

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE	PAGE OF PAGES	
				J	1	2
2. AMENDMENT/MODIFICATION NO. 0003		3. EFFECTIVE DATE 11-Jun-2003	4. REQUISITION/PURCHASE REQ. NO. W81W3G-3121-9160		5. PROJECT NO.(If applicable)	
6. ISSUED BY CONTRACTING DIVISION PO BOX 1715 BALTIMORE MD 21203-1715		CODE CW31	7. ADMINISTERED BY (If other than item 6) CONTR DIV OPERATIONS BR PO BOX 1715 BALTIMORE MD 21203-1715		CODE E1P0500	
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)				X	9A. AMENDMENT OF SOLICITATION NO. DACW31-03-T-0064	
				X	9B. DATED (SEE ITEM 11) 08-May-2003	
					10A. MOD. OF CONTRACT/ORDER NO.	
					10B. DATED (SEE ITEM 13)	
CODE		FACILITY CODE				
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS						
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input type="checkbox"/> is extended, <input type="checkbox"/> is not extended. Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.						
12. ACCOUNTING AND APPROPRIATION DATA (If required)						
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.						
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.						
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).						
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:						
D. OTHER (Specify type of modification and authority)						
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.						
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) SOLICITATION NO. DACW31-03-T-0064 FOR THE ANNUAL MAINTENANCE ON THE VESSEL LINTHICUM IS HEREBY MODIFIED PER THE ATTACHED SUMMARY OF CHANGES.  DUE DATE FOR PROPOSAL IS EXTENDED TO JUNE 19, 2003 AT 3:00 P.M.						
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.						
15A. NAME AND TITLE OF SIGNER (Type or print)			16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)			
			TEL:		EMAIL:	
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED	16B. UNITED STATES OF AMERICA		16C. DATE SIGNED	
_____ (Signature of person authorized to sign)			BY _____ (Signature of Contracting Officer)		11-Jun-2003	

## SECTION SF 30 BLOCK 14 CONTINUATION PAGE

**SUMMARY OF CHANGES**

## SECTION SF 1449 - CONTINUATION SHEET

## SOLICITATION/CONTRACT FORM

The required response date/time has changed from 30-Jun-2003 02:00 PM to 19-Jun-2003 03:00 PM.

## SUPPLIES OR SERVICES AND PRICES

## CLIN 0001

The CLIN extended description has changed from Contractor is responsible for supplying all the necessary services, equipment, labor and materials to complete the herein described work in a professional and timely fashion. The work may include welding modifications/fabrications, which shall be performed by a certified aluminum welder. All work is to be completed to meet manufacturer specifications and installed equipment warranty requirements. All work is to meet EPA standards. \*\*\* ALL BIDDER WORK WILL BE DONE WITHIN A 80 MILE RADIUS OF FT. McHENRY. \*\*\*POC (REQUESTOR) GREGORY BARNES/TOM CONROY (410)962-9564/3664POC (VENDOR)POC (CONTRACTING OFFICE) WILLIAM EPPS (410)962-5610/tony.epps@usace.army.milNOTE: ALL QUESTIONS SHALL BE SUBMITTED IN WRITING VIA MY EMAIL to \*\*\*\*\* PLEASE RESPOND BY PRICING THE EACH AREA OF WORK TO BE PERFORMED SEPARATELY \*\*\*\*\* Contractor is responsible for supplying all the necessary services, equipment, labor and materials to complete the herein described work in a professional and timely fashion. The work may include welding modifications/fabrications, which shall be performed by a certified aluminum welder. All work is to be completed to meet manufacturer specifications and installed equipment warranty requirements. All work is to meet EPA standards. \*\*\* ALL BIDDER WORK WILL BE DONE WITHIN A 80 MILE RADIUS OF FT. McHENRY. \*\*\*POC (REQUESTOR) GREGORY BARNES/TOM CONROY (410)962-9564/3664POC (VENDOR)POC (CONTRACTING OFFICE) WILLIAM EPPS (410)962-5610/tony.epps@usace.army.milNOTE: ALL QUESTIONS SHALL BE SUBMITTED IN WRITING VIA MY EMAIL.

(End of Summary of Changes)

Revised SCOPE OF WORK  
SHIPYARD MAINTENANCE TASKS  
OF THE SURVEY VESSEL LINTHICUM

**1. GENERAL INFORMATION**

The Survey Vessel Linthicum (S/V Linthicum) is moored at the U.S. Army Corps of Engineers Baltimore District Fort McHenry Yard's Pier. The vessel is a 45-foot aluminum modified v-hull tunnel drive vessel. Vessel weight is approximately 50,000 Lbs. The vessel has a sixteen-foot beam with a forty-eight (48) inch draft. The vessel was built in 1976 at the Lantana shipyard in Florida. The survey vessel is used to perform hydrographic surveys primarily in support of the Baltimore harbor channels and tributaries.

**1.1 Point of Contacts:**

Tom Conroy  
Small Craft Operator Survey Team  
[tom.conroy@nab02.usace.army.mil](mailto:tom.conroy@nab02.usace.army.mil)  
Phone = 410-962-9564  
Cell = 410-960-2451

Greg Barnes  
Chief, Survey/Debris Removal Section  
[greg.barnes@usace.army.mil](mailto:greg.barnes@usace.army.mil)  
410-962-3664  
410-960-1369

**2.0 TECHNICAL SCOPE**

**2.1. Location of Work**

The work within this scope shall be accomplished within an 80-mile radius of the Baltimore District's Fort McHenry Yards office.

**2.2. Intent**

It is the intent of the work to have general shipyard maintenance and electrical repairs performed.

**2.3. General Requirements**

Contractor is responsible for supplying all the necessary services, equipment, labor and materials to complete the herein described work in a professional and timely fashion. The work may include welding modifications/fabrications, which shall be performed by a certified aluminum welder. Aluminum piping and fittings to be type 5086 for corrosion resistance. All electrical work shall be performed under the direct supervision of an ABYC certified marine electrician. All electrical work shall meet marine standards with materials used to be "UL Marine Listed" – ABS classed and U.S.C.G accepted. All work is to be completed to meet manufacturer specifications and installed equipment warranty requirements. All work is to meet EPA standards. All work is to meet USCG standards. Fair trade-in market value of existing equipment that is replaced shall be applied to this work as a reduction to overall cost.

**2.4 Detailed Scope of Work**

**2.4.1 Commencement of Work**

Work shall commence upon receipt of contract issue/notice to proceed (NTP).

**2.4.2 Shipyard Maintenance**

The following items are in no particular order of accomplishment but are intended to be covered as typical repair/maintenance items.

- 2.4.2a.** Haul, Block and re-float
- 2.4.2b.** Scrape, sand and pressure wash the bottom and hull to completely remove marine growth and loose paint.
- 2.4.2c.** Remove vinyl lettering on port bow, starboard bow and stern. Lettering to be replaced with same type and color (white).
- 2.4.2d.** Paint bare spots with marine primer, and apply one coat of Z-Spar or equivalent Gloss Black marine paint.
- 2.4.2e.** Touch-up bottom with West Systems epoxy primer or equivalent.
- 2.4.2f.** Paint bottom with 2 coats of E-Paint SN-1 anti fouling Red paint for aluminum hulls. Paint to be applied following paint manufacturers specifications.
- 2.4.2g.** Install lettering by centering , (see 2.4.2c)  
for Port Bow and Starboard Bow as: **CORPS OF ENGINEERS  
US ARMY**
- For Stern as : **LINTHICUM  
CORPS OF ENGINEERS  
US ARMY**
- 2.4.2h.** Replace shaft anodes with 2” Canada Metals, 3 per shaft (total of 6 anodes).
- 2.4.2i.** Remove and replace existing weather stripping on forward and aft cabin hatches and on main engine room hatches using Johnson or equivalent weather stripping to assure a reasonable weather tight seal. Install a “dog” system on inside of main engine hatches (minimum 2 per hatch). Test for and correct any leaks.
- 2.4.2j.** Remove existing flexible fuel lines to the 2 Onan 12.5Kw Generators and replace with USCG approved type “A” flexible fuel lines. (total of 2 lines).
- 2.4.2k.** Repair/replace generator room saltwater intake pipes and replace as necessary due to wear. Remove and inspect generator raw water intake valves and replace as necessary or lubricate and re-install as a minimum.
- 2.4.2l.** For the Head, repair/replace head intake and discharge pipes as necessary.. Install a vented loop as required and tie the discharge into the Lectrasan treatment tank. The loop vent shall be designed and installed to prevent seas from washing back into the head. Replace all intake and discharge hoses for the head. Lubricate the below deck intake and outlet valves for the Head. All hose shall be smooth inside and designed for marine sanitation use and meet all current USCG and EPA requirements. Double clamp all hoses with stainless steel clamps. Remove and replace the Lectrasan unit. Refasten aluminum kick plate leading to Head.
- 2.4.2m.** Per hull soundings (see attached Marine Survey Report) cut out corroded areas and install new aluminum hull material. Aluminum hull material to be of same thickness and composition of original material. All newly installed hull material to be sand blasted, primed and painted as specified. Finish with 3 coats of E-Paints SN-1 antifouling paint.
- 2.4.2n.** Install forward window electrical defoggers in wheelhouse sufficient to clear three windows.
- 2.4.2o.** Install a Rule 3400 equivalent or better bilge pump in engine room. Installation shall include wiring and through the hull fittings and seals of discharge pipe (this is a secondary pump to the existing bilge pump).
- 2.4.2p.** Remove and replace defective 120vac. engine room blower assembly.
- 2.4.2q.** Sandblast to bare metal the topside red deck, apply a minimum of 2 coats of epoxy primer and apply Ultra Tuff Coat, UT 100 by Progressive Epoxy Polymers or equivalent following manufactures specifications. Color to match the existing red color. Extreme care is to be taken in preventing other areas from sand blasting.
- 2.4.2u.** Remove, re-install and replace, as needed all rubber fendering to include removing and replacing corroded aluminum backing plates. All new metal to be primed with 2 coats of epoxy paint (see attached Marine Survey Report referencing condition of existing backing plates and recommended process to install new backing plate).
- 2.4.2r.** Fabricate and install aluminum support brackets for generator exhaust hoses. Fasten hoses with stainless clamps using chafing gear.

**2.4.2s.** Rebuild or replace the existing IDEAL windlass with equivalent or better to include all hardware and electrical connections.

**2.4.2t.** Secure engine room ladder by welding top bracket in place.

**2.4.2u.** Fabricate and install port and starboard vessel nameplates on topside rails of wheelhouse. Nameplates shall be of aluminum, the name of the vessel in 8 inch high Gothic block capital (upper case) letters shall be affixed to the plate solidly to prevent water intrusion and prevent corrosion. Plate to be twice the length of the lettering height. Plate to be painted modern blue with vessel name lettering in gold.

### **2.4.3 Electrical Repairs**

**2.4.3a. A.C. Distribution System** - Consolidate the A.C. distribution system to the port side distribution panel to include the removal of shore-power/generator switches (2) and the installation of one shore-power/generator switch in the electrical cabinet in the salon. One new cable will feed all A.C. power to the port pane via a run up the starboard side All shore-power and generator cables to be replaced. Replace all S0 cord, DSGA cable and ungrounded 120/240 volt 2-wire wiring, with 3 conductor cable and properly interconnect the A.C. and D.C. systems. Finished A.C. system to be fully grounded to receptacles and fixtures.

**2.4.3b. 120V Receptacles** - Replace all 120V receptacles on vessel with GFCI receptacles to insure no more than four receptacles per circuit. Install blind GFCI's for both battery chargers and replace A.C. power conductors.

**2.4.3c. D.C. Distribution Panel** - Install new D.C. negative bus at the D.C.distribution panel. Convert the D.C. distribution panel to single pole circuit breakers. Install a D.C. main circuit breaker. Install a new D.C. positive bus. Check D.C. circuit breakers for proper sizing. Eliminate after market fuses that are randomly located and re-connect the circuits to the main D.C. distribution panel. Install a battery selector switch for the auxiliary D.C. power (if necessary). Install over current protection at the source of auxiliary D.C. power. Install new and larger battery cable for auxiliary D.C. panel.

### **2.4.4 Sea Trials**

Upon completion of installation contractor shall complete sea trials with Corps of Engineer boat operator and to document and certify compliance with contract specifications. Tests shall be performed to insure all watertight and water resistant applications are compliant.

## **3 Communication**

The contractor shall remain in contact with Corps POC, during the commencement of the work activities as to allow the POC to review the status of the work. Contractor shall immediately inform Corps POC of problems that may affect the completion of the work per the schedule.

## **4 Documents/Information provided by the Government to the contractor.**

Vessel inspection can be performed at the Fort McHenry Yard Pier. Vessel diagrams will be made available as needed.

## **5 Period of Performance**

All work shall be completed within 30 calendar days of receipt of vessel.

# HOWELL MARINE, INC.

MARINE SURVEY

P.O. Box 6542  
Annapolis, MD  
21401-0542  
Tel 410-626-8500  
Fax 410-626-8525

## CONTENTS

### ULTRA SONIC INSPECTION REPORT OF THE "LINTHICUM"

PERFORMED FOR  
United States Army Corps of Engineers  
2611 Leahy Street  
Baltimore, MD 21230

May 30, 2003

#### GENERAL

Ultrasonic testing and visual inspection of the aluminum motor vessel "LINTHICUM" was performed to determine the general condition of her below waterline hull plating. The head saltwater piping, generator saltwater piping and rub rails were also inspected. The vessel was inspected while ashore, in a shed at Tolchester Marina, Tolchester, Maryland. The weather was sunny and the temperature was approximately 78 degrees.

The motor vessel is built of welded aluminum with a V bottom hull and single chines. She is currently undergoing extensive repairs, including the installation of two new Cummins Diesels, propellers shafts, cutlass bearings and propellers.

#### Principle data of the vessel:

LOA:	45' 0"
Beam:	16' 0"
Draft:	4' 0"
Displacement:	Unknown
Builder:	Lantana Boat Yard, Lantana, Florida
Year Built:	1976
Hull Number:	None seen

## **FINDINGS**

The visual inspection found the aluminum plating to be in generally good condition with the below waterline sections showing little buildup of anti-fouling paint and the epoxy barrier coat in good condition. There were three small doubler plates inboard of the chine on the starboard side, six feet forward of the transom. All flaking anti-fouling paint and marine growth had been cleaned away; fresh anti-fouling paint had not yet been applied. All zincs were in good condition.

The port and starboard rub rails were also inspected and the aluminum backing plate is badly deteriorated, requiring removal and replacement of the aluminum backing plate.

Several dished and dented areas were noted where the vessel had minor collisions while in service.

Internal inspection of the aluminum plating was restricted to the areas without foam insulation; forward at the head, port at the transducers, engine room and lazarette.

The aluminum saltwater piping for the head and two Onan generators was also inspected and appeared to be in good condition with the exception of the short areas under the flexible hoses. These areas showed evidence of pitting. In addition, the four valves (head intake, head discharge and generator saltwater intakes) showed evidence of minor corrosion. The valves should be disassemble, cleaned, steel valve bodies painted and the valves lubricated.

In addition, one hundred and twenty-eight (128) ultrasonic measurements were taken on 48" station spacing and 24" centers from the waterline and below, port and starboard sides, bow to stern. Ultrasonic measurements are provided in Attachment "A".

Some additional readings were taken but the audio gauge will not give a measurement when severe corrosion or pitting is present. Those measurements in Attachment "A" that are marked with an asterisk \* are measurements that were difficult to obtain and therefore indicate the beginning of corrosion and pitting of the hull plating. A Cygnus 2 portable single probe digital instrument was used to test the plating thickness. The instrument was calibrated at the test site using a calibrated test block.

One area was identified as having thin or deteriorated plating. This area was to starboard and at the three small doubler plates. The plating at the two transducers (port) should also be inspected further by removing the transducers.

## **CONCLUSIONS**

With twenty-seven years of service, the hull plating appears to be in good condition but with some local pitting and corrosion in some areas. If preventative repairs are not accomplished, the hull plating will most likely begin to pit and deteriorate until water tight integrity is lost.

## RECOMMENDATIONS

- At a minimum the area on the starboard side of the vessel, six feet forward of the transom should be cut away and new plate installed. This area was identified with black marker during the inspection of the hull on May 30<sup>th</sup> and is approximately 20" x 18" in size.
- Remove (cut away) the short sections of aluminum pipe at the head discharge and generator intakes under the flexible hose. Clean the cut end of the pipe to remove any sharp edges, install new flexible hose and double clamp.
- Disassemble the generator and head seacocks (a total of four valves), clean away any corrosion, paint the steel valve bodies, replace insulating gaskets with new, re-install and lubricate.
- Cut away the corroded aluminum rub rail backing plate. Re-install a new aluminum backing plate by mechanically fastening the backing plate or rub-rail to the vessel.

## SUGGESTION

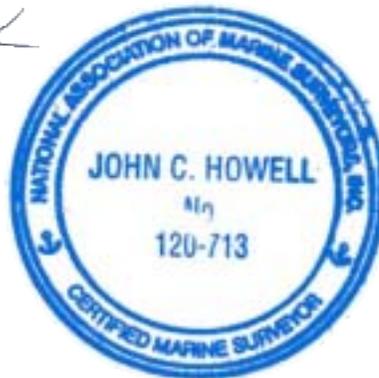
- Consideration should be given to sand blasting the vessel's below waterline sections to bare metal, inspecting the hull plating for any pits or areas of corrosion and applying a new barrier coat.

This report is made without prejudice, in good faith and is a description of the below waterline plating as found at the time of the inspection. The facts discovered and presented are in no way to be deemed a guarantee and/or warranty either specified or implied, for the subject vessel.

Respectfully submitted,  
HOWELL MARINE, INC.

by   
John C. Howell NAMS - CMS

3 June 2003  
Date



**ATTACHMENT "A"**

**"LINTHICUM"**

Hull Plating - Ultra Sonic Measurements  
May 30, 2003

Starboard Measurements

---

Station	Waterline	2'	4'	6'	8'	Keel
Stem	.374"	.379"				.384"
2' Aft	.374"					.374"
4' Aft	.374"	.379"				.374"
8' Aft	.192"	.374"	.374"			.379"
					.374"	(head intake)
12' Aft	.182"	.379"	.379"	.379"		.368"
16' Aft	.192"	.315"	.315"	.309"		.315"
20' Aft	.203"	.309"	.309"	.315"	.309"	.309"
24' Aft	.203"	.315"	.315"	.320"	.320"	.320"
28' Aft	.203"	.208"	.315"	.320"	.315"	.320"
32' Aft	.192"	.198"	.315"	.315"	.315"	.315"
					.480"	(strainer)
36' Aft	.192"	.202"	.208"	.309"	.309"	.315"
Generator Intakes					.304"	
					.309"	
					.309"	
Transom		.315"	.315"	.309"	.309"	

Port Measurements

---

Station	Waterline	2'	4'	6'	8'	Keel
	.379"	.363"				.374"
2' Aft	.368"					.363"
	.374"	.374"				.374"
8' Aft	187"	.363"	.374"			.374"
					.374" (head discharge) .374" .374" *	
12' Aft	187"	.368"	.374"	.374"		.374"
16' Aft	.192"	.309"	.309"	.309"	.309"	.320"
					.309" * (transducer) .309" .309" .315"	
20' Aft	.203"	.309"	.315"	.309"	.315"	.315"
24' Aft	.203"	.309"	.315"	.309"	.309"	.309"
28' Aft	.203"	.309"	.309"	.315"	.315"	.309"
32' Aft	.203"	.309"	.315"	.309"	.315"	.315"
36' Aft	.203"	.309"	.309"	.315"	.309"	.320"
Generator Intakes					.315" .309" .320"	
Transom		.309"	.315"	.320"	.331"	

**“LINTHICUM”**



**May 30<sup>th</sup> Tolchester Marina**

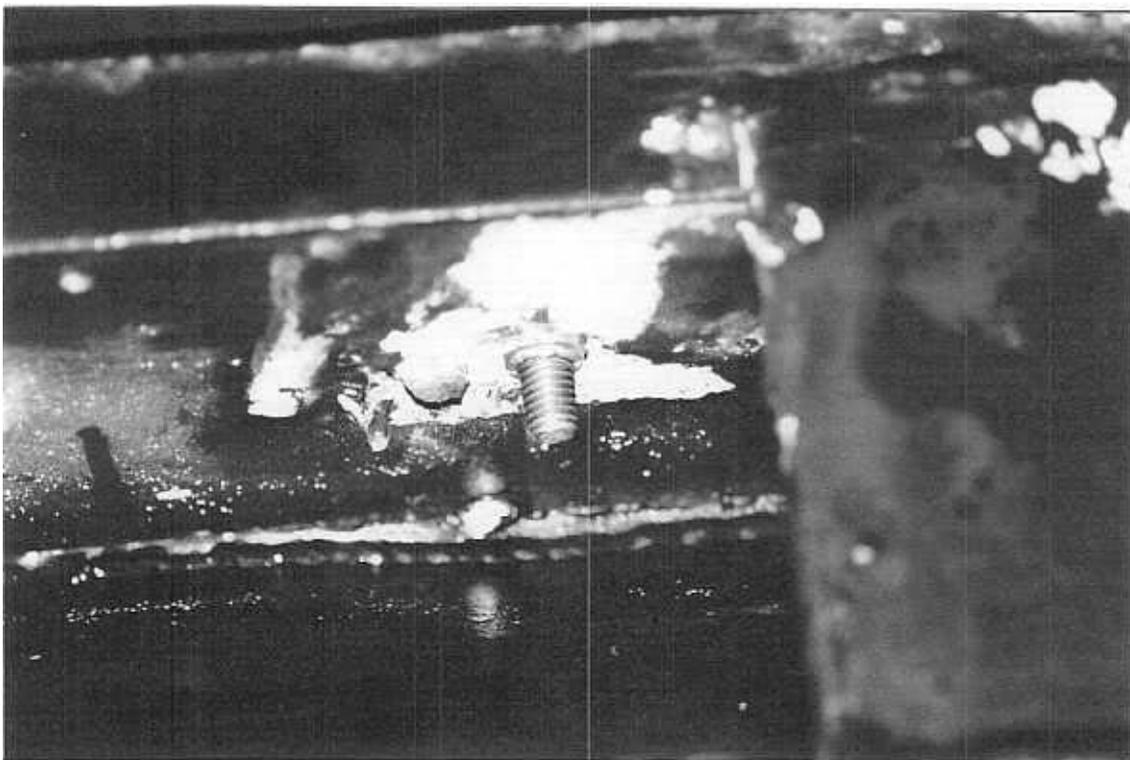


**May 30<sup>th</sup> Tolchester Marina**

**“LINTHICUM”**



**Rub Rail Port Aft Quarter**



**Rub Rail Starboard Forward**

**“LINTHICUM”**



**Generator Saltwater Intakes**



**Doubler Plates Starboard Aft**

# CERTIFICATE OF CALIBRATION

**CALIBRATION DATE:** November 19, 2002

**CALIBRATION DUE:** November 19, 2003

**CALIBRATION REPORT:** #111902

**CUSTOMER:** Howell Marine, Inc.  
P.O. Box 6542  
Annapolis MD 21401

**GAUGE:** Cygnus 2

**SERIAL NUMBER:** #655

**TRANSDUCER:** 2.25MHz 1/2" BNC Probe #63616  
2.25MHz 3/4" BNC Probe #75052

**TEST BLOCK NUMBER:** NIST Registry# 821125008292 Test blocks used for this calibration have been calibrated against reference standards certified by the National Institute of Standards and Technology and systems compliance in ISO/IEC Guide 25, MIL-STD-45662A, ANSI/NCSL Z540.1. Instrument Serial Number #655 found to be within tolerance.

  
\_\_\_\_\_  
**CERTIFICATION MANAGER**

11-19-02  
\_\_\_\_\_  
**DATE**