



USCGC NEAH BAY (WTGB 105)  
SPECIFICATION FOR DOCKSIDE REPAIRS  
FY2023

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(Revision-0, 17 Oct 2022)

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**REVISIONS RECORD**

This page is used to record specification revisions, which may have occurred subsequent to a Revision 0 (Rev-0) package. Information listed is intended to provide contractors and field unit personnel a means to ensure all the current specification revision pages are present when reviewing or utilizing this specification package.

DATE	REV#	WORK ITEM#	CHANGES MADE

**NOTE :** All work item and paragraph numbers listed above for a given revision correspond to same numbers in the previous revision. This revised specification is self-contained with all of the above listed changes incorporated.

## CONSOLIDATED LIST OF REFERENCES

The below-listed documents form a part of this specification to the extent specified herein. Approval/publication dates or revision dates/numbers are also identified, to ensure that same document versions are used at the time of specification writing and during contract execution.

All Coast guard drawings, technical publications, and standard specifications will be provided to contractors by the Coast Guard at an appropriate time, or upon request, free of charge. Other Government documents may be accessed – free of charge – from links located on the SFLC website. Commercial sites provide access to their respective documents.

### COAST GUARD DRAWINGS

Coast Guard Bill of Materials 627 WMEC 327, Rev G, Watertight Doors, Hatches & Scuttles  
 Coast Guard Drawing 140 WTGB 171-001, Rev -, Fore Mast  
 Coast Guard Drawing 140 WTGB 116-001, Rev -, Longitudinal Framing and Side Girder  
 Coast Guard Drawing 140 WTGB 117-001, Rev -, Transverse Frames  
 Coast Guard Drawing 140 WTGB 120-001, Rev -, Structural Bulkheads  
 Coast Guard Drawing 140 WTGB 149-001, Rev -, Tank Tops and Flats  
 Coast Guard Drawing 140 WTGB 150-002, Rev -, Deckhouse Plating and Framing  
 Coast Guard Drawing 140-WTGB-167-001, Rev -, Closures & Window List  
 Coast Guard Drawing 140 WTGB 182-002, Rev -, Foundations, Engine Room & Strainer Compartment  
 FDN Motor Room 4-61-0-E  
 Coast Guard Drawing 140 WTGB 201-001, Rev B, Machinery Arrangement  
 Coast Guard Drawing 140 WTGB 233-001, Rev -, Sway Brace, Propulsion Diesel  
 Coast Guard Drawing 140 WTGB 259-001, Rev -, Diesel Exhaust Systems, Arrangements & Details  
 Coast Guard Drawing 140 WTGB 259-002, Rev B, Exhaust Modifications to Suit Bubbler Installation  
 Coast Guard Drawing 140 WTGB-320-001, Rev -, Power System One-Line Wiring Diagram  
 Coast Guard Drawing 140 WTGB 401-001, Pilothouse Arrangement  
 Coast Guard Drawing 140 WTGB 426-001, Gyrocompass Ripout/Instl, Arr, Wiring & Details  
 Coast Guard Drawing 140 WTGB 426-002, Gyrocompass Wiring Data (COED)  
 Coast Guard drawing 140 WTGB 506-002, Rev-, Vent and Sounding System A&D  
 Coast Guard drawing 140 WTGB 506-003, Rev-, Vent and Sounding System Diagram  
 Coast Guard Drawing 140 WTGB 514-002, Rev-, Ventilation & A/C Arrangements & Details  
 Coast Guard Drawing 140 WTGB 528-002, Rev-, Sanitary & Deck Drain System  
 Coast Guard Drawing 140 WTGB 528-003, Rev C, Sanitary & Deck Drain A&D  
 Coast Guard Drawing 140 WTGB 528-004, Rev -, Grey Water Mods & Tank Transition  
 Coast Guard Drawing 140 WTGB 533-002, Rev -, Potable Water System A & D  
 Coast Guard Drawing 140 WTGB 533-003, Rev A, Potable Water System Diagram  
 Coast Guard Drawing 140 WTGB 541-001, Rev-, Diagram-fuel oil fill and transfer system  
 Coast Guard Drawing 140 WTGB 541-002, Rev B, Fuel Oil Transfer System, Filter / Coalescer  
 Replacement

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Coast Guard drawing 140 WTGB-541-003, Rev-, Fuel Oil Transfer Sys, A&D  
Coast Guard Drawing 140 WTGB 541-004, Rev-D, Fuel Oil Mods to Suit Davit Install  
Coast Guard Drawing 140 WTGB 541-005, Rev C, Fuel Oil Mods to Suit 4-38-0-F Tank  
Coast Guard Drawing 140 WTGB 551-001, Rev -, Compressed Air System Diagram  
Coast Guard Drawing 140 WTGB 561-001, Steering System Control, Alarms & Autopilot  
Coast Guard Drawing 140 WTGB 581-001, Rev-, Anchor Handling A & D  
Coast Guard Drawing 140 WTGB 583-002, Rev E, Boat Handling Arr Incid to Vestdavit Install  
Coast Guard Drawing 101 WTGB 583-004, Rev F, New Boat/Cargo Boxn & Fdn Dets  
Coast Guard Drawing 101 WTGB 583-007, Rev -, Boat/Cargo Boom Control Console  
Coast Guard Drawing 140 WTGB 801-003, Rev B, Booklet of General Plans  
Coast Guard Drawing 140 WTGB 801-005, General Arrangement Main Deck & Above  
Coast Guard Bill of Materials 627 WMEC 327, Rev G, Watertight Doors, Hatches & Scuttles  
Coast Guard Drawing FL 3801-67, Rev B, Sheets 1 through 10 of 50 (General Notes – Ductwork) and Sheet 39 (Handholes for W.T. and N.W.T. Ducts)

### **COAST GUARD PUBLICATIONS**

Coast Guard Bill of Materials 627 WMEC 327, Rev G, Watertight Doors, Hatches & Scuttles  
Coast Guard Commandant Instruction (COMDTINST) M10360.3, Jun 2006, Coatings and Colors Manual  
Coast Guard Technical Publication (TP) 10000, May 2015, Manufacturer's Instruction Book - SWBS Group(s) 583, Single Point Davit, – Model PLA-2000  
Coast Guard Technical Publication (TP) 3366, Section 583-A, Dec 2005, Boat Davit Hydraulic System  
Coast Guard Technical Publication (TP) 3456, 2001, Ship Information Book, Section B  
Coast Guard Technical Publication (TP) 3478, Dec 2020, Manufacturer's Instruction Book-SWBS Group(s) 324  
Coast Guard Technical Publication (TP) 3483, Feb 2012, SWBS Groups 580-583, Anchor Windlass  
Coast Guard Technical Publication (TP) 3483, SWBS Groups 580-583, Feb 2012, Vertical Capstan  
Coast Guard Technical Publication (TP) 4674A, AutoPilot – Pilotstar D – Type AP02-S01  
Coast Guard Technical Publication (TP) E-423-029, Integrated & Fluxgate Heading Sensors - Model PG-500 & C-500 - Operator's Manual  
Coast Guard Technical Publication (TP) 6451 Remote Display Unit- Model RD-33  
Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements  
Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2020, Welding and Allied Processes  
Surface Forces Logistics Center Standard Specification 3020 (SFLC Std Spec 3020), 2020, Overhaul AC Electrical Motors  
Surface Forces Logistics Center Standard Specification 3041 (SFLC Std Spec 3041), 2020, Shipboard Electrical Cable Test  
Surface Forces Logistics Center Standard Specification 3042 (SFLC Std Spec 3042), 2020, Shipboard Electrical Cable Removal, Relocation, Splice, Repair, And Installation  
Surface Forces Logistics Center Standard Specification 5000 (SFLC Std Spec 5000), 2020, Auxiliary Machine Systems

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Surface Forces Logistics Center Standard Specification 5100 (SFLC Std Spec 5100), 2020, Clean Shipboard Ventilation Systems

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

Surface Forces Logistics Center Standard Specification 6341 (SFLC Std Spec 6341), 2020, Install Interior Deck Covering Systems

Surface Forces Logistics Center Standard Specification 8636 (SFLC Std Spec 8636), 2020, Temporary Hull Accesses

### OTHER REFERENCES

American Bureau of Shipping (ABS) Approved Chain, Accessory and Bar Manufacturing Facilities List, Oct 2016

American National Standards Institute/American Water Works Association (ANSI/AWWA) C652, 2019, Disinfection of Water-Storage Facilities

American National Standards Institute/NSF International (ANSI/NSF) 61, 2015, Drinking Water System Components - Health Effects

American Society for Testing and Materials (ASTM) International F683, 2014, Standard Practice for Selection and Application of Thermal Insulation for Piping and Machinery

American Society for Testing and Materials (ASTM) International F992, 2011, Standard Specification for Valve Label Plates

American Society for Testing and Materials (ASTM) International A53, 2005, Standard Specification for Pipe, Steel, Black and Hot-Dipped , Zinc-coated Welded and Seamless

American Society for Testing and Materials (ASTM) International F1508, 2016, Standard Specification for Angle Style, Pressure Relief Valves for Steam, Gas, and Liquid Services

American Society for Testing and Materials (ASTM) International D1330, 2015, Standard Specification for Rubber Sheet Gaskets

American Society of Mechanical Engineers (ASME) B16.34, 2017, Valves-Flanged, Threaded, and Welding End

Code of Federal Regulations (CFR) Title 29, Part 1915, 2014, Occupational Safety and Health Standards for Shipyard Employment

Commercial Item Description (CID) A-A-59316, 2016, Abrasive Materials; for Blasting

Department of Defense Standard Practice (MIL-STD-2003-3A), 2009, Electric Plant Installation Standard Methods for Surface Ships and Submarines

Department of Defense Standard Practice (MIL-STD-1310H), 2009, Shipboard Bonding, Grounding, and other Techniques for Electromagnetic Compatibility, Electromagnetic Pulse (EMP) Mitigation, and Safety

Federal Specification (Fed Spec) QQ-N-281, Oct 1985, Nickel-Copper Alloy Bar, Rod, Plate, Sheet, Strip, Wire, Forgings, and Structural and Special Shaped Sections

Federal Specification (Fed Spec) RR-C-271, Rev E, Mar 2016, Chains and Attachments, Carbon and Alloy Steel

Manufacturers Standardization Society of the Valve and Fittings Industry (MSS), SP-58, 2009, Pipe Hangers and Supports – Materials, Design, Manufacture, Selection, Application and Installation

Manufacturers Standardization Society of the Valve and Fittings Industry (MSS) SP-61, 2019 Edition, Pressure Testing Of Steel Valves

Manufacturers Standardization Society of the Valve and Fittings Industry (MSS) SP-67, 2017 Edition, Butterfly Valves

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Manufacturers Standardization Society of the Valve and Fittings Industry (MSS) SP-72, 2010 Edition, Ball Valves with Flanged or Butt-Welding Ends for General Service

Manufacturers' Standardization Society of the Valve and Fittings Industry (MSS) SP-80, 2019 Edition, Bronze Gate, Globe, Angle and Check Valves

MIL-G-24716, Apr 1993, Gaskets, Metallic-Flexible Graphite, Spiral Wound

MIL-C-24633, Oct 2014, Chain, Stud Link, Anchor, Low Alloy Steel, Flash Butt Welded

MIL-DTL-1222, Dec 2000, Studs, Bolts, Screws and Nuts for Applications Where a High Degree of Reliability Is Required

MIL-DTL-23549, Sep 2016, Grease, General Purpose

Military Specification MIL-A-22262B, March 1996, Abrasive Blasting Media Ship Hull Blast Cleaning

National Electrical Manufacturers Association (NEMA) Stds, Pub. No. AB4, 2017, Guidelines for Inspection and Preventive Maintenance of Molded Case Circuit Breakers Used in Commercial and Industrial Applications

Naval Sea Systems Command (NAVSEA) Drawing 804-5959214, Rev -, Piping Insulation – Installation Details

National Sanitation Foundation Standard 61 (NSF/ANSI 61), 2016, Drinking Water System Components – Health Effects

National Sanitation Foundation Standard 372 (NSF/ANSI 61), 2020, Drinking Water System Components – Lead Content

NAVSEA Drawing 167-7379842, Rev A, Procedure & Welding Sequence for Non-Ballistic, Watertight & Airtight Quick Acting or Individually Dogged Personnel Doors

NAVSEA Drawing 803-6397268. Rev. -, Doors, W.T. Quick Acting, Arrangement

NAVSEA Drawing 804-5773931, Rev A, Acoustic & Thermal Insulation For Compartments Installation Details

Society of Automotive Engineers (SAE) Aerospace Material Specification (AMS) C6183, 2019, Cork and Rubber Composition Sheet; For Aromatic Fuel And Oil Resistant Gaskets

The Society for Protective Coatings (SSPC) Surface Preparation Specification No. 1 (SSPC-SP 1), 2015, Solvent Cleaning

The Society for Protective Coatings (SSPC) Surface Preparation Standard No. 11 (SSPC-SP 11), 2013, Power-Tool Cleaning to Bare Metal

The Society for Protective Coatings (SSPC)/NACE International (NACE) 2007, Joint Surface Preparation Standard SSPC-SP 10/NACE No. 2, Near-White Metal Blast Cleaning

The Society for Protective Coatings (SSPC)/NACE International (NACE) Joint Surface Preparation Standard SSPC-SP 6/NACE No. 3, 2007, Commercial Blast Cleaning

U.S. Navy Resilient Mount Handbook – A User’s Guide of Installation and Inspection Information,” NAVSEA S9073-A2-HBK-010 of 30 Aug 1988.

Underwriters Laboratories Inc. (UL) 489, May 2016, Molded Case Circuit Breaker

**CONSOLIDATED LIST OF GOVERNMENT-FURNISHED PROPERTY**

The following is a list of property, which the Government will furnish. This list supersedes any other material obligations indicated or implied by referenced drawings.

<b>WORK ITEM</b>	<b>MTI</b>	<b>ITEM DESCRIPTION</b>	<b>NSN/PN</b>	<b>QTY</b>	<b>ESTIMATED COST (\$/UNIT)</b>
25	N	26" x 66" Quick-Acting Weathertight Door, Steel, 2-Dog, LH Swing, (including associated coaming)	JUNIPER COMPANY P/N: JE1602/89-DI-01 Model: CC-3013-AH-LH	2 ea.	5,800.00
25	N	26" x 66" Quick-Acting Weathertight Door, Steel, 2-Dog, RH Swing (including associated coaming)	JUNIPER COMPANY P/N: JE1602/89-DI-02 Model: CC-3013-AH-RH	2 ea.	5,800.00
28	N	5B5000 resilient mount	NSN: 5340-00-543-3867	24 ea.	\$800.00
28	N	Conical Auxiliary Snubber Element	NSN: 5340-00-653-3518	16 ea.	\$500.00
28	N	**Sway Brace Adjustable Shock Mount	Fairbanks-Morse, Part Number 99999-888	2 ea.	\$800.00
30	N	Fluxgate Sensor	PN: PG-500R (OEM) NSN: 6605-01-539-0868	1 ea.	\$949.47
30	N	Remote Display, flush mount	PN: RD33 (OEM) NSN: 7025-01-616-1486	1 ea.	\$416.50

\*Government-loaned property, which shall be returned to the vessel upon completion of the availability.

\*\*New or refurbished equipment that the Government may provide for installation in place of existing equipment.

\*\*\*Government-furnished property, which is to be supplied by either the vessel or the C4IT Service Center

## **CONSOLIDATED LIST OF CRITICAL INSPECTION ITEMS**

The following is a list of work items, which contain Critical Inspection reports, which the Contractor must complete within the first 25% of the availability contract period (see SFLC Std Spec 0000, paragraph 3.2.6.5 (Inspection report particulars)):

Work Item	Title
15	Anchor Windlass, Inspect and Service
16	Anchor Chains and Ground Tackle, Inspect and Repair
17	Vertical Capstan, Inspect and Service
24	Deck Covering, Interior, Wet and Dry, Renew
27	Grey Water Valves, Renew
28	Both Main Diesel and Generator Resilient Mounts, Renew
31	Boat Cleats Install
35	Engine Room Vestibule, Preserve

**PRINCIPAL CHARACTERISTICS - TUG, ICEBREAKING**

1.1

<b>140' WTGB (TUG, ICEBREAKING)</b>	
<b>PHYSICAL</b>	
Length overall	140' 0"
Length between perpendiculars	130' 0"
Breadth, extreme	37' 7-1/4"
Depth, molded	18' 2-3/8"
Frame spacing	1' 6"
Full load (Winter) draft (at )	12' 1-1/2"
Full load (winter) displacement	687 Long tons (LT)
Full load (winter) center of gravity	
Above base (kg)	13' 1"
Full load trimming moment (forward)	75.6 Ft-LT
Min. operating condition draft (at )	11' 6-3/8"
Min. operating condition displacement	640 Long tons
Min. operating condition center of gravity	
Above base (kg)	13' 4-1/4"
Min. operating condition trimming moment	
Forward	76.8 Ft-LT
Height of vessel above DWL	Approx. 62' 0"
<b>MACHINERY</b>	
Main Propulsion	
Engine Type	Diesel-electric
Number of units:	2
Total shaft horsepower:	2500
Propeller	
Number of propellers	1
Number of blades	4
Diameter of propeller	8' 6"
Pitch	Fixed

**NOTE**

**Stability values above are for representative tug. Draft and longitudinal lever values provided above are for tugs in fresh water. Longitudinal lever values are provided to adjust tug's design drag of 1.0 feet by the stern.**

## General Requirements

### 1. SCOPE

1.1 Intent. This standard specification invokes general requirements for conducting vessel repairs performed by commercial contractors at a Coast Guard facility for Coast Guard vessels.

1.2 Term interchangeability. The terms 'Contractor', 'CG Yard', 'NAVSTA EVERETT', 'shipyard', 'Base', and 'Coast Guard Industrial' are used interchangeably in this specification. Where the primary service provider is Coast Guard personnel, references to contractor and other noted descriptors within this specification or within drawings, publications, SFLC Standard Specifications or other commercial and military references are deemed the same as prime service provider.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

None

#### COAST GUARD PUBLICATIONS

Coast Guard Commandant Instruction (COMDTINST) M10360.3 (series), Coatings and Color Manual  
Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General  
Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2020, Welding and  
Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements  
for Preservation of Ship Structures

#### OTHER REFERENCES

None

### 3. REQUIREMENTS

3.1 General. The Contractor must conform to all requirements specified in SFLC Std Spec 0000 and in this item, as applicable, during the performance of this availability. The requirements of this WI applies to all work under the scope of this contract, whether explicitly stated in all following work items or not, and to all other work subsequently authorized by changes, modifications, or extensions to the contract.

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3.1.1 NAVSEA drawings listed will be available FOR INSPECTION ONLY from the Coast Guard Port Engineer post-award. SFLC will not redistribute NAVSEA documents. Contractors can apply to NAVSEA headquarters directly for copies.

3.2 Fire watch requirements. The Contractor must provide fire watch personnel and equipment.

3.3 Preservation requirements. The Contractor must accomplish all preservation tasks, including touch-ups, in accordance with SFLC Std Spec 6310.

3.3.1 Brand name approval. Ensure that all contractor-furnished coatings are in accordance with SFLC Std Spec 6310, Appendix C (Authorized Coatings for Use on Cutters and Boats).

3.3.2 Coating colors and system color schemes. The Contractor must obtain a written KO authorization to deviate from any coatings required in SFLC Std Spec 6310 Appendix C before work.

3.4 Welding and brazing requirements. The Contractor must perform all welding and allied processes, and NDE in accordance with SFLC Std Spec 0740.

3.5 Environmental protection requirements. The Contractor must adhere to the following environmental protection requirements in accordance with the SFLC Stand Spec 0000:

3.5.1 USCG facilities. The Contractor must provide and maintain environmental protection as defined in SFLC Std Spec 0000 Appendix B, Requirements for Environmental Protection at USCG Facilities, during the performance of this availability. Contractor must plan for and provide environmental protective measures to control pollution that develops during normal practice, as well as plan for and provide environmental protective measures required to correct conditions that develop during the project. Contractor must comply with applicable Federal, state, and local laws, codes, ordinances, and regulations in their entirety. Any reference to a specific portion of a Federal, state, or local law, code, ordinance, or regulation in this or any other item must not be construed to mean that relief is provided from any other sections of the law, code, ordinance, or regulation.

3.5.1.1 USCG Generator status. The activity Generator Status for the Coast Guard Facility is small quantity exempt.

3.5.1.2 Plans and permits. The CG Facility has unit specific permits including the following:

- Spill Prevention Control and Countermeasures (SPCC) Plan: Unit has a SPCC Plan which requires certain unit-specific procedures be followed for the storage, inspection, and transfer of petroleum products in containers 55 gallons or greater.
- National Pollutant Discharge Elimination System (NPDES) Storm Water (SW) Permit: Unit has an NPDES SW permit which requires unit-specific procedures be followed for the storage and inspection of equipment and materials which may contribute contaminants to storm water discharges.
- Air Emission Permit: Unit has an Air Emission Permit which requires unit-specific procedures be followed for the emissions of VOCs and hazardous air pollutants.

3.5.2 Test and procedures. The Contractor must be required to promptly conduct tests and procedures for the purpose of assessing whether operations are in compliance with applicable Environmental Laws. Analytical work must be done by qualified laboratories; and where required by law, the laboratories must be certified.

3.5.3 Regulatory notifications. The Contractor must be responsible for all regulatory notification requirements in accordance with Federal, State and local regulations. In cases where the Coast Guard must also provide public notification, such as storm water permitting, the Contractor must coordinate with the Contracting Officer or COR,

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and if work is being performed at a USCG Facility, the local Facility Engineer or Engineering Officer. The Contractor must submit copies of all regulatory notifications to the Contracting Officer and the local Facility Engineer or Engineering Officer prior to commencement of work activities. Regulatory notifications must be provided for including but not limited to demolition, renovation, National Pollutant Discharge Elimination System (NPDES) defined site work, and remediation of controlled substances such as asbestos, hazardous waste, and lead paint.

3.5.4 Environmental manager. The Contractor must appoint in writing an Environmental Manager for the project, and must be responsible for coordinating Contractor compliance with Federal, State, local, and station environmental requirements. The Environmental Manager must ensure compliance with Hazardous Waste Program requirements, including hazardous waste handling, storage, manifesting, and disposal; implement the Contractors' Environmental Management Plan; ensure that all environmental permits are obtained, maintained, and closed out; ensure compliance with Storm Water Program Management requirements; ensure compliance with Hazardous Materials including storage, handling, and reporting requirements; as well as coordinate any remediation of regulated substances such as lead, asbestos, and polychlorinated biphenyl (PCB). This may be a collateral position; however the individual must be trained to accomplish the following duties; ensure waste segregation and storage compatibility requirements are met; inspect and manage Satellite Accumulation areas; ensure only authorized personnel add wastes to containers; ensure all Contractor personnel are trained in 40 CFR requirements and individual position requirements; coordinate removal of waste containers; and maintain the Environmental Records binder and required documentation, including environmental permits compliance and close-out.

3.5.5 HW disposal. Contractor must comply with SFLC Std Spec 0000 Appendix B, Requirements For Environmental Protection At USCG Facilities for HW disposal, and ensure that waste removals are conducted during normal business hours (0800-1600) on Monday through Friday (excluding holidays).

3.5.6 Additional Requirements. The Contractor must be aware of the following:

3.5.6.1. CGC NEAH BAY is parked and home-ported at the MSU Cleveland Harbor waterfront. A structural evaluation performed on 03 September 2013 resulted in the following waterfront load limits:

- A working load limit of 150 pounds per square foot (psf) uniformly distributed within 20 feet of the bulkhead face. Stockpiling, parking, and material handling is restricted to loads that fall below the 150 psf threshold. For this availability, no crane shall park or maneuver within 25 feet of the bulkhead face.

3.5.6.2 No Contractor or Subcontractor must have the authority to sign a Hazardous Waste Manifest using the Coast Guard facility's EPA Generator ID Number or remove contract generated hazardous waste from the Coast Guard facility without COR or KO-approval.

3.5.6.3 Local environmental regulations at the Government facilities may be more stringent. As with all environmental regulations, the Contractor must prepare for and comply with local and state regulations.

3.5.6.4 Coast Guard facilities do not maintain Facilities Response Plans (FRPs) per 33 CFR 154. Contractor must furnish the FRP when required for over-the-water liquids transfers to and from vessels, and is required for oil/fuel transfers to/from vessels for 250 barrels (10,500 gallons) or more.

3.6 Local Policy. The Contractor must refer to site (e.g. Base) Regulations and Instructions for details regarding local policies (e.g. crane services, parking, or facility usage).

3.7 SFLC Standard Specification approved changes. The Contractor must be aware that the following are

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approved changes to published SFLC 2020 Edition Standard Specifications and supersede published content:

3.7.1 SFLC Standard Specification 8636. Add missing paragraphs between 3.2 and 3.5 of Std Spec 8636 as follows:

“3.3 Access cut boundaries. The Contractor shall ensure that access cuts comply with the requirements and restrictions detailed in the following and in SFLC Std Spec 0740, and referenced codes.

3.3.1 Location of boundaries. Boundaries of access cuts and closure plates shall, in general, be located between principal ship framing, bulkheads, and other structural members and shall be at least three inches from any of these members or from the toes of other welds. A reduction in this three inch minimum may be approved by the KO on a case by case basis provided sufficient clearance is maintained for welding and inspection requirements. The boundaries of access cuts and closure plates should land on existing butts or seams, wherever practicable. The boundaries of prior access cuts should be utilized wherever possible. Boundaries may extend across one or more frames as required for the size of the opening.

3.3.2 Access hole dimensions and arrangements. Holes or access cuts shall be the minimum size necessary and shall be in accordance with the following:

- Rectangular access cuts and closure plates welded into primary hull structure shall be at least 12 inches wide in the lesser dimension.
- For circular access cuts, the minimum diameter shall be  $4T$ , where  $T$  = thickness of the involved structural member, but not less than three inches.
- Circular closure plates for access cuts less than two feet in diameter shall be dished  $1/16$  to  $1/8$  inch to allow for shrinkage when welded.
- Corners of rectangular access cuts and closure plates shall have a minimum radius of 6 inches except when a boundary lands on an existing hull longitudinal seam or transverse butt weld.
- Corners at an existing seam or butt shall intersect at a 90 degree angle.
- Cuts that are to cross existing butts or seams shall do so at an angle of 90 degrees plus or minus 15 degrees.
- In primary hull structure, existing welds forming the boundary of a cut shall be cut back 3 inches beyond the toe of the access cut, except that the cut back shall not intersect or cross an existing weld, frame, or structural member. In which case, the cut back may be reduced to a minimum of two inches in length.
- Existing welds crossed by the cut shall not be cut back.

3.3.3 Primary hull structure. Primary Hull Structure includes the shell, main strength decks, principal longitudinal bulkheads, vertical keel, deep web girders and stiffeners designed to withstand the ship bending stress.

3.3.4 Mechanically fastened joints. Welding closer than six inches to a mechanically fastened joint should be avoided. When access cuts cross or come within six inches of a mechanically fastened joint, the fasteners shall be checked for tightness and if necessary, loose fasteners shall be seal welded or removed, and replaced for a distance of 6 inches beyond the edge of the cut. When a cut crosses a mechanically fastened seam the cut plates shall be repaired using single V welds backed with glass tape (MIL-C-20079) to prevent fusion between the mechanically fastened plates.

3.4 Ship integrity maintenance. The Contractor shall maintain safety and ship integrity by installing temporary guarding and coaming, in addition to weathertight and watertight closures. Remove these temporary fabrications after closing the hull access, and grind surfaces flush in way of removals. For shell plating cuts made at or below the waterline where temporary closures are impractical, the Contractor shall secure each vulnerable compartment and subdivision to minimize potential damage to the extent permitted by the scope and urgency of the work.

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3.4.1 Guarding. Install temporary guards in accordance with 29 CFR 1915.73.

3.4.2 Coaming. Ensure that in areas where flammable liquids may be stored, a 4 inch high metal coaming shall be installed on the surface of the deck with tack welds and fully sealed with caulking compound. The coaming shall encircle the access cut in the deck.

3.4.3 Weathertight and contamination closures. Fabricate temporary closures, using fire retardant material, before cutting access openings and install closures whenever access is not in use. Closures shall be:

- Constructed to protect the access from inclement weather and entry of contaminants (shall include a coaming or dam on the deck to redirect rain runoff away from the opening).
- Fitted with fasteners that permit rapid installation and removal.
- Able to support a minimum of 150 pounds per square foot for horizontal deck closures.
- Where the access opening is in way of a removed hatch, scuttle or door, the closure shall be configured to allow normal passage of ship's personnel and equipment.

3.4.4 Watertight closures. Ensure that access openings created four feet or less above the maximum anticipated waterline shall include temporary watertight closures when the vessel is waterborne.

**NOTE**

NAVSEA S0600-AA-PRO-160/CH16 provides requirements for design, fabrication, and installation of temporary watertight closures.”

**4. NOTES**

4.1 QA inspection forms. QA inspection forms (QA-1 thru QA-5), required in SFLC Std Spec 6310 to be completed and submitted during preservation of “critical-coated surfaces”, are provided at the end of this document.

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**QA-1 - QUALITY ASSURANCE INSPECTION FORM  
(PRESERVATION CHECKLIST)**

VESSEL NAME	HULL #	WORK ITEM #	WORK ITEM TITLE
LOCATION OF WORK (INCL. FRAME #'S)		AREA (SQFT)	

<b>CHECKPOINT 1 – COATING SYSTEM COMPLIANCE</b>			
	Ensure all coatings are in compliance with SFLC Std Spec 6310, Appendix C.		
<b>CHECKPOINT 2 - PAINT STORAGE</b>			
	Ensure all coatings are kept at a temperature of 65 to 85°F at all times, unless otherwise specified by the coating mfg.		
<b>CHECKPOINT 3 - AMBIENT CONDITIONS</b>			
	Ensure surface and surrounding temperatures are each between 50 and 90°F for water-containing coatings, and 35 and 95°F for other coatings, unless otherwise specified by the coating manufacturer(s).		
	Ensure maximum relative humidity (RH) is as follows, from surface preparations through final curing of topcoat: 50% for tanks, voids, and vent plenum; and 85% for all other areas, unless otherwise specified by manufacturer(s).		
	Ensure surface temperature is at least 5°F above the dew point, unless otherwise specified by the coating mfg.		
<b>CHECKPOINT 4 - PRE-SURFACE PREPARATION</b>			
	Remove surface contaminants (soluble salts, loose rust, mud, and marine growth) with low pressure fresh water wash down (maximum 5,000 psi). If oil and grease are present, perform solvent cleaning, as per SSPC SP-1.		
	Verify equipment setup, blast media, and surface preparation methods match designated test coupon.		
<b>CHECKPOINT 5 - SURFACE PREPARATION</b>			
	Verify environmental conditions (see CHECKPOINT 3).		
	Ensure cleanliness of prepared surface is as per specification (i.e.: SSPC SP-11, SP-10, SP WJ-2...).		
	Verify surface anchor profile using ASTM D4417-Methods B or C against SFLC Std Spec 6310. Conduct profile readings at a minimum of 5 locations for the first 1000-sqft area, and 2 locations for each succeeding 1000-sqft area.		
	Measure soluble salt conductivity in accordance with SSPC-Guide 15. Conduct 5 measurements per each 1000-sqft area (max. threshold: 70 microsiemens/cm for non-submerged surfaces, 30 microsiemens/cm for submerged surfaces).		
<b>CHECKPOINT 6 - PRIMER COAT APPLICATION</b>			
	Verify environmental conditions (see CHECKPOINT 3).		
	Verify proper mixing and stand-in (induction) times.		
	Ensure no paint is applied when the temperature is expected to drop to freezing before the paint has dried.		
	Ensure surfaces are completely dry, unless otherwise allowed by the coating manufacturer(s).		
	Verify wet film thickness (WFT) at random, to prevent under or over application. Verify final DFT.		
	Brush out all runs, sags, drips, and puddles.		
	Perform visual inspection for holidays and other defects.		
<b>CHECKPOINT 7 – STRIPE COAT APPLICATION</b>			
	Verify environmental conditions (see CHECKPOINT 3).		
	Ensure overcoating window is as per manufacturer’s instructions.		
	After primer coat (mist coat after inorganic zinc), brush-apply un-thinned coat of same primer paint over edges, weld seams, cut-outs, and areas of complex geometries @ 3-4 mils wet film thickness (WFT).		
<b>CHECKPOINT 8 – TOP COAT APPLICATION</b>			
	Verify environmental conditions (see CHECKPOINT 3).		
	Ensure overcoating window is as per manufacturer’s instructions.		
	Verify proper mixing and stand-in (induction) times, as applicable.		
	Verify wet film thickness at random, to prevent under or over application.		
	Brush out all runs, sags, drips, and puddles.		
<b>CHECKPOINT 9 – FINAL INSPECTION</b>			
	Verify final system dry film thickness. Conduct 5 sets of 3 readings for each of the first 3 100-sqft areas, followed by 5 sets of 3 readings for each succeeding 1000-sqft area.		
	Ensure that system cure is in accordance with manufacturer's recommendation for intended service.		
	Ensure potable water tank exhaust ventilation is maintained continuously from and during coating application through final system cure, to exhaust all solvent to the atmosphere and to prevent solvent entrapment.		
	For immersion coatings (including tank U/W body), record date and time of the following events: Final coat application: ____/____/____; Return to service or removal from environment controls: ____/____/____		
<b>CHECKPOINT 10 – RECORD KEEPING</b>			
	Complete, sign, and submit all provided QA Inspection Forms.		
<b>NAME OF QP-1/NACE INSPECTOR</b>	<b>SIGNATURE</b>	<b>CERT. #</b>	<b>DATE / TIME</b>



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**QA-3A - QUALITY ASSURANCE INSPECTION FORM**  
**(SURFACE PROFILE LOG FOR PROFILE MEASUREMENTS IAW ASTM D4417-METHOD-C)**

VESSEL NAME	HULL #	WORK ITEM #	WORK ITEM TITLE
LOCATION OF WORK (INCL. FRAME #'S)		AREA (SQFT)	

SURFACE PREPARATION METHOD	PROFILE ACHIEVED (MILS)		
	MIN	MAX	MEAN
SSPC-SP-10/NACE No. 2	<input type="checkbox"/>		
SSPC-SP WJ-1/NACE WJ-1	<input type="checkbox"/>		
SSPC-SP WJ-2/NACE WJ-2	<input type="checkbox"/>		
SSPC-SP WJ-3/NACE WJ-3	<input type="checkbox"/>		
SSPC-SP WJ-4/NACE WJ-4	<input type="checkbox"/>		
SSPC-SP-3	<input type="checkbox"/>		
SSPC-SP-11	<input type="checkbox"/>		
SSPC-SP-11 (inaccessible area)	<input type="checkbox"/>		
Brush-blasting (non-metallic substrate)	<input type="checkbox"/>		
ABRASIVE MANUFACTURER:	ABRASIVE SIEVE SIZE:		

PLACE SURFACE PROFILE REPLICA TAPES IN THE SPACES PROVIDED BELOW, TO SERVE AS PERMANENT QA RECORD. MAINTAIN A SEPARATE LOG FOR EACH LOCATION. WHEN AN AREA IS DIVIDED INTO SEPARATE SECTIONS, MAINTAIN A SEPARATE LOG FOR EACH SECTION.					
Place Surface Profile Replica Tape Here		Place Surface Profile Replica Tape Here		Place Surface Profile Replica Tape Here	
Reading (mils):		Reading (mils):		Reading (mils):	
Place Surface Profile Replica Tape Here		Place Surface Profile Replica Tape Here		Place Surface Profile Replica Tape Here	
Reading (mils):		Reading (mils):		Reading (mils):	
Place Surface Profile Replica Tape Here		Place Surface Profile Replica Tape Here		Place Surface Profile Replica Tape Here	
Reading (mils):		Reading (mils):		Reading (mils):	
Place Surface Profile Replica Tape Here		Place Surface Profile Replica Tape Here		Place Surface Profile Replica Tape Here	
Reading (mils):		Reading (mils):		Reading (mils):	
Place Surface Profile Replica Tape Here		Place Surface Profile Replica Tape Here		Place Surface Profile Replica Tape Here	
Reading (mils):		Reading (mils):		Reading (mils):	
<b>MEAN MIL READING (IAW ASTM D4417-METHOD C) FOR ABOVE 15 READINGS:</b>					

NAME OF QP-1/NACE INSPECTOR	SIGNATURE	CERT. #	DATE / TIME

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**QA-3B - QUALITY ASSURANCE INSPECTION FORM**  
**(SURFACE PROFILE LOG FOR PROFILE MEASUREMENTS IAW ASTM D4417-METHOD-B)**

VESSEL NAME	HULL #	WORK ITEM #	WORK ITEM TITLE
LOCATION OF WORK (INCL. FRAME #'S)			AREA (SQFT)

SURFACE PREPARATION METHOD		PROFILE ACHIEVED (MILS)		
		MIN	MAX	MEAN
SSPC-SP-10/NACE No. 2	<input type="checkbox"/>			
SSPC-SP WJ-1/NACE WJ-1	<input type="checkbox"/>			
SSPC-SP WJ-2/NACE WJ-2	<input type="checkbox"/>			
SSPC-SP WJ-3/NACE WJ-3	<input type="checkbox"/>			
SSPC-SP WJ-4/NACE WJ-4	<input type="checkbox"/>			
SSPC-SP-3	<input type="checkbox"/>			
SSPC-SP-11	<input type="checkbox"/>			
SSPC-SP-11 (inaccessible area)	<input type="checkbox"/>			
Brush-blasting (non-metallic substrate)	<input type="checkbox"/>			
ABRASIVE MANUFACTURER:		ABRASIVE SIEVE SIZE:		

RECORD MEASUREMENTS TAKEN IN THE SPACES PROVIDED BELOW, TO SERVE AS PERMANENT QA RECORD. MAINTAIN SEPARATE LOG FOR EACH LOCATION. WHEN AN AREA IS DIVIDED INTO SEPARATE SECTIONS, MAINTAIN A SEPARATE LOG FOR EACH SECTION.					
Reading (mils):					
Reading (mils):					
Reading (mils):					
Reading (mils):					
Reading (mils):					
Reading (mils):					
Reading (mils):					
Reading (mils):					
Reading (mils):					
Reading (mils):					
Mean Reading (mils)					
<b>Mean Reading (mils) IAW ASTM DD4417).</b>					

NAME OF QP-1/NACE INSPECTOR	SIGNATURE	CERT. #	DATE / TIME



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**QA-5 - QUALITY ASSURANCE DATA FORM  
(COATING THICKNESS)**

(Use one sheet for each sequence)

VESSEL NAME	HULL #	WORK ITEM #	WORK ITEM TITLE

COATING MFG	PRODUCT NAME	BATC H #	INDUCTI ON TIME	COATING SYSTEM SEQUENCE (PRIMER/TOUCHUP/3RD COAT, ETC.)

DRY FILM THICKNESS (DFT) MEASUREMENTS IAW SSPC-PA 2.						
SPOT	1	2	3	4	5	AVERAGE VALUE
*BASE METAL READING (BMR) Required, If Magnetic Pull-Off (Type I/Banana) Gauge Is Used.						

LOCATION (FRAME REFERENCE):								
SPOT	1	2	3	4	5	OVERALL AVG. DFT	ADJUSTMENTS	
1							AVG. BMR	DEVIATION
2								
3							BEFORE ADJUSTMENTS	AFTER ADJUSTMENTS
AVG.								

LOCATION (FRAME REFERENCE):								
SPOT	1	2	3	4	5	OVERALL AVG. DFT	ADJUSTMENTS	
1							AVG. BMR	DEVIATION
2								
3							BEFORE ADJUSTMENTS	AFTER ADJUSTMENTS
AVG.								

LOCATION (FRAME REFERENCE):								
SPOT	1	2	3	4	5	OVERALL AVG. DFT	ADJUSTMENTS	
1							AVG. BMR	DEVIATION
2								
3							BEFORE ADJUSTMENTS	AFTER ADJUSTMENTS
AVG.								

APPLICATION METHOD (AIRLESS, CONVENTIONAL SPRAY, ROLLED)	AVERAGE DFT

NAME OF QP-1/NACE INSPECTOR	SIGNATURE	CERT. #	DATE / TIME

## WORK ITEM 1: Tanks, MP Fuel Service, Clean and Inspect

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to clean and inspect the following tank(s):

**TABLE 1 - FUEL SERVICE TANKS**

<b>TYPE OF TANK</b>	<b>LOCATION</b>	<b>CAPACITY - 95% (GALLONS)</b>	<b>LOW SUCTION (GALLONS)</b>
Diesel Service	2-45-1-F	1,738	170
Diesel Service	2-45-2-F	1,738	170

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

- Coast Guard Drawing 140 WTGB 116-001, Rev -, Longitudinal Framing and Side Girder
- Coast Guard Drawing 140 WTGB 117-001, Rev -, Transverse Frames
- Coast Guard Drawing 140 WTGB 120-001, Rev -, Structural Bulkheads
- Coast Guard Drawing 140 WTGB 149-001, Rev -, Tank Tops and Flats

#### COAST GUARD PUBLICATIONS

- Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements
- Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2020, Welding and Allied Processes

**OTHER REFERENCES**

Society of Automotive Engineers (SAE) Aerospace Material Specification (AMS) C6183, 2019, Cork and Rubber Composition Sheet; for Aromatic Fuel and Oil Resistant Gaskets  
MIL-DTL-1222, Dec 2000, Studs, Bolts, Screws and Nuts for Applications Where a High Degree of Reliability Is Required

**3. REQUIREMENTS**

3.1 General.

3.1.1 CIR. The Contractor must submit a Critical Inspection Report as required by the following paragraphs:

None.

3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the below-listed:

- Fuel
- Piping
- Tank access cover

3.1.4.1 The Contractor must remove up to a total of 3,000 gallons of diesel fuel. Document a complete chain of custody record of the removed tank contents from the vessel to the point of final destination or delivery. Submit document to the COR upon completion of work.

3.1.4.2 Dispose of removed fluids in accordance with all applicable Federal, state, and local regulations (see 4.2 (Tank content restoration)).

**NOTE**  
**Vessel may come in with less tank fluid contents than specified above.**  
**Coast Guard Personnel will operate all shipboard machinery and equipment.**

3.2 Operational test, initial. Prior to commencement of work, the Contractor must witness Coast Guard Personnel perform an initial operational test of the equipment listed below to demonstrate existing operational condition. Submit a CFR to include cost of labor and material for replacement.

- Designated tank TLIs

**NOTE: Known defective TLI's for both tanks.**

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3.3 Plug log. The Contractor must keep a written record of all plugs put in any tanks vents. A separate list must be kept for each tank being entered.

3.3.1 Ensure that all plugs are removed from each tank upon completion of work in the tank.

3.3.2 Ensure the plug log is available to the Coast Guard inspector when the inspector is performing his close-out inspection on each tank.

**NOTE**

**Initial and post repair operational tests apply only to tanks that possess TLIs.**

3.4 Cleaning requirements. The Contractor must remove tank cover(s) and clean tank interior surfaces free of all foreign materials, such as residual fuel or water, sediment, sludge, rust, or biological growth, taking care not to damage the coating system (if applicable). Remove cleaning media and residues continuously during the washing process. Remove any residual wash media; and wipe up residual moisture with clean lint-free cloths. The Contractor must refer to Coast Guard Drawings 140 WTGB 116-001, 140 WTGB 140 -003, 101 WTGB 120-001, 140 WTGB 149-001 for guidance.

3.5 Tank content and waste disposal. The Contractor must dispose of residual tank contents and any cleaning fluids in compliance with all applicable Federal, state, and local laws, ordinances and regulations. Document a complete chain of custody record of the removed tank contents and generated wastes, from the vessel to the point of final destination or delivery. Submit document to the COR upon completion of work.

3.6 Inspection. The Contractor must accomplish the following tasks:

3.6.1 Visually inspect all tank interior surfaces, including, but not limited to bulkheads, floor and overhead plating, structural members, manhole cover surfaces, fasteners and gasket seating surfaces. Submit a CFR including the following, as applicable:

- Tank structural condition.
- Inaccessible areas.
- Condition of tank coating, including measurements taken, percentage, location, and type of coating failure (if tank interior surfaces are coated).
- Tank level indicator (TLI) and/or float switch condition, as applicable.
- Sounding/vent tube and striker plate condition.
- Suction and discharge piping condition.
- Fastener material and condition (correct fastener material is stainless steel).

3.7 Tank closing. The Contractor must accomplish the following after completion of all KO-authorized repairs and/or preservation procedures:

3.7.1 For unpainted fuel tank(s) that are not ballasted, apply a heavy coat of lube oil to the entire tank interior(s).

3.7.2 Ensure that the tank(s) remain open for at least 24 hours. Notify the COR at least 24 hours prior to closing the tank(s). After satisfactory inspection by the Coast Guard Inspector and completion of all authorized repairs, close tank manhole cover(s) with new gasket material conforming to AMS-C-6183. Chase threads on studs to ensure even installation of the access covers. Renew any damaged or missing

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fasteners. Use MIL-DTL-1222 as guidance. Existing undamaged fasteners may be reused. For purpose of bid, assume 100% of existing fasteners will require renewal. Renew all Nylock hex nuts.

**NOTES**

**For cutters with unpainted fuel tanks, the 24 hour tank opening period begins after completing the lube oil coating.**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.8 Operational test, post repairs. After completion of work and in the presence of the Coast Guard Inspector, the Contractor must thoroughly test and demonstrate the equipment listed below to be in satisfactory operating condition. Submit a CFR.

- Designated tank TLIs
- Vent check valves

3.9 Ultrasonic thickness (UT) measurement. The Contractor must take a total of 50 UT measurements of tank plating, in locations designated by the Coast Guard Inspector, in accordance with SFLC Std Spec 0740, Appendix C. Submit a CFR.

3.9.1 In addition to the UT measurements, take up to 10 pit-depth measurements within each tank, using a suitable pit depth gauge.

#### **4. NOTES**

4.1 Tank content removal. The Ship's force will pump down the tanks to the maximum extent possible with the installed pumping system.

4.2 Tank content restoration. The Ship's force will procure new fluids and refill all tanks at the appropriate time.

## WORK ITEM 2: Tanks, Potable Water, Clean and Inspect

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to clean and inspect the following tank(s):

**TABLE 1 - TANKS**

TYPE OF TANK	LOCATION	CAPACITY - 95% (GALLONS)	LOW SUCTION (GALLONS)
Potable Water	4-19-3-W, Tender	1,976	100
Potable Water	4-19-4-W, Tender	3,367	100
Water Mist	4-24-1-W, Tender	1,261	100

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

None.

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020,  
 General Requirements

#### OTHER REFERENCES

American National Standards Institute/NSF International (ANSI/NSF) 61, 2015, Drinking Water  
 System Components - Health Effects

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American National Standards Institute/American Water Works Association (ANSI/AWWA)  
C652, 2019, Disinfection of Water-Storage Facilities

### 3. REQUIREMENTS

#### 3.1 General.

3.1.1 CIR. The Contractor must submit a CIR for the inspections listed in the following paragraph(s):

None.

#### 3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the following:

- Fluid contents
- Piping
- Deck grating.

**NOTE**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.2 Operational test, initial. Prior to commencement of work, the Contractor must witness Coast Guard personnel perform an initial operational test of the equipment listed below to demonstrate existing operational condition. Submit a CFR.

- TLI

3.3 Plug log. The Contractor must keep a written record of all plugs put in any tanks vents. A separate list must be kept for each tank being entered.

3.3.1 Ensure that all plugs are removed from each tank upon completion of work in the tank.

3.3.2 Ensure the plug log is available to the Coast Guard inspector when the inspector is performing his close-out inspection on each tank.

3.4 Tank content removal. The Contractor must remove and dispose of all fluids and/or residues in accordance with all applicable Federal, state, and local regulations. The Contractor must notify the Dockmaster prior to filling or draining the potable water tank(s), when this item is being executed in a drydock availability. The Contractor must ensure the following:

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3.5 Tank cleaning. The Contractor must remove tank cover(s); clean tank interior surfaces free of all foreign materials, such as sediment, sludge and bacterial growth. Remove all persistent residues, taking care not to damage any tank coating system. Remove cleaning media and residues continuously from the tank during the washing process. Remove any residual wash media and wipe up residual moisture with clean lint-free cloths. Collect, contain, and dispose of all wash media, residues, and cleaning materials in accordance with all Federal, state, and local regulations.

3.6 Inspection. The Contractor must visually inspect all tank interior surfaces, including, but not limited to bulkheads, floor and overhead plating, structural members, manhole cover surfaces, fasteners and gasket seating surfaces. Submit a CFR including the following, as applicable:

- Tank structural condition.
- Inaccessible areas, if any.
- Condition of tank coating, including measurements taken, percentage, location, and type of coating failure.
- Tank level indicator (TLI) and/or float switch condition (if applicable).
- Sounding tube and striker plate condition.
- Suction and discharge piping condition.
- Fastener material and condition.

3.7 Tank closing. The Contractor must notify the COR at least 24 hours prior to closing the tank(s). After satisfactory inspection by the Coast Guard Inspector, and completion of all authorized repairs, close tank manhole cover(s) with new gasket material conforming to ANSI/NSF 61. Renew all stud cotton grommets (as applicable) upon reinstallation of manhole cover(s).

3.7.1 The Contractor must renew 100% of nuts and washers.

3.8 Tank disinfecting. After all other work involving the potable water system and tank closing have been completed, the Contractor must disinfect and treat the affected potable water tank(s) and associated disturbed piping and components, as necessary, to meet or exceed the requirements of AWWA C652. After tank disinfecting; remove and dispose of all treated water in accordance with all Federal, state and local regulations. Ensure that no one enters the tanks once disinfection is completed.

### NOTE

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.9 Operational test, post repairs. After completion of work and in the presence of the Coast Guard Inspector, the Contractor must thoroughly test and demonstrate the equipment listed below to be in satisfactory operating condition. Submit a CFR.

- TLI

## 4. NOTES

This section is not applicable to this work item.

### WORK ITEM 3: Tanks, Ballast, Clean and Inspect

#### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to clean and inspect the following tank(s):

**TABLE 1 - TANKS**

TYPE OF STRUCTURE	LOCATION	CAPACITY - 95% (GALLONS)	LOW SUCTION (GALLONS)
Ballast	4-19-1-W	1,319	100
Ballast	4-19-2-W	1,319	100
Ballast	2-76-3-W	1,292	75
Ballast	4-76-4-W	1,292	75

1.2 Government-furnished property.

None.

#### 2. REFERENCES

##### COAST GUARD DRAWINGS

None.

##### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020,  
 General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2020,  
 Welding and Allied Processes

## OTHER REFERENCES

ASTM International (ASTM) D1330, 2015, Standard Specification for Rubber Sheet Gaskets

## 3. REQUIREMENTS

### 3.1 General.

3.1.1 CIR. The Contractor must submit a CIR for the inspections listed in the following paragraph(s):

None.

### 3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences).

### NOTE

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.2 Operational test, initial. The ballast system does not have TLI's. An operational test is not required.

3.3 Plug log. The Contractor must keep a written record of all plugs put in any tank vents. A separate list must be kept for each tank being entered.

3.3.1 Ensure that all plugs are removed from each tank upon completion of work in the tank.

3.3.2 The plug log must be available to the Coast Guard inspector when the inspector is performing his close-out inspection on each tank.

3.3 Content removal. The Contractor must remove access cover(s); remove and dispose of all fluids and/or residues in accordance with all applicable Federal, state, and local regulations. Plug all inlet and outlet piping in the tank to prevent contaminants from entering the tank. Use plugs with an attached lanyard, ring or other system that will ensure plugs are not lost in the pipe openings. Maintain a plug accountability log outside the tank(s) to prevent any of the installed temporary plugs from being lost inside the tank or forgotten inside at tank closure.

3.4 Cleaning. The Contractor must clean the designated structure's (see paragraph 1.1 (Intent)) interior surfaces free of all foreign materials, such as sediment, sludge and fungal growth. Remove all persistent residues, taking care not to damage the tank coating system. Remove cleaning media and residues continuously from the compartment during the washing process. Remove any residual wash media and

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wipe up residual moisture with clean lint-free cloths. Collect, contain, and dispose of all wash media, residues, and cleaning materials in accordance with all Federal, state, and local regulations.

3.5 Inspection. The Contractor must visually inspect all interior surfaces, including, but not limited to bulkheads, floor and overhead plating, structural members, manhole cover surfaces, fasteners and gasket seating surfaces. Submit a CFR including the following, as applicable:

- Structural condition.
- Inaccessible areas, if any.
- Condition of coating, including measurements taken, percentage, location, and type of coating failure.
- Tank level indicator (TLI) and/or float switch condition.
- Sounding tube and striker plate condition.
- Suction and discharge piping condition.
- Fastener material (stainless steel) and condition.
- Anodes (as applicable).

3.6 Closing. The Contractor must ensure that the compartment(s) remain open for at least 24 hours after completion of any KO-authorized tank repairs and preservation. Notify the COR at least 24 hours prior to closing the compartment(s). After satisfactory inspection by the Coast Guard Inspector, and completion of all authorized repairs, close the manhole cover(s) with new gasket material conforming to ASTM D1330 and new cotton grommets on each stud (as applicable).

3.6.1 The Contractor must renew 100% of nylon insert/nylock nuts and washers.

### NOTE

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.7 Operational test, post repairs. Not applicable.

3.8 Ultrasonic thickness (UT) measurement. The Contractor must take a total of 50 UT measurements of tank plating, in locations designated by the Coast Guard Inspector, in accordance with SFLC Std Spec 0740, Appendix C. Submit a CFR.

## 4. NOTES

This section is not applicable to this work item.

## WORK ITEM 4: Voids, Accessible, Clean and Inspect

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to clean and inspect the following void(s):

**TABLE 1 - VOIDS**

TYPE OF STRUCTURE	LOCATION	CAPACITY - 95% (GALLONS)	LOW SUCTION (GALLONS)
Void	4-76-0-V	N/A	
Void	4-5-0-V	N/A	
Void	4-36-0-V	N/A	

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

None.

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020,  
 General Requirements

#### OTHER REFERENCES

American Society for Testing and Materials (ASTM) International D1330, 2015, Standard  
 Specification for Rubber Sheet Gaskets

### 3. REQUIREMENTS

#### 3.1 General.

3.1.1 CIR. The Contractor must submit a CIR for the inspections listed in the following paragraph(s):

None.

#### 3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences).

**NOTE**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.2 Operational test, initial. An operational test is not required. These voids do not have TLIs.

3.3 Cleaning and inspection requirements. Accomplish the following tasks:

3.3.1 Content removal. The Contractor must remove and dispose of all fluids and/or residues in accordance with all applicable Federal, state, and local regulations.

3.3.2 Cleaning. The Contractor must remove access cover(s). Clean the designated structure's interior surfaces free of all foreign materials, such as sediment, sludge and fungal growth. Remove all persistent residues, taking care not to damage the tank coating system. Remove cleaning media and residues continuously from the compartment during the washing process. Remove any residual wash media and wipe up residual moisture with clean lint-free cloths. Collect, contain, and dispose of all wash media, residues, and cleaning materials in accordance with all Federal, state, and local regulations.

3.3.3 Inspection. The Contractor must visually inspect all interior surfaces, including, but not limited to bulkheads, floor and overhead plating, structural members, manhole cover surfaces, fasteners and gasket seating surfaces. Submit a CFR including the following, as applicable:

- Structural condition.
- Inaccessible areas, if any.
- Condition of coating, including measurements taken, percentage, location, and type of coating failure.
- Tank level indicator (TLI) and/or float switch condition.
- Sounding tube and striker plate condition.
- Suction and discharge piping condition.
- Fastener material and condition.

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3.4 Closing. The Contractor must ensure that the compartment(s) remain open for approximately 24 hours after completion of the tasks specified above. Notify the COR at least 24 hours prior to closing the compartment(s). After satisfactory inspection by the Coast Guard Inspector, and completion of all authorized repairs, close the manhole cover(s) with new gasket material conforming to ASTM D1330 and cotton grommets on the studs (as applicable). The Contractor must renew up to 100% of all nuts and washers.

### **NOTE**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.5 Operational test, post repairs. Not applicable. Voids do not have TLIs.

## **4. NOTES**

This section is not applicable to this work item.

## WORK ITEM 5: Tanks, Dirty Oil and Waste, Clean and Inspect

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to clean and inspect the following tank(s):

**TABLE 1 – TANKS**

TYPE OF TANK	LOCATION	CAPACITY - 95% (GALLONS)	LOW SUCTION (GALLONS)
Dirty Lube Oil	4-32-0-F	450	60
Bilge Waste	4-48-0-F	795	80

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

None

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020,  
 General Requirements

#### OTHER REFERENCES

Society of Automotive Engineers (SAE) Aerospace Material Specification (AMS) C6183, 2019,  
 Cork and Rubber Composition Sheet; For Aromatic Fuel and Oil Resistant Gaskets

### 3. REQUIREMENTS

3.1 General.

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3.1.1 CIR. The Contractor must submit a CIR for the inspections listed in the following paragraph(s):

None.

3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences).

3.2 The Contractor must remove up to a total of 1300 gallons of waste oil and oily water, to facilitate gas-freeing. Dispose of removed fluids in accordance with all applicable Federal, state, and local regulations.

**NOTE**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.3 Operational test, initial. Prior to commencement of work, the Contractor must witness Coast Guard Personnel perform an initial operational test of the equipment listed below to demonstrate existing operational condition. Submit a CFR.

**NOTE**

**This system does not have Tank Level Indicators (TLI).**

3.4 Plug log. The Contractor must keep a written record of all plugs put in any tank's vents. A separate list must be kept for each tank being entered.

3.4.1 Ensure that all plugs are removed from each tank upon completion of work in the tank.

3.4.2 Ensure the plug log is available to the Coast Guard inspector when the inspector is performing his close-out inspection on each tank.

**NOTE**

**Vessel may come in with less tank fluid contents than specified above.**

3.5 Cleaning requirements. The Contractor must remove tank cover(s) and clean tank interior surfaces free of all foreign materials, such as sediment or sludge, taking care not to damage the coating system (if applicable). Remove cleaning media and residues continuously during the washing process. Remove any residual wash media; and wipe up residual moisture with clean lint-free cloths.

3.6 Tank content and waste disposal. The Contractor must dispose of tank contents and all cleaning fluids in compliance with all applicable Federal, state, and local laws, ordinances and regulations. Document a complete chain of custody record of the removed tank contents and generated wastes, from the vessel to the point of final destination or delivery. Submit document to the COR upon completion of work.

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3.7 Inspection. The Contractor must visually inspect all tank interior surfaces, including, but not limited to bulkheads, floor and overhead plating, structural members, manhole cover surfaces, fasteners and gasket seating surfaces. Submit a CFR including the following, as applicable:

- Tank structural condition.
- Inaccessible areas.
- Condition of tank coating, including measurements taken, percentage, location, and type of coating failure.
- Tank level indicator (TLI) and/or float switch condition.
- Sounding tube and striker plate condition.
- Suction and discharge piping condition.
- Fastener material and condition (correct fastener material is stainless steel).

3.8 Tank closing. The Contractor must ensure that the tank(s) remain open for at least 24 hours after completion of all authorized repair and preservation procedures. Notify the COR at least 24 hours prior to closing the tank(s). After satisfactory inspection by the Coast Guard Inspector and completion of all authorized repairs, close tank manhole cover(s) with new gasket material conforming to AMS-C-6183.

**NOTE**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.9 Operational test, post repairs. After completion of work and in the presence of the Coast Guard Inspector, the Contractor must thoroughly test and demonstrate the equipment listed below to be in satisfactory operating condition. Submit a CFR.

- TLI's for tank listed in paragraph 1.1 (Intent) 4. NOTES

4.1 The Coast Guard Inspector will visually inspect the tank interior immediately prior to closing.

## **WORK ITEM 6: Ship Service Diesel Generator (SSDG) Exhaust Piping, Commercial Clean**

### **1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to clean the Ship Service Diesel Generator (SSDG) exhaust piping.

1.2 Government-furnished equipment.

None.

### **2. REFERENCES**

#### **COAST GUARD DRAWINGS**

Coast Guard Drawing 140 WTGB 259-001, Rev -, Diesel Exhaust Systems, Arrangements & Details

#### **COAST GUARD PUBLICATIONS**

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2014, General Requirements

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2014, Requirements for Preservation of Ship Structures

#### **OTHER REFERENCES**

Code of Federal Regulations (CFR) Title 29, Part 1915, Jul 2014, Occupational Safety and Health Standards for Shipyard Employment

### **3. REQUIREMENTS**

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

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Not applicable.

3.1.3 Protective measures. The Contractor shall furnish and install suitable covering to seal off and protect all non-affected surfaces/equipment and spaces in the vicinity of the work area against contamination during the performance of work. Upon completion of work, remove protective material and inspect for the presence of contamination. Clean all equipment and spaces, contaminated due to improper protection, to original condition of cleanliness.

3.1.4 Interferences. The Contractor shall be aware that interferences in way of work include, but are not limited to the below-listed. Handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences):

- Access covers.
- Exhaust stack.
- SSDG.
- Vent ducting.
- Wiring.
- Exhaust pipe expansion joints.
- Exhaust insulation blankets.

3.1.5. The Contractor shall rig suitable safety netting, to protect workers during possible falls, and to protect the Engine Room and machinery from falling tools.

3.1.6 Access openings.

Not applicable.

3.2 Work plan. The Contractor shall develop and submit to the COTR, a plan for collecting and disposing of waste extracted during cleaning process. Ensure that the proposed plan shall detail how and where exhaust piping will be disconnected, how entire length of exhaust piping will be divided/sectioned for cleaning, and precautions to protect the SSDG. The Contractor shall perform this work upon receiving Coast Guard approval of the plan.

3.3 Operational test - initial. Prior to commencement of work, the Contractor shall witness an operational pre-test (by Coast Guard personnel) of the exhaust stack system, to demonstrate existing operational condition. Submit a CFR.

3.4 Cleaning. The Contractor shall clean the interior surfaces of the exhaust piping to the SSDG, shown on Coast Guard Drawing(s) 101 WTGB 259-001, to a condition free from soot, tar, and any other foreign matter as follows:

3.4.1 Disconnect the exhaust piping as necessary to facilitate cleaning.

3.4.2 Thoroughly sweep, mechanically clean, and vacuum the interior of each exhaust pipe system, including the mufflers, from the exhaust outlet to the topmost location outside the vessel. Ensure that all tar deposits, soot deposits, and all other surface contaminants are completely removed.

3.4.3 Upon completion of cleaning, do the following:

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3.4.3.1 Remove all debris from the pipe surfaces, stack deck, and Engine Room areas by vacuuming. Dispose of all cleaning materials and generated debris in accordance with all applicable Federal, state, and local regulations.

3.4.3.2 Reassemble exhaust piping; renew all disturbed flange connection gaskets with suitable high temperature, non-asbestos-containing gasket materials; and renew all fasteners.

3.5 Inspection and report. The Contractor shall perform a visual inspection of the following components; submit a CFR:

- Exhaust stack access hatches, including all associated studs and nuts.
- All cleaned exhaust stack surfaces.
- All exhaust expansion joints, including associated bolts.

3.6 Touch-up preservation. The Contractor shall prepare and touch-up coat all disturbed surfaces to match existing adjacent surfaces in accordance with SFLC Std Spec 6310, Appendix B (Cutter and Boat Interior Painting Systems).

3.7 Operational test – post repairs. After completion of work, the Contractor shall witness an operational test (by Coast Guard personnel) of the exhaust stack system to prove satisfactory operating condition. Submit a CFR.

## 4. NOTES

This section is not applicable to this work item.

## WORK ITEM 7: Boiler Exhaust Stack Uptakes, Commercial Clean

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to clean the Boiler exhaust stack uptakes.

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 140 WTGB 259-001, Rev -, Diesel Exhaust Systems, Arrangements & Details

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

#### OTHER REFERENCES

None

### 3. REQUIREMENTS

3.1 General.

3.1.1 CIR. The Contractor must submit a CIR for the inspections listed in the following paragraph(s):

None.

3.1.2 Tech Rep.

Not applicable.

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3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to following:

- Access covers.
- Exhaust stack.
- Boiler.
- Exhaust pipe expansion joints.
- Exhaust insulation blankets.

3.2 Safety precaution. The Contractor must rig suitable safety netting, to protect workers during possible falls, and to protect the Engine Room and machinery from falling tools.

### NOTE

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.3 Operational test, initial. Prior to commencement of work, the Contractor must witness Coast Guard personnel perform an initial operational test of all items or shipboard devices to be disturbed, used, repaired, or altered, to demonstrate existing operational condition. Submit a CFR.

3.4 Cleaning. The Contractor must clean the interior surfaces of the exhaust piping to the Boiler, shown on Coast Guard Drawing(s) 101 WTGB 259-001, to a condition free from soot, tar, and any other foreign matter as follows:

3.4.1 Disconnect the exhaust piping as necessary to facilitate cleaning.

3.4.2 Thoroughly sweep, mechanically clean, and vacuum the interior of each exhaust pipe system, including the mufflers, from the exhaust outlet to the topmost location outside the vessel. Ensure that all tar deposits, soot deposits, and all other surface contaminants are completely removed.

3.4.3 Upon completion of cleaning, do the following:

3.4.3.1 Remove all debris from the pipe surfaces, stack deck, and Engine Room areas by vacuuming. Dispose of all cleaning materials and generated debris in accordance with all applicable Federal, state, and local regulations.

3.4.3.2 Reassemble exhaust piping; renew all disturbed flange connection gaskets with suitable high temperature, non-asbestos-containing gasket materials; and renew all disturbed fasteners.

3.5 Inspection and report. The Contractor must perform a visual inspection of the following components and submit a CFR:

- Exhaust stack access hatches, including all associated studs and nuts.
- All cleaned exhaust stack surfaces.
- All exhaust expansion joints, including associated bolts.

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3.5.1 Following cleaning of the interior of each uptake, the Contractor must demonstrate completeness of the cleaning process to the Coast Guard Inspector, showing that the entire length of uptake has been satisfactorily cleaned according to the work plan.

3.6 Touch-up preservation. The Contractor must prepare and coat all new and disturbed surfaces to match existing adjacent surfaces in accordance with SFLC Std Spec 6310, paragraph 3.1.13 (Touch-ups and minor coating repairs.)

### **NOTE**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.7 Operational test, post repairs. After completion of work, the Contractor must thoroughly test, in the presence of the Coast Guard Inspector and demonstrate all items or shipboard devices that have been disturbed, used, repaired, altered, or installed to be in satisfactory operating condition. Submit a CFR.

## **4. NOTES**

This section is not applicable to this work item.

## **WORK ITEM 8: Bubbler Diesel Engine Exhaust Piping, Commercial Clean**

### **1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to clean the bubbler diesel engine exhaust piping system, including the associated stack uptakes.

1.2 Government-furnished property.

None.

### **2. REFERENCES**

#### **COAST GUARD DRAWINGS**

Coast Guard Drawing 140 WTGB 259-001, Rev -, Diesel Exhaust Systems, Arrangements & Details

Coast Guard Drawing 140 WTGB 259-002, Rev B, Exhaust Modifications to Suit Bubbler Installation

#### **COAST GUARD PUBLICATIONS**

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

#### **OTHER REFERENCES**

Code of Federal Regulations (CFR) Title 29, Part 1915, Jul 2014, Occupational Safety and Health Standards for Shipyard Employment

### **3. REQUIREMENTS**

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

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Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the those listed below:

- Access covers.
- Exhaust stack.
- Bubbler diesel engine.
- Exhaust pipe expansion joints.
- Exhaust insulation blankets.

3.1.5 Scaffolding. The Contractor must, in accordance with 29 CFR 1915, Subpart E, erect suitable staging or scaffolding, as required, to facilitate work.

3.1.6 Safety precaution. The Contractor must rig suitable safety netting, to protect workers during possible falls, and to protect the Engine Room and machinery from falling tools.

3.1.7 Work plan. The Contractor must develop and submit, to the COR, a plan for collecting and disposing of waste extracted during cleaning process. Ensure that the proposed plan must detail how and where exhaust piping will be disconnected, how entire length of exhaust piping will be divided/sectioned for cleaning, and precautions to protect the bubbler engine. The Contractor must perform this work upon receiving Coast Guard approval of the plan.

**NOTE**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.2 Operational test - initial. Prior to commencement of work, the Contractor must witness Coast Guard Personnel perform an initial operational test of the exhaust stack system, to demonstrate existing operational condition. Submit a CFR.

3.3 Cleaning. The Contractor must clean the interior surfaces of the exhaust piping to the bubbler diesel engine, shown on CG Drawings 140 WTGB 259-001 and 140 WTGB 259-002, to a condition free from soot, tar, and any other foreign matter as follows:

3.3.1 Disconnect the exhaust piping as necessary to facilitate cleaning.

3.3.2 Thoroughly sweep, mechanically clean, and vacuum the interior of each exhaust pipe system, including the mufflers, from the exhaust outlet to the topmost location outside the vessel. Ensure that all tar deposits, soot deposits, and all other surface contaminants are completely removed.

3.3.3 Remove all debris from the pipe surfaces, stack deck, and Engine Room areas by vacuuming. Dispose of all cleaning materials and generated debris in accordance with all applicable Federal, state, and local regulations.

3.3.4 Reassemble exhaust piping; renew all disturbed flange connection gaskets with suitable high temperature, non-asbestos-containing gasket materials; and renew all fasteners.

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3.4 Inspection and report. The Contractor must perform a visual inspection of the following components; submit a CFR:

- Exhaust stack access hatches, including all associated studs and nuts.
- All cleaned exhaust stack surfaces.
- All exhaust expansion joints, including associated bolts.

3.5 Touch-up preservation, general. The Contractor must prepare and coat all new and disturbed exterior and interior surfaces, as applicable, to match existing adjacent surfaces in accordance with SFLC Std Spec 6310, paragraph 3.1.13 (Touch-ups and minor coating repairs.)

**NOTE**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.6 Operational test – post repairs. After completion of work, the Contractor must thoroughly test, in the presence of the Coast Guard Inspector and demonstrate the exhaust stack system to be in satisfactory operating condition. Submit a CFR.

#### **4. NOTES**

This section is not applicable to this work item.

## **WORK ITEM 9: Circuit Breakers (60 Hz), Inspect and Test**

### **1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to inspect and test circuit breakers (60 Hz) located on the Main Switchboard.

1.2 Government-furnished property.

None.

### **2. REFERENCES**

#### **COAST GUARD DRAWINGS**

Coast Guard Drawing 140-WTGB-320-001, Rev L, Power System One-Line Wiring Diagram

#### **COAST GUARD PUBLICATIONS**

Coast Guard Technical Publication (TP) 3478, Dec 2020, Manufacturer's Instruction Book-SWBS Group(s) 324

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

#### **OTHER REFERENCES**

National Electrical Manufacturers Association (NEMA) Stds, Pub. No. AB4, 2017, Guidelines for Inspection and Preventive Maintenance of Molded Case Circuit Breakers Used in Commercial and Industrial Applications

Underwriters Laboratories Inc. (UL) 489, May 2016, Molded Case Circuit Breaker

### **3. REQUIREMENTS**

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

Not applicable.

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3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences).

3.2 Inspection requirement. The Contractor must inspect all circuit breakers wire connectors, screws and plating and submit a CFR.

3.2.1 The Contractor must provide skilled technicians, portable instrument standards and all necessary equipment to inspect and test circuit breakers designated in the work item. The Contractor may remove the Circuit Breakers from the vessel to a shoreside test facility. If this is done the Contractor must exercise extreme care in transporting and reinstalling the circuit breakers to original operating condition on Switchboard.

3.2.2 Prior to any wiring disconnection and removal of circuit breakers, the Contractor must record all wiring information, trip setting adjustments, and equipment locations necessary for use in later reinstallation. Retain all mounting and connecting hardware for later reuse. Submit a CFR.

3.2.3 Disconnect and remove the circuit breakers listed in the Table 1. Coordinate the disconnection and removal of the circuit breakers with the COR to minimize disruption of power. Temporarily cover or insulate switchboard or panel board openings created by the removal of circuit breakers to prevent personnel contact with energized conductors.

3.2.4 The Contractor must notify the COR 48 Hours prior to start work on this item.

3.2.5 Surface burn marks and hairline cracks are acceptable but must not deteriorate the mold surface or impair physical strength. Cracks are not permitted in wall section between phase and a ground plane when there is a conducting part in contact with the wall section. Cracks must not exceed 0.75 inch in length, and in no case should be greater than 50 percent of the length of the surface in which the crack appears. Submit a CFR

3.3 Circuit breaker testing. The contractor must test circuit breakers listed in the Table 1 in accordance with the National Electrical Manufacturers Association (NEMA) AB 4 or UL 489 Molded Case Circuit Breakers. The test must include, at a minimum:

- Mechanical Operation
- Insulation Resistance
- Individual Pole Resistance
- Inverse-Time Over current Tripping
- Instantaneous Over current Tripping
- Rated Hold-In Current (Note: Perform this test only on the circuit breakers which are tripping under normal load condition. The COR will identify the circuit breakers).

3.4 Circuit breaker data sheet. The contractor must provide data sheet of each circuit breaker testing with the following information:

- Circuit Breaker Model and Serial Number
- Circuit Breaker Service

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- Circuit Breaker Visual Condition
- Test Voltage/Test Amperes
- Type of Test/Test Method/Test Date/Name of Test Laboratory
- Result of Testing

3.5 Contractor’s option for circuits breaker renewal. The Contractor may elect to renew circuit breakers in lieu of testing (due to high cost of labor for testing or non available nearby testing facilities) at no additional cost to the government. Ensure that all circuit breakers must be UL 489 Certified.

**TABLE 1 – CIRCUIT BREAKER LIST**

QTY	BRAND	GENERAL ELECTRIC	DESCRIPTION	SERVICE
2	GE	AKR-5B-30	3 Pole 800 Amp Frame, 400 Amp Trip Rating	SSDG No.1 & No.2
1	GE	AKR-5B-30	3 Pole 800 Amp Frame, 400 Amp Trip Rating	Shore Power
1	GE	TFC 36225A	3 Pole, 225 Amp	Prop Equipment Power
2	GE	TFK 236F000	3 Pole, 225 Amp, 125 AT	Engine Room Power Panel
1	GE	AKR-5B-30	3 Pole 800 Amp Frame, 400 Amp Trip Rating	Bus Tie Breaker
2	GE	TFC 36100	3 Pole, 225 Amp Frame, 450 Amp Inst	Steering Pump 1 & 2
2	GE	E11592R	Pole, 225 Amp, 125 AT	Fire Pump No,1 & No.2
2	GE	TFK 236125	3 Pole, 225 Amp, 125 AT	
1	GE	TED 136100	3 Pole, 225 Amp, 100 AT	Galley Eqmnt Power Panel
3	Eaton	FD 35K	3 pole 50 amp	MPG Exciters
2	Eaton	FD 35K	3 pole 80 amp	Motor Exciters
1	Eaton	FD 35K	3 pole 15 amp	PCX / PCY Prop Exciters

3.6 Circuit breaker reinstallation. After all testing is complete; reinstall circuit breakers using previously recorded wiring information to its original operating condition and Coast Guard TP 3478.

**NOTE**  
**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.7 Operational test - general. After completion of work, the Contractor must thoroughly test, in the presence of the Coast Guard Inspector and demonstrate all items or shipboard devices that have been disturbed, used, repaired, altered, or installed to be in satisfactory operating condition. Submit a CFR.

3.7.1 Operate each Circuit Breaker “ON” and “OFF” several times to exercise the circuit breaker and ensure that mechanical linkages are free.

3.7.2 Direction of Rotation Test – Perform a direction of rotation test on each new and disturbed three-phase motor circuit.

**4. NOTES**

This section is not applicable to this work item.

## **WORK ITEM 10: Vent Ducts, Engine And Motor Room, All, Commercial Cleaning**

### **1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to clean and inspect the designated shipboard ventilation systems.

1.2 Government-furnished property.

None.

### **2. REFERENCES**

#### **COAST GUARD DRAWINGS**

Coast Guard Drawing 140 WTGB 514-002, Rev-, Ventilation & A/C Arrangements & Details  
Coast Guard Drawing FL 3801-67, Rev B, Sheets 1 through 10 of 50 (General Notes – Ductwork)  
and Sheet 39 (Handholes for W.T. and N.W.T. Ducts)

#### **COAST GUARD PUBLICATIONS**

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020,  
General Requirements  
Surface Forces Logistics Center Standard Specification 5100 (SFLC Std Spec 5100), 2020, Clean  
Shipboard Ventilation Systems  
Coast Guard Technical Publication (TP) 3456, 2001, Ship Information Book, Section B

#### **OTHER REFERENCES**

None

### **3. REQUIREMENTS**

3.1 General.

3.1.1 CIR. The Contractor must submit a CIR for the inspections listed in the following paragraph(s):

None.

3.1.2 Tech Rep.

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Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.3.1 Install filter medium at the terminal ends of all supply vent ducting to prevent any residual foreign mater from blowing into the engine room spaces.

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the following:

- Ducting screens.
- Electric pre-heaters.
- Overhead sheathing/panels.
- Ventilation covers..

**NOTE**  
**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.2 Operational test, initial. Prior to commencement of work, the Contractor must witness Coast Guard personnel perform an initial operational test of the ventilation systems included in this work item, to demonstrate existing operational condition. Submit a CFR.

3.3 Cleaning requirements. The Contractor must clean and inspect the following ventilation systems, shown on Coast Guard Drawing 101 WTGB 514-002, FL 3801-67 and TP 3456, in accordance with SFLC Std Spec 5100. Submit a CFR.

**TABLE 1 – ENGINE ROOM**

SYSTEM LOCATION	TYPE
Engine Room (01-49-2)	Supply
Engine Room (01-49-2)	Exhaust
Motor Room (1-49-1)	Exhaust

3.3.1 The Contractor must clean the exhaust ventilation ducting up to and including the discharge of the engine room exhaust fans. The Contractor is not expected to clean the exhaust stack plenum area.

**NOTE**  
**Past experience has shown that the engine room exhaust ventilation systems have accumulated oils and greases and systems are coated with a very sticky and very thick sludge. Take this into consideration in the bid.**

3.3.2 Disassemble the exhaust system as required to clean all sections of the exhaust system.

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3.3.2.1 After cleaning, reassemble vent ducting using new gaskets and fasteners.

3.3.3 Prior to reassembling the vent systems, visually inspect the systems in the presence of the Coast Guard Inspector. Verify that the vent systems are clean and oil and build up free. The Contractor must use video probe equipment to allow viewing the internal surfaces of all vent ducting.

3.4 Notification. The Contractor must give written notification to the COR 48 hours before starting ventilation cleaning work.

### NOTE

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.5 Operational test, post repairs. After completion of work, the Contractor must thoroughly test, in the presence of the Coast Guard Inspector and demonstrate the ventilation systems disturbed to be in satisfactory operating condition. Submit a CFR.

## 4. NOTES

This section is not applicable to this work item.

## **WORK ITEM 11: Vent Ducts, Galley and Pantry Room, All, Commercial Cleaning**

**NOTE**

**To be performed in conjunction with Work Item 26: Galley Piping Renewal.**

### **1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to clean and inspect the designated shipboard ventilation systems.

1.2 Government-furnished property.

None.

### **2. REFERENCES**

#### **COAST GUARD DRAWINGS**

Coast Guard Drawing 140 WTGB 514-002, Rev-, Ventilation & A/C Arrangements & Details

Coast Guard Drawing FL 3801-67, Rev B, Sheets 1 through 10 of 50 (General Notes – Ductwork) and Sheet 39 (Handholes for W.T. and N.W.T. Ducts)

#### **COAST GUARD PUBLICATIONS**

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 5100 (SFLC Std Spec 5100), 2020, Clean Shipboard Ventilation Systems

Coast Guard Technical Publication (TP) 3456, 2001, Ship Information Book, Section B

#### **OTHER REFERENCES**

None

### **3. REQUIREMENTS**

3.1 General.

3.1.1 CIR. The Contractor must submit a CIR for the inspections listed in the following paragraph(s):

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None.

3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the following:

- Ducting screens.
- Electric pre-heaters.
- Overhead sheathing/panels.
- Ventilation covers..

**NOTE**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.2 Operational test, initial. Prior to commencement of work, the Contractor must witness Coast Guard Personnel perform an initial operational test of the ventilation systems included in this work item, to demonstrate existing operational condition. Submit a CFR.

**NOTE**

**It is recommended that the Contractor conduct a ship check to verify dimensions in the table below.**

3.3 Cleaning requirements. The Contractor must clean and inspect the following ventilation systems, shown on Coast Guard Drawing 101 WTGB 514-002, FL 3801-67 and TP 3456, in accordance with SFLC Std Spec 5100. Submit a CFR.

**TABLE – 1 SYSTEM LOCATION**

SYSTEM LOCATION	TYPE
Galley	Exhaust

3.4 Additional requirements. In addition to the above, the Contractor must accomplish the following:

3.4.1 Notification. Give written notification to the COR, 48 hours before starting ventilation cleaning work.

3.4.2 Additional protective covering. In addition to providing protective covering as specified in SFLC Std Spec 5100, subsection 3.1.3 (Protective measures), provide additional protective covering for all food preparation and serving surfaces in the immediate work area, as applicable, to prevent contamination.

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3.4.3 Avoidance of meal preparation and service. Ensure that cleaning of galley ventilation systems is scheduled between 1900 and 0530 so that it WILL NOT interfere with meal preparation and service.

**NOTE**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.5 Operational test, post repairs. After completion of work, the Contractor must thoroughly test, in the presence of the Coast Guard Inspector and demonstrate the ventilation systems included in this work item to be in satisfactory operating condition. Submit a CFR.

#### **4. NOTES**

This section is not applicable to this work item.

## **WORK ITEM 12: Vent Ducts, Laundry Exhaust, Commercial Cleaning**

### **1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to clean and inspect the designated shipboard ventilation systems.

1.2 Government-furnished property.

None.

### **2. REFERENCES**

#### **COAST GUARD DRAWINGS**

Coast Guard Drawing 140 WTGB 514-002, Rev-, Ventilation & A/C Arrangements & Details

Coast Guard Drawing FL 3801-67, Rev B, Sheets 1 through 10 of 50 (General Notes – Ductwork) and Sheet 39 (Handholes for W.T. and N.W.T. Ducts)

#### **COAST GUARD PUBLICATIONS**

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 5100 (SFLC Std Spec 5100), 2020, Clean Shipboard Ventilation Systems

Coast Guard Technical Publication (TP) 3456, 2001, Ship Information Book, Section B

#### **OTHER REFERENCES**

None

### **3. REQUIREMENTS**

3.1 General.

3.1.1 CIR. The Contractor must submit a CIR for the inspections listed in the following paragraph(s):

None.

3.1.2 Tech Rep.

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Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the following:

- Ducting screens.
- Electric pre-heaters.
- Overhead sheathing/panels.
- Ventilation covers..

**NOTE**  
**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.2 Operational test, initial. Prior to commencement of work, the Contractor must witness Coast Guard Personnel perform an initial operational test of the ventilation systems included in this work item, to demonstrate existing operational condition. Submit a CFR.

3.3 Cleaning requirements. The Contractor must clean and inspect the following ventilation systems, shown on Coast Guard Drawing 101 WTGB 514-002, FL 3801-67 and TP 3456, in accordance with SFLC Std Spec 5100. Submit a CFR.

**TABLE 1 – SYSTEM LOCATIONS**

SYSTEM LOCATION	TYPE
Laundry (2-25-2-Q)	Exhaust

3.4 Notification. The Contractor must give written notification to the COR, 48 hours before starting ventilation cleaning work.

**NOTE**  
**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.5 Operational test, post repairs. After completion of work, the Contractor must thoroughly test, in the presence of the Coast Guard Inspector and demonstrate the ventilation systems included in this work item to be in satisfactory operating condition. Submit a CFR.

**4. NOTES**

This section is not applicable to this work item.

## **WORK ITEM 13: Vent Ducts, All Other, Commercial Cleaning**

### **1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to clean and inspect the designated shipboard ventilation systems.

1.2 Government-furnished property.

None.

### **2. REFERENCES**

#### **COAST GUARD DRAWINGS**

Coast Guard Drawing 140 WTGB 514-002, Rev-, Ventilation & A/C Arrangements & Details

Coast Guard Drawing FL 3801-67, Rev B, Sheets 1 through 10 of 50 (General Notes – Ductwork) and Sheet 39 (Handholes for W.T. and N.W.T. Ducts)

#### **COAST GUARD PUBLICATIONS**

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 5100 (SFLC Std Spec 5100), 2020, Clean Shipboard Ventilation Systems

Coast Guard Technical Publication (TP) 3456, 2001, Ship Information Book, Section B

#### **OTHER REFERENCES**

None

### **3. REQUIREMENTS**

3.1 General.

3.1.1 CIR. The Contractor must submit a CIR for the inspections listed in the following paragraph(s):

None.

3.1.2 Tech Rep.

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Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to:

- Ducting screens.
- Electric pre-heaters.
- Overhead sheathing/panels.
- Ventilation covers.

<b>NOTE</b>
<b>Coast Guard personnel will operate all shipboard machinery and equipment.</b>

3.2 Operational test, initial. Prior to commencement of work, the Contractor must witness Coast Guard Personnel perform an initial operational test of the ventilation systems included in this work item, to demonstrate existing operational condition. Submit a CFR.

3.3 Cleaning requirements. The Contractor must clean and inspect the following ventilation systems, shown on Coast Guard Drawing 101 WTGB 514-002, FL 3801-67 and TP 3456, in accordance with SFLC Std Spec 5100. Submit a CFR.

**TABLE 1 – SYSTEM LOCATIONS**

SYSTEM LOCATION	TYPE
All Berthing, Ships Office, Bridge, CO Stateroom, CO Washroom, Officer Stateroom, Officer Washroom, CPO Stateroom and Washroom, Day Washroom, Mess Deck, Wardroom, Paint Locker, Bosn Hole, General Storeroom.	Supply and Exhaust

3.4 Notification. The Contractor must give written notification to the COR, 48 hours before starting ventilation cleaning work.

<b>NOTE</b>
<b>Coast Guard personnel will operate all shipboard machinery and equipment.</b>

3.5 Operational test, post repairs. After completion of work, the Contractor must thoroughly test, in the presence of the Coast Guard Inspector and demonstrate the ventilation systems included in this work item to be in satisfactory operating condition. Submit a CFR.

**4. NOTES**

This section is not applicable to this work item.

## WORK ITEM 14: Compressed Air Receivers and System Valves, All, Clean, Inspect, Hydro and Lift

### 1. SCOPE

1.1 Intent. The work item describes the requirements for the Contractor to clean, inspect, lift test and hydrostatically test the below designated air receivers and system valves:

SERVICE	LOCATION	QTY	OPERATING PRESSURE (psi)
Starting Air	4-61-0-E	3	250
Ships Service	4-61-0-E	1	150
Ships Whistle	2-19-0-E	1	150

TYPE	SIZE	DESIGNATION	QTY	SET PRESSURE (psi)
Relief	1" – 03 ea.	Starting Air – Motor Room	5	265
	3/4" – 02 ea.	4-61-0-E		
Relief	3/4"	Ship's Service Engine Room 3-32-0-E	3	1 @ 40 psi 1 @ 50 psi 1 @ 80 psi
Relief	1" – 01 ea	Ship's Service Motor Room	1	135
	3/4" – 02 ea.	4-61-0-E		
Relief	3/4"	Ship's Whistle – Aux I 2-19-0-E	1	150
Pressure Reducing Valve	2"	Motor Room	1	250 psi – 125 psi

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Pressure Reducing Valve	3/4"	Engine Room FWD – Port	1	250 psi – 70 psi
Pressure Reducing Valve	3/4"	Engine Room FWD – Stbd	1	125 psi – 25 psi
Pressure Reducing Valve	1/2"	Engine Room AFT – Stbd	1	125 psi – 25 psi
Pressure Reducing Valve	1/2"	Motor Room – FWD – Under Ladder	1	125 psi – 25 psi
Pressure Reducing Valve	3/4"	Engine Room – Stbd FR 47	1	125 psi – 25 psi
Pressure Reducing Valve	1/2"	MK Shop	1	125 psi – 25 psi
Pressure Reducing Valve	1/2"	Aux II	1	125 psi – 25 psi

1.2 Government-furnished property.

None.

## 2. REFERENCES

### COAST GUARD DRAWINGS

Coast Guard Drawing 140 WTGB 551-001, Rev -, Compressed Air System Diagram

### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2020, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

### OTHER REFERENCES

American Society of Mechanical Engineers (ASME) B16.34, 2017, Valves-Flanged, Threaded, and Welding End

American Society for Testing and Materials (ASTM) International F1508, 2016, Standard Specification for Angle Style, Pressure Relief Valves for Steam, Gas, and Liquid Services

Manufacturers Standardization Society of the Valve and Fittings Industry (MSS) SP-61, 2019 Edition, Pressure Testing Of Valves

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Manufacturers Standardization Society of the Valve and Fittings Industry (MSS) SP-67, 2017 Edition, Butterfly Valves

Manufacturers Standardization Society of the Valve and Fittings Industry (MSS) SP-72, 2010 Edition, Ball Valves with Flanged or Butt-Welding Ends for General Service

Manufacturers' Standardization Society of the Valve and Fittings Industry (MSS) SP-80, 2019 Edition, Bronze Gate, Globe, Angle and Check Valves

### 3. REQUIREMENTS

#### 3.1 General.

3.1.1 CIR. The Contractor must submit a CIR for the inspections listed in the following paragraph(s):

None.

#### 3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the following:

- Piping system.

**NOTE**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.1.5 Operational test - initial. Prior to commencement of work, the Contractor must witness Coast Guard personnel perform an initial operational test of the compressed air system, to demonstrate existing operational condition. Submit a CFR.

3.2 Air receiver cleaning and inspection. The Contractor must clean and inspect each designated air receiver in paragraph 1.1 (Intent) as follows.

3.2.1 Blowdown the air receivers and collect the blowdown (condensate) into a separate container for inspection.

3.2.2 Visually inspect the blowdown (condensate) under a bright white light for oil or particulate contamination. Clean and visually inspect the internal and external surfaces of the air receiver for signs of corrosion, pitting, and other damage. Submit a CFR.

3.3 Hydrostatic test. The Contractor must perform a hydrostatic test of the designated air receiver(s) in accordance with SFLC Std Spec 0740, Appendix C and manufacturer's recommended procedures. In the event a test pressure is not listed on the applicable drawing, test to 1-1/2 times the nominal operating

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pressure and hold for five minutes. Refer to Coast Guard Drawing 140 WTGB 551-001 for guidance. Submit a CFR.

3.3.1 To hydrostatic test, isolate the air receiver by disconnecting all piping, relief valves, and pressure switches. Install pipe plugs/caps, to prevent backflow into compressors and other system components.

3.3.2 Hydrostatically test the air receiver(s) using clean fresh water. Ensure zero leakage from or permanent deformation of pressure-containing parts by repairing all leaks, deformations, and discrepancies.

3.3.3 Instruments and equipment that might be damaged by clean fresh water must be excluded from hydrostatic pressure test.

3.3.4 After testing, drain and thoroughly dry the air receivers with warm air. Dispose of testing fluids in accordance with all applicable Federal, state, and local regulations. Reconnect all disconnected piping and restore system. Renew any disturbed gaskets.

**WARNING**  
**Do not drain any fluids, including fresh water, into any space, bilge, or exterior location.**

3.4 Contractor’s option for valve renewal. The Contractor may, at no additional cost to the Government, opt to renew valves designated for inspection and testing if preferable for the Contractor. If the Contractor elects to renew valves, the Contractor must ensure the following:

- New valves are commercial-standard type valves, conforming to the applicable standard listed in Table 1(Valve Standards).
- New valves must be equivalent (including identical material) to the valve being renewed.

**TABLE 1 - VALVE STANDARDS**

VALVE TYPE	INDUSTRY STANDARD
Steel Valves	MSS SP-61
Butterfly Valve	MSS SP-67
Ball Valves, Flanged or Butt-Welded Ends	MSS SP-72
Bronze Gate, Globe, Angle and Check Valves	MSS SP-80
Angle Style. Pressure Relief Valves	ASTM F1508
All others	ASME B16.34

3.4.1 Visually inspect the piping and mounting arrangements; and submit a CFR detailing any required modifications to accommodate the new valve(s).

3.4.2 Provide original documentation to the COR certifying each valve has been satisfactorily shop-tested. Documentation must include the set pressure, date of inspection / test, and testing facility.

3.5 Valve inspection and testing. The Contractor must inspect and test each designated air system valve as follows. Refer to Coast Guard Drawing 140 WTGB 551-001 for guidance.

3.5.1 Relief valves. Disassemble as required, and visually inspect all parts for defects and deterioration. Submit a CFR.

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3.5.1.1 Perform a lifting test on each relief valve in accordance with manufacturer's recommendations and ASME PTC 25. Ensure that each valve seats cleanly after pressure relief (without simmering), and with no allowable leakage.

3.5.1.2 Adjust the relief pressure on the designated relief valve as necessary to obtain the specified lifting pressure. After adjustment, perform a final check to confirm each relief valve's lifting pressure in the presence of the Coast Guard Inspector. After successful confirmation, install the relief valves. Renew all O-rings and gaskets. Submit a CFR.

3.5.2 Pressure reducing valves. Disassemble as required, and visually inspect all parts for defects and deterioration. Submit a CFR.

3.5.2.1 Adjust the setting on the designated reducing valve as necessary to obtain the specified pressure setting.

3.5.2.2 After adjustment, perform a final check to confirm each reducing valve's ability to maintain set pressure in the presence of the Coast Guard Inspector. After successful confirmation, install the pressure reducing valves. Renew all O-rings and gaskets. Submit a CFR.

3.6 Valve reinstallation/installation. Upon completion of all authorized work, the Contractor must accomplish the following:

- Remove and dispose of all blank flanges and associated gaskets.
- Reinstall/install all overhauled and new valves with new gaskets.
- Renew all missing or damaged valve label plates.
- Renew all bolting hardware.

3.7 Touch-up preservation, general. The Contractor must prepare and coat all new and disturbed surfaces to match existing adjacent surfaces in accordance with SFLC Std Spec 6310, paragraph 3.1.13 (Touch-ups and minor coating repairs.)

3.8 Data plates- valve. The Contractor must affix an anodized aluminum test data plate with lock wire to each valve. The data plate must be engraved with ¼-inch high letters, stating the following:

- Valve number / designation
- Set pressure (if applicable)
- Date of inspection / test.

3.9 Documentation. The Contractor must provide documentation to the Coast Guard Inspector certifying each valve tested. Documentation must include the valve number / designation, set pressure, date of inspection / test, and testing facility.

**NOTE**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.10 Operational test – post repairs. After completion of work, the Contractor must thoroughly test, in the presence of the Coast Guard Inspector and demonstrate the compressed air system to be in satisfactory operating condition. Submit a CFR.

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3.11 Surface preservation. The Contractor must prepare and coat the receiver exterior surfaces, using the system specified for “Machinery, Operating Temperatures Under 200 °F” in SFLC Std Spec 6310, Appendix B (Cutter and Boat Interior Painting Systems). Select finish/top coat color to match previous paint scheme.

3.12 Data plates- air receiver. The Contractor must affix an anodized aluminum test data plate with epoxy resin cement to each air receiver. The data plate must be engraved with ¼-inch high letters, stating the following:

- Receiver name / number.
- Hydrostatic test pressure (if applicable).
- Date of inspection / test.
- Testing facility.

3.13 Documentation. The Contractor must provide documentation to the Coast Guard Inspector certifying each air receiver tested. Documentation must include the receiver name / number, method of testing, hydrostatic test pressure (if applicable), date of inspection / test, and testing facility.

## 4. NOTES

4.1 Air receiver definition. An air receiver is a pressure vessel for the storage of air at 600 psig and below.

## WORK ITEM 15: Anchor Windlass, Inspect and Service

### CAUTION

A working load limit of 150 pounds per square foot (psf) uniformly distributed within 20 feet of the bulkhead face has been established for MSU Cleveland Harbor. Stockpiling, parking, and material handling is restricted to loads that fall below the 150 psf threshold. For this availability, no crane shall park or maneuver within 25 feet of the bulkhead face.

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to inspect and service the anchor windlass.

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

None.

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 3020 (SFLC Std Spec 3020), 2020, Overhaul AC Electrical Motors

Surface Forces Logistics Center Standard Specification 5000 (SFLC Std Spec 5000), 2020, Auxiliary Machine Systems

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

Coast Guard Technical Publication (TP) 3483, Feb 2012, SWBS Groups 580-583, Anchor Windlass

#### OTHER REFERENCES

None.

**3. REQUIREMENTS**

3.1 General.

3.1.1 CIR. The Contractor must submit a CIR for the inspections listed in the following Table I tasks:

- Task #1, #3, #5, #6, #7, #9, #10.

3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the below-listed:

- Anchor chain.

3.1.6 Set screws. All disturbed or renewed set screws must be coated with a commercially available locking compound (LocTite or equivalent) at reinstallation.

3.2 Inspection and repair particulars.

**NOTE**  
**Tasks #2, #3, and #4 shall be accomplished in the presence of Coast Guard Inspector.**

				<b>ADDITION REQUIREMENTS</b>	
<b>#</b>	<b>TASK TYPE</b>	<b>QTY</b>	<b>COMPONENT OR ASSEMBLY</b>	<b>APPENDIX AND PARA. FROM SFLC STD SPEC 5000</b>	<b>OTHER</b>
1	Operate and Inspect	1	Anchor Windlass Assembly	3.2.1 (Operate and inspect)	Submit a CIR.
2	Service and Inspect	1	Wildcat shaft assembly	3.2.2 (Service and inspect)	Submit CFR. Shall be accomplished in presence of ship's force.
3	Disassemble, Inspect, and Preserve	1	Main Reduction Gear assembly	3.2.3 (Disassemble and inspect) D2.4 (Open gearing and gear reducers) 3.2.4 (Preservation)	Submit a CIR.
4	Service and Inspect	1	Main Shaft Coupling Assembly	3.2.2 (Service and inspect)	Submit CFR.
5	Disassemble and Inspect	1	Band Brake Assembly	3.2.3 (Disassemble and inspect) D2.3(Brakes and clutches)	Submit a CIR.

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#	TASK TYPE	QTY	COMPONENT OR ASSEMBLY	ADDITION REQUIREMENTS	
				APPENDIX AND PARA. FROM SFLC STD SPEC 5000	OTHER
6	Disassemble and Inspect	1	Band Brake Hand Wheel and Linkage Assembly	3.2.3 (Disassemble and inspect) D2.3(Brakes and clutches)	Submit a CIR.
7	Disassemble and Inspect	1	Electric Brake Assembly	3.2.3 (Disassemble and inspect) D2.3(Brakes and clutches)	Submit a CIR.
8	Overhaul and Preserve	1	Electric Motor	3.2.4 (Preservation)	Perform requirements in paragraphs 3.1 thru 3.4.3 of SFLC Std Spec 3020. Submit a CFR, for all inspections required in SFLC Std Spec 3020.
9	Disassemble and Inspect	1	Clutch Mechanism	3.2.3 (Disassemble and inspect) D2.3(Brakes and clutches)	Submit a CIR.
10	Disassemble, Inspect, and Preserve	1	Control Stand	3.2.3 (Disassemble and inspect) 3.2.4 (Preservation)	Submit a CIR.
11	NDE	1	Anchor windlass assembly foundation	3.2.5 (NDE)	Weld joints to NDE: All joints attaching capstan foundations to deck.
12	Preserve	1	Anchor windlass assembly foundation	3.2.4 (Preservation)	Preservation to include: windlass assembly housing and foundation and the motor casing, and gear reducer, and all other previously painted associated components surfaces. Select the following top coat colors: + Spar (10371) for equipment surfaces. + Black (17038) for foundation surfaces.
13	Groom and Lubricate	1	Anchor Windlass Assembly	3.2.6 (Groom and lubrication)	
14	Op Test	1	Anchor Windlass Assembly	B2.5 (Windlass)	Submit CFR.

3.2.1 Touch-up preservation, general. The Contractor must prepare and coat all new and disturbed exterior and interior surfaces, as applicable, to match existing adjacent surfaces in accordance with SFLC Std Spec 6310, paragraph 3.1.13 (Touch-ups and minor coating repairs.)

**4. NOTES**

This section is not applicable to this work item.

## **WORK ITEM 16: Anchor Chains and Ground Tackle, Inspect and Repair**

### **1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to perform inspection, preservation and repairs to the anchor chain assembly, including associated ground tackle.

1.2 Government-furnished property.

None.

### **2. REFERENCES**

#### **COAST GUARD DRAWINGS**

Coast Guard Drawing 140 WTGB 581-001, Rev-, Anchor Handling A & D

#### **COAST GUARD PUBLICATIONS**

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

#### **OTHER REFERENCES**

American Bureau of Shipping (ABS) Approved Chain, Accessory and Bar Manufacturing Facilities List, Oct 2016

Federal Specification (Fed Spec) RR-C-271, Rev E, Mar 2016, Chains and Attachments, Carbon and Alloy Steel

MIL-DTL-23549, Sep 2016, Grease, General Purpose

MIL-C-24633, Oct 2014, Chain, Stud Link, Anchor, Low Alloy Steel, Flash Butt Welded

The Society for Protective Coatings (SSPC)/NACE International (NACE) Joint Surface Preparation Standard SSPC-SP 6/NACE No. 3, 2007, Commercial Blast Cleaning

The Society for Protective Coatings (SSPC) Surface Preparation Specification No. 1 (SSPC-SP 1), 2015, Solvent Cleaning

### 3. REQUIREMENTS

#### 3.1 General.

3.1.1 CIR. The Contractor must submit a CIR for the inspections listed in the following paragraph(s):

- 3.2.3 (Inspections).

#### 3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the following:

- Anchor.

3.2 Required work particulars. The Contractor must use the chain description (see 4.1 (Component characteristics)) and Coast Guard Drawing 101 WTGB 581-001 for guidance, for accomplishing the tasks specified below for the anchor chain.

3.2.1 Removal. Disconnect and remove the anchor and anchor chain assembly and fake out the chain on the drydock floor or in a suitable location, to facilitate the performance of the tasks specified herein.

**NOTE**

**The use of Coast Guard equipment (e.g. anchor windlass) for off-loading and on-loading of anchors and anchor chain is authorized. Coast Guard personnel will operate all Government equipment.**

#### 3.2.2 Pre-inspection surface preparation.

3.2.2.1 Pressure wash the anchor, anchor chain and other components with fresh water and a fire hose to remove any mud, salts, or other contaminants adhering to the chain

3.2.2.2 Prepare the anchor and all shots of chain to a “Commercial Blast” standard, in accordance with SSPC-SP 6.

3.2.3 Inspections. Perform the following inspections and submit a CIR:

3.2.3.1 Visual inspection. Visually inspect the following:

- All swivels, outboard swivel shots, pelican hook and shackles, and cats paw (if applicable).
- Entire length of Shot 1, Shot 2, Shot n-1, and Shot n.

**NOTES**

- 1. For the purpose of reference in this item, the shots will be referred to by numbers. Mark each shot with a removable tag. Moving inboard from the anchor, the shots will be referred to as follows: ANCHOR, Shot 1, Shot 2, Shot 3...Shot n-2, Shot n-1, Shot n, and BITTER END. These shot numbers are designated in the order existing prior to work, and will not change - although the shot order itself will change.**
- 2. Number n in the paragraph above is equal to the number of shots per chain.**

3.2.3.2 Measurements – and condemning criteria.

3.2.3.2.1 Determine the suitability for continued service of the anchor chain assembly, by checking wire diameter dimension, using information provided in Table I (Dimensions for Condemning Anchor Chain) as guidance, as applicable. Gage the wire diameter of ten links per shot of chain, ensuring that each link must be separated by approximately 10% of the shot length.

**NOTE**

**For commercial grade chain, use 90 percent of the link diameter for condemning criteria.**

3.2.3.2.2 If a Change Request has been released, perform six-link dimension, as specified in “Note 2” in Table I (Dimensions for Condemning Anchor Chain).

**NOTE**

**Change Request will only be authorized to perform six link inspection only if ship’s force has reported that the anchor chain has been jumping the capstan.**

**TABLE 1 - DIMENSIONS FOR CONDEMNING ANCHOR CHAIN**

<b>SIZE OF CHAIN (INCHES)</b>	<b>90 PERCENT OF LINK DIAMETER(1) (INCHES)</b>	<b>SIX-LINK DIMENSION(2) (INCHES)</b>
1	0.90	26-3/4
1-1/8	1.013	30-1/16
1-1/4	1.125	33-7/16
1-3/8	1.238	36-3/4
1-1/2	1.35	40-1/8
1-5/8	1.463	43-7/16
1-3/4	1.575	46-13/16
1-7/8	1.688	50-1/8
2	1.80	53-1/2
2-1/8	1.913	56-13/16
2-1/4	2.025	60-3/16
2-3/8	2.138	63-1/2
2-1/2	2.25	66-7/8
2-5/8	2.363	70-3/16
2-7/8	2.475	73-9/16
3	2.558	76-7/8

**1. Use a micrometer, caliper or GO/NO-GO gage\* to check wire diameter dimension. Gage is to be made by Contractor/repair facility in accordance with the dimensions shown in Table 1 above. Check the diameters at right angles to the link. When measuring with a micrometer or caliper take one-half the sum of the two diameters as representing the line diameter.**

**2. Take six-link measurements with a load applied to the chain in order to take all slack out of the chain. Use a bar gauge to check the six-link dimension. When the gauge will not fit over six links, the chain has been stretched beyond allowable limit. Measure six links for the entire length of each shot, measuring from every third link.**

**\*When using a GO/NO-GO gage, a failed check is to be verified by measuring with a micrometer or caliper. Measure the diameter at right angles and take one-half the sum of the two diameters as representing the link diameter. Take measurements on clean, bare metal.**

3.2.4 Detachable link assemblies maintenance.

**NOTE**  
**Detachable link components are not interchangeable.**

3.2.4.1 Renew all detachable taper pin and link assemblies and associated link plugs.

3.2.4.2 Assemble detachable links, swivels and shackles; and repack with molybdenum disulfide grease (MIL-DTL-23549).

3.2.4.3 Change the relative position of the shots, as designated by the Coast Guard Inspector, to distribute the wear on the chain, ensuring that shot must be rotated end for end upon reinstallation, as follows: ANCHOR, Shot 3... Shot n-2, Shot n-1, Shot n, Shot 1, Shot 2, BITTER END.

3.2.4.4 Renew shackle at bitter end of chain.

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3.2.5 Chain renewal. If a Change Request has been released, renew designated section of chain with material conforming to MIL-C-24633. See paragraph 4.2 (Supply Information).

3.2.6 Surface coating. Using the coating system specified for “Anchor/Anchor Chain” in SFLC Std Spec 6310, Appendix A (Cutters and Boats Exterior Painting Systems), do the following:

3.2.6.1 Perform solvent cleaning of all surfaces specified to be coated (see below), in accordance with SSPC-SP 1.

3.2.6.2 Coat the anchor and all shots of chain Black (17038).

3.2.6.3 Color-coat the following shots:

- Shot n-1: Black (17038).
- Shot n: Black (17038).
- Shot 1: Yellow (13538).
- Shot 2: Red (11105).

3.2.6.4 Color coat/mark all detachable links, adjacent chain links, shackles, and swivels as follows and in accordance with attached Figure “Painting and Markings On Mooring Chain”.

3.2.6.4.1 Remove all existing stainless steel wire prior to the installation of new markings.

3.2.6.4.2 Paint first shot detachable link (15 fathom mark) red (11105).

3.2.6.4.3 Paint second shot detachable link (30 fathom mark) white (17925).

3.2.6.4.4 Paint third shot detachable link (45 fathom mark) blue (15182).

3.2.6.4.5 Repeat pattern of red, white and blue for all subsequent detachable links up to the next to last shot.

3.2.6.4.6 The first link on each side of the 15 fathom detachable link must be painted white (17925). The first link at each side of the detachable link must also be marked by one turn of stainless steel wire around the stud. The first two links on each side of the 30 fathom (second shot) detachable link must be painted white (17925). The second link at each side of the detachable link must also be marked by two turns of wire around the stud. Repeat pattern for all subsequent shots up to the next to last shot.

3.2.7 Chain restowing. When directed by the Coast Guard Inspector, reassemble the anchor and anchor chain; restow the anchor chain in its chain locker, free for running, with the anchor properly housed and secured with the chain stopper set.

3.2.7.1 Lead the bitter ends down and through the deck bolts in the chain locker and secure to the chain locker pad eye.

3.2.7.2 Back out the chains to ensure the chain stopper is set properly.

3.2.7.3 Ensure that:

- the bitter ends of the chain are securely fastened in the chain locker with new bitter end

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shackles, conforming to Fed Spec RR-C-271, Type IV-A, Class 3, Grade A.

- the ground tackle is kept ready for use.
- nothing interferes with a readiness to veer or slip the anchors.
- the detachable links located just inboard of the riding stopper and the detachable link tool set are readily accessible for use in slipping the anchor chains in an emergency.
- the anchor has a crown buoy attached, with sufficient length of rope to facilitate indicating the depths of water in which moored.

### NOTE

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.3 Operational test, post repairs. After completion of work, the Contractor must, in the presence of the Coast Guard Inspector, thoroughly test the anchor chain assembly to prove satisfactory operating condition, by releasing the chain stoppers and lowering both anchors under power to the drydock floor (or waterline, as applicable), letting out one additional shot, and raising again to ensure chains run on the wildcats without binding.

3.3.1 Correct any discrepancies, house the anchors and set the anchor chain pelican hooks.

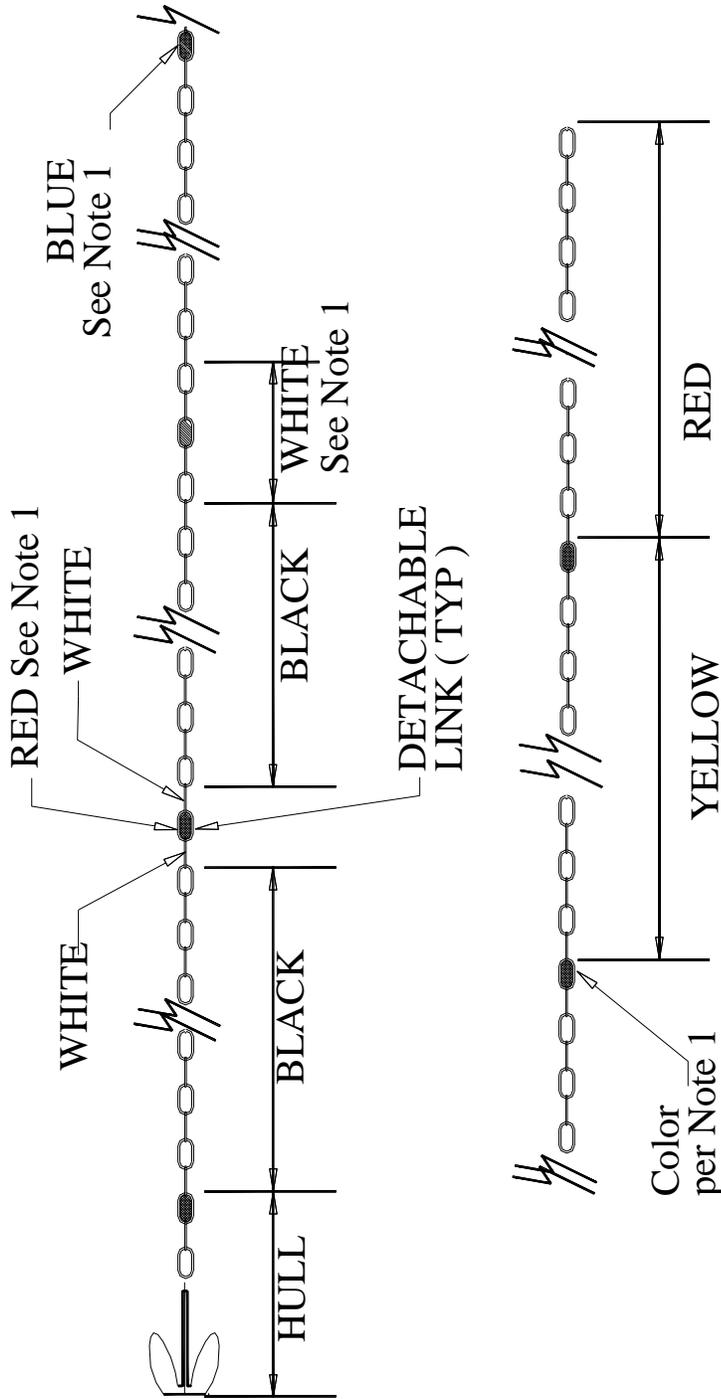
3.3.2 Submit a CFR.

3.4 Touch-up preservation. The Contractor must prepare and coat all new and disturbed surfaces to match existing adjacent surfaces, in accordance with SFLC Std Spec 6310, paragraph 3.1.13 (Touch-ups and minor coating repairs).

## 4. NOTES

4.1 Component characteristics. Weight of each anchor and all other chain type, size, and length information are provided on Coast Guard Drawing 101 WTGB 581-001. All shots of anchor chain include the corresponding detachable link(s).

PAINTING AND MARKINGS  
ON MOORING CHAIN



(1) NOTE: Repeat red, white, blue marking of detachable links until next to last inboard shot.

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4.2 Supply information. An ABS approved list of chain manufacturers may be found at the following website: <http://ww2.eagle.org/en/rules-and-resources/approved-manufacturers-and-products.html>

## WORK ITEM 17: Vertical Capstan, Inspect and Service

### CAUTION

**A working load limit of 150 pounds per square foot (psf) uniformly distributed within 20 feet of the bulkhead face has been established for MSU Cleveland Harbor. Stockpiling, parking, and material handling is restricted to loads that fall below the 150 psf threshold. For this availability, no crane shall park or maneuver within 25 feet of the bulkhead face.**

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to inspect and service the Vertical Capstan.

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

None.

#### COAST GUARD PUBLICATIONS

Coast Guard Technical Publication (TP) 3483, SWBS Groups 580-583, Feb 2012, Vertical Capstan

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 3020 (SFLC Std Spec 3020), 2020, Overhaul AC Electrical Motors

Surface Forces Logistics Center Standard Specification 5000 (SFLC Std Spec 5000), 2020, Auxiliary Machine Systems

#### OTHER REFERENCES

None.

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**3. REQUIREMENTS**

3.1 General.

3.1.1 CIR. The Contractor must submit a CIR for the inspections listed in the following Table I tasks:

- Task #1.
- Task #3.
- Task #5.

3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences).

3.2 Inspection and repair particulars. The Contractor must perform the work described herein in accordance with SFLC Std Spec 5000 and TP-3483, SWBS 580-583.

**NOTE**  
**Tasks #2 and #5 shall be accomplished in the presence of Coast Guard Inspector.**

				ADDITION REQUIREMENTS	
#	TASK TYPE	QTY	COMPONENT OR ASSEMBLY	APPENDIX AND PARA. FROM SFLC STD SPEC 5000	OTHER
1	Operate and Inspect	1	Capstan Assembly	3.2.1 (Operate and inspect)	Submit a CIR
2	Service and Inspect	1	Capstan Head Shaft Assembly	3.2.2 (Service and inspect)	Remove capstan head and clean, inspect: shaft, bearing, coupling. Inspect keys and keyways for damage, cracks, and excessive wear. Renew seals and gaskets. Submit a CFR.
3	Disassemble and Inspect	1	Electric brake	D2.3(Brakes and clutches)	Submit a CFR.
4	Overhaul and Preserve	1	Electric Motor	3.2.4 (Preservation)	Perform requirements in paragraphs 3.1 thru 3.4.3 of SFLC Std Spec 3020. Submit a CFR, for all inspections required in SFLC Std Spec 3020.
5	Disassemble and	1	Gear Reducer	D2.4 (Open gearing)	Check runout of shaft

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				ADDITION REQUIREMENTS	
#	TASK TYPE	QTY	COMPONENT OR ASSEMBLY	APPENDIX AND PARA. FROM SFLC STD SPEC 5000	OTHER
	Inspect			and gear reducers)	(0.002” TIR max allowable). Inspect keys and keyways for damage, cracks, excessive wear. Inspect thrust and tapered roller bearings for excessive wear, deterioration. Inspect gear teeth for damage, cracks, excessive wear. Renew seals and gaskets. Submit a CFR.
6	NDE	1	Capstan Assembly And Foundation	3.235 (NDE)	Weld joints to NDE: All joints attaching capstan foundations to deck.
7	Preserve	1	Capstan Assembly And Foundation	3.2.4 (Preservation)	Preservation to include: windlass assembly housing and foundation and the motor casing, and gear reducer, and all other previously painted associated components surfaces. Select the following top coat colors: + Spar (10371) for equipment surfaces. + Black (17038) for foundation surfaces.
8	Groom and lubricate	1	Capstan Assembly	3.2.6 (Groom and lubrication)	
9	Operational Test	1	Capstan Assembly	B2.6 (Capstans)	Submit a CFR.

3.3 Special requirements for various components. If a Change Request has been authorized for additional work on any of the components listed in Table I below, the Contractor must refer to the corresponding Appendix or paragraph of SFLC Std Spec 5000, as applicable.

**TABLE 1 – SPECIAL REQUIREMENTS**

COMPONENT	APPENDIX & PARAGRAPH IN SFLC STD SPEC 5000
Fluids	C2.1
Hose assemblies	C2.2
Piping and tubing	C2.3
Valves and manifolds	C2.4

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Gages	C2.5
Gas charged accumulators	C2.6
Heat exchangers and fluid coolers	C2.7
Systems	C2.8
Fastener assemblies	D2.1
Wire rope assemblies	D2.2
Brakes and clutches	D2.3
Open gearing and gear reducers	D2.4

**4. NOTES**

This section is not applicable for this work item.

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58200\_ACC\_0121\_IBCT  
 REC\_58200\_MrngTwngFttng\_IBCT\_140 WTGB (ALL) (0112)Hull Fittings (Mooring and Towing), Inspect and  
 Test - Tender

## WORK ITEM 18: Hull Fittings (Mooring and Towing), Inspect and Test - Tender

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to inspect the below designated hull fittings:

#### 1.1.1 General Mooring and Tow Hull Fittings

QTY	DESCRIPTION	LOCATION	APPLICABLE INFORMATION
1	Chock	Bow	Amidship
2	Chock	Stbd / Port Bow	Frame 1-2
1	Bits	Focsle /Amidship	Frame 3
2	Chock	Stbd / Port Bow	Frame 10-11
2	Bits	Stbd / Port Bow	Frame 13-16
2	Chock	Stbd / Port Bow	Frame 19A – 19B
2	Single Bitt	Stbd / Port Bow	Frame 19 B,C, D
2	Chock	Stbd / Port Side	Frame 23-24
2	Bits	Stbd / Port Side	Frame 27-29
2	Chock and Cleat	Stbd / Port Side	Frame 35-36
2	Cleat	Stbd / Port Side	Frame 40-41
2	Chock and Cleat	Stbd / Port Side	Frame 50-51
2	Cleat	Stbd / Port Side	Frame 56-57
2	Bits	Stbd / Port Side	Frame 69-71

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2	Single Bitt	Stbd / Port Side	Frame 75-77
1	Towing Bitt	Fantail	Amidship, Frame 76
2	Chock	Stbd / Port Qtr	Frame 77-79
2	Bitts	Stbd/Port Qtr	Frame 80 B, C, D
2	Chock	Stbd / Port Qtr	Frame 84-86
1	Chock	Fantail Amidship	Amidship

1.2 Government-furnished property.

None.

**2. REFERENCES**

**COAST GUARD DRAWINGS**

None

**COAST GUARD PUBLICATIONS**

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2020, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

**OTHER REFERENCES**

None

**3. REQUIREMENTS**

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

Not applicable.

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3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences).

3.2 Inspection and test particulars. The Contractor must accomplish the following for designated fitting designated in paragraph 1.1, and submit a CFR.

3.2.1 Visual. Visually inspect all cleaned surfaces for excessive damage, wear, corrosion, distortion, elongation of holes, gouges, pits, and cracks.

3.2.2 NDE. Perform nondestructive examination (NDE) of all designated fittings, including all components and associated welds (including but not limited to deck mounting and base/foundation welds) or other mounting hardware, in accordance with SFLC Std Spec 0740, Appendix C. Use a NDE method not requiring coating removal.

3.3 Touch-up preservation. The Contractor must prepare and coat all new and disturbed exterior and interior surfaces, as applicable, to match existing adjacent surfaces in accordance with SFLC Std Spec 6310, paragraph 3.1.13 (Touch-ups and minor coating repairs).

## 4. NOTES

This section is not applicable to this work item.

## WORK ITEM 19: Grey Water Holding Tanks, Clean and Inspect

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to clean and inspect the following tank(s):

**TABLE 1 – TANKS**

TYPE OF TANK	LOCATION	CAPACITY - 95% (Gallons)	LOW SUCTION (Gallons)
Grey Water	4-32-1-W	1,777	100
Grey Water	4-32-2-W	1,777	100

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 140 WTGB 528-002, Rev -, Sanitary & Deck Drains Diag  
 Coast Guard Drawing 140 WTGB 528-003, Rev -, Sanitary & Deck Drains A&D  
 Coast Guard Drawing 140 WTGB 528-004, Rev -, Grey Water Mods & Tank Transition

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

#### OTHER REFERENCES

ASTM International (ASTM) D1330, 2015, Standard Specification for Rubber Sheet Gaskets

### 3. REQUIREMENTS

#### 3.1 General.

##### 3.1.1 CIR.

None.

##### 3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.3.1 Plug all inlet and outlet piping in the tank(s) to prevent contaminants from entering. Use plugs with an attached lanyard, ring or other system that will ensure plugs are not lost in the pipe openings.

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the following:

- Piping.
- Pump(s).

3.2 Plug log. The Contractor must keep a written record of all plugs put in any tank vents. A separate list must be kept for each tank being entered.

3.2.1 Ensure that all plugs are removed from each tank upon completion of work in the tank.

3.2.2 The plug log must be available to the Coast Guard Inspector when the inspector is performing his close-out inspection on each tank.

**NOTE**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.3 Operational test, initial. Prior to commencement of work, the Contractor must witness Coast Guard personnel perform an initial operational test of all items or shipboard devices to be disturbed, used, repaired, or altered, to demonstrate existing operational condition. Submit a CFR.

3.4 Service disruption. When grey water is disrupted due to Contractor repairs, the Contractor must refer to SFLC Standard Spec 0000 par 3.2.11 to provide required temporary facilities.

3.5 Cleaning. The Contractor must accomplish the following for the tank(s) listed. The Contractor must refer to all references in Section 2 for guidance.

3.5.1 Content removal. Remove and dispose of all contents, fluids, and/or residues in accordance with all applicable Federal, state, and local regulations

3.5.2 Cleaning requirements. Remove manhole cover(s). Clean all tank structure's interior surfaces free of all foreign materials, sediment, and sludge. Remove all persistent residues, taking care not to damage the tank coating system. Remove cleaning media and residues continuously from the tank during the washing

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process. Remove any residual wash media and wipe up residual moisture with clean lint-free cloths. Collect, contain, and dispose of all wash media, residues, and cleaning materials in accordance with all Federal, state, and local regulations. Clean all tank vent lines. Remove and clean the eductors and level switches inside of the tank(s). Reinstall the eductors and level switches upon completion of tank cleaning. Use new gaskets and o-rings to install/reinstall all removed/disturbed components.

3.6 Inspection. The Contractor must visually inspect all interior surfaces, including, but not limited to bulkheads, floor and overhead plating, structural members, manhole cover surfaces, fasteners and gasket seating surfaces. Submit the Tank and Void Inspection Form, and a CFR including the following, as applicable:

- Tank structural condition.
- Inaccessible areas.
- Condition of tank coating, including measurements taken, percentage, location, and type of coating failure (not applicable for stainless steel tanks).
- Tank level indicator (TLI), vacuum and/or float switch condition.
- Suction and discharge piping and vent line condition.
- Fastener material (stainless steel) and condition.
- Zinc anode condition (remaining percentage).

3.7 Control panel assembly. The Contractor must open and vacuum clean the control panel assembly. Inspect the control panel assembly for any indications of overheating or loose wiring or connections. Submit a CFR

3.8 Closing. The Contractor must notify the COR at least 24 hours prior to closing the tank(s). After satisfactory inspection by the Coast Guard Inspector, and completion of all authorized repairs, close the manhole cover(s) with new gasket material conforming to ASTM D1330.

3.8.1 Renew 100% of nylon insert/nylock nuts and washers.

### NOTE

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.9 Operational test, post repairs. After completion of work, the Contractor must thoroughly test, in the presence of the Coast Guard Inspector and demonstrate all items or shipboard devices that have been disturbed, used, repaired, altered, or installed to be in satisfactory operating condition. Submit a CFR.

3.9.1 The Contractor must adjust the set point on each of the vacuum pressure switches (as applicable) to the set points noted previously.

3.9.2 The Contractor must verify operation of the low and high level switches/alarms and that the pumps cycle from lead to lag status during operation. Demonstrate proper operation of tank TLIs to prove satisfactory operating condition.

3.9.3 Upon completion of testing and, in the presence of the Coast Guard Inspector, the Contractor must pump tank(s) to the limit of the ship's installed pumps.

**4. NOTES**

This section is not applicable to this work item.

## WORK ITEM 20: Sewage Holding Tanks, Clean and Inspect

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to clean and inspect the following tank(s):

**TABLE 1 – TANKS**

TYPE OF TANK	LOCATION	CAPACITY - 95% (Gallons)	LOW SUCTION (Gallons)
Sewage Vacuum Collection Tank	2-19-0-E	900	
Seal Water Tank	2-19-0-E	100	N/A

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

- Coast Guard Drawing 140 WTGB 528-002, Rev -, Sanitary & Deck Drains Diag
- Coast Guard Drawing 140 WTGB 528-003, Rev -, Sanitary & Deck Drains A&D
- Coast Guard Drawing 140 WTGB 528-004, Rev -, Grey Water Mods & Tank Transition

#### COAST GUARD PUBLICATIONS

- Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

#### OTHER REFERENCES

- American Society for Testing and Materials (ASTM) International D1330, 2015, Standard Specification for Rubber Sheet Gaskets

### 3. REQUIREMENTS

#### 3.1 General.

##### 3.1.1 CIR.

None.

##### 3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.3.1 Plug all inlet and outlet piping in the tank(s) to prevent contaminants from entering. Use plugs with an attached lanyard, ring or other system that will ensure plugs are not lost in the pipe openings.

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the following:

- Piping.
- Pump(s).

3.2 Plug log. The Contractor must keep a written record of all plugs put in any tank vents. A separate list must be kept for each tank being entered.

3.2.1 Ensure that all plugs are removed from each tank upon completion of work in the tank.

3.2.2 The plug log must be available to the Coast Guard Inspector when the inspector is performing his close-out inspection on each tank.

**NOTE**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.4 Operational test - initial. Prior to commencement of work, the Contractor must witness Coast Guard personnel perform an initial operational test of all items or shipboard devices to be disturbed, used, repaired, or altered, to demonstrate existing operational condition. Submit a CFR.

3.4 Service disruption. When sewage collection service is disrupted due to contractor repairs, the Contractor must refer to SFLC Standard Spec 0000 par 3.2.11 to provide required temporary facilities.

3.5 Cleaning and inspection requirements. The Contractor must accomplish the following for the tank(s) listed in paragraph 1.1 (Intent), referring to all references in Section 2 for guidance:

3.5.1 Content removal. Remove and dispose of all contents, fluids, and/or residues in accordance with all applicable Federal, state, and local regulations

3.5.2 Cleaning requirements. Remove manhole cover(s). Clean all tank structure's interior surfaces free of all foreign materials, sediment, and sludge. Remove all persistent residues, taking care not to damage the tank coating system. Remove cleaning media and residues continuously from the tank during the washing

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process. Remove any residual wash media and wipe up residual moisture with clean lint-free cloths. Collect, contain, and dispose of all wash media, residues, and cleaning materials in accordance with all Federal, state, and local regulations. Clean all tank vent lines. Remove and clean the eductors and level switches inside of the tank(s). Reinstall the eductors and level switches upon completion of tank cleaning. Use new gaskets and o-rings to install/reinstall all removed/disturbed components.

3.5.3 Inspection. Visually inspect all interior surfaces, including, but not limited to bulkheads, floor and overhead plating, structural members, manhole cover surfaces, fasteners and gasket seating surfaces. Submit a CFR including the following, as applicable:

- Tank structural condition.
- Inaccessible areas.
- Condition of tank coating, including measurements, percentage, location, and type of coating failure (not applicable for stainless steel tanks).
- Tank level indicator (TLI), vacuum and/or float switch condition.
- Suction and discharge piping and vent line condition.
- Fastener material (stainless steel) and condition.
- Zinc anode condition (remaining percentage).

3.5.4 Control panel assembly. Open and vacuum clean the control panel assembly. Inspect the control panel assembly for any indications of overheating or loose wiring or connections. Submit a CFR

3.6 Closing. The Contractor must notify the COR at least 24 hours prior to closing the tank(s). After satisfactory inspection by the Coast Guard Inspector, and completion of all authorized repairs, close the manhole cover(s) with new gasket material conforming to ASTM D1330.

3.6.1 The Contractor must renew 100% of nylon insert/nylock nuts and washers.

### NOTE

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.7 Operational test, post repairs. After completion of work, the Contractor must accomplish the following in the presence of the Coast Guard Inspector, and submit a CFR:

3.7.1 Adjust the set point on each of the vacuum pressure switches (as applicable) to the set points noted previously.

3.7.2 Verify operation of the low and high level switches/alarms and that the pumps cycle from lead to lag status during operation. Demonstrate proper operation of tank TLIs to prove satisfactory operating condition.

3.7.3 Upon completion of testing and, in the presence of the Coast Guard Inspector, pump tank(s) to the limit of the ship's installed pumps.

## 4. NOTES

This section is not applicable to this work item.

## WORK ITEM 21: Grey Water Piping, Clean and Flush

**NOTE**

**Perform in conjunction with Work Item 28: Galley Piping, Renewal**

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to clean the grey water piping system.

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 140 WTGB 528-002, Rev -, Sanitary & Deck Drain System Diagram  
Coast Guard Drawing 140 WTGB 528-003, Rev C, Sanitary & Deck Drain A&D

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020,  
General Requirements

#### OTHER REFERENCES

### 3. REQUIREMENTS

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

Not applicable.

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3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the below-listed:

- Grey water pumps

3.2 Contamination prevention. The Contractor must take all precautions to prevent contamination of personnel and spaces in accordance with all applicable Federal, state, and local regulations.

3.3 Personnel qualification. The Contractor must ensure that personnel accomplishing this work are qualified and experienced in operating the pressurized water system and handling the chemicals. For each operator/cleaning technician, submit documentation of applicable experience and training obtained within the last twelve months along with the Cleaning Plan (see paragraph 3.5.2 (Plan Submittal)).

**NOTE**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.4 Operational test - initial. Prior to commencement of work, the Contractor must witness Coast Guard personnel perform an initial operational test of all items or shipboard devices to be disturbed, used, repaired, or altered, to demonstrate existing operational condition. Submit a CFR.

3.5 Piping hydrojet cleaning. The Contractor must perform the following work:

3.5.1 The Contractor must clean and flush approximately 350 linear feet of grey water system piping, shown on Coast Guard Drawings 140 WTGB 528-001 and 140 WTGB 528-003.

3.5.2 Prior to commencing work, coordinate with the Coast Guard Inspector. Determine required down times for affected piping system. Determine the feasibility/need for the piping system to be split to minimize system down time.

3.5.3 With the aid of ship's force, split the plumbing drain system fore and aft by closing isolation valves in the drainage system. Work on only one section of the plumbing drain system at a time to allow use of toilet and shower facilities in the other section of the system by the ship's duty section.

3.5.4 Using the referenced Coast Guard drawings as guidance, hydro blast the internal surfaces of all of the plumbing drain piping. Hydro blast pressure must be at least 2500 psig at the discharge nozzle in all piping to ensure removal of all salts and scale from piping internal surfaces.

**NOTE**

**Ship's force will provide an assistant to the Contractor to show the Contractor the location of clean-out connections within the plumbing drain system.**

3.5.4.2 Open each of the clean out connections as required to clean and hydro blast all of the internal piping within the system. Catch any fluid that drains from the clean out connections when it is opened and clean up any spills using bleach to disinfect the spill after cleaning.

3.5.4.3 It may be necessary for the Contractor to install additional clean-out connections to access all portions of the plumbing drain system. If additional clean-out connections are needed, a separate

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specification item in this specification package must be authorized to install additional clean-out connections.

3.5.4.4 Hydro blast cleaning water may be collected in the ship's sewage system and disposed of via the ship's sewage shore tie connections.

3.5.5 Clean until all of the following conditions are met:

- All visible calcium carbonate deposits, solid deposits and build-up are removed from pipe walls.
- Discharge water from the piping being cleaned is free of all visible scale and deposits.

3.5.5.1 Inspect the piping interior using a borescope in the presence of the COR, to verify that all solid deposits visible to the unmagnified eye have been removed. Continue the cleaning process until all visible solid deposits are removed from the pipe walls.

3.5.6 In the event that hydroblasting alone does not clean piping to required conditions, Contractor must use chemical cleaning methods.

3.5.6.1 Ensure that chemical cleaners do not damage the environment, heat exchanger or the vessel.

3.5.6.2 Submit the written plan for chemical cleaning to the COR for approval 96 hours before work is to commence. The procedure must include products to be used, safety precautions, disposal requirements, sequence of events, etc. Submit a MSDS to the COR for all chemicals proposed for use. Changes to the chemical cleaning plan as written, need to be approved by the COR (and Facilities).

3.5.6.3 Chemical cleaning waste water disposal. Dispose of all cleaning fluids and debris in accordance with all applicable Federal, state, and local regulations. Remove all unused chemicals from USCG property immediately upon completion of work item. Do not drain any fluids (including fresh water) into any space, bilge, or exterior location.

- Sequence of each location that ensures all piping sections will be cleaned and all foreign debris removed.
- Flush twice the volume of the system cleaned with water to include 3 repeated pH tests between 6 and 8. The flushing water shall be collected and disposed by the Contractor.

3.6 Pumps and valves. The Contractor must replace system tank valve(s) with temporary spool piece(s). Visually inspect system pumps and valve(s); and submit a CFR. Upon completion of work, reinstall the removed tank valve(s) with new gaskets.

3.7 Gasket renewal. The Contractor must reinstall all removed valves and fittings with new gasket material conforming to applicable referenced drawings.

### NOTE

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.8 Operational test – post repairs. After completion of work, the Contractor must thoroughly test, in the presence of the Coast Guard Inspector and demonstrate all items or shipboard devices that have been disturbed, used, repaired, altered, or installed to be in satisfactory operating condition. Submit a CFR.

3.8.1 Leak test. After all system components are reinstalled, the Contractor must test all disturbed piping for leaks, as follows, and submit a CFR:

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- Plug all system openings (except the highest) and fill system with water to the point of overflow. Ensure that the water level does not go down (without adding any water) for sufficient time to inspect the entire system (no less than 15 minutes).
- Closely monitor the system for leaks. Repair all leaks detected.
- Repeat test and inspection until no leaks are detected.

### **4. NOTES**

This section is not applicable to this work item.

## WORK ITEM 22: Sewage Piping, Clean and Flush

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to clean the sewage piping system.

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 140 WTGB 528-002, Rev L, Sanitary & Deck Drain System Diagram

Coast Guard Drawing 140 WTGB 528-003, Rev C, Sanitary & Deck Drain A&D

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

#### OTHER REFERENCES

American Society for Testing and Materials (ASTM) International D1330, 2015, Standard Specification for Rubber Sheet Gaskets

### 3. REQUIREMENTS

3.1 General.

3.1.1 CIR. The Contractor must submit a CIR for the inspections listed in the following paragraph(s):

None.

3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

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3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the below-listed:

- Sewage pumps
- Toilets

3.2 Contamination prevention. The Contractor must take all precautions to prevent contamination of personnel and spaces in accordance with all applicable Federal, state, and local regulations.

3.3 Personnel qualification. The Contractor must ensure that personnel accomplishing this work are qualified and experienced in operating the pressurized water system and handling the chemicals. For each operator/cleaning technician, submit documentation of applicable experience and training obtained within the last twelve months along with the Cleaning Plan.

**NOTE**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.4 Operational test - initial. Prior to commencement of work, the Contractor must witness Coast Guard personnel perform an initial operational test of all items or shipboard devices to be disturbed, used, repaired, or altered, to demonstrate existing operational condition. Submit a CFR.

3.5 Cleaning plan. Submit the written plan for chemical cleaning to the COR for approval 96 hours before work is to commence. The procedure must include products to be used, safety precautions, disposal requirements, sequence of events, etc. Submit a MSDS to the COR for all chemicals proposed for use. Changes to the chemical cleaning plan as written, need to be approved by the COR (and Facilities).

**CAUTION**

**Although the Coast Guard prefers pressurized water as the cleaning fluid, the Contractor may propose chemical cleaning as an alternative, providing that the proposed chemical cleaning agent is environmentally safe, suitable for use in marine sewage piping application, and pre-approved by the COR.**

**The chemicals used in the cleaning (including cleaning chemicals, neutralizing compounds, and defoaming chemicals) must not cause any significant detrimental effects to the sewage piping system or any other system components Due to the fact that system piping has historically been difficult to clean by pressure washing only, chemical cleaning is usually required to successfully complete the cleaning process.**

3.5.1 Procedure requirements. The Contractor must ensure that the procedure includes the following:

- Methods of cleaning.
- All safety precautions required during cleaning operations.
- List of qualified personnel who will operate machinery or handle chemicals (see paragraph 3.3 (Personnel qualification) herein).
- Locations in the sewage piping where cleaning will take place, and any additional fittings necessary.
- Sequence of each location that ensures all piping sections will be cleaned and all foreign debris removed.

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3.5.2 Plan submittal. The Contractor must submit the written plan to the COR for approval at least 48 hours prior to commencing cleaning operations. Changes to the chemical cleaning plan as written, need to be approved by the COR (and local Facilities).

3.6 Clean and flush. The Contractor must clean and flush approximately 350 linear feet of sewage system piping (Contractor must be aware sections of sewage piping in the Engine Room are PVC), shown on Coast Guard Drawings 101 WTGB 528-001 and 101 WTGB 528-003.

3.6.1 Pumps and valves. Replace system tank valve(s) with temporary spool piece(s) before cleaning. Visually inspect system pumps and valve(s); and submit a CFR. Upon completion of work, reinstall the removed tank valve(s) with new gaskets.

3.6.2 Cleaning. Continue cleaning until all of the following conditions are met:

- All visible calcium carbonate deposits, solid deposits and build-up are removed from pipe walls.
- Discharge water from the piping being cleaned is free of all visible scale and deposits.

3.6.3 Inspect the piping interior using a borescope in the presence of the COR, to verify that all solid deposits visible to the unmagnified eye have been removed. Continue the cleaning process until all visible solid deposits are removed from the pipe walls.

3.6.4 Flush twice the volume of the system cleaned with water to include 3 repeated pH tests between 6 and 8. The flushing water shall be collected and disposed by the Contractor.

3.7 Waste disposal. The Contractor must dispose of all cleaning fluids and debris in accordance with all applicable Federal, state, and local regulations. Remove all unused chemicals from USCG property immediately upon completion of work item. Do not drain any fluids (including fresh water) into any space, bilge, or exterior location.

3.8 Gasket renewal. The Contractor must reinstall all removed valves and fittings with new gasket material conforming to ASTM D1330.

### NOTE

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.9 Operational test – post repairs. After completion of work, the Contractor must thoroughly test, in the presence of the Coast Guard Inspector and demonstrate all items or shipboard devices that have been disturbed, used, repaired, altered, or installed to be in satisfactory operating condition. Submit a CFR.

3.9.1 Leak test. After all system components are reinstalled, the Contractor must test all disturbed piping for leaks, as follows, and submit a CFR:

- Plug all system openings (except the highest) and fill system with water to the point of overflow. Ensure that the water level does not go down (without adding any water) for sufficient time to inspect the entire system (no less than 15 minutes).
- Closely monitor the system for leaks. Repair all leaks detected.
- Repeat test and inspection until no leaks are detected.

**4. NOTES**

This section is not applicable to this work item.

**WORK ITEM 23: Accessible Voids, Preserve, 100 Percent**

**1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to prepare and coat 100% of the following:

**TABLE 1 - VOIDS**

TYPE OF STRUCTURE	LOCATION	CAPACITY - 95% (GALLONS)	LOW SUCTION (GALLONS)
Void	2-76-2-V	N/A	

1.2 Government-furnished property.

None.

**2. REFERENCES**

**COAST GUARD DRAWINGS**

None.

**COAST GUARD PUBLICATIONS**

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2020, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

Surface Forces Logistics Center Standard Specification 8636 (SFLC Std Spec 8636), 2020, Temporary Hull Accesses

**OTHER REFERENCES**

ASTM International (ASTM) D1330, 2010, Standard Specification for Rubber Sheet Gaskets

### 3. REQUIREMENTS

3.1 General. The Contractor must accomplish the following on all voids designated in paragraph 1.1 (Intent).

3.1.1 CIR.

None.

3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences).

3.2 Temporary access openings. The Contractor must (with express permission of the KO via submission of a CFR) cut access hole(s) to facilitate accomplishment of the work specified herein. Perform all work required to open and close the access opening(s) in accordance with SFLC Std Spec 8636.

3.3 Tank content removal. The Contractor must remove and dispose of all tank contents in accordance with all applicable Federal, State, and local regulations.

3.4 Surface preservation. The Contractor must accomplish the following tasks for the voids listed in paragraph 1.1 (Intent). :

3.4.1 Remove and retain the manhole cover(s).

3.4.2 Prepare and coat all interior void surfaces (including internal surfaces of manhole cover(s), ventilation ducting, manhole cover hull ring(s) extending outward to the weld line that ties the hull ring into the tank plating on the tank exterior) using the system specified for " Tanks and Voids, General; Option I " in SFLC Std Spec 6310, Appendix B (Cutter and Boat Interior Painting Systems). Select finish/top coat color to match existing.

3.5 In-process quality control measures. The Contractor must abide by all the safety, preservation, and quality control requirements specified in SFLC Std Spec 0000, paragraph 3.2.4.2 (In-process QC measures for "critical-coated surfaces). Surfaces being preserved are considered "critical-coated surfaces".

3.6 Inspection. After surface preparation and before coating application, the Contractor must visually inspect all interior surfaces; including, but not limited to bulkheads, floor and overhead plating, structural members, access cover surfaces, fasteners and gasket seating surfaces. Submit a CFR including the following, as applicable:

- Structural condition.
- Inaccessible areas.
- Tank level indicator (TLI) and/or float switch condition.

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- Sounding tube and striker plate condition.
- Suction and discharge piping.
- Fastener condition.
- Steering system.

3.7 Tank closing. The Contractor must ensure that the tank(s) remain open for at least 24 hours after completion of the tasks specified above. Notify the COR at least 24 hours prior to closing the tank(s). After satisfactory inspection by the Coast Guard Inspector and after all authorized repairs, accomplish the following:

- Reinspect all TLIs, as applicable, to verify proper operation. Submit CFR.
- Close tank manhole cover(s) with new gasket material conforming to ASTM D1330 and new cotton stud grommets (as applicable).
- Renew 100% of nylon insert/nylock nuts and washers.

3.8 Ultrasonic thickness (UT Measurement). If a Change Request has been authorized and released by the KO, the Contractor must take a total of 100 UT measurements of the exposed void plating in locations designated by the Coast Guard Inspector, in accordance with SFLC Std Spec 0740, Appendix C. Submit a CFR.

## 4. NOTES

This section is not applicable to this work item.

## WORK ITEM 24: Deck Covering, Interior, Wet and Dry, Renew

**NOTE**

**Perform in conjunction with Work Item 26: Galley Piping, Renewal.**

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew deck covering system(s).

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

None

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

Surface Forces Logistics Center Standard Specification 6341 (SFLC Std Spec 6341), 2020, Install Interior Deck Covering Systems

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2020, Welding and Allied Processes

#### OTHER REFERENCES

None

### 3. REQUIREMENTS

3.1 General.

3.1.1 CIR. The Contractor must submit a CIR for the inspections listed in the following paragraph(s):

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- 3.3 Ultrasonic thickness (UT) measurements.

3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.3.1 Protective measures, specific. Apply protective measures as specified in SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection) to the following components, spaces and equipment:

- Galley equipment.

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences).

3.2 Deck covering installation particulars. The Contractor must perform all tasks specified in SFLC Std Spec 6341 and herein, to install a new covering system in the location(s) specified in Table 1 below.

<b>NOTES</b>	
<p><b>1. The exposed deck surfaces are prepared and coated in accordance with SFLC Std Spec 6310. Refer to SFLC Std Spec 6341, Para 3.2.1.2 for additional information.</b></p>	
<p><b>2. Ensure the final surface condition of the deck is made “slip resistant” in accordance with manufacturer's installation procedures. Refer to SFLC Std Spec 6341, Para A2.1.2.2.</b></p>	

**TABLE 1 - DECKING SYSTEM**

<b>LOCATION</b>	<b>AREA (*SQFT)</b>	<b>DECK MTL (A/S**)</b>	<b>SYSTEM/ APPENDIX (SFLC STD SPEC 6341)</b>	<b>COVE BASE</b>	<b>SYSTEM COLOR</b>	<b>UNDERLAYMENT REQUIREMENT</b>
Galley 01-48-4-Q	23	S	High Build Epoxy	N	See paragraph 3.4 Deck is to be painted existing color.	No underlayment required (deck covering to be installed over painted deck surfaces).
Engine Room Vestibule 1-52-3-L	26	S	Cosmetic Polymeric Epoxy Resin, Type III (One-Step Epoxy System)/Appendix A	Y	Match existing color	No underlayment required

\*\*Note: A = Aluminum; S = Steel.

\*\*\*See SFLC Std Spec 6341 for definition of cove base.

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3.3 Ultrasonic thickness (UT) measurement. The Contractor must take a total of 25 UT measurements of the surface to be renewed in the ship's Galley, 01-48-4-Q. in locations designated by the Coast Guard Inspector, in accordance with SFLC Std Spec 0740, Appendix C. Use Coast Guard Drawing 140-WTGB-801-022, Rev-, Inboard Profile as guidance. Submit a CIR.

3.4 Deck covering color. The Contractor must submit a deck covering color chart to Coast Guard Inspector, for the purpose of color selection.

### **4. NOTES**

This section is not applicable to this work item.

## WORK ITEM 25: Watertight Doors and Scuttles, External, Renew

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew the external watertight doors and scuttles identified in Table 1.

**TABLE 1 - WATERTIGHT DOORS AND SCUTTLES**

DESCRIPTION	LOCATION	DRAWING
26" x 66" Quick-Acting Weathertight Door, Steel, 2-Dog, LH Swing, (including associated coaming)	Pilothouse 01-22-0-C	140-WTGB-167-1
26" x 66" Quick-Acting Weathertight Door, Steel, 2-Dog, RH Swing (including associated coaming)	Pilothouse 01-22-0-C	140-WTGB-167-1

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST (\$/UNIT)
N	26" x 66" Quick-Acting Weathertight Door, Steel, 2-Dog, LH Swing, (including associated coaming)	JUNIPER COMPANY P/N: JE1602/89-DI-01 Model: CC-3013-AH-LH	2 ea.	5,800.00
N	26" x 66" Quick-Acting Weathertight Door, Steel, 2-Dog, RH Swing (including associated coaming)	JUNIPER COMPANY P/N: JE1602/89-DI-02 Model: CC-3013-AH-RH	2 ea.	5,800.00

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Bill of Materials 627 WMEC 327, Rev G, Watertight Doors, Hatches & Scuttles  
 Coast Guard Drawing 140 WTGB 167-001, Rev -, Closures & Window List  
 VSEA Drawing 167-7379842, Rev A, Procedure & Welding Sequence for Non-Ballistic, Watertight & Airtight Quick Acting or Individually Dogged Personnel Doors

### COAST GUARD PUBLICATIONS

- Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements
- Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2020, Welding and Allied Processes
- Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

### OTHER REFERENCES

- Commercial Item Description (CID) A-A-59316, 2016, Abrasive Materials; for Blasting
- Military Specification MIL-A-22262B, March 1996, Abrasive Blasting Media Ship Hull Blast Cleaning
- The Society for Protective Coatings (SSPC)/NACE International (NACE) 2007, Joint Surface Preparation Standard SSPC-SP 10/NACE No. 2, Near-White Metal Blast Cleaning
- The Society for Protective Coatings (SSPC) Surface Preparation Standard No. 11 (SSPC-SP 11), 2013, Power-Tool Cleaning to Bare Metal

## 3. REQUIREMENTS

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

#### NOTE

**Contractor shall take measures to protect exterior deck non-skid and interior deck matting from hot metal particles discharged while welding and grinding. from welding and grinding.**

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to, the following:

- Insulation
- Bulkhead
- Bridge Equipment

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3.2 Renewal. The Contractor must crop, remove, and dispose of the doors identified in Table 1 of this work item, including the associated coaming in accordance with SFLC Std Spec 0740 and using the Coast Guard drawing(s) listed under Section 2 (References) as guidance.

3.2.1 For watertight door renewals, inspect adjacent bulkhead structure for straightness prior to installation. Submit CFR with repair plan for any warped or twisted bulkhead structure resulting in a gap greater than 1/16” between the bulkhead plating and new door frame.

3.2.2 Install GFP doors in place of those removed. When GFP doors and scuttles are not provided, the Contractor must fabricate and install a new door or scuttle. Use NAVSEA Drawing 167-7379842 and manufacturer instructions as guidance for installation.

3.2.3 Perform all necessary modifications not limited to relocation, fabrication and installation of a new securing device, and modifications to ensure all renewed items properly fit and function. At the direction of the Coast Guard Inspector, perform all necessary relocation and modification of securing latches.

3.2.4 Provide and install new gaskets and fasteners for each new installation identified in Table 1.

**NOTES**

- 1. Testing fitup of new door frame in structural cutout and balanced welding operations are crucial to ensuring proper alignment. Satisfactory operation of closure should be checked prior to, during, and after welding. Welding should be staggered around frame perimeter and on both sides of the closure to minimize distortion.**
- 2. Where possible, the door should be closed and dogged during welding.**
- 3. Geometric dimensioning and tolerance variances and minor hardware differences are to be expected with the Government-furnished closures. These variances and differences are not limited to the following: location and physical size of the hinge assemblies; location, physical size, and number of flush mounted pockets; location, size, and orientation of securing devices.**

3.3 Boundary test. Upon complete renewal of each structural closure, the Contractor must perform the following boundary tests in accordance with SFLC Std Spec 0740, Appendix C. Submit a CFR.

- chalk test
- water hose test

**NOTE**

**Do not paint knife-edges, gaskets, or any moving parts; including dogs, nuts, wedges, spindles, yokes, packing, connecting rods and hinge pins.**

3.4 Preservation. The Contractor must prepare and coat the surfaces of all installed items identified in Table 1 of this work item in accordance with Table 2 and as determined by the material to be preserved.

**TABLE 2 – SURFACE PREPARATION AND COATING**

	PREPARATION		COATING	
SURFACE	STEEL	ALUMINUM	STEEL	ALUMINUM

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DOOR EXTERIOR/ SCUTTLE TOP	SSPC-SP10/NACE No. 2, using grit conforming to MIL-A-22262 (1.5 to 2.5 mil anchor profile) -Or- SSPC-SP 11 (1.0 mil anchor profile)	Brush blast to bare metal with clean, fine aluminum oxide, garnet or equivalent inert material conforming to CID A-A-59316, Type I & IV (1.0-1.5 mil anchor profile). -Or- Power tool clean, using non-metallic abrasive padding, to remove all coatings and contamination.	SFLC Std Spec 6310, Appendix A (Cutter and Boat Exterior Painting Systems) “Freeboard/ Superstructure/Mast” Freeboard/Superstructure, Steel – Prone to Mechanical Damage or High Wear	SFLC Std Spec 6310, Appendix A (Cutter and Boat Exterior Painting Systems) “Freeboard/ Superstructure/Mast” Option I for Freeboard/Superstructure, Aluminum or Galvanized Steel
DOOR INTERIOR/ SCUTTLE BOTTOM	SSPC-SP 11 (1.0 mil anchor profile)	Power tool clean, using non-metallic abrasive padding, to remove all coatings and contamination.	SFLC Std Spec 6310 , Appendix B (Cutter and Boat Interior Painting Systems) “Door, Joiner, Option I”	

3.4.1 Touch-up preservation. The Contractor must prepare and coat all disturbed surfaces to match existing adjacent surfaces in accordance with SFLC Std Spec 6310, paragraph 3.1.13 (Touch-ups and minor coating repairs.).

**NOTE**  
**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.5 Operational test, post repairs. After completion of work, the Contractor must thoroughly test (in the presence of the Coast Guard Inspector) and demonstrate all items or shipboard devices that have been disturbed, used, repaired, altered, or installed to be in satisfactory operating condition. Submit a CFR. The Contractor must demonstrate:

- Closures are properly secured to prevent accidental or unintentional movement.
- Securing latches adequately engage closures and positively lock into place without excessive force or manipulation by the operator.

3.6 Insulation, install. The Contractor must install new insulation material on the inside of the door panel to the same standard as the adjoining bulkhead. Coat the newly installed insulation using the system specified for “Insulation Surfaces, Fiberglass Sheet/Closed Cell PVC Foam” in SFLC Std Spec 6310, Appendix B (Cutter and Boat Interior Painting Systems).

**4. NOTES**

4.1 Damage control decals. Ship’s force will apply damage control decals.

## WORK ITEM 26: Galley Piping, Renewal

### NOTE

**Perform in conjunction with Work Item 21: Grey Water Piping, Clean and Flush**

## 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew the specified piping below in the galley.

1.1.1 Potable Water (Hot/Cold) Piping.

1.1.2 Drain Piping.

1.2 Government-furnished property.

None.

## 2. REFERENCES

### COAST GUARD DRAWINGS

Coast Guard Drawing 140 WTGB-528-002, Rev -, Sanitary and Deck Drain System Diagram

Coast Guard Drawing 140-WTGB-528-003, Rev -, Sanitary and Deck Drain A & D

Coast Guard Drawing 140-WTGB-533-002, Rev -, Potable Water System A & D

Coast Guard Drawing 140-WTGB-533-003, Rev A, Potable Water System Diagram

### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2020, Welding and Allied Processes

### OTHER REFERENCES

American National Standards Institute/American Water Works Association (ANSI/AWWA) C652, 2019, Disinfection of Water-Storage Facilities

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American Society for Testing and Materials (ASTM) International F683, 2014, Standard Practice for Selection and Application of Thermal Insulation for Piping and Machinery

Naval Sea Systems Command (NAVSEA) Drawing 804-5959214, Rev -, Piping Insulation – Installation Details

National Sanitation Foundation Standard 61 (NSF/ANSI 61), 2016, Drinking Water System Components – Health Effects

National Sanitation Foundation Standard 372 (NSF/ANSI 61), 2020, Drinking Water System Components – Lead Content

### 3. REQUIREMENTS

#### 3.1 General.

##### 3.1.1 CIR.

None.

##### 3.1.2 Tech Rep.

None.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the following:

- Cabinets
- Sink
- Booster Heater
- Dishwasher
- Ice Maker
- Coffee Machine
- Garbage Grinder
- Insulation, lagging
- Cables, wiring

3.2. Fluid handling. The Contractor must remove and dispose of removed fluids from the affected piping system, in accordance with all applicable Federal, state, and local regulations.

**WARNING**

**Do not drain ANY fluids, including fresh water, into any space, bilge, or exterior location.**

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3.3 Potable water piping renewals. The Contractor must accomplish the following tasks for the renewal of the potable water piping in the galley:

3.3.1 Hot Water Piping Renewal. The Contractor must renew all hot water supply piping downstream of the indicated fitting (Tee) illustrated in Figure 1. All pipes, valves and pipe fittings, up-to and including the circled fittings, must be renewed in accordance with Coast Guard Drawing 140-WTGB-533-002 and Coast Guard Drawing 140-WTGB-533-003. The main hot water recirculation piping stemming from the indicated fitting need be renewed.

3.3.2 Cold Water Piping Renewal. The Contractor must renew all cold water supply piping downstream of the indicated fitting (elbow) illustrated in Figure 2. All pipes, valves and pipe fittings, up-to and including the circled fittings, must be renewed in accordance with Coast Guard Drawing 140-WTGB-533-002 and Coast Guard Drawing 140-WTGB-533-003.

3.3.3 Take note of existing piping arrangement and retain the piping as required for potential use as templates for new piping. Note the presence of pipe insulation and paint color if present, as this will be followed in new piping installation.

3.3.4 Cleanliness. When potable water piping/system is opened, Contractor must immediately install cleanliness caps to aide in preserving system cleanliness.

3.3.5 Potable Water Valves. The contractor must provide documentation that all renewed potable valves are certified lead free in accordance with NSF-61/NSF-372.

3.3.5.1 In the event suitable NSF-61/NSF-372 lead free valves are not found in same type (e.g. globe), contractor must identify and submit recommended substitute “lead free” valve of another type (e.g. ball) via CFR.

3.3.6 Perform all welding, brazing and inspections in accordance with SFLC Std Spec 0740.

3.3.7 Hydrostatic test. After all authorized repairs, the Contractor must hydrostatically test all new and disturbed piping and components of the potable water system in accordance with SFLC Std Spec 0740, Appendix C, “Hydrostatic Test”. Ensure zero leakage from or permanent deformation of pressure-containing parts by repairing all leaks, deformations, and discrepancies. Submit a CFR.

3.3.8 Flushing. Flush new and disturbed potable water piping system with clean fresh water until all debris is removed. Ensure flushing fluid is directed to move scale and foreign debris away from installed machinery to prevent possible damage upon operational testing. Submit a CFR documenting date and time of flushing process and level of pipe cleanliness.

3.3.8.1 Shop fabrication, cleaning, flushing and testing of piping assemblies is preferred prior to installation on the system.

3.3.8.2 Dispose of flushing fluid in accordance with all applicable Federal, state, and local regulations.

### **WARNING**

**Do not drain any fluids including fresh water, into any space, bilge, or exterior location.**

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3.3.9 Piping disinfection. After all other work involving the potable water system have been completed, the Contractor must disinfect and treat the affected disturbed piping and components, as necessary, to meet or exceed the requirements of ANSI/AWWA C652. After disinfecting, remove and dispose of all treated water in accordance with all Federal, state and local regulations.

3.4 Drain piping renewals. The Contractor must accomplish the following tasks for the renewal of the drain piping in the galley:

3.4.1 Drain Piping Renewal. The Contractor must renew all drain piping upstream of the fitting on the Main Deck up to the stack drain wall fitting and each of the sink/appliance drains. The indicated fittings are illustrated in Figure 3. All pipes and pipe fittings, up-to and including the circled fittings, must be renewed in accordance with Coast Guard Drawing 140-WTGB-528-002 and Coast Guard Drawing 140-WTGB-528-003.

3.4.2 Take note of existing piping arrangement and retain the piping as required for potential use as templates for new piping. Note the presence of pipe insulation and paint color if present, as this will be followed in new piping installation.

3.4.3 Perform all welding, brazing and inspections in accordance with SFLC Std Spec 0740.

3.4.4 Leak test. After completing all authorized mechanical (i.e. threaded, bolted, etc.) joint repairs, the Contractor must test the drain system's operation using the system fluid at normal operating pressure. Ensure zero visible leakage from or deformation of mechanical parts by repairing all leaks and discrepancies. Submit a CFR.

3.5 Piping insulation installation. For piping that was previously insulated, the Contractor must install new insulation materials over the exposed pipe surfaces at thicknesses appropriate to the application and temperature ranges specified in ASTM F683 Tables, and in accordance with details in NAVSEA Drawing 804-5959214.

3.5.1 Inspect nearby piping for absence or damaged insulation, submit a CFR if any additional piping is recommended to be insulated.

3.5.2 For piping that was previously coated, coat with same previous color the newly installed insulation (or bare piping) system in accordance with SFLC Std Spec 6310, Appendix B (Cutter and Boat Interior Painting Systems).

3.6 Pipe labeling. The Contractor must label affected piping as follows:

3.6.1 Stencil the following onto the pipe surfaces:

- Name of the piping system service.
- Destination, where feasible.
- Direction of flow, indicated by an arrow three inches long pointing away from the lettering (for reversible flow, point an arrow away from each end of the lettering).

3.6.2 Ensure all lettering and arrow(s) are as follows:

- In general, black color except white for dark-colored piping.
- Applied in conspicuous locations and preferably near control valves.

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3.7 Touch-up preservation. The Contractor must prepare and coat all new and disturbed surfaces to match existing adjacent surfaces in accordance with SFLC Std Spec 6310, (Touch-ups and minor coating repairs.)

3.8 Operational test. After completion of work, the Contractor must thoroughly test and demonstrate, in the presence of the Coast Guard Inspector, all items or shipboard devices that have been disturbed, used, repaired, altered, or installed to be in satisfactory operating condition. Submit a CFR.

**NOTE**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

**4. NOTES**

4.1 Cutter assistance. The cutter will provide Lock-out/Tag-out and system operation support.



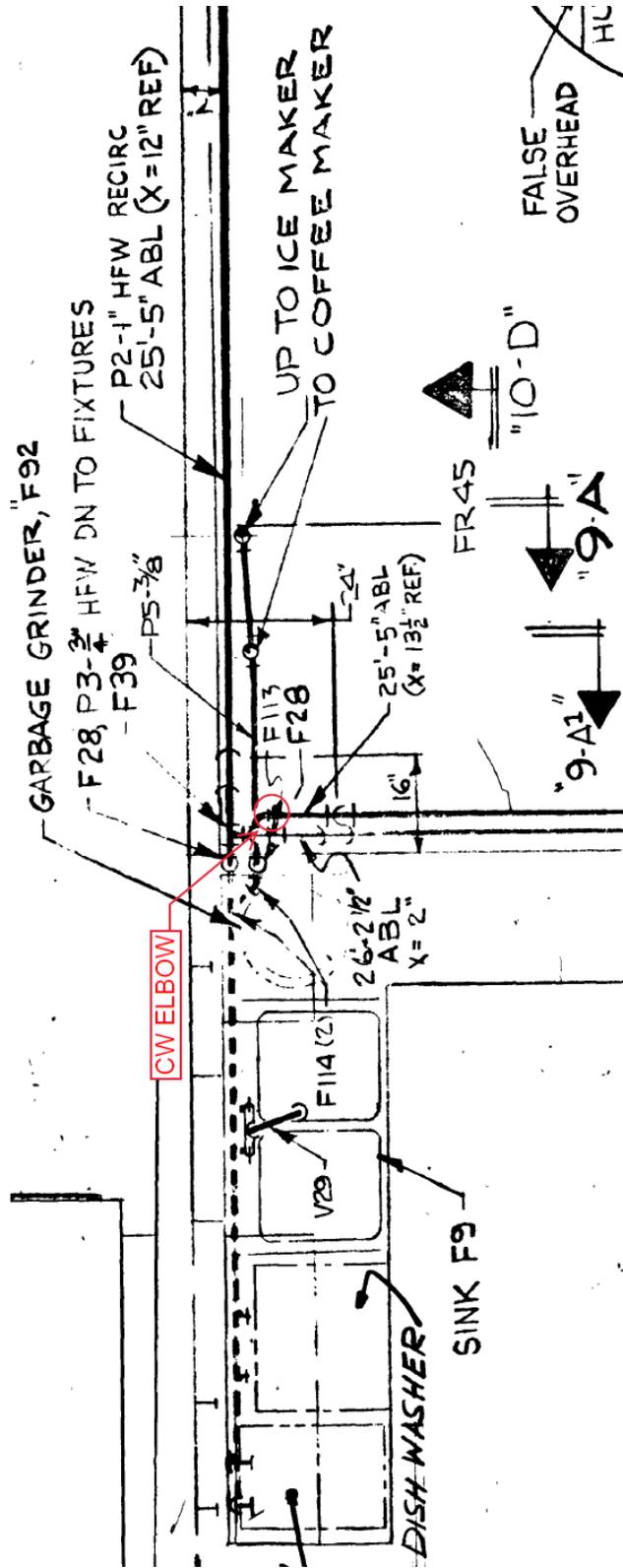


FIGURE 2. CWS WORK SCOPE ILLUSTRATED FROM CG DWG 140-WTGB-533-002

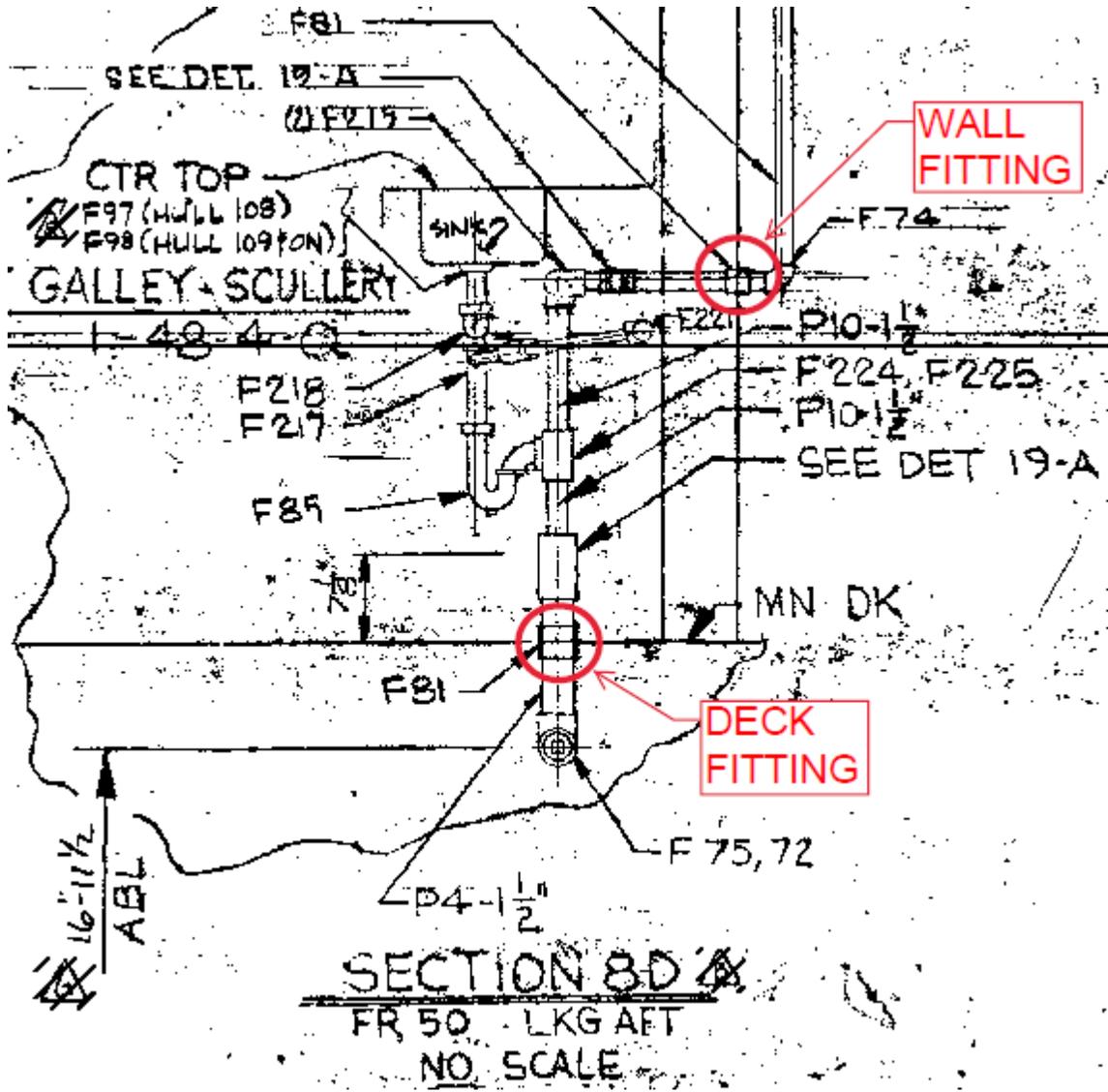


FIGURE 3: DRAIN PIPING WORK SCOPE ILLUSTRATED FROM CG DWG 140-WTGB-528-003

**WORK ITEM 27: Grey Water Valves, Renew****NOTE**

**It is normally cheaper to renew valves 3” or smaller than to rebuild.  
This work item should be performed in conjunction with Work Item 26: Galley Piping, Renewal.**

**1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to renew gray water valves in Table 1

**TABLE 1**

<b>TYPE</b>	<b>SIZE (inches)</b>	<b>LOCATION</b>	<b>VALVE NO.</b>	<b>CONNECTION</b>
Ball Valve	2	Auxiliary Machinery Overhead	2-31-1	Threaded
Ball Valve	2	Auxiliary Machinery Overhead	2-28-1	Flanged
Gagged Check	3	Motor Room	2-61-2	Flanged

1.2 Government-furnished property.

None.

**2. REFERENCES****COAST GUARD DRAWINGS**

Coast Guard Drawing 140 WTGB-528-002 Rev -, Sanitary & Deck Drns Diag

Coast Guard Drawing 140 WTGB-528-003 Rev -, Sanitary Deck Drns, A & D

**COAST GUARD PUBLICATIONS**

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000),  
2020, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740),  
2020, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310),  
2020, Requirements for Preservation of Ship Structures

## OTHER REFERENCES

American Society of Mechanical Engineers (ASME) B16.34, Valves-Flanged, Threaded, and Welding End

American Society for Testing and Materials (ASTM) International F992, 2011, Standard Specification for Valve Label Plates

Manufacturers Standardization Society of the Valve and Fittings Industry (MSS) SP-72, Ball Valves with Flanged or Butt-Welding Ends for General Service

Manufacturers Standardization Society of the Valve and Fittings Industry (MSS) SP-80, Bronze Gate, Globe, Angle, and Check Valves

## 3. REQUIREMENTS

### 3.1 General.

3.1.1 CIR. The Contractor must submit a CIR for the inspections listed in the following paragraph(s):

None.

### 3.1.2 Technical Representative.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the following:

- A/C Chill Water
- A/C System
- Lighting
- Sheeting
- Insulation
- Decking
- Piping
- Wire Runs

3.2 Fluid handling. The Contractor must drain and dispose of all residual fluids in the piping system in accordance with all Federal, state, and local rules and regulations.

3.3 Removal. The Contractor must remove all designated valves in Section 1.1 (Intent). Coast Guard Drawings 140 WTGB-528-002 and 140 WTGB-528-003 depict the drainage system

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onboard.

3.3.1 Watertight integrity. Valve 2-61-2 is a skin valve and is within 1 foot of the waterline. Plugging and blank flanging will be required. The Contractor must use care to maintain watertight integrity of the ship through the process of valve renewal.

3.3.2 Hot work. Due to the short run of pipe to the deck drain for valve 2-31-1 the valve will require un-sweating of the piping to remove. All hot work will be in accordance with SFLC Std Spec 0740.

3.3.2.1 Prior to hot work the Contractor must open, ventilate, and clean all spaces and components necessary to accomplish this work item as required to certify them as "SAFE FOR PERSONNEL" and/or "SAFE FOR HOT WORK." In accordance with SFLC Std Spec 0000, paragraph 3.3.1.2.

3.4 Renewal. The Contractor must renew all designated valves in Section 1.1 (Intent) with commercial-standard type valves, conforming to the applicable standard listed in MSSs (Valve Standards) and Coast Guard Drawing 140 WTGB-528-002 and 140 WTGB-528-003.

3.4.1 Equivalency. The Contractor must ensure all renewed valves, including Mil-Std valves, are commercial-standard type valves conforming to the applicable standard referenced in Coast Guard Drawings, Publications, and Other References in section 2 (References). The Contractor must ensure each new valve is of identical material and equivalent to the valve it is replacing.

3.4.2 Inspection. The Contractor must visually inspect the piping and mounting arrangements and submit a CFR detailing any required modifications to accommodate the new valves.

3.5 Valve installation. Upon completion of all authorized valve installation work, the Contractor must accomplish the following:

- Renew all missing or damaged valve label plates in accordance with ASTM F992.
- Restore all interferences.

3.6 Leak test. After all authorized repairs of mechanical (i.e. threaded, bolted, etc.) joints, the Contractor must perform an operational test of the system using the system fluid at normal operating pressure. Be aware that no visible leakage or deformation is acceptable. Repair all leaks and discrepancies found. Submit a CFR.

3.7 Hydrostatic test. After all authorized repairs of welded joints, the Contractor must hydrostatically test all new and disturbed piping and components of the system in accordance with SFLC Std Spec 0740, Appendix C, (Hydrostatic Test). Be aware that no leakage or permanent deformation of pressure-containing parts is permissible. Repair all leaks and discrepancies found. Submit a CFR.

3.8 Touch-up preservation. The Contractor must prepare and coat all new and disturbed surfaces to match existing adjacent surfaces in accordance with SFLC Std Spec 6310, (Touch-ups and minor coating repairs).

**4. NOTES**

This section is not applicable to this work item.

## WORK ITEM 28: Both Main Diesel and Generator Resilient Mounts, Renewal

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew the resilient mounts for both the Main Diesel Engine and their generators. Each Main Diesel Engine and Generator combination resilient mounting system consists of twelve 5B5000 standard Navy resilient mounts and eight auxiliary snubbers installed under a combined MDE-Generator subbase. In addition one (per engine) Fairbanks-Morse sway brace assembly is installed on the outboard side's overhead.

#### 1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST (\$/UNIT)
N	5B5000 resilient mount	NSN: 5340-00-543-3867	24 ea.	\$800.00
N	Conical Auxiliary Snubber Element	NSN: 5340-00-653-3518	16 ea.	\$500.00
N	**Sway Brace Adjustable Shock Mount	Fairbanks-Morse, Part Number 99999-888	2 ea.	\$800.00

\*Government-loaned property, which must be returned to the vessel upon completion of the availability.

\*\*New or refurbished equipment that the Government may provide for installation in place of existing equipment.

\*\*\*Government-furnished property, which is to be supplied by either the vessel or the C4IT Service Center.

### 2. REFERENCES

Coast Guard Drawing 140 WTGB 182-002, Rev -, Foundations, Engine Room & Strainer Compartment, Motor Room 4-61-0-E

Coast Guard Drawing 140 WTGB 201-001, Rev B, Machinery Arrangement

Coast Guard Drawing 140 WTGB 233-001, Rev -, Sway Brace, Propulsion Diesel

### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

## OTHER REFERENCES

U.S. Navy Resilient Mount Handbook – A User’s Guide of Installation and Inspection Information,” NAVSEA S9073-A2-HBK-010 of 30 Aug 1988.

American Society for Testing and Materials (ASTM) International A53, 2005, Standard Specification for Pipe, Steel, Black and Hot-Dipped , Zinc-coated Welded and Seamless

## 3. REQUIREMENTS

### 3.1 General.

#### 3.1.1 CIR.

See 1.2 Government Furnished Property. Contractor and Ship’s Force Representative shall visually inspect GFE Item \*\*Sway Brace Adjustable Shock Mount during the first week of the dockside. This item cannot be ordered due to long lead time (greater than six months). This item will need to be fabricated if it must be replaced.

#### 3.1.2 Tech Rep.

None.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the following:

- Engine exhaust bellow from the “Y” to a single pipe. Needed new high temp gaskets.
- Combustion air inlet to blower.
- Gauge line brackets holding the tubes from the engine ports to the relocated switches above the deck.
- Raw water into the pump was blanked at the end of the flex hose after removing the spool from the front of the pump.
- Raw water discharge was blanked at the end of the flex hose after removing the elbow going to the engine.
- Raw water discharge was blanked at the end of the flex hose after removing the spool from the generator cooler discharge piping.
- Catwalk on the inboard side of the engine had several gussets that had to be removed (cold cut) and will have to be welded back at the end of this job.

### 3.2 Description of Bay Class Main Diesel Engine (MDE)-Generator Resilient Mount System.

3.2.1 The BAY Class MDE-Generator resilient mounting system consists of 5B5000 standard Navy resilient mounts installed under a combined MDE-Generator subbase, and one (1 ea)

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Fairbanks-Morse sway brace assembly installed overhead on the outboard side (per MDE). Although there does not exist a perfect USCG drawing with all aspects of the mounting system, the referenced drawings do depict to some degree the arrangement of the Main Diesel MDE-Generator. USCG Dwg 140 WTGB 182-2 depicts the foundation and mounts (sheet 6) and 140 WTGB 201-1 depicts the Engine Room Layout.

3.2.2 The 5B5000 resilient mounts are shown in figure 1 and are discussed in detail in reference (a). A total of twelve 5B5000 are found per MDE-Generator. Each 5B5000 mount consists of a metal and rubber “resilient component”, with two bolt-on “main snubbers”, and two “auxiliary snubbers”. Only the four end mounts have the auxiliary snubbers.

3.2.3 A total of eight (8) auxiliary snubbers have been installed per MDE. The conical main and auxiliary snubbers work together to limit the engine’s motion. Without the snubbers, the engine’s motions (because of the flexible resilient mounts) would be too extreme. One set of snubbers is installed from the top to limit the engine’s upward and sideways motion (main snubbers). The other set of snubbers limit the engine’s downward and sideways motion (auxiliary snubbers).

3.2.4 A sway brace assembly is used to further limit the engine’s athwartships rocking motion because the Fairbanks-Morse diesel engine has such a narrow footprint and a high Center-of-Gravity.

3.2.5 The BAY Class 5B5000 mounts are installed upside down from what is shown in figure 1. There is nothing wrong with the BAY Class inverted orientation, but it will look different from what is shown in figure 1. The large 1-1/2” diameter mount loading bolts are installed from above, and are threaded into tapped holes in the 3” thick foundation plate. This places the main snubbers on top of the mounts (instead of underneath as shown in figure 1). The large diameter clearance holes (for the main snubbers) are drilled in the “above mount” MDE-Generator subbase. Similarly, the auxiliary snubbers have been installed opposite to what has been shown in figure 1. The conical snubber elements are attached to the 3” thick foundation plate via 1-1/2” diameter threaded studs. The auxiliary snubber socket and shims are bolted to the above mount MDE-Generator subbase.

3.2.6 The diesel engine and generator are solidly bolted to a single rigid subbase. This maintains alignment between the engine and generator as the entire assembly “floats” on the resilient mounts. It also means that as long as the subbase is evenly lifted (and lowered) when the mounts are renewed, the alignment should not be effected. Crank-web deflections shall be taken before and after changing the mounts to verify that the alignment between the engine and generator hasn’t changed.

### 3.3 Pre-renewal inspection.

3.3.1 Contractor must inspect for any piping, structural, or cabling interferences that would interfere with a 1-1/2 inch upward displacement of the MDE-Generator subbase assembly. Contractor must adjust/modify as required. Contractor must restore when resilient mount renewal is completed. Pay particular attention to instrumentation cables, gage piping, conduit, pipe hanger mounting ears, etc., that bridge the above mount MDE-Generator assembly and the below mount foundation/ship structure. Inspect all aspects of the MDE-Generator, including overhead and below the deck grating. It is critical to understand what components are supported off the above mount MDE-Generator subbase (and will therefore also rise with the engine) and what is supported off the below mount ship structure (and will therefore not rise with the engine).

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3.3.2 Past performance, indicated that the elevated walkway installed over the Jacket Water Heat Exchanger must be removed and then re-welded back in place after the installation is complete. The Jacket Water Heat Exchanger is supported off of the MDE-Generator subbase and would contact the deck grating's frame (which is support from the ship's structure) well before the engine rose the full 1-1/2 inch.

3.3.3 Piping connections may not have enough flexibility to accommodate the 1-1/2 inch vertical excursion without overstressing the flex hose. Horizontally run lengths of flex hose can best accommodate the 1-1/2 inch vertical motion. Vertically run lengths of hose will not be able to absorb the vertical motion. This is because flex hoses bend from side to side very easily, but they cannot be stretched along their length. There should be no need to disconnect the jacket water hoses or to drain jacket water from the engines.

3.3.3.1 Contractor must consider the following specific recommendations for piping lines and other flexible connections are shown as follows in Table 1. The list is an effort to relay as much information on past performance knowledge as possible, it is not guaranteed to be all inclusive. Ultimately the Contractor must identify, verify, and control all connections and interference related to raising the engine safely and without damage.

**TABLE 1 - FLEXIBLE CONNECTIONS**

<b>FLUID APPLICATION</b>	<b>LOCATION</b>	<b>RECOMMENDATION</b>
Exhaust Piping	Aft end, overhead.	Disconnect at flange to accommodate 1" (1.5") upward movement of engine. Protect engine side of duct with plywood or metal cover. New flange gaskets (graphite)
Combustion Air Inlet Ducts	Forward end, overhead.	Disconnect. Protect both engine and filter housing sides of duct with plywood or metal covers.
Generator Power Cables	Forward end	As long as there is adequate slack to absorb the 1" vertical motion there is no need to disconnect the power cables.
Gage Lines	Gage Board - aft starboard corner of engine.	Inspect for adequate slack. Monitor during jacking to insure none become tight. Identify and tag, drain, disconnect, and plug any lines that do not have adequate slack. Some of the brackets had to be loosened.
Generator Air Cooler SW Return	Forward starboard end, below deck grating.	Disconnect hose.
SW Cooling Supply	Aft end, below deck plates.	Disconnect hose.

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Jacket Water Heat Exchanger SW Return	Beneath JW Heat Exchanger, starboard side.	Disconnect hose.
Jacket Water Expansion Tank	Aft end, beneath deck plates.	Disconnect hose. Some reported they didn't have to do anything here.
Lube Oil Supply	Aft end, beneath deck plates.	Hose sufficiently long to accommodate upward motion.
Lube Oil Drain	Port side, forward end of engine.	Disconnect hose.
Fuel Oil (6 lines)	Aft starboard corner, beneath deck plates.	All hoses sufficiently long to accommodate upward motion.

3.3.3.2 Contractor must blank flange open raw water piping.

3.3.3.3 Contractor must obtain and install new graphite flange gaskets for the exhaust piping (2 required for each engine)

3.3.4 The following problems were also identified in past and now are examples of what to look out for (which may or may not be an issue for other cutters in the BAY Class).

3.3.4.1 The Generator Air Cooler SW Return hose had a solid pipe hanger, on the “below mount” side of the hose, that had been erroneously welded to the “above mount” MDE-Generator subbase. The remaining pipe hangers were all welded to the “below mount” ship structure. The first solid pipe hanger should be permanently removed to eliminate a sound short and prevent bending, or breaking, the pipe when the engine is lifted

3.3.4.2 There was an electrical conduit run between the “above mount” MDE-Generator subbase and the “below mount” ship structure. This conduit was located under the deck plates on the port side of the Main Engine #1. Removing the strap on the first solid “pipe” hanger would probably provide enough flexibility to accommodate the 1.4 inch vertical motion of the engine. On one Cutter the conduit was welded in place, and the weld had ground off to make this conduit movable to facilitate the renewal of the mounts.

3.3.5 Contractor shall take crank-web deflections before mount renewal, to verify at conclusion of mount renewal that the alignment between the engine and generator has not changed. Submit a CFR with results.

3.4 Sway Brace removal and overhaul.

3.4.1 Prior to raising MDE-Generator loosen clevis pin so that no load is on the existing mount. And disconnect each engine’s sway brace.

3.4.2 Contractor must clean and inspect the sway brace for damage. The sway brace includes a resilient element (AKA “adjustable shock mount”), note the orientation of resilient mount (e.g. sketch photograph). Contractor must renew the resilient element GFE provided Fairbanks-Morse

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adjustable shock mounts. CG DWG 140 WTGB 233-1 depicts the sway brace and identifies the adjustable shock mount (assembled components) as their part number is 99999-888. Install in the same orientation as the old mount was documented. All metal components of the sway brace can be reused.

3.4.3 Reinstall sway braces after 5B5000 mount renewal is completed and MDE-Generator has been lowered. Adjust clevis pin loading so that there is no slack in the sway bar assembly

### 3.5 Raising the MDE-Generator.

3.5.1 Contractor must raise the MDE-Generator subbase, it will be jacked up using hydraulic jacks between the foundation and the subbase. There are no lifting eyes in the overhead that would accommodate the required loading. It is recommended that at least four hydraulic jacks be used for each side of the engine in order to spread the load evenly along the length of the subbase. This will require a minimum of eight jacks per engine. The capacity of each jack should be at least 10,000 pounds and of effective travel to achieve the required lift of approximately 1-1/2”.

3.5.2 All piping connections to the generator and engine are made using single lengths of flexible hose. The engine will have to be lifted vertically approximately 1-1/2” inches to renew the 5B5000 mounts. The free lengths and orientations of some of these hoses are long enough that there should be no need to break their flanged connections. The problem hoses/connection should have been previously disconnected earlier (e.g. Table 1.)

3.5.3 Throughout the jacking process, a thorough walk around inspection should be performed to ensure cabling/piping connections that had not been disconnected are not stretched tight, or that structural interferences do not make contact that may, or may, not have been observed in the pre-jacking inspection.

3.5.4 Back off the two main load (upper snubber) bolts 1-1/2” on all the mounts to allow jacking of the MDE-Generator subbase.

3.5.5 Install dial indicators at all four corners and midway on either side of the MDE-Generator subbase. The dial indicators should be installed so as to monitor the upward motion of the subbase (relative to the below mount ship structure). They should be monitored throughout the jacking process to insure the subbase is lifted evenly all around.

3.5.6 Slowly begin jacking the subbase, applying even loading through all the jacks. Monitor the subbase’s upward motion with the dial indicators, ensuring that the subbase rises evenly all around. At the final raised height of 1-1/2” displacement, there should be a substantial air gap between the bottom surface of the old mounts and the foundation.

3.5.7 Safety blocks should be fabricated for each jack location. These blocks will be inserted next to each jack in case the hydraulic jacks should fail while the mounts are being renewed.

### 3.6 Renewal of 5B5000 Mounts.

3.6.1 Contractor must renew the 5B5000 resilient mounts with provided as GFE. The specific 5B5000 mount design used on the BAY Class has six 7/8” subbase mounting.

3.6.1.1 For each mount, remove (and retain) the six upper attachment bolts.

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3.6.1.2 Remove (and retain) the two main load bolts, main snubber elements, and snubber adjustment rings.

3.6.1.3 Remove the old mount.

3.6.1.4 While old mounts are removed, Contractor must clean and inspect the accessible area (created by raising MDE-Generator and removing mounts for paint failure and/or corrosion. Prepare and touch-up paint in accordance with SFLC Std Spec 6310 all subbase, tank top, rails, etc. Associated with the mount renewal associated area. For purpose of bid contractor can assume 2 square feet at each of the 24 resilient mount areas.

3.6.1.5 In coordination with touch-up painting (and dry time), slip in the new mount in the same orientation as the original mount. The unloaded height of the new mount will be significantly higher than the old mount (because of creep that set in over time). However the 1-1/2 inch jacking height should accommodate the new resilient mount without any further jacking.

3.6.1.6 Loosely install the two main load bolts. Include the original adjustment rings and new snubber elements

3.6.1.6.1 It was experienced on a previous job, that the main snubber bolts had a poor fit between the bolt shank and the inner bore of the snubber. The ID of the new snubbers was .050" larger than the old ones. This extra space made it impossible to keep the snubber from pushing off to one side or the other when tightening the bolts down. To combat the condition a .020" thick shim was used around the bolt shank to take up the extra room. The addition of the shank shims worked well in controlling the position of the main snubbers. If this condition is found again on this job, submit a CFR.

3.6.1.2 Install and tighten the six subbase attachment bolts. Reuse the original hardware, except that the nylock nuts (6 per mount) and the main snubber bolt lock washers (2 per mount) must be renewed with Contractor furnished. Rotate the bolt tightening sequence so as to draw the mount up evenly against the subbase. Final torque values are listed in paragraph 3.8.5.

3.6.1.3 The lock-washers for the main snubber bolts and the nylock nuts for the mount to subbase bolts must be renewed.

3.6.1.4 Continue the mount renewal process, as described above, for the remaining eleven 5B5000 resilient mounts.

3.6.2 Contractor must renew the conical auxiliary snubber elements with provided GFE. The auxiliary snubber sockets, shims, mounting bolts, washers, and nuts can all be reused.

3.6.2.1 Remove the auxiliary snubber socket bolts, snubber socket adjustment shims and then the socket. Retain the snubber socket, fasteners, and adjustment shims. Auxiliary snubbers are only on the corners; two per corner.

3.6.2.2 Remove the old auxiliary snubber cones from the foundation and renew. Reuse the original mounting stud.

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3.6.2.3 Renew the original snubber sockets along with the original adjustment shims. Reuse the original bolting hardware. Tighten, final torquing is only after settling and final shim adjustment.

3.6.3 Do not paint rubber elements on any isolation mounts. The solvents in the paint will quickly deteriorate the rubber.

3.6.4 Contractor must epoxy a stamped plate in the vicinity of one of the 5B5000 mounts that gives the date the mounts were renewed. The plate should be located in a readily observed location, but protected enough that it will not be inadvertently knocked off.

### 3.7 Lowering the MDE-Generator.

3.7.1 Remove the jacking safety blocks.

3.7.2 Contractor must slowly and evenly lower the hydraulic jacks to place the load on the new 5B5000 resilient mounts. Take great care that the hydraulic jacks are not suddenly released. Monitor the dial indicators to insure the MDE-Generator subbase assembly is lowered evenly.

3.7.3 Tighten the main load bolts. Final torquing is only after settling and final spacer adjustment.

### 3.8 Adjustment of snubber gaps.

3.8.1 The snubbers have air gaps that require adjustment. If the gaps are too large, the engine's motion can be greater than design limits; if no gaps are present, the resilient component will be sound shorted. Shorted snubbers will raise the airborne noise and vibration levels within the compartment. Also, if the snubbers are shorted, the engine will not be properly isolated from shock loading that could be imposed during icebreaking operations. The main snubber gaps are adjusted by adding or subtracting spacer rings on the main load bolts. The auxiliary snubber gaps are adjusted by adding or subtracting shims at the snubber socket.

3.8.2 The rubber in the resilient mounts will creep, or begin to settle, as soon as the MDE-Generator's weight is placed on the mounts. This will cause the mount height to decrease as time goes on. The rate of creep (height reduction) will be fairly high in the first few hours and taper off over time. After several days, the rate that the mount height will decrease will slow to almost zero. As the settling occurs, the main snubber gaps (on top of the 5B5000 mounts) will open up (increase). The gaps at the auxiliary snubbers, however, will close (decrease).

3.8.3 Initial air gaps. Inspect the upper snubber gaps to insure there is a small, but distinct, air gap 360 degrees around the snubber cone. The gaps on the main snubber gaps should start at approximately .0.100" (allowing for a .023 settling and be at a perfect 0.077" final) so that the mounts can assume their final height over the settling period. If necessary, for adjust the numbers of auxiliary snubber shims and main snubber adjustment rings to produce the initial target gaps.

**NOTE**

**It is worth repeating that the main snubber's gap will grow with the initial settling. The auxiliary snubber's gap will widen during this same time. Only the main snubber is load bearing and is controlling (settling) the change in gaps. Hence the auxiliary snubber's should always have their gaps final set only after the main snubbers have completed settling and has been verified with proper gap set. In perfect world the main snubber gap should be at 0.077" to start for longest in tolerance life and the aux snubbers at 0.116" because of the inverse relationship.**

3.8.4 Final snubber gaps. After a minimum of two days (48 hours) of settling period, Contractor must inspect, and if necessary adjust, the snubber gaps at the main and auxiliary snubbers.

**NOTE**

**Figure 1. does reference a 10 day waiting/settling period, however past experience has indicated 2 days is a sufficient time for most measureable settling to occur.**

3.8.4.1 Contractor must set the snubber gaps between 0.077" and 0.116". One method used in past to measure gap with bent steel rods e.g a 5/64" (0.078", #32 (0.116"). Adjust the numbers and thickness of the adjustment shims/spacers as required. Further jacking of the MDE-Generator is not required to adjust the snubber's spacers.

3.8.4.2 Contractor must fabricate spacers as required. Any existing shims in working order may be re-used. Figure 2 shows the dimensions required for additional auxiliary snubber spacer shims that may need to be fabricated. Existing main snubber adjustment rings should be used to template any additionally required spacer rings.

3.8.4.2.1 A minimum of one set of custom shim (shimming evolution) at each mount will be required.

3.8.4.2.2 A greater number of thin shims is preferable to fewer numbers of thick shims, because the thinner shims make fine adjustment easier.

3.8.5 Contractor must final torque all disturbed fasteners. The following values shall be used for Torque values:

- 3/4 inch bolts should be torqued to 380 ft-lbs dry and 193 ft-lbs wet.
- 7/8 inch bolts should be torqued to 400 ft-lb dry and 300 ft-lb wet.
- 1 inch bolts should be torqued to 903 ft-lb dry and 460 ft-lb wet.
- 1 1/4 inch bolts should be torqued to 1,975 ft-lb dry and 1,007 ft-lb wet.
- 1 1/2 inch bolts should be torqued to 2,200 ft-lb dry and 1,640 ft-lb wet.

3.9 Restoration.

3.9.1 Contractor must restore all flex piping and duct connections. Replenish all lost fluids. Check for leaks. Contractor must repair and retest all discovered leaks.

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3.9.2 Contractor must restore all other cabling/structural modifications that were required to renew the mounts.

3.9.3 Contractor must take post-work crank-web deflections. Compare readings to pre-work and submit a CFR with results.

3.9.4 Contractor must install (or verify installed) the electrical grounding straps between the above mount MDE-Generator subbase and the below mount foundation. The grounding strap should be of a flexible braided construction, and have 3 inches of slack when installed.

3.10 Touch-up preservation. The Contractor shall prepare and coat all new and disturbed exterior and interior surfaces to match existing adjacent surfaces, in accordance with SFLC Std Spec 6310, and as applicable. Abide by all touch-up requirements outlined in SFLC Std Spec 0000, Appendix A (Requirements for Preservation of Ship Structures).

3.11 Operational test – post repairs. After completion of work the Contractor shall witness an operational test (by Coast Guard personnel) of all items or shipboard devices that have been disturbed, used, repaired, altered, or installed, to prove that they are in satisfactory operating condition.

3.11.1 The MDE-Generators will be run at no load for 1 hour during the operational testing (dock trials).

## 4. NOTES

4.1 Cutter, the Contractor is not required to check the alignment between the engine and generator. In the past this was reasoning: The generator alignment takes such a lot of time and manpower, that if it can be avoided by obtaining a comparable set of crank-web readings, it should be avoided. If it's desired to take the generator air gaps regardless of the crank-web deflection readings, then the unit should have coordinated the help of the MAT for the extra manpower and tools to record pre-work and post-work generator air gap readings.

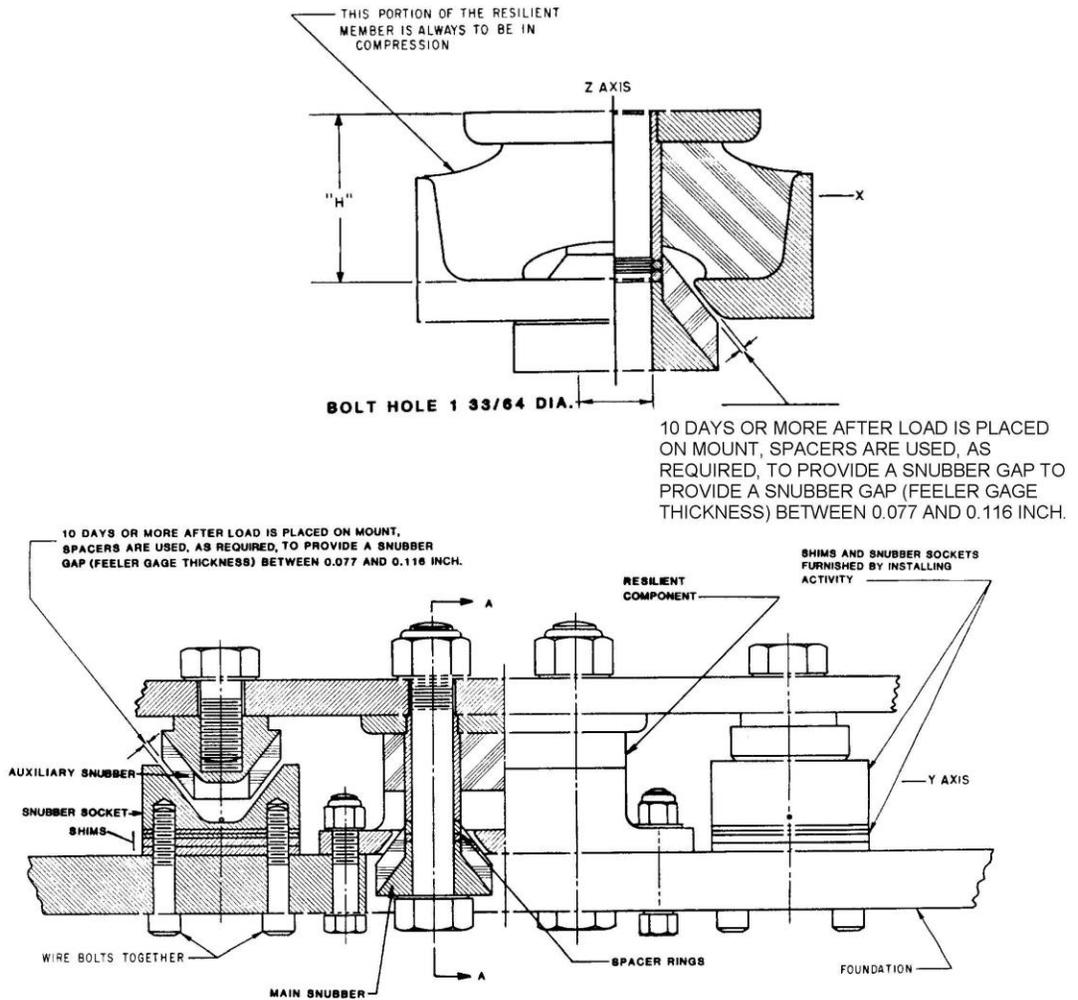
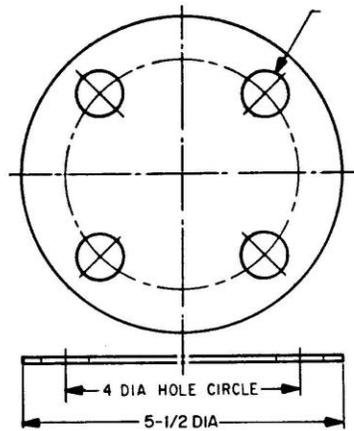


Figure 1 - 5B500 RESILIENT MOUNT SYSTEM



SHIM

THICKNESS AND QUANTITY AS REQUIRED TO OBTAIN CORRECT VERTICAL CLEARANCE BETWEEN DECELERATOR CONE AND AUXILIARY SNUBBER SOCKET

NOTE

COMPONENTS TO BE MADE BY SHIPBUILDER OR INSTALLING ACTIVITY. WHERE AUXILIARY SNUBBERS ARE REQUIRED, MAKE OF MEDIUM STEEL (MIL-S-22698, GRADE M). TWO SNUBBERS REQUIRED PER MOUNT.

**Figure 2 – 5B5000 Auxiliary Snubber Shim**

## WORK ITEM 29: Watertight Door Hinges, Repair

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to repair the hinges on the door identified in Table 1.

**TABLE 1 - WATERTIGHT DOOR LOCATION**

DESCRIPTION	LOCATION	DRAWING
QAWTD 2-32-1; 26 IN x 54 IN Quick-Acting Watertight Door, Steel, 8 Dog, RH Swing	Engine Room (3-32-0-E) to AUX1 (2-19-0-E)	140 WTGB-167-001

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 140 WTGB 167-001, Rev -, Closures & Window List

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2020, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

#### OTHER REFERENCES

NAVSEA Drawing 803-6397268. Rev. -, Doors, W.T. Quick Acting, Arrangement

### 3. REQUIREMENTS

3.1 General.

3.1.1 CIR.

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None.

### 3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the following:

- Sheathing
- Insulation
- Piping
- Decking
- Wire runs

3.2 Hinge Repair The Contractor must accomplish the following using Coast Guard Drawing 140 WTGB-167-001, NAVSEA Drawing 803-6397268 and Cornell – Carr Company Drawing CC-4036 for guidance:. Port Engineer, Unit EO or MK1 to be present during repair of hinges.

- Remove door from hinges and hinges from bulkhead.
- Accomplish welding repairs to existing hinges and ream to proper dimension/
- Locate door on existing coaming and knife edge and weld hinges to the bulkhead.
- Renew gasket and adjust the door to ensure watertight operation.
- Submit a CFR.

3.3 Touch-up preservation. The Contractor must prepare and coat all new and disturbed surfaces to match existing adjacent surfaces in accordance with SFLC Std Spec 6310, paragraph 3.1.13 (Touch-ups and minor coating repairs).

3.4 Testing. Upon renewal, the Contractor must perform the following boundary tests and submit a CFR.

- a chalk test.
- a water hose test.

3.5 Operational test, post repairs. After completion of work, the Contractor must thoroughly test, in the presence of the Coast Guard Inspector and demonstrate all items or shipboard devices that have been disturbed, used, repaired, altered, or installed to be in satisfactory operating condition. Submit a CFR.

**4. NOTES**

This section is not applicable to this work item

## WORK ITEM 30: WTGB Magnetic Compass Replacement

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to remove the existing magnetic compass from the WTGB-140 class cutter and install a fluxgate sensor and associated cabling to resolve a problem with interference creating unreliable magnetic compass readings. The new fluxgate sensor will be installed in the pilot house steering console. The output signal of the fluxgate sensor will be connected to a display module, independent of the navigation system.

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST (\$/UNIT)
N	Fluxgate Sensor	PN: PG-500R (OEM) NSN: 6605-01-539-0868	1 ea.	\$949.47
N	Remote Display, flush mount	PN: RD33 (OEM) NSN: 7025-01-616-1486	1 ea.	\$416.50

\*Government-loaned property, which shall be returned to the vessel upon completion of the availability.

\*\*New or refurbished equipment that the Government may provide for installation in place of existing equipment.

\*\*\*Government-furnished property, which is to be supplied by either the vessel or the C4IT Service Center.

### 22. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 140 WTGB 401-001, Pilothouse Arrangement

Coast Guard Drawing 140 WTGB 426-001, Gyrocompass Ripout/Instl, Arr, Wiring & Details

Coast Guard Drawing 140 WTGB 320-001, Power System One-Line Wiring Diagram

Coast Guard Drawing 140 WTGB 801-005, General Arrangement Main Deck & Above

Coast Guard Drawing 140 WTGB 426-002, Gyrocompass Wiring Data (COED)

Coast Guard Drawing 140 WTGB 561-001, Steering System Control, Alarms & Autopilot

#### COAST GUARD PUBLICATIONS

Coast Guard Technical Publication (TP) 4674A, AutoPilot – Pilotstar D – Type AP02-S01

Coast Guard Technical Publication (TP) E-423-029, Integrated & Fluxgate Heading Sensors - Model PG-500 & C-500 - Operator's Manual

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Coast Guard Technical Publication (TP) 6451 Remote Display Unit- Model RD-33  
Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000),  
2020, General Requirements

Surface Forces Logistics Center Standard Specification 3041 (SFLC Std Spec 3041),  
2020, Shipboard Electrical Cable Test

Surface Forces Logistics Center Standard Specification 3042 (SFLC Std Spec 3042),  
2020, Shipboard Electrical Cable Removal, Relocation, Splice, Repair, And  
Installation

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310),  
2020, Requirements for Preservation of Ship Structures

### **OTHER REFERENCES**

Department of Defense Standard Practice (MIL-STD-2003-3A), 2009, Electric Plant  
Installation Standard Methods for Surface Ships and Submarines

Department of Defense Standard Practice (MIL-STD-1310H), 2009, Shipboard Bonding,  
Grounding, and other Techniques for Electromagnetic Compatibility,  
Electromagnetic Pulse (EMP) Mitigation, and Safety

### **3. REQUIREMENTS**

#### 3.1 General.

3.1.1 CIR. The Contractor shall submit a CIR for the inspections listed in the following  
paragraph(s):

None.

#### 3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor shall furnish and install all protective coverings to  
seal off and protect all non-affected vessel's components, equipment, and spaces near the work  
area against contamination during the performance of work. Upon completion of work, the  
Contractor shall remove all installed protective measures, inspect for the presence of  
contamination, and return all contaminated equipment, components, and spaces to original  
condition of cleanliness.

3.1.4 Interferences. The Contractor shall handle all interferences in accordance with SFLC Std  
Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to  
the following:

- Sheathing
- Bulkhead insulation
- Piping
- One-step decking system

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- Electrical wiring

3.2 Electrical work. The Contractor shall accomplish all electrical work in accordance with SFLC Std Spec 3042, and test cables in accordance with SFLC Std Spec 3041. Utilize the existing wire ways for new cable runs as much as possible.

3.2.1 Ensure equipment is secured and Danger Tags are applied IAW SFLC Standard Spec 0000.

### 3.3 Removal and Disposition.

3.3.1 The Contractor shall disconnect the magnetic compass wiring and retain the LS2SJ-12 cable, (01-31-2)-12P-D, that powered the magnetic compass as it will be reused to power the fluxgate sensor.

3.3.2 The Contractor shall dispose of the removed magnetic compass in accordance with local ordinances.

### 3.4 Fluxgate Sensor and Display Installation.

3.4.1 The Contractor shall install the fluxgate sensor in the steering console, centerline in accordance with the Fluxgate Sensor installation manual, Section 3.

#### NOTE

**This EC was created to codify changes made during an installation onboard CGC PENOBSCOT BAY. All subsequent installations shall use this configuration for consistency. A change to this EC may be considered if test results for this configuration indicate that the fluxgate is unable to perform correctly within the steering console. The technical publications indicate that the fluxgate should not be installed inside a steel enclosure and would be better positioned atop the pilothouse in a watertight enclosure.**

3.4.1.1 Install 1A fuses in the combination power and data cable assembly in-line fuse holders.

3.4.2 The Contractor shall mount the display unit (RD-33) and a baseplate, as needed, to cover the opening in the steering console that was exposed with the removal of the magnetic compass in step 3.3. Reference OEM RD-33 Dimensional Drawing or Figures 1-3, below.

3.4.2.1 Display unit RD-33 is sent with a 6m CAN Bus cable with a 5P-5P connector at both ends. The female end of this cable will connect to the unit.

3.4.3 The Contractor shall ensure the fluxgate sensor and associated cabling installation complies with the installation instructions in the manufacturer's manuals and MIL-STD-1310H in an effort to reduce the possibility of Electro Magnetic Interference (EMI) on the fluxgate sensor's operation.

3.4.3.1 Install a terminal board with at least four-positions inside the steering console.

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3.4.3.2 Using existing wireways, re-route existing LS2SJ-12 cable (01-31-2)-12P-D and the power leads of the new combination cable assembly to the terminal board. Label the new combination cable as (01-31-2)-12P-D(1).

3.4.3.3 Install (01-31-2)-12P-D(1) to connect 12VDC from the terminal board to the new fluxgate sensor.

3.4.3.4 Install the power leads (red and black) from the 5P CAN Bus cable to land on the terminal board. Label this segment of cable as (01-31-2)-12P-D(2). Ensure the unused conductors are safely terminated in accordance with SFLC Technical Standard 3042.

3.4.3.5 Install (01-31-2)-12P-D(2) to connect 12VDC from the terminal board to the male CAN Bus connection port on the display unit.

3.4.3.6 Route and connect the OEM fluxgate cable (MJ-A6SPF0007-100), between the new fluxgate sensor and the display unit. The Contractor shall not shorten the cable so that it may be reused should the fluxgate sensor need to be relocated to the top of the pilothouse.

3.4.3.7 Install grounding wires for both the RD-33 and PG-500R. Reference the RD-33 and PG-500R Operator's Manuals.

### 3.5 Circuit Breaker Installation.

3.5.1 The Contractor shall replace circuit breaker B on power panel 01-31-2, source power for the fluxgate compass and display, from 7.5 A to 5 A.

### 3.6 Fluxgate Sensor Acceptance and Testing.

3.6.1 The Contractor shall power up, configure, and test the new fluxgate sensor.

3.6.2 The Contractor shall verify the deviation error is less than 3 degrees while moored at current location.

#### NOTE

**During first underway evolution following dockside, cutter shall conduction grooming evolution with ESD to ensure the deviation error is less than 3 degrees and accuracy is maintained throughout underway evolutions that alter the ship's heading by 180 and 360 degrees.**

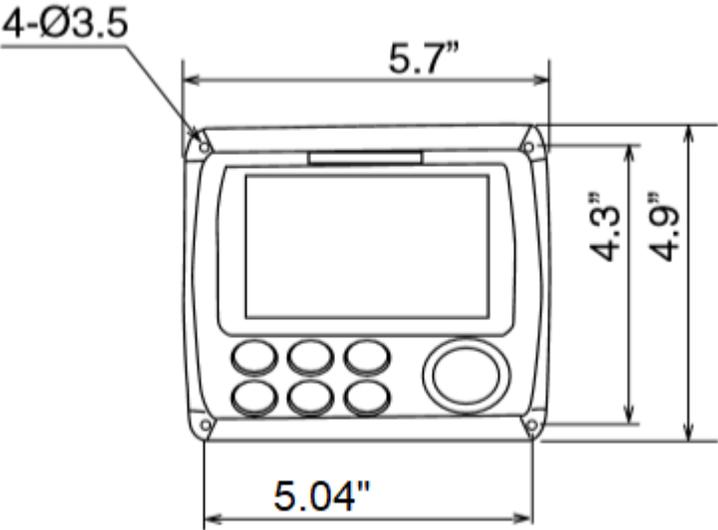


FIGURE 1. RD-33 FLUSHMOUNT FRONT VIEW

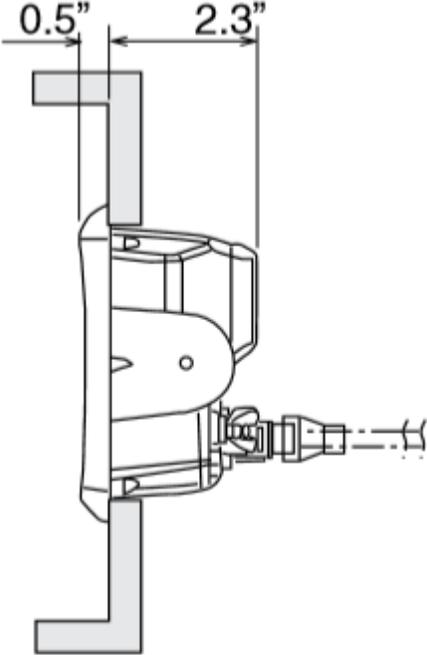


FIGURE 2. RD-33 FLUSHMOUNT SIDE VIEW

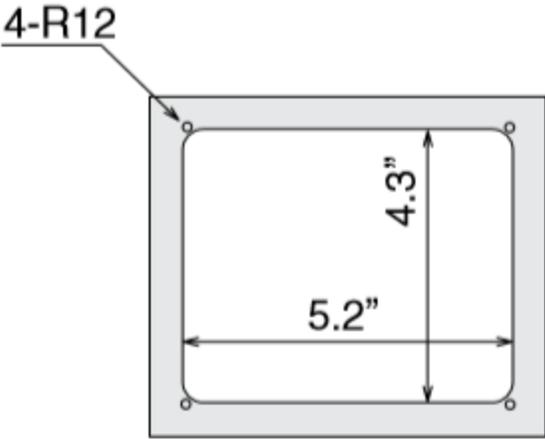


FIGURE 3. RD-33 FLUSHMOUNT BASE PLATE VIEW

**4. NOTES**

This section is not applicable to this work item.

## WORK ITEM 31: Boat Cleats Install

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to install two new cleats to assist with small boat handling.

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 140 WTGB 801-003, Rev B, Booklet of General Plans

Coast Guard Drawing 140 WTGB 801-005, Rev -, General Arrangement, Main Deck & Above

Coast Guard Drawing 140 WTGB WTGB 583-002, Rev E, Boat Handling Arr Incid to Vestdavit Install

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2020, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 5000 (SFLC Std Spec 5000), 2020, Auxiliary Machine Systems

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

### 3. REQUIREMENTS

3.1 General.

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3.1.1 CIR. The contractor shall submit a CIR for the inspections listed in the following paragraph(s):

- 3.2.2 Static Load Test.

3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures - general. The Contractor shall furnish and install all protective coverings to seal off and protect all non-affected vessel's components, equipment, and spaces in the vicinity of the work area against contamination during the performance of work. Upon completion of the work, the Contractor shall remove all installed protective measures, inspect for the presence of contamination, and return all contaminated equipment, components, and spaces to original condition of cleanliness.

3.1.4 Interferences. The Contractor shall handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the below-listed:

- Life-rail/wires and stanctions

3.2 Work Particulats. The Contractor shall accomplish the following tasks to install and test (2) new cleats approximately 33¼-inches above the Main deck on the outboard stanchion at frames 48 and 63, starboard small boat, in accordance with SFLC Std Specs 0740 and 5000 and using the references above as guide:

3.2.1 Cleat Installation. Fabrication and install two new boat handling cleats in accordance with Coast Guard Drawing 140-WTGB-583-002 (pc. 19) and SFLC Std Spec 0740.

3.2.2. Static Load Test. Prior to performing NDI, in the presence of the Coast Guard Inspector perform a 200% static load test on each new cleat in accordance with paragraph 3.2.7 (Pull test) of SFLC Std Spec 5000, using Coast Guard Drawing 140-WTGB-583-002 for guidance. Test loads are shown below. There shall be no permanent deformation of the cleats or surrounding deck structure. Submit a CIR to the Coast Guard Inspector to report results.

**TABLE 3.2 TEST LOADS**

<b>Working Load</b>	<b>200% Test Load</b>
400 lbs	800 lbs

3.2.2.1 No other portion of the cutter's structure shall be used as tie-downs for any part of the test equipment during the performance of the test without the verification of the Coast Guard Inspector.

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3.2.2.2 A dynamometer shall be installed in the test lead immediately adjacent to the pad eye to record the actual test load being applied. Supply a copy of the Dynamometer calibration certificate to the Coast Guard Inspector.

3.2.3 NDI. Perform NDI of all cleaned surfaces, including all components and associated welds in accordance with SFLC Std Spec 0740, Appendix C. Submit a CFR

3.2.4 Surface coating – cleats. Prepare and coat all cleat surfaces using the coating system specified for “Weather Decks (Weather Deck, Buoy Tender Working Deck)” in SFLC Std Spec 6310, Appendix A (Cutter and Boat Exterior Painting Systems).

3.3 Label Plates. Fabricate and install cleat label plates in accordance with Coast Guard Drawing 140- WTGB-583-002, General Note 12 and SFLC Std Spec 5000, Appendix B. Each label plate shall show safe working load, test load and date of test.

3.4 Touch-up Preservation. Prepare and coat all new and disturbed exterior surfaces to match existing adjacent surfaces, in accordance with SFLC Std Spec 6310, Appendix A (Cutter and Boat Exterior Painting Systems).

## 4. NOTES

This section is not applicable to this work item.

## WORK ITEM 32: Stubmast Repair

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to inspect and repair the Stubmast support and the adjacent Pilothouse top.

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 140 WTGB 150-002, Rev -, Deckhouse Plating and Framing

Coast Guard Drawing 140 WTGB 171-001, Rev -, Fore Mast

Coast Guard Drawing 140 WTGB 801-003, Rev B, Booklet of General Plans

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000),  
2020, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740),  
2020, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310),  
2020, Requirements for Preservation of Ship Structures

#### OTHER REFERENCES

None

### 3. REQUIREMENTS

3.1 General.

3.1.1 CIR.

None.

3.1.2 Technical Representative.

Not applicable.

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3.1.3 Protective measures - general. The Contractor shall furnish and install all protective coverings to seal off and protect all non-affected vessel's components, equipment, and spaces in the vicinity of the work area against contamination during the performance of work. Upon completion of work, the Contractor shall remove all installed protective measures, inspect for the presence of contamination, and return all contaminated equipment, components, and spaces to original condition of cleanliness.

3.1.4 Interferences. The Contractor shall handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). The Contractor shall be aware that interferences in way of work include, but are not limited to the below-listed.

- Stubmast, associated lights, electrical equipment and wiring.
- Pilothouse, associated equipment and wiring.
- Vent ducting.
- Overhead insulation and sheathing.
- Non-skid coating.

3.1.5 Hot work. Open, ventilate, and clean all spaces and components necessary to accomplish this work item as required to certify them as "SAFE FOR PERSONNEL" and/or "SAFE FOR HOT WORK."

3.2 Repair particulars. The Contractor shall accomplish the following tasks to inspect and repair the Stubmast support and Pilothouse top, in accordance with SFLC Std Spec 0000 and SFLC Std Spec 0740, using the Coast Guard Drawings referenced above and **PHOTO 1** below for guidance and details:



**PHOTO 1. STUBMAST SUPPORT PORT SIDE**

3.2.1 Inspection. Visually inspect the port-side Stubmast support and Pilothouse top for damage. Use Coast Guard Drawings 101-WTGB 150-1 and 140-WTGB 171-1 (see "DET 19-A") as guidance. NDI the cited damaged area(s) and chalk out the extent of damaged Pilothouse plating. Submit a CFR.

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3.2.2 Pilothouse repair. Upon verification from the Coast Guard Inspector, renew the chalked out boundary. Temporarily remove the Stubmast support, crop and renew the damaged Pilothouse top, approximately 100-square inches of Pilothouse top plating using with Coast Guard drawing 140-WTGB 150-2 as guidance. Reinstall the Stubmast support in accordance with Coast Guard drawing 140-WTGB 171-1.

3.2.3 New plating shall be of similar material and mechanical properties as the adjacent material. Submit a Condition Found Report to the Coast Guard Inspector if additional repairs are required.

3.3 NDI. The Contractor shall perform NDI of the plate renewal in accordance with SFLC Std Spec 0740, Appendix C. Submit a CFR

3.4 Touch-up preservation. Prepare and coat all new and disturbed exterior and interior surfaces to match existing adjacent surfaces, to include non-skid deck coatings, in accordance with SFLC Std Spec 6310, Appendix A (Cutter and Boat Exterior Painting Systems) and Appendix B (Cutter and Boat Interior Painting Systems), respectively, and as applicable.

## 4. NOTES

This section is not applicable to this work item.

## WORK ITEM 33: Seal Water Piping Renew

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew all 1.25 inch 90/10 Copper Nickle (90/10 Cu-Ni) seal water piping, gaskets, valves, fasteners, and fittings. Items for renewal include, but are not limited to, the contents of Table 1 below.

**TABLE 1**

ITEM DESCRIPTION	QTY
1.25 in. Pipe	8 ft.
1.25 in. Welded 90 Deg. Elbow	8 ea.
1.25 in. Weld To NPT Thread 90 Deg. Elbow	2 ea.
1.25 in. Right-Angle Tee Reducer 0.75 in.	2 ea.
1.25 in. Two Bolt Flanges	8 ea.
1.25 in. Ball Valve	2 ea.
1.25 in. Threaded Vacuum Check Valve	2 ea.
0.75 in. Vacuum Relief Valve	2 ea.

1.2 Government-furnished property.

None

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 140 WTGB 528-002, Rev-, Sanitary & Deck Drain System

Coast Guard Drawing 140 WTGB 528-003, Rev C, Sanitary & Deck Drain A&D

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000),  
2020, General Requirements

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Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740),  
2020, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310),  
2020, Requirements for Preservation of Ship Structures

### OTHER REFERENCES

Manufacturers Standardization Society of the Valve and Fittings Industry (MSS), SP-58,  
2009, Pipe Hangers and Supports – Materials, Design, Manufacture, Selection,  
Application and Installation

### 3. REQUIREMENTS

#### 3.1 General.

3.1.1 CIR. The Contractor must submit a CIR for the inspections listed in the following paragraph(s):

None.

#### 3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the following:

- Sewage and Seal Water Piping.
- Vacuum Pumps.
- Wire Runs.

3.1.5 Confined or enclosed space entry and hot work. Prior to hot work the Contractor must open, ventilate, and clean all spaces and components necessary to accomplish this work item as required to certify them as "SAFE FOR PERSONNEL" and/or "SAFE FOR HOT WORK." In accordance with SFLC Std Spec 0000, paragraph 3.3.1.2 (Confined or enclosed space entry and hot work).

3.1.5.1 Marine Chemist Certification must be obtained prior to commencement of work, and maintained throughout the duration of work.

3.1.6 Welding, testing and inspection. All welding must be in accordance with SFLC Std Spec 0740. All compartment/boundary testing and NDE must be in accordance with SFLC Std Spec 0740, Appendix C.

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3.1.7 Sewage System Handling Precautionary Measures. The work of this item presents a number of hazards, including risks of infectious disease transmittal and Hydrogen Sulfide asphyxiation/explosion. The following precautions must be observed.

3.1.7.1 Notify the Cutter's Commanding officer prior to opening any sewage piping.

3.1.7.2 When performing maintenance which requires disassembly of sewage equipment or when contact with sewage/black water is possible, rubber gloves, rubber boots, eye/faceshields and coveralls (disposable articles acceptable) must be worn. Before beginning maintenance, several plastic laundry-size bags must be brought to the maintenance area. Upon completion of maintenance, the area and components must be washed down with hot potable water and detergent and rinsed with seawater or fresh water. Personnel must then move from the immediate maintenance area and remove protective clothing. Protective clothing must then be placed in the plastic bags, with rubber boots and gloves going in one bag, and protective clothing going in another bag. Rubber boots and gloves must be washed in hot potable water and detergent, and must be rinsed with an iodine, phenol, or hypochlorite disinfectant solution, prior to re-use. Fabric protective clothing may receive normal laundering, disposable coveralls must be discarded. In no case must maintenance personnel walk through living, eating, working, or any manned spaces still wearing protective clothing, boots, or gloves. Before leaving the maintenance area, personnel must thoroughly wash hands, lower arms, and face, in that order, with hot water and soap using the wash-up facilities provided in the area.

3.1.7.3 In the event spaces become contaminated with sewage/black water as a result of leaks, spills, or sewage system backflow, the space must be evacuated immediately and the cutter's Commanding Officer notified of the spill. The spill area must be secured from traffic, and a Marine Chemist must test the area to ensure that the atmosphere is within acceptable limits. A safety watch with respiratory protection or a Supplied Air Respirator/Self-Contained Breathing Apparatus (SAR/SCBA) or air-line mask must be posted at the compartment access during cleanup. The spilled sewage/black water must then be removed or washed down. Respiratory protection must be used if the atmosphere is not within acceptable limits. If the atmosphere is within acceptable limits, cleanup may be accomplished without respiratory protection; however, respiratory protection must be kept on hand during the cleanup. The area must be recertified as gas free at least every two (2) hours and every hour for ambient temperatures above 32.2° C (90° F) or more frequently if deemed necessary by the Marine Chemist. The need for temporary ventilation must be determined by the Marine Chemist. A final washdown must be accomplished with hot, potable water and stock detergent. In addition, food service spaces, berthing areas, and medical spaces must be treated with an iodine, phenol, or hypochlorite disinfectant.

3.1.7.4 Personnel working in sewage/black water spaces or on sewage/black water system equipment must not smoke, eat, or drink before a thorough wash up with hot water and soap.

3.1.7.5 Bilges contaminated with sewage/black water must be pumped out, washed down with fresh water, and pumped out again.

3.1.7.6 All fluid that drains from the affected sewage piping system must be cleaned up and removed within 1 hour of draining. Any fluid that drains on the cutter's decks must be cleaned up and removed immediately. The Contractor must drain and dispose of all residual fluids in the piping system in accordance with all Federal, state, and local rules and regulations.

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3.2 Renewals. The Contractor must renew approximately eight (8) feet of 1.25-inch 90/10 Cu-Ni seal water piping, and associated gaskets, valves, fasteners, and fittings in Table 1 below, and in accordance with SFLC Std Spec 0000, SFLC Std Spec 0740, and Coast Guard drawings 101 WTGB-528-2 and 101 WTGB-528-3.

3.2.1 Operational test, initial. Prior to commencement of work, the Contractor must witness Coast Guard personnel perform an initial operational test of all items or shipboard devices to be disturbed, used, repaired, or altered, to demonstrate existing operational condition. Submit a CFR.

3.2.1.2 Piping material is 90/10 Cu-Ni and found in 2-19-0-E Aux Machinery Room.

3.2.1.3 Mark piping subject to renewal and obtain CG Inspector's concurrence on start and end of piping renewal.

3.3 Pipe Renewal General Details.

3.3.1 Disconnect and cut existing piping as required to facilitate removals.

3.3.1.1 Inspect pipe hangers and submit a CFR.

3.3.2 Install temporary caps or plugs to the open piping upon removal to prevent system/components and surrounding area from contamination.

3.3.3 Inspect the surrounding piping for signs of deterioration and/or corrosion. Submit a CFR.

3.3.4 Install new piping, per paragraph 1.1 (Intent) in the same location and path of that removed. The Contractor may use existing (old) piping as template for new piping. Scrap removed piping.

3.3.5 Perform all welds in accordance with (SFLC Std Spec) 0740, Welding and Allied Processes.

3.3.6 If a Change Request has been authorized and released, the Contractor must, fabricate and install new pipe hangers in way of the permanently discarded hangers in accordance with MSS, SP-58.

3.4 Pipe flushing. After all authorized work is completed; the Contractor must accomplish the following:

**NOTE**

**Piping may need to be chemically cleaned if brazing is conducted for repair option.**

3.4.1 Flush all new and disturbed piping with clean fresh water for five minutes, or until all debris is removed, whichever occurs first.

3.4.2 Ensure that flushing fluid is directed to move scale and foreign debris away from installed machinery to prevent possible damage upon operational testing.

3.4.3 Submit a CFR documenting date and time of flushing process, and verification of piping cleanliness.

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3.4.4 Dispose of flushing fluid in accordance with all applicable Federal, state, and local regulations.

**NOTE**

**Do not drain any fluids, including fresh water, into any space, bilge, or exterior location.**

3.5 Hydrostatic test. After all authorized repairs, the Contractor must hydrostatically test all new and disturbed piping and components of the sewage piping system in accordance with SFLC Std Spec 0740, Appendix C, "Hydrostatic Test". Ensure zero leakage from or permanent deformation of pressure-containing parts by repairing all leaks, deformations, and discrepancies. Submit a CFR.

**NOTE**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.6 Operational test, post repairs. After completion of work, the Contractor must thoroughly test, in the presence of the Coast Guard Inspector and demonstrate all items or shipboard devices that have been disturbed, used, repaired, altered, or installed to be in satisfactory operating condition. Submit a CFR.

3.7 Touch-up preservation. The Contractor must prepare and coat all new and disturbed surfaces to match existing adjacent surfaces in accordance with SFLC Std Spec 6310, (Touch-ups and minor coating repairs).

#### **4. NOTES**

This section is not applicable to this work item.

## WORK ITEM 34: Fuel System Valves, Overhaul

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew or overhaul and test the following valves in locations as designated by the Cutter Engineer Officer:

**TABLE 1: VALVES DESIGNATED FOR OVERHAUL**

Quantity	SIZE (INCHES)	VALVE TYPE	OPERATING PRESSURE (psi)	COMPARTMENT	NOTES
10	1.25	Gate	60	AUX 2 (3-19-0-E)	Welded in
1	2.0 in	Butterfly	60	AUX 2 (3-19-0-E)	
14	2.0	Gate	60	AUX 2 (3-19-0-E)	Right Angle Flanged

1.3 Government-furnished property.

No.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 140 WTGB-541-001, Rev-, Diagram-fuel oil fill and transfer system

Coast Guard Drawing 140 WTGB 541-001, Rev J, Fuel Oil System Diagram

Coast Guard Drawing 140 WTGB 541-002, Rev B, Fuel Oil Transfer System, Filter / Coalescer Replacement

Coast Guard drawing 140 WTGB 541-003, Rev-, Fuel Oil Transfer Sys, A&D

Coast Guard Drawing 140 WTGB 541-004, Rev-D, Fuel Oil Mods to Suit Davit Install

Coast Guard Drawing 140 WTGB 541-005, Rev C, Fuel Oil Mods to Suit 4-38-0-F Tank

Coast Guard drawing 140 WTGB 506-002, Rev-, Vent and Sounding System A&D

Coast Guard drawing 140 WTGB 506-003, Rev-, Vent and Sounding System Diagram

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

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Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310),  
2020, Requirements for Preservation of Ship Structures

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740),  
2020, Welding and Allied Processes

### **OTHER REFERENCES**

American Society of Mechanical Engineers (ASME) B16.34, 2013, Valves-Flanged,  
Threaded, and Welding End

American Society for Testing and Materials (ASTM) International F992, 2011, Standard  
Specification for Valve Label Plates

MIL-G-24716, Apr 1993, Gaskets, Metallic-Flexible Graphite, Spiral Wound

Manufacturers Standardization Society of the Valve and Fittings Industry (MSS) SP-61,  
2019 Edition, Pressure Testing Of Steel Valves

Manufacturers Standardization Society of the Valve and Fittings Industry (MSS) SP-72,  
2010 Edition, Ball Valves with Flanged or Butt-Welding Ends for General Service

Manufacturers Standardization Society of the Valve and Fittings Industry (MSS) SP-67,  
2017 Edition, Butterfly Valves

Manufacturers' Standardization Society of the Valve and Fittings Industry (MSS) SP-80,  
2019 Edition, Bronze Gate, Globe, Angle and Check Valves

### **3. REQUIREMENTS**

#### 3.1 General.

##### 3.1.1 CIR.

None.

##### 3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor shall furnish and install all protective coverings to seal off and protect all non-affected vessel's components, equipment, and spaces near the work area against contamination during the performance of work. Upon completion of work, the Contractor shall remove all installed protective measures, inspect for the presence of contamination, and return all contaminated equipment, components, and spaces to original condition of cleanliness.

3.1.4 Interferences. The Contractor shall handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the below-listed:

- Insulation
- Fuel piping
- Flange Shielding

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- Electrical Wiring
- Diesel Fuel Tank 4-28-0-F (2,060-gallon capacity).
- Diesel Fuel Tank 4-28-1-F (3,864 gallon capacity).
- Diesel Fuel Tank 4-28-2-F (3,864 gallon capacity).
- Diesel Fuel Tank 4-38-0-F (2,737 gallon capacity).
- Diesel Fuel Tank 4-40-1-F (2,318 capacity).
- Diesel Fuel Tank 4-40-2-F (2,318 capacity).

3.1.4.1 Fluid Handling. The contractor shall dispose of up to 12,000 gallons of diesel fuel as specified in Work Item 1.

3.2 Removal. The Contractor shall remove all designated valves in Section 1.1 (Intent). Immediately after valve removal, install blank flanges and gaskets over all openings and secure each flange with at least two bolts, 180 degrees apart.

3.3 Contractor's option for valve renewal. The Contractor may, at no additional cost to the Government, opt to renew valves designated for overhaul if preferable for the Contractor. If the Contractor elects to renew valves designated for overhaul, ensure all new valves are commercial-standard type valves, conforming to the applicable standard listed in Table 2 (Valve Standards). New valves shall be equivalent (including identical material) to the valve being renewed. Visually inspect the piping and mounting arrangements; and submit a CFR detailing any required modifications to accommodate the new valve(s).

3.3.1 Valve Manifold Disassembly. The contractor shall shall accomplish the following tasks for the designated manifold(s) (see paragraph 1.1 (Intent)), shown on Coast Guard Drawing 541-001.

3.3.1 Disassembly. Disconnect the inlet and discharge connections to each of the affected manifold(s). Install 1/4" steel blanks with gaskets on the fuel transfer connections to ensure that no fuel leaks out of the fuel transfer system during work on the manifold(s). Ensure that all blank flanges are installed with bolts, washers, and nuts in all bolt holes.

3.3.1.1 Disassemble the valve bonnet assembly on each valve on the affected fuel manifold.

3.3.1.2 Disassemble each manifold valve to its elementary components. Match mark valve parts. Clean all metal-to-metal seated valves of foreign matter. Visually inspect the manifold body, valve components, bonnet studs and nuts for wear and defects. Submit a CFR.

3.3.1.3 Clean valve discs and manifold seats to bright metal without damaging parts.

3.4 Overhaul. The Contractor shall accomplish the following as required for each valve designated for overhaul (not including valves the Contractor has opted to renew) to meet the specified valve testing standard:

3.4.1 Valve Disassembly. The Contractor shall disassemble the valve to the extent necessary to perform the required work.

**NOTE**  
**Complete disassembly of some valves may not be necessary to accomplish overhaul.**

3.4.2 Cleaning. The Contractor shall clean all internal surfaces and visually inspect for defects in body and structural material. Inspect the surface finish and condition of seats, disks, parting faces, plugs, and sealing surfaces.

3.4.3 Machining. As applicable; the Contractor shall machine, grind, lap and spot-in seat-to-disk to obtain an acceptable leakage rate at or below valve testing standards (see Table 2 below).

3.4.3.1 Valve manifold reassembly. Reassemble the overhauled valves in the manifold assembly.

3.4.3.1 Renew all gland studs and gland nuts. Clean and chase gland stud’s threaded hole in valve bonnet.

3.4.3.2 Renew packing with the same size and type as that removed.

3.4.3.3 Renew all flange gaskets including bonnet gaskets. Clean, dress, and true all gasket mating surfaces.

3.4.3.4 Coat all fasteners with anti-seize compound during assembly.

3.4.4 Reassembly. The Contractor shall reassemble the valve using new hardware and software (packing, O-rings, gaskets, seal rings, non-metallic seats, pins, washers, inserts, etc.).

3.4.5 Testing. The Contractor shall test the overhauled valves in accordance with the applicable standards listed in Table 2 (Valve Standards). Submit a CFR.

**TABLE 2 - VALVE STANDARDS**

VALVE TYPE	INDUSTRY STANDARD
Steel Valves	MSS SP-61
Butterfly Valve	MSS SP-67
Ball Valves, Flanged or Butt-Welded Ends	MSS SP-72
All others	ASME B16.34

3.5 Renewal. The Contractor shall renew all designated with commercial-standard type valves, conforming to the applicable standard listed in Table 2 (Valve Standards). The Contractor shall replace any mil-std valves listed for renewal with equivalent commercial standard valves.

3.6 Valve reinstallation/installation. Upon completion of all authorized work, the Contractor shall accomplish the following:

- Remove and dispose of all blank flanges and associated gaskets.
- Reinstall/install all overhauled and new valves with new gaskets.
- Renew all missing or damaged valve label plates.
- Renew all bolting hardware.
- Prepare and touch-up coat all disturbed surfaces to match existing adjacent surfaces

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in accordance with SFLC Std Spec 6310, Appendix B (Cutter and Boat Interior Painting Systems).

3.7 Valve labeling. The Contractor shall install valve label plates on all new valves in accordance with ASTM F992.

3.7.1 Nameplate label - general. The Contractor shall furnish and install a nameplate label onto the new or overhauled valves. Ensure the nameplate is made of the melamine type material with either engraved black letters on white background or white letters on black background; or metal photo type material with black letters photographically sealed onto an aluminum surface.

3.8 Leak test. After all authorized repairs of mechanical (i.e. threaded, bolted, etc.) joints, the Contractor shall perform an operational test of the applicable system using the system fluid at normal operating pressure. Ensure zero visible leakage from or deformation of mechanical parts by repairing all leaks and discrepancies. Submit a CFR.

3.9 Hydrostatic test. After all authorized repairs of welded joints, the Contractor shall hydrostatically test all new and disturbed piping and components of the applicable system in accordance with SFLC Std Spec 0740, Appendix C, "Hydrostatic Test". Ensure zero leakage from or permanent deformation of pressure-containing parts by repairing all leaks, deformations, and discrepancies. Submit a CFR.

## 4. NOTES

This section is not applicable to this work item.

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**WORK ITEM 35: Lead-Based Paint, 100% Abatement, Perform**

**WORK ITEM shall be performed in conjunction with WORK ITEM 36: Engine Room Vestibule, Compartment Insulation, Renew**

**1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to preserve the Engine Room Vestibule , space 1-52-3-L, to include water tight door and 60 X 30 inch watertight hatch.

**TABLE 1 - ABATEMENT LOCATIONS**

COMPARTMENT/STRUCTURE	AFFECTED SURFACES	TOTAL SURFACE AREA (APPROXIMATED SQFT)	NUMBER OF SAMPLE WIPES FOR ADJOINING SPACE(S) ACCES PATH(S) TO CONTAMINATED SPACE(S)
Engine Room Vestibule (1-52-3-L)	Bulkhead	50	N/A
Engine Room Vestibule (1-52-3-L)	Watertight Door	11	1
Engine Room Vestibule (1-52-3-L)	30 X 60 inch scuttle	13	2
		74	

1.2 Government-furnished property.

None.

**2. REFERENCES**

**COAST GUARD DRAWINGS**

Coast Guard Drawing 140 WTGB 801-003, Rev B, Booklet of General Plans

**COAST GUARD PUBLICATIONS**

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2020, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

**OTHER REFERENCES**

None.

**3. REQUIREMENTS**

3.1 General.

3.1.1 CIR. The Contractor must submit a CIR for the inspections listed in the following paragraph(s):

- 3.3 (Ultrasonic thickness (UT) measurement).

3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the following:

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Interferences include, but are not limited to:

- Cabling, kick pipes, wire runs
- Watertight Closures
- Switches and controllers
- Drains
- DC Locker

**NONE**

**Contractor shall replace all gaskets for watertight door and 60 X 30 scuttle during restoration of interferences.**

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the below-listed:

- Example 1: Sheathing
- Example 2: Bulkhead insulation
- Example 2: Piping

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3.1.5 Hazardous material disclosure. The Contractor must be aware of the presence of lead in excess of 0.009 percent by weight (0.018 mg/cm<sup>2</sup>, or 90 ppm) in primer coatings in the affected locations.

3.1.6 Pre and post abatement lead dust sampling - for non-affected spaces. Before and after completion of abatement job, the Contractor must conduct lead dust wipe sampling in non-affected location(s) listed in Table 2. Refer to sub-paragraph paragraph titled “Lead dust wipe sampling” in SFLC Std Spec 0000, Appendix A or B, as applicable.

**NOTES**

- 1. Pre-abatement sampling for non-affected adjacent compartments is for the purpose of establishing baseline of initial condition.**
- 2. Post-abatement sampling for non-affected adjacent compartments is for verifying whether or not contamination has occurred as a result of improper protective measures.**

3.2 Abatement particulars. Accomplish LBP abatement requirements, as specified in SFLC Std Spec 0000, Appendix A or B, and Coast Guard Drawing (s) identified in Section 2 for the surfaces identified in Table 1.

3.2.1 Be aware that surfaces to be abated also include all structural members associated with/adjacent to designated surfaces, in addition to lighting fixtures, pipe runs, and junction boxes.

**NOTES**

- 1. SFLC Std Spec 0000, Appendix A applies to availabilities performed at contractor operated (non-USCG) facilities; Appendix B pertains to work accomplished at USCG facilities.**
- 2. Abatement specific requirements in Appendix A or B of SFLC Std Spec 0000 include, but are not limited to the following:**
  - + Additional protective measures.**
  - + HAZMAT removal/surface preparation.**
  - + Post-surface preparation clearance sampling and inspection.**
  - + Lead dust clean-up.**
  - + Waste disposal.**
- 3. If abatement work will be sub-contracted, the Prime Contractor is highly encouraged to seek out companies with a successful history of shipboard LBP abatement and containment. The Coast Guard has encountered several delays associated with Hazmat abatement due to inexperienced contractors and/or sub-contractors, in addition to un-intended contamination of ship spaces by the spread of lead dust. Any additional contract costs caused by delays associated with abatement due to ineffective performance of a subcontractor or contamination of spaces will be borne by the Prime Contractor.**

3.3 Post-abatement clearance, inspection, and cleaning – order of performance. After completion of surface preparation and removal of generated debris, perform the below-specified tasks, in the specific order provided.

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3.3.1 Substrate inspection. Perform visual inspection, accompanied by the CG Inspector, of all prepared surfaces. Submit a CFR.

3.3.2 Lead dust cleaning and wipe sampling. After satisfactory results of visual inspection, perform all tasks associated with lead dust cleaning and wipe sampling.

3.3.3 Surface coating. After satisfactory result of lead dust concentrations have been achieved prime and coat all affected surfaces using the applicable coating system listed in Table 3.

**TABLE 3 - APPLICABLE COATING SYSTEM**

SURFACES	*COATING SYSTEM
Bulkheads and Overheads	“Bulkheads (Bulkheads and Overheads, Un-insulated Steel), Option I or II”, in accordance with SFLC Std Spec 6310, Appendix B ((Cutter and Boat Interior Painting Systems)

\*Suppliers of CG-authorized coatings are listed in Appendix C of SFLC Std Spec 0000.

3.4 Ultrasonic thickness (UT) measurement. The Contractor must take a total of 10UT measurements in accordance with SFLC Std Spec 0740, Appendix C in locations designated by the Coast Guard Inspector. Submit a CFR/ CIR.

**4. NOTES**

This section is not applicable to this work item

**WORK ITEM 36: Engine Room Vestibule, Insulation, Renew**

**Perform in conjunction with Work Item 35: Engine Room Vestibule, Preserve**

**1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to renew insulation as described in Table 1.

**TABLE 1 - INSULATION REMOVE, DO NOT RENEW**

<b>DESCRIPTION</b>	<b>LOCATION</b>	<b>APPROXIMATE AREA (SQFT)</b>
Watertight Door	1-52-3-L	11 sq ft

**NOTE**

**Watertight door currently has cork insulation. This insulation has previously been tested and does not contain lead.**

**TABLE 2 - INSULATION RENEWAL**

<b>DESCRIPTION</b>	<b>LOCATION</b>	<b>APPROXIMATE AREA (SQFT)</b>
Bulkhead	1-52-3-L	50

**NOTE**

**Overhead insulation has been determined to be in good condition and is not in need or renewal.**

1.2 Government-furnished property.

None.

## 2. REFERENCES

### COAST GUARD DRAWINGS

NAVSEA Drawing 804-5773931, Rev A, Acoustic & Thermal Insulation For Compartments Installation Details

### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

### OTHER REFERENCES

None.

## 3. REQUIREMENTS

### 3.1 General.

None.

#### 3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Interferences include, but are not limited to:

- Cabling, kick pipes, wire runs
- Watertight Closures
- Switches and controllers
- Drains
- DC Locker

3.2 Renewal. The Contractor must renew all insulation identified in Table 2. Refer to the drawing listed in Section 2 for guidance.

3.2.1 Removal. Remove all existing insulation material.

3.2.2 Disposal. Dispose of all removed materials, in accordance with all applicable Federal, state, and local regulations.

3.2.3 Surface preservation. Prepare and coat all designated/exposed surfaces, including adjacent structural members, using the system specified for "Bulkheads and Overheads, Un-insulated Steel

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(Appearance not a factor, i.e., voids) and Insulated Steel, Option II”, in SFLC Std Spec 6310 in Appendix B (Cutter and Boat Interior Painting Systems).

**NOTE**

**Power-tool cleaning to “Bare Metal”, in accordance with SSLC-SP 11, may be used as the surface preparation method, for the following situations:**

- 1. Abrasive blasting is not permitted in location of work.**
- 2. Surfaces being preserved are considered too small to merit abrasive-blasting.**

3.2.4 Substrate inspection - visual inspection. Upon completion of surface preparation and prior to application of primer coat, the Contractor must visually inspect the prepared surfaces; submit a CFR.

3.2.5 New thermal and acoustic insulation installation. Install new thermal and acoustic insulation material over the coated surfaces identified in Table 2, as shown on NAVSEA Drawing 804-5773931.

#### **4. NOTES**

This section is not applicable to this work item.

**WORK ITEM 37: Tanks, Ballast, Preserve, Partial**

**1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to prepare and coat part of the surfaces of the following tank(s) up to the percentage indicated, in locations designated by the Coast Guard Inspector:

**TABLE 1 – TANKS**

<b>TYPE OF STRUCTURE</b>	<b>LOCATION</b>	<b>CAPACITY - 95% (GALLONS)</b>	<b>LOW SUCTION (GALLONS)</b>
Ballast	4-19-1-W	1,319	100
Ballast	4-19-2-W	1,319	100
Ballast	2-76-3-W	1,292	100
Ballast	4-76-4-W	1,292	100

1.2 Government-furnished property.

None.

**2. REFERENCES**

**COAST GUARD DRAWINGS**

None.

**COAST GUARD PUBLICATIONS**

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

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Surface Forces Logistics Center Standard Specification 8636 (SFLC Std Spec 8636), 2020,  
Temporary Hull Accesses

### OTHER REFERENCES

ASTM International (ASTM) D1330, 2015, Standard Specification for Rubber Sheet Gaskets

### 3. REQUIREMENTS

3.1 General. The Contractor must accomplish the work specified herein for all tanks listed in paragraph 1.1 (Intent)..

3.1.1 CIR.

None.

3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences).

3.2 Temporary access openings. Due to limited access to work areas, the Contractor may, with express permission of the KO (via submission of a CFR), cut access holes to facilitate accomplishment of the work specified herein. Perform all work required to open and close the access openings in accordance with SFLC Std Spec 8636.

3.3 Content removal. The Contractor must remove and dispose of all fluids and/or residues in accordance with all applicable Federal, state, and local regulations. Plug all inlet and outlet piping in the tank to prevent contaminants from entering the tank. Use plugs with an attached lanyard, ring or other system that will ensure plugs are not lost in the pipe openings. Maintain a plug accountability log outside the tank(s) to prevent any of the installed temporary plugs from being lost inside the tank or forgotten inside at tank closure.

3.4 Surface preservation. The Contractor must remove and retain the manhole covers for all tanks listed under paragraph 1.1 (Intent); prepare and coat designated interior tank surfaces (see paragraph 1.1 (Intent)) using the system specified in SFLC Std Spec 6310, Appendix B (Cutter and Boat Interior Paint Systems) for "Tanks and Voids, Ballast Tanks; Option I or II". Power tool clean all affected surfaces to "bare metal", in lieu of using abrasive blasting; and feather edges of existing intact coating to the prepared areas in order to provide a smooth transition with the new paint. Select top coat color to match existing adjacent surfaces.

3.5 In-process quality control measures. The Contractor must abide by all the safety, preservation, and quality control requirements specified in SFLC Std Spec 0000, paragraph 3.2.4.2 (In-process QC

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measures for “critical-coated surfaces). Surfaces being preserved are considered “critical-coated surfaces”.

3.6 Inspection. After surface preparation and before coating application, the Contractor must visually inspect all interior surfaces and manhole surfaces; including, but not limited to bulkheads, floor and overhead plating, structural members, manhole cover surfaces, fasteners and gasket seating surfaces. Submit a CFR including the following, as applicable:

- Structural condition.
- Inaccessible areas.
- Tank level indicator (TLI) and/or float switch condition.
- Sounding tube and striker plate condition.
- Suction and discharge piping.
- Fastener condition.

3.7 Tank closing. The Contractor must ensure that the tank(s) remain open for at least 24 hours after completion of the tasks specified above. Notify the COR at least 24 hours prior to closing the tank(s). After satisfactory inspection by the Coast Guard Inspector and after all authorized repairs, accomplish the following:

- Reinspect all TLIs, as applicable, to verify proper operation. Submit CFR.
- Close tank manhole cover(s) with new gasket material conforming to ASTM D1330 and new stud cotton grommets (as applicable).
- Renew 100% of nylon insert/nylock nuts and washers.

## 4. NOTES

This section is not applicable to this work item.

**4WORK ITEM 38: Tanks, Potable Water, Preserve, Partial**

**1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to prepare and coat a portion of the surfaces of the following tank(s) as designated:

**TABLE 1 - TANKS**

<b>TYPE OF TANK</b>	<b>LOCATION</b>	<b>CAPACITY - 95% (GALLONS)</b>	<b>LOW SUCTION (GALLONS)</b>
Potable Water	4-19-3-W, Tender	1,976	100
Potable Water	4-19-4-W, Tender	3,367	100
Water Mist	4-24-1-W	1261	100

1.2 Government-furnished property.

None.

**2. REFERENCES**

**COAST GUARD DRAWINGS**

None.

**COAST GUARD PUBLICATIONS**

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

Surface Forces Logistics Center Standard Specification 8636 (SFLC Std Spec 8636), 2020, Temporary Hull Accesses

## OTHER REFERENCES

American National Standards Institute/NSF International (ANSI/NSF) 61, 2008, Drinking Water System Components - Health Effects

American National Standards Institute/American Water Works Association (ANSI/AWWA) C652, 2011, Disinfection of Water-Storage Facilities

## 3. REQUIREMENTS

3.1 General. The Contractor must ensure the following:

3.1.1 CIR.

None.

3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences).

3.2 Temporary access openings. Due to limited access to work areas, the Contractor may, with express permission of the KO (via submission of a CFR), cut access holes to facilitate accomplishment of the work specified herein. Perform all work required to open and close the access openings in accordance with SFLC Std Spec 8636.

3.3 In-process quality control measures. The Contractor must abide by all the safety, preservation, and quality control requirements specified in SFLC Std Spec 0000, paragraph 3.2.4.2 (In-process QC measures for “critical-coated surfaces”). Surfaces being preserved are considered “critical-coated surfaces”.

3.4 Tank content removal. The Contractor must remove and dispose of all tank contents in accordance with all applicable Federal, State, and local regulations. The Contractor must notify the Dockmaster prior to filling or draining the potable water tank(s).

3.5 Surface preservation. The Contractor must remove and retain the tank manhole cover(s). Prepare and coat the designated tank interior surfaces, using the system specified for "Tanks and Voids (Potable Water Tanks)" in SFLC Std Spec 6310, Appendix B (Cutter and Boat Interior Painting Systems). Power tool clean all affected surfaces to “bare metal”, in lieu of using abrasive blasting; and feather edges of existing intact coating to the prepared areas, in order to provide a smooth transition with the new paint. Select finish/top coat color to match existing adjacent surfaces.

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3.5.1 The Contractor must ensure heated air is used if necessary to maintain the proper temperature during application and cure. Ventilation must be a continuous airflow with a minimum of one complete air change every four (4) hours.

3.5.2 The Contractor must ensure tanks are cured in accordance with the manufacturer's instructions for NSF/NEHC certification under the same conditions before being filled.

**NOTE**

**Typical curing times are at least 7 days, and range up to 14 days or longer, depending on the paint selected, amount of surface area covered, and environmental conditions. See paint manufacturer's recommendations for specific application.**

**CAUTION**

**Verify application and cure requirements with paint manufacturer prior to paint purchase and application. Lack of attention to environmental conditions can adversely impact paint system cure, cause unnecessary contract time delays, and negatively impact crew health and vessel habitability when tanks are put back into service.**

**DO NOT assume paint Product Data Sheet to be accurate. Contact paint manufacturer directly to verify, as formulations change and new application information may be available.**

3.5.3 The Contractor must ensure freshly painted potable water tanks are rinsed at least twice with freshwater before being disinfected and put into service.

3.6 Inspection. After surface preparation and before coating application, the Contractor must visually inspect all interior surfaces; including, but not limited to bulkheads, floor and overhead plating, structural members, manhole cover surfaces, fasteners and gasket seating surfaces. Submit a CFR including the following, as applicable:

- Structural condition
- Inaccessible areas
- Tank level indicator (TLI) and/or float switch condition
- Sounding tube and striker plate condition
- Suction and discharge piping.

3.7 Tank closing. The Contractor must ensure that the tank(s) remain open for at least 24 hours after completion of the tasks specified above. Notify the COR at least 24 hours prior to closing the tank(s). After satisfactory inspection by the Coast Guard Inspector and after all authorized repairs, accomplish the following:

- Reinspect all TLIs, as applicable, to verify proper operation. Submit a CFR.
- Close tank manhole cover(s) with new gasket material conforming to ANSI/NSF 61 and new cotton stud grommets (as applicable).

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3.8 Tank disinfecting. After all other work involving the potable water system and tank closing have been completed, the Contractor must disinfect and treat the affected potable water tank(s) and associated disturbed piping and components, as necessary to meet or exceed the requirements of AWWA C652. After disinfecting the tank(s), remove and dispose of all treated water in accordance with all Federal, state and local regulations. Ensure no one enters the tanks once disinfection is completed.

### **4. NOTES**

This section is not applicable to this work item.