O. COMPARISON WITH THE CHART

No dangers to navigation were found on this field examination.

Chart Number 11321 has a 34-foot wreck charted at 28°47.6'N, 095°20.9'W. This survey found the least depth of the wreck at 28°47' 33.28"N, 095°20' 51.01"W. The midship position was determined to be 28°47' 34.66"N, 095°20' 52.04"W (Position Number 94+7).

The hydrographer recommends revising the charted position of the fish haven and light (Fl Y 6s) to the midship position of the wreck located at 28°47' 34.66"N, 095°20' 52.04"W. The recommended minimum depth for the fish haven is 10.162m (33.33ft) at MLLW.

P. ADEQUACY OF SURVEY - See also section P. of the Evaluation Report.

This field examination survey resolved AWOIS Item 275 and is adequate to supersede the chart within the common area.

Q. AIDS TO NAVIGATION - See also section Q. of the Evaluation Report

One aid to navigation, flashing yellow light 6s, lies within the survey area. This light is maintained by the Texas Parks and Wildlife, Artificial Reef Program. The navigation aid serves its intended purpose of marking the wreck site. The existing position of the aid is not in question. The yellow buoy is shown on Chart Number 11321 on a different obstruction (22ft), located at 28°47.7'N, 095°20.9'W, not on the charted liberty ship wreck *George Vancouver*, as it should be. Because the buoy had an excessive scope on the anchor chain and the sea state was so rough, the buoy was not positioned. Divers visually verified the buoy's anchor position by descending the anchor chain into the midship's hold where the anchor resides.

The hydrographer recommends charting the "Fl Y 6s" buoy at the midship position of 28°47'34.661"N 095°20.52.040"W. This position was scaled from survey sounding data. -Concur see sect. Q of Evaluation Report

R. STATISTICS

<u>Description</u>	<u>Quantity</u>
Total Number of Positions	82
Total Lineal Nautical Miles of Hydrography	1.32
Total Lineal Nautical Miles of Cross Lines	1.00
Square Nautical Miles of Hydrography	0.1
Days of Production	1

Detached Positions	9
Bottom Samples	0
Tide Stations	0
Velocity Casts	1

S. MISCELLANEOUS

No predicted tidal anomalies were observed during this survey.

The sea state during this survey was 3-4 feet and the wind approximately 15 knots with a surface current of 2-3 knots.

T. RECOMMENDATIONS

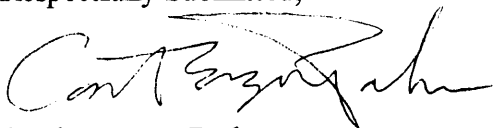
No additional field work was identified after field processing was completed.

Specific recommendations are made in sections N., O., and Q.

U. REFERRAL TO REPORTS

None

Respectfully Submitted,



Castle Eugene Parker
Hydrographer-In-Charge
Atlantic Hydrographic Party

DESCRIPTIVE REPORT APPENDICES

- I. Danger to Navigation Reports
- * II. Non-Floating Aids and Landmarks for Charts
- III. List of Horizontal Control Stations
- * IV. Geographic Names (Field)
- * V. Tides and Water Levels
- VI. Supplemental Correspondence
- VII. Approval Sheet

* Removed from Descriptive Report; filed with field records.

DIVERS INVESTIGATION

LEAST DEPTH: 10.162m (33.33FT)

NOAA UNIT: AHP/VSL 770
AWOIS NUMBER: N/A
DAY-OF-YEAR: 284
START TIME: 1517 UTC
END TIME: 1542 UTC

YEAR: 1995
CONTACT NUMBER: FE-421
LATITUDE: 28°47'34.817"N
LONGITUDE: 095°20'50.052"W

CAST MEASUREMENT INSTRUMENT: Seacat s/n 1477

LEAST DEPTH MEASUREMENT INSTRUMENT: Pneumatic Diver Gauge Mod(3)

DIVER'S PRE-DIVE GAUGE PRESSURE: 14.44 psia

DIVER'S GAUGE PRESSURE AT DESIGNATED LEAST DEPTH: 29.72 psia

COMPUTED PRESSURE AT DESIGNATED LEAST DEPTH: 29.72 psia

COMPUTED LEAST DEPTH: 10.62m (34.8336FT)

Time of LD Measurement (UTC): 1529 UTC

LD Measurement (m): 10.62m (34.8336ft)

Tide Corrector (m): -0.458m (-1.50ft)

Corrected Least Depth (m): 10.²~~162~~⁴⁶m (33.~~33~~⁴⁶ft)

Comments: AHP divers' Parker, Elliott, and Wolf dove this site to determine least depth for FE-421 and confirmation of least depth acquired for the Texas Parks and Wildlife, Artificial Reef Program on Dn 251 September 8, 1995. Positional data is not in question, only the least depth. Divers previously determined the port stern of the wreck as the least depth location. Visibility was approximately 30 feet. Surface current was near 2-3 knots with less than 2 knots on the dive site. Least depth determination occurred at 1529 UTC by means of a pneumatic diver gauge and lead line. The tide corrector was determined by downloading the tide levels through GOES/NESDIS System from the Freeport, Texas tide station #877-2440 (Platform ID 334A9354).

Recommendation: ⁴⁶ Chart wreck George Vancouver with a least depth of 10.²~~162~~⁴⁶m (33.~~33~~⁴⁶ft). Recommend revising the charted light and fish haven position (artificial reef - wreck) to the geographic position of 28°47'34.817"N 095°20'52.052"W. - Concur.

LEAST DEPTH USING SMLGAUGE PROGRAM, VERSION 2.2

NOAA UNIT: HYDRO FIELD PARTY 2 YEAR 1995
AWOIS NUMBER: WK GEORGE VANCOUVER CONTACT NUMBER: 1
DAY-OF-THE-YEAR 284 LATITUDE 28/47/35 N
START TIME 15:55 LONGITUDE 095/20/52 W

CAST MEASUREMENT INSTRUMENT SEACAT S/N:1477 CD:02/08/95
LEAST DEPTH DIVER GAUGE, SERIAL NUMBER 68339

DIVER'S PREDIVE GAUGE PRESSURE 14.44 psia
DIVER'S GAUGE PRESSURE AT DESIGNATED LEAST DEPTH 29.72 psia

COMPUTED PRESSURE AT DESIGNATED LEAST DEPTH 10.54 decibars
COMPUTED LEAST DEPTH 10.62 meters = 34.8336 ft

Time of LD Measurement (UTC): 1529 UTC

LD Measurement (m): 10.62 m

Tide Corrector (m): $\begin{matrix} .458 \\ - 0.456 \end{matrix}$ m

Corrected Least Depth (m): 10.164 m = 33.33 ft

Comments: DIVER GAUGE S/N 68339 pre DIVE PRESSURE = 14.44

LEAST DEPTH DIVE PRESSURE = 29.72

POST DIVE PRESSURE = 14.43

SEACAT S/N 1477 $S_g = 1.024$
 $T_0 = 26.4^\circ\text{C}$

Recommendation: 2 DIFFERENT SEACATS WERE USED FOR COMPARISON
OF VELOCITY CORRECTORS. AS WITH SEACATS, 2 DIFFERENT
MOD(3) GAUGES WERE USED FOR COMPARISON. THIS L.D.
WAS SELECTED AS IT AGREES WITH LEADLINE OF 34 FT 10 in (34.833 FT)
OR 10.618 m UNCORRECTED, 10.175 m (33.374 FT) CORRECTED
FOR TIDES.

APPROVAL SHEET

FIELD EXAMINATION

OPR-K204-AHP

AHP-10-7-95

FE-421

1995

This field examination was conducted in accordance with the project instructions for OPR-K204-AHP, the Hydrographic Manual, the Hydrographic Survey Guidelines, and the Field Procedures Manual. All reports, supporting data, and records were reviewed and approved by LT Kevin N. Harbison, NOAA, Chief of Party.

This survey is a complete field examination for the area described in Section B of this report.



Kevin N. Harbison, NOAA
Lieutenant, NOAA
Chief, Atlantic Hydrographic Party

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: December 1, 1995

HYDROGRAPHIC BRANCH: Atlantic

HYDROGRAPHIC PROJECT: K204

HYDROGRAPHIC SHEET: FE-421

LOCALITY: Gulf of Mexico, Nine Nautical Miles SSW of Freeport, Texas

TIME PERIOD: October 11, 1995

TIDE STATION USED: 877-2440 Freeport, Tx.
Lat. 28° 56.9'N Lon. 95° 18.5'W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 3.45 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.7 ft.

REMARKS: RECOMMENDED ZONING

Times are direct, and apply a X1.03 range ratio to heights using Freeport, Tx. (877-2440).

Notes: 1. Times are tabulated in Greenwich Mean Time.
2. Data for Freeport, Tx. are temporarily stored in file #677-2440.


CHIEF, DATUMS SECTION

ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR FE-421 (1995)

This Evaluation Report has been written to supplement and/or clarify the original Descriptive Report. Sections in this report refer to the corresponding sections of the Descriptive Report.

D. AUTOMATED DATA ACQUISITION AND PROCESSING

The following software was used to process data at the Atlantic Hydrographic Branch:

Hydrographic Processing System (HPS)
AutoCAD, Release 12
NADCON, version 2.10
MicroStation, version 5.0
I/RAS B, version 5.01

The smooth sheet was plotted using an ENCAD NovaJet III plotter.

H. CONTROL STATIONS

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD 83). Office processing of this survey is based on these values. The smooth sheet has been annotated with ticks showing the computed mean shift between the NAD 83 and the North American Datum of 1927 (NAD 27). All geographic positions listed in this report are on the NAD 83.

To place the smooth plots on the NAD 27, move the projection lines 0.912 seconds (28.065 meters or 2.81 mm at the scale of the survey) north in latitude and .788 seconds (21.383 meters or 2.14 mm at the scale of the survey) west in longitude.

M. COMPARISON WITH PRIOR SURVEYS

Hydrographic

H-10014 (1982) 1:10,000

The prior survey covers the present survey in its entirety. The prior survey located a wreck with a least depth of 34 feet (10^4 m), in Latitude $28^{\circ}47'34.12''N$, Longitude $95^{\circ}20'51.92''W$; this is the currently charted position of the least depth. The field unit located the wreck "**George Vancouver**" and obtained a least depth of 33 feet (10^2 m) in Latitude $28^{\circ}47'33.28''N$, Longitude $95^{\circ}20'51.01''W$. The present survey position is 36 meters southeast of the prior survey position. The difference in the position and depth may be attributed to advanced survey technology and to additional

deterioration of the hulk since the wreck was last investigated. The center of the wreck was located in Latitude 28°47'34.817"N, Longitude 95°20'52.052"W by John E. Chance and Associates in 1995. The center of the wreck determined by the present survey is Latitude 28°47'34.66"N, Longitude 95°20'52.04"W. These two positions differ by 5 meters. A revision to the permit for the fish haven issued in 1995 uses the Chance position as the new center of the fish haven. A copy of the revised permit is attached to this report. It is recommended that the fish haven be charted in accordance with the revised permit. It is also recommended that the charted wreck with a least depth of 34 feet and danger curve be removed from the chart and a wreck with a least depth of 33 feet (10² m) with a danger curve be charted as shown on the present survey.

The present survey is adequate to supersede the prior survey in the common area.

O. COMPARISON WITH CHARTS 11321 (25th Edition, July 3/93)
11330 (11th Edition, Sep. 30/95)

The charted hydrography originates with the prior survey and unascertainable sources which require no further consideration.

The present survey is adequate to supersede the charted hydrography in the common area.

P. ADEQUACY OF SURVEY

This is an adequate field examination; no additional work is recommended.

Q. AIDS TO NAVIGATION

The field unit recommended repositioning the buoy that marks the fish haven. Included with the revised permit* is an approved "PRIVATE AID TO NAVIGATION APPLICATION". This form describes the buoy and lists the Chance position for the center of the wreck. The aid appears to be adequate to serve its intended purpose.

* attached

S. MISCELLANEOUS

Chart compilation using the present survey data was done

by Atlantic Hydrographic Branch personnel in Norfolk,
Virginia. Compilation data will be forwarded to the Marine
Chart Division, Silver Springs, Maryland.

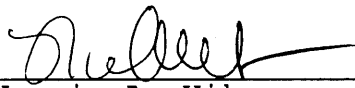


Robert G. Roberson
Cartographer
Verification of Field Data
Evaluation and Analysis

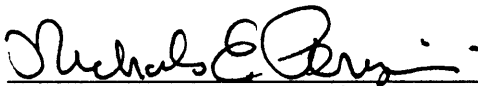
APPROVAL SHEET
FE-421

Initial Approvals:


The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disproval of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet during survey processing have been entered in the digital data for this survey. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.


Date: 26 MAR 96
Norris A. Wike
Cartographer
Atlantic Hydrographic Branch

I have reviewed the smooth sheet, accompanying data, and reports. This survey and accompanying digital data meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Evaluation Report.


Date: 26 March 1996
Nicholas E. Perugini
Commander, NOAA
Chief, Atlantic Hydrographic Branch

Final Approval:

Approved: 
Date: 5-8-96
Andrew A. Armstrong, III
Captain, NOAA
Chief, Hydrographic Surveys Division

GEOGRAPHIC NAMES

FE-421

Name on Survey	A ON CHART NO. 11321 B ON PREVIOUS SURVEY NO. 11350 11300 C ON U.S. QUADRANGLE MAPS D FROM LOCAL INFORMATION E ON LOCAL MAPS F P.O. GUIDE OR MAP G RAND McNALLY ATLAS H U.S. LIGHT LIST K										
	FREEPORT (title)	X		X							
MEXICO, GULF OF	X		X								2
TEXAS (title)	X		X								3
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Approved:

[Signature]
Chief Geographer

MAY 6 1996



TEXAS
PARKS AND WILDLIFE DEPARTMENT
4200 Smith School Road • Austin, Texas 78744 • 512-389-4800

ANDREW SANSOM
Executive Director

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Seabrook Marine Laboratory
P. O. Box 8
Seabrook, Texas 77586
(713) 474-1418

February 9, 1996


LCDR Nick Perugini
NOAA Atlantic Marine Center
439 West York St.
Norfolk, Virginia 23510

Dear Sir,

Thank you for your assistance in resolving the clearance over the "George Vancouver Liberty Ship Reef fishhaven" (State Tract 336-L). The Department has received authorization from both Mr. Richard Harrison, Chief of the Private Aids to Navigation Section with the Eighth Coast Guard District to replace the lighted buoy for an unlighted buoy on the George Vancouver Liberty Ship Reef. The Corps of Engineers has concurred on this decision and has authorized the proposed new reef boundaries, charting position and clearance over the reef. They have also granted the Department an extension of time to place more material within these reef boundaries.

The Department values the assistance and cooperation of both the Coast and Geodetic Survey, N/CG Offices in Silver Springs Maryland and the NOS Atlantic Marine Center in Norfolk, Virginia in resolving this important issue. We appreciate the Field Team's time and effort.

Sincerely,


Jan C. Culbertson,
Artificial Reef Coordinator

cc: Hal Osburn, Artificial Reef Program Director, TPWD
LT John W. Humphrey, Chief, Operations Section NOS-CGS-HSB,
N/CG2
Mr. Steve Hill, Chief, Nautical Data Section, NOS-N-CG





DEPARTMENT OF THE ARMY
GALVESTON DISTRICT, CORPS OF ENGINEERS
P.O. BOX 1229
GALVESTON, TEXAS 77553-1229
January 25, 1996

REPLY TO
ATTENTION OF

Evaluation Section

SUBJECT: Permit No. 11811(01); Modification

Ms. Jan Culbertson
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, Texas 78744

Dear Ms. Culbertson:

Your request, on behalf of the Texas Parks and Wildlife Department, to modify Permit 11811, is approved. The modification consists of correcting the center point of an existing artificial reef, establishing a 1,320 by 1,320-foot boundary as the artificial reef area, and to replace a lighted buoy with an unlighted buoy. Additionally, you requested an extension of time to place addition reef material into the site. The project is located in the Gulf of Mexico, State Tract 336-L, which is near the City of Freeport, Brazoria County, Texas.

The enclosed drawings in three sheets are approved and supercede all previous drawings. The time for completing the approved has been extended to December 31, 1999. All conditions of the original permit remain in full force and effect.

FOR THE DISTRICT ENGINEER:

A handwritten signature in black ink that reads "Cynthia J. Wood".

Cynthia J. Wood
Leader, South Evaluation Unit

Enclosure

Copies Furnished:

Eighth Coast Guard District, New Orleans, LA

NOAA/NOS, Coast & Geodetic Survey, Silver Spring, MD

Texas General Land Office, Austin, TX

Texas General Land Office, La Porte, TX

Area Engineer, Northern Area Office, Galveston, TX

95° 21' 00"

95° 20' 30"

28° 48' 00"

GULF OF MEXICO

51 54 51
52 41 52 51
53 55 35 53 51 51
54 54 37 52 51
54 54 55 33 52
55 55 53

95°20'30"W
NAD 27  28°47'30"N

28° 47' 30"

CHECKED BY: RGR
2/15/96

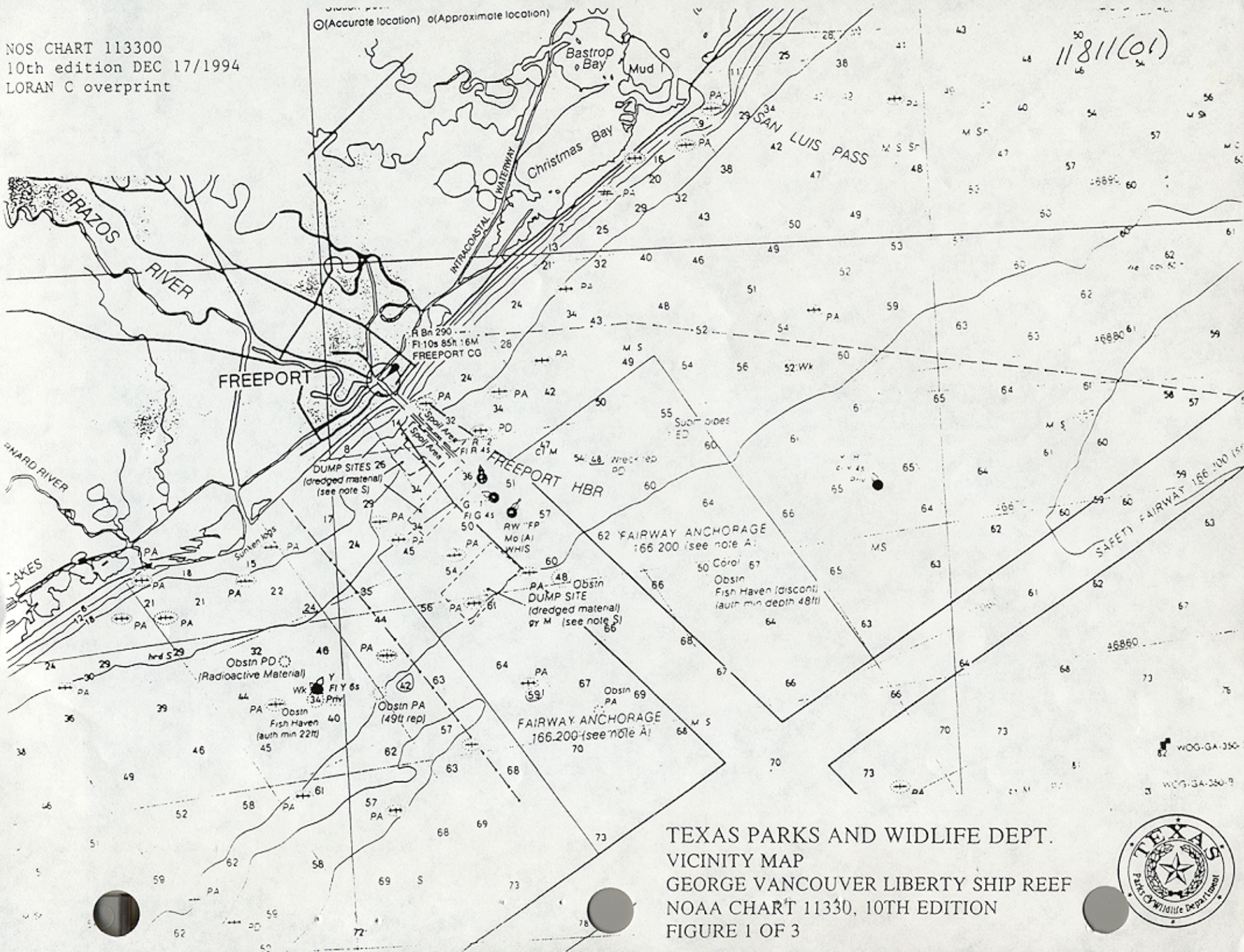
FE-421
TEXAS
GULF OF MEXICO
9 NM SSW OF FREEPORT
OCTOBER 10, 1995
1:10,000
VERTICAL DATUM: SOUNDINGS IN FEET AT MLLW
HORIZONTAL DATUM: NAD 83
SHEET 1 OF 1
AWOIS ITEM #275

28° 47' 00"

95° 21' 00"

95° 20' 30"

NOS CHART 113300
10th edition DEC 17/1994
LORAN C overprint



TEXAS PARKS AND WILDLIFE DEPT.
VICINITY MAP
GEORGE VANCOUVER LIBERTY SHIP REEF
NOAA CHART 11330, 10TH EDITION
FIGURE 1 OF 3



TEXAS PARKS and WILDLIFE DEPARTMENT

11811(00)

GEORGE VANCOUVER LIBERTY SHIP REEF

BLOCK 336

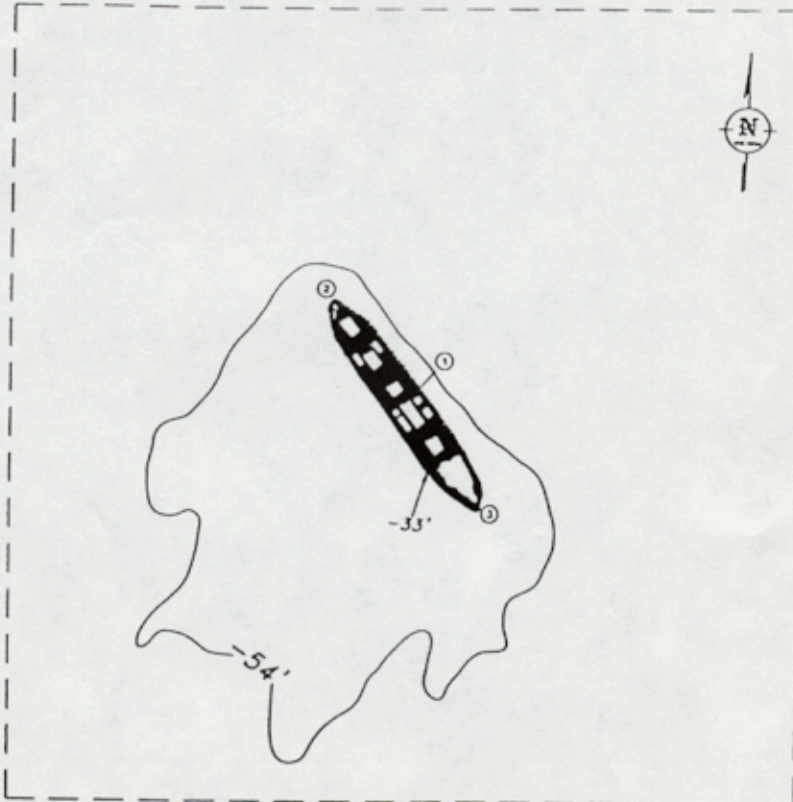
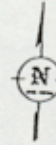
BRAZOS AREA

NW Corner

X= 3,137,380.853'
Y=43,491,180.417'
Lat. 28° 47' 41.351"N
Lon. 95° 20' 59.470"W

NE Corner

X= 3,138,700.120'
Y=43,491,221.629'
Lat. 28° 47' 41.351"N
Lon. 95° 20' 44.634"W

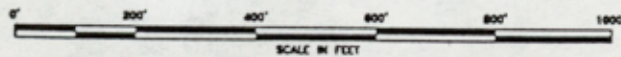


SW Corner

X= 3,137,422.039'
Y=43,489,861.232'
Lat. 28° 47' 28.283"N
Lon. 95° 20' 59.470"W

SE Corner

X= 3,138,741.353'
Y=43,489,902.446'
Lat. 28° 47' 28.283"N
Lon. 95° 20' 44.634"W



DESCRIPTION	TIE	X COORDINATE	Y COORDINATE	LATITUDE	LONGITUDE
CENTER OF REEF SITE	1	3,138,061.06	13,490,641.40	28° 47' 34.817"N	95° 20' 52.052"W
LIBERTY SHIP (BOW)	2	3,137,942.79	13,490,888.88	28° 47' 36.311"N	95° 20' 53.329"W
LIBERTY SHIP (STERN)	3	3,138,160.96	13,490,416.51	28° 47' 33.540"N	95° 20' 50.974"W
RUTHERFORD WELL #4	4	3,139,040.05	13,489,476.38	28° 47' 23.974"N	95° 20' 41.428"W

RUTHERFORD WELL #4

RETIREMENT P/L'S

GEODETTIC DATUM: NAD 1983	CENTRAL MERIDIAN: 99° 00' W
ELLIPSOID: WGS 84	X ORIGIN = 1,968,500 ft. AT CENTRAL MERIDIAN
PROJECTION: LAMBERT	Y ORIGIN = 13,123,333.33 ft. AT 27° 50' N
ZONE: TEXAS SOUTH CENTRAL	GRID UNITS: FEET

FIGURE 2 OF 3



TEXAS PARKS and WILDLIFE DEPARTMENT

11811(Col)

GEORGE VANCOUVER LIBERTY SHIP REEF

BLOCK 336

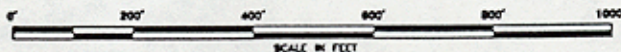
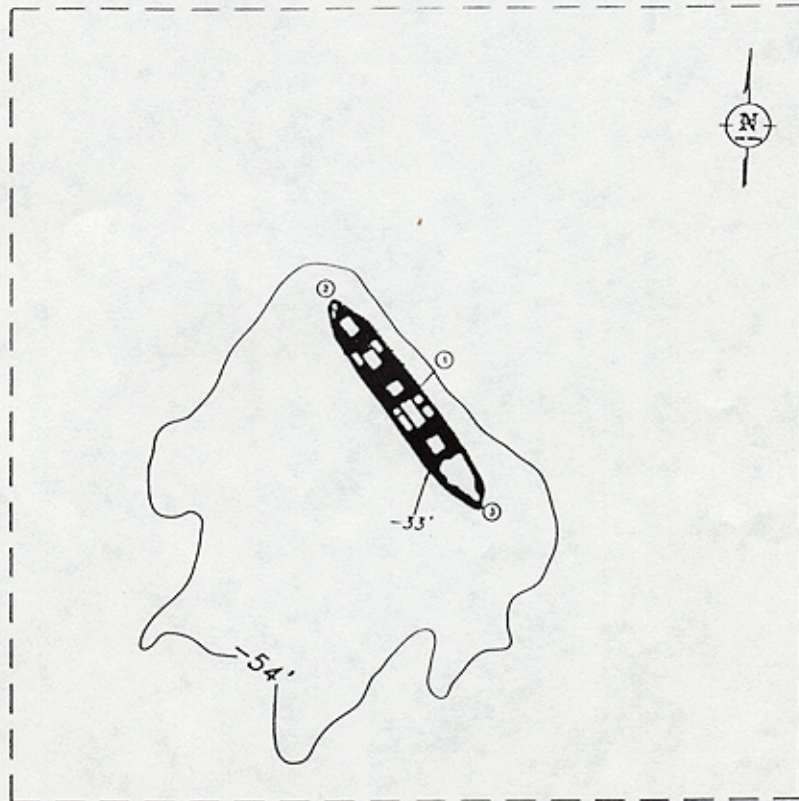
BRAZOS AREA

NW Corner
 X= 3,168,976.610'
 Y= 367,744.082'
 Lat. 28° 47' 40.440"N
 Lon. 95° 20' 58.682"W

NE Corner
 X= 3,170,295.906'
 Y= 367,785.298'
 Lat. 28° 47' 40.440"N
 Lon. 95° 20' 43.846"W

SW Corner
 X= 3,169,017.800'
 Y= 366,424.846'
 Lat. 28° 47' 27.371"N
 Lon. 95° 20' 58.682"W

SE Corner
 X= 3,170,337.140'
 Y= 366,466.184'
 Lat. 28° 47' 27.372"N
 Lon. 95° 20' 43.846"W



DESCRIPTION	TIE	X COORDINATE	Y COORDINATE	LATITUDE	LONGITUDE
CENTER OF REEF SITE	1	3,169,655.71'	367,106.51'	28° 47' 33.920"N	95° 20' 51.276"W
LIBERTY SHIP (BOW)	2	3,169,537.44'	367,253.79'	28° 47' 35.414"N	95° 20' 52.553"W
LIBERTY SHIP (STERN)	3	3,169,755.61'	366,980.62'	28° 47' 32.643"N	95° 20' 50.198"W
RUTHERFORD WELL #4	4	3,170,635.81'	366,040.00'	28° 47' 23.062"N	95° 20' 40.640"W

RUTHERFORD WELL #4

RUTHERFORD T-25 P-1'S

GEODETIC DATUM: NAD 1927	CENTRAL MERIDIAN: 99° 00' W
ELLIPSOID: CLARKE 1866	X ORIGIN = 2,000,000 ft. AT CENTRAL MERIDIAN
PROJECTION: LAMBERT	Y ORIGIN = 0 ft. AT 27° 50' N
ZONE: TEXAS SOUTH CENTRAL	GRID UNITS: FEET

FIGURE 3 OF 3



DEPARTMENT OF
TRANSPORTATION
U.S. COAST GUARD
CG-2554 (Rev. 7-76)

PRIVATE AIDS TO NAVIGATION APPLICATION
(See attached instructions and copy of Code of Fed. Reg., Title 33, Chap. 1, Part 66)

Form Approved
OMB-004-R5681

NO PRIVATE AID TO NAVIGATION MAY BE AUTHORIZED UNLESS A COMPLETED APPLICATION FORM HAS BEEN RECEIVED (14 U.S.C. 83; 33 C.F.R. 66.01-5).

1. ACTION REQUESTED FOR PRIVATE AIDS TO NAVIGATION: A ESTABLISH AND MAINTAIN B DISCONTINUE C CHANGE D TRANSFER OWNERSHIP

2. DATE ACTION TO START
1/5/96

3. AIDS WILL BE OPERATED: A THROUGHOUT YEAR B TEMPORARILY UNTIL _____ C ANNUALLY FROM _____ TO _____

4. NECESSITY FOR AID (Continue in Block 8)

Mark Artificial Reef

5. GENERAL LOCALITY

State tract 336-L

6. CORPS OF ENGINEERS AUTHORIZED THIS STRUCTURE OR BUOY BY
 PERMIT OR LETTER (file and date) #11811 on January 1977

FOR DISTRICT COMMANDERS ONLY

7. APPLICANT WILL FILL IN APPLICABLE REMAINING COLUMNS

LIGHT LIST NUMBER OR PAGE	NAME OF AID	NO OR LTR (7a)	LIGHT			POSITION (7e)	DEPTH OF WATER (7f)	CAN- OLE POWER (7g)	HT. ABOVE WATER (7h)	STRUCTURE TYPE, COLOR, AND HEIGHT ABOVE GROUND (7i)	REMARKS (See Instructions) (7j)
			PER (7b)	FLASH LGTH. (7c)	COLOR (7d)						
1385 1260	George Vancouver Liberty Ship Reef FR-TX-5					Reef Center position has been verified by NOAA to be: NAD 83 center position: 28°47'34.817"N 95° 20'52.052"W	60ft		6ft	430-ft Liberty Ship 33-ft clearance	yellow unlighted spar buoy 24inch diameter

APPROVED

8. ADDITIONAL COMMENTS
NOAA has verified position and clearance on George Vancouver Liberty Ship Reef. Request waiver for light on POLMF buoy (FA-249 marine lantern, clearlens with flasher, 6 (24 amp/hr) batteries, set at 0.6 second flash) to be replaced with unlighted yellow polyurethane foam core buoy with spectra skin over coating. Navigational clearance over reef will be maintained with a minimum 33-ft clear water over the reef site (1320-1320ft) at

9a. NAME AND ADDRESS OF PERSON IN DIRECT CHARGE OF AID
Jan C. Culbertson
Texas Parks and Wildlife Department
P.O. Box 8, Seabrook, TX 77586
9b. TELEPHONE NO.
(713) 474-1418

10a. NAME AND ADDRESS OF PERSON OR CORPORATION AT WHOSE EXPENSE AID IS MAINTAINED
Texas Parks and Wildlife
4200 Smith School Rd
Austin, Texas 78744

10b. THE APPLICANT AGREES TO SAVE THE COAST GUARD HARMLESS WITH RESPECT TO ANY CLAIM OR CLAIMS THAT MAY RESULT ARISING FROM THE ALLEGED NEGLIGENCE OF THE MAINTENANCE OR OPERATION OF THE APPROVED AID(S).

10c. DATE
12/5/95

10d. SIGNATURE AND TITLE OF OFFICIAL SIGNING
Jan C Culbertson
Artificial Reef Coordinator

FOR USE BY DISTRICT COMMANDER

SERIAL NO
CLASSIFICATION OF AID'S
Class I

RECD 12-8-95 CP
CHART 11300 11321 11330 CP
L. N. M. 05/96 CP

DATE APPROVED
JAN 24 1996

SIGNATURE (By Direction)
R. N. HARRISON, JR.,
PRIVATE AIDS SECTION

PREVIOUS EDITIONS ARE OBSOLETE

NO. 2752

CG-2554 (Rev. 7-76)

