



FOUR 25 TON PORTAL CRANES
for
PUGET SOUND NAVAL SHIPYARD AND INTERMEDIATE MAINTENANCE FACILITY at NAVAL BASE
KITSAP
BREMERTON and BANGOR, WASHINGTON

PREPARED BY:

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PART 1.0 GENERAL

1.1 REFERENCES

The following documents, of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein. In case of difference between the following documents and this specification, this specification shall govern to the extent of such difference. If standards other than those listed below are used, proof of equivalence shall be provided. NEMA, OSHA, ASME, AWS, AISC, and NFPA rules shall govern.

AMERICAN GEAR MANUFACTURERS' ASSOCIATION (ANSI/AGMA)

- 2001 - Fundamental Rating Factors and Calculation Methods for Involute Spur and Helical Gear Teeth
- 2015 - Accuracy Classification System
- 6013 - Standard for Industrial Enclosed Gear Drives
- 6034 - Practice for Enclosed Cylindrical Wormgear Speed Reducers and Gearmotors
- 6035 - Design, Rating and Application of Industrial Globoidal Wormgearing

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

- 360 - Specification for Structural Steel Buildings

AMERICAN SOCIETY OF MECHANICAL ENGINEERS INTERNATIONAL (ASME)

- B30.4 - Portal, Tower, and Pedestal Cranes
- B30.10 - Hooks

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- A27 - Standard Specification for Steel Castings, Carbon, for General Application
- A36 - Structural Steel
- A992 - Standard Specification for Structural Steel Shapes
- A148 - Standard Specification for Steel Castings, High Strength, for Structural Purposes
- A194 - Standard Specification for Carbon and Alloy Steel Nuts for Bolts for High Pressure and High Temperature Service
- A275 - Standard Practice for Magnetic Particle Examination of Steel Forgings
- A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength
- A325 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength
- A434 - Standard Specification for Steel Bars, Alloy, Hot-Wrought or Cold-Finished, Quenched and Tempered
- A490 - Standard Specification for Structural Bolts, Alloy Steel, Heat Treated, 150 ksi Minimum Tensile Strength
- A504 - Standard Specification for Wrought Carbon Steel Wheels
- A521 - Standard Specification for Steel, Closed Impression Die Forgings for General Industrial Use
- A536 - Standard Specification for Ductile Iron Castings

- A563 - Standard Specification for Carbon and Alloy Steel Nuts
- A572 - Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel
- A668 - Standard Specification for Steel Forgings, Carbon and Alloy, General Industrial Use
- A992 - Standard Specification for Structural Steel Shapes
- A1023/A- Standard Specification for Stranded Carbon Steel Wire Ropes for General Purposes
- B26 - Standard Specification for Aluminum Alloy Sand Castings
- B108 - Standard Specification for Aluminum Alloy Permanent Mold Castings
- E543 - Standard Specification for Agencies Performing Nondestructive Testing
- F436 - Standard Specification for Hardened Steel Washers
- F593 - Standard Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs
- F594 - Standard Specification for Stainless Steel Nuts

AMERICAN WELDING SOCIETY (AWS)

- D1.1 - Structural Welding Code Steel
- D1.3 - Structural Welding Code – Sheet Steel
- D14.3 - Specification for Welding Earthmoving, Construction, and Agricultural Equipment

DEFENSE FEDERAL ACQUISITION REGULATIONS (DFAR)

DFARS 252.211-7003 Item Identification and Valuation

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

- 4301-1 - Cranes and Lifting Appliances – Classification – Part 1: General

NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION (NEMA)

- ICS 8 - Industrial Control and Systems Crane and Hoist Controllers
- MG 1 - Motors and Generators
- 250 - Enclosures for Electrical Equipment (1000 Volts Maximum)

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

- 70 - National Electric Code
- 70E - Standard for Electrical Safety in the Workplace

NAVAL FACILITIES ENGINEERING COMMAND (NAVFAC)

P-307, Management of Weight Handling Equipment

NAVSEA TECHNICAL PUBLICATION

T9074-AS-GIB-010/271 Change Notice 1 - Requirements for Nondestructive Testing Methods

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

- Title 29 CFR Part 1910 Subpart D, Walking –Working Surfaces
- Title 29 CFR Part 1910 Subpart E, Means of Egress
- Title 29 CFR, Part 1910.66, Appendix C, Personal Fall Arrest System
- Title 29 CFR, Part 1917, Maritime Terminals

RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (RCSC)

Specification for Structural Joints Using High-Strength Bolts

SOCIETY OF AUTOMOTIVE ENGINEERS (SAE)

J429 - Mechanical and Material Requirements for Externally Threaded Fasteners

J995 - Mechanical and Material Requirements for Steel Nuts

1.2 UNIT PRICES

See RFP Section B.

1.3 SYSTEM DESCRIPTION

The intent of this specification is to procure four general purpose service portal cranes. Two of the cranes shall be installed at Puget Sound Naval Shipyard and Intermediate Maintenance Facility (PSNS & IMF), Naval Base Kitsap, Bremerton, Washington. The other two cranes will be installed at PSNS & IMF, Naval Base Kitsap, Bangor, Washington. The crane design is intended to be a manufacturer's standard design incorporating the additional features required by the specification.

The crane shall be a portal type (with a rotating superstructure and a luffing boom) designed to meet the dimensional and functional requirements of this contract. The crane shall be built to the design drawings of a registered professional engineer. The crane shall be designed, fabricated, assembled, shop tested, delivered, installed, inspected, field tested, and made ready for use in accordance with this specification. Basic dimensions related to crane design shall be as follows:

	Bremerton Cranes	Bangor Cranes
Minimum Height of the Boom Heel Pin and Operators Cab Floor	60'	60'
Clearance under Portal Base (minimum)	25'	25'
Tail Swing (maximum, from center of rotation)	30'	30'
Clearance under Travel Truck above Top of Rail both Inboard and Outboard (minimum)	3"	3"
Maximum Allowable Wheel Load (per wheel)	80 kips	90 kips
Closest Wheel Spacing (center to center)	4'	4'
Truck end to end distance (maximum)	60'	60'*

* Bangor cranes shall be designed so that they can be parked on the rail spurs and allow other cranes to pass them without interference (See Appendices).

Existing ground rail conditions are as follows (See Appendices for examples of track features):

	Bremerton Cranes	Bangor Cranes
Rail Size	135 lb (majority) 132 lb (some)	135 lb
Number of Rails	2	2
Track Gauge (center to center of rails) Note that the nominal rail gage "narrows" in curved track areas – see Appendix F	20'	30'

Minimum Rail Curve Radius (inner rail) Note that the nominal rail gage “narrows” in curved track areas – see Appendix F	69’	120’
Maximum Rail to Rail Misalignment	1”	1”

NOTE: Final values shall be verified by the contractor.

1.3 Design Requirements

The design of the crane shall conform to 29 CFR 1917, ASME B30.4, and other requirements specified herein. The crane shall be cab controlled, and designed to operate on an EPA and OSHA compliant onboard diesel engine-power system. The crane shall comply with all applicable requirements (“shall” statements) and recommendations (“should” statements) of ASME B30.4 (all “should” statements shall be considered “shall” statements). The crane shall have minimum ISO 4301 group classifications of A5 for the crane as a whole and M5 for hoist, luff, slew and travel.

A weatherproof machinery house shall enclose all machinery mounted on the superstructure. Travel truck systems shall be designed to enable the crane to operate on straight and curved track with “frogs” and switches at intersections.

The entire crane shall be designed with a minimum 30 year life. The crane shall be capable of simultaneous hoisting, slewing and luffing in accordance with specification section 2.3.3.23. The crane shall also be capable of simultaneous traveling and slewing with rated load at rated speeds at the operating wind load. The crane shall be capable of holding a load without drift for a minimum of 1 hour at a time.

1.3.1 Performance Requirements

Performance requirements of the cranes shall be as follows (all speeds are at rated load in operating wind unless otherwise noted):

Hook Loads and Reaches (from center of rotation)		
Hoist Capacity	Capacity	Working Radius (minimum)
	50,000 lbs	40’ to 90’
	30,000 lbs	91’ to 140’
Hook Lifts (minimum, from top of rail)	Hook Height	Radius
	175’	40’
	150’	90’
	100’	140’

Reach Below Top of Rail (at all radii)	60'
Speeds	
Hoist High Speeds (at rated load, min)	150 fpm
Hoist High Speeds (at no load min)	250 fpm
Hoisting/Lowering Slow Speed (at rated load, max)	1 fpm
Slewing Speed (at rated load, $\pm 10\%$)	0.75 RPM </= 0.01 RPM minimum speed
Maximum Luffing Hoist Speed (at rated load, time from max to min radius)	5 min
Travel High Speed (at rated load, min)	200 fpm
Travel Slow Speed (at rated load, max)	2 fpm
Maximum Operating Wind Speed	40 mph
Non-Operating Speed	80 mph
Storm Wind (stowed)	110 mph

* The minimum speeds shall not exceed the values listed above.

1.3.2 Capacity Sign

Provide capacity plates that list the capacity in pounds with permanent lettering, visible from all sides of the crane. All lettering shall be of sufficient size to be easily read from the ground. Beneath the rated capacity the following information shall be included:

Naval Facilities Engineering Command
Contract Number N62470-15-R-3000
Manufacturer's name, address and crane serial
number Crane Number xx

The crane numbers shall be:

PSNS&IMF: 51 and 52

Bangor: 53 and 54

1.3.3 Unique Identifier Tag

In accordance with DFARS 252.211-7003, the contractor shall assign a unique identifier to the crane. The Unique Identification Tag shall be attached to the outside of the main electrical disconnect panel.

1.3.4 Crane Delivery

The contractor shall field verify all crane envelope clearances and other crane interface features, including those identified in Appendices, prior to design of the crane.

For Bremerton, the cranes shall be delivered as complete as possible for final assembly.

For Bangor, the cranes shall be delivered completely assembled.

1.3.5 Crane Removal

The contractor shall remove two existing Westmont 25T portal cranes from the Bangor, Washington location. Crane removal shall be coordinated with the receiving activity to minimize disruption to production efforts and ensure that no more than five (5) portal cranes are on the Delta Pier at any one time. The old cranes shall be removed as a unit to be disassembled in another location. No disassembly is allowed on the pier. The old cranes shall be disassembled so they cannot be used as cranes after removal. Additional information on the Westmont cranes is contained in Appendices

The existing cranes scheduled for removal are suspected to be coated with lead based paint. If the metal material is to be recycled, the paint is expected to be disposed intact with the metal material. The contractor must provide a specific lead removal program in the Accident Prevention Plan should cutting, grinding, burning or disturbing of the coating be required by the planned work.

The hazardous waste shall be properly packaged and labeled using Department of Transportation (DOT) approved containers. Steel members containing lead paint shall be disposed of by the contractor.

The contractor shall adhere to all local, state, and federal regulations in the handling and disposal of these hazardous materials.

1.4 SUBMITTALS

The contractor shall submit to the contracting officer all items of technical documentation listed hereinafter. The contractor shall ensure that all submittals are in English, in US customary units, and are entirely legible and suitable for reproduction. The content, number of copies, time of submission, and distribution shall be in accordance with Exhibit A of this specification and as specified below. Compliance with the requirements of this specification will be determined by a review of the design and construction submittals by the contracting officer and by field inspection.

For submittals that reference a Navy Crane Center form, the form can be found on NCC website at http://navfac.navy.mil/navfac_worldwide/specialty_centers/ncc.html under the "Downloads" page.

SD-01 Preconstruction Submittals

The Contractor shall submit a schedule which identifies key milestone events in the design, fabrication, and installation of cranes. At a minimum, the schedule shall include the following:

- a. Post Award Conference
- b. Initial General Arrangement and Design Submittals
- c. Government Review of Initial Design
- d. Final General Arrangement and Design Submittals
- e. Government Review of Final Design
- f. Fabrication Initiation
- g. Fabrication Complete

- h. Pre-Installation Conference
- i. Shop Test
- j. Crane Delivery
- k. New Crane Installation
- l. Field Acceptance Test
- m. Crane Acceptance
- n. Existing Crane Removal
- o. Completion of Warranty

SD-02 Drawings

The contractor shall submit for approval the drawings and catalog cuts listed below via ProjNet (www.projnet.org). After Navy Crane Center design approval and prior to shop test, the contractor shall submit a complete set of Final design drawings. Initial design drawings shall include certification of review by a professional engineer. Final design and “As-built” (hardcopy and PDF) drawings shall bear a complete title block with a permanent drawing number, a registered professional engineer’s original seal and dated signature. Drawings within each category (such as structural, mechanical, etc.) shall be numbered consecutively. Each assembly and subassembly drawing shall include an integral Bill of Materials or shall be followed by a consecutively numbered drawing with the applicable Bill of Materials. There shall be no proprietary notes on any drawing. All drawings shall be created for viewing and editing in AutoCAD 2010 with a drawing file format of .dwg or .dxf., and a separate copy viewable in Adobe Acrobat (.pdf). An index for all drawings shall be included.

SD-02.G General Arrangement Drawings

The crane assembly and each major component shall be shown in plan, elevation, and side views. All major features of the crane shall be shown including: overall dimensions, clearances, hook reach and capacity, lifts, wheel spacing, boom hinge and cab floor elevations, tie down arrangements, slewing ring bearing assembly arrangement, speeds, jacking points, maximum wheel loads, electrical power supply, and general locations of components such as: brakes, motors, speed reducers, and control panels (including size). The type of structural bolted connection shall be specified on the drawing. Torque value for structural bolts shall be indicated on the drawing. Fastener installation torque values for base-mounted components shall be indicated on the drawing. In addition, estimated weights shall be shown for the completely assembled crane. Approximate locations of center of gravity and location of lifting points for completely assembled crane and for each major component that could be lifted independently shall be provided on the design drawings.

SD-02.S Structural Drawings

These drawings shall show the arrangement and list of materials. The drawings shall include all items that are not part of the commercially available standard model which were re-designed to match the radius, stability and wheel load requirements. The drawings shall also include the following:

- a. Boom
- b. Portal Base
- c. Gudgeon Pins
- d. A-Frame
- e. Operator’s Cab

- f. Machinery House including layout
- g. Counterweight
- h. Travel Trucks
- i. Personnel Access (walkways, ladders, stairs)
- j. Diesel Engine Room Layout, including Fuel Tank
- k. Crane Load Chart

SD-02.E Electrical Drawings

The drawings shall at a minimum include:

- a. Complete schematic diagram with narrative of any special description of operation. All components shown on schematics shall have labels that correspond to the nameplates that will be on the cranes. Wiring type, size, and temperature ratings shall be included on schematic diagrams. All optional equipment not installed on the crane shall be removed from the schematic diagrams. Locations of contacts and coils shall be cross-referenced to each other within the schematic diagrams. For components with adjustable settings, final settings shall be shown on the schematics.
- b. Motor nameplate data (including all information called for in NFPA 70, Section 430.7)
- c. Rating and types of over-current protective devices
- d. A comprehensive component material list showing all electrical components used on the crane.
- f. Layout diagrams showing component placement in control panel enclosures and for operator's cab
- g. List of used symbols and designations
- h. Grounding system, earthing system and lightning protection
- i. Graphical limit switch diagrams for all limit switches showing the relationship of hoist hooks and boom positions to limit switch trip points. Limit switch contacts shall be clearly marked as either open or closed, as applicable, for all hoist and boom positions.
- j. Communication Drawing of all programmable logic control (PLC) Systems and all crane management systems.

SD-02M Mechanical Drawings

- a. Drive arrangements (including assembled components)
- b. Reeving Diagram
- c. Base mounted component bolt torque values shall be provided for installed fasteners with consideration for any lubrication and/or washer types used; generic bolt torque tables shall not suffice.
- d. Coupling installation drawings including: locations, applicable shaft engagement allowable misalignment, and bore and key details.
- e. Brake installation drawings including: locations, applicable shaft engagement, and bore and key details.
- f. Lubrication drawings showing all lubrication points, the type of lubrication used and the recommended lubrication frequency.

- g. Hydraulic Systems Circuit Diagram and Schematic (if applicable) – This shall include the hydraulic power and control circuits for each drive and show the layout of hydraulic equipment on the crane, including motors and brakes. All components shown on schematics shall have labels that correspond to the nameplates that will be on the cranes. Hydraulic hosing/piping/tubing type, size, and pressure ratings shall be included on schematic diagrams

- h. Wheels

SD-03 Product Data

Manufacturer’s catalog data shall be provided for all major components of the crane. The catalog cuts shall be marked-up or supplemented with additional sheets to clearly identify the model or size, selected options, features, and/or modifications to demonstrate compliance with specification requirements. Catalog cuts which show modifications beyond the standard options and all supplemental pages shall bear original signatures and dates of the equipment manufacturer’s authorized representative. Each catalog cut and each supplemental sheet shall clearly identify the item to which it applies. All catalog cuts shall be submitted in one file viewable in Adobe Acrobat and bookmarked as to the location of each catalog cut. In accordance with Exhibit A, the contractor shall submit for approval the catalog cuts listed below:

SD-03.M Mechanical Product Data

- SD-03.M1 Speed Reducers including gear ratio
- SD-03.M2 Brakes (including electrical information)
- SD-03.M3 Diesel Engine
- SD-03.M4 Diesel Engine Control System
- SD-03.M5 Bearings and Bearing Housings
- SD-03.M6 Couplings
- SD-03.M7 Load Blocks
- SD-03.M8 Control Valves
- SD-03.M9 Filters
- SD-03.M10 Hydraulic Motors, Pumps and Cylinders

SD-03.E Electrical Product Data

- SD-03.E1 Variable Frequency Drives
- SD-03.E2 Motors
- SD-03.E3 Electrical Enclosures
- SD-03.E4 Hotel Power Components
- SD-03.E5 Limit Switches
- SD-03.E6 Encoders
- SD-03.E7 Operator Controls
- SD-03.E8 Warning and Pilot Devices
- SD-03.E9 Disconnect Switches & Power Distribution Switchgear
- SD-03.E10 Fuses and Circuit breakers
- SD-03.E11 Generator

- SD-03.E12 PLCs
- SD-03.E13 Lighting
- SD-03.E14 Slip Rings
- SD-03.E15 Transformers
- SD-03.E16 Capacity Overload Protection

SD-03.S Structural Product Data

- SD-03.S1 Travel Trucks (including Drive Units)
- SD-03.S2 Painting System
- SD-03.S3 Bumpers

SD-04 Samples

Not applicable to this specification.

SD-05 Design Data

These calculations shall demonstrate compliance with all design requirements of this specification. Calculations will not be approved if their evaluation/review is dependent on data or information not previously approved. Drawings/Calculations shall include complete information so that they may be approved without reference to detail (shop) drawings.

SD-05.S Structural Calculations

- SD-05.S1 Stability calculations in accordance with section 2.3.1 of this specification.
- SD-05.S2 Wheel loads at 100%, 130%, and no load (without impact)
- SD-05.S3 Buckling calculations for main structural members
- SD-05.S4 Fatigue calculations in accordance with section 2.3 of this specification.
- SD-05.S5 Structural response of cranes during shipping in accordance with section 1.6 of this specification.
- SD-05.S6 Stresses in cranes and pier due to loading and unloading of the cranes in accordance with section 2.3.1.1 of this specification.
- SD-05.S7 Sea fastening calculations in accordance with section 2.3.1.1 of this specification.

SD-05.M Mechanical Calculations

- SD-05.M1 Mechanical drive calculations including motor sizing, rope calculations and sheave bearings
- SD-05.M2 Calculations verifying brake selections
- SD-05.M3 Calculations verifying coupling selections
- SD-05.M4 Gearbox calculations including classification, gear strength and durability, shaft size and fatigue and bearing life
- SD-05.M5 Wheel load and shaft calculations, including fatigue and bearing life
- SD-05.M6 Calculations verifying bumper selection

SD-05.E Electrical Calculations

- SD-05.E1 Motor sizing

- SD-05.E2 Overcurrent protection
- SD-05.E3 Conduit fill calculations (using tables from NFPA 70, Chapter 9 or manufacturer's data sheets)
- SD-05.E4 Protective device coordination study showing proper coordination between the overcurrent devices installed.
- SD-05.E5 Diesel Engine and Generator Sizing
- SD-05.E6 Arc flash energy calculations for each electrical control panel showing proper data necessary for appropriate arc flash labels per NFPA 70E Flash Calculations

SD-06 Test Reports

The following reports, outlines, and plans shall be submitted in accordance with Exhibit A.

SD-06.1 Status

The contractor shall submit monthly status reports with updated project schedules.

SD-06.2 Hook Non-Destructive Test (NDT) Report

- SD-06.2.1 The contractor shall provide a certification that the NDT vendor meets the requirements of ASTM E543. The certification shall be current, within one year of the date the NDT was performed.
- SD-06.2.2 The contractor shall submit for review the NDT vendor's procedures, including technique sheets specific to the types, shapes, and size of the parts being examined (e.g., shank hook, eye hook, duplex hook, eye pin, swivel eye bar). For the magnetic particle method, the procedures shall adequately describe the orientation of the hooks, swivel eye bar, or eye pins with the magnetizing equipment. Procedures must be reviewed and bear the signature of an SNT-TC-1A qualified Level III examiner stating they are independent of the vendor.
- SD-06.2.3 Prior to performing any operational testing of the crane, the hook and eye pin or swivel eye bar (as applicable) shall be inspected by the magnetic particle method over their entire surface area in accordance with NAVSEA Technical Publication T9074-AS-GIB-010/271. ASTM A275 may be used with the following restrictions: DC yokes (including switchable AC/DC yokes used in the DC mode) and permanent magnet yokes shall not be used; automatic powder blowers or any other form of forced air other than from a handheld bulb shall not be used for the application or removal of dry magnetic particles; arc strikes shall be removed; and equipment ammeters shall have an accuracy of ± 5 percent of full scale (equipment ammeter accuracy other than that stated is acceptable provided the magnetic particle method procedure states that a magnetic field indicator is used to establish and verify adequate field strength for all aspects of the inspection). If NDT cannot be performed on surfaces inside holes, those surfaces shall be visually inspected to the maximum extent practical. Acceptance criterion shall be no linear indications greater than 1/16 inch. The NDT report shall be provided to the Government and shall be traceable to the unique ID number of the hook and eye pin or swivel eye bar (as applicable).

SD-07 Certificates

All certifications shall be dated and shall bear the original signature (above the printed name) of the authorized representative of the contractor or the manufacturer of the items or equipment being certified. Each certification shall clearly identify the crane, hoist, the drives, components, and location (as applicable) to which it applies:

SD-07.1 Wire Rope

The contractor shall provide the wire rope manufacturer's certification that the rope meets the published breaking strength of samples taken from reels and tested. Certification shall be traceable to the hoist, crane and reel.

SD-07.2 Periodic Overload Testing

The contractor shall certify the crane is capable of being load tested (statically and dynamically) semi-annually up to 131.25% of the rated capacity without any detrimental effects.

SD-07.3 EPA Emission Certification

The contractor shall submit certification that the provided diesel engine meets the applicable EPA Tier Level.

SD-07.4 Hazardous Material

The contractor shall certify that the crane contain no asbestos, lead paint, Polychlorinated Biphenyl's (PCB's), elemental mercury, or chromates.

SD-07.5 Loss of Power Test

The contractor shall certify that when lowering a test load a loss of power test can be performed without any detrimental affects to the electronic control system.

SD-07.6 Coupling Alignments

Contractor shall submit coupling alignment data records with certification that the alignment of all shafting connected by means of flexible couplings are within manufacturer's installation tolerances. The coupling alignments shall be made using laser alignment equipment, except for the barrel coupling which may use the manufacturer's recommended alignment method. The data records shall be taken after the coupling's final installation and after installation of shear bars or dowel pins in all base-mounted components. Coupling alignments shall be verified by the contractor after crane installation. The coupling alignment data record shall be submitted on the official form, which can be found on the NCC website. The contractor shall also provide the manufacturers' documentation (installation manual or other documents as necessary) that indicates the tolerances associated with each coupling installed on the crane.

SD-07.7 Hook and Hook Nut Proof Test

Contractor shall submit certification for the hook material type and that the hooks and hook nuts have been proof tested and satisfy the acceptance criteria of ANSI B30.10.

SD-07.7a Hook Material Type

Contractor shall submit certification documenting the hook material type.

SD-07.8 Welding Certifications

The contractor shall provide a certificate stating that all welders, welding operators, weld inspector(s) and welding procedure (qualification) meet the requirements of AWS D1.1 or AWS D14.3 for all work performed in manufacturing the crane.

SD-07.9 Design Review by Professional Engineer

The contractor shall provide a certificate stating that the design has been reviewed by a professional engineer. The certificate shall indicate the name, state of licensure and license number of the professional engineer.

SD-07.10 Contractor's Self Test

The contractor shall provide a certificate stating that the contractor's self test has been completed in accordance with section 2.8.1 of this specification.

SD-07.11 Ductile Material

The contractor shall provide a certificate stating that all non-redundant components directly supporting the load are ductile materials according to the requirements of Section 2.1.1.

SD-07.12 Transport Manual

The contractor shall submit a transport manual detailing the work involved in the transport and delivery of the crane. The plan must be submitted prior to the pre-delivery meeting, and shall contain the following:

- a. Final stowage plan
- b. Final dunnage plan showing proposed blocking and sea-fastenings
- c. Final loading/unloading sequence and schedule
- d. Loading and unloading locations and support arrangements
- e. Final stability calculations for intact stability during voyage reviewed by third party. under conditions of a "beam wind" as defined below.
- f. Computer sea-keeping analysis to predict motion responses for the intended route and time of year. Analysis should include the inertial and gravity forces acting on the cargo center of gravity for the six degrees of freedom (i.e. roll, pitch, yaw, heave, surge, and sway).
- g. Design forces on sea-fastenings (derived from the sea-keeping analysis plus an assumed "beam wind" as defined below.
- h. Cribbing/blocking pressures (based on sea-keeping analysis)
- i. Analysis showing maximum sustained sea state which the loaded vessel and cargo can withstand.
- j. A description of the method used to perform a check of the sea-fastenings at least once each day (24 hour period) while in transit.

beam wind = the greater of the maximum wind by weather routing multiplied by a 1.21 wind gust factor, or, if no weather routing is specified, assuming a standard 86.8 knot wind.

SD-8 Manufacturer's Instructions

SD-08.1 Shop Test Procedure

The contractor shall develop and submit a shop test procedure that will demonstrate operation, performance, and safety of the crane. The testing shall include brake torque verification. The test procedures shall be submitted and approved prior to conducting the shop test.

SD-08.2 Crane Removal/Installation Plan

The contractor shall submit a plan detailing the logistics involved in the installation of the new cranes and removal of the existing cranes. The contractor shall coordinate delivery and removal such that there is never more than five (5) portal cranes on the delta pier at one time. The plan shall include, as a minimum, detailed sequence of lifts, rigging sketch(s) with details of rigging equipments and methods of attachment to the component being lifted for installation. The plan shall be submitted by the contractor, for review by the Contracting Officer and the supported command. Any crane and rigging gear shall comply with OSHA requirements and any local requirements. Lifts of all major components for crane removal and installation are considered to be critical lifts and include any lifts performed by equipment such as forklifts and jacks. Actual locations of center of gravity and location of points for completely assembled crane and for each major component shall be provided with the crane installation plan.

NOTE: On site changes of the plan are not allowed without Government review.

SD-08.3 Accident Prevention Plan (APP)

The APP shall be prepared in accordance with Appendices (Safety), and Exhibit A and B and shall be submitted for review and comment by the Contracting Officer. Installation or removal of the cranes cannot proceed prior to the review and acceptance of the APP by the Contracting Officer.

SD-08.4 Training Course Outline

The Contractor shall prepare and submit to the Contracting Officer for approval, a training course outline. The outline shall contain enough detail for the Government to determine that all topics are adequately covered as prescribed in section 3.8 of this specification.

SD-09 Manufacturer's Field Reports

SD-09.1 Brake Adjustment Records

The Contractor shall provide a brake adjustment record and installation/maintenance manuals for each brake on the crane. The brake adjustment record shall be submitted on the official NAVCRANECEN form titled "Brake Adjustment Record Form" located on the NAVCRANECEN website. Each brake measurement shall have a tolerance traceable to the associated brake manual or documentation provided by the brake manufacturer, location of measurements, and the actual brake setting. Changes made to settings of the brake, at any time, will void the record.

SD-09.2 Shop Test Deficient Items List

Upon completion of the government witnessed shop test and inspection of the crane, a list of deficient items will be compiled and attached to NCC Form 08-002 and signed by the contractor, Navy Crane Center Representative, and activity representative (if applicable) and forwarded to the Contracting Officer.

SD-09.3 Shop Test Record

Upon completion of the shop test for the crane(s), the contractor shall submit records of all test data.

SD-09.4 Field Test Record

The contractor shall develop and submit a field test procedure that will demonstrate operation, performance and safety of the cranes. The test shall be based on a pre-work inspection report and shall prove the functionality of the crane matches or exceeds the requirements within this specification. This test shall include all demonstrations including tests with no load, 50% load, 100% load and 125% load. This test shall include inspections necessary to verify safety of the crane (including verification of brake settings) that must be performed prior to beginning of load testing.

SD-10 Operation and Maintenance Data

The contractor shall submit one hard copy and an electronic copy of the crane's operation and maintenance manual to the Government for review. The operation and maintenance manuals shall be the contractor's standard format and include: a table of contents for operation instruction, preventive maintenance, parts information, drawing list, supply list, catalog cuts, photographs, and calculations. The body of the technical manuals shall include the following: contractors detailed written procedures, operation instructions, preventive maintenance information, drawings, parts information, supplies needed, catalog cuts, photographs, and calculations. Maintenance information shall include recommended maintenance procedures and manufacturer's installation and maintenance manuals (for purchased components) and lubrication instructions. Operation information shall include detailed crane operating and safety instructions. Parts information shall include all information on all contractor-designed parts, all purchased sub-assemblies and components including the manufacturer's part number. The information shall be broken-out to the smallest replacement part. Within these sections the following information shall also be included:

- a. Maintenance and programming instructions for the drives and PLCs.
- b. Maintenance instructions including maintenance, alignment, adjustment, and calibration instructions for commercial components and parts lists.
- c. Operating instructions and special precautions for starting/stopping, operation, and safety.
- d. Preventive maintenance instructions including location of lubrication points, type of lubricant to be used, and the frequency of lubrication, which shall agree with the lubrication drawing provided.
- e. Recommended spare parts list.
- f. The contractor shall provide a complete listing of all control system parameters with an explanation of their functions.

SD-11 Closeout Submittals

SD-11.1 Drawings on CD

The contractor shall provide as-built drawings on CDs viewable and editable in AutoCAD 2010. The file shall be in .dwg or .dxf format and a separate copy in Portable Document Format (.pdf). The as-built drawings shall be submitted to the Government following final Government acceptance of the crane. The CDs shall include an index of the drawings.

SD-11.2 Operation and Maintenance Manuals

The contractor shall provide the operation and maintenance manuals on CDs and three hard copies following final Government acceptance of the manuals. The manuals shall be in Portable Document Format (.pdf). The manuals shall be indexed using bookmarks in Adobe Acrobat.

SD-11.3 Control System Parameter Record

After the crane has passed the final field test, the contractor shall complete a control system parameter record for the crane and provide the crane parameter file downloaded from the crane at time of acceptance, if applicable. The record shall include the contract number, contractor's name and address, date, all control system parameters and their final settings. Each control system parameter shall be designated as either used or unused. A copy of the parameter file records shall be provided to the Government on CD.

SD-11.4 Product Data

Electronic submission of catalog cuts shall be submitted as one unit with a cover sheet containing a title block and index sheet identifying individual catalog cuts. Ensure each page is numbered and identified to allow proper filing if separated or if provided in .PDF format linked book marking is acceptable vice page numbering. The minimum sections for indexing shall be the sections noted in paragraph SD-03.

SD-11.6 Property Transfer Verification

After the crane has passed the final field test, the contractor shall transfer possession of all small items associated with the operation and maintenance of the crane, including but not limited to: keys, control software, computer cabling, etc. The property shall be given to the point of contact of the supported command. The contractor shall provide an itemized invoice showing the quantity and description of items transferred; obtain the signature of the recipient and date on the invoice. Submit a copy of the signed invoice.

1.5 QUALITY ASSURANCE 1.5.1 Qualifications

Crane design shall be accomplished by, or directly supervised by, a registered professional engineer (PE). PE licensing shall be by a board or agency authorized to license and register professional

engineers in the U.S. or Canada. The PE may be a contractor's regular employee or a consultant. The PE's review and attestation of specification compliance and professional responsibility shall be signified by his or her PE original seal, and dated signature on the final design (PDF) and "as-built" (hardcopy and PDFs) drawings.

1.5.2 Regulatory Requirements

The diesel engine shall conform to the U.S. EPA emission standards specified in 40 CFR 89 or 40 CFR 1039, as applicable for the manufacture or importation of non-road compression ignition engines. All crane functions and components shall comply with all OSHA requirements and other listed references in this specification. Anchorages to which personnel fall arrest equipment is attached shall be capable of supporting at least 5,000 pounds per person attached, or it must be designed, installed, and used as part of a complete personal fall arrest system which maintains a design factor of at least 2.0 under the supervision of a qualified person as required by 29 CFR 1910.66.

Attach a permanent label at each anchorage point identifying it as a "Fall Protection Anchorage Point" listing its capacity (e.g. one person capacity).

Open gearing and couplings with exposed bolts or nuts (non-safety type) shall be provided with guards. The guards shall be removable type and allow for a visual inspection of the covered component when installed. The guards shall be securely fastened and shall be capable of supporting, without permanent deformation, the weight of a 200-pound person, unless the guard is located where it is impossible for a person to step on it.

Any part of the crane above 200 feet shall meet Federal Aviation (FAA) requirements. This includes but is not limited to crane markings (i.e. striped boom tip), lighting at the highest point and any required FAA approvals necessary.

1.5.3 Post-Award Conference

The contractor shall attend a post-award conference that will be held at the Bremerton site. This conference will cover design submissions, shop testing, shipping, site mobilization, erection dates, Exhibit A submissions, Accident Prevention Plan, crane installation plan, roles and responsibilities of the entities involved and the schedule. Meeting minutes shall be prepared by the Contractor and reviewed by the Government.

1.5.4 Pre-Installation Conference

The contractor shall attend a pre-installation conference that will be held at each installation site. This conference will allow the contractor and any sub-contractors, the Navy Crane Center and the supported command the ability to review any necessary precautions to insure a safe and accurate installation. A draft of the Crane Installation Plan should be available at the pre-installation conference. Meeting minutes will be prepared by the contractor and submitted for review and approval by the Government in accordance with Exhibit A.

1.6 DELIVERY, STORAGE, AND HANDLING

The cranes are to be fully erected in the Contractor's facility and tested prior to shipment. The cranes may be partially disassembled to achieve transportation height. Partial disassembly shall minimize impact of the tested status of the cranes.

The Contractor shall suitably restrain the cranes and crane components during shipment so as to avoid damage to the cranes and crane components. The Contractor shall protect components to minimize damage and corrosion during loading, shipping and unloading operations.

The Contractor shall prepare calculations and detailed plans for crane partial disassembly, on-loading onto the transportation, restraining the cranes and crane components, protecting the cranes and crane

components, off-loading the cranes on to the pier. These procedures shall be submitted to the Contracting Officer.

1.7 PROJECT/SITE CONDITIONS

1.7.1 Environmental Requirements

The crane shall be designed to operate in an outdoor heavy industrial marine environment with an ambient temperature of 30° to 110° F and 100% relative humidity.

1.7.2 Existing Conditions

Prior to mobilization, the site shall be inspected by the crane contractor, a facility representative, and a NCC representative to document the condition of all existing construction and record any existing damage. A Pre/Post Installation Site Inspection Checklist form shall be initiated at that time, NCC Form 11-001. Upon completion of the work, the crane contractor, a facility representative, and a NCC representative shall determine the extent of any damage that may have occurred as a result of work performed under this contract. During this final inspection the NCC Form 11-001 shall be completed. Any damage as a result of the crane installation and/or testing shall be the responsibility of the crane contractor under this contract.

1.7.3 Government Furnished Equipment

The Government shall provide certified test weights and associated rigging at the facility for acceptance testing of the crane.

1.8 SEQUENCING AND SCHEDULING

The contractor's on-site work may impact the on-going operations at the installation site and installation shall be planned to minimize the duration and scope of disruption. The contractor shall provide an onsite work schedule with durations and desired start/stop dates. The Contractor shall provide notice a minimum of thirty days prior to the desired mobilization date at the supported command.

1.9 CONTRACTOR REQUESTED ENGINEERING CHANGES

All contractor-requested engineering changes must be submitted to the Navy Crane Center on the "Contractor Change Request Form" (NCC Form 07-001). The "Price Worksheet" (NCC Form 07-001A) shall be attached to any engineering changes when a price increase/decrease is proposed by the contractor. The worksheet shall compare the price of equipment as specified in the contract with the price of the proposed change. CCRFs shall be disapproved if submitted without Price Worksheet. The forms are available at <https://portal.navfac.navy.mil/ncc> under the "downloads" page.

1.10 WARRANTY

See section I for warranty information.

1.11 MAINTENANCE

Not applicable for this specification.

PART 2 PRODUCTS

2.1 MATERIALS

Material shall be free from defects and imperfections that might affect the serviceability and appearance of the finished product. All material shall be new and unused.

2.1.1 Ductile Materials

All non-redundant components directly supporting the load shall be of ductile materials. These components include, but are not limited to all hoist drive gear reducer housings, motor frames and end

bells (except for end bells of the C-face mounted motors), flanged adapters, and brake wheels and discs. For the purposes of this specification, ductile is defined as having a minimum elongation of 5% in 2 inches. Furthermore, all shafts, keys, gears, torque carrying coupling components, and wire rope drum shall be steel.

2.1.2 Structural Steel

Structural steel shall conform to ASTM A36, A572 or A992.

2.1.3 Cast Steel

Cast steel shall conform to ASTM A27 or ASTM A148.

2.1.4 Ductile Cast Iron

Ductile Cast Iron shall conform to ASTM A536.

2.1.5 Forged Steel

Forged steel shall conform to ASTM A668 or ASTM A521, grade as applicable.

2.1.6 Steel Shafts

Steel shafts shall conform to ASTM A434 - Steel Bars, Alloy, Hot-Wrought or Cold-Finished, Quenched and Tempered

2.1.7 Aluminum Castings

Aluminum castings shall conform to ASTM B26 or ASTM B108.

2.1.8 Welding Materials for Crane

Welding materials for cranes shall conform to AWS D1.1

2.1.9 Structural Tubing

Structural tubing shall conform to ASTM A500

2.1.10 Structural Pipe

Structural pipe shall conform to ASTM A53

2.2 MANUFACTURED UNITS

Not applicable for this specification.

2.3 EQUIPMENT

2.3.1 Structural Design

The structural design of the crane shall conform to ASME B30.4, AISC 360, OSHA 29 CFR, Part 1917.45, and other requirements specified herein. The structure shall be capable of following occasional rail-track deviations which exceed the specified maximum rail-track deviation as given in FEM 1.001. The structural design shall assume a design life of 30 years.

Pockets where water or dirt may collect shall be avoided. Where unavoidable pockets are formed, drains shall be provided so that water will drain in all positions.

2.3.1.1 Design Loads

The crane shall be designed taking into account the prescribed load cases which are comprised of various design loads. Loads due to temperature effects, erection stresses, and other loads based on the Contractor's experience shall be included in the analysis if they cause significant stresses. If analysis indicates loads larger than what is specified herein, the larger loads shall be used. Crane upper works is defined as the boom, A-frame, strut and machinery deck. The travel truck system is defined as

equalizers, gudgeons, gudgeon pins, float pins and travel trucks. The design loads shall be defined as follows:

Dead Load (DL). A load of constant magnitude which acts permanently on the structure including the weight of the crane's structure and all permanently attached equipment

Lifted Load (LL). The load which hangs from the hook, including hook block, wire ropes, sheaves, and the lifted load. The lifted load shall be taken as the rated capacity and shall be applied concentric to the geometric center of the head block.

Skewing Forces (SK). Horizontal loads produced by acceleration and decelerations of the travel drives and rotate drives. Rate of acceleration from a standstill to related speed in 8 seconds.

Extraordinary Breaking Load (EBL). Horizontal loads produced by decelerations of the travel drives and rotate drives by loss of power or emergency stop. Forces are based on rated speed and are considered to act one at a time.

Impact Forces due to Vertical Acceleration of Load (IML). Static increase in lifted load due to vertical dynamic force on the lifted load due to handling. 0.3 for upper works, 0.15 for portal base/tower. 0.25 travel system (applied to total vertical load).

Spreading and Squeezing Forces (SSF). Friction forces due to travel into a curve, outward and inward movement applied perpendicular to rail axis. Force shall be considered to be 12% of maximum wheel load caused by the DL + LL.

Collision Forces (COLL). Forces resulting, while traveling at 100 percent of rated speed but with the power off, from the collision of gantry bumpers with their end stops or another crane. Deceleration due to collision bumpers may be considered. Assume no braking and omit the live load.

Operating Wind Load (WLO)*. The load imposed on the crane due to a wind speed of 40 miles per hour using the methods of ASCE 7-10

Non-Operating Wind Load (WLN)*. The load imposed on the crane due to a wind speed of 80 miles per hour using the methods of ASCE 7-10

Storm Wind Load (SWL)*. The load imposed on the crane due to a wind speed of 110 miles per hour. The resulting dynamic pressure shall be applied in the most adverse horizontal direction using the methods of ASCE 7-10

Earthquake Load (EQ). The crane structure shall be designed as a non-building structure with an ordinary moment resisting steel frame according to ASCE 7 or from another widely recognized code. The earthquake loads shall be applied parallel and perpendicular to the gantry rails.

Snow Load (SL). The snow load on either the machinery deck or operator's cab.

Roof Load (RL). Concentrated downward load of 250 pounds at any location on roof.

NOTE: *The wind loadings listed above include an allowance for wind gusts, but does not account for shape factors.

2.3.1.2 Load Combinations

The design loads defined above shall be combined in the following combinations with simultaneous operations occurring in the most adverse directions. For the crane upper works, the forces on the components should be determined in 5 to 10 foot increments, for the full range of main hoist operating radii and the corresponding rate load. For the portal base should be analyzed for three orientations of the boom axis: parallel to the rails, perpendicular to the rails and at the orientation that produces the maximum corner load. Each of these three orientations shall be analyzed for two boom

radii: the radius that produced maximum overturning moment on the portal base and the radius that produces maximum axial load on the portal base.

2.3.1.2.1 Basic Operating Conditions

NOTE: All of the load cases listed below shall be analyzed for elastic limit and buckling considerations.

The allowable design stresses for the following cases shall be 85 percent of AISC allowable stresses:

- (a) $DL + LL(1+IML) + SK + WLO$ (Upper Works)
- (b) $DL + LL(1+IML) + SK + WLO + SSF$ (Portal Base)
- (c) $DL + LL(1.25) + SK + WLO + SSF$ (Travel Truck System)

The allowable design stresses for the following cases shall be 100 percent of AISC allowable stresses:

- (a) $DL + WLO + SL$ (Machinery House and Operator's Cab)
- (b) RL (Machinery House and Operator's Cab)

The allowable design stresses for the following cases shall be 133 percent of AISC allowable stresses:

- (a) $DL + LL + EBL$ (Upper Works and Portal Base)

2.3.1.2.2 Non-Operating Conditions

All of the load cases listed below shall be analyzed for elastic limit and buckling considerations.

The allowable design stresses for the following cases shall be 133 percent of AISC allowable stresses:

- (a) $DL + WLN$ (Upper Works, Portal Base and Travel Truck System)
- (b) $DL + SL + WLN$ (Machinery House and Operator's Cab)

2.3.1.2.3 Test Conditions

All of the load cases listed below shall be analyzed for elastic limit and buckling considerations.

The allowable design stresses shall be 135 percent of AISC allowable stresses

- (a) $DL + LL(1.3+IML) + SK + WLO$ (Upper Works)
- (b) $DL + LL(1.3+IML) + SK + WLO + SSF$ (Portal Base)
- (c) $DL + LL(1.55) + SK + WLO + SSF$ (Travel Truck System)

2.3.1.2.4 Stowed Condition (boom is raised up)

All of the load cases listed below shall be analyzed for elastic limit and buckling considerations.

The allowable design stresses shall be 126 percent of AISC allowable stresses.

- (a) $DL + SWL$ (Upper Works, Portal Base and Travel Truck System)
- (b) $DL + EQ$

2.3.1.3 Fatigue Design

Stress-carrying structural elements shall be designed for fatigue in accordance with the AISC 360 or FEM 1.001. The crane shall be designed for a loading condition of 100,000-500,000 cycles. This loading condition shall be applied to all components of the crane.

The allowable design stresses shall be 100 percent of AISC allowable stresses.

2.3.1.3.1 Upper Works

The stress range shall be defined as the algebraic difference between the stresses due to cases a and b below with the hook at 75% of its maximum operating radius:

(a) DL + 0.5(LL)

(b) DL

2.3.1.3.2 Portal Base

(a) The stress range shall be defined as the algebraic difference between the stresses due to cases i. and ii. below:

(i) Boom directly over section

(ii) Counterweight directly over section

(b) The stress range shall be defined as the algebraic difference between the stresses due to cases a and b in Upper Works above.

2.3.1.3.3 Travel Truck System

The larger of the following two stress ranges shall be used:

(a) The stress range shall be defined as the algebraic difference between the stresses due to cases i. and ii. below:

(i) Counterweight positioned to produce the maximum corner load

(ii) Boom positioned to produce the minimum corner load

(b) The stress range shall be defined as the algebraic difference between the stresses due to cases a and b in Upper Works above.

2.3.1.4 Stability

In addition to the stability requirements of ASME B30.4, the entire crane shall maintain stability in the following load cases. The resultant of all forces is translated to the plane of the tipping axis – either on the rails or through the main gudgeon pins. When the tipping axis is the rail, the maximum detrimental combination of travel truck float and wheel flange clearance on the railhead must be included in the analysis. Several hook/radius combinations at 5 to 10 foot increments are to be used in the stability cases defined below:

(a) 150 percent of maximum load moment on the crane (maximum product of load multiplied by radius). Rotate positions with the boom in line and perpendicular to the rails must be considered. The resultant of all forces must be within the rails (track gauge) or between the main gudgeon pin axes, as applicable.

(b) Maximum load moment on the crane, and 40 mph operating wind from the rear of the upper works. Rotate positions with the boom in line and perpendicular to the rails must be considered. The overturning moment must not exceed 77 percent of the stabilizing moment.

(c) No load on the hooks and the boom at its minimum operating radius. Rotate positions with the boom in line and perpendicular to the rails must be considered. The resultant of all

forces must be within 60 percent of the distance from the crane's center of rotation to either rail or either main gudgeon pin axis, as applicable.

(d) No load on the hooks, the boom at its minimum operating radius, and 80 mph non-operating wind from the front of the upper works. Rotate positions with the boom in line and perpendicular to the rails must be considered. The overturning moment must not exceed 80 percent of the stabilizing moment.

(e) With the crane positioned in its storm wind stowed configuration, the overturning moment must not exceed 80% of the stabilizing moment with a wind speed based on the maximum local operating wind velocity at the geographic location in accordance with ASCE 7.

2.3.1.5 Welding

All welding procedures and qualifications shall be in accordance with the requirements of AWS D1.1 as required by SD-07.8.

2.3.1.6 Structural Bolted Connections

Major structural bolted connections shall be designed and installed in accordance with RCSC Specification for Structural Joints Using High-Strength Bolts.

2.3.1.7 Boom

A method to remove the load from the boom hoist shall be provided. OSHA compliant maintenance walkway access shall be provided to all locations on the boom requiring maintenance.

2.3.1.8 Portal Base

The portal base shall be a primarily welded steel structure composed of closed sections with interiors accessible for inspection. Sealed hatches equipped with latches and provisions for opening them from either side, shall be provided to permit inspection of the portal base internal sections. The four corners of the portal base shall rest on equalized travel truck systems and shall have provisions for jacking up one corner or one side to permit the removal of any equalizer beam or travel truck.

2.3.1.9 Storm Secure Method

Provision for securing the crane against storm winds shall be incorporated into the design of the portal base and travel drive system. The crane shall be designed to not move during storm wind. The primary method of resisting wind shall be the travel system brakes. If the travel brakes are not sufficient, storm locks shall be designed and sized to withstand the storm wind. Storm locks shall lock onto the existing rail head. Special tie downs which require specific location and or modifications to the existing rail system are not allowed.

2.3.1.10 Access Structures

All access structures shall be in accordance with OSHA and ASME B30.4. The crane shall be equipped with the necessary stairways, walkways, platforms, and ladders to provide safe access to all areas necessary for crane operation, lubrication, adjustment, servicing, and inspection. Stairs shall be used whenever possible and ladders only when stairs are not feasible. Two means of access be provided to the upper works. Stairways shall be provided at two diagonal corners of the portal base for access to the crane upper-works from the ground. Continuous circular walkways (or equal) shall be provided around the interior and exterior of the rotate bearing with direct access from the interior of the rotate bearing to portal base and machinery house. Access to all machinery house exit doors shall be available with the upper works in the any position. The arrangement shall preclude the possibility of a person being crushed between rotating and fixed parts of the crane or being pushed off by the rotating parts.

2.3.1.11 Travel Truck System

The travel truck system shall be designed to allow crane travel with rated load through all track corners including starting and stopping mid curve. The truck system shall also equalize all wheel loads at each corner and permit articulation and float of all travel trucks. The arrangement shall permit the removal of any wheel, travel truck, or combination of equalizer girders and travel trucks by jacking a portal leg or side without affecting stability. The arrangement shall also permit open access to all drive motors, gear reducers, and brakes.

2.3.1.12 Travel Trucks

Wheel axles shall be of the rotating type, with each end supported by an antifriction bearing. Rail sweeps shall be provided on outboard ends of travel trucks at each corner of the crane to remove obstructions from their path. Means shall be provided to limit the drop of truck frames in case of wheel or axle breakage to a distance that will not cause the crane to overturn.

2.3.1.13 Lateral Float

Each truck assembly shall be designed to accommodate truck float to either side of the portal leg centerline. The magnitude of truck float both outward and inward, and resulting side to side crane float shall be as required to allow satisfactory operation on the existing ground track system (including straight and curved track). Truck gudgeon pins shall be covered to keep out dust, dirt, and moisture.

All truck assemblies shall provide smooth and free lateral float when the crane negotiates curves with any combination of hook load, boom radius, or machinery deck orientation. The travel truck system shall not violate the outboard clearance envelope, as specified in this contract in its extreme float position and the inner flange of the wheels against the rail head.

2.3.1.14 Counterweight and Ballast

Counterweight and ballast shall be plain concrete, cast iron or steel plate. Earthen material and liquids shall be prohibited. Counterweight and ballast shall be enclosed in a weatherproof steel box and seal welded. Counterweight and ballast shall be completely sand blasted, primed and painted in the same manner as other structural components. Counterweight shall be designed in accordance with ASME B30.4, to preclude shifting and adequately protected to withstand the operation environment.

2.3.1.15 Machinery House

The machinery house shall be designed and constructed in accordance with the manufacturer's standard practice, except as modified herein. The assembly shall be steel framed, weatherproof, and ventilated. The machinery house shall be of sufficient size to accommodate, with ample working space, all hoist machinery, rotate drive machinery, electric control panels, diesel engine-generator set and all other equipment required for the operation and control of the crane.

The machinery house shall have a minimum of two exit doors. In addition, air flow patterns and location of louvers in the machinery house shall ensure adequate cooling of electrical equipment. Openings for diesel engine combustion and cooling air shall be fitted with louvers and filters. Filters shall effectively preclude the infiltration of dust and abrasives associated with abrasive blast operations carried on in the vicinity of the crane and shall be of the replaceable type.

The roof of the assembly shall be built with sufficient slope to prevent water pocketing, but flat enough to allow people to walk on the roof. The roof shall be insulated with an asbestos-free, fire-retardant, insulating material.

Welding of sheet steel shall be in accordance with AWS D1.3.

Openings in the roofs for the ropes shall be hooded and guttered to prevent entrance of rain and shall have ultra high molecular weight polymer rubbing blocks to minimize rope wear.

Provisions shall be made in the roof and in the walls for the removal of major components, including hoist and rotate drive motors, gear reducers, and brakes as specified herein. The floors shall have steel skid-resistant surfaces.

2.3.1.16 Operator's Cab

The operator's cab shall be fully enclosed and shall have a full view of the crane operations envelope (including the entire jib boom) from a seated position. The cab shall limit noise and vibration. The minimum cab size shall accommodate both the operator's chair and a chair for an observer. Cab design shall meet the minimum requirements of ASME B30.4 and OSHA safety standards. A capacity plate and radius indicator shall be installed inside the operator's cab such that they are visible to the operator when operating the crane. The capacity plate shall be sized to contain the following information:

Rated capacity of the crane at each operating radius
Naval Facilities Engineering Command
Contract Number N62470-15-R-3000
Manufacturer's name and crane serial number
Government Crane Number XX

The cab structure shall be thermally and acoustically insulated. The cab shall be constructed of fire-resistant materials. The sound level inside the cab shall not exceed 68 dB(A) at any point when all devices are operating normally, excluding the PA system and any audible alarms.

All cab and machinery house glazing shall be safety-glazing material, as defined in SAE Z26.1 with the exception that wired glass and plastic is prohibited for the cab glazing material. Operator's cab front and lower panels shall be clear glass, and installed in a manner that can withstand a load of 200 pounds applied to the glass unless other loading conditions increase the loading on the glass. This applies for both the glazing and the mounting method. Glazing shall meet the projectile requirements contained in ASCE/SEI 7. Glazing on the cab roof shall offer protection from falling objects and by being able to support a 50 psf static load. Windshield wipers should be installed on the front glazing. Window framing shall not interfere with the operator's normal lines of vision.

All glass shall be installed in accordance with the manufacturer's recommendations and shall permit easy replacement. A method to allow cleaning of all windows without the use of a man-lift shall be provided.

Drip rails shall be provided over the windows and doors. All vertical and sloping glass shall be tinted safety glass.

All windows shall be provided with tinted industrial grade window shades to allow the operator to block sunshine.

A suitable coat rack and book shelf shall be provided.

2.3.1.17 Fire Protection System

A ten pound (10-lb) ABC dry chemical portable fire extinguisher shall be provided for the operators cab. The fire extinguisher shall comply with NFPA 10 and the fire extinguishing agents shall be approved by the Environmental Protection Agency.

Two (2) ten pound (10-lb) ABC dry chemical portable fire extinguisher shall be provided for the machinery house. One shall be located near the primary entrance and the second shall be centrally located to the electrical drive control equipment. The fire extinguishers shall comply with NFPA 10 and the fire extinguishing agents shall be approved by the Environmental Protection Agency.

A fixed fire extinguishing system shall be provided for crane compartments that contain diesel engines. The fire extinguishing system shall be automatically actuated with back-up manual actuation. The system

shall comply with NFPA 12 or NFPA 2001. Fire extinguishing system piping shall be suitably marked to indicate "FIRE EXTINGUISHING SYSTEM", the compartment(s) it protects and normal direction of flow. System piping shall be painted a bright red color.

The extinguishing agent discharge pipe shall include a shut-off valve that is to be locked in the open position, except when the diesel engine, electric generator, or the extinguishing system is undergoing maintenance. It shall be lockable in the shut position to allow securing the system during maintenance. The extinguishing agent containers shall be mounted outside the protected compartments in safe, readily accessible locations. The containers shall be marked with normal weight or volume of agent and provided with reliable means of checking the quantity of agent in them.

A manual actuation station shall be located outside each protected compartment adjacent to the primary entrance/exit. Manual actuation controls shall be guarded, double-action type. Each station shall be clearly labeled as to its function and which protected compartment(s) it will flood.

An automatically actuated audible alarm system shall be provided for the fire alarm system. The system shall comply with NFPA 72 to the maximum extent practicable. The ambient design temperature for the entire system shall be taken as 104 degrees Fahrenheit. The alarm system shall annunciate audibly and visually in the operator's cab upon fire detection. Warning signs shall be provided at each entrance to each protected compartment indicating that the compartment is protected by a total-flooding fire extinguishing system and shall be promptly evacuated when the alarm sounds. Upon actuation of the extinguishing system (either automatic or manual), but prior to agent discharge into the protected space, the alarm system shall:

1. provide a minimum 20 second warning of the impending release of the fire extinguishing agent,
2. shut down all ventilation fans, and
3. close all openings which admit air into, or would allow the extinguishing agent to escape out of the protected compartment.

The diesel engine shall not be shut down by the alarm system.

2.3.2 Mechanical Design

The mechanical design of the crane shall conform to ASME B30.4, and other requirements specified herein. Drive train components shall be of ductile material.

2.3.2.1 Design Factors

Unless otherwise specified, all mechanical components, including fasteners, shall be designed for a factor of safety of no less than 5.0 based on material ultimate strengths respectively. Shafts and axles subjected to reversed or fluctuating loads shall be designed to provide a fatigue factor of safety of not less than 1.5. Impact, shock, vibration, or acceleration need not be considered in the stress/safety factor computations.

2.3.2.2 Alignment

All base-mounted motors, gear reducers, brakes, and pillow blocks shall be locked in proper alignment, both longitudinally and laterally, after adjustment, shimming, and fastening, with appropriately sized dowel pins or shear bars. Dowel pins or shear bars shall be installed after final field verification of coupling alignments.

2.3.2.3 Threaded Fasteners

All base-mounted and flange-mounted components and all mechanical connections subjected to calculable loads shall be fastened with SAE J429, Grade 5 or Grade 8 fasteners, ASTM F436 washers, and SAE J995 Grade 5 or Grade 8 nuts. Mounting fasteners from flange-mounted components, including keeper bars, may be installed into tapped holes provided that adequate thread engagement is provided to develop the full tensile strength of the fastener. All nuts shall have a minimum of one

thread pitch of the bolt protruding above the nut top surface. Fastener connections shall be sized neglecting any benefit to be derived from shear bars or dowel pins.

2.3.2.4 Load Blocks

Load blocks shall be entirely of steel construction. The designs shall preclude the wire rope from being cut, pinched, crushed, or chafed in case of two-blocking or unloading of the wire rope. The load blocks shall be constructed so that the hooks and hook nuts can be removed without disassembly of the blocks. The hook shall be mounted in a separate trunion. The hook shall rotate freely with 131.25% of rated load. The thrust bearing shall have a static capacity of no less than 150% of rated load. The hoist capacity in pounds shall be clearly marked on both sides of the load blocks.

2.3.2.5 Hooks and Hook Nuts

The hooks shall be duplex swivel with lower bail attachment hole. The hooks shall be forged carbon steel conforming to ASTM A668 or ASTM A521 with a longitudinal elongation of not less than 18%. The hook nuts shall be secured to the hooks by a bolt and lock nut. The hooks shall be provided with safety latches. The hooks and hook nuts shall be uncoated. The hooks shall be uniquely marked in a permanent fashion that is traceable to the NDT certification. The nut shall be marked to match with the hook. The markings shall be visible when the hook and hook nut are assembled on the hook block.

2.3.2.6 Hoist Wire Rope

The drum line pull shall not be more than 20% of the nominal breaking strength of the wire rope to obtain a minimum wire rope design factor of 5 to 1. For single layer wire rope drums, the hoisting rope shall be 6 x 36 class construction, extra improved plow steel or extra-extra improved plow steel, regular lay, uncoated, with an independent wire rope core, and in accordance with all requirements of ASTM A1023/A. For multi-layer drum, the wire rope selected shall be recommended by the wire rope manufacturer for use on a multi-layer drum and shall have compacted strands or compacted (swaged) rope construction. Hoisting rope dead end connections to equalizer bar (if used) shall be by means of poured socket connections or swaged fittings installed in a manner that develops the full breaking strength of the hoisting rope; wedge sockets shall be prohibited. The sockets shall be forged steel. Hoisting rope ends on the drum shall be anchored by means of swaged fittings or by clamping. Clamped hoisting rope ends shall be neatly and securely seized with wire.

2.3.2.7 Sheaves

Sheaves shall be steel. The grooves shall be machined or ground to contour and rim toughened to not less than 320 BHN.

All rotating sheaves shall be installed with bearings. For 6x36 class wire rope, the pitch diameters of the upper and lower load block sheaves and the boom hoist sheaves shall not be less than 30 times the nominal diameter of the rope used. For rotation resistant wire rope the pitch diameters of the upper and lower load block sheaves and the boom hoist sheaves shall not be less than 40 times.

2.3.2.8 Drums

The drum shall be a one-piece steel weldment, finish-machined after all welding and stress relieving has been completed. The hoist drum shall be grounded.

Drum shall not be mounted in a three bearing configuration.

The drum shall be designed such that not less than two dead wraps of hoisting rope will remain on each end of the drum when the hook is in its extreme low position. For single layer wire rope drums the drum grooves shall be helical and machined right and left hand.

The pitch diameter of the single layer hoisting drums shall not be less than 30 times the nominal diameter of the wire rope.

The single layer wire rope drum groove pitch shall be a minimum of 1.125 times and a depth of 0.375 times the nominal wire rope diameter.

The single layer wire rope drum shall have end flanges that extend a minimum of one rope diameter above the top layer of wire rope. Multi-layer wire rope drums shall employ Lebus lagging.

For multi-layer wire rope drums the pitch diameter of the single layer hoisting drums shall not be less than 40 times the nominal diameter of the wire rope.

The multi layer wire rope drum shall have end flanges that extend a minimum of two rope diameter above the top layer of wire rope.

2.3.2.8.1 Boom Hoist Ratchet and Pawl

The boom hoist drum shall be equipped with a drum ratchet and pawl assembly. The ratchet shall be securely mounted on the drum's middle section. The pawl shall be controlled from the operator's cab, shall be positively guided into the drum ratchet, and shall be designed to maintain both engaged and disengaged positions, wherever positioned last, without reliance on electrical power. The luffing pawl actuator shall prevent pawl actuation while the boom is moving.

The ratchet, its fasteners, the pawl, and the pivot joint shall be designed for 150% of the rated hook load drum line pull.

2.3.2.9 Gearing

Reducers and gearmotors shall be sized per the manufacturer's recommendation, except as noted in this specification. All gearing shall meet applicable AGMA standards or the international equivalent with a comparison to the US equivalent. All gearing shall be of the enclosed (gear reducer) type, except final drive. Shafts with three or more bearing supports shall not be permitted. Gear reducers shall be standard commercial products. Enclosed reducers shall have a convenient means of lubricant level indication and draining. All reducers shall have a ball valve to facilitate draining.

2.3.2.10 Brakes

Each brake shall be capable of stopping its respective drive under all operating and emergency conditions from maximum speed to zero unaided by motor regeneration, and independently hold the test load. Each brake shall be provided with a release mechanism that is self-return to ON so that it may be partially and completely released by hand. Maintained OFF, release mechanisms are not permitted.

Main hoist and boom hoist brakes shall release only after motor torque has been proven by their respective hoist drive systems. Automatic regenerative braking shall be provided for all drives when reducing speed before spring-set brake setting. Hoist secondary brakes shall have a setting time delay between 1 and 3 seconds in any stopping condition, including loss of power. Time delay shall not be accomplished via an uninterruptable power supply. All brakes shall have means for easy adjustment.

Brakes, pads, linings, and/or friction discs shall not contain any asbestos and shall not contact the brake wheels, rotors or discs except when the brakes are applied.

2.3.2.10.1 Hoist and Boom Hoist Brakes

Each hoist shall have a minimum of two spring-set type brakes. Each brake shall be rated at 130 percent of rated load hoisting torque at the point where the brake is applied as a minimum. Each brake shall independently stop and hold the 131.25% test load. Each brake shall be provided with a means to manually verify the holding torque in a deenergized state.

2.3.2.10.2 Travel Brakes

Each travel drive shall be provided with an electro-mechanical brake.

Each brake shall be motor end-mounted and spring applied, electrically released. Each brake shall have a minimum torque rating equal to 100% of the drive motor rated torque, not greater than 200% of drive motor rated torque. The brakes shall be designed to permit easy access for adjustment and inspection for wear and/or setting of the friction discs.

2.2.2.10.3 Slewing Brakes

Each slewing drive shall be provided with an electro-mechanical brake.

Each brake shall be spring applied, electrically released. Each brake shall have a minimum torque rating equal to 100% of the drive motor rated torque. The rotate brake(s) shall be capable of stopping and holding rated load at rated speed in 40 mph wind.

2.3.2.12 Travel Drives

Travel drives shall be electrically driven. The travel drive(s) shall provide adequate traction and power under normal operating conditions to include acceleration and deceleration with and against the specified operating wind and through track curves. The drive system shall provide speed control at all times (i.e. it shall not allow the crane to be “overhauled” by the specified operating wind at start or stop). At least half of the travel wheels per travel truck shall be driven. The travel drives shall be capable of traveling through the curved track at rated load at rated speed. The travel drives shall be capable of starting from a stop in the middle of the curved track with rated load. The travel drives shall be capable of operating on a 1% inclined grade.

2.3.2.13 Slewing Drive

The drive shall provide adequate power under normal operating conditions to include acceleration and deceleration with and against the specified operating wind at rated load and speed. The drive system shall provide speed control at all times (i.e. it shall not allow the crane to be “overhauled” by the specified operating wind or load swing at start or stop). The slewing drive system shall have capability to continue to operate (at reduced speed) if a portion of the drive system malfunctions.

2.3.2.14 Slewing Lock

A slewing lock (spud lock) device shall be provided for locking the crane upper-works to the portal base with the boom pointing in a minimum of two locations (jib aligned forward and aft with rails). Additional locations will be required for Bangor cranes (Government number 53 and 54) if the profile of the crane does not allow cranes to pass when the crane is parked in the spurs. An interlock (electrically) shall prevent the spud from being engaged when the rotate function is operating and prevent rotation unless the slewing lock is fully released.

2.3.2.13 Shafts, Axles, and Pins

All shafts, axles, and pins shall be steel.

2.3.2.14 Couplings

Chain and continuous sleeve type couplings shall not be permitted. Gear couplings shall be bolted flange type. Brake wheel couplings (if used) shall have the brake wheel mounted on the driven hub. Spline couplings are acceptable as installed on c, d, or p-face assemblies. Barrel type couplings shall be used in connection between the hoist reducer output shaft and drum flange. Conventional couplings shall not be loaded in the radial direction. Semi-flexible couplings shall be used on floating shafts and shaft arrangements where one shaft has sufficient length such that shaft deflection easily compensates for misalignment and the other shaft does not.

Full-flexible couplings shall be used on connecting shafts and axles with adjacent bearing supports.

Rigid couplings are permitted only on long shafts (with distant bearing supports) where shaft deflection easily compensates for any misalignment.

Flexible couplings shall not be relied upon to compensate for inaccurate alignment.

There shall be adequate clearance between couplings and adjacent components to allow removal of the cover for inspection, adjustment and alignment. Ends of coupled shafts shall be aligned within the recommended installation criteria of the coupling manufacturer or 1/4 degrees per gear mesh, whichever is smaller. Coupling alignments shall be measured, and verified during the shop test. Hoist couplings shall be measured by the contractor and witnessed by the Government after field installation.

2.3.2.15 Wheels

The wheels shall be sized for the maximum wheel load. See Appendices for required wheel flange dimensions. Travel wheels shall be double flanged and manufactured from wrought (forged) steel. Wheels shall be heat treated and case hardened including tread, flange faces and flange outside diameters, to a minimum Rc 48. Case hardened wheels shall be manufactured from fine grain, full killed, vacuum degassed forged or alloy steel. The steel forgings shall conform to ASTM A668. The hydrogen content of the forged steel material shall be tested in the ingot mold and shall not exceed 2.0 PPM. The forgings shall be fully normalized prior to hardening to ensure a grain size of ASTM number 5 or finer throughout the forging. A hardness gradient shall be specified to provide smooth transition without a drastic or abrupt change in hardness from the specified surface hardness (at the tread and flange surfaces) to the core material properties to sustain sub-surface shear stresses a maximum wheel load. Material in the web and hub area of the wheels shall be core material hardness.

All wheels shall be interference fitted and driving wheels shall be keyed to axles. The wheels shall be designed to withstand all forces during crane operation on existing ground rail including cornering and operate with full rated vertical load on the flanges when the crane moves through “frogs” and switches.

2.3.2.16 Bumpers

Hydraulic bumpers shall be provided on the four corners of the portal base of the Bangor cranes (Government number 53 and 54) mating with the existing endstops (see Appendices). Strike plates shall be provided on the four corners of the Bremerton (Government number 51 and 52) portal cranes. The strike plate area shall be a 12” x 12” square (centered on the rail) and 24” to 36” above the rail. Bumpers shall be provided on the boom and stops shall be provided on the A-frame. Boom bumpers shall fully mate with the A-frame stops and mounted to provide proper clearance when bumpers are fully compressed.

2.3.2.17 Keys and Keyseats

Key/keyseat assemblies shall be of the parallel type and machined. The manner of key installation shall preclude any possibility of a key shifting out of its intended position.

2.3.2.18 Bearings

All bearings shall be of the antifriction type except where specifically permitted or required otherwise. Permanently lubricated sealed bearings shall be used wherever practical. Provide easily accessible fittings for lubrication of the grease-lubricated bearings. All antifriction bearings shall be supplied with inner races. If a pedestal bearing is used to support a drum, the housing shall be steel.

2.3.2.18.1 Slewing Ring Bearing

The rotate bearing shall be the product of a manufacturer regularly engaged in the manufacture of such bearings to commercial precision limits. The bearing shall be of the roller type with three independent rows of rollers and specifically designed for thrust loads, overturning moments, and radial loads.

The L-10 life shall be not less than 10,000 hours based on continuous rotation at 100 percent rated speed. The rotate bearing shall meet the 10,000 hour minimum L-10 life criteria based on each of the following conditions:

- a. 85% of the rated main hook load/operating radius combination resulting in the greatest forward moment.
- b. Dead load with boom at minimum operating radius.

The bearing L-10 life shall be calculated without inclusion of such life extending factors as lubrication, cleanliness, or geometry. The slewing ring bearing shall be selected and installed in accordance with the slewing ring bearing manufacturer's recommendations.

2.3.2.19 Bushings and Thrust Washers

All connections, including equalizer sheaves or bars, subject only to small rocking motion shall be fitted with bushings and/or thrust washers, as applicable.

2.3.2.20 Shims

Shims shall be pre-cut, slotted, stainless steel, with the thickness stamped on an insert tab. The shape of the shims shall resemble a U and the slot widths shall approximate the mounting bolt diameters. The shim tabs shall be visible, legible and unpainted after installation.

2.3.2.21 Lubrication

The crane lubricants shall be compatible with the standard lubricants listed in the Appendices.

The crane shall be designed to minimize both the number of lubrication points and the required frequency of lubrication. All points on the crane requiring lubrication shall be easily accessible from the structure, service platforms, or walkways, or shall have extensions (shortest possible) with approved pipe and fittings to accessible locations. Only one size and type of grease lubricating fitting shall be used throughout the crane.

2.3.2.22 Hydraulic Systems (For cranes with hydraulic drives)

All hydraulic components and assemblies shall be standard commercial products. All hydraulic fittings and reservoirs shall be stainless steel. The luffing system shall be able to maintain a fixed position for a minimum of three hours. Each crane motion (hoist, luff and rotate) shall be driven by an independent pump.

All drive system components shall be sized or selected so that all crane motions will start from dead-stop (neutral position) with 130 percent of the rated load on the hook and have continuously variable speed in each direction.

Hoist and rotate hydraulic drives shall be closed loop systems. Closed loop systems shall consist of a dedicated pump(s) and motor(s) for each function. Appropriate pump drive, relief valves and controls shall be provided. Hoist drives shall consist of variable displacement hydraulic motor(s), planetary gear reduction, and drum as specified in paragraph 2.3.2.8.

The hoist hydraulic drives shall have a failsafe feature to prevent over speeding of the motor or lowering of the load or boom in the event of hydraulic pressure loss, malfunction, or power loss. The rotate hydraulic drive shall have the ability to prevent drift when in neutral or in the event of hydraulic pressure loss.

Each hoist and luff drive shall be equipped with a minimum two brakes, of either drum band or disc type (spring set, hydraulically released). Each brake shall be rated at a minimum of 130 percent of rated load hoisting torque at point of at the point where the brake is applied.

The entire assembly of motor, speed reducer, and disc type brake should be provided as a single unit. The rotate system shall be equipped with a disc type (spring set, hydraulically released) brake rated at a minimum of 100 percent of motor torque.

The hoist and boom shall have a means for controlled lowering at rated load in the event of power loss.

Provide provisions for hydraulic circuit sampling and pressure test ports.

Provide hydraulic fluid coolers and heaters to maintain proper fluid temperature with the crane operating at any load and speed within its operating capability and in ambient temperatures of 0 to 110 degrees.

Fluid filtration system shall be capable of filtering to a cleanliness level of 18/17/14 (ISO 4406:1999) or as determined by component requirements.

2.3.3 Electrical Design

The electrical design of the crane shall conform to NFPA 70, ASME B30.4, NEMA ICS 8, and other requirements specified herein. The electrical system shall be 480VAC and utilize 60 Hertz 3 phase. The electrical system shall be designed to allow simultaneous motions of the main hoist, luffing hoist, slewing and ancillary loads; or slewing, and travel drive mechanisms and ancillary loads. Control voltage shall be 115 VAC 60-Hertz or low-voltage DC generated by the crane via a built in transformer.

The main line disconnect switch shall be a lever arm type switch (rotary type switches are not acceptable) located in a separate enclosure from the control panel. A permanent placard shall be installed on the face of the main line disconnect that states “WARNING – THIS DOES NOT ISOLATE POWER TO LIGHTING, RECEPTACLES, AND ANCILLARY EQUIPMENT”. Additionally, a lighting (ancillary equipment) disconnect shall be provided, with lockout feature, as the isolation means for the lighting transformer and lighting circuit breaker panel, which shall power the crane’s ancillary equipment. Provide individual disconnects, with lockout feature, capable of being locked in the open position for crane lights and receptacles.

All control circuits shall be fed from a single phase, air cooled, double-wound transformer. The contractor shall furnish and install all electric drive equipment on the crane, including motors, brakes, switches, controllers, panels, wiring system, cables, and electrification. All contactors and relays shall have appropriate MOVs or R-C surge absorbers installed across the respective device’s coil. As much as possible, power and control cables shall not be mixed in the same conduit in order to prevent interference. Shielded control cables (encoders, load indicating devices, etc.) shall not be run in conduit with any other control or power conductors.

Enclosures for control panels and auxiliary devices shall be UL or CSA listed metallic NEMA type 12 as defined by NEMA Standards Publication Number 250. Components in all panels shall be selected and installed such that the control system enclosures are NFPA 70E arc flash hazard/risk category 0. Individual components shall be designed and installed to meet ingress protection rating 20 (IP20) (Finger Safe) per ANSI/IEC 60529 standard. Appropriate shields shall be placed over components that cannot meet category 0 or IP20 standards and allow the panel doors to be open with the drives in operation. The enclosures shall be designed with appropriate heating and/or cooling accessories to maintain a climate within the panel that provides an appropriate internal temperature environment for proper operation of the drives. There shall not be any condensation inside the control panels. All control panels shall have an interior light for each 3ft of enclosure width with a door switch to turn lights off when doors are closed. The control panel lighting shall have no exposed contact points within the panels. All electrical components shall be industrial grade and located so they are easily accessible for inspection and maintenance.

2.3.3.1 Wiring System

Unless otherwise specified, interconnecting wiring shall be of copper stranded construction complying with Table 310.104(A) of NFPA 70. Aluminum conductors shall not be used. Aluminum connectors are allowed if they are rated for use with copper conductors (marked “AL/CU”). All conductors connected to or routed above resistors shall have insulation shown in NEC Table 610.14(a) for 125°C maximum temperature. Motor branch circuit conductors shall be sized as to have an ampacity not less than 150% of the motor full load current rating and to be no smaller than 12 AWG. Conductors shall be selected and de-rated based on maximum ambient temperature. Continuous loads such as utility,

heating, lighting, and air conditioning shall be multiplied by 2.25 to determine ampacity in order to permit application of NEC 610.14 (A) for crane supply conductors.

To the greatest extent possible, wiring shall be run on ladders or in cable trays. Use of conduit shall be kept to a minimum. The crane structure shall not be used as a raceway. Flexible conduit shall be synthetic jacketed, spirally wound galvanized steel. The use of flexible conduit shall be minimized. Flexible conduit shall only be used to accommodate relative motion between machine components and the structure. If approved, flexible conduit may be used at structural field joints where it can be shown that prior fit-up is not practical. Each use of flex shall not exceed 3 feet in length.

Bulkhead type fittings shall be used for penetrations of sealed and pressure tested members. External cable trays shall be stainless steel with cabling shielded from direct sunlight and rain. External raceways shall be stainless steel. Internal cable trays and raceways shall be hot-dip galvanized after fabrication or stainless steel. Cable ladders shall be stainless steel or hot dip galvanized after fabrication.

Excluding conduit directly connected to dynamic breaking resistors, raceways shall maintain a 12-inch clearance between the raceway and surfaces with temperatures exceeding 104°F. A separate grounding wire, sized in accordance with Section 250-122 of NFPA 70, shall be routed with all ungrounded conductors. All wiring shall be numbered or tagged at all connection points. Power conductors which are shielded such that their wire size cannot be easily determined shall be labeled as to the conductor size. All unused conduit openings shall be plugged. All conductors shall terminate on terminal blocks; there shall be no splices, with the following exceptions:

- a. Encoder conductors shall have a continuous run from the encoder to the drive. If the length of cable required between a drive and its respective encoder is longer than 300 feet, fiber optic cable shall be used.
- b. Motor and brake connections may be made using split-bolts or lugged and connected with nuts, bolts, flat washers and lock washers in lieu of installing a terminal block in the motor connection box. No wire-nuts shall be permitted.
- c. Connections for lighting ballasts may be made using wire nuts.
- d. Conductors shall be continuous between the load cell, and the load indicating device (if applicable).

2.3.3.2 Drive Mechanism Motors

The drive mechanism motors shall conform to NEMA MG 1. The hoist (60 min rated min), slewing (continuous rated), and luffing (60 min rated min) motors shall be AC vector duty, totally enclosed non ventilated (TENV) or totally enclosed fan cooled (TEFC), squirrel cage induction type with encoder. The travel drive motors shall be AC inverter duty, totally enclosed non-ventilated (TENV) or totally enclosed fan cooled (TEFC), squirrel cage induction type and designed for rated speed at the operating wind load in any direction. Motor insulation shall be a minimum of Class F. Motors located outdoors shall be furnished with anti-condensation heaters that remain energized when the mainline contactor is deenergized. The form of protection for the electric motors shall be IP54, for the electric motors for any oil coolers it shall be IP56.

Motors shall be equipped with thermal trip type over-temperature protection. The temperature sensors shall be of the automatic resetting type and installed integral to the motor windings. Activation of any integral motor over-temperature device shall energize a red indicating FAULT light mounted in the operator's cab and shall de-energize the individual function as follows:

Hoist and Luffing: The raising direction only

Travel and Slew: Travel motion in either direction.

The red indicating fault light shall remain energized until the over-temperature device resets.

2.3.3.3 Electric Controls

All motions of the cranes shall be controlled using the manufacturer's standard electrical control system. All electrical controls shall be variable frequency. Hoists shall have encoder feedback. The controls shall monitor for fault conditions and shall safely set the brakes and stop crane motion in the event of fault conditions. The control system shall record the fault and provide troubleshooting information. Each variable frequency drive is required to include as a minimum; electronic instantaneous over current protection, under voltage protection, DC bus over voltage protection (where used), and the ability to withstand output line-to-line shorts without component failure.

All hoist drives shall be equipped with a motor overtorque limit to lock out the hoist and prevent gross overload of the associated hoist. The overtorque limit should be set such that a 130% dynamic overload test can be performed without tripping the overtorque fault. All controllers shall be provided from the same manufacturer. Dynamic braking shall be provided for each electric drive. Dynamic braking shall be sized to support lowering (at rated speed and slow speed) of rated load from high hook height to ground rail height.

Speed control shall be infinitely variable type for each function. Controls shall be designed such that the maximum speed of each function shall be limited to 25% of rated speed when a slow speed switch is actuated in the operator's cab. A yellow/amber light mounted in the operator's cab shall be energized while in slow speed mode.

The hoist, luffing, slewing, and travel brakes shall set after the associated controller decelerates the drive motor to a controlled stop. The hoist, luffing, slewing, and travel controllers shall be sized to provide sufficient starting torque to initiate motion of that crane drive mechanism from standstill with 0 to 131.25% of rated load on the hook. Hoist functions shall not produce any rollback and shall produce no more than 1/8" of roll-up. Rollback is defined as "an inherent condition due to insufficient motor torque, which allows the hoisted hook load to lower when the hoist controller is moved initially into the hoisting position or as the controller is returned to neutral." Roll-up is defined as "on solid state controlled hoists, the distance a hoisting drive block rises when the controller is placed in the lowering direction. This roll up is due to torque proving circuits in the hoist direction that ensure the drive is capable of restraining a load before releasing the holding brakes." The hoist controller shall enable the drive motor to develop full torque continuously at zero speed. Motors shall operate smoothly at all speeds without torque pulsations, and shall only be energized within the frequency range of 50-60 Hz at rated speed. The control system may utilize overspeed up to 120hz unloaded only if the drivetrain equipment has all been balanced and is rated for the resulting speed. With respect to AC control wiring, no neutral wire shall pass through the contacts of a control relay or contactor, i.e., a device shall not be shut off or disengaged by breaking the device's neutral conductor.

Hoist drives are required to be selected such that the continuous rating of the controller is not less than 130% of the calculated motor full load current based on NEC Table 430.250 and the following equation:

$$\text{Mechanical HP} = \frac{WxV}{33000 x E}$$

where:

W = total weight in pounds lifted by the hoist drive system. This includes complete hook block and rated load.

V = specified speed in feet per minute when lifting weight W

E = $(E_g)^n \times (E_s)^m$

E_g = efficiency per gear reduction, (E_g) = 0.97 for anti-friction bearings and (E_g) = 0.93 for sleeve bearings

n = number of gear reductions

E_s = rope system efficiency per rotating sheave, (E_s) = 0.99 for anti-friction bearings and (E_s) = 0.98 for sleeve bearings

m = the number of rotating sheaves between drum and equalizer passed over by each part of the moving rope attached to the drum

2.3.3.4 Transients and Harmonic Protection

Varistors for transient protection shall be provided internal to the controller.

Minimum harmonics protection shall consist of an isolation transformer connected in series with each controller's line (input) terminal. All isolation transformers shall be rated for continuous duty operation based upon motor nameplate amperes and shall be designed for 60 Hertz operation.

For a drive motor branch circuit that exceeds 100 feet in length, a reactor shall also be connected in series with the controller load (output) terminals to provide standing wave protection.

2.3.3.5 Data Recorder and Drive Faults

Control parameter adjustment and fault monitoring shall be capable via user interface mounted in a location that does not require opening any electrical cabinet with exposed conductors.

A ruggedized laptop computer complete with all compatible software (including software licenses) and all necessary cables and special connectors to allow crane software to be troubleshot, checked and upgraded, and for the data recorder to be accessed and information retrieved, shall be provided.

Drive faults shall energize a red indicating FAULT light mounted in the operator's cab.

2.3.3.6 Brakes

Each drive mechanism's spring-set brake(s) shall release upon movement of the electric drive's controller from the OFF position and verification of motor torque and shall set after the electric drive's controller is returned to the OFF position and motors have regeneratively slowed to a controlled stop. Hoist secondary brakes shall be controlled separate from the primary brakes and connected to a different output (within the drive or independent of the drive) from the primary brakes.

A three positioned spring returned brake release keyswitch, for each hoist, shall be installed on the outside of the control panel. The keyswitch shall allow for testing each brake independently. The right position shall be labeled "PRIMARY BRAKE TEST" allows for testing the primary brake, and the left position shall be labeled "SECONDARY BRAKE TEST" allows for testing the secondary brake. The center position of the keyswitch shall be labeled "NORMAL" allows both brakes working in their normal operating configuration.

2.3.3.7 Main Line Contactor

A main line contactor shall be provided. Energization of the main line contactor shall be controlled by the POWER-OFF/POWER-ON toggle switch in the operator's cab.

2.3.3.8 Electrical Overload Protection

Protection shall be not less than required by NEMA ICS 8 and NFPA 70. All protection shall be by circuit breakers or fuses. Motor branch circuits shall be individually protected by circuit breakers capable of being locked in the open position without use of a portable lockout device.

2.3.3.9 Operator Controls

There shall be five joysticks integrated into the chair and shall be arranged in the following sequence (starting at the operators left): luffing, slewing (rotate) (left operator's control console); main hoist, travel (right operator's control console). Controls shall be designed such that all master switches shall be in the OFF position before any initial crane function can begin. Master switches shall provide infinitely variable speed control to the particular function. Directional contacts shall also be utilized to ensure proper motions are executed. All master switches shall be non-spring-returned and have a detent neutral position and a trigger type dead-man switch. There shall also be an inadvertent motion foot switch. At least one dead-man switch or the foot switch shall be continually activated in order to operate any crane function. All joysticks shall be labeled for proper function and direction. Operation of any individual dead-man switches shall allow for operation of any of the crane functions. Resetting a drive fault on a crane function shall not allow the crane to operate until all master switches are returned to neutral. Motion indicators shall also be supplied to provide tactile feedback of hoist drum movement.

Electrically operated windshield wipers shall be provided on windows as necessary to afford the operator unimpaired vision. Windshield wiper shall have an automatic park position out of the operators' direct vision. Windshield wiper drive shall be heavy duty and durable. Windows shall be equipped with electrical heat strips or means for defogging that shall not interfere with the operator's vision.

Automatic and thermostatically controlled air conditioning and heating shall be provided to maintain conditions of 68 degrees F (20 degrees C) and 50 percent relative humidity.

A color display console shall be provided and conveniently located for use by the operator during operations. Selection of display factors shall allow an operator with corrected 20/20 vision to read the display with his head in the normal operating position in both bright sunlight and at night. The display shall provide load lifted in pounds, radius in feet, wind speed in miles per hour, diesel engine indicators and other pertinent operating parameters.

There shall be a single emergency stop push button, within reach of the operator, in the operator's cab for all crane motions/drives.

A method for the operator to feel actual drive operation (i.e. drum motion for the hoist) shall be provided in the cab.

A visual method for the operator to correlate master-switch movement direction with actual gantry motion shall be provided.

An operator warning horn (audible at ground level and all hook locations) shall be provided with both a momentary pushbutton switch and a foot operated switch.

Within the operator's cab an upholstered, nonfabric, three-directional adjustable chair shall be provided. The operator's seat shall be adjustable forward and aft to vary the relationship between the operator and his controls. The height of the seat shall be adjustable as well as the weight control of the seat suspension. The seat back shall have multiple tilt positions and adjustable lumbar support.

An additional chair shall be provided in the operator's cab for an observer.

The cab shall provide adequate sight lines for the operator to see operations at all rated operating configurations.

2.3.3.9.1 Indicator Lights and Warning Devices

Indicator lights and beacons shall be installed with LED type lights sized to be visible inside the operator's cab during any time of the day. There shall be a white light to indicate that power is available on the load side of the crane disconnect, a blue light to indicate that the main line contactor is

energized, an yellow/amber slow speed light, an yellow flashing reduced capacity light and a red fault warning light to indicate a motor over-temperature or drive fault as required in paragraph 2.3.3.2 and 2.3.3.5. The voltage of the lights shall be 115 VAC or 24 VDC or lower. The nameplate shall be provided for each light and shall be legible from the operator's chair inside the cab. The nameplates shall read "POWER ON", "POWER AVAILABLE", "FAULT", "SLOW SPEED", "BOOM PAWL POSITION" and "REDUCED CAPACITY". A lamp test pushbutton shall be installed inside the operator's cab to allow for simultaneously energizing of all lights in this section for testing purposes.

a) Boom Actuated Limit Switch

A boom actuated limit switch shall provide an upper limit as emergency back-up of the geared upper limit switch by causing power interruption to the hoist drive mechanism motor and brakes by opening the a hoist line contactor. A key controlled bypass switch shall permit the operator to restore power and lower (not lift) the boom with the emergency back-up switch tripped.

b) Luffing Hoist Drum Pawl Position Indicators

Limit switches shall be used with boom pawl mechanisms. Limit switches shall be used to determine the position of the pawl so that its full engagement and full disengagement can be:

- 1.) Indicated to the operator.
- 2.) Its engagement is prevented while lowering the boom.
- 3.) Boom lowering is prevented unless the pawl is released.

Circuitry shall be used to prevent engagement of the pawl during the time the boom is commanded to stop from a lowering motion until it has actually ceased movement.

c) Wind speed indication in accordance with ASME B30.4.

Wind speed indicating devices shall give a visible and audible alarm to the crane operator at when the wind speed reaches the maximum operating wind speed.

2.3.3.11 Limit Switches

Provide primary (adjustable) lower and upper limit switches of the control circuit for all hoists. Software activated limits based on encoder feedback are acceptable as primary limits. Primary upper limit switches shall be designed such that activation shall allow movement only in the lowering direction. Lowering of the block (or boom) shall automatically reset the primary limit switch. Primary lower limit switches shall be designed such that activation shall allow movement only in the raising direction. Raising of the block (or boom) shall automatically reset the primary limit switch.

A boom (or block)-actuated upper limit switch wired independent of the directional contactors and of the primary limit switch shall be provided as an emergency back-up of the primary upper limit switch, by causing power interruption to the hoist motor and brakes through a means different from that used by the primary limit switch (for example, by opening a line contactor).

A three-position spring-returned keyed bypass/reset switch shall be included for each limit. The keyswitch shall allow for bypassing of each primary upper limit switch to allow for testing of the secondary limit switch and shall allow resetting of the secondary upper limit switch prior to resuming operation. During resetting of the secondary limit, the hoist shall operate in the lowering direction only.

Runout distances shall be computed with no load on the hook.

The lower limit switches shall be set such that there are a minimum of two wraps of rope on each hoist drum (three wraps for ungrooved drums) upon limit switch actuation.

a. Main Hoist Limit Switches

Main hoist limit switching shall be provided

- 1.) Prevent raising of the hook beyond its maximum elevation with the boom at the angle which puts the main hoist hook at its maximum operating radius
- 2.) Prevent raising of the hook beyond its maximum elevation with a horizontal boom unless automatically bypassed whenever the boom is at or above the angle which puts the main hoist hook at its maximum operating radius
- 3.) Prevent the lowering of the hook beyond its minimum elevation with the boom at the angle which puts the main hoist hook at its minimum operating radius

b. Hoist Limit Switch Settings

Each primary upper limit switch shall be set at the maximum practical hook height but not lower than high hook position. Each secondary upper limit switch shall be set not lower than the hook height of the primary upper limit switch setting plus the primary run out distance, but not less than the secondary run out distance below the lowest contact point (two-block condition). (The run out distances are defined as the load block maximum drift, after switch activation, in the hoisting direction at maximum speed with no load on the hook. Primary and secondary run out distances are associated with the primary and secondary upper limit switches, respectively.)

c. Luffing Hoist Limit Switches

Luffing hoist limit switches shall be provided to:

- 1.) Prevent the raising of the boom above the angle which puts the main hoist hook at its minimum operating radius.
- 2.) Prevent the lowering of the boom below an angle which puts the main hoist hook at its maximum operating radius.
- 3.) Prevent the lowering of the boom beyond horizontal.
- 4.) Bypass the main hoist upper limits (with a horizontal boom) whenever the boom is at or above the angle which puts the main hoist hook at its maximum operating radius.

d. Boom Actuated Limit Switch

A boom actuated limit switch shall provide an upper limit as emergency back-up of the geared upper limit switch by causing power interruption to the hoist drive mechanism motor and brakes by opening the a hoist line contactor. A key controlled bypass switch shall permit the operator to restore power and lower (not lift) the boom with the emergency back-up switch tripped.

e. Travel Limit Switches

An interlock shall be provided to preclude travel if the rail lock is engaged.

f. Slewing Limit Switches

An interlock shall be provided to preclude slewing when the slewing lock is engaged. Limit switches shall be used with the slewing (spud) lock to:

- 1.) Limit the upward and downward movement of the spud.
- 2.) Energize and de-energize lights indicating the engagement or disengagement of the spud
- 3.) Indicate to the operator the position of the spud, relative to the socket, when they are within close proximity while the upper works rotates.

2.3.3.12 Portal Travel Warning

One electrically operated automatic warning buzzer or multi-tone siren shall be mounted at each portal leg and shall sound automatically whenever the travel motors are energized. The warning shall be adjustable in volume and tone and capable of achieving a level of 80-90 dB.

2.3.3.13 Collector Ring Assembly

Current shall be carried between the crane upper structure and the portal base by means of collector rings and brushes.

Spare rings of each size of collector ring shall be provided, three for 3-phase AC circuit and two for single phase AC circuit and DC circuit applications.

The collector rings shall be fabricated from a copper alloy and shall permit unlimited 360° rotation. Collector ring assemblies shall be selected based upon their non-rotating, continuous duty current rating. A minimum of 10% spare capacity shall be provided in the slip rings.

2.3.3.14 Hotel Power Reel and Associated Cables

The crane shall be capable of being parked for a minimum of 8 hours without being started or operated without loss of any computer or electronic functionality. For maintenance lighting and longer periods of inactivity, a hotel electrical connection is required. The connector shall be accessible on both sides of the crane from the ground level when the crane needs electrical power while in the parked condition. Cabling shall be sized appropriately for all ancillary equipment on the crane. A cable reel (or equal) shall be provided which allows connection to a hotel electrical connection 75' from either side of the crane. The reel end connector shall match the existing connectors at the respective locations (see Appendices). Provide all required transfer switches at the ground level that ensure the crane cannot be powered simultaneously from the diesel generator and hotel power.

2.3.3.15 Nameplates

Nameplates shall be provided for all electrical control equipment such as contactors, relays, transformers, etc., and all electrical panels. As a minimum, each nameplate shall identify the associated function and system designation. Each electrical component shall retain all nameplates, markings, etc. provided by the original manufacturer. Electrical enclosures shall be posted with their arc flash ratings per NFPA 70. The Contractor shall supply arc flash hazard assessment calculations in accordance with NFPA 70E.

2.3.3.16 Electrical Outlets

There shall be 120 VAC duplex outlets provided on the crane. The circuit(s) supplying receptacles shall incorporate ground-fault circuit-interrupter protection for personnel and shall be protected by a circuit breaker with a minimum rating of 15 amps.

- a. Two in the Operator's Cab
- b. One at the Collector Ring Assembly
- c. One at each Corner of each Level in the Machinery House
- d. Two in the Electric Room
- e. One Every 20' of Portal Base Structure

2.3.3.17 Lighting

Compact fluorescent or LED lamps shall be used to illuminate crane passageways and spaces. Exterior footwalks, ladders and stairs shall be illuminated to 5 foot-candles. For stairways and ladders where illumination is required, switches shall be provided at both the top and bottom of the ladder or stairway. Machinery houses shall be illuminated to 40 foot-candles at a work plane 3 feet above the floor with a switch located at each entrance. The operator's cab shall be provided with two lighting

systems, one providing white light and the red light for “night vision”. Access lighting shall be provided when the crane’s electrical system is not energized. This system should be supplied from the diesel engine starting batteries or other source of power available when the crane is not energized. When batteries are used to provide access lighting, timer type switches shall be used to limit the length of time current is being drawn from the batteries.

Metal halide or tungsten halogen (quartz) lamps (or equal) shall be used in floodlights and spotlights. Floodlights shall be mounted along the boom to illuminate the work area beneath it. Mounting brackets for the floodlights shall be designed to permit the floodlights to hang plumb at any boom angle. Floodlights shall be mounted around the portal base or rotate tube to illuminate the area about the crane. Floodlights for the work area shall be switched from the operator’s cab. Spotlights, trainable from within the operator’s cab, shall be provided. Floodlights shall be designed to be serviceable from walkways on the crane. Floodlights shall be equipped with safety cables to prevent the fixture from falling if dropped while being serviced.

2.3.3.18 Emergency Illumination

An emergency lighting system is required in each machinery house module and individual diesel compartment. The system shall be so arranged that the failure of any individual lighting element, such as the burning out of a light bulb, cannot leave any space in total darkness. Emergency lighting facilities for means of egress shall be provided for passageways, platforms, ladders and stairs leading to an exit. Adequate and reliable illumination shall be provided at all exit facilities.

2.3.3.19 Obstruction Lights, if applicable

The crane shall be equipped with obstruction lights, of the number, wattage, type, and configuration required by the FAA. As a minimum, they shall be located at points on the crane that are over 200’ high. The obstruction lights shall meet the requirements of FAA Advisor Circular, AC 70/7460-1K - Obstruction Marking and Lighting. Four-hour battery backup shall be provided. All obstruction lights shall be within easy and safe reach for re-lamping.

2.3.3.20 Capacity Overload Protection

A commercially available product complying with SAE J159 shall be provided to provide capacity overload protection for the main hoist. The system shall be of the Load Moment Indicating (LMI) type and shall consist of devices which monitor the crane load and boom angle. The overload limit for each hoist shall be initially set at 100% of rated load (based on load chart) and shall, at a minimum, be adjustable from 80% to 131.25% of rated capacity. When an overload is detected the affected hoist function shall be limited to the lowering direction only and the luffing hoist shall be limited to raising direction only. Each hoist shall have a maintained keyed override located on the outside of the control panel, which can be used to deactivate the capacity overload device during overload testing. Resetting of the overload shall only be accomplished by moving the hoist in the down direction or by cycling power.

Measurement of the load shall be performed at the hook block and wirelessly transmitted. The measurement device shall not be via indirect method (measurement of the lateral deflection force of wire rope between three sheaves in a rigid frame). Information, audible warnings, and visual warning from the LMI system shall be displayed in the cab as required in para. 2.3.3.9.

Minimum accuracy criteria for the LMI system shall be as defined by SAE J159 and shall maintain the load accuracy requirement to a minimum of 50% of rated capacity. Minimum testing for the capacity overload systems shall be as prescribed in SAE J159 and shall be performed with 50% and 100% weight.

The system shall be capable of being calibrated while installed. The minimum design factors for steel and aluminum load bearing components for the LMI system are required to be 5.0 and 7.0 based on

the material ultimate tensile strength respectively. The hardness of steel load bearing components may not exceed 40 HRC. Precipitation hardened stainless steel (e.g. PH17-4) load bearing elements shall be age hardened at a minimum temperature of 1025 degrees Fahrenheit.

2.3.3.21 Hour Meter

Provide a non-resettable hour meter, connected across the main line contactor, readable from the exterior of the main control panel, to indicate the elapsed number of hours the crane is energized. Additionally, provide non-resettable hour meters for each function, readable from the exterior of the main control panel to indicate the running time of each individual function.

2.3.3.22 Communication System

Provide a suitable Public Address system for the operator to communicate to the ground level.

Provide a communication system with co

munication between the following locations, operators cab, ground level at each crane access and machinery house.

2.3.3.23 Diesel Engine and Generator

The crane shall be provided with a self-contained diesel engine and generator capable of adequately supplying electrical/hydraulic power for the crane. The diesel engine shall conform to the U.S. EPA emission standards specified in 40 CFR 89 or 40 CFR 1039, as applicable for the manufacture or importation of non-road compression ignition engines. The diesel shall be designed to allow maintenance to be performed up to and including engine swap-out.

Diesel engine(s) shall be sized so that the crane drive with the largest motor(s) can be accelerated at maximum (test) load to its rated speed while the other drives are operating at that same maximum load and 25% of rated speed at maximum operating wind speed, plus ancillary power requirements. Generators shall be selected based upon the power required to simultaneously accelerate the three largest drives operating at rated load plus ancillary power requirements. The generator control system and function drives shall work in tandem to identify high load conditions on the generator and then automatically prevent high speed or high power operations of the drives in order to prevent the diesel engine from being overloaded. The generator shall be sized large enough that the effects of multiple drives operating in any quadrant will not adversely impact voltage control.

The diesel engine and generator set shall have electronic speed and fuel controls. Diesel instrumentation shall include but not limited to the following: engine speed (RPM) tachometer, coolant temperature gauge, and the lubricating oil pressure gauge. The tachometer and gauges shall be installed in the operator's cab and in the diesel engine operations space. Audible and visual alarms for engine overspeed, high coolant temperature, and low lubricating oil pressure are required in the operator's cab. For electronic engine controls where overspeed alarm and shutdown are not required by the engine manufacturer, the audible and visual alarm indication may be omitted from the operator's cab. When any of the audible and visual alarms settings are exceeded beyond the engine manufacturer's limits, the engine control system shall automatically shut it down.

There shall be an emergency stop push button for the diesel engine and generator inside the diesel engine room. The diesel engine shall be equipped with an hour meter.

The diesel fuel tank shall be fillable from ground level and shall be supplied with the required end fitting for the location (see Appendices). The capacity of the tank shall allow for a minimum of six eight hour shifts of operation at the rated service classification prior to refueling. The diesel engine shall be located and designed to limit noise both in the cab (<60dB(A)) and at ground level during operations (<70dB(A)).

2.4 COMPONENTS

Standard commercial product/assembly is defined as an item that is advertised for sale in current commercial literature and is being sold in substantial quantities on the open market in the course of normal business operations. Nominal quantities, as normally associated with models, samples, prototypes, or experimental units are not acceptable under this definition. The contractor may utilize standard commercial products/assemblies, including major components such as complete end trucks, in the design of the crane, provided such components meet the requirements of this specification. The component selection must be substantiated by means of the manufacturer's published ratings, selection method, or pro-rating. Standard commercial gearboxes are acceptable as rated.

2.5 ACCESSORIES

Not applicable for this specification.

2.6 MIXES

Not applicable for this specification.

2.7 FABRICATION

2.7.1 Shop Assembly

2.7.1.1 Structural Assembly

Structural steel shall conform to the AISC Steel Construction Manual. Structural steel shall be free from kinks and sharp bends. Shearing and chipping shall be done neatly and accurately. Corners shall be square and true. Straightening shall be done by methods that will not change material properties or cause fabrication scars. Flame/quench straightening is prohibited on high strength steel.

Post-weld heat treatment (stress relieving) of high strength steel parts, if used, shall be in accordance with AWS D1.1 and shall be part of the welding procedure and its qualifications.

Castings shall be sound and free from warping, misplaced coring, or other defects which might render the casting defective. Any weld repairs of castings to correct dimensions or other defects shall be performed only after written approval of such repairs is obtained from the Contracting Officer. All weld repairs shall be items of permanent record.

2.7.1.2 Mechanical Assembly

All mechanical components shall be accurately aligned and positively secured to maintain alignment. Parts shall not be forced into position to obtain apparent alignment.

Fasteners or parts which might become loosened by vibration, shock, or crane operation shall be secured by suitable locking devices. Friction shall not be relied upon for retention of parts.

2.7.1.3 Rotate Bearing Assembly

Rotate bearing mounting fasteners shall comply with the rotate bearing manufactures recommendations and API 2C requirements. The rotate bearing rings shall bear directly on accurately machined (turned or machined) flat seats of the bearing supports, without the use of any pads or filler materials. The flatness of the bearing supports shall be in accordance with the bearing manufacturer's criteria.

2.7.1.4 Base-Mounted Components

Component's feet shall be shimmed as necessary to not exceed 0.001 inches of soft foot.

All based mounted components shall have a minimum of 0.100 inches of shims under each foot. The number of shims of any thickness shall be limited to four (4) under any mounting bolt. Shoe brake bases shall be shimmed to align the brake shoes with the brake wheel. Pillow blocks with hollow feet

shall be mounted with fasteners and washers that overlap two or more solid vertical sections of the base.

Fine thread, lockable jacking bolts shall be installed on the foundation at each foot of the base-mounted motors for fine movement of alignments.

2.7.1.5 Electrical Assembly

Installation of all electrical wiring, conduit, and components shall be performed in accordance with the requirements of NFPA 70. As a minimum, items a. through k. below shall be followed:

- a. All electrical connections shall be installed in accordance with NFPA 70 sections 110.14 or 430.9, as applicable, or as recommended by the device manufacturer. Connections shall capture 100% of the wire strands in the conductor.
- b. Crimped terminal lugs, if used, shall be properly sized for the wire and installed using the device(s) – e.g., crimping tool and indenter – recommended by the terminal lug manufacturer.
- c. All spare conductors shall be identified as spare conductors, and shall have their ends insulated to preclude accidental contact with energized equipment.
- d. Adhesive-backed wiring tie wraps and cable-clamping devices shall not be used unless they are secured with fasteners, in addition to the adhesive.
- e. All panels shall have their doors, back sheets, and panel boards bonded together with flexible bonding straps.
- f. Bonding straps and equipment grounding conductors shall have all paint removed from their termination points, or shall have toothed (star) lock washers installed, to insure proper grounding of the equipment.
- g. Wiring around sharp edges, such as panel doors, shall be wrapped in protective sleeves (e.g., “spiral wrap”) to prevent wiring insulation damage from chaffing, cutting, or abrasion.
- h. Control panels shall not be used as raceways for conductors not terminating within the panel.
- i. Bushings or chafing protection gear shall be used on all panel conduit entries.
- j. Only equipment that needs to be viewed or accessed from the panel door (i.e. dataloggers, key switches, pilot lights, etc.) shall be mounted on the panel door.
- k. Bonding conductors are required to be provided across all gudgeons and the boom and strut hinge pins; the minimum size of these conductors is to be 2/0 AWG. The upper works shall be electrically bonded to the portal base utilizing 2/0 AWG conductors and a collector ring having a minimum cross-sectional area meeting NEC grounding requirements.

2.7.1.6 Mechanical Fastener Tightening

All fasteners used in securing mechanical or spring set (i.e., brakes) components to their foundations shall be tightened to accepted torque values from standard tables based on the lubricant used. The fasteners must be lubricated and shall not be installed “dry”. The prevailing torque of the locking element shall be accounted for where self-locking nuts are used. All mechanical fasteners shall be nominally tightened to 70% of the fastener yield strength, except in applications where component manufacturers prescribe specific fastener torquing requirements. The requirements of this paragraph also apply to the fasteners use for mounting wheel assemblies, all pillow block bearing fasteners (unless bearing manufacturer specifies otherwise), and gear case assembly bolts (in the case that gear case is disassembled after receipt from the gear manufacturer).

2.7.1.7 Structural Fastener Tightening

All fasteners and any other fasteners critical to the structural integrity of the crane shall be installed and tightened in accordance with one of the methods in the RCSC Specification for Structural Joints using High-Strength bolts.

2.7.2 Shop and Factory Finishing

2.7.2.1 Corrosion Protection and Paint

All parts of the crane shall be protected against corrosion. Pockets where water can collect shall be avoided or drains shall be installed to prevent standing water. Corrosion resistant stainless steel fasteners shall conform to ASTM F593 and F594. All surfaces normally painted shall be cleaned, primed, and finish painted at the contractor's plant as specified hereinafter. All externally installed hydraulic fittings shall be stainless steel or rust protected after final painting. The crane shall be protected by a two-component zinc-rich epoxy primer coat, two-component epoxy intermediate coat and finished by a heavy metal free polyurethane finishing coat, and applied in accordance with the paint manufacturer's recommendations. Primer and paint shall not contain any lead, copper or chromates.

2.7.2.2 Surface Preparation

Exterior steel surfaces including welds shall be cleaned in accordance with requirements stated by the coating manufacturer. All grease, oil, and surface debris shall be removed by solvent wiping and/or detergent/water scrubbing prior to cleaning. All weld spatter shall be mechanically removed prior to cleaning. All exposed edges of exterior steel shall be rounded to ensure proper paint adhesion and proper paint dry film thickness.

2.7.2.3 Additional Painting Requirements

Faying surfaces of slip-critical structural bolted connections be prepared as specified in RCSC Specification for Structural Joints using High-Strength bolts. All structural bolts shall be painted once installation has been completed.

The crane gantry shall be safety yellow from the ground up to approximately 10-feet and blue from there-on to the top of the crane machinery house and A-frame. The crane jib boom shall be safety yellow.

The government crane number shall be painted in approximately 6-foot high numbers on all four sides of the machinery house, in approximately 4-foot high numbers on all four sides of the gantry beam and in ~1' high numbers at each access point at eye level.

The crane capacity sign shall be placed on all four sides of the gantry beam (readable from the ground level).

2.7.2.4 Non-Painted Items

The following items shall not be painted: machined surfaces that are bearing surfaces, hooks, hook nuts, lubrication fittings, hoisting ropes, wheel treads, sheave and drum grooves, corrosion resistant steel, bronze, anodized aluminum, name plates, flange mounting faces, flexible metal conduit, and other items not normally painted.

2.7.3 Tolerances

Tolerances shall be in accordance with this specification and all references specified herein.

2.8 TESTS, INSPECTIONS, AND VERIFICATIONS

2.8.1 Contractor's Self Test

The contractor, at the contractor's facility prior to Government witnessed shop test, shall test each operating or major component of the assembled crane at "NO LOAD". Testing and inspection shall

include brakes, lights, motor controls, speeds, limit switches, interlocks, wiring, and paint. The manufacturer shall inspect the entire crane for form, fit, and function, and shall operationally test all drives. Once the manufacturer successfully completes this test, the contractor shall notify the Contracting Officer to schedule the Government representative witnessed shop test and inspection.

2.8.2 Government Witnessed Shop Test and Inspection

The contractor will make the crane available for Government witnessing of the shop test procedure (SD-08.1) and inspection. The contractor shall advise the Government of the anticipated test dates prior to the beginning of the government witnessed shop test. The crane shall not be considered ready for testing until all documentation is approved by the government such as final drawings, wire rope certifications, and hook and nut proof test and NDT certifications. Upon completion of the government witnessed shop test and inspection, a list of deficient items will be compiled and signed by the Government representative and the contractor and forwarded to the Contracting Officer.

PART 3 EXECUTION

3.1 EXAMINATION

All shop test identified deficient items shall be resolved prior to shipment of the crane, unless authorized by the Contracting Officer.

3.2 PREPARATION

All items intended for permanent installation on the crane shall be cleaned of any dirt, grime, debris, etc. prior to installation.

3.3 ERECTION

Not applicable for this specification.

3.4 INSTALLATION/REMOVAL

3.4.1 The crane contractor shall provide an onsite representative during erection. Contractor personnel shall refer to Section H (Bremerton) and/or I (Bangor) (as applicable) of the solicitation for site specific requirements.

3.4.2 The contractor shall erect the crane in accordance with Crane Installation Plan (SD-08.2). The crane contractor shall secure the crane, while not directly in control of the work area, during installation.

3.4.3 Lifting of any major components (assembled crane, girder(s), and end trucks) shall be considered critical, and lift plans shall comply with the requirements of paragraph 1.7.2. of the NAVFAC P-307 and 29 CFR 1926 subpart CC. When the installation plan requires lifting or handling of major components, rigging by choking or sweeping using synthetic products, wire rope or chain is not allowed unless specific approval is obtained. Rigging gear shall only be attached to major components using designed attachment points. "Lifting" is not exclusive to crane lifts and can include use of any mechanized lifting device.

3.5 APPLICATION

Not applicable for this specification.

3.6 FIELD QUALITY CONTROL

3.6.1 Field Inspection and Test

a. Contractor Preliminary Inspection and Test

Prior to scheduling the Government inspection, the contractor shall perform an inspection, and complete no load operational tests on each system to be tested. The contractor shall

ensure the crane meets this specification and systems are properly adjusted, lubricated, operational, and can be safely load tested.

b. Government Inspection

After the contractor's preliminary inspection and test is complete, the contractor shall notify the Government. Within the next fifteen days, a site inspection will be conducted by the Government along with the contractor (contractor shall provide operator to support Government inspections). Failure of the crane to pass any of the inspections shall be cause for rejection. The crane may again be offered for Government inspection provided the contractor has corrected all defects and retested the crane. The government shall have five day for re-inspection.

c. Field Acceptance Test

Following completion of government inspection, a performance test shall be satisfactorily performed. One copy of all final crane drawings and a preliminary operation and maintenance manual shall be made available at the test site. The government will provide certified test weights and rigging gear. Failure of a crane to accomplish any of the prescribed operations shall be cause for rejection of the crane. A completed report shall be submitted to the Contracting Officer. The Government, at its option, may also conduct additional tests to determine compliance with the specification requirements.

d. Final Government Inspection

The government shall have one day for final inspection after field acceptance test.

3.6.2 Acceptance

Final Government acceptance of the crane shall take place only after the following conditions are met:

- a. Contractor receives Government Approval for reports, tests, inspections and release of all data items.
- b. The crane meets all contract requirements.
- c. The crane passes a final inspection by the Government.
- d. All deficient items have been corrected or method of resolution has been determined. Deficient items not corrected prior to the Government's acceptance shall be carried as warranty items, which will be corrected by the Contractor.
- e. Navy Crane Center form 93-005R shall be completed and signed by a contractor representative, an activity representative, and a Navy Crane Center representative.

3.7 ADJUSTING AND CLEANING

Not applicable for this specification.

3.8 DEMONSTRATION

3.8.1 Training

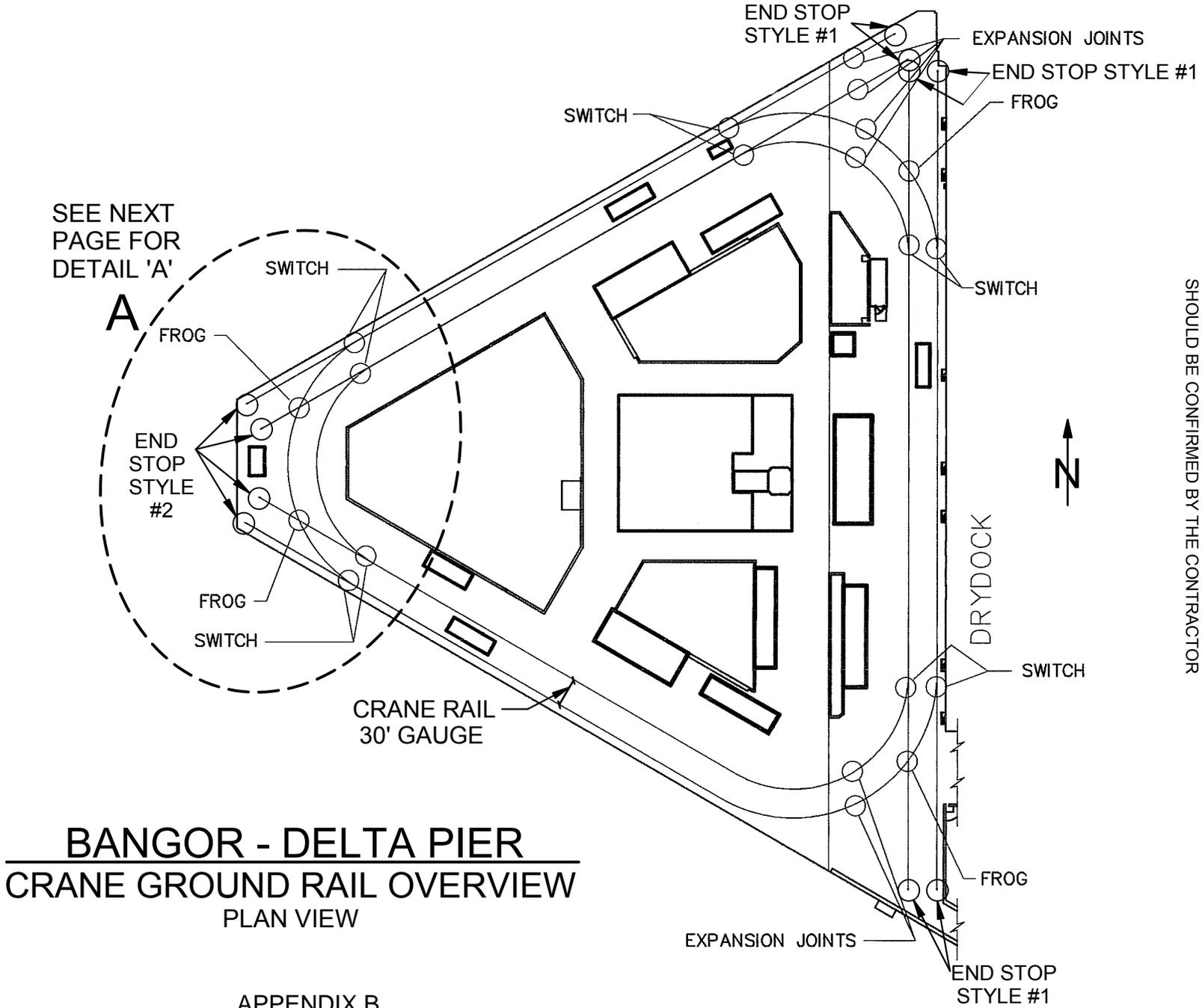
After successful field testing of the first crane delivered at each location, provide the following training at the installation (once at Bremerton and once at Bangor) sites. Provide one day (8 hours) basic on-site crane operational training to an audience of up to 20 people. The operational training session shall include a general review of the entire crane capabilities, limitations, pre-operational checks and safety. In addition, provide three (3) days (24 hours) basic on-site crane electrical/mechanical/structural maintenance training to an audience up to 20 people. The crane maintenance training session shall be provided for mechanics likely to perform troubleshooting/repairs and routine preventative maintenance on the crane. Each attendee shall be provided with a copy of the course materials.

3.9 PROTECTION

Not applicable for this specification.

3.10 SCHEDULES

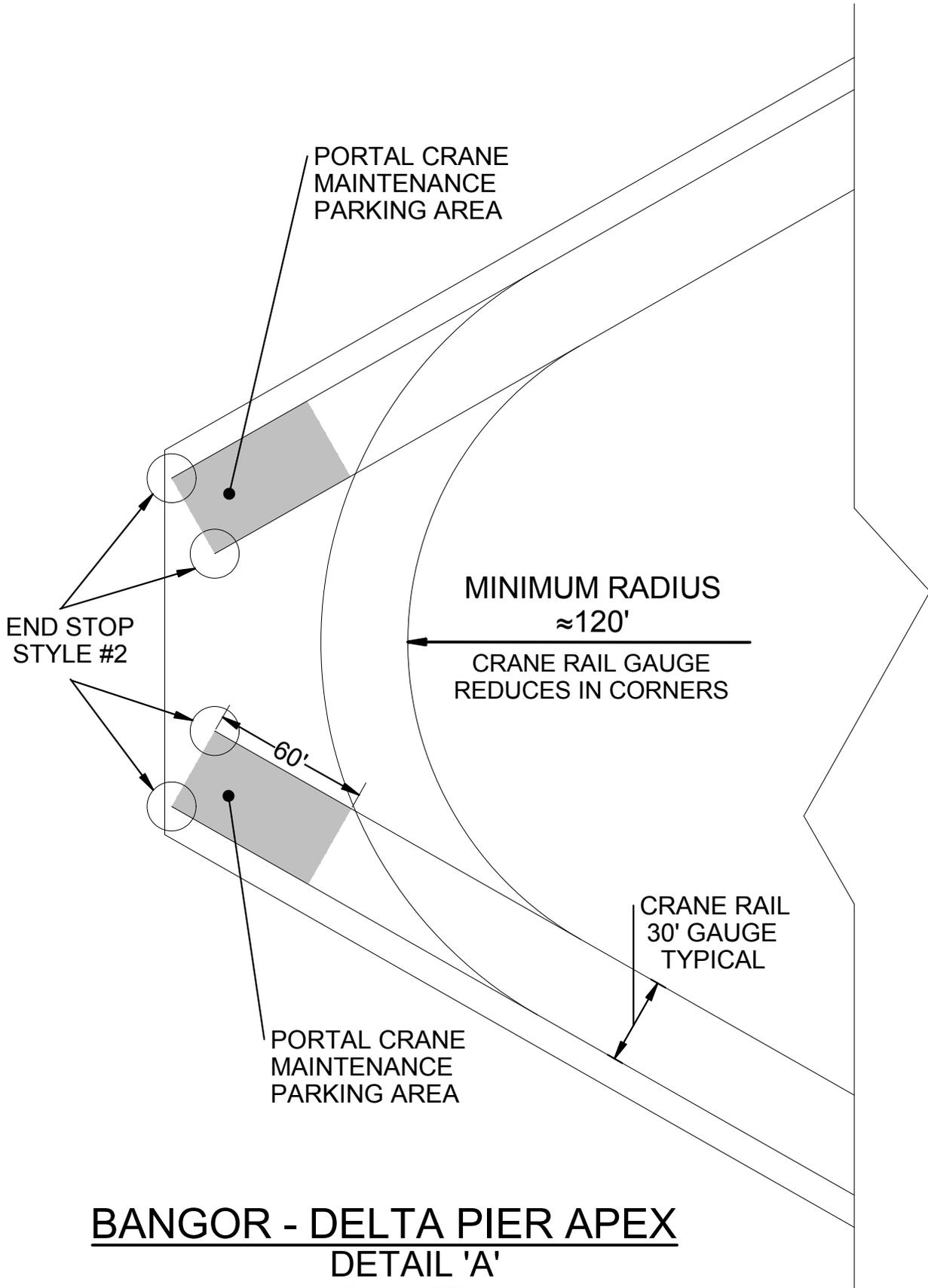
Schedules and their submittals are defined in section SD-01. Updates to the schedule shall be submitted should events changing the schedule occur.



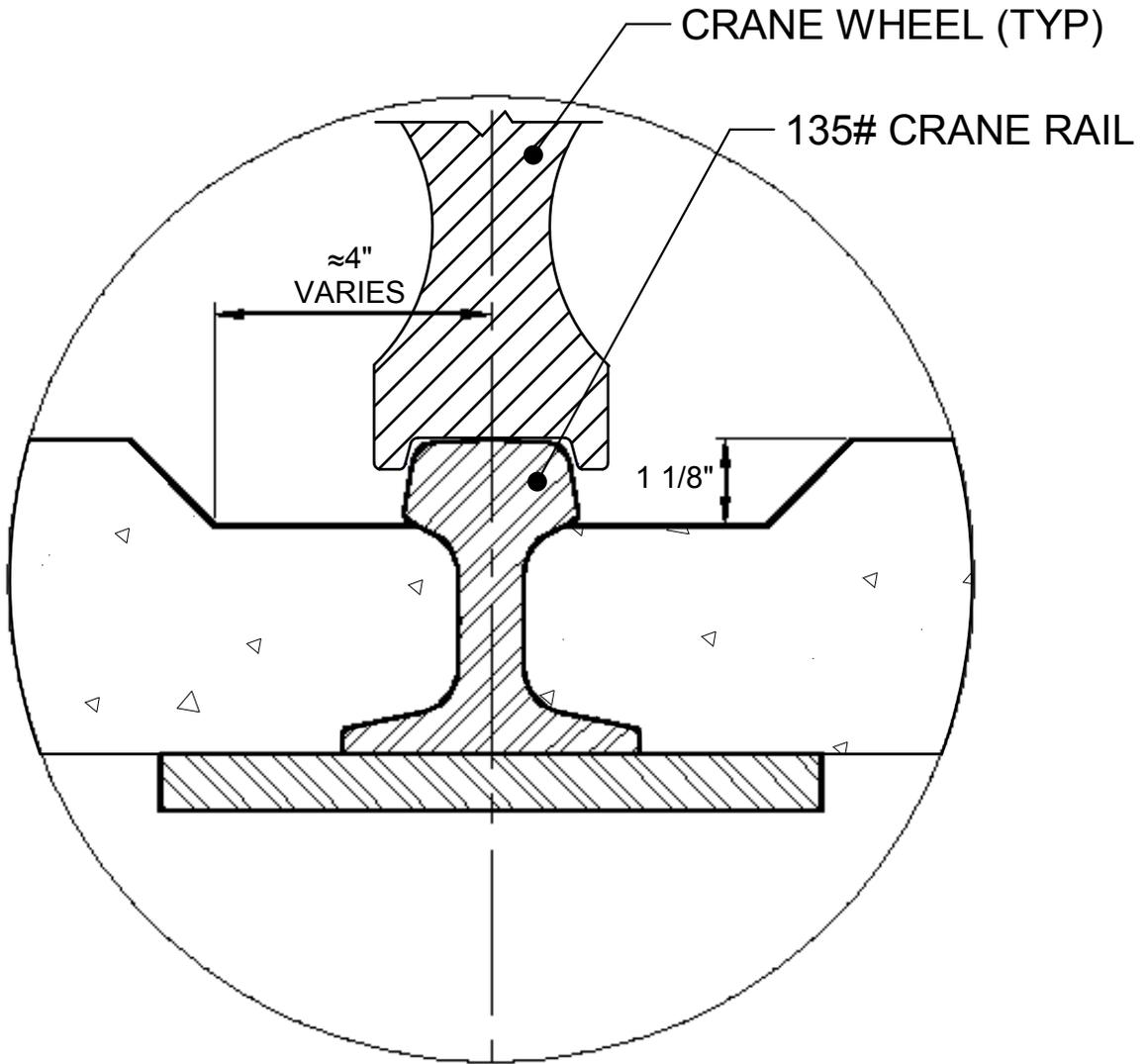
NOTE: THE GOVERNMENT DOES NOT WARRANT OR GUARANTEE THAT THESE DOCUMENTS CONTAIN ALL INFORMATION REGARDING THE EXISTING GROUND RAIL SYSTEMS AT THE BANGOR SITE. IN ADDITION, THERE IS NO WARRANTY OR GUARANTEE OF THE ACCURACY OF THE INFORMATION INCLUDED. ALL INFORMATION AND MEASUREMENTS SHOULD BE CONFIRMED BY THE CONTRACTOR

BANGOR - DELTA PIER
CRANE GROUND RAIL OVERVIEW
 PLAN VIEW

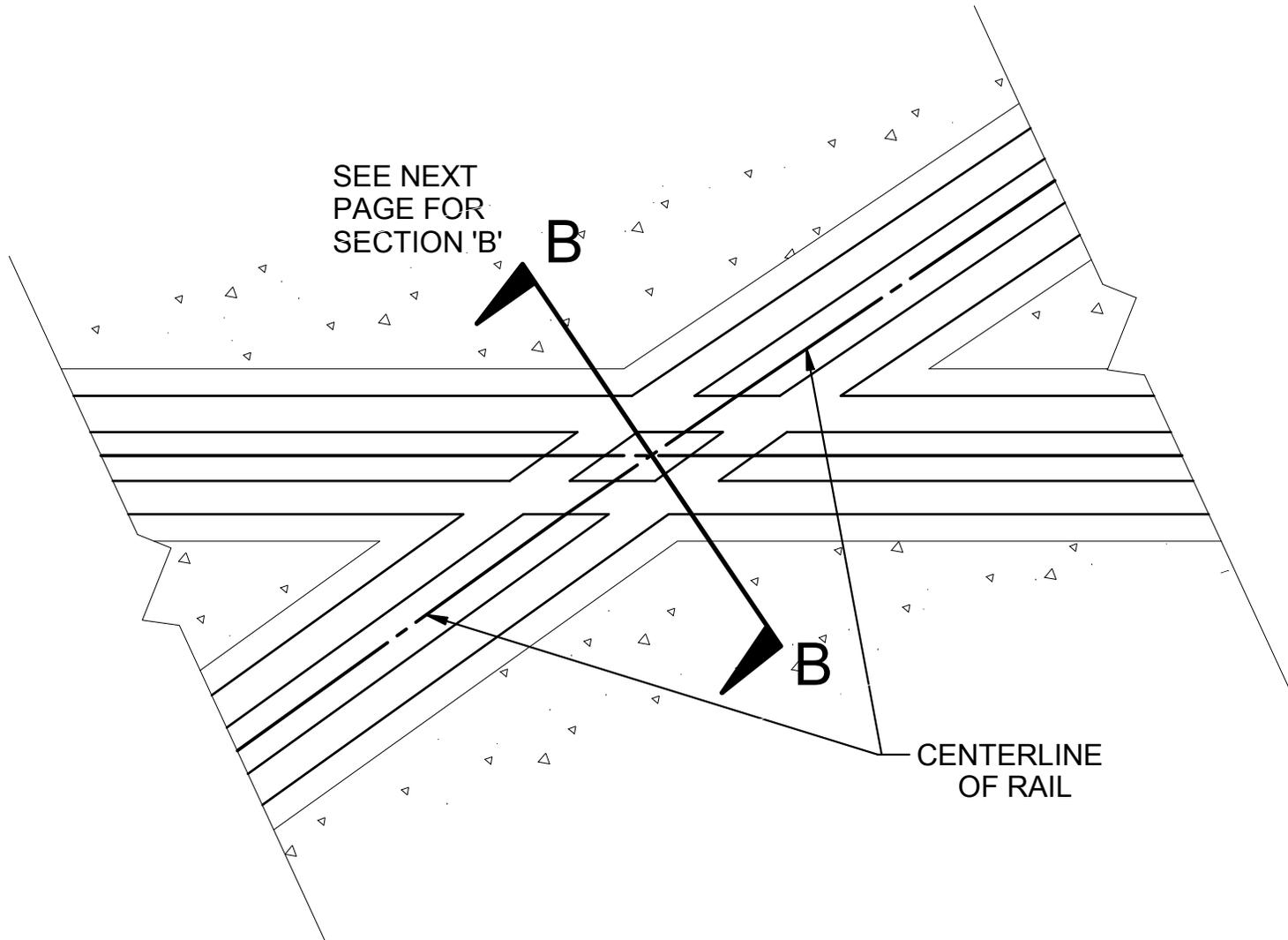
APPENDIX B



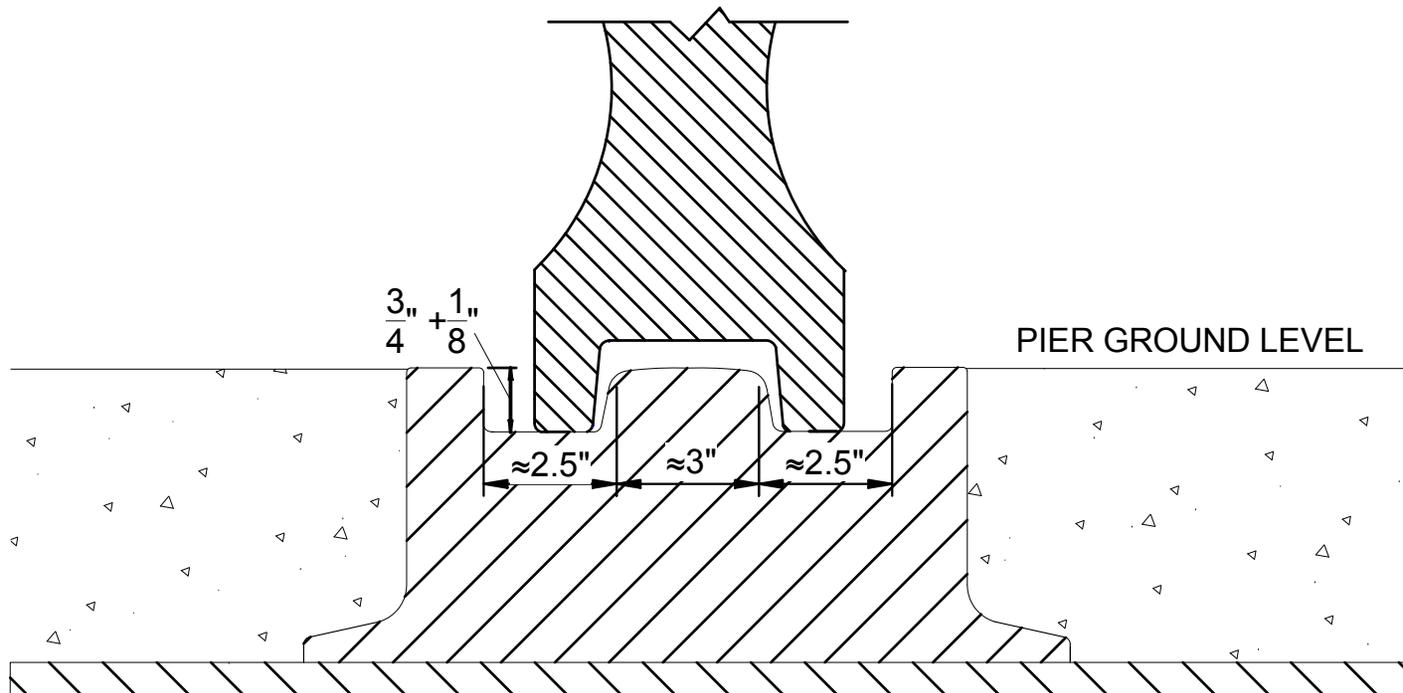
BANGOR - DELTA PIER APEX
DETAIL 'A'
 PLAN VIEW
 (FROM PREVIOUS PAGE)



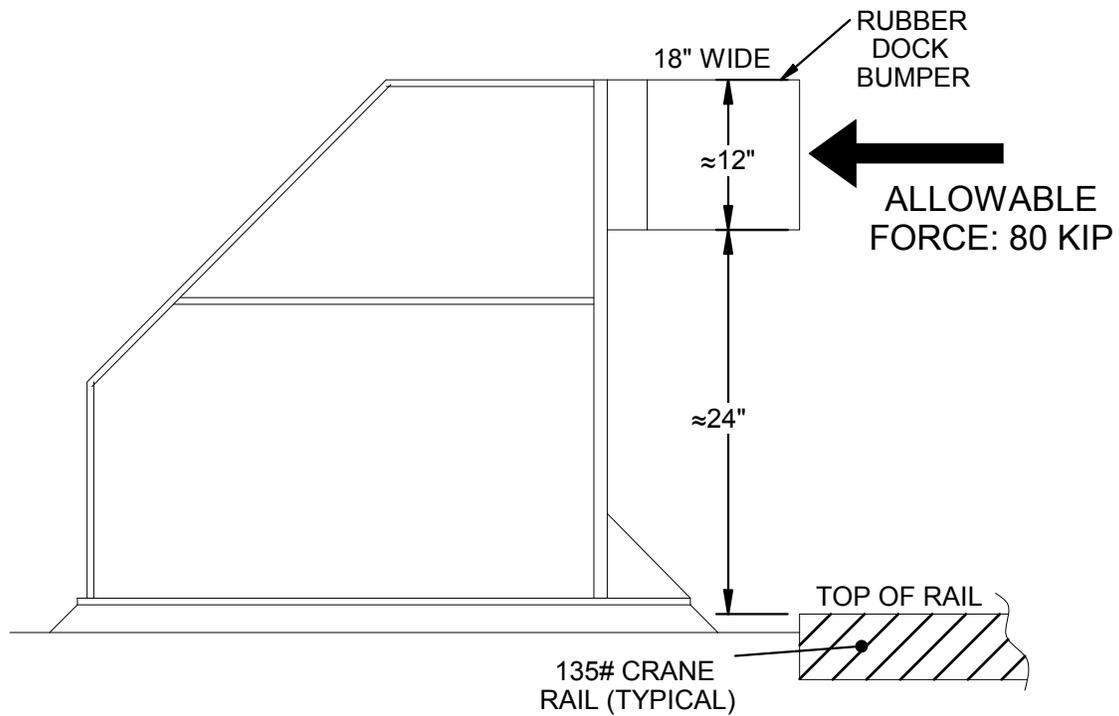
BANGOR - GROUND RAIL
CROSS SECTION
TYPICAL



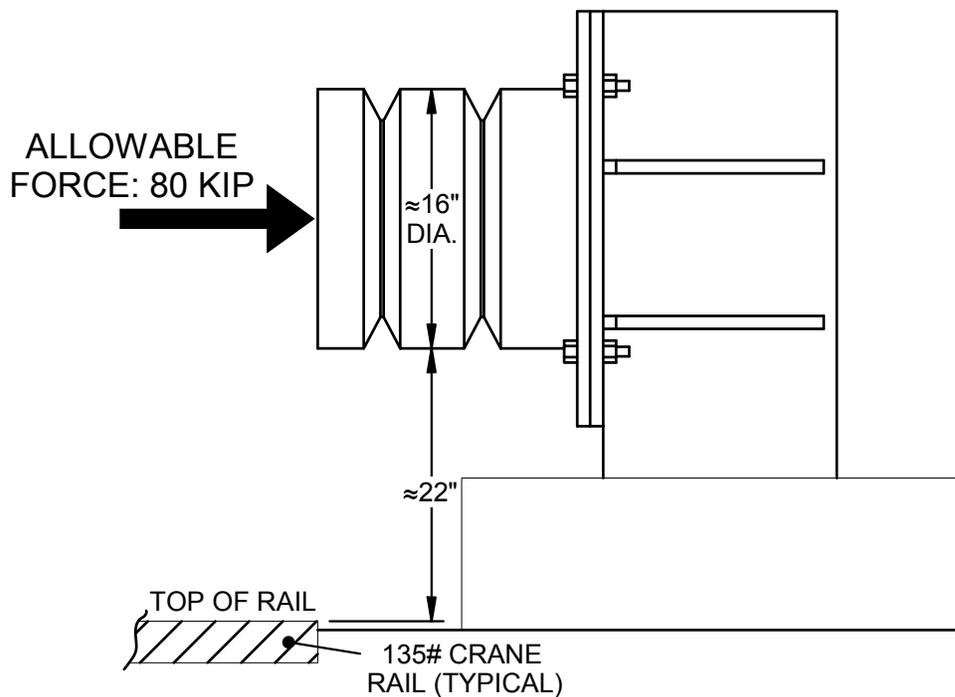
BANGOR - CRANE RAIL CROSSING (FROG)
PLAN VIEW TYPICAL



BANGOR - RAIL CROSSING (FROG)
 CROSS SECTION 'B'
 (FROM PREVIOUS PAGE)

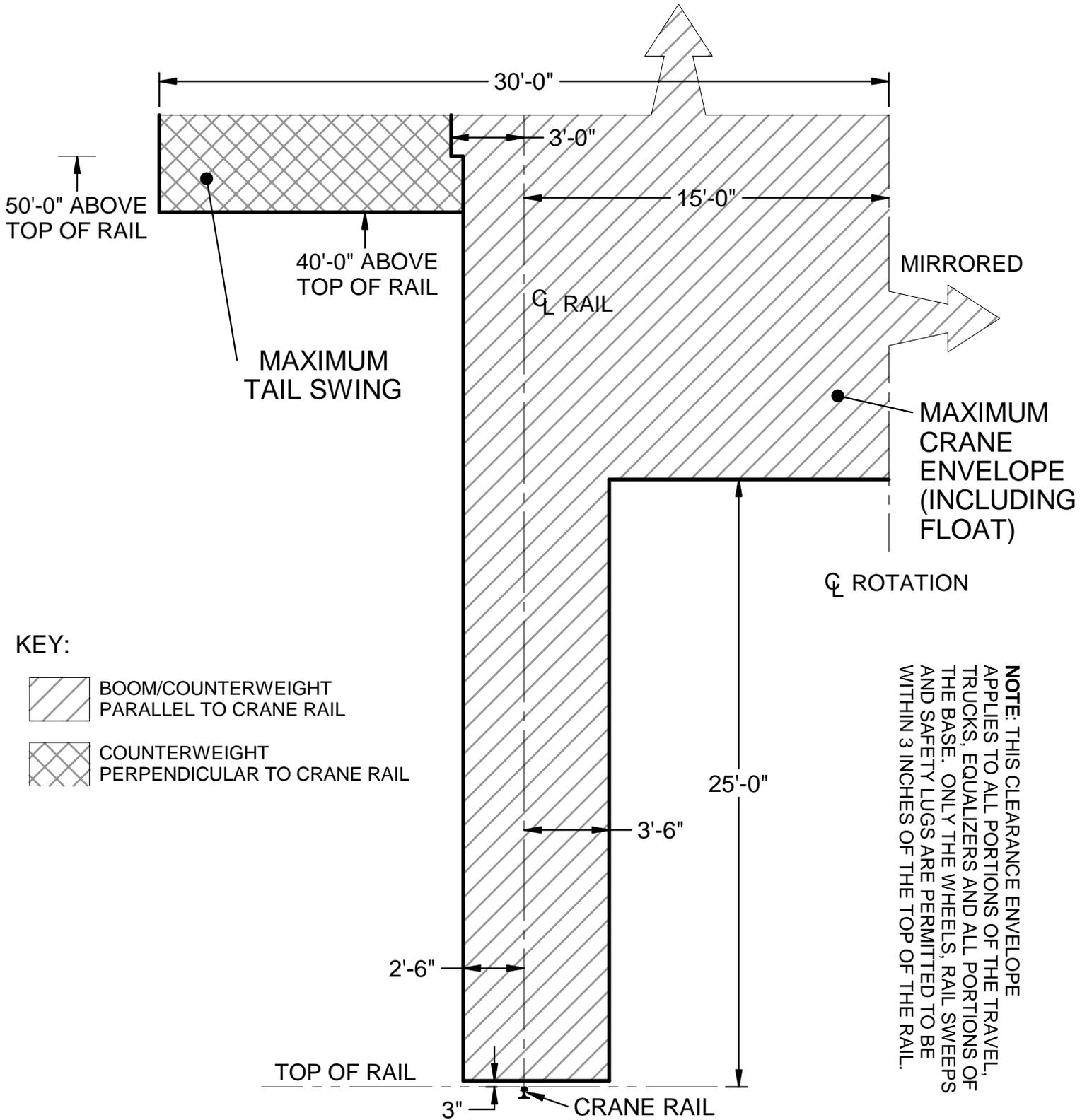


STYLE #1

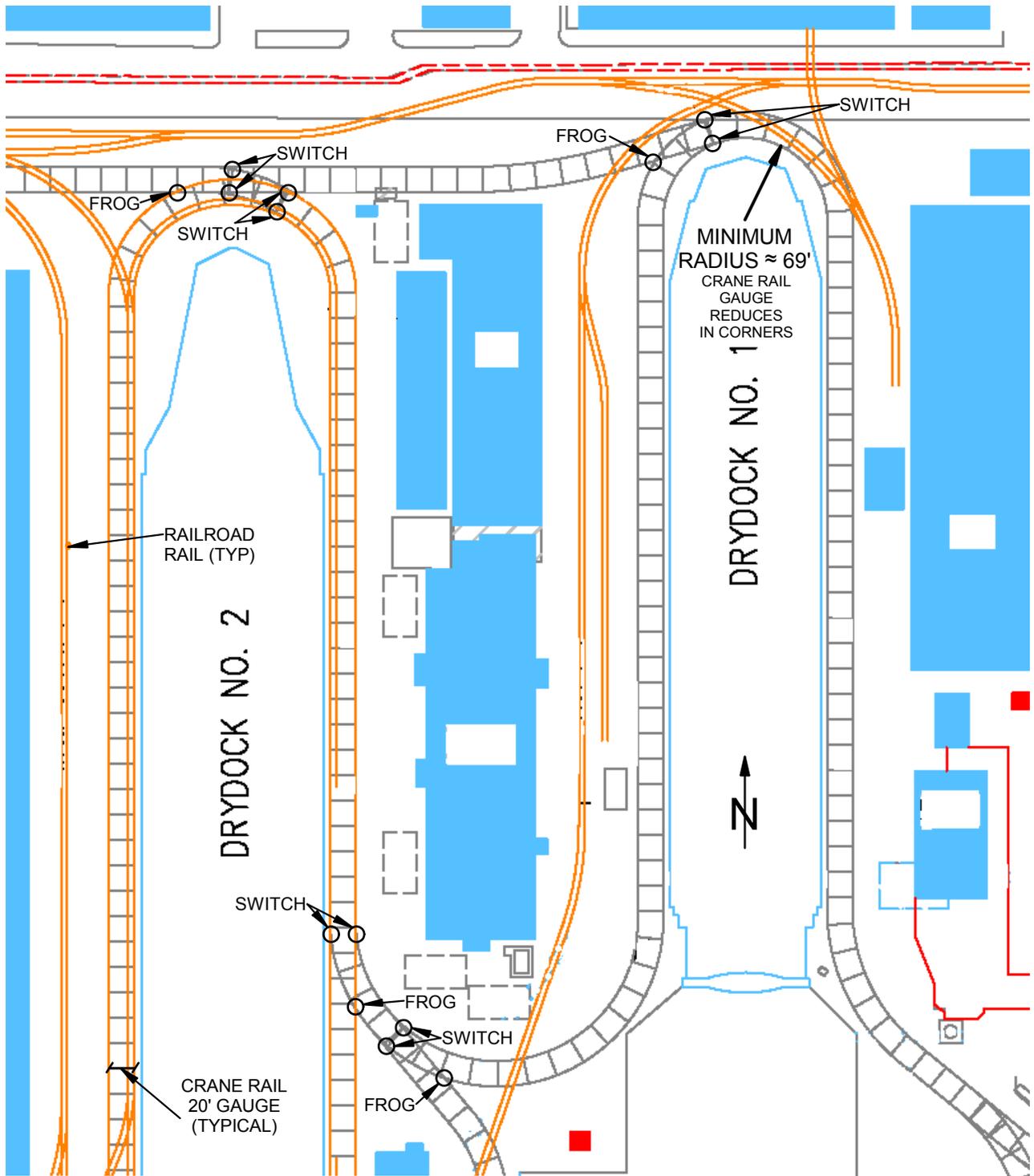


STYLE #2

BANGOR - END STOPS
ELEVATION VIEW

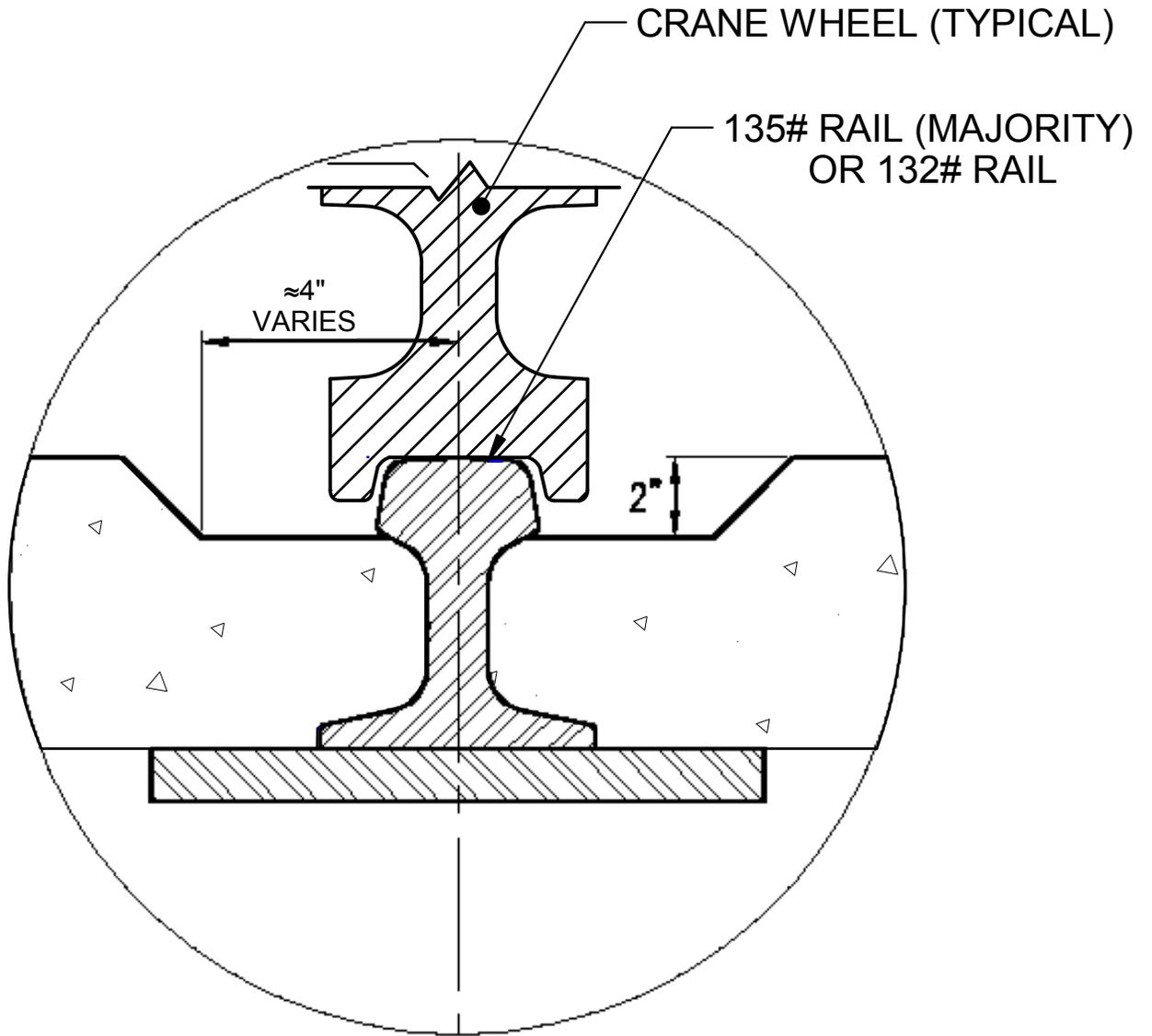


BANGOR - PORTAL CRANES
INBOARD/OUTBOARD CLEARANCE ENVELOPE
CRANE AT MAX & MIN FLOAT MUST REMAIN INSIDE ENVELOPE

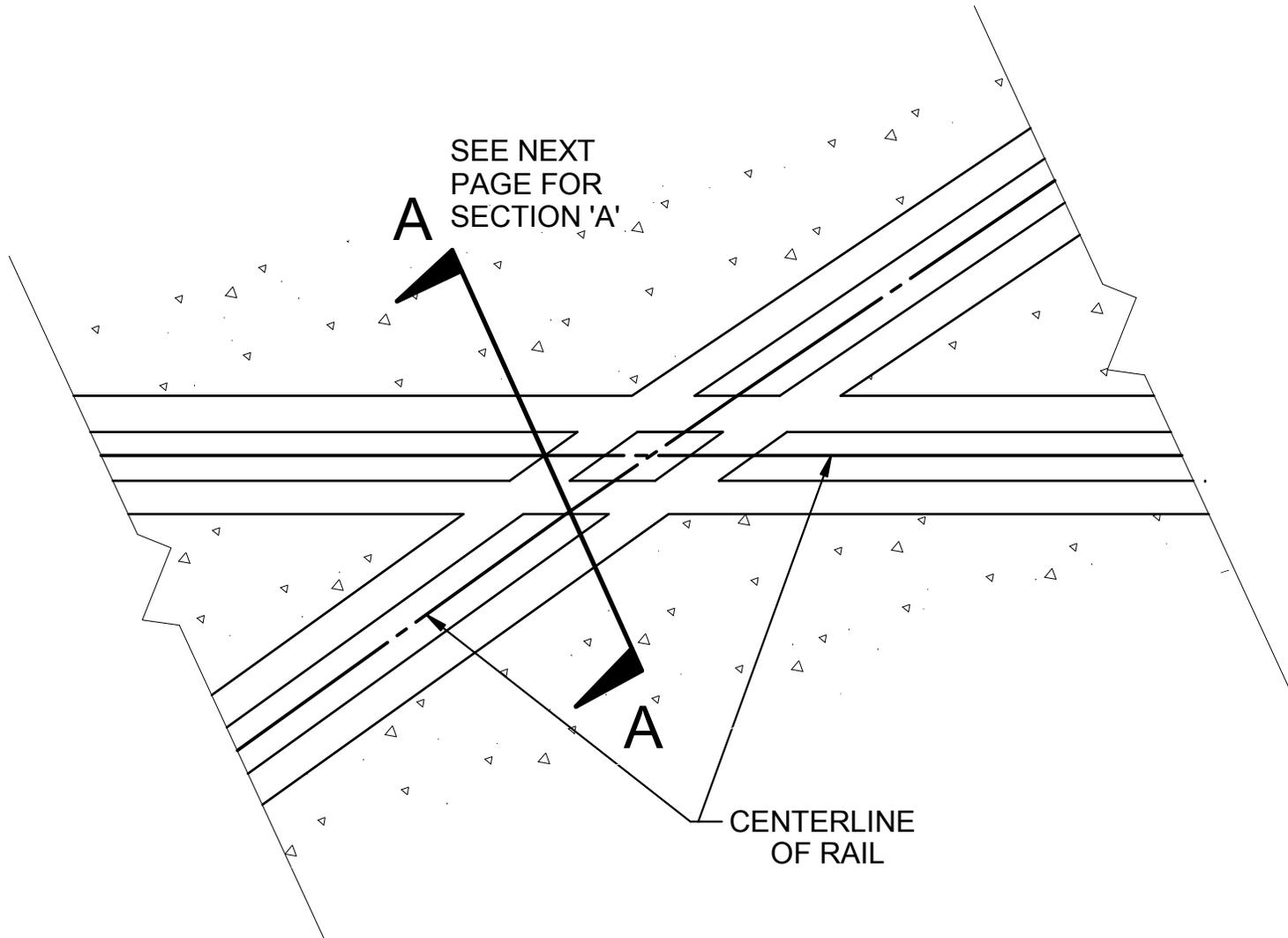


NOTE: THE GOVERNMENT DOES NOT WARRANT OR GUARANTEE THAT THESE DOCUMENTS CONTAIN ALL INFORMATION REGARDING THE EXISTING GROUND RAIL SYSTEMS AT THE BREMERTON SITE. IN ADDITION, THERE IS NO WARRANTY OR GUARANTEE OF THE ACURACY OF THE INFORMATION INCLUDED. ALL INFORMATION AND MEASUREMENTS SHOULD BE CONFIRMED BY THE CONTRACTOR

PSNS BREMERTON
CRANE GROUND RAIL
PLAN VIEW
(REPRESENTATIVE AREA)

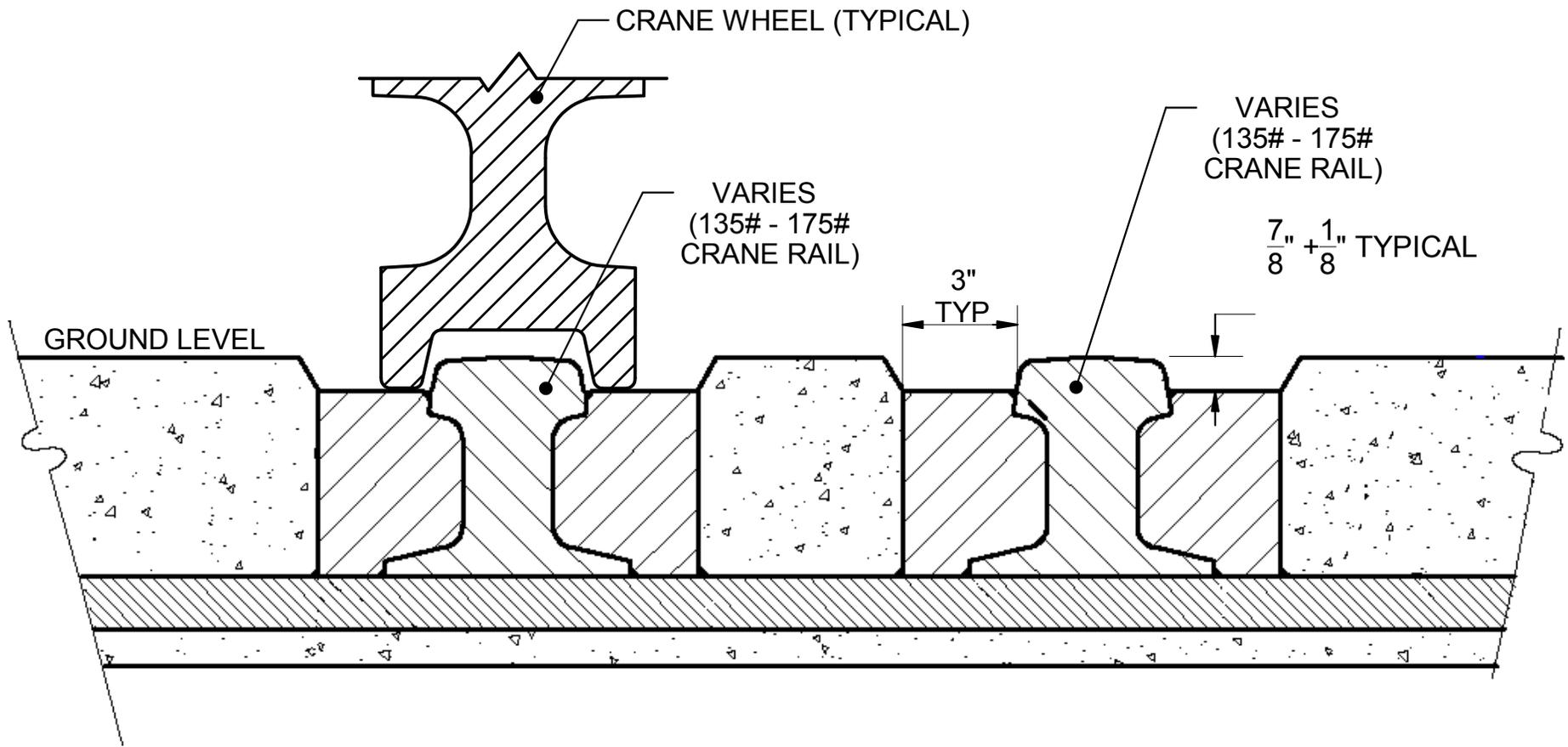


BREMERTON GROUND RAIL
CROSS SECTION
TYPICAL

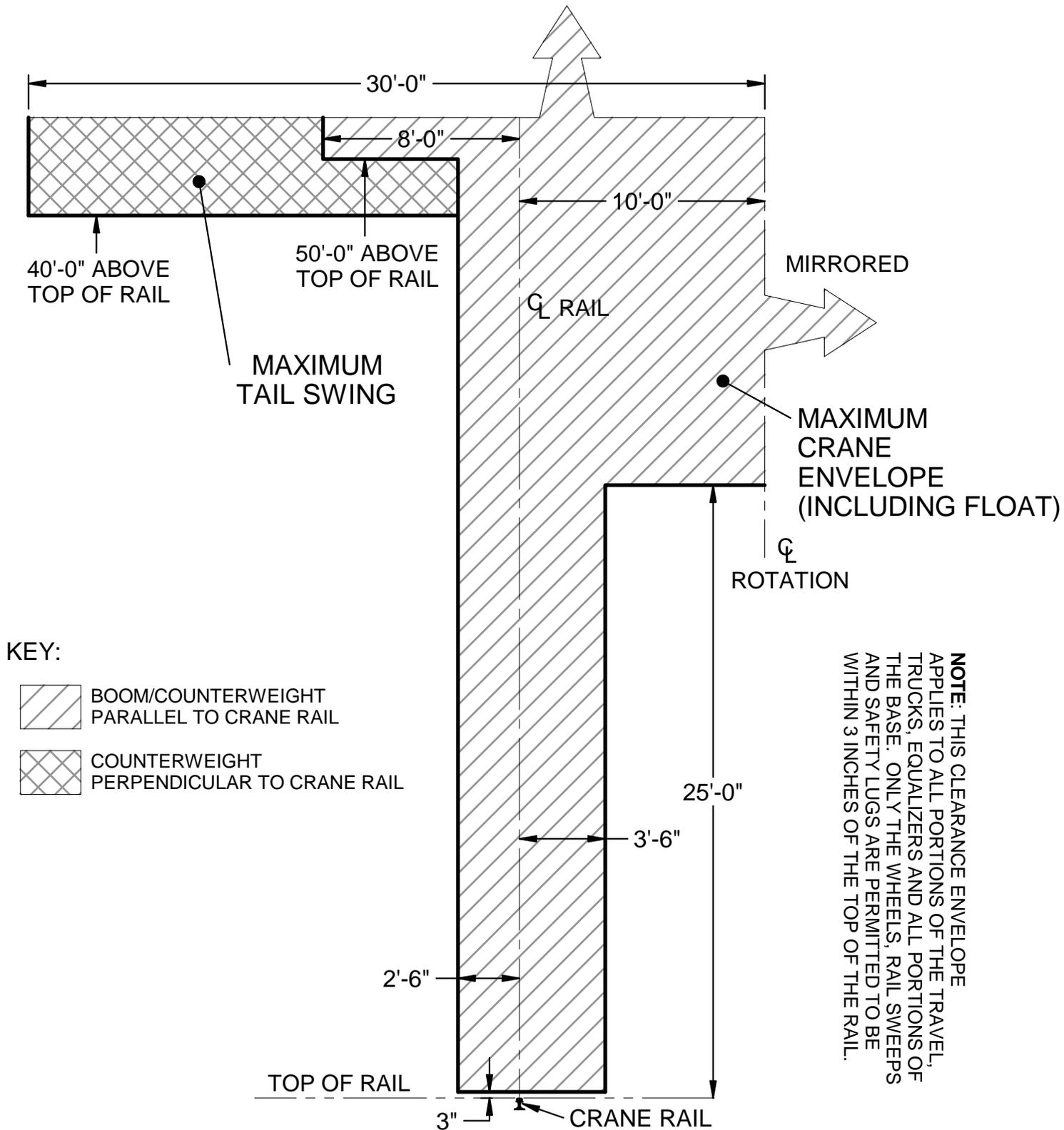


BREMERTON - CRANE RAIL CROSSING (FROG)

PLAN VIEW
TYPICAL



BREMERTON - RAIL CROSSING (FROG)
CROSS SECTION 'A'
(FROM PREVIOUS PAGE)



BREMERTON - PORTAL CRANES
INBOARD/OUTBOARD CLEARANCE ENVELOPE
CRANE AT MAX & MIN FLOAT MUST REMAIN INSIDE ENVELOPE

APPENDIX E
SAFETY REGULATIONS
for
FOUR 25 TON PORTAL CRANES

SOLICITATION NO N62470-15-R-3000

APPENDIX E
SAFETY REGULATIONS: ACCIDENT PREVENTION PLAN

1. SAFETY REGULATIONS. Work performed on Government property shall be in conformance with applicable Code of Federal Regulations (CFR); National Fire Protection Association (NFPA) 10, 70, and 241; State laws and the following:

1.1 The contractor shall comply with specific activity safety regulations contained in Section H of this contract.

1.2 The contractor shall comply with specific activity regulations pertaining to crane safety and operation (including allowable crane access routes and ground loading limitations). No vehicular loading (including mobile cranes or trucks) shall exceed the H20-S16 Highway Loading (the H20 indicating a maximum of 20 tons per truck or crane and the S16 indicating a maximum of 32,000 pounds per axle of semi-trailer) when transporting over activity roadways. The contractor shall allow spot checks of crane operations by the Contracting Officer. See site specific work requirements for building load limits.

1.3 Government safety and health inspectors, and any explicit or implicit approvals, do not relieve the contractor of an obligation to comply with all applicable safety regulations. The Government will investigate all complaints of unsafe or unhealthful working conditions received in writing from contractor employees, federal civilian employees, or military personnel.

1.4 The contractor shall secure the power to the new crane (if electrified) prior to exiting the worksite each day.

2. CRANES ENTERING GOVERNMENT PROPERTY. The contractor shall notify the Contracting Officer no less than 5 working days in advance of the intent to bring a contractor-operated crane onto Government property. The contractor shall notify the Contracting Officer when crane entry onto Government property is scheduled during back-shift, weekend, or holiday hours of operation. All entries shall be through a prearranged entry point (e.g., truck inspection station).

3. EQUIPMENT MANUFACTURER'S SPECIFICATIONS. The contractor shall comply with the manufacturer's specifications and limitations for erection and operation of cranes and hoists used in support of the work. Erection of a crane(s) used to assemble the crane under this contract shall be performed under the supervision of a person experienced in erection and operation of these crane(s). All testing shall be performed in accordance with manufacturer's recommended procedures.

4. PERSONAL PROTECTIVE EQUIPMENT (PPE). All contractor employees shall wear the appropriate PPE (e.g. protective footwear, protective gloves, hard hats/hard caps, safety glasses, hearing protection, body harnesses and lanyards) when on the Government job-site. All construction/crane erection areas are considered hard hat areas. The identification and analysis of personnel hazards shall be documented in the accident prevention plan and activity hazard analysis.

5. EQUIPMENT USAGE. Only equipment and/or vehicles designed to perform the intended work are authorized for use by contractor personnel. Contractor cranes being operated on Government property shall comply with the requirements contained in the "Mobile Cranes and Articulating Boom Cranes" paragraph in this section.

6. AUDITS OF OPERATIONS AND EQUIPMENT. The Government reserves the right to perform audits to ensure contractor operations and equipment brought onto Government property conforms to the requirements of the contract.

6.1 The contractor shall provide the following documentation to the Contracting Officer at least 2 working days prior to bringing a contractor-operated crane onto Government property:

- a. Certificate of Compliance. Contractor cranes being operated on Government property shall have a completed certificate of compliance (Enclosure (1)) posted in a conspicuous place on or in the cab of the crane/vehicle to which it pertains. The certificate of compliance shall state that the crane meets all applicable 29 CFR 1926 regulations. The certificate of compliance shall remain posted on the crane while the crane is on Government property.
- b. Crane Records. Cranes used by a contractor shall have in the cab of the crane a "summary sheet" of all pertinent documentation, such as inspection records; crane manufacturer operating manual, including crane equipped operator aids; crane log book that records operating hours; and all crane inspections, tests, maintenance, and repair records. The crane records referenced in the "summary sheet" shall be located at the contractor's job-site office. A copy of the crane's load rating chart shall be located in the cab.
- c. Rigging Certification. Provide written certification that the contractor provided rigging gear used at the job-site meets all applicable 29 CFR 1926 regulations.
- d. Crane Operator Qualification Documentation. The contractor shall certify that contractor personnel operating cranes on Government property are qualified and trained to operate the crane to be used, are qualified to perform the assigned work, and have passed a practical operating examination for the specific type of crane being operated. The contractor shall also certify that all of its crane operators have been trained not to bypass safety devices (e.g., anti-two-block devices) during lifting operations.

7. CONTRACTOR MISHAP (ACCIDENT) INVESTIGATION AND REPORTING.

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SAFETY REGULATIONS: ACCIDENT PREVENTION PLAN

7.1 *Definition.* The contractor shall maintain an accurate record of exposure data on all accidents incident to work performed under this contract resulting in death, traumatic injury, occupational disease, or damage to property, materials, supplies or equipment. In addition to the following the requirements as outlined below, the contractor shall comply with OSHA's accident reporting requirements.

7.2 Mishaps involving contractor equipment or contractor personnel on Government property:

- a. The contractor shall notify the Contracting Officer as soon as practical, but not later than 4 hours, when contractor operations cause a mishap that results in:
 - (1) a fatality, the hospitalization of three or more personnel, or property damage in excess of \$200,000. Communication shall be reported via live voice with fax or e-mail follow-up within specified period.
 - (2) any incident involving weight handling equipment (WHE) owned, leased and/or operated by a contractor on Government property. Communication shall be reported via live voice, fax, or e-mail within the specified period. The definitions for a WHE equipment accident (crane accident or a rigging gear accident) are found in paragraphs 7.2.e. (2) and 7.2.f (2) below.
- b. The contractor shall submit the following reports as applicable to the Contracting Officer:
 - (1) Any contractor mishap described in paragraph a.(1) shall be investigated by the contractor and a Contractor Significant Incident Report (CSIR) form filled out and submitted to the Contracting Officer within 24 hours for the initial report and 5 days for the final report. The CSIR form can be obtained from the Contracting Officer. A separate CSIR form shall be completed for each person who was injured, caused, or contributed to the accident (excluding uninjured personnel and witnesses).
 - (2) For any contractor reportable incident described in paragraph a.(2), the contractor shall provide the Contracting Officer a Crane and Rigging Gear Accident Report ((form is shown in Enclosure (2) of this section)) within 30 days, consisting of a summary of circumstances, an explanation of causes(s), photographs (if cameras are prohibited on the Navy Activity, the contractor shall request the Navy Activity take the photographs), and corrective actions taken.
 - (3) Any Contractor occupational injury or illness that results in an OSHA reportable mishap, property damage in excess of \$2,000 (This amount is for record purposes only. GOV is not required to enter property damage reports into the FAIR database if less than \$10,000.) shall be investigated by the contractor and a Contractor Significant Incident Report (CSIR) form filled out and submitted to the Contracting Officer within 30 days. The CSIR form can be obtained from the Contracting Officer. A separate CSIR form shall be completed for each person who was injured, caused, or contributed to the accident (excluding uninjured personnel and witnesses).
- c. The contractor shall notify the Contracting Officer within 24 hours when contractor operations cause a mishap that results in a lost workday.
- d. If the contractor experiences a mishap described in paragraphs a.(1) and a.(2) above, the contractor shall take the following actions:
 - (1) Review the situation and take any further emergency action, including stopping production work or other operations that could aggravate the situation. If the mishap involves WHE or there is evidence of damage (suspected accident) to WHE, the Contractor shall stop operations, secure power, and ensure the WHE is safely secured from operation. If there is impending danger to the WHE or personnel, place the WHE and load in a safe position prior to securing the WHE.
 - (2) The contractor shall take action to have the accident scene secured until a mishap investigation is completed. The accident scene shall not be disturbed or equipment released prior to Contracting Officer approval.
 - (3) The contractor is responsible for performing the mishap investigation with assistance of the Contracting Officer's appointed representative. The contractor shall conduct an accident investigation to establish the root cause(s) of the accident. Operations shall not proceed until cause is determined and corrective actions have been implemented to the satisfaction of the contracting officer.
- e. Definition of a crane accident.
 - (1) For cranes, it is assumed there is an "operating envelope" around any crane, and inside the envelope are the following elements:
 - (a) The crane.
 - (b) The operator.
 - (c) The rigger(s) and crane walker.

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- (d) Other personnel involved in the operation (supervisor, mechanic, tag line handler, engineer, etc.).
 - (e) The rigging gear between the hook and the load.
 - (f) The load.
 - (g) The crane's supporting structure (ground, rail, etc.).
 - (h) The lift procedure.
- (2) A crane accident occurs when any one or more of the elements in the operating envelope fails to perform correctly during operation, including operation during maintenance or testing resulting in the following:
- (a) Personnel injury or death.
 - (b) Material or equipment damage.
 - (c) Dropped load.
 - (d) Derailment.
 - (e) Two-blocking.
 - (f) Overload.
 - (g) Collision, including unplanned contact between the load, crane, and/or other objects.

Items (c) through (g) are considered accidents even though no material damage or injury occurs. A component failure (e.g., motor burnout, gear tooth failure, bearing failure) is not considered an accident solely due to material or equipment damage, unless the component failure results in damage to other components (e.g., dropped boom, dropped load, roll over, etc.).

f. Definition of a rigging gear accident.

- (1) For the purpose of this definition, it is assumed there is an "operating envelope" around any weight handling operation, and inside the envelope are the following:
- (a) Rigging gear
 - (b) The user of the gear
 - (c) Other personnel involved with the operation (supervisor, mechanic, tag line handler, etc.)
 - (d) The load
 - (e) The gears supporting structure
 - (f) The load's rigging path
 - (g) The rigging procedure

- (2) A rigging gear accident occurs when any of the elements in the operation envelope fails to perform correctly during weight handling operations resulting in the following:
- (a) Personnel injury or death
 - (b) Material equipment damage
 - (c) Dropped load
 - (d) Two blocking of cranes or powered hoists
 - (e) Overload

Items (c) through (e) are considered accidents even though no material damage or injury occurs. A component failure (e.g., motor burnout, gear tooth failure, bearing failure) is not considered an accident solely due to material or equipment damage, unless the component failure results in damage to other components (e.g., dropped boom, dropped load, roll over, etc.).

8. ACCIDENT PREVENTION PLAN (APP). Prior to performing any work on a Government job-site, the contractor shall provide an Accident Prevention Plan.

8.1 The APP shall be prepared in accordance with the Army Corps of Engineers EM 385-1-1, "Safety and Health Requirements" as applicable, the APP shall be site specific and as a minimum, contain the following analyses and plans:

- a. Emergency Response Plan
- b. Activity Hazard Analysis
- c. Critical Lift Plan
- d. Hazard Communication Plan
- e. Hazardous Energy Control Plan
- f. Fall Protection and Prevention Plan
- g. Fire Protection and Prevention Plan
- h. Severe Weather Plan (if outside work is involved)
- i. Emergency Lighting Plan (may incorporate building emergency lighting plan)

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- j. Work Site Lighting Plan
- k. Drug and Alcohol Prevention Plan
- l. Site Sanitation Plan
- m. Mobile Cranes and Articulating Boom Cranes (if this equipment is being used)
- n. Jacking Operations Plan (if applicable)
- o. Asbestos Hazard Abatement Plan (if applicable)
- p. Material Containing Lead Removal Plan (if applicable)

8.2 The APP shall provide identification and accountability of personnel responsible for accident prevention. The APP shall be signed by the plan preparer, the plan approver, and to show concurrence signed by an officer of the contractor's firm, the contractor's on-site safety representative, the contractor's project manager, the contractor's superintendent, and representatives of the subcontractors.

8.3 Prior to site mobilization the prime contractor and subcontractors shall meet with representatives of the Contracting Officer to discuss and develop a mutual understanding relative to administration of the overall safety program.

8.4 The contractor will not be allowed to commence work on site until the APP is determined to be acceptable by NAVCRANECEN. The APP shall be kept at the Government job-site and made available for employee review.

9. EMERGENCY RESPONSE PLAN.

9.1 An emergency response plan shall be prepared by the contractor and submitted as part of the Accident Prevention Plan (APP). The emergency response plan shall contain the following procedure, duties, maps, names and plans:

- a. Emergency escape procedure and emergency escape route assignments including a predetermined assembly meeting area after an evacuation.
- b. Emergency rescue procedures (e.g. for employees working at heights or in confined spaces).
- c. Rescue and medical duties for those employees who are to perform them.
- d. The preferred means of reporting fires and other emergencies (e.g. location of phones at the job site, and the posting of emergency telephone numbers and reporting instructions for ambulance, physician, hospital, fire, and police).
- e. Sketch or map that will be posted at the job-site highlighting the route to the nearest medical facility and hospital.
- f. Names and job title of persons who can be contacted for further information of duties under the accident prevention plan.
- g. Spill containment plan to contain and isolate the entire volume of a spilled hazard substance.
- h. Person overboard plan for work over or immediately adjacent to water, including the wearing of U.S. Coast guard approved life jackets and the immediate availability of a skiff, and a person trained in operating it.

10. ACTIVITY HAZARD ANALYSIS

10.1 *Definitions.*

- a. *Activity hazard analysis:* a documented process by which the steps (procedures) required to accomplish a work activity are outlined, the actual or potential hazards of each step are identified and measures for the elimination or control of those hazards are developed.
- b. *Competent person:* one who can identify existing and predictable hazards in the working environment or working conditions that are dangerous to personnel and who has authorization to take prompt corrective measures to eliminate them.

10.2 An Activity Hazard Analyses shall be prepared by a competent person as defined in the paragraph above for all non-routine phases of work and hazardous activities, and for work requiring additional or unusual safety precautions that will be performed under this contract on the Government job site. This Activity Hazard Analysis shall be submitted as part of the Accident Prevention Plan (APP).

- a. Analyses will define the activities being performed and identify the sequences of work, the specific hazards anticipated, and the control measures to be implemented to eliminate or reduce each hazard to an acceptable level.
- b. Work shall not begin on a work activity until the hazard analysis for the work activity has been accepted by the Contracting Officer and discussed with all engaged in the activity including the contractor, subcontractor(s), crane operator and riggers (if involving a lift), and the Contracting Officer's on-site representative.

11. CRITICAL LIFT PLAN

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11.1 *Definition.* Critical lifts are all lifts of major crane components (i.e., end truck, girders, trolleys, etc.) that require detailed planning or special safety precautions, and include lifts which require the load to be lifted, swung, or placed out of the operator's view; lifts of bridge crane structures where there is only a few inches of clearance between the load being lifted and the building roof beams, joists, purlins, and/or elevated building equipment; lifts made with more than one crane or hoist; lifts involving technically difficult rigging arrangement; hoisting personnel with a crane or derrick; any lifts exceeding 75% of the rated capacity of the crane(s) or hoist (lifts over 50% of the capacity of a barge mounted mobile crane's hoist) at any radius of lift, lifts of personnel, lifts involving unusual safety risks, lifts of sensitive equipment, or any lift which the crane operator believes should be considered critical.

11.2 Critical lifts require additional job planning (a critical lift plan) to ensure the safety of equipment and personnel. A critical lift plan shall be prepared by the contractor. Critical lift plans shall be developed, reviewed, and signed by all personnel involved in the lift and shall:

- a. Specify the exact size and weight of the load to be lifted and all crane and rigging components which add to the weight.
- b. Specify the manufacturer's maximum load limits for the entire range of the lift as listed in the load charts.
- c. Specify the lift geometry and procedures, including the crane position, the center of gravity of the load, height of the lift, the load radius, and the boom length and angle, for the entire range of the lift.
- d. Designate the crane operator, lift supervisor and rigger and state their qualifications.
- e. Include a rigging plan, which shows the lift points and describes rigging procedures and gear requirements.
- f. Describe the ground condition and outrigger or crawler track requirements (and, if necessary, the design of mats) needed to achieve a level, stable foundation of sufficient bearing capacity for the lift.
- g. For floating cranes or derricks describe the operating base (platform) condition (for mobile cranes mounted on barges) and any potential list. For barge mounted mobile cranes provide barge stability calculations identifying list and trim based on anticipated loading; and charts based on calculated list and trim. The amount of list and trim shall be within the manufacturer's requirements.
- h. List of environmental conditions under which lift operations are to be stopped.
- i. Specify coordination and communication requirements for the lift operation.
- j. For tandem or tailing crane lifts, specify the make and model of the cranes, the line, boom, and swing speeds, and the requirements for an equalizer beam.
- k. For lifts of personnel, demonstrate compliance with the requirements of 29 CFR 1926.550(g).

12. HAZARD COMMUNICATION PLAN

12.1 *Definition.* A hazard communication plan is a written plan for protecting personnel and property during the transport, storage and use of hazardous materials.

12.2 A hazard communication plan shall be prepared by a competent person as defined in the Activity Hazard Analysis paragraph, shall be submitted as part of the Accident Prevention Plan (APP), and shall state address:

- a. Items required by 29 CFR 1926.59(e).
- b. Emergency procedures for spill response and disposal of hazardous materials.
- c. Hazardous Material Exclusions. That notwithstanding any other hazardous material used in this contract, the following materials are prohibited within the limits of the Government job-site or activity following (exceptions to the use of any of these excluded materials may be considered by the Contracting Officer upon written request by the Contractor):
 - (1) radioactive materials or instruments capable of producing ionizing/nonionizing radiation.
 - (2) mercury, mercury compounds, and components containing mercury or mercury compounds. Fluorescent and mercury vapor lamps contain mercury and the breakage of a lamp containing mercury within a naval activity constitutes a mercury spill and must be reported to the activity's Mercury Control Coordinator.
 - (3) asbestos or materials which contain asbestos.
 - (4) materials which contain polychlorinated biphenyls or di-isocyanates.
 - (5) lead-based paints.
- d. Yellow Plastic Exclusion. That yellow packaging materials are not permitted on naval activities. Yellow colored materials are used by activities to contain and/or identify material. Loose yellow colored material, especially plastic, is a potential incident which results in considerable lost production time.
- e. Construction equipment, including cranes, regardless of location, shall have adequate oil absorbent material staged at the crane to contain a hydraulic component/system failure/leak. Contractors are responsible to clean up non-emergency oil and hazardous substance spills from their equipment. (The contractor shall notify the Contracting Officers designated representative when setting up a crane for HAZMAT conditions.)
- f. Labeling system to identify contents on all containers on-site.

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- g. Current inventory of hazardous chemical on site.
- h. Location and use of Material Safety Data Sheets (MSDS) and that:
 - (1) a MSDS for each hazardous substance at the Government job site will be maintained in an inventory, provided to the Contracting Officer, and made available to all potentially exposed employees.
 - (2) for emergency response purposes, each entry in the inventory shall include the approximate quantities (e.g. liters, kilograms, gallons, pounds) that will be on site at any given time.
 - (3) a site map will be attached to the inventory showing where inventoried hazardous substances are stored.
 - (4) the inventory and the site map shall be updated as frequently as necessary to ensure accuracy.
- i. Training (to include potential safety and health effects from exposure to hazardous substances).
- j. The notification process when hazardous substances are brought onto the Government job site and that all employees potentially exposed to the substance will be advised of information in the MSDS for the substance.

13. HAZARDOUS ENERGY CONTROL PLAN.

13.1 *Definition.* An OSHA compliant Energy Control Program provides the procedures and methods for the control of hazardous energy during the installation, maintenance and inspection of all equipment where the unexpected energization or movement of this machinery could result in a release of energy which might cause injury to personnel and/or property damage.

13.2 A hazardous energy control plan shall be prepared by a competent person (as defined in the Activity Hazard Analysis paragraph), shall be submitted as part of the Accident Prevention Plan (APP), and shall describe specific energy control requirements and lockout/tagout procedures for the equipment being installed, inspected and/or maintained in accordance with an established OSHA compliant energy control program.

13.3 The contractor shall comply with 29 CFR 1910.147 “The control of hazardous energy (lockout/tagout)” and 29 CFR 1910.333 “selection and use of work practices” when on activity property. The contractor “may” use OSHA Standard STD 1-7.3 “Control of Hazardous (Lockout/Tagout) - Inspection Procedures and Interpretive Guidance” as a guide on procedures to follow in the control of hazardous energy when on the job-site.

13.4 The contractor shall use the colors designated by the activity for the “locks” used in lockout/tagout for the respective energy sources when on activity property.

13.5 Lockout/tagout tags are “danger tags” and shall comply with the colors required by 29 CFR 1926.200(b) “Danger signs shall have red as the predominating color ...”.

14. FALL PROTECTION AND PREVENTION PLAN

14.1 *Definitions.*

- a. *Fall Protection and Prevention Plan:* a fall protection and prevention plan is a document prepared by a contractor or subcontractor for the purpose of planning, designing, installing, monitoring and rescue of workers exposed to fall hazards and prevent fall accidents from occurring on Government property during work performed under this contract.
- b. *Competent Person for Fall Protection:* a person knowledgeable of fall protection equipment, including the manufacturer recommendations and instructions for the proper use, inspection, and maintenance; who is capable of identifying hazardous or dangerous conditions in the personal fall arrest system or any component thereof, as well as in their application and use with related equipment; who is knowledgeable of rules and regulations regarding the erection of fall protection equipment and systems, AND who has the authority to take prompt correct measures to eliminate the hazards of falling.
- c. *Qualified Person for Fall Protection:* a person is one with a recognized engineering degree or professional certificate, and with extensive knowledge, training, and experience in the subject field of fall protection; who is capable of performing design, analysis, and evaluation of fall protection systems and equipment.

14.2 A fall protection and prevention plan shall be written by a competent person (as defined in the definitions paragraph above), shall be submitted as part of the Accident Prevention Plan (APP), and shall include the following:

- a. Description of the fall hazards at the job site.
- b. Type of fall protection/prevention methods or systems to be used.
- c. Training requirements for employees exposed to fall hazards.
- d. Type of fall protection equipment and systems provided to the employees that might be exposed to fall hazards.
- e. Identify the tie-off points (anchorage) to be used for attachment of personal fall arrest equipment that are capable of supporting at least 5,000 pounds per employee attached, or have been designed, installed, and used as follows:
 - (1) as part of a complete personal fall arrest system which maintains a safety factor of at least two; and

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(2) under the supervision of a qualified person (as defined in the definitions paragraph above).

If there is a need to devise an anchor point from existing structures such as beams, or eye-bolt, a qualified person shall be used to evaluate the anchorages.

15. FIRE PROTECTION AND PREVENTION PLAN

15.1 *Definition.* A fire protection and prevention plan is a plan prepared by the contractor covering the items described in NFPA 241 including fire prevention (e.g. fire watch) during hot work (e.g. welding/grinding).

15.2. A fire protection and prevention plan shall be prepared by a competent person (as defined in the Activity Hazard Analysis paragraph), shall be submitted as part of the Accident Prevention Plan (APP), and shall state that welding, burning, and open flame work will only be performed on the Government job-site when:

- a. the methods have been approved by the activity (cognizant Safety Office) where the job-site is located,
- b. the activity where the job-site is located has been notified that hot work is going to be performed, when it is going to be performed, and the number of days needed,
- c. a fire watch is provided by the contractor,
- d. an adequate fire extinguishing equipment is available, AND,
- e. fuel bottles are placed by the contractor at ground level and outside of the hot work area.

16. SEVERE WEATHER PLAN (if outside work is involved).

16.1 *Definition.* A severe weather plan lists procedures for ceasing on-site outdoor operations during lightning, high winds, and restricting operations during reduced visibility or icing.

16.2 The contractor shall prepare a severe weather plan and submitted with the APP that list procedures followed during severe weather. State in this plan that cranes shall not be operated when wind speeds at the top of the crane approach the maximum wind velocity recommendations of the manufacturer, that operations undertaken during weather conditions that produce icing of the crane structure or reduced visibility shall be performed at reduced functional speeds and with signaling means appropriate to the situation, and when conditions are such that lightning could occur, all crane operations shall cease.

17. EMERGENCY LIGHTING PLAN.

17.1 *Definition.* Emergency lighting facilities for means of egress are described in NFPA 101-2000 Life Safety Code (National Consensus Standards). Exit access includes only designated stairs, walkways, ramps, runways and passageways leading to an exit. Emergency illumination is required for not less than 1-1/2 hours in the event of failure of normal lighting. Emergency lighting facilities must provide initial illumination that is not less than an average of 1 ft-candle (10 lux) and, at any point, not less than 0.1 ft-candle (1 lux), measured along the path of egress at floor level.

17.2 An emergency lighting plan shall be prepared by the contractor and shall be submitted as part of the APP.

17.3 If the on-site work is being performed in a building that has emergency lighting facilities that provides adequate illumination of the egress routes from the contractor work areas during a power failure then the building's emergency lighting plan may be used for this submission.

18. WORK SITE LIGHTING PLAN.

18.1 *Definition.* Absolute minimum illuminances at any time and location where safety is related to visibility are described in IESNA Lighting RR-96 (Illuminating Engineering Society of North America). Luminance levels for safety: Normal Level slight hazards requiring visual detection: 0.5 Footcandles (5.4 Lux).

18.2 A work site operations lighting plan shall be prepared by the contractor and shall be submitted as part of the APP to assure that adequate illumination is provided in the work areas within a crane, within a building, and during nighttime operations.

19. DRUG AND ALCOHOL PREVENTION PLAN.

19.1 *Definition.* Drug abuse is a potential health, safety and security problem. Illegal drugs, prescription drugs and alcohol can cause adverse side affects that may affect workplace safety (e.g. drowsiness or impaired reflexes or reaction time).

19.2 A drug and alcohol prevention plan shall be prepared by the contractor and shall be submitted as part of the APP that enforces a restriction against the use of illegal drugs or the consumption of alcohol at any time at the job-site, and enforces a

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prohibition that employees shall not work at the job-site while under the influence of alcohol or drugs, including prescription drugs that have adverse side effects that may affect workplace safety.

20. SITE SANITATION PLAN.

20.1 A site sanitation plan shall be prepared by the contractor and shall be submitted as part of the APP that shall map out the provisions for supplying adequate drinking water, toilet facilities, washing facilities and waste disposal, and steps taken to ensure all debris is kept cleared from work areas, passageways and stairs, in and around work structures.

20.2. If the Government is furnishing drinking water, toilet facilities and washing facilities to the contractor, indicate this in the site sanitation plan.

21. MOBILE CRANES AND ARTICULATING BOOM CRANES (if this equipment is being used).

21.1 Comply with ASME B30.5 for mobile cranes, ASME B30.22 for articulating boom cranes, ASME B30.3 for construction tower cranes, and ASME B30.8 for floating cranes.

21.2 For mobile cranes with original equipment manufacturer's (OEM) rated capacities of 50,000 pounds or greater, the crane operator needs to be designated as qualified by a source that qualifies crane operators (i.e., a union, a government agency, or an organization that tests and qualifies crane operators). The contractor shall provide to the Contracting Officer proof of current qualifications as per contract data requirements list (CDRL) "Crane Operator's Qualification" contained in this contract.

21.3 The Accident Prevention Plan shall indicate that in addition to the requirements of 29 CFR 1926, mobile cranes will be equipped with:

- a. An anti-two-block device or a two-block damage prevention feature for all points of two-blocking.
- b. A boom angle indicator or radius indicator readable from the operator's station.
- c. A boom hoist disconnect, shutoff, or hydraulic relief to automatically stop the boom hoist when the boom reaches a predetermined high angle.
- d. For telescoping booms:] A boom length indicator readable from the operator's station.
- e. For telescoping booms:] An integrally mounted holding device (such as a load hold check valve) provided with the telescopic hydraulic cylinder(s) to prevent uncontrolled retraction of the boom in the event of a hydraulic system failure (e.g., supply hose).
- f. For telescoping booms:] An integrally mounted holding device (such as a load hold check valve) provided with boom support hydraulic cylinder(s) to prevent uncontrolled lowering of the boom in the event of a hydraulic system failure (e.g., supply hose).

21.4 For night operations, lighting shall be adequate to illuminate the working areas while not interfering with the operator's vision.

21.5 Each load shall be rigged/attached independently to the hook/master-link in such a fashion that the load cannot slide or otherwise become detached. The practice of "Christmas tree lifting" steel is prohibited. Long slender objects (e.g. steel beams, pipe, bars) shall be rigged to be lifted horizontally using two independent choker or eyebolt type pick-up points in such a fashion that the load cannot slide or otherwise become detached, taking into account the sling angle to the load in determining sling loadings.

21.6 Piers and waterfront areas such as along dry docks and quay walls may have load restrictions.

- a. Notify the Contracting Officer prior to moving a crane onto a pier, dry dock, or other waterfront area. Provide the Contracting Officer with the crane make, model, and configuration in which it is to be used.
- b. The contractor shall comply with cribbing requirements issued with the contract.
- c. Fueling and equipment maintenance is prohibited on piers and other over water sites.

22. JACKING OPERATIONS PLAN (if applicable).

22.1 *Definition.* Jacking operations shall be designed and planned by a registered professional engineer who has experience in jacking systems. A jacking operation plan shall be implemented by the contractor and shall include detailed instructions and sketches indicating the prescribed method of erection or disassembly. These plans and designs shall include provisions for ensuring lateral stability of the ground or pier area during the lifting of the crane onto the crane rails.

22.2 A jacking operations plan shall discuss the following:

APPENDIX E
SAFETY REGULATIONS: ACCIDENT PREVENTION PLAN

- a. Jacks/lifting units shall be marked to indicate their rated capacity as established by the manufacturer. The rated load shall be legibly and permanently marked in a prominent location on the jack by casting, stamping, or other suitable means.
- b. Jacks/lifting units shall not be loaded beyond their rated capacity as established by the manufacturer.
- c. The operator shall make sure that the jack used has a rating sufficient to lift and sustain the load. Jacking equipment shall be capable of supporting at least two and one-half times the load being lifted during jacking operations and the equipment shall not be overloaded. For the purpose of this provision, jacking equipment includes any load bearing component, which is used to carry out the lifting operation(s). Such equipment includes, but is not limited, to the following: threaded rods, lifting attachments, lifting nuts, hook-up collars, T-caps, shearheads, columns, and footings.
- d. Equipment shall be designed and installed so that the lifting rods cannot slip out of position or the contractor shall institute other measures, such as the use of locking or blocking devices, which will provide positive connection between the lifting rods and attachments and will prevent components from disengaging during lifting operations. In the absence of a firm foundation, the base of the jack shall be blocked. If there is a possibility of slippage of the cap, a block shall be placed in between the cap and the load.
- e. Jacks/lifting units shall be designed and installed so that they will neither lift nor continue to lift when they are loaded in excess of their rated capacity.
- f. Jacks/lifting units shall have a safety device installed which will cause the jacks/lifting units to support the load in any position in the event any jack lifting unit malfunctions or loses its lifting ability.
- g. Jacking operations shall be synchronized in such a manner to ensure even and uniform lifting of the load. During lifting, all points at which the load is supported shall be kept within 1/2 inch of that needed to maintain the load in a level position. The operator shall watch the stop indicator, which shall be kept clean, in order to determine the limit of travel. The indicated limit shall not be overrun.
- h. If leveling is automatically controlled, a device shall be installed that will stop the operation when the 1/2 inch tolerance set forth in paragraph g above is exceeded or where there is a malfunction in the jacking (lifting) system.
- i. If leveling is maintained by manual controls, such controls shall be located in a central location and attended by a competent person while lifting is in progress. The competent person must be experienced in the lifting operation and with the lifting equipment being used. A "competent person" is defined as one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.
- j. After the load has been raised, it shall be cribbed, blocked, or otherwise secured at once.
- k. The maximum number of annually controlled jacks/lifting units on the load shall be limited to a number that will permit the operator to maintain the load level within specified tolerances of paragraph g above, but in no case shall that number exceed fourteen.
- l. Under no circumstances, shall any employee who is not essential to the jacking operation be permitted immediately beneath the load while it is being lifted.
- m. Jacks/lifting units shall be positively secured so that they do not become dislodged or dislocated.
- n. Each jack shall be thoroughly inspected at times which depend upon the service conditions. Inspections shall be not less frequent than the following: (a) for constant or intermittent use, once every 6 months, (b) for jacks sent out of shop for special work, when sent out and when returned, and (c) for a jack subjected to abnormal load or shock, immediately before and immediately thereafter. Repair or replacement parts shall be examined for possible defects. Jacks, which are out-of-order, shall be tagged accordingly, and shall not be used until repairs are made. All jacks shall be properly lubricated at regular intervals. Hydraulic jacks exposed to freezing temperatures shall be supplied with an adequate antifreeze liquid.

23. ASBESTOS HAZARD ABATEMENT PLAN (if applicable).

23.1 *Definition.* Non-friable asbestos containing materials do not always require special handling, however, during demolition and removal of this material, dust and airborne asbestos fibers will sometimes be released requiring asbestos hazard abatement operations.

23.2 The contractor shall prepare and submit as part of the APP a detailed job-specific plan of the work procedures to be used in the removal of material containing asbestos in accordance with 29 CFR 1926.1101. The plan shall include, but not limited to:

- a. safety precautions such as lockout tagout, fall protection, and fall protection, and confined space entry procedures and equipment and work procedures to be used in the encapsulation, and removal of materials containing asbestos.
- b. the precise personal protective equipment to be used including, but not limited to respiratory protection, type of whole-body protection, the location of the asbestos control areas including clean and dirty areas, buffer zones, showers, storage areas, change rooms, encapsulation method, interface of trades involved in the asbestos work, sequencing of asbestos related work, disposal plan, type of wetting agent and asbestos sealer to be used, locations of local exhaust equipment, planned air monitoring strategies, and a detailed description of the method to be employed in order to control environmental pollution.
- c. if the work being performed is in a building, the special safety precautions that must be taken if any portions of the building is occupied.

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SAFETY REGULATIONS: ACCIDENT PREVENTION PLAN

- d. certificates prior to the start of work, signed by each employee doing asbestos removal work that the employee has received training in the proper handling of materials and wastes that contain asbestos in accordance with 40 CFR 763, understands the health implications and risks involved, and understands the use and limits of respiratory equipment to be used.
- e. the name, address, and telephone number of each testing laboratory selected for the sampling, analysis, and reporting of airborne concentrations of asbestos fibers along with certification that each laboratory is American Industrial Hygiene Association (AIHA) accredited and that persons counting the samples have been judged proficient by current inclusion on the AIHA Asbestos Analysis Registry and successful participation of the laboratory in the Proficiency Analytical Testing Program.
- f. written evidence that the landfill for disposal is approved for asbestos disposal by EPA State and local regulations.
- g. statement that the contractor will comply with all applicable laws, ordinances, criteria, rules, and regulations of Federal, State, regional, and local authorities regarding handling, storing, transporting, and disposing of asbestos waste materials.

24. MATERIAL CONTAINING LEAD REMOVAL PLAN (if applicable).

24.1 *Definition.* Material containing lead is classified as a hazardous waste and special handling, storage, and disposal must be made according to federal and local hazardous waste management regulations.

24.2 The contractor shall prepare and submit as part of the APP a detailed job-specific plan of the work procedures to be used in the removal of material containing lead. The plan shall include, but not limited to:

- a. sketch showing the location, size, and details of lead control areas, critical barriers, physical boundaries, location and details of decontamination facilities, viewing ports, and mechanical ventilation system.
- b. description of equipment and materials, the appropriate engineering controls implemented, and job responsibilities for each activity such as cutting, sawing, sanding, scraping, abrasive blasting, and/or high temperature cutting of materials containing lead paint from which lead is emitted.
- c. eating, drinking, smoking and sanitary procedures, interface of trades, sequencing of lead related work, collected waste water and dust containing lead and debris, air sampling, respirators, personal protective equipment, and a detailed description of the method of containment of the operation to ensure that airborne lead concentrations of 30 micrograms per cubic meter of air are not reached or exceeded outside of the lead control area.
- d. operational and environmental sampling, training and strategy, sampling and analysis strategy and methodology, frequency of sampling, duration of sampling, and qualifications of sampling personnel in the air sampling portion of the plan.
- e. certificate for each employee, signed and dated by the accredited training provider, stating that the employee has received the required training in accordance with 40 CFR 745.
- f. the name, address, and telephone number of the testing laboratory selected to perform the air and wipe sampling, testing, and reporting of airborne concentrations of lead (use a laboratory participating in the EPA National Lead Laboratory Accreditation Program).
- g. description of the disposal of all material, whether hazardous or non-hazardous in accordance with all laws and provisions and all federal, State or local regulations.

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CERTIFICATE OF COMPLIANCE	
<p>This certificate shall be signed by an official of the company that provides cranes (or multi-purpose machines, material handling equipment, or construction equipment used to lift loads suspended by rigging gear) or rigging gear for any application under this contract. Post a completed certificate on each crane or alternate machine (or in the contractor's on-site office for rigging operations) brought onto Navy property.</p>	
CONTRACTING OFFICER'S POINT OF CONTACT <small>(Government Representative)</small>	PHONE
PRIME CONTRACTOR/PHONE	CONTRACT NUMBER
CRANE OR ALTERNATE MACHINE SUPPLIER/PHONE <small>(if different from prime contractor)</small>	CRANE OR ALTERNATE MACHINE NUMBER (i.e., ID number)
CRANE OR ALTERNATE MACHINE MANUFACTURER/TYPE/CAPACITY	
CRANE OR ALTERNATE MACHINE OPERATOR'S NAME(S)	
<p>I certify that</p> <ol style="list-style-type: none"> 1. The above noted crane or alternate machine and all rigging gear conform to applicable OSHA regulations (host country regulations for naval activities in foreign countries) and applicable ASME B30 standards. The following OSHA regulations and ASME standards apply: _____ 2. The operators noted above have been trained and are qualified for the operation of the above noted crane(s) or alternate machine(s). 3. The operators noted above have been trained not to bypass safety devices during lifting operations. 4. The operators, riggers, and company officials are aware of the actions required in the event of an accident as specified in the contract. 	
COMPANY OFFICIAL SIGNATURE	DATE
COMPANY OFFICIAL NAME/TITLE	
POST ON CRANE <small>(IN CAB OR VEHICLE)</small>	

APPENDIX E
SAFETY REGULATIONS: ACCIDENT PREVENTION PLAN

CRANE AND RIGGING GEAR ACCIDENT REPORT

Accident Category: <input type="checkbox"/> Crane Accident <input type="checkbox"/> Rigging Gear Accident			
From:		To: Navy Crane Center 10 Industrial Hwy MS 82 Lester, Pa 19113-2090 Fax (610) 595-0812	
UIC:			Report No:
Activity:			Report No:
Crane No:	Category:	Accident Date:	Time: hrs
Category of Service: <input type="checkbox"/> SPS <input type="checkbox"/> GPS	Crane Type:	Crane Manufacturer:	
Location:		Weather:	
Crane Capacity:	Hook Capacity:	Weight of Load on Hook:	
Fatality or Permanent Disability? <input type="checkbox"/> Yes <input type="checkbox"/> No		Material/Property Cost Estimate:	
Reported to NAVSAFECEN? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Accident Type: <input type="checkbox"/> Personal Injury <input type="checkbox"/> Overload <input type="checkbox"/> Derail <input type="checkbox"/> Damaged Rigging Gear <input type="checkbox"/> Load Collision <input type="checkbox"/> Two Blocked <input type="checkbox"/> Dropped Load <input type="checkbox"/> Damaged Crane <input type="checkbox"/> Crane Collision <input type="checkbox"/> Damaged Load <input type="checkbox"/> Other Specify _____			
Cause of Accident: <input type="checkbox"/> Improper Operation <input type="checkbox"/> Equipment Failure <input type="checkbox"/> Inadequate Visibility <input type="checkbox"/> Improper Rigging <input type="checkbox"/> Switch Alignment <input type="checkbox"/> Inadequate Communication <input type="checkbox"/> Track Condition <input type="checkbox"/> Procedural Failure <input type="checkbox"/> Other Specify _____			
Chargeable to: <input type="checkbox"/> Track Walker <input type="checkbox"/> Rigger <input type="checkbox"/> Operator <input type="checkbox"/> Maintenance <input type="checkbox"/> Management/Supervision <input type="checkbox"/> Other Specify _____			
Crane Function: <input type="checkbox"/> Travel <input type="checkbox"/> Hoist <input type="checkbox"/> Rotate <input type="checkbox"/> Luffing <input type="checkbox"/> Telescoping <input type="checkbox"/> Other <input type="checkbox"/> N/A			
Is this accident indicative of a recurring problem? <input type="checkbox"/> Yes <input type="checkbox"/> No			
If yes, list Accident Report Nos.: _____			
ATTACH COMPLETE AND CONCISE SITUATION DESCRIPTION AND CORRECTIVE/PREVENTIVE ACTIONS TAKEN AS ENCLOSURE (1). Include probable cause and contributing factors. Assess damages and define responsibility. For equipment malfunction or failure, include specific description of the component and the resulting effect or problem caused by the malfunction or failure. List immediate and long term corrective/preventive actions assigned and respective codes.			
Preparer:	Phone and email	Code	Date
Concurrences:			
	Code	Date	
	Code	Date	
Certifying Official (Crane Accidents Only):	Code	Date	

APPENDIX E
SAFETY REGULATIONS: ACCIDENT PREVENTION PLAN

CRANE AND RIGGING GEAR ACCIDENT REPORT INSTRUCTIONS

This form is designed for facsimile transmission without a cover page or by Email and, with enclosures and signatures, shall be the official document. Electronic submission will be accepted without signatures but the names of the preparer, concurring personnel, and certifying official (for crane accidents only) must be filled in. The E-mail address is [http://accident@ncc.navfac.navy.mil](mailto:accident@ncc.navfac.navy.mil).

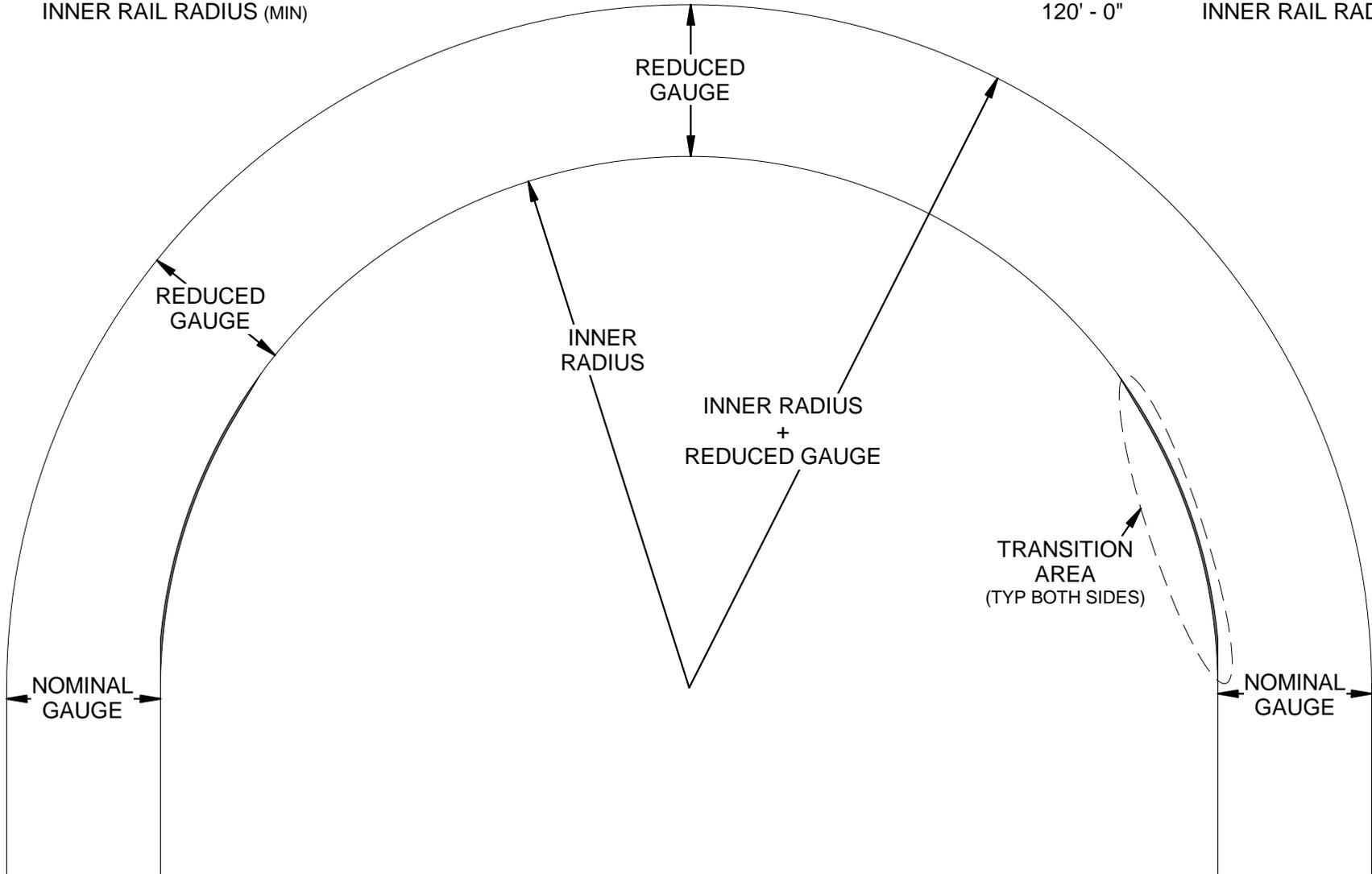
1. Accident Category: Indicate either crane accident or rigging gear accident.
2. From: The naval activity that is responsible for reporting the accident and UIC number.
3. Activity: The naval activity where the accident took place.
4. Report No.: The activity assigned accident number (e.g., 95-001).
5. Crane No.: The activity assigned crane number (e.g., PC-5), if applicable.
6. Category: Identify category of crane (i.e., 1, 2, 3, or 4), if applicable.
7. Accident Date: The date the accident occurred.
8. Time: The time (24 hour clock) the accident occurred (e.g., 1300).
9. Category of Service: Check the applicable service.
10. Crane Type: The type of crane involved in the accident (e.g., mobile, bridge), if applicable.
11. Crane Manufacturer: The manufacturer of the crane (e.g., Dravo, Grove, P&H), if applicable.
12. Location: The detailed location where the accident took place (e.g., building 213, dry dock 5).
13. Weather: The weather conditions at time of accident (e.g., wind, rain, cold).
14. Crane Capacity: The certified capacity of the crane (e.g., 120,000 pounds), if applicable.
15. Hook Capacity: The capacity of the hook involved in the accident at the maximum radius of the operation, if applicable.
16. Weight of Load on Hook: If applicable, the weight of the load on the hook.
17. Fatality or Permanent Disability? Check yes or no.
18. Material/Property Cost Estimate: Estimate total cost of damage resulting from the accident.
19. Reported to NAVSAFECEN?: Self-explanatory.
20. Accident Type: Check all that apply.
21. Cause of Accident: Check all that apply.
22. Chargeable to: Check all that apply.
23. Crane Function: Check the function(s) in operation at time of accident. Check all that apply. Check N/A if a rigging gear accident.
24. Is this a recurring problem?: Check yes or no. Identify any other similar accidents.
25. Situation Description/Corrective Actions: Self-explanatory.
26. Preparer: Self-explanatory.
27. Concurrences: Self-explanatory.
28. Certifying Official (Crane Accidents Only): Self-explanatory.

BREMERTON

20' - 0"	NOMINAL GAUGE
19' - 8 $\frac{1}{2}$ "	REDUCED GAUGE (APPROX)
69' - 0"	INNER RAIL RADIUS (MIN)

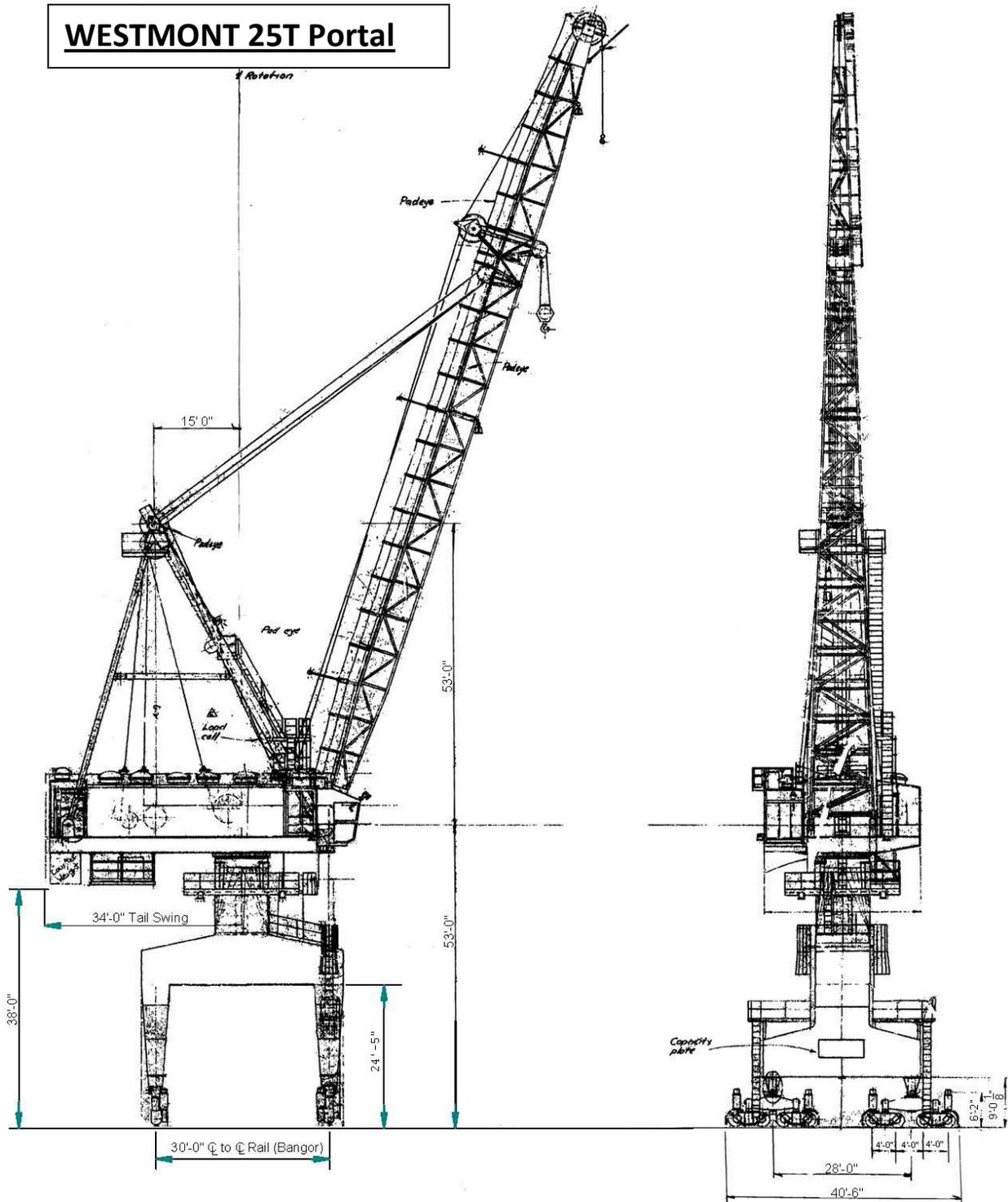
BANGOR

30' - 0"	NOMINAL GAUGE
29' - 8 $\frac{1}{2}$ "	REDUCED GAUGE (APPROX)
120' - 0"	INNER RAIL RADIUS (MIN)



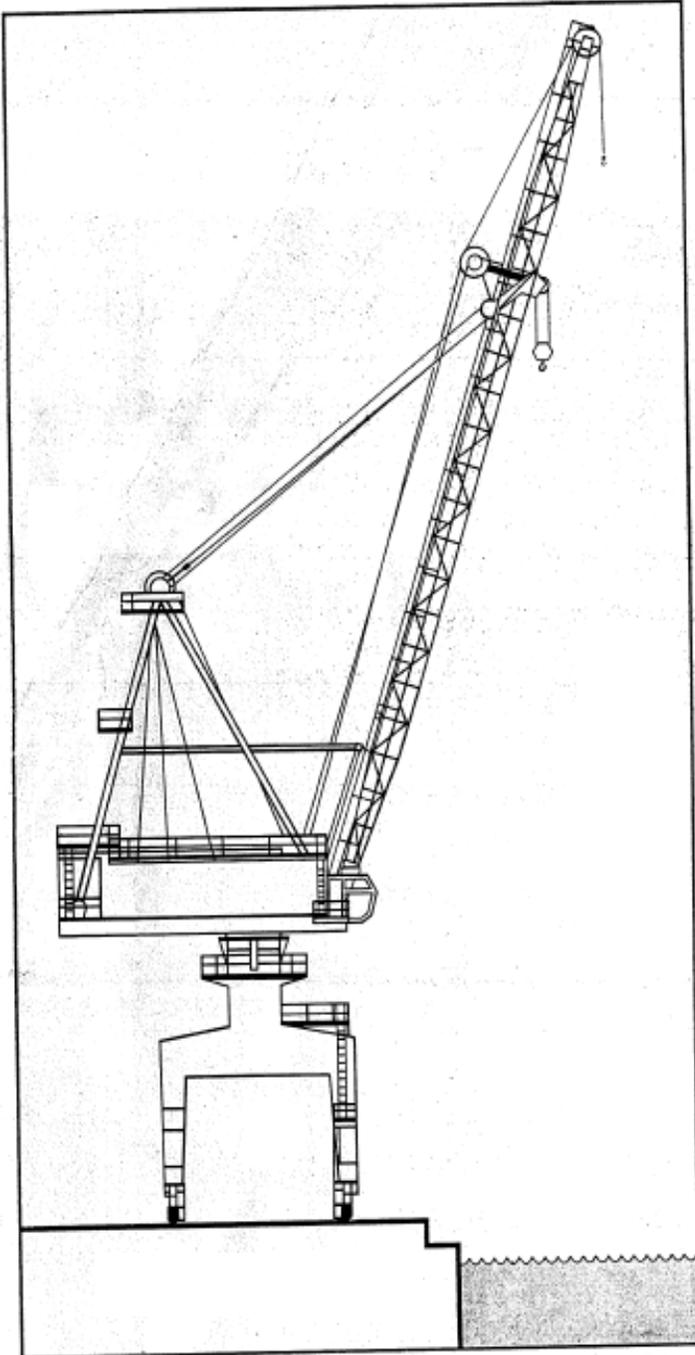
GENERIC PORTAL CRANE RAIL CURVES REDUCTION OF GAUGE IN CURVES

WESTMONT 25T Portal



NOTE: The Government does not warrant or guarantee that the item descriptions contain all specific characteristics or performance data pertaining to the cranes. In addition, there is no warranty or guaranty of the stated condition of the cranes, estimated weight or dimensions or suggested uses for the cranes.

WESTMONT 25T Portal



TECHNICAL DATA

General

Nominal Capacity:	25 Tons
Rail Size:	135#
Track Gage:	30'
Minimum Inner Rail Radius:	120'
Clearance Under Gantry:	25'
Clearance Between Gantry Legs:	25'
Boom Hinge Pin Height (feet above top of rail):	48'
Maximum Tail Swing:	39'
Allowable Travel Wheel Loads:	100,000 lbs.
Machine House/Operator Cab Floor Elevation (feet above top of rail):	50'

Hook Load and Reaches

(in feet from centerline of rotation)

MAIN HOOK	
Rated Load:	25 Tons
Maximum Operating Radius:	115'
Minimum Operating Radius:	55'
WHIP HOOK	
Rated Load:	8.5 Tons
Maximum Operating Radius:	140'

Lifts

(in feet, above top of rail)

MAIN HOOK	
At Maximum Operating Radius:	82'
At Minimum Operating Radius:	140'
WHIP HOOK	
At Maximum Radius:	125'
At Minimum Radius:	184'
Lift Below Rail, Both Hooks:	63'

Rated Speeds

(feet/minute, unless noted otherwise)

Main Hook (at rated capacity):	40 FPM
Whip Hook (at rated capacity):	110 FPM
Swing:	¼ RPM
Boom Hoist from Maximum to Minimum Radius:	4 Minutes
Travel, Rated Capacity on Main Hook:	200 FPM

Estimated Weight: 730,000 LBS

Crane OEM: WESTMONT INDUSTRIES, Santa Fe Springs, CA 90670

NOTE: The Government does not warrant or guarantee that the item descriptions contain all specific characteristics or performance data pertaining to the cranes. In addition, there is no warranty or guaranty of the stated condition of the cranes, estimated weight or dimensions or suggested uses for the cranes.

25T Portal Crane

Connection Details

	Bremerton	IMF Delta Pier
ELECTRICAL		
Hotel Power	Shipyard connector that crane must connect to is: Appleton P/N APR10467 3 wire, 100A @ 480VAC	Existing cranes are equipped with: Russell Stoll #F26431-78, 100 Amp @ 480 VAC
Shore Power	Existing cranes are equipped with: Duraline, three conductors E1023 series [contactors are P/N A200027-15] with cable size 500 MCM and one ground conductor E1016 series [contactor is A200641-1] with cable size 3/0 - 4/0 Color convention used has red, black, and blue for power and green for ground	None
MECHANICAL		
Ground Level Diesel Fuel Connection	Existing cranes are equipped with: Kamvalok P/N 1671AN-SS15 1.5 inch Buna Seal, Stainless Steel	Existing cranes are equipped with: (Male) Aeroquip FD45-1002-16-16, Stock # 4730-00-883-3790

EXHIBIT A
Contracts Data Requirements List
DD Forms 1423
25 Ton Portal Cranes
Puget Sound Naval Shipyard and Intermediate Maintenance Facility

- 1.0 The data items included in this Section are required by the applicable clauses of Federal Acquisition Regulations (FAR) 52.2 and Defense Federal Acquisition Regulations (DFAR) 252.227
- 1.1 Data to be delivered under this contract is identified in Exhibit A (DD Forms 1423) and further described in Exhibit B (DD Forms 1664) and technical specification. All data submitted shall utilize British System units of measure and the English language exclusively. Quantities/distribution points listed in block 14 of DD Forms 1423 shall apply to all submissions. Latest edition of referenced document noted in block 4 is required. Codes used in blocks 8 and 10 are described as follows:
- | <u>Code</u> | <u>Frequency</u> |
|-------------|---|
| DAILY | Daily |
| WEEKLY | Weekly |
| BI-WE | Each two weeks |
| MTHLY | Monthly |
| BI-MO | Each two months |
| QRTLY | Quarterly |
| 2/MTH | Semimonthly |
| XTIME | X separate submittals |
| 2TIME/R | 2 separate submittals |
| ANNL | Annually |
| SEMIA | Each six months |
| OTIME | One time |
| ONE/R | One time with revisions as required |
| ASREQ | As required |
| CP/RQ | Change pages as required when procuring |
| 2TIME | Two separate submittals |
| *DFDEL | Deferred delivery (rarely used) |
| ONE/P | One time preliminary & revisions draft |
- 1.2 Distribution addresses for the submission of data are provided on page 2.
- 1.3 References include subordinate paragraphs.
- 1.4 The NAVCRANECEN Project Manager shall be notified by email when a submission is uploaded to Projnet for review. The Government review period will begin on the latter date of: email notification or date of complete submission package.

**25 Ton Portal Cranes
Puget Sound Naval Shipyard and Intermediate Maintenance Facility**

Abbreviations used:

NAVCRANECEN	Navy Crane Center, Naval Facilities Engineering Command
SupCmd	Supported Command
DCMA	Defense Contract Management Agency

Distribution addresses for the submission of data:

NAVCRANECEN:	Director, Navy Crane Center Naval Facilities Engineering Command Attn: Code 01 Norfolk Naval Shipyard, Bldg 491 Portsmouth VA 23709-5000
email:	david.cadieux@navy.mil
phone;	757.967.3814

SupCmd	Puget Sound Naval Shipyard Attn: Murry Rexin Code 713 Bremeton, WA 98314
email:	murry.rexin@navy.mil
phone:	360-476-0618

DCMA:	Address provided after contract award
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CONTRACT DATA REQUIREMENTS LIST
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25 Ton Portal Cranes

Puget Sound Naval Shipyard and Intermediate Maintenance Facility

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CONTRACT DATA REQUIREMENTS LIST

(1 Data Item)

Form Approved
OMB No. 0704-0188

Public reporting burden for this information is estimated to average 110 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503. Please DO NOT RETURN your form to either of these addresses. Send completed form to the government Issuing Contracting Officer for the Contract/PR No. listed in Block E.

A. CONTRACT LINE ITEM NO. 0001		B. EXHIBIT A		C. CATEGORY TDP X TM		
D. SYSTEM/ITEM Four 25T Portal Cranes		E. CONTRACT/PR NO. N62470-15-R-3000		F. CONTRACTOR		
1. DATA ITEM NO. A002	2. TITLE OF DATA ITEM Design Drawings & Calculations			3. SUBTITLE		
4. AUTHORITY DI-SESS-81000D, DI-MCCR-80700		5. CONTRACT REFERENCE Para 1.4, SD-02, SD-05, SD-11.1		6. REQUIRING OFFICE NAVCRANECEN		
7. DD 250 REQ LT	9. DISTRIBUTION STATEMENT	10. FREQUENCY ASREQ	12. DATE OF FIRST SUBMISSION ASREQ	14. DISTRIBUTION		
8. APPL CODE A		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBM. ASREQ	a. ADDRESSEE	Reg Electronic	
<p>16. REMARKS</p> <p>Provide engineering drawings and supporting calculations in accordance with block 4 and 5. Submit pre-final engineering drawings and calculations (accompanied by a certification letter stating that design has been prepared under the supervision and reviewed by a licensed, registered professional engineer) for government approval in accordance with contractor's design schedule.</p> <p>NAVCRANECEN will determine acceptability of initial crane design submittal within 28 days after receipt. All subsequent Government review periods shall be complete within 14 days of receipt of resubmission. Initial drawings and calculations may be submitted electronically.</p> <p>Government approval of final drawings & calculations is required 30 days prior to crane shop test. Final drawings shall be submitted 14 days after approval. Structural drawings shall be stamped and sealed by a licensed, registered professional engineer and submitted not less than 5 days prior to shop test. Final drawings and calculations may be submitted electronically.</p> <p>Submit as-built drawings no later than 30 days after government crane acceptance. All as-built drawings submitted shall be stamped and sealed by a licensed, registered professional engineer.</p> <p>Note: Drawing review period will not commence until until the entire design package (including all supporting information such as catalog cuts, calculations, etc) are received.</p> <p>SUBMISSIONS Drawings submittals for pre-final & final shall be delivered electronically. Submit as-built CD-ROM and hard prints via private courier.</p>				PRE-FINAL		
				NAVCRANECEN	0	1
				PSNSY	0	1
				DCMA	0	0
				FINAL		
				NAVCRANECEN	0	1
				PSNSY	0	1
				DCMA	0	1
				AS-BUILT		
				Prints:		
				NAVCRANECEN	0	0
				PSNSY	3	0
				DCMA	0	0
				AS-BUILT		
				CD-ROM:		
				NAVCRANECEN	1	0
PSNSY	2	0				
DCMA	0	0				
15. TOTAL		6	5			
G. PREPARED BY Dave Cadieux, P.E.		H. DATE 9/15/2014	I. APPROVED BY Charles Cotton, P.E.	J. DATE 9/15/2014		

CONTRACT DATA REQUIREMENTS LIST

(1 Data Item)

Form Approved
OMB No. 0704-0188

Public reporting burden for this information is estimated to average 110 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503. Please DO NOT RETURN your form to either of these addresses. Send completed form to the government Issuing Contracting Officer for the Contract/PR No. listed in Block E.

A. CONTRACT LINE ITEM NO. 0001		B. EXHIBIT A		C. CATEGORY TDP X TM		
D. SYSTEM/ITEM Four 25T Portal Cranes		E. CONTRACT/PR NO. N62470-15-R-3000		F. CONTRACTOR		
1. DATA ITEM NO. A006	2. TITLE OF DATA ITEM Certification, Wire Rope			3. SUBTITLE		
4. AUTHORITY DI-MISC-80678, para 10.3.2		5. CONTRACT REFERENCE Para. 1.4, SD-07.1		6. REQUIRING OFFICE NAVCRANECEN		
7. DD 250 REQ LT	9. DISTRIBUTION STATEMENT	10. FREQUENCY ONE/R	12. DATE OF FIRST SUBMISSION See Block 16	14. DISTRIBUTION		
8. APPL CODE A		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBM. See Block 16	a. ADDRESSEE	Reg Electronic	
<p>16. REMARKS</p> <p>Provide data prior to shop test in accordance with blocks 4 and 5. NAVCRANECEN will determine acceptability within 14 days after receipt. All subsequent Government review periods shall be complete within 7 days of receipt of resubmission.</p> <p>The crane serial number, contract number, CDRL number and CLIN number shall be included on submitted documentation.</p> <p>Certification shall be submitted electronically.</p> <p>Note: Government approval is required a minimum of 1 day prior to shipment of the crane.</p>				NAVCRANECEN	1	1
				PSNSY	1	1
				DCMA	0	0
				15. TOTAL		
G. PREPARED BY Dave Cadieux, P.E.		H. DATE 9/15/2014	I. APPROVED BY Charles Cotton, P.E.		J. DATE 9/15/2014	

CONTRACT DATA REQUIREMENTS LIST

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A. CONTRACT LINE ITEM NO. 0001		B. EXHIBIT A		C. CATEGORY TDP X TM		
D. SYSTEM/ITEM Four 25T Portal Cranes		E. CONTRACT/PR NO. N62470-15-R-3000		F. CONTRACTOR		
1. DATA ITEM NO. A007	2. TITLE OF DATA ITEM Certification, Periodic Load Testing			3. SUBTITLE		
4. AUTHORITY DI-MISC-80678, para 10.2.4		5. CONTRACT REFERENCE Para. 1.4, SD-07.2		6. REQUIRING OFFICE NAVCRANECEN		
7. DD 250 REQ LT	9. DISTRIBUTION STATEMENT	10. FREQUENCY ONE/R	12. DATE OF FIRST SUBMISSION See Block 16	14. DISTRIBUTION		
8. APPL CODE A		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBM. See Block 16	a. ADDRESSEE	Reg	Electronic
16. REMARKS Provide data prior to shop test in accordance with blocks 4 and 5. NAVCRANECEN will determine acceptability within 14 days after receipt. All subsequent Government review periods shall be complete within 7 days of receipt of resubmission. The crane serial number, contract number, CDRL number and CLIN number shall be included on submitted documentation. Certification shall be submitted electronically. Note: Government approval is required a minimum of 10 days prior to shop test of the crane.				NAVCRANECEN	1	1
				PSNSY	1	1
				DCMA	0	0
				15. TOTAL		
G. PREPARED BY Dave Cadieux, P.E.		H. DATE 9/15/2014	I. APPROVED BY Charles Cotton, P.E.		J. DATE 9/15/2014	

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A. CONTRACT LINE ITEM NO. 0001		B. EXHIBIT A		C. CATEGORY TDP X TM		
D. SYSTEM/ITEM Four 25T Portal Cranes		E. CONTRACT/PR NO. N62470-15-R-3000		F. CONTRACTOR		
1. DATA ITEM NO. A008	2. TITLE OF DATA ITEM Certification, EPA emissions			3. SUBTITLE		
4. AUTHORITY DI-MISC-80678, para 10.2.4		5. CONTRACT REFERENCE Para. 1.4, SD-07.3		6. REQUIRING OFFICE NAVCRANECEN		
7. DD 250 REQ LT	9. DISTRIBUTION STATEMENT	10. FREQUENCY ONE/R	12. DATE OF FIRST SUBMISSION See Block 16	14. DISTRIBUTION		
8. APPL CODE A		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBM. See Block 16	a. ADDRESSEE	Reg	
					Electronic	
16. REMARKS Provide data prior to shop test in accordance with blocks 4 and 5. NAVCRANECEN will determine acceptability within 14 days after receipt. All subsequent Government review periods shall be complete within 7 days of receipt of resubmission. The crane serial number, contract number, CDRL number and CLIN number shall be included on submitted documentation. Certification shall be submitted electronically. Note: Government approval is required a minimum of 10 days prior to shop test of the crane.				NAVCRANECEN	1	1
				PSNSY	1	1
				DCMA	0	0
				15. TOTAL	2	2
G. PREPARED BY Dave Cadieux, P.E.		H. DATE 9/15/2014	I. APPROVED BY Charles Cotton, P.E.		J. DATE 9/15/2014	

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A. CONTRACT LINE ITEM NO. 0001		B. EXHIBIT A		C. CATEGORY TDP X TM		
D. SYSTEM/ITEM Four 25T Portal Cranes		E. CONTRACT/PR NO. N62470-15-R-3000		F. CONTRACTOR		
1. DATA ITEM NO. A009	2. TITLE OF DATA ITEM Certification, Non-hazardous Materials			3. SUBTITLE		
4. AUTHORITY DI-MISC-80678, para 10.2.4		5. CONTRACT REFERENCE Para. 1.4, SD-07.4		6. REQUIRING OFFICE NAVCRANECEN		
7. DD 250 REQ LT	9. DISTRIBUTION STATEMENT	10. FREQUENCY ONE/R	12. DATE OF FIRST SUBMISSION See Block 16	14. DISTRIBUTION		
8. APPL CODE A		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBM. See Block 16	a. ADDRESSEE	Reg	Electronic
16. REMARKS Provide data prior to shop test in accordance with blocks 4 and 5. NAVCRANECEN will determine acceptability within 14 days after receipt. All subsequent Government review periods shall be complete within 7 days of receipt of resubmission. The crane serial number, contract number, CDRL number and CLIN number shall be included on submitted documentation. Certification shall be submitted electronically. Note: Government approval required a minimum of 10 days prior to shop test.				NAVCRANECEN	1	1
				PSNSY	1	1
				DCMA	0	0
				15. TOTAL		
G. PREPARED BY Dave Cadieux, P.E.		H. DATE 9/15/2014	I. APPROVED BY Charles Cotton, P.E.		J. DATE 9/15/2014	

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A. CONTRACT LINE ITEM NO. 0001		B. EXHIBIT A		C. CATEGORY TDP X TM		
D. SYSTEM/ITEM Four 25T Portal Cranes		E. CONTRACT/PR NO. N62470-15-R-3000		F. CONTRACTOR		
1. DATA ITEM NO. A010		2. TITLE OF DATA ITEM Certification, Loss of Power		3. SUBTITLE		
4. AUTHORITY DI-MISC-80678, para 10.2.4		5. CONTRACT REFERENCE Para. 1.4, SD-07.5		6. REQUIRING OFFICE NAVCRANECEN		
7. DD 250 REQ LT	9. DISTRIBUTION STATEMENT	10. FREQUENCY ONE/R	12. DATE OF FIRST SUBMISSION See Block 16	14. DISTRIBUTION		
8. APPL CODE A		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBM. See Block 16	a. ADDRESSEE	Reg	Electronic
16. REMARKS Provide data prior to shop test in accordance with blocks 4 and 5. NAVCRANECEN will determine acceptability within 14 days after receipt. All subsequent Government review periods shall be complete within 7 days of receipt of resubmission. The crane serial number, contract number, CDRL number and CLIN number shall be included on submitted documentation. Certification shall be submitted electronically. Note: Government approval required a minimum of 10 days prior to shop test.				NAVCRANECEN	1	1
				PSNSY	1	1
				DCMA	0	0
				15. TOTAL		
G. PREPARED BY Dave Cadieux, P.E.		H. DATE 9/15/2014	I. APPROVED BY Charles Cotton, P.E.	J. DATE 9/15/2014		

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A. CONTRACT LINE ITEM NO. 0001		B. EXHIBIT A		C. CATEGORY TDP X TM		
D. SYSTEM/ITEM Four 25T Portal Cranes		E. CONTRACT/PR NO. N62470-15-R-3000		F. CONTRACTOR		
1. DATA ITEM NO. A011		2. TITLE OF DATA ITEM Certification Shaft / Coupling Alignment Report		3. SUBTITLE		
4. AUTHORITY DI-MISC-80678, para 10.3.2		5. CONTRACT REFERENCE Para. 1.4, SD-07.6		6. REQUIRING OFFICE NAVCRANECEN		
7. DD 250 REQ LT	9. DISTRIBUTION STATEMENT	10. FREQUENCY ONE/R	12. DATE OF FIRST SUBMISSION See Block 16	14. DISTRIBUTION		
8. APPL CODE A		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBM. See Block 16	a. ADDRESSEE	Reg	Electronic
16. REMARKS Provide coupling alignment data for all couplings in accordance with blocks 4 and 5 submitted a minimum of 5 days prior to shop test. Data shall be submitted on the required official data form. NAVCRANECEN will determine acceptability after data verification during shop test. All subsequent Government review periods shall be complete within 7 days of receipt of resubmission. The crane serial number, contract number, CDRL number and CLIN number shall be included on submitted documentation. Certification shall be submitted electronically. Note: Government approval is required a minimum of 1 day prior to crane shipment. Field verification of shaft alignment after crane installation could require resubmission of alignment data for Government approval.				NAVCRANECEN	1	1
				PSNSY	1	1
				DCMA	0	0
				15. TOTAL		
G. PREPARED BY Dave Cadieux, P.E.		H. DATE 9/15/2014	I. APPROVED BY Charles Cotton, P.E.	J. DATE 9/15/2014		

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A. CONTRACT LINE ITEM NO. 0001		B. EXHIBIT A		C. CATEGORY TDP X TM		
D. SYSTEM/ITEM Four 25T Portal Cranes		E. CONTRACT/PR NO. N62470-15-R-3000		F. CONTRACTOR		
1. DATA ITEM NO. A012		2. TITLE OF DATA ITEM Certification, Hook Tests		3. SUBTITLE		
4. AUTHORITY DI-MISC-80678, para 10.3.2		5. CONTRACT REFERENCE Para. 1.4, SD-06.2, SD-07.7, 7.7.a		6. REQUIRING OFFICE NAVCRANECEN		
7. DD 250 REQ LT	9. DISTRIBUTION STATEMENT	10. FREQUENCY ONE/R	12. DATE OF FIRST SUBMISSION See Block 16	14. DISTRIBUTION		
8. APPL CODE A		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBM. See Block 16	a. ADDRESSEE	Reg Electronic	
16. REMARKS Provide hook NDT test report data, and hook and hook nut proof test data prior to shop test in accordance with blocks 4 and 5. NAVCRANECEN will determine acceptability within 14 days after receipt. All subsequent Government review periods shall be complete within 7 days of receipt of resubmission. Report shall clearly address inspections, vendor certification and procedures review noted in SD-06.2. The submitted report should also clearly specify the NDT indication acceptance criteria. The hook and nut numbers shall be included on submitted documentation. The crane serial number, contract number, CDRL number and CLIN number shall be included on submitted documentation. Certification shall be submitted electronically. Note: Government approval of submitted hook report with all required supporting documentation (all test reports, independent level III review of NDT procedure, etc.) is required a minimum of 1 day prior to crane shipment.				NAVCRANECEN	1	1
				PSNSY	1	1
				DCMA	0	0
				15. TOTAL		
G. PREPARED BY Dave Cadieux, P.E.		H. DATE 9/15/2014	I. APPROVED BY Charles Cotton, P.E.	J. DATE 9/15/2014		

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A. CONTRACT LINE ITEM NO. 0001		B. EXHIBIT A		C. CATEGORY TDP X TM		
D. SYSTEM/ITEM Four 25T Portal Cranes		E. CONTRACT/PR NO. N62470-15-R-3000		F. CONTRACTOR		
1. DATA ITEM NO. A013	2. TITLE OF DATA ITEM Certification, Welding			3. SUBTITLE		
4. AUTHORITY DI-MISC-80678, para 10.3.2		5. CONTRACT REFERENCE Para. 1.4, SD-07.8		6. REQUIRING OFFICE NAVCRANECEN		
7. DD 250 REQ LT	9. DISTRIBUTION STATEMENT	10. FREQUENCY ONE/R	12. DATE OF FIRST SUBMISSION See Block 16	14. DISTRIBUTION		
8. APPL CODE A		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBM. See Block 16	a. ADDRESSEE	Reg	Electronic
<p>16. REMARKS</p> <p>Provide welding certifications 30 days prior to shop test in accordance with blocks 4 and 5. NAVCRANECEN will determine acceptability within 14 days after receipt. All subsequent Government review periods shall be complete within 7 days of receipt of resubmission.</p> <p>The crane serial number, contract number, CDRL number and CLIN number shall be included on submitted documentation.</p> <p>Certification shall be submitted electronically.</p> <p>Note: Government approval required a minimum of 10 days prior to shop test of the crane.</p>				NAVCRANECEN	1	1
				PSNSY	1	1
				DCMA	1	1
				15. TOTAL		
G. PREPARED BY Dave Cadieux, P.E.		H. DATE 9/15/2014	I. APPROVED BY Charles Cotton, P.E.		J. DATE 9/15/2014	

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A. CONTRACT LINE ITEM NO. 0001		B. EXHIBIT A		C. CATEGORY TDP X TM		
D. SYSTEM/ITEM Four 25T Portal Cranes		E. CONTRACT/PR NO. N62470-15-R-3000		F. CONTRACTOR		
1. DATA ITEM NO. A015	2. TITLE OF DATA ITEM Certification, Ductile Material			3. SUBTITLE		
4. AUTHORITY DI-MISC-80678, para 10.2.4		5. CONTRACT REFERENCE Para. 1.4, SD-07.11		6. REQUIRING OFFICE NAVCRANECEN		
7. DD 250 REQ LT	9. DISTRIBUTION STATEMENT	10. FREQUENCY ASREQ	12. DATE OF FIRST SUBMISSION See Block 16	14. DISTRIBUTION		
8. APPL CODE A		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBM. See Block 16	a. ADDRESSEE	Reg	
					Electronic	
16. REMARKS Provide certification of ductile materials in accordance with blocks 4 and 5 with crane design. NAVCRANECEN will determine acceptability within 21 days after receipt. All subsequent Government review periods shall be complete within 7 days of receipt of resubmission. The crane serial number, contract number, CDRL number and CLIN number shall be included on submitted documentation. Data shall be submitted electronically. Note: Government approval is required not later than 30 days prior to shop testing.				NAVCRANECEN	1	1
				PSNSY	1	1
				DCMA	0	0
				15. TOTAL		
G. PREPARED BY Dave Cadieux, P.E.		H. DATE 9/15/2014	I. APPROVED BY Charles Cotton, P.E.		J. DATE 9/15/2014	

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A. CONTRACT LINE ITEM NO. 0001	B. EXHIBIT A	C. CATEGORY TDP X TM
D. SYSTEM/ITEM Four 25T Portal Cranes	E. CONTRACT/PR NO. N62470-15-R-3000	F. CONTRACTOR

1. DATA ITEM NO. A016	2. TITLE OF DATA ITEM Certification, Contractor Self Test	3. SUBTITLE
4. AUTHORITY DI-MISC-80678, para 10.2.4	5. CONTRACT REFERENCE Para. 1.4, SD-07.10, Para. 2.8.1	6. REQUIRING OFFICE NAVCRANECEN
7. DD 250 REQ LT	9. DISTRIBUTION STATEMENT ONE/R	10. FREQUENCY AS OF DATE
8. APPL CODE A	11. AS OF DATE	12. DATE OF FIRST SUBMISSION See Block 16
	13. DATE OF SUBSEQUENT SUBM. See Block 16	14. DISTRIBUTION

<p>16. REMARKS</p> <p><u>Certification of Contractor Self Test.</u> Provide certification of the completed contractor self test test a minimum of 1 regular work day prior to shop test in accordance with blocks 4 and 5. A copy of the completed contractor self test shall be provided at the shop test inbrief.</p> <p><u>Notification of Shop Test.</u> Provide notification of the date shop testing will start a minimum of 14 days prior to the shop test in accordance with blocks 4 and 5. NAVCRANECEN will acknowledge within 3 days after receipt.</p> <p>The crane serial number, contract number, CDRL number and CLIN number shall be included on submitted documentation.</p> <p>Certification and Notification shall be submitted electronically.</p> <p>Note: Government approval of Certification of Contractor Self Test required 1 day prior to shop test of the crane.</p>			
	NAVCRANECEN	1	1
	PSNSY	1	1
	DCMA	0	0
	15. TOTAL	2	2

G. PREPARED BY Dave Cadieux, P.E.	H. DATE 9/15/2014	I. APPROVED BY Charles Cotton, P.E.	J. DATE 9/15/2014
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A. CONTRACT LINE ITEM NO. 0001		B. EXHIBIT A		C. CATEGORY TDP X TM		
D. SYSTEM/ITEM Four 25T Portal Cranes		E. CONTRACT/PR NO. N62470-15-R-3000		F. CONTRACTOR		
1. DATA ITEM NO. A017	2. TITLE OF DATA ITEM Test Procedures and Reports			3. SUBTITLE		
4. AUTHORITY DI-NDTI-80809B		5. CONTRACT REFERENCE Para. 1.4, SD-08.1, 09.2, 09.3, 09.4; Para. 2.8.2, 3.1, 3.6.1, 3.6.2		6. REQUIRING OFFICE NAVCRANECEN		
7. DD 250 REQ LT	9. DISTRIBUTION STATEMENT	10. FREQUENCY ONE/R	12. DATE OF FIRST SUBMISSION See Block 16	14. DISTRIBUTION		
8. APPL CODE A		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBM. See Block 16	a. ADDRESSEE	Reg	Electronic
<p>16. REMARKS</p> <p>Provide shop test procedure for review at least 30 days prior to shop test in accordance with blocks 4 and 5. NAVCRANECEN will determine acceptability within 14 days after receipt. All subsequent Government review periods shall be complete within 7 days of receipt of resubmission.</p> <p>Completed Shop Test Record and Deficient Items List shall be submitted within 5 days of completion of test, and prior to crane shipment. NAVCRANECEN will determine acceptability within 14 days after receipt. All subsequent Government review periods shall be complete within 7 days of receipt of resubmission.</p> <p>Request to Ship shall be submitted at least 2 days prior to crane shipment. NAVCRANECEN will determine acceptability within 1 day after receipt. All subsequent Government review periods shall be complete within 1 day after resubmission.</p> <p>Completed Field Acceptance Test Record and Final Punchlist shall be submitted within 5 days of completion of test. NAVCRANECEN will determine acceptability within 14 days after receipt. All subsequent Government review periods shall be complete within 7 days of receipt of resubmission.</p> <p>The crane serial number, contract number, CDRL number and CLIN number shall be included on submitted documentation.</p> <p>Data shall be submitted electronically.</p> <p>Note: Government approval of Contractor developed shop test procedure is required a minimum of 10 days prior to shop testing of the crane. Government approval of Shop Test Record and Deficient Items List and Request to Ship is required prior to crane shipment.</p>				NAVCRANECEN	1	1
				PSNSY	1	1
				DCMA	0	0
				15. TOTAL		
G. PREPARED BY Dave Cadieux, P.E.		H. DATE 9/15/2014	I. APPROVED BY Charles Cotton, P.E.	J. DATE 9/15/2014		

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A. CONTRACT LINE ITEM NO. 0001		B. EXHIBIT A		C. CATEGORY TDP X TM		
D. SYSTEM/ITEM Four 25T Portal Cranes		E. CONTRACT/PR NO. N62470-15-R-3000		F. CONTRACTOR		
1. DATA ITEM NO. A018	2. TITLE OF DATA ITEM Crane Installation Plan			3. SUBTITLE		
4. AUTHORITY OT-24206		5. CONTRACT REFERENCE Para. 1.4, SD-08.2: Para. 3.4.3, & Appendix D		6. REQUIRING OFFICE NAVCRANECEN		
7. DD 250 REQ LT	9. DISTRIBUTION STATEMENT	10. FREQUENCY ONE/R	12. DATE OF FIRST SUBMISSION See Block 16	14. DISTRIBUTION		
8. APPL CODE A		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBM. See Block 16	a. ADDRESSEE	Reg	Electronic
<p>16. REMARKS</p> <p>Provide a detailed removal, installation lift & rigging plan in accordance with blocks 4 and 5 a minimum of 15 days prior to Pre-installation Conference, but no later than 30 days prior to mobilization should the conference be delayed. The pre-installation conference shall be conducted a minimum of 30 days prior to mobilization.</p> <p>NAVCRANECEN will determine acceptability within 14 days after receipt. All subsequent Government review periods shall be complete within 7 days of receipt of resubmission.</p> <p>Plans shall be submitted electronically.</p> <p>Note: Government approval required by earlier event of: 2 days prior to crane shipment or 7 days prior to desired entry of Contractor Mobile crane or material handling equipment.</p>				NAVCRANECEN	1	1
				PSNSY	1	1
				DCMA	0	0
				15. TOTAL		
G. PREPARED BY Dave Cadieux, P.E.		H. DATE 9/15/2014	I. APPROVED BY Charles Cotton, P.E.		J. DATE 9/15/2014	

CONTRACT DATA REQUIREMENTS LIST

(1 Data Item)

Form Approved
OMB No. 0704-0188

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A. CONTRACT LINE ITEM NO. 0001			B. EXHIBIT A		C. CATEGORY TDP X TM			
D. SYSTEM/ITEM Four 25T Portal Cranes			E. CONTRACT/PR NO. N62470-15-R-3000		F. CONTRACTOR			
1. DATA ITEM NO. A019		2. TITLE OF DATA ITEM Accident Prevention Plan			3. SUBTITLE			
4. AUTHORITY OT-24206			5. CONTRACT REFERENCE Para. 1.4, SD-08.3, Appendix E		6. REQUIRING OFFICE NAVCRANECEN			
7. DD 250 REQ LT	9. DISTRIBUTION STATEMENT	10. FREQUENCY ONE/R		12. DATE OF FIRST SUBMISSION See Block 16		14. DISTRIBUTION		
8. APPL CODE A		11. AS OF DATE		13. DATE OF SUBSEQUENT SUBM. See Block 16		a. ADDRESSEE	Reg	Electronic
<p>16. REMARKS</p> <p>Provide an Accident Prevention Plan (APP) written by the contractor for the specific work and hazards of the contract and in accordance with blocks 4 and 5. Submit a minimum of 15 days prior to Pre-installation Conference, but no later than 30 days prior to mobilization should the conference be delayed.</p> <p>NAVCRANECEN will determine acceptability within 14 days after receipt. All subsequent Government review periods shall be complete within 7 days of receipt of resubmission.</p> <p>The APP should cover all features discussed in Appendix E that are applicable to the specific installation. As a minimum, details of Activity Hazard Analysis of each feature of work, energy control, fall protection requirements, severe weather, copies of licenses, etc. should be addressed.</p> <p>Prior to submission of the APP, the contractor and subcontractors shall meet with representatives of the Contracting Officer to discuss and develop a mutual understanding relative to administration of the overall safety program.</p> <p>The APP should contain blank sign in sheets for the briefings held prior to each unique feature of work.</p> <p>Note: Government acceptance required prior to mobilization at site and crane shipment.</p>						NAVCRANECEN	1	1
						PSNSY	1	1
						DCMA	0	0
						15. TOTAL		
G. PREPARED BY Dave Cadieux, P.E.			H. DATE 9/15/2014		I. APPROVED BY Charles Cotton, P.E.		J. DATE 9/15/2014	

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A. CONTRACT LINE ITEM NO. 0001		B. EXHIBIT A		C. CATEGORY TDP X TM		
D. SYSTEM/ITEM Four 25T Portal Cranes		E. CONTRACT/PR NO. N62470-15-R-3000		F. CONTRACTOR		
1. DATA ITEM NO. A020		2. TITLE OF DATA ITEM Transport Manual		3. SUBTITLE		
4. AUTHORITY DI-MISC-80678, para 10.2.4		5. CONTRACT REFERENCE Para. 1.4, SD-07.12		6. REQUIRING OFFICE NAVCRANECEN		
7. DD 250 REQ LT	9. DISTRIBUTION STATEMENT	10. FREQUENCY ONE/R	12. DATE OF FIRST SUBMISSION See Block 16	14. DISTRIBUTION		
8. APPL CODE A		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBM. See Block 16	a. ADDRESSEE	Reg	Electronic
16. REMARKS Provide Transport Manual in accordance with blocks 4 and 5. Submit a minimum of 30 days prior to Pre-installation Conference, but no later than 45 days prior to mobilization should the conference be delayed. NAVCRANECEN will determine acceptability within 14 days after receipt. All subsequent Government review periods shall be complete within 7 days of receipt of resubmission. Note: Government acceptance is required prior to mobilization at site and crane shipment.				NAVCRANECEN	1	1
				PSNSY	1	1
				DCMA	0	0
				15. TOTAL		
G. PREPARED BY Dave Cadieux, P.E.		H. DATE 9/15/2014	I. APPROVED BY Chuck Cotton	J. DATE 9/15/2014		

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A. CONTRACT LINE ITEM NO. 0001		B. EXHIBIT A		C. CATEGORY TDP X TM		
D. SYSTEM/ITEM Four 25T Portal Cranes		E. CONTRACT/PR NO. N62470-15-R-3000		F. CONTRACTOR		
1. DATA ITEM NO. A021		2. TITLE OF DATA ITEM Brake Shoe Adjustment, Setting & Contact Area		3. SUBTITLE		
4. AUTHORITY DI-MISC-80678, para 10.3.2		5. CONTRACT REFERENCE Para. 1.4, SD-09.1		6. REQUIRING OFFICE NAVCRANECEN		
7. DD 250 REQ LT	9. DISTRIBUTION STATEMENT	10. FREQUENCY ONE/R	12. DATE OF FIRST SUBMISSION See Block 16	14. DISTRIBUTION		
8. APPL CODE A		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBM. See Block 16	a. ADDRESSEE	Reg	Electronic
<p>16. REMARKS</p> <p>Provide brake data in accordance with blocks 4 and 5 submitted a minimum of 5 days prior to shop test. Data shall be submitted on the required official data form.</p> <p>NAVCRANECEN will determine acceptability based on data verification during shop test. All subsequent Government review periods shall be complete within 7 days of receipt of resubmission.</p> <p>The crane serial number, contract number, CDRL number and CLIN number shall be included on submitted documentation.</p> <p>Certification shall be submitted electronically.</p> <p>Note: Government approval is required a minimum of 1 day prior to crane shipment.</p> <p>Field verification of brake settings after crane installation could require resubmission of brake data for Government approval.</p>				NAVCRANECEN	1	1
				PSNSY	1	1
				DCMA	0	0
				15. TOTAL		
G. PREPARED BY Dave Cadieux, P.E.		H. DATE 9/15/2014	I. APPROVED BY Charles Cotton, P.E.	J. DATE 9/15/2014		

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A. CONTRACT LINE ITEM NO. 0001		B. EXHIBIT A		C. CATEGORY TDP X TM		
D. SYSTEM/ITEM Four 25T Portal Cranes		E. CONTRACT/PR NO. N62470-15-R-3000		F. CONTRACTOR		
1. DATA ITEM NO. A022	2. TITLE OF DATA ITEM Control System Parameter Record			3. SUBTITLE		
4. AUTHORITY DI-NDTI-80809B, DI-MCCR-80700		5. CONTRACT REFERENCE PARA. 1.4, SD-11.3		6. REQUIRING OFFICE NAVCRANECEN		
7. DD 250 REQ LT	9. DISTRIBUTION STATEMENT	10. FREQUENCY ONE/R	12. DATE OF FIRST SUBMISSION See Block 16	14. DISTRIBUTION		
8. APPL CODE A		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBM. See Block 16	a. ADDRESSEE	Reg Electronic	
16. REMARKS Provide data in accordance with blocks 4 and 5 submitted along with Field Test Report within 30 days after crane acceptance. Documents shall include title, version/revision indicator, date, contract number, CDRL number, and identifier for the system, subsystem, or item. NAVCRANECEN will determine acceptability within 14 days after receipt. All subsequent Government review periods shall be complete within 7 days of receipt of resubmission. The crane serial number, contract number, CDRL number and CLIN number shall be included on submitted documentation. Data shall be submitted electronically.				NAVCRANECEN	1	1
				PSNSY	1	1
				DCMA	0	0
15. TOTAL				2	2	
G. PREPARED BY Dave Cadieux, P.E.		H. DATE 9/15/2014	I. APPROVED BY Charles Cotton, P.E.		J. DATE 9/15/2014	

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A. CONTRACT LINE ITEM NO. 0001		B. EXHIBIT A		C. CATEGORY TDP X TM		
D. SYSTEM/ITEM Four 25T Portal Cranes		E. CONTRACT/PR NO. N62470-15-R-3000		F. CONTRACTOR		
1. DATA ITEM NO. A023	2. TITLE OF DATA ITEM Control System Adjustable Parameter Range			3. SUBTITLE		
4. AUTHORITY DI-NDTI-80809B, DI-MCCR-80700		5. CONTRACT REFERENCE PARA. 1.4, SD-11.5, Appendix F		6. REQUIRING OFFICE NAVCRANECEN		
7. DD 250 REQ LT	9. DISTRIBUTION STATEMENT	10. FREQUENCY ONE/R	12. DATE OF FIRST SUBMISSION See Block 16	14. DISTRIBUTION		
8. APPL CODE A		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBM. See Block 16	a. ADDRESSEE	Reg Electronic	
16. REMARKS Provide data in accordance with blocks 4 and 5 submitted along with Field Test Report within 30 days after crane acceptance. Documents shall include title, version/revision indicator, date, contract number, CDRL number, and identifier for the system, subsystem, or item. NAVCRANECEN will determine acceptability within 14 days after receipt. All subsequent Government review periods shall be complete within 7 days of receipt of resubmission. The crane serial number, contract number, CDRL number and CLIN number shall be included on submitted documentation. Data shall be submitted electronically.				NAVCRANECEN	1	1
				PSNSY	1	1
				DCMA	0	0
15. TOTAL				2	2	
G. PREPARED BY Dave Cadieux, P.E.		H. DATE 9/15/2014	I. APPROVED BY Charles Cotton, P.E.		J. DATE 9/15/2014	

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A. CONTRACT LINE ITEM NO. 0001	B. EXHIBIT A	C. CATEGORY TDP X TM
D. SYSTEM/ITEM Four 25T Portal Cranes	E. CONTRACT/PR NO. N62470-15-R-3000	F. CONTRACTOR

1. DATA ITEM NO. A024	2. TITLE OF DATA ITEM Property Transfer Verification	3. SUBTITLE
4. AUTHORITY DI-MISC-80678, para 10.3.2	5. CONTRACT REFERENCE Para. 1.4, SD-011.6	6. REQUIRING OFFICE NAVCRANECEN
7. DD 250 REQ LT	9. DISTRIBUTION STATEMENT	10. FREQUENCY ONE/R
8. APPL CODE A	11. AS OF DATE	12. DATE OF FIRST SUBMISSION See Block 16
		13. DATE OF SUBSEQUENT SUBM. See Block 16

<p>16. REMARKS</p> <p>Provide Property Transfer Verification in accordance with blocks 4 and 5 submitted at crane acceptance. Verification shall include printed name and signature of recipient at the supported command and the date received.</p> <p>The crane serial number, contract number, CDRL number and CLIN number shall be included on submitted documentation.</p> <p>Verification shall be submitted electronically.</p>	14. DISTRIBUTION		
	a. ADDRESSEE	Reg	Electronic
	NAVCRANECEN	1	1
	PSNSY	1	1
	DCMA	0	0
15. TOTAL		2	2

G. PREPARED BY Dave Cadieux, P.E.	H. DATE 9/15/2014	I. APPROVED BY Charles Cotton, P.E.	J. DATE 9/15/2014
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D. SYSTEM/ITEM Four 25T Portal Cranes		E. CONTRACT/PR NO. N62470-15-R-3000		F. CONTRACTOR		
1. DATA ITEM NO. A025		2. TITLE OF DATA ITEM Conference Minutes		3. SUBTITLE		
4. AUTHORITY DI-ADMIN-81250A		5. CONTRACT REFERENCE Para. 1.5.3, 1.5.4		6. REQUIRING OFFICE NAVCRANECEN		
7. DD 250 REQ LT	9. DISTRIBUTION STATEMENT	10. FREQUENCY ASREQ	12. DATE OF FIRST SUBMISSION See Block 16	14. DISTRIBUTION		
8. APPL CODE A		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBM. See Block 16	a. ADDRESSEE	Reg	Electronic
16. REMARKS The contractor shall be responsible for recording and submitting meeting minutes. Provide data in accordance with blocks 4 and 5 within 5 days after of each conference. NAVCRANECEN will determine acceptability within 7 days after receipt. All subsequent Government review periods shall be complete within 7 days of receipt of resubmission. Data shall be submitted electronically.				NAVCRANECEN	1	1
				PSNSY	1	1
				DCMA	0	0
				15. TOTAL		
G. PREPARED BY Dave Cadieux, P.E.		H. DATE 9/15/2014	I. APPROVED BY Charles Cotton, P.E.	J. DATE 9/15/2014		

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D. SYSTEM/ITEM Four 25T Portal Cranes		E. CONTRACT/PR NO. N62470-15-R-3000		F. CONTRACTOR	
1. DATA ITEM NO. A026		2. TITLE OF DATA ITEM Contractor Mobile Crane Entry Package		3. SUBTITLE	
4. AUTHORITY OT-24206		5. CONTRACT REFERENCE Appendix E & Section H		6. REQUIRING OFFICE NAVCRANECEN	
7. DD 250 REQ LT	9. DISTRIBUTION STATEMENT	10. FREQUENCY ONE/R	12. DATE OF FIRST SUBMISSION See Block 16	14. DISTRIBUTION	
8. APPL CODE A		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBM. See Block 16	a. ADDRESSEE	Reg Electronic
16. REMARKS Provide complete entry package in accordance with Blocks 4 and 5 a minimum of 7 days prior to desired entry of a Contractor owned mobile crane to the Government job-site. The lift plan is a part of this this entry package and requires approval prior to inclusion and forwarding of the Contractor Mobile Crane Entry Package to the Supported Command. Note: Government acceptance required prior to mobile crane entry inspection.				NAVCRANECEN	0 1
				PSNSY	0 1
15. TOTAL				0	2
G. PREPARED BY Dave Cadieux, P.E.		H. DATE 9/15/2014	I. APPROVED BY Charles Cotton, P.E.	J. DATE 9/15/2014	

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D. SYSTEM/ITEM Four 25T Portal Cranes		E. CONTRACT/PR NO. N62470-15-R-3000		F. CONTRACTOR		
1. DATA ITEM NO. A027		2. TITLE OF DATA ITEM Contractor Significant Incident Reporting		3. SUBTITLE		
4. AUTHORITY OT-24206		5. CONTRACT REFERENCE Appendix E		6. REQUIRING OFFICE NAVCRANECEN		
7. DD 250 REQ LT	9. DISTRIBUTION STATEMENT	10. FREQUENCY ONE/R	12. DATE OF FIRST SUBMISSION See Block 16	14. DISTRIBUTION		
8. APPL CODE A		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBM. See Block 16	a. ADDRESSEE	Reg Electronic	
16. REMARKS SIGNIFICANT INCIDENTS (ACCIDENTS) INVOLVING CONTRACTOR EQUIPMENT OR PERSONNEL ON THE GOVERNMENT WORKSITE: Notify the Contracting Officer as soon as practical, but no later than 4 hours after a significant incident. Refer to Appendix E for description of incidents that require immediate reporting. For significant incidents, provide to the Contracting Officer a completed Contractor Significant Incident Report (CSIR) using the CSIR form that can be downloaded from the Navy Crane Center Website. Provide the initial report no later than 24 hours, and final report within 5 days. SIGNIFICANT INCIDENTS (ACCIDENTS) INVOLVING CONTRACTOR WEIGHT HANDLING EQUIPMENT ON THE GOVERNMENT WORKSITE: Notify the Contracting Officer as soon as practical, but no later than 4 hours after a significant incident. Within 30 days of a weight handling accident, provide to the Contracting Officer a completed Crane and Rigging Gear Accident Report using the form provided in Appendix E.				NAVCRANECEN	1	1
				PSNSY	1	1
				DCMA	0	0
15. TOTAL				2	2	
G. PREPARED BY Dave Cadieux, P.E.		H. DATE 9/15/2014	I. APPROVED BY Charles Cotton, P.E.		J. DATE 9/15/2014	

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A. CONTRACT LINE ITEM NO. 0001		B. EXHIBIT A		C. CATEGORY TDP X TM		
D. SYSTEM/ITEM Four 25T Portal Cranes		E. CONTRACT/PR NO. N62470-15-R-3000		F. CONTRACTOR		
1. DATA ITEM NO. A028		2. TITLE OF DATA ITEM Training Outline		3. SUBTITLE		
4. AUTHORITY DI-ILSS-81075		5. CONTRACT REFERENCE Para. 1.4, SD-08.4, para 3.8.1		6. REQUIRING OFFICE NAVCRANECEN		
7. DD 250 REQ LT	9. DISTRIBUTION STATEMENT	10. FREQUENCY ONE/R	12. DATE OF FIRST SUBMISSION See Block 16	14. DISTRIBUTION		
8. APPL CODE A		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBM. See Block 16	a. ADDRESSEE	Reg	Electronic
16. REMARKS Provide a training course outline as required by blocks 4 and 5 a minimum of 14 days prior to crane shipment. NAVCRANECEN will determine acceptability within 14 days after receipt. All subsequent Government review periods shall be complete within 7 days of receipt of resubmission. Data shall be submitted electronically. Note: Government approval required before installation of the crane.				NAVCRANECEN	1	1
				PSNSY	1	1
				DCMA	0	0
15. TOTAL				2	2	
G. PREPARED BY Dave Cadieux, P.E.		H. DATE 9/15/2014	I. APPROVED BY Charles Cotton, P.E.	J. DATE 9/15/2014		

EXHIBIT B
Data Items Descriptions
DD Forms 1664

TABLE OF CONTENTS

<u>Data Item Reference</u>	<u>Description</u>	<u>DID Number</u>
A001	Status Report	DI-MGMT-80368A
A002	Engineering Drawings	DI-SESS-81000D
A003	Descriptive Literature	DI-SDMP-81261
A004	Engineering Change Proposals	DI-CMAN-80639C
A004	Deviations	DI-CMAN-80640C
A004	Notice of Revision	DI-CMAN-80642C
A005	Technical Manual	DI-TMSS-80527B
A006 - A016	Certification/Data Report	DI-MISC-80678
A020,A021,A024		
A002, A005	Computer Software Product End Items	DI-MCCR-80700
A022, A023		
A017, A022, A023	Test and Inspection Reports	DI-NDTI-80809B
A018, A019	Accident Prevention Plan	OT-24206
A026, A027		
A025	Conference Minutes	DI-ADMIN-81250A
A028	Training Course Outline	DI-ILSS-81075

DATA ITEM DESCRIPTION			Form Approved OMB No 0704 0188	
1. TITLE Status Report		2. IDENTIFICATION NUMBER DI-MGMT-80368A		
3. DESCRIPTION/PURPOSE 3.1 The Status Report documents the status of contractor effort towards achieving contract objectives. It identifies accomplishments to date and difficulties encountered, and compares the status achieved to planned goals and the resources expended. It is used by the Government to monitor and evaluate contractor performance.				
4. APPL DATE YYMMDD 20061030	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR) NS/DA02	6.a. DTIC REQUIRED	6.b. GIDEP REQUIRED	
7. APPLICATION/INTERRELATIONSHIP 7.1 This (DID) contains the format and content preparation instructions for the data product generated by the specific and discrete task requirement as delineated in the contract. 7.2 It is not intended that all the requirements herein should be applied to every program. Portions of the DID are subject to tailoring by deletion depending on the specific status reporting requirements of the project. 7.3 This DID is related to DI-FNCL-80331, Funds and Man-Hour Expenditure Report which can be used in conjunction with this report if Block 10 paragraph 10.2.2.3 below is deleted. 7.4 This DID supersedes DI-MGMT-80368.				
8. APPROVAL LIMITATION		9.a. APPLICABLE FORMS		9.b. AMSC NUMBER 7619
10. PREPARATION INSTRUCTIONS 10.1 <u>Format</u> . The status Report shall be in contractor format. 10.1.1 <u>Identification</u> . The data indicated below shall be contained on a title page or on the first page of the report. <ul style="list-style-type: none"> a. Title/Identification of the system/component/program/project. b. Type of report (e.g., monthly, interim, final). c. Period covered by the report. d. Contract number. e. Preparing activity or contractor's title. f. Security classification, when required. g. Distribution Statement. 10.1.2 <u>Page Size</u> . The report shall be on 8 1/2 by 11 inch (metric A4) paper. 10.2 <u>Content</u> . The report shall contain the following: 10.2.1. <u>Summary</u> . The summary shall include a brief statement of the overall project status, covering the accomplished technical activities and development, objectives of efforts, summary results of efforts, identification of major problems/deficiencies with impact, and recommended solutions.				

10.2.2. Body of report. The Status Report shall contain the following items, where applicable:

10.2.2.1 Milestone/task status. The status of each milestone/task as defined by the statement of work or contract, as applicable:

- a. A statement as to whether or not the program/project/task is on schedule; if not, the effort planned to meet the schedule shall be indicated. Include an overall status of each milestone, task, or unit of work. Include updated schedule sheets, milestone charts, or task synopsis sheets identifying phase of task and percentage of completion of each task, technical instruction, or order.
- b. A comparison of achieved end-product performance capabilities projected against contract baseline values, requirements, or allocations.
- c. Effort expended on each task to date, and a brief description of technical developments and accomplishments.
- d. Key dates in any testing program and a description of tests performed and significant test results. If applicable, a description of the amount and type of down time on the equipment or system under test.
- e. A list of all designs completed and a brief description of each item. For designs in process, provide estimated dates for design and drawing completion.
- f. A narrative of outstanding problems existing as of the previous status report, and their resolution status.
- g. New problem areas encountered or anticipated, their effect on the overall work effort/project, and steps being taken to remedy problem situations.
- h. Significant results of conferences, trips, or directives from the Contracting officer's representatives.
- i. Any other information which may cause significant changes in the program schedule.

10.2.2.2 Future plans. Summary of future plans, recommendations and proposals both for the next reporting period and for any long term plans.

10.2.2.3 Itemized man-hours and costs. Itemized man-hours and cost expenditure incurred for the reporting period by category and task, total contractual expenditures, and funds remaining as of the reporting date.

10.2.2.4 Contract deliveries status. The status of each deliverable end item, including data deliveries, as required by the contract. Provide item and contract identification, shipping/transmittal data, acceptance status, security classification, and scheduled due date information.

10.2.2.5 Report paper. Name of person(s) preparing report and telephone number(s).

10.2.3 Appendices. Appendices, where applicable, for tables, references, charts, or other descriptive material. Each appendix shall be identified and referenced in the appropriate area of the report.

11. DISTRIBUTION STATEMENT

STATEMENT A. Approved for public release; distribution is unlimited.

DATA ITEM DESCRIPTION			Form Approved OMB No 0704 0188	
1. TITLE Product Drawings / Models and Associated Lists		2. IDENTIFICATION NUMBER DI-SESS-81000C		
3. DESCRIPTION/PURPOSE 3.1 Product Drawings and Associated Lists provide engineering data to support competitive procurement and maintenance for items interchangeable with the original items. These drawings represent the highest level of design disclosure.				
4. APPL DATE YYMMDD 20011214	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR) AR	6.a. DTIC REQUIRED	6.b. GIDEP REQUIRED	
7. APPLICATION/INTERRELATIONSHIP 7.1 This DID contains the format and content preparation for Product Drawings / Models and Associated Lists resulting from the work task described in 3.6.2.3 of MIL-DTL-31000C. 7.2 This DID is applicable to acquisitions of military systems, equipment, and components. It is intended for acquiring drawings / models and Associated Lists at the end of the Engineering and Manufacturing Development Phase and during subsequent phases of the DoD material life cycle. 7.3 It is not intended that all the requirement contained herein should be applied to every program. This DID should be tailored to the minimum data requirements of the applicable contract or purchase order. 7.4 This DID supersedes DI-SESS-81000B. 7.5 This DID is related to DI-SESS-81001C, DI-SESS-81002C, and DI-SESS-81003C. 7.6 A purchased item, as defined by ASME Y14.24, an item which is sold or traded in the course of conducting normal business operations, is used by commercial industry, or is a specialized version of a supplier's general product line which he routinely customizes. Purchased items are used herein have also been referred to as vendor items or vendor developed items.				
8. APPROVAL LIMITATION		9.a. APPLICABLE FORMS		9.b. AMSC NUMBER A7532
10. PREPARATION INSTRUCTIONS 10.1 <u>Reference Documents</u> . The applicable issue of documents cited herein, including they approval dates and the dates of applicable amendments, notices, and revisions, shall be cited in the contract. 10.2 <u>General</u> . Product Drawings / Models and Associated Lists shall meet the requirements of MIL-DTL-31000C. Product Drawings and Associated Lists shall provide the design disclosure information necessary to enable a manufacturer of similar products at the same or similar state of the art to produce and maintain quality control of item(s) so that the resulting physical and functional characteristics duplicate those of the specified item. These drawings shall: a. Reflect the end product at its current level of design maturity. b. Provide the engineering data for Logistics Support products. c. Provide the necessary data to permit competitive acquisition of the original item(s).				

10.3 Format. Product Drawings / Models and Associated Lists shall be in either the contractor's format or Government's format as specified on the TDP Option Selection Work Sheet incorporated into the contract or purchase order.

10.4 Content. Product Drawings / Models and Associated Lists shall conform to the requirements of ASME Y14.100, or, if applicable, ASME Y14.100 and Appendices B through E, as required, and ASME Y14.34 and ASME Y14.41. They shall document directly or by reference the following, as applicable:

- a. Details of unique processes, i.e., not published or generally available to industry, when essential to design and manufacture.
- b. Performance ratings.
- c. Dimensional and tolerance data.
- d. Critical manufacturing processes and assembly sequences.
- e. Tolerated input and output characteristics.
- f. Diagrams.
- g. Mechanical and electrical connections.
- h. Physical characteristics, including form, finishes, and protective coatings.
- i. Details of material identification, including material condition, and mandatory treatments and coatings.
- j. Inspection, test and evaluation criteria.
- k. Equipment calibration requirements.
- l. Quality assurance requirements.
- m. Hardware marking requirements.
- n. Requirements for reliability, maintainability, environmental conditioning, shock, and vibration testing and other operational or functional tests.
- o. Vendor substantiation data when required by the contract or purchase order.
- p. Requirements for programming software into devices or assemblies including a description of the input media and the procedures for validating that the software has been installed correctly.
- q. Special consideration items and processes.

10.5 Item Definition. All parameters required to define each unity, assembly, subassembly, part or material shall be presented on the applicable drawing. This includes data such as:

- a. All necessary mechanical dimensions to fully define fabrication, acceptance, interface, or installation of the item depicted.
- b. All necessary electrical dimensions to fully define fabrication, acceptance, interface, or installation of the item depicted.
- c. All necessary physical dimensions to fully define fabrication, acceptance, interface, or installation of the item depicted, I.e., weight, pressure, viscosity, etc.

d. All necessary environmental conditions which units, assemblies, subassemblies, parts, and materials must meet to perform effectively in the end item, such that the end item will meet its specification requirements.

10.6 CAGE code and document numbers. Product Drawings / Models and Associated Lists shall be identified with the contractor's CAGE code and contractor document numbers or with a Government CAGE code and document numbers as specified in the TDP Option Selection Work Sheet incorporated in the contract or purchase order.

10.7 Selection of Drawings. The types of drawings required will vary according to the complexity of the contract end item. The TDP Option Selection Work Sheet incorporated in the contract or purchase order will specify whether the contractor or the Government is responsible for selecting the types of drawings / models and Associated Lists.

10.7.1 Vendor Item Control Drawings. Vendor Item Control Drawings shall be used to specify the requirements for purchased items when such items have been approved for use in the design and are used without alteration, selection or source qualification (testing of an item prior to procurement action to ensure that it satisfies the specified requirements).

10.7.2 Source Control Drawings. Source Control Drawings shall be used to specify the requirements for purchased items (see 7.6) only when such items have been approved for use in the design and:

- a. the item is for a critical application and
- b. the requirements can be met by an item from one or more sources and
- c. the application required source qualification (testing of an item prior to procurement action to ensure that it satisfies the specified requirements).

10.7.3 Standardized Microcircuit Drawings. Standardized Microcircuit Drawings (MIL-HDBK-780) shall be used to specify the requirements of microcircuits.

11. DISTRIBUTION STATEMENT

STATEMENT A. Approved for public release; distribution is unlimited.

DATA ITEM DESCRIPTION			Form Approved OMB No 0704 0188	
1. TITLE Commercial Item Description (CID)		2. IDENTIFICATION NUMBER DI-SDMP-81261		
3. DESCRIPTION/PURPOSE 3.1 A CID describes by functional or performance characteristics an acceptable commercially available product that will satisfy the Government's needs. 3.2 This document will be used as a reference in acquisition documents to describe the item being procured.				
4. APPL DATE YYMMDD 920428	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR) A/MICOM	6.a. DTIC REQUIRED	6.b. GIDEP REQUIRED	
7. APPLICATION/INTERRELATIONSHIP 7.1 This (DID) contains the format, content and preparation instructions for the product generated by the specific and discrete task requirement as delineated in this contract. 7.2 The Federal Property Management Regulations (FPMR) Handbook 101-29 is available from General Services Administration, Federal Supply Service, Washington, D.C. 20046.				
8. APPROVAL LIMITATION		9.a. APPLICABLE FORMS		9.b. AMSC NUMBER A6729
10. PREPARATION INSTRUCTIONS 10.1 <u>Referenced Documents</u> . The applicable issue of the documents cited herein, including their approval dates and dates of any applicable amendments, notices, and revisions shall be as specified in the contract. 10.2 <u>Format</u> . The CID format shall be in accordance with the guidelines of chapter 7 of FPMR Handbook 101-29. 10.3 <u>Content</u> . The CID shall contain data as required by the guidelines stated in chapter 7 of FPMR Handbook 101-29.				
11. DISTRIBUTION STATEMENT STATEMENT A. Approved for public release; distribution is unlimited.				

DATA ITEM DESCRIPTION			Form Approved OMB No 0704 0188	
1. TITLE Engineering Change Proposal (ECP)		2. IDENTIFICATION NUMBER DI-CMAN-80639C Modified by NCC		
3. DESCRIPTION/PURPOSE 3.1 An Engineering Change Proposal (ECP) provides the documentation in which the engineering change is described. It includes change impacts to systems, configuration items and other associated configuration documentation affected by the proposed change. In addition, it typically describes how the proposed change will be implemented along with providing estimated schedules and associated costs.				
4. APPL DATE YYMMDD 20000930	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR) D/DUSD(AT&L)SE	6.a. DTIC REQUIRED	6.b. GIDEP REQUIRED	
7. APPLICATION/INTERRELATIONSHIP 7.1 This Data Item Description (DID) contains the format, content, and preparation instructions for the data product resulting from the work task specified in the contract. This DID is used in conjunction with a Notice of Revision (NOR) (DI-CMAN-80642B). A requirement for NORs should be contractually imposed in conjunction with this DID. 7.2 Data Item submittal in Extensible Markup Language (XML) is acceptable. An XML Document Type Definition (DTD), associated XML document template, and other information is available from http://www.geia.org/836/ 7.3 This DID supersedes DI-CMAN-80639B.				
8. APPROVAL LIMITATION		9.a. APPLICABLE FORMS		9.b. AMSC NUMBER D7388
10. PREPARATION INSTRUCTIONS 10.1 <u>Referenced Documents</u> . The applicable issue of the documents cited herein, including their approval dates and dates of any applicable amendments, notices and revisions shall be as specified in the contract. 10.2 <u>Format and Content</u> . The Engineering Change Proposal (EPC) shall be prepared using NCC's Contractor Change Request Form (CCRF). The EPC content shall include, where applicable, the following information: a. the change priority, change classification, and change justification b. a complete description of the change to be made and the need for that change c. complete listing of other configuration items impacted by the proposed change and a description of the impact on those CIs. d. proposed changes to documents controlled by the government e. proposed serial (or lot) number effectivities of units to be produced in, or retrofitted to, the proposed configuration. f. recommendation about the way a retrofit should be accomplished.				

g. impacts to any logistics support elements (such as software, manuals, spares, tools, and similar) being utilized by government personnel in support of the product

h. impacts to the operational use of the product

i. complete estimated life-cycle cost impact of the proposed change, and cost analysis of proposed change compared to as specified.

j. milestones relating to the processing and implementation of the engineering change

The following references may be useful in defining content: MIL-HDBK-61, Configuration Management Guidance (paragraph 4.2 and Table 4-6) and ANSI/EIA-649-1998, National Consensus Standard for Configuration Management (paragraph 5.3.1).

11. DISTRIBUTION STATEMENT

STATEMENT A. Approved for public release; distribution is unlimited.

DATA ITEM DESCRIPTION			Form Approved OMB No 0704 0188	
1. TITLE Request for Deviation (RFD)		2. IDENTIFICATION NUMBER DI-CMAN-80640C Modified by NCC		
3. DESCRIPTION/PURPOSE 3.1 A Request for Deviation describes a proposed departure from (a non-conformance with) the contractually-specified configuration documentation for a specific number of units or for a specified period of time. 3.2 A Request for Deviation enables the Government to determine the impact on performance, operational readiness, logistics support, or other affected areas.				
4. APPL DATE YYMMDD 20000930	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR) D/DUSD(AT&L)SE	6.a. DTIC REQUIRED	6.b. GIDEP REQUIRED	
7. APPLICATION/INTERRELATIONSHIP 7.1 This Data Item Description (DID) contains the format, content, and preparation instructions for the data product resulting from the work task specified in the contract. 7.2 Data Item submittal in Extensible Markup Language (XML) is acceptable. An XML Document Type Definition (DTD), associated XML document template, and other information is available from http://www.geia.org/836/ 7.3 This DID supersedes DI-CMAN-80640B and DI-CMAN-80641B.				
8. APPROVAL LIMITATION		9.a. APPLICABLE FORMS		9.b. AMSC NUMBER D7389
10. PREPARATION INSTRUCTIONS 10.1 <u>Referenced Documents</u> . The applicable issue of the documents cited herein, including their approval dates and dates of any applicable amendments, notices and revisions shall be as specified in the contract. 10.2 <u>Format and Content</u> . The Request for Deviation shall be prepared using NCC's Contractor Change Request Form (CCRF). The RFD content shall include the consideration (ie. cost, quality, or time) to be provided if the government accepts the deviation and, where applicable, the following information: a. a complete description of the contract requirement affected and the nature of the deviation (non-conformance) b. number of units (and serial/lot numbers) to be delivered in this c. any impacts to logistics support elements (such as software, manuals, spares, tools, and similar) being utilized by government personnel or to the operational use of the product d. information about remedial actions being taken to prevent reoccurrence of the non-conformance The following references may be useful in defining content: MIL-HDBK-61, Configuration Management Guidance (paragraph 4.3 and Table 4-9) and ANSI/EIA-649-1998, National Consensus Standard for Configuration Management (paragraph 5.3.4).				
11. DISTRIBUTION STATEMENT STATEMENT A. Approved for public release; distribution is unlimited.				

DATA ITEM DESCRIPTION			Form Approved OMB No 0704 0188	
1. TITLE Notice of Revision (NOR)		2. IDENTIFICATION NUMBER DI-CMAN-80642C		
3. DESCRIPTION/PURPOSE 3.1 A Notice of Revision (NOR) describes the proposed changes to a technical document being requested by an Engineering Change Proposal (ECP). 3.2 After ECP approval, the NOR is forwarded to the custodian of each specification, drawing, associated list, or other applicable document(s) so they can make the required documentation changes.				
4. APPL DATE YYMMDD 20000930	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR) D/DUSD(AT&L)SE	6.a. DTIC REQUIRED	6.b. GIDEP REQUIRED	
7. APPLICATION/INTERRELATIONSHIP 7.1 This Data Item Description (DID) contains the format, content, and preparation instructions for the data product resulting from the work task specified in the contract. This DID is used in conjunction with a Engineering Change Proposal (ECP), DI-CMAN-80639C. A requirement for ECPs should be contractually imposed in conjunction with this DID. This DID is also used with Specification Change Notices (SCNs), DI-CMAN-80463C. 7.2 Data Item submittal in Extensible Markup Language (XML) is acceptable. An XML Document Type Definition (DTD), associated XML document template, and other information is available from http://www.geia.org/836/ 7.3 This DID supersedes DI-CMAN-80642B.				
8. APPROVAL LIMITATION		9.a. APPLICABLE FORMS		9.b. AMSC NUMBER D7390
10. PREPARATION INSTRUCTIONS 10.1 <u>Referenced Documents</u> . The applicable issue of the documents cited herein, including their approval dates and dates of any applicable amendments, notices and revisions shall be as specified in the contract. 10.2 <u>Format and Content</u> . The Notice of Revision (NOR) shall be prepared in contractor format. The NOR content shall include, where applicable, the following information: a. a listing of the identifier, revision level, and title of the affected document b. the identifier of the ECP which proposed the change c. a complete description of the changes to be made to the affected document The following references may be useful in defining content: MIL-HDBK-61, Configuration Management Guidance (paragraph 4.4 and Table 4-10) and ANSI/EIA-649-1998, National Consensus Standard for Configuration Management (paragraph 5.3.3).				
11. DISTRIBUTION STATEMENT STATEMENT A. Approved for public release; distribution is unlimited.				

DATA ITEM DESCRIPTION			Form Approved OMB No 0704 0188	
1. TITLE Commercial Off-the-Shelf (COTS) Manual and Associated Supplemental Data		2. IDENTIFICATION NUMBER DI-TMSS-80527B		
3. DESCRIPTION/PURPOSE 3.1 Commercial Off-the-Shelf Manuals may be used as is or with supplementation to support COTS equipment used by DOD. This DID is used to: a. Acquire sample COTS manuals for evaluation b. Acquire COTS manuals which have been evaluated and found to be acceptable c. Acquire associated supplemental data, if required				
4. APPL DATE YYMMDD 20061017	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR) TM	6.a. DTIC REQUIRED	6.b. GIDEP REQUIRED	
7. APPLICATION/INTERRELATIONSHIP 7.1 This Data Item Description (DID) contains format, content, and intended use information for the data deliverable(s) resulting from the work task specified in the contract. 7.2 Data Item submittal in Extensible Markup Language (XML) is acceptable. An XML Document Type Definition (DTD), associated XML document template, and other information is available from http://www.geia.org/836/ 7.3 This DID supersedes DI-TMSS-80527A, Dated 21 May 97.				
8. APPROVAL LIMITATION		9.a. APPLICABLE FORMS		9.b. AMSC NUMBER 7595
10. PREPARATION INSTRUCTIONS 10.1 <u>Content</u> . The manual shall contain all technical information on the assembly, installation, operation, parts, and maintenance of commercial equipment. 10.2 <u>Evaluation</u> . The manual shall be evaluated using the criteria found in MIL-PRF-32216. 10.3 <u>Supplementation</u> . The manual may be supplemented with existing data to comply with the contract. Supplemental data shall be prepared in accordance with MIL-PRF-32216. 10.4 <u>Format</u> . The basic manual shall be in the contractor's format. Supplemental data shall be in the format specified by the contracting activity. MIL-HDBK-1221 may be used as guidance. 10.5 <u>Digital Files</u> . Interactive Electronic Technical Manuals (IETMs) or PDF are preferred for electronic COTS manuals. 10.6 <u>PDF Files</u> . PDF files shall be searchable, capable of having links added, and have fonts embedded. A list of preferred fonts is provided in MIL-PRF-32216.				

10.7 IETMs. IETMs shall meet the general style and format and user interface requirements in MIL-PRF-87268 or MIL-STD-40051-1 (Army only).

10.8 Paper Manuals. If paper manuals are required, the data shall be clearly legible and on paper of sufficient quality for long term use.

11. DISTRIBUTION STATEMENT

STATEMENT A. Approved for public release; distribution is unlimited.

DATA ITEM DESCRIPTION			Form Approved OMB No 0704 0188	
1. TITLE Certification/Data Report		2. IDENTIFICATION NUMBER DI-MISC-80678		
3. DESCRIPTION/PURPOSE 3.1 Certification data is required to verify that specific qualifications have been obtained, tests have been performed, parts/assemblies/equipments/systems have been installed, tested, inspected and are ready for operation; that personnel have specific qualifications to perform assignments/operations/inspections; or to certify identity, interchangeability, compatibility, reliability, or completeness of documentation being prepared or reviewed by a contractor. The technical effort involved will be the result of equipment/procurement specification requirements.				
4. APPL DATE YYMMDD 880912	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR) N/SEA 55Z3	6.a. DTIC REQUIRED	6.b. GIDEP REQUIRED	
7. APPLICATION/INTERRELATIONSHIP 7.1 Certification may be required for a single event/operation, or may be required for a specified time period, or certification may be required on a continuing basis with periodic re-certification or updating of the original certification. 7.2 The technical content requirements for this item shall be specified in the contract. When this DID is applied to contracts acquiring items via a military specification prepared in accordance with MIL-STD-961, the necessary detailed technical requirements shall be prepared as an appendix to the military specification entitled "Certification Data/Report Technical Content Requirements." The appropriate paragraph in block 10 herein, i.e., 10.3.1 or 10.3.2 shall be specified on the DD Form 1423, Contract Data Requirements List (CDRL). 7.3 This DID supersedes UDI-A-23264B.				
8. APPROVAL LIMITATION		9.a. APPLICABLE FORMS		9.b. AMSC NUMBER N4533
10. PREPARATION INSTRUCTIONS 10.1 <u>Format</u> . The report shall be typewritten in narrative form on the contractor's form. The report shall cover the type of certification specified in Block 3, "Subtitle," of the CDRL, DD Form 1423. 10.2 <u>Content</u> . The report shall contain the contract number and data item sequence number, and shall contain a statement that specifically identifies the purpose and applicability of this certification. 10.2.1 <u>Certification of Completion</u> . Certification that tests have been performed, inspections made, parts/assemblies/equipments/systems have been installed, tested, inspected, and area ready for operation, or that specific qualifications have been obtained shall provide objective evidence in support of the certification. Objective evidence may include such items as spectrographs, radiographs, material sampling, analysis, inspection and testing reports, or any other necessary documentation. 10.2.2 <u>Certification of Personnel</u> . Certifications that personnel have specific qualifications shall be supported by licenses, permits, tests, statements of competency, or other documentation. The specific capabilities to perform an assignment, inspection, or other operations shall be stated in the certification.				

10.2.3 Certification of Data Reviews. Certifications that documentation/data has been reviewed shall contain a statement of the "depth" of the examination and the results thereof. If the documentation being reviewed cannot be certified, the report shall so state and shall list the reasons, i.e., deficiencies, conflicting data, etc.

10.2.4 Certification of Compliance. Certification of compliance to specific specification requirements shall be a statement to the effect that the contractor has complied.

10.3 Technical Content.

10.3.1 The technical content shall be in accordance with the appendix entitled "Certification Data/Report Technical Content Requirements," contained in the applicable military specification as stated in the DD Form 1423, Contract Data Requirements List.

10.3.2 The technical content shall be as specified on the DD Form 1423, Contract Data Requirements List.

10.4 Supplemental Information. Additional specific material, drawings, sketches, photographs, etc., in support of these certifications shall be as defined in the DD Form 1423.

10.5 Signature. The certification report shall be signed by the contractor's authorized representative responsible for insuring that the equipment being delivered/service being performed is in accordance with contract requirements.

11. DISTRIBUTION STATEMENT

STATEMENT A. Approved for public release; distribution is unlimited.

DATA ITEM DESCRIPTION			Form Approved OMB No 0704 0188	
1. TITLE Computer Software Product End Items		2. IDENTIFICATION NUMBER DI-MCCR-80700		
3. DESCRIPTION/PURPOSE 3.1 The Computer Software Product End Item provides data formatted for review or maintenance to assure significant milestones are met. 3.2 Data produced under this requirement will be used during the life cycle for development, operation, and maintenance.				
4. APPL DATE YYMMDD 881026	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR) A/MICOM	6.a. DTIC REQUIRED	6.b. GIDEP REQUIRED	
7. APPLICATION/INTERRELATIONSHIP 7.1 This Data Item Description (DID) contains the format and content preparation instructions for the data product generated by the specific and discrete task requirement as delineated in the contract. 7.2 These requirements apply to all software product end items which are acquired for Department of Defense use. 7.3 This data item description supersedes DI-E-1125.				
8. APPROVAL LIMITATION		9.a. APPLICABLE FORMS		9.b. AMSC NUMBER AMSC A4561
10. PREPARATION INSTRUCTIONS 10.1 <u>Content</u> . The specific documentation/software required and the form in which they shall be furnished (documentation/source/object/executable) shall be delineated on the Contract Data Requirements List ((CDRL), DD Form 1423). 10.2 <u>Media</u> . The specific media on which the documentation/software shall be furnished (e.g., 9 track magnetic tape, tape cassette, floppy disk) shall be as specified on the CDRL. 10.3 <u>Format</u> . The format and method used to store and retrieve the documentation/software using the above media and all specific computer compatibility requirements shall be as specified on the CDRL.				
11. DISTRIBUTION STATEMENT STATEMENT A. Approved for public release; distribution is unlimited.				

DATA ITEM DESCRIPTION			Form Approved OMB No 0704 0188	
1. TITLE Test/Inspection Report		2. IDENTIFICATION NUMBER DI-NDTI-80809B		
3. DESCRIPTION/PURPOSE 3.1 The test/inspection report is used to document test/inspection results, findings, and analyses that will enable the government or contracting agency to evaluate compliance with system requirements, performance objectives, specifications, and test/inspection plans.				
4. APPL DATE YYMMDD 970124	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR) F/AFMC-DOP	6.a. DTIC REQUIRED	6.b. GIDEP REQUIRED	
7. APPLICATION/INTERRELATIONSHIP 7.1 This data item description (DID) contains the format and content preparation instructions for the data product generated by the specific and discrete task requirement as delineated in the contract. 7.2 This DID is applicable to engineering (developmental), preliminary qualification, and acceptance training. 7.3 This DID supersedes DI-NDTI-80809A and DI-MISC-80653.				
8. APPROVAL LIMITATION		9.a. APPLICABLE FORMS		9.b. AMSC NUMBER F7231
10. PREPARATION INSTRUCTIONS 10.1 <u>Format</u> . Contractor format is acceptable. Organize the information required by paragraph 10.2 and its subparagraphs in a manner that facilitates presentation and understanding. 10.2 <u>Content</u> . The test/inspection report shall contain the following information, as applicable. 10.2.1 <u>Cover and Title Page</u> . The following information shall appear on the outside front cover and title page: a. Report date. b. Report number {contractor or government} c. Contractor's name, address, and commercial and government entity code. d. Contract number and contract line item number or sequence number (if applicable) e. Type of test/inspection (for example, first article acceptance test, quality conformance inspection, developmental test, qualification test, environmental test). f. Identification of item tested/inspected. g. Date or period of test/inspection. h. Name and address of requiring government activity.				

i. Security classification, downgrading and declassifying information if applicable.

10.2.2 Table of Contents. The table of contents shall identify the following:

a. The title and starting page of each major section, paragraph, and appendix of the report.

b. The page, identifying number, and title of each illustration (for example: figure, table, photograph, chart, and drawing).

10.2.3 Introduction. The introduction shall include the following information:

10.2.3.1 Test/Inspection Objective(s). The specific test/inspection objective(s) as specified in the contract tasking document.

10.2.3.2 Item(s) Tested/Inspected. Complete identification of the item(s) tested/inspected including the following:

a. Nomenclature.

b. National stock number.

c. Model number, part number, and serial number.

d. Type of item (for example: prototype, production item, laboratory model).

e. Serial or lot number.

f. Applicable engineering changes.

g. Production item specification, if applicable.

h. Date of manufacture.

10.2.3.3 Test/Inspection Requirements. Complete identification of the test/inspection requirements correlated to contractual requirements including the following:

a. Required test/inspection parameters.

b. Performance requirements, acceptance or compliance limits, and environmental criteria.

10.2.4 Summary. Complete test/inspection report summary including the following:

a. A brief discussion of the significant test/inspection results, observations, conclusions, and recommendations covered in greater detail elsewhere in the report.

b. Proposed corrective actions and schedules for failures or problems encountered.

c. Identification of deviations, departures, or limitations encountered, referenced to the contract requirements.

d. Tables, graphs, illustrations, or charts as appropriate to simplify the summary data.

10.2.5 Reference Documents. Complete identification of all documents referenced in the test/inspection report including the following, as applicable:

a. Prior test/inspection reports on the same item.

- b. Test/inspection plans and procedure documents.
- c. Prior certifications of compliance.
- d. Contractor's file designation where test/inspection records are maintained.
- e. Input parameters used.

The applicable issue of the documents cited therein, including their approval dates and dates of any applicable amendments, notices, and revisions, shall be specified in the contract.

10.2.6 Body of Report. The body of the test/inspection report shall be as follows:

10.2.6.1 Test Equipment Identification. Complete identification of each item of test equipment used in the test/inspection including the following:

- a. Nomenclature.
- b. Model number.
- c. Serial number.
- d. Manufacturer.
- e. Calibration status.
- f. Accuracy data.
- g. Comments, if applicable.

10.2.6.2 Test/Inspection Facility Installation and Set-Up. Complete description of the physical set-up used in conducting the test/inspection to include the following:

- a. Location or orientation of the item.
- b. Location, orientation, or settings of test equipment and instrumentation.
- c. Location, orientation, or settings of sensors and probes.
- d. Location or orientation of interconnections, cables, and hoop-ups.
- e. Electrical power, pneumatic, fluidic, and hydraulic requirements.

Drawings, illustrations, and photographs may be used for clarification.

10.2.6.3 Test/Inspection Procedures. Complete description of the procedures used in conducting the test/inspection to include the following:

- a. Item selection and inspection that verified suitability for test/inspection.
- b. Summarized sequence of testing/inspection steps, including a description of how the item was operated during the test/inspection, and any control conditions imposed.

10.2.6.4 Test/Inspection Results and Analysis. A copy of all test/inspection results and analysis to include the following:

10.2.6.4.1 Recorded Data. The actual recorded data (for example: log book entries, oscillographs, instrument readings, plotter graphs). If the recorded data is extensive, provide it in an appendix.

10.2.6.4.2 Test/Inspection Results. Identification of all test/inspection results to include the following:

- a. Matrices comparing results achieved against test/inspection objectives or requirements.
- b. A discussion of these matrices as to their significance, and how they compare to any prior tests/inspections.
- c. Calculation examples.
- d. Discussion of anomalies, deviations, discrepancies, or failures, including their impact, causes, and proposed corrective actions. The discussion shall address discrepancies between design requirements and the tested/inspected configuration.

10.2.6.5 Conclusions. Test/inspection conclusions distinguished between objective and subjective to include the following:

- a. The effectiveness of the test/inspection procedures in measuring item performance.
- b. The success or failure of the item to meet required test/inspection objectives.
- c. The need for repeat, additional, or alternative tests/inspections.
- d. The need for item redesign or further development.
- e. The need for improved test/inspection procedures, techniques, or facilities.
- f. The adequacy and completeness of the test/inspection requirements.

10.2.6.6 Recommendations. Recommendations appropriate to the test/inspection results and conclusions including the following:

- a. Acceptability of the item tested/inspected (pass or fail).
- b. Additional testing/inspection required.
- c. Redesign required.
- d. Problem resolution.
- e. Test/inspection procedure or facility improvements.
- f. Disposition changes required.
- g. Documentation changes required.
- h. Testing/inspection improvements.

10.2.7 Authentication. The following certifications shall be included as applicable:

10.2.7.1 Authentication of test/inspection results. A statement that the test/inspection was performed in accordance with applicable test/inspection plans and procedures, and that the results are true and accurate. The authentication shall include the signature of the contractor personnel that performed the test(s)/inspection(s), a contractor representative authorized to make such certification, and any government witnesses.

10.2.7.2 Authentication of prior validation. A statement identifying those requirements not tested/inspected or measured that were previously validated. Include identification of the data and method employed for such validation

(for example: prior test/inspection, analytical verification, equivalent item, and so on). The authentication shall include the signature of a contractor representative authorized to make such authentication and any government witness.

10.2.7.3 Authentication of acceptability. A statement that the item tested/inspected either passed or failed item acceptability requirements. This authentication shall include the signature of a contractor representative authorized to make such authentication and any government witness.

10.2.8 Appendicies. Appendicies shall be used to append detailed test/inspection data, drawings, photographs, or other documentation too voluminous to include in the main body of the report. This includes referenced documentation not previously provided by the government, and test/inspection reports from any associated test/inspection activity that may have performed some of the testing/inspecting requirements.

11. DISTRIBUTION STATEMENT

STATEMENT A. Approved for public release; distribution is unlimited.

DATA ITEM DESCRIPTION			Form Approved OMB No 0704 0188	
1. TITLE TRAINING COURSE CONTROL DOCUMENT		2. IDENTIFICATION NUMBER DI-ILSS-81075 Note: Modified by NCC		
3. DESCRIPTION/PURPOSE 3.1 Describes the training content (subject, topics, tasks), training material, types and durations of instruction and resources required to conduct equipment operation training in classroom and on-site settings.				
4. APPL DATE (YYMMDD) 901205	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR) SH	6.a. DTIC REQUIRED	6.b. GIDEP REQUIRED	
7. APPLICATION/INTERRELATIONSHIP 7.1 Contains the preparation instructions for the content and format of the training course outline, resulting from the work task specified in Task 106.4.1 of MIL-STD-1379.				
8. APPROVAL LIMITATION		9.a. APPLICABLE FORMS		9.b. AMSC NUMBER N5046
10. PREPARATION INSTRUCTIONS 10.1 Reference Documents. The applicable issue of the documents specified herein, including their approval dates and dates of any applicable amendments, notices and revisions, shall be as specified in the contract. 10.2 Style and Format. The style and format of the Training Course Control Document shall be in accordance with Appendix C of MIL-STD-1379. 10.3 Content. The Training Course Control Document shall contain the following elements: a. Front Matter. b. Introduction. c. Course Descriptive Data. d. Outline of Instruction Summary. e. Curriculum Outline of Instruction. f. Required Resources. 10.3.1 Front Matter. The content shall be in accordance with Appendix C of MIL-STD-1379. 10.3.2 Introduction. This section shall provide a brief overview of the purpose and expected application of the Course Control Document. This section shall cite supporting documents, supersession information, and approval dates. 10.3.3 Training Course Descriptive Data. This section shall provide an overview of the training course and shall include the following information: a. Course title b. Location of training c. Course instructors, their occupational fields and qualifications				

- d. Course data, consisting of:
 - (1) course length
 - (2) academic hours
 - (3) class start date
 - (4) breakdown of classroom/practical application hours
 - (5) class size
- e. Specialty (occupational skill areas)
- f. Purpose (a concise statement of the goals of the training)
- g. Course prerequisites (the target audience for which the course is designed and the course's entry prerequisites)

10.3.4 Outline of Instruction Summary. Consists of an outline of each major section or topic of instruction, containing:

- a. Classroom and practical application time
- b. Time allocated for each topic of discussion
- c. Duration in hours
- d. Separate schedule listing for classroom and hands-on training

10.3.5 Outline of Instruction. The curriculum training outline shall provide detailed training data for each individual section of the course. The outline shall provide the sequence in which the instruction is to be presented. It shall provide planned time allotments, in hours, for each section, topic of instruction, specific lesson or module. The outline shall contain the following:

- a. Purpose. A brief statement of the purpose of the lesson.
- b. Hours. Academic hours by type of instruction (i.e., lecture, practical exercise, demonstration, etc.).
- c. Tasks and Subjects.
- d. Learning Objectives.

10.3.6 Required Resources. A list of items of equipment, publications,

11. DISTRIBUTION STATEMENT

STATEMENT A. Approved for public release; distribution is unlimited.

DATA ITEM DESCRIPTION

Form Approved
OMB No 0704 0188

Public reporting burden for this collection of information is estimated to average 110 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington, DC 20503.

1. TITLE Accident Prevention Plan (APP)	2. IDENTIFICATION NUMBER OT-24206
3. DESCRIPTION/PURPOSE 3.1 This plan identifies steps to be taken by the contractor to assure that no contractor or subcontractor employee employed for any part of the contract will work in unsanitary, hazardous or dangerous working conditions. 3.2 The purpose of this plan is to provide details on the contractor's safety and health policy and program.	

4. APPROVAL DATE (YYMMDD) 970919	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR) N/NCCNAVFACECOM	6.a. DTIC REQUIRED	6.b. GIDEP REQUIRED
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7. APPLICATION/INTERRELATIONSHIP

7.1 This data item description (DID) contains the format and content preparation instructions for the data product generated by the specific and discrete task requirement for this data as delineated in the contract.

7.2 This DID is applicable because contractors are responsible for the development and implementation of a safety and health program.

8. APPROVAL LIMITATION	9.a. APPLICABLE FORMS	9.b. AMSC NUMBER
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10. PREPARATION INSTRUCTIONS

10.1 Reference documents. The applicable issue of the documents cited herein, including their submission dates, shall be as specified in the contract.

10.2 Format. The APP shall be in contractor's format.

10.3 Content. The APP shall be site specific and shall include the following sections.

10.3.1 Cover Sheet. Shall contain the names, titles, phone numbers and signatures of the plan preparer, the plan approver, and (to show concurrence) an officer of the firm, the on-site safety representative, the project engineer, superintendent, and subcontractors.

10.3.2 Responsibilities and Lines of Authority. On-site and off-site contractor personal responsible for job-site safety and who they report to in the company's chain of command shall be identified by name and title.

10.3.3 Subcontractors and Suppliers. The safety responsibilities of subcontractors and suppliers shall be identified.

10.3.4 Medical Support. Describe off-site medical arrangements, and on-site medical support including location of first aid kits.

10.3.5 Physical Qualifications. Describe work assignment procedures used to ensure that contractor personnel are physically, medically and emotionally qualified for performing the duties to which they are assigned.

10.3.6 Personal Protective Equipment (PPE). Include in the APP written instructions to be followed to assure the proper use, selection, and maintenance of PPE (e.g. protective footwear, protective gloves, hard hats, safety glasses, hearing protection, body harnesses, lanyards, respirators, electrical protective equipment) along with any training required for their use.

10.3.7 Safety Inspections. The APP shall state who will conduct safety inspections, when inspections will be conducted, how the inspections will be recorded, the deficiency tracking system being used, follow-up procedures, and any certifications which may be required (e.g. certificate of compliance to be posted on each crane stating that the crane and rigging gear meet applicable OSHA regulations, and that the crane operator is qualified and trained for the operation of the crane to be used).

10.3.8 Equipment Inspection Records. List of major pieces of equipment that will be used on the work site and a list of the safety and certification requirements applicable to them as per the manufacturer's recommendations and the Code of Federal Regulations. List the certification time periods (e.g. annual certification).

(Continued on Page 2)

11. DISTRIBUTION

DISTRIBUTION STATEMENT A: Approved for public release, distribution is unlimited.

Block 10. PREPARATION INSTRUCTIONS (Continued)

10.3.9 Accident Reporting (Mishap Reporting). Identify in the APP by name and title the individual responsible for the following.

- a. Accident investigations, reports and logs,
- b. Timely notification of any mishaps that result in injury to personnel or damage to material/equipment, and
- c. Immediate notification of serious accidents.

10.3.10 Training. The APP shall list the mandatory training and certifications which are applicable to this project (e.g. explosive actuated tools, confined space entry, fall protection, crane operation, vehicle operator, personal protective equipment, welding); list requirements for periodic retraining/certification; outline requirements for supervisory and employee safety meetings; and provide documentation substantiating that equipment operators are properly qualified and state that equipment will be operated only by a qualified operator who has passed a practical examination for that specific type of equipment.

10.3.11 Emergency Response Plan. The APP shall contain the following procedures, duties, maps, names and plans.

- a. Emergency escape procedures and emergency escape route assignments (e.g. from buildings, floating cranes).
- b. Emergency rescue procedures (e.g. for employees working at heights or in confined spaces).
- c. Rescue and medical duties for those employees who are to perform them including the names of on-site contractor personnel trained in first aid and cardiopulmonary resuscitation (CPR).
- d. The means of reporting fires and other emergencies (e.g. phone in contractor's on-site trailer to call 911)
- e. Sketch or map that will be posted at the job-site indicating the route to the nearest medical facility and hospital.
- f. Names and job title of persons who can be contacted for further information of duties under the plan.
- g. Spill Containment Plan to contain and isolate the entire volume of a spilled hazardous substance.
- h. Person Overboard Plan for work over or immediately adjacent to water, including the wearing of approved life jackets.

10.3.12 Activity Hazard Analysis. Where there is an actual or potential hazard associated with a work activity, define the activity being performed, identify the sequence of work, identify the specific hazard(s) anticipated, and list the control measures to be implemented to eliminate or reduce each hazard to an acceptable level.

10.3.13 Critical Lift Plan. If a lift involves a moderate to high level of risk requiring detail planning and/or special safety precautions.

10.3.14 Hazard Communication Plan. Plan that addresses training (include potential safety and health effects from exposure), labeling, current inventory of hazardous chemicals on site including quantities, and the location and use of Material Safety Data Sheets (MSDS).

10.3.15 Hazardous Energy Control Plan. Outline the procedures used to isolate a system where unexpected energizing, start-up, or release of kinetic or stored energy could occur and cause injury or damage, including use of lockout and tagout devices.

10.3.16 Fall Protection and Prevention Plan. List the fall protection system(s) (guardrail, personal fall arrest, safety net) to be used on the job, and the steps taken to assure that the fall protection system(s) and their anchorage is designed and installed under the supervision of a qualified person, and have the sufficient strength and structural integrity to withstand the potential impact energy of an employee free falling the distance permitted by the system.

10.3.17 Fire Protection and Prevention Plan. Outline the contractor's fire prevention program and steps taken to ensure the availability of fire protection and suppression equipment at the job site.

10.3.18 Severe Weather Plan. Procedures for ceasing on-site outdoor operations during lightning, high winds or other severe weather.

10.3.19 Emergency Lighting Plan. Plan to assure that the egress routes from work areas have adequate light during a power failure.

10.3.20 Work Site Lighting Plan. Provide plan for providing adequate illumination of the work areas (e.g. nighttime work).

10.3.21 Drug and Alcohol Prevention Plan. Plan for prevention of alcohol and drug abuse by contractor/subcontractor employees.

10.3.22 Site Sanitation Plan. Plan for supplying adequate drinking water, toilet facilities, washing facilities and waste disposal, and steps taken to ensure all debris is kept cleared from work areas, passageways and stairs, in and around work structures.

10.3.23 Jacking Operations Plan (if applicable). Provide plan assuring safe set-up and use of jacks and/or lifting units at the job-site.

10.3.24 Asbestos Hazard Abatement Plan (if applicable). Submit a detailed plan of the safety precautions to be taken, equipment to be used, and work procedures to be followed in the encapsulation, removal, and proper disposal of materials containing asbestos.

10.3.25 Material Containing Lead Removal Plan (if applicable). Submit a detailed job-specific plan of the work procedures to be used in the removal of material containing lead including environmental sampling and a description of the method of containment.

DATA ITEM DESCRIPTION			Form Approved OMB No 0704 0188	
1. TITLE Conference Minutes		2. IDENTIFICATION NUMBER DI-ADMIN-81250A		
3. DESCRIPTION/PURPOSE 3.1 Conference minutes provide documentation of technical information provided, and decisions and agreements reached, at meetings.				
4. APPL DATE YYMMDD 931001	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR) F/ESC/EN-4	6.a. DTIC REQUIRED	6.b. GIDEP REQUIRED	
7. APPLICATION/INTERRELATIONSHIP 7.1 This Data Item Description (DID) contains the format and content preparation instructions for the data product generated by the specific and discrete task requirement as delineated in the contract. 7.2 This DID supercedes DI-ADMN-81250				
8. APPROVAL LIMITATION		9.a. APPLICABLE FORMS		9.b. AMSC NUMBER F6969
10. PREPARATION INSTRUCTIONS 10.1 <u>Format</u> . Contractor format is acceptable. 10.2 <u>Content</u> . The minutes shall include the following information: a. A title page containing the following: (1) Title-type of meeting and date (2) Identification of the acquisition (system, equipment, contract number) for which the meeting was held. (3) Space for signatures of the designated representatives of the contractor and acquisition activity. (4) The name of the contractor and address to which the acquisition activity should acknowledge receipt of comments. b. The purpose and objective of the conference. c. The conference location d. A summary of the discussions, decisions, agreements reached, and directions of the conference or individual subcommittees thereof. e. A list of attendees by name, rank, rate, grade or position, activity represented, activity code, and phone numbers as appropriate. f. Action items resulting from the conference.				
11. DISTRIBUTION STATEMENT STATEMENT A. Approved for public release; distribution is unlimited.				

**PSNS & IMF
Bremerton Section H
SITE SPECIFIC REQUIREMENTS
FOR
PUGET SOUND NAVAL SHIPYARD & INTERMEDIATE MAINTENANCE FACILITY,
BREMERTON NAVAL COMPLEX, WASHINGTON**

1 SCOPE

This supplement to the Statement of Work provides site specific contractor requirements or contract services performed at the Naval Base Kitsap (NBK), Bremerton, Washington. The NBK includes Puget Sound Naval Shipyard & Intermediate Maintenance Facility, Bremerton Site (PSNS & IMF), Naval Base Kitsap at Bremerton, and any tenant activities within NBK boundaries, and ships moored within the NBK.

2 APPLICABLE DOCUMENTS

The following documents form a part of this Statement of Work. Unless otherwise indicated, the issue in effect on the issue date of a request for proposals or request for quotes shall apply.

Puget Sound Naval Shipyard (NAVSHIPYDPUGET)

P5090(4) Contractors Guide to Environmental Compliance (Attachment 9)
P5100(14) Handbook for Contractors and Visitors

Washington State Administration Code (WAC)

WAC 173-60 Maximum Environmental Noise Levels
WAC 173-303 Washington Dangerous Waste Regulations
WAC 173-350 Solid Waste Handling Standards

Code of Federal Regulations (CFR)

29 CFR 1910 Occupational Safety and Health Standards (OSHA)
29 CFR 1915 Occupational Safety and Health Standards for Shipyard
Employment
29 CFR 1926 Safety and Health Regulations for Construction

40 CFR 261 Identification and Listing of Hazardous Waste

Corporate Lifting and Handling Manual (CLHM)

Vol 1 Ch 8 Contractor Cranes and Rigging

Environmental Protection Agency (EPA)

EPA 832-R-92-005 Storm Water Management for Construction Activities

Washington State Department of Ecology (WSDE)

Washington State Stormwater Management Manual (SMM) for Western Washington

Puget Sound Clean Air Agency Washington State Department (PSCAA)

PSCAA Regulation Regulation I, II, and III

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American National Standards Institute (ANSI)
American Society of Safety Engineers (ASSE)

ANSI/ASSE Z359.1 Safety Requirements for Personal Fall Arrest Systems,
Subsystems and Components

3 GENERAL REQUIREMENTS

- 3.1 Regular Working Hours. All work is to be performed during Puget Sound Naval Shipyard & Intermediate Maintenance Facility Bremerton Site's regular work hours 7:30 a.m. to 4:00 p.m. Monday through Friday except for Federal Holidays. Contractor requests to work on Saturdays, Sundays, holidays, or outside the regular or specified hours/days, shall be submitted to the receiving activity point of contact a minimum of five (5) work days prior to the anticipated work date. In no event shall the contractor carry out work outside the hours and days specified in the contract without prior approval.
- 3.2 Federal Holidays/ PSNS&IMF Holiday Shutdown. No work shall be performed on federal holidays or the period between Christmas and New Year. Contractor requests to work on a federal holiday shall be submitted to the receiving activity point of contract a minimum of five (5) work days prior to the anticipated work date. Request to work the holiday shutdown shall be submitted three (3) months prior to the shutdown.
- 3.3 Submittals. All documentation, correspondence, and/or communication specified in the Statement of Work shall, unless specified otherwise, be submitted to the Contracting Officer (CO) or the Activity Point of Contact (APOC).
- 3.3.1 Agency-Specific Forms or Publications. The Contracting Officer has the following agency-specific forms or publications that will be provided to the Contractor at time of award:
- a. Contractor Hazardous Material Inventory (CHMI), PSNS&IMF 5090/132, (Attachment 1).
 - b. Waste Information Sheet (WIS) Instructions for WIS PSNS&IMF 4855/612, (Attachment 2).
 - c. Solid Waste Tracking Sheet (SWTS), PSNS&IMF 5090/114, (Attachment 3) **(Submittal)**
 - d. Contractor's Monthly Project Waste Summary Report (CMPWSR), PSNS&IMF 5090/113, (Attachment 4) **(Submittal)**
 - e. PSNS and Naval Station Bremerton Emergency [Spill] Procedures, PSNS&IMF 5090/9, (Attachment 5)
 - f. Personal Information for Visitor Request, PSNS&IMF 5512/127, (Attachment 6).

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- g. AIS Survey, PSNS&IMF 5239/49, (Attachment 7).
 - h. Radio Operations Request, PSNS&IMF 2400/2, (Attachment 8).
 - i. The Contractor's Guide to Environmental Compliance, NAVSHIPYDPUGET P5090/4, (Attachment 9)
 - j. The Contractor's Guide to Hazardous Waste Compliance, NAVSHIPYDPUGET P5090/5, (Attachment 10)
 - k. PSNS&IMF Fire Prevention Practices (Attachment 11)
 - l. Vehicle Pass Request for Access to the Controlled Industrial Area (CIA) PSNS&IMFINST P5530.1 (Attachment 12)
 - m. Foreign Interest Determination, PSNS&IMF 5531/1, (Attachment 13)
 - n. Public Works Drawing 63752, latest revision, Allowable Ground Loading (Attachment 14)
- 3.4 Environmental and Safety Compliance, General Awareness Training, and Regulatory Interface
- 3.4.1 Contractors working at the Naval Base Kitsap (NBK) are required to perform their work in compliance with all Federal, State, and local regulations pertaining to the environment at all times.
 - 3.4.2 The Contractor will comply with all environmental regulatory notices or orders, including payment of any fine, attributable to the Contractor's conduct, regardless of whether or not the Contractor is the name recipient of the notice, order or fine.
 - 3.4.3 The Contractor will perform all duties and responsibilities for environmental and safety compliance set forth in this contract. The Contracting Officer may use the Contractor's failure to comply with environmental and safety requirements as a basis for a Termination for Cause under clause FAR 52.212-4(m).
 - 3.4.4 Failure to comply with or repeated violations of local, State, or Federal regulations can result in the violator(s) losing their access to the NBK or the operation being suspended until the Contractor can provide properly trained and/or supervised personnel. Certification of training shall be presented upon request of the Contracting Officer. The Contractor's (including its employees and subcontractors') loss of access to the NBK will not be considered by the Contracting Officer as excusable delay forming a basis for a modification to the required completion date nor will suspension of NBK access form the basis for any equitable adjustment. A Contractor whose access to all or part of the NBK has been denied, or who intends to use subcontractors denied that access, is not eligible for contract award.
 - 3.4.5 The Contractor will conduct periodic routine inspections of the work-site and storage areas to maintain compliance with the cleanliness, material and waste management,

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and pollution controls. The Contractor will provide oversight on the work performed by employees and subcontractors to ensure compliance with the safety and environmental requirements in this contract.

- 3.4.6 The Contractor will ensure all employees and subcontractors working at this work-site, are familiar with the contents of "Contractor's Guide to Environmental Compliance," PSNS&IMF P5090 (4)(Rev. 11-03), (Attachment 9). The Contractor will document the general awareness training provided to all employees and subcontractors.
- 3.4.7 All contacts with environmental regulatory agencies shall be coordinated with the Contracting Officer in advance. Documents requested by a regulatory agency must be turned over to the Contracting Officer. The Contracting Officer will review and forward document(s) to the requesting agency. The contractor shall provide the Contracting Officer with a copy of any related correspondence record of communication between the contractor and the regulatory agency in a timely manner.
- 3.4.8 Crane lubrication is to be in accordance with Attachment 10.
- 3.5 Definitions –
- 3.5.1 Naval Base Kitsap (NBK). A contiguous property comprised of Naval Base Kitsap at Bremerton, Fleet and Industrial Supply Center (FISC), Puget Sound, Puget Sound Naval Shipyard & Intermediate Maintenance Facility, Bremerton Site (PSNS & IMF), and any tenant activities and ships moored within the NBK.
- 3.5.2 Construction and Demolition (CD) Waste. Non-dangerous largely inert waste, resulting from the demolition, razing, or construction of buildings, roads, and other man-made structures. Plaster (i.e., sheet rock or plaster), yard wastes, stumps, or any other materials that are likely to produce gases or leachate during the decomposition process are not considered to be CD waste for the purposes of this definition. Construction and demolition items that are recycled, and PCB or asbestos containing materials, are not considered CD waste for the purposes of this contract.
- 3.5.3 Controlled Industrial Area (CIA). The CIA is the secured area within Naval Base Kitsap at Bremerton, occupied by PSNS & IMF. There are additional security gates and turnstiles to enter the CIA. Personnel access requires a red, yellow or green badge. Vehicle access is extremely limited. (See Security Requirements in section 10 of this enclosure.)
- 3.5.4 Contractor. The term Contractor refers to both the prime Contractor and its subcontractors. The prime Contractor shall ensure that its subcontractors comply with the safety and environmental provisions of this contract
- 3.5.5 Dangerous Waste. Defined under WAC 173-303. This includes, but is not limited to, hazardous waste, extremely hazardous waste and state-only dangerous waste.

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- 3.5.6 Fugitive Dust. Particulate matter or any visible air contaminants (smoke, dust, or fume) other than uncombined water that is not collected by a capture system and emitted from a stack, but is released to the atmosphere at the point of generation.
- 3.5.7 Hazardous Material. Any material which, by virtue of its potentially dangerous nature (e.g., toxic, flammable, corrosive, oxidizing, irritating, sensitizing, reactive), requires control in its use, packaging, handling, storage, or stowage, to assure safety to life and property. This definition is intended to apply to proprietary industrial, commercial, or locally prepared blends, mixtures, formulations, or compounds of gases, liquids, and solids intended for use at the job site.
- 3.5.8 Hazardous Waste. See definition for dangerous waste. The terms are used synonymously.
- 3.5.9 Rubbish. Common trash that has been determined or designated not to be a dangerous waste, hazardous substance, problem waste, construction/demolition waste, used oil, sanitary waste, or garbage.
- 3.5.10 Solid Waste. Any solid, semi-solid, or liquid waste that has not been designated as dangerous waste, asbestos, or PCB.
- 3.5.11 Volatile Organic Compound (VOC). An organic compound that participates in atmospheric photochemical reactions. This excludes all compounds determined to have negligible photochemical reactivity by the U.S. Environmental Protection Agency and listed in 40 CFR 51.100(s) in effect July 1, 1998.

4 MANAGEMENT OF HAZARDOUS MATERIALS

4.1 Inventory of Hazardous Material.

- 4.1.1 Initial Inventory. The Contractor is required to submit an inventory of hazardous materials during contract performance, on a Contractor Hazardous Material Inventory, PSNS& IMF 5090/132 (Attachment 1) **(Submittal)**. This and other forms will be provided to the Contractor at time of contract award.) Include all hazardous material except for Government Furnished Material (GFM) obtained from the Hazardous Material Control Center (HMCC) at Building 997. Include a current Material Safety Data Sheet (MSDS) for each item listed. Inventory must be approved by the Government prior to bringing hazardous materials onto the NBK. Allow ten (10) working days for approval. Definitions of hazardous materials are specified in the latest including revisions adopted during the term of the contract, of Federal Standard No. 313, and any other materials that are designated by the APOC as potentially hazardous and requiring safety controls (see definition). MSDS are to be available at work sites where materials are being used with a copy to be provided to the APOC.
- 4.1.2 Government Furnished Material (GFM). Hazardous material will be provided by the Government as specified. Complete the Contractor Hazardous Material Inventory form, for hazardous materials not obtained through the HMCC at Building 997. GFM obtained through the HMCC will have a peach colored Hazardous Substance

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Management System (HSMS) barcode label affixed to the container. The label signifies the material is approved and being tracked for reporting purposes.

- 4.1.3 Inventory Update and Usage Report. Inventory of all hazardous material shall be updated and monthly usage reported by the 5th calendar day of the following calendar month including GFM not obtained through the HMCC.
- 4.2 Contractor Plan. The Contractor will submit the following for Government inspection and acceptance prior to introduction to the site:
 - 4.2.1 A labeling system to identify the contents of all containers on site, per 29 CFR 1910.1200, Hazard Communications Standard. This shall include as minimum the following:
 - a. Chemical Name
 - b. Manufacturer's Name and Address
 - c. Explanation of the Chemical Hazard
 - 4.2.2 An implemented plan for protecting personnel, property, and the environment during the transport, storage and use of the materials, as specified in 29 CFR 1910.1200 Hazard Communication Standard. A brief summary of the program is outlined in NAVSHIPYDPUGET P5100(14), "Handbook for Contractors and Visitors." This booklet is available from the Contracting Officer.
- 4.3 Hazardous Material Exclusions. Notwithstanding any other hazardous material usage permitted under this contract, radioactive materials or instruments capable of producing ionizing radiation as well as materials, which contain asbestos, mercury, methylene chloride, lead, chromic acid and chromates, or polychlorinated biphenyls are prohibited. Other material may not be approved for use if less hazardous material is available. Contractor exceptions to the use of any of the above excluded materials must be submitted for approval to Contracting Officer.
- 4.4 Known Hazardous Material. The Government is responsible for informing the Contractor of any hazardous substances associated this contract. The Government is aware of the following hazardous substances related to performance on this contract:
 - 4.4.1 Older crane paint is known/suspected to contain lead. Some of the crane lubricants contain lead. Older electrical components may contain asbestos or PCBs.
 - 4.4.2 The Government will remove any diesel fuel from the cranes (as applicable). All other fluids will remain sealed in their respective gearcases.
- 4.5 Unforeseen Hazardous Material. If other unforeseen material that may be dangerous to human health upon disturbance is encountered during contract performance, the Contractor shall stop that portion of work and notify the APOC immediately. If the situation is an immediate threat to human health or the environment, call 911 on a NBK phone or 476-3333 on an outside line or cellular phone.

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5 HANDLING AND DISPOSAL OF WASTE

5.1 PSNS & IMF is the owner of all waste (solid, dangerous, or otherwise) generated within the NBK. This includes all waste generated by Contractor personnel while working at the NBK.

5.2 Waste Identification and Designation

5.2.1 Any item or material not incorporated into the project and not reusable will be considered waste.

5.2.2 The Contractor is responsible for identifying all wastes to be generated or produced during performance of this contract. The Contractor will complete Section 1 of a Waste Information Sheet (WIS) for each identified waste. WIS is a serialized form available from the government representative. Instructions for completing the WIS are provided in Attachment 2. **(Submittal)**

5.2.3 The Government shall designate all waste generated at the NBK. The Government shall perform any analysis required for designation of waste.

5.2.4 The following list provides a quick reference to the identity of the known wastes to be generated under this contract. This list may not be inclusive of all wastes that could be encountered, nor is this list intended to require such wastes be disposed. Recycling is preferred and encouraged.

- common (non-hazardous, non-dangerous) trash
- paint chips (lead)
- wood debris
- open gear grease
- welding rods
- grinding wheels
- Electrical Wiring

5.3 Waste Management

5.3.1 The contractor is responsible for the identification of all waste generated at the work-site and the disposal of solid waste and recycling of materials.

5.3.2 All waste awaiting designation and hazardous waste shall be turned over to the Government for accumulation and disposal prior to the end of each work shift. A Waste Information Sheet (WIS) shall accompany all waste.

5.3.3 In no event shall any waste, including wastewater, be disposed of in the storm sewer system.

5.3.4 Discharge to the sanitary sewer is also prohibited without written authorization from the Contracting Officer via the Waste Information Sheet (WIS) process.

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5.4 Solid Waste

- 5.4.1 Solid waste shall be segregated at the source and containerized to prevent spills or discharges to the environment. Cover and contain all solid waste as to prevent it from blowing away and to prevent water run-on or run-off. The area around the solid waste collection areas shall be kept clean and free of debris.
- 5.4.2 Dispose of solid waste and recyclables in containers specified by the Government Representative prior to the end of each work shift. Documentation of waste using Attachments (3) and (4) will be required.

5.5 Dangerous Wastes

- 5.5.1 Under no circumstances shall the Contractor remove dangerous/hazardous waste from the NBK premises. The Shipyard will retain ownership of all dangerous waste, generated on this job.
- 5.5.2 Unless an on-site accumulation area operator is arranged, the Contractor will be required to contact the APOC prior to the start of any work which will result in the generation of dangerous waste. Containers and labels shall be provided by the Government and may be requested through the APOC.
- 5.5.3 Containers and labels are available for pick-up in the Controlled Industrial Area, PSNS Bldg 367, Monday through Friday between the hours of 0745-1600. Back shift hours (1600 -2350) are available upon request. Bulk containers require 7-day notice.
- 5.5.4 Label containers as specified by the Government on the WIS.
- 5.5.5 Turn waste over to a Government operated accumulation area prior to the end of the work shift. A WIS with Section I completed shall accompany the waste.
- 5.5.6 Provide the MSDS and other supporting data as requested.

5.6 Waste Awaiting Designation (WAD)

- 5.6.1 Undesignated waste (i.e. waste for which designation as hazardous, problem, or non-hazardous waste has not been completed) shall be turned over to the Government prior to the end of the work. All samples and testing required for designation will be taken and performed by the Government.
- 5.6.2 The Contractor will complete Section 1 of a WIS and an ID label for each container of waste. Include the letters "WAD" in the space below the "ID" located on the left side of the ID label.

6 **SPILLS**

- 6.1 The following is provided to ensure that all Contractor personnel, including subcontractors, performing work at the NBK are aware of and understand spill prevention, spill events, and the proper response for each type of event. The

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Emergency Response Procedures poster, PSNS&IMF 5090/9 (Attachment 5) shall be posted at the work site or otherwise immediately available for employees.

- 6.2 Spill Prevention. Contractors shall take all reasonable and necessary precautions to prevent Oil and Hazardous Substances (OHS) from reaching the air, ground, or waterway. No OHS will be disposed into the sanitary sewer system, storm drainage system, waterway or trash container/dumpster without prior written approval of the Contracting Officer via the WIS. The Contractor shall place a spill response kit at or near a work site handling OHS.
- 6.3 Spill Event. A spill is any unpermitted or uncontrolled release of oil ore hazardous substance to the water or ground. This includes any spilling, leaking, pumping, emitting, discharging, injecting, escaping, leaching, disposing, or dumping of liquid or solid material not authorized by the contract. There are two types of spill events, emergency and non-emergency.
- 6.4 Emergency Spill Event
- Is an immediate threat to human health or the environment, or
 - Is a material not known to the person discovering the spill, or
 - Has the immediate potential to enter or has entered a drain or waterway, or migrate off Government property, or
 - Requires assistance from the Government for cleanup, or
 - Is more than 10 gallons
- 6.5 Non-emergency Spill Event. A non-emergency spill event is anything not specified as an emergency spill event.
- 6.6 Spill Response Procedures.
- 6.6.1 The following applies to non-emergency spills caused by the Contractor during contract performance:
- 6.6.1.1 Contain the spilled material and keep it away from drains or waterways.
- 6.6.1.2 Block any drains near the spill if there is a chance the spill will reach them.
- 6.6.1.3 Wear the proper personal protective equipment while cleaning up the spill.
- 6.6.1.4 Turn waste debris over to the Government accumulation area as waste awaiting designation.
- 6.6.2 The following applies to emergency spills caused by the contractor during contract performance:
- 6.6.2.1 Immediately notify the NBK Regional Dispatch Center (RDC) by calling 911 on a NBK phone, or (360) 476-3333 on a non-NBK or cellular phone.
- 6.6.2.2 Isolate the spill area and stay upwind until arrival of the NBK clean up crew.

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- 6.6.2.3 If the properties of the spilled material are known, providing it can be done without endangering the safety or health of the contractor or other personnel, try to stop the spill and/or contain the spill to prevent it from going into drains or waterways.
- 6.6.2.4 The Contractor shall then notify the APOC.
- 6.6.2.5 The Government will respond to all emergency spills.
- 6.6.2.6 All available technical data (e.g., MSDS and waste profiles) the Contractor possesses on the material spilled shall be provided upon request to emergency response personnel.
- 6.6.2.7 The Contractor shall assist Government personnel in the preparation of spill reports if requested.
- 6.6.2.8 The Contracting Officer shall be provided with all relevant data necessary to determine financial impact and liability of the spill and reimbursement for spill clean-up and disposal assistance services.

7 WATER POLLUTION AND BEST MANGEMENT PROACTICES (BMPs)

- 7.1 Water Pollution Control. Comply with the Federal Clean Water Act, 40 CFR 122, and 40 CFR 403. Provide a WIS for each unique type of wastewater and fill out the blank label to be provided by the Government. In no event shall waste or any other material be disposed of into Sinclair Inlet or the storm sewer system. Discharge to a sanitary sewer drain (e.g., sinks & toilets) is prohibited unless prior authorization has been obtained (via the Waste Information Sheet). Allowing non-approved discharges may result in a direct violation of regulations and/or permits issued by the Environmental Protection Agency (EPA), or the Washington State Department of Ecology (WSDE).
 - 7.1.1 In no event shall waste or any other material be disposed of in the storm sewer system.
 - 7.1.2 This system is normally indicated with a metal fish tag stating "DO NOT DISCHARGE - - DRAINS TO BAY".
 - 7.1.3 Discharge to a sanitary sewer drain (e.g., sinks & toilets) is prohibited unless prior authorization has been obtained.
 - 7.1.4 Pamphlets entitled WATER POLLUTION PREVENTION PRACTICES (BMPs) and "Contractor's Guide to Environmental Compliance", PSNS&IMF P5090 (4) are available from the APOC upon request. The pamphlet and guide will help explain what types of practices need to be identified and utilized for contractor activities.
 - 7.1.5 Pollution prevention practices include but are not limited to: good housekeeping; proper materials storage and handling; drip pans, control of dust and overspray, over water protection, protection of storm drains, and preventive maintenance.

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8 AIR POLLUTION CONTROL AND REPORTING

- 8.1 Containers of paint, epoxy, solvents, or other volatile organic compounds (VOC) are not to be left open to the atmosphere unless they are being used. All containers are to be secured at the end of each shift. Evaporation of solvents shall not be used as a means of minimizing or disposing of dangerous waste.
- 8.2 Report the usage of Volatile Organic Compounds (VOC) and Toxic Air Contaminants to the Contracting Officer. Completion and submission of the Contractor Hazardous Material Inventory, specified in the Hazardous Material section, will satisfy this reporting requirement.
- 8.3 Utilize Best Available Control Technology (BACT) to minimize dust emissions. The control measures mentioned below merely represent some examples of control techniques necessary to prevent fugitive emissions and are not to be construed to represent an all inclusive list of BACT.
- 8.3.1 Use controls at all times when visible dust emissions are created during both working and non-working periods. Dry power brooming shall not be permitted. Instead, use vacuuming, wet mopping, wet sweeping, or wet power brooming.
- 8.3.2 Employ water sprays to prevent visible emissions of dust generated by demolition, handling, and transport. Materials removed during renovation shall either be carefully lowered to the ground (not thrown) or transported via dust-tight chutes into the disposal container. Discharge of water run-off into the storm drain is not permitted.
- 8.3.3 Refrain from grinding, blasting, and painting during windy periods when other BACTs are not effective.
- 8.3.4 Gasoline transport tanks may not be used at the Shipyard unless a valid inspection sticker is displayed .

9 HEALTH AND SAFETY

- 9.1 Personal Health and Safety. Contractor work performed at the NBK is an industrial area and subject to OSHA Standards. The Contractor shall conduct all work in a safe manner and shall provide all necessary safety equipment.
- 9.1.1 Prior to starting work, the Contractor representative(s) shall meet in conference with the Shipyard APOC, Supervision, and other necessary Shipyard personnel to discuss and develop mutual understanding relative to environment, safety, methods and schedules, security, waste management and any other subject necessary for a smooth and successful operation.
- 9.1.2 The Contractor shall make the maximum use of low-noise emission equipment as certified by the Environmental Protection Agency. Applicable regulatory requirements for maximum environmental noise levels are published in the Washington Administrative Code, WAC 173-60. The Contractor shall provide

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hazardous noise signs and label equipment wherever work procedures and equipment produce sound-pressure levels greater than 84 dB (A) steady state and/or 140 dB peak sound pressure level for impact or impulse noise, regardless of the duration of the exposure.

- 9.2 Compliance with OSHA. The Contractor will perform all work in accordance with the most current OSHA rules and regulations issued by the Department of Labor, 29 CFR Parts 1910, 1915, and 1926 as applicable.
- 9.3 Safety Equipment. During the performance of work under this contract, all Contractor personnel shall have in their possession and shall properly wear OSHA and ANSI approved personnel protective safety equipment (i.e. fall-protection devices, hard-hats, steel toe safety shoes, safety glasses and hearing protection).
- 9.3.1 The Contractor shall provide all appropriate safety barricades, signs, and signal lights.
- 9.4 Operator Licenses. If the Contractor requires the use of contractor provided cranes, aerial work platforms or other equipment, the Contractor shall submit proof to the APOC, that the operator is trained, qualified and licensed (if applicable) for the operation of the equipment to be used. **(Submittal)**
- 9.5 Safety Compliance. The Contractor's workspace may be inspected by OSHA periodically. The Contractor will abate violations caused by its subcontractors or employees.
- 9.5.1 The Contractor shall provide assistance to the Safety Office escort and the federal OSHA inspector if a complaint is filed. Fines levied on the Contractor by OSHA offices due to safety/health violations shall be paid promptly by the Contractor.
- 9.5.1.1 Failure to comply with or repeated violations of OSHA safety requirements can result in the violator(s) losing their access to the Government facility or the operation being suspended until the contractor can provide properly trained personnel. Certification of training shall be presented upon request by the Contracting Officer.
- 9.5.2 Abatement of violations will be the responsibility of the Contract and/or the Government as determined by the Contracting Officer.
- 9.5.2.1 The contractor shall ensure that any additional measures that the Contracting Officer or the APOC determines to be reasonably necessary for safety are taken.
- 9.6 Voluntary Protection Program (VPP)
- 9.6.1 PSNS & IMF is a Star site in OSHA's Voluntary Protection Program. The following OSHA web site provides additional information on VPP:
<http://www.osha.gov/dcsp/vpp/index.html>.
- 9.6.2 Contractors are required to develop and implement effective safety and health management systems. This includes, but is not limited to, submission of their safety plan in their bid package, specifically including methods to ensure compliance with

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OSHA regulations during work accomplishment. Example: If the work to be accomplished involves lockout/tagout, confined space entry, fall protection, respirator use, then the contractor will submit their safety plan on those items.

- 9.6.3 PSNS & IMF is required for injury reporting purposes to include contractors and their subcontractors, who have worked in the Controlled Industrial Area a total of 1,000 or more hours in at least one calendar quarter.
- 9.6.4 Use of OSHA 300 Log is required and a copy is to be submitted to PSNS & IMF Code 106.23 via the APOC by the end of the project or by 10 January for the previous calendar year, whichever comes first. Negative reporting is required. The submitted log is to identify only work at PSNS & IMF (Bremerton Site) meeting the criteria in paragraph (9.6.3) above.
- 9.6.5 The contractor is responsible for conducting routine inspections of the work and non-work areas, under the contractor's cognizance. The purpose of the inspections is to document the timely identification, correction, and tracking of uncontrolled hazards. Provide this documentation upon request.
- 9.7 Accident Reporting. The Contractor shall submit to the Contracting Officer, using the cognizant regulatory agencies prescribed forms, exposure data and all accidents resulting in death, trauma, or occupational disease. Accident reports shall be submitted within 24 hours of their occurrence.
- 9.7.1 The Contractor shall submit to the Contracting Officer a full report of damage to Government property or equipment by Contractor employees. Damage reports shall be submitted within 24 hours of the occurrence.
- 9.8 Emergency Medical Care. Only emergency medical care is available in Government facilities to Contractor employees who suffer on-the-job injury or disease. Care will be rendered at the rates in effect at the time of treatment. Reimbursement shall be made by the Contractor to the Naval Regional Medical Center Collection Agent upon receipt of statement.
- 9.9 Fire Protection. The Contractor and his employees shall know where the fire alarms are located and how to turn them on. The Contractor shall handle and store all combustible supplies, materials, waste, and trash in a manner that prevents fire or hazards to persons, facilities, and materials. Contractor employees operating critical equipment shall be trained to properly respond during a fire alarm or fire.
- 9.9.1 Contractor fire-watch training. Contractors that anticipate welding, burning, cutting or grinding during the performance of the contract, Fire Watch training is required. Contractors require access badges to attend the training. This training is provided without charge, is typically held on the second Friday of each month at Puget Sound Naval Shipyard & Intermediate Maintenance Facility Bremerton Site, and is approximately one (1) hour in length. Contractors shall provide a list of names and other required information to the Government Point of Contact of those who will be attending the training. The Government POC will coordinate this training with the Shipyard Fire Inspector. The contractor shall coordinate this training with the Government Point of Contact.

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- 9.9.2 Any hot work (welding, burning, grinding, cutting, etc.) requires a hot work permit prior to starting such work. Contractors shall obtain this permit from the Shipyard Fire Department via the Shipyard APOC.
- 9.10 Confined Spaces. Entry into a confined or enclosed space by personnel for any purpose, including hot work, shall be prohibited until the qualified person has conducted appropriate tests to ensure the confined or enclosed space safe for the work intended. Contractor operations which involve confined or enclosed space entry or work are governed by 29 CFR 1915, OSHA Regulation for Shipyard Industry, for all operations other than construction sites segregated from existing facilities or ships under overhaul. Where Contractors are performing work at PSNS & IMF, the following provisions shall be observed:
- 9.10.1 The Contractor, when performing Maritime Operations that involves combustible and hazardous material, shall provide NFPA (National Fire Protection Association), Certified Marine Chemist and/or competent person as appropriate under the provisions of 29 CFR 1915.
- 9.10.2 The Contractor, when performing Non-Maritime Operations, in segregated sites, shall provide for confined space safety in accordance with 29 CFR 1910.146 or 29 CFR 1926 as applicable.
- 9.10.3 Where Government and Contractor personnel are to occupy the same confined space for a given task or operation, both parties shall certify the area as gas free and notify the other party of their findings.
- 9.11 Energy Control and Tagout
- 9.11.1 The Government will provide the Contractor with a copy of the lock out and tag out (LOTO) controls used by the Government facility where the equipment is to be placed.
- 9.11.1.1 After contract award and prior to starting work, the Contractor and their subcontractor(s) shall submit and exchange LOTO-plus program procedures with the APOC. The contractor is required to meet with the APOC to discuss the LOTO s-plus interface. The Contractor shall use their LOTO-plus procedures IAW 29CFR 1915.89.
- 9.11.2 Energy Isolating Devices. The equipment shall be provided with energy isolating devices (e.g., power switches, safety switches, circuit breakers, valves, etc.) that protect personnel from the release of hazardous energy. The devices shall be designed and manufactured such that they can be padlocked in the user-selected position (ON or OFF, OPEN or CLOSED) to prevent inadvertent or unauthorized change. All energy isolating devices installed or modified shall be capable of being locked **and be** integral to the equipment installed. This includes both mechanical and electrical devices. An energy-isolating device shall be installed as the first energy control device on all major components of the system such that the component can be isolated at the component level.

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- 9.12 Restricted Use of Certain Colors. The NBK uses the colors yellow, blue, and red to identify specifically controlled materials. These colors are not to be used for any other purpose. Yellow plastic tape, bags, coverings, or other wrapping materials are strictly prohibited. Blue must be used for asbestos identification only and clearly identified as asbestos. Red must be used only for Infectious Medical Waste and clearly identified as such.
- 9.13 Smoking
- 9.13.1 Smoking is allowed in designated smoking areas (DSA) only. Any smoker may use any designated smoking area. Smokers may not smoke or carry ignited tobacco products outside of DSA.
- 9.13.2 Where conflicts arise between the rights of non-smokers and the rights of smokers, the rights of non-smokers to a smoke-free airspace shall prevail.
- 9.13.3 The Contractor shall use existing PSNS designated smoking areas.
- 9.13.4 DSA's must be a minimum distance of 10 feet from sidewalks, passageways, building doorways, open windows, intake ventilation air ducts, and eating areas. Comply with posted distance requirements for any nearby hazardous, flammable, or toxic material, which may be more stringent.
- 9.13.5 Dry docks are limited to one DSA. The Government will establish the DSA in each dry dock with an active project. Contractors may establish a DSA in non-active dry docks.
- 9.13.6 Smokeless tobacco is prohibited during meetings, briefings, training sessions, and inspections.
- 9.13.7 Dispose of tobacco waste in appropriate receptacles and in a sanitary manner. Spitting in wastebaskets, common trash containers, on the ground, or on other structural features out of doors is prohibited. Place saliva and smokeless tobacco waste mixtures in closeable containers. Empty reusable containers for smokeless waste in toilets or dispose of closed containers in as common trash.
- 9.14 Eating Facilities/Sanitation. PSNS&IMF prohibits consumption of food and beverages except in designated eating areas. Per the Code of Federal Regulations, 29 CFR 1910.141(g), Sanitation, employees may not eat or drink in regulated work areas or in other industrial work areas where toxic materials are present. Hardhats, gloves and any other regulated work clothing shall not be worn or placed in designated eating areas.

10 SECURITY REQUIREMENTS

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- 10.1 The contractor shall comply with all security regulations imposed by the installation Commander and the agency occupying the space where the work is to be performed.
- 10.1.1 Admittance to the Work Site. The contractor shall submit an estimated number of personnel expected to perform work at the receiving activity's site for the duration of this contract to the Contracting Officer and the receiving Activity Point of Contact (APOC). The contractor shall be responsible for obtaining all necessary personnel and vehicle access passes, and submission of personal background information required for security clearance. Every contractor must fill out a Foreign Interest Determination form. The contractor shall collect and immediately return to the activity's Pass and ID Office all access passes issued to their personnel upon termination of any employee, expiration of the pass, completion of the contract, or when access is no longer required. Requests for forms shall be directed to the APOC. Questions about the security requirements for access to Naval Base Kitsap can be directed to the Bremerton site's Security Office at 360-476-4884. (submittal)
- 10.1.2 Security Requirements for Perimeter Access to Naval Base Kitsap. The Navy Commercial Access Control System (NCACS) program is the Commander, Navy Installations Command's (CNIC) enterprise solution for identity management and perimeter access to naval installations for contractors, suppliers and service providers who are not authorized a Common Access Card (CAC). A personal badge affording perimeter access for single or multiple installation access, valid for up to one year, will be issued to each contractor employee who meets background check criteria, when the contractor participates in the NCACS. NCACS participants will incur costs through fees charged by the Navy's NACS service contractor. Contractors are not required to participate in this program. Those who choose not to participate will be required to obtain one-day passes for every day perimeter access is required without charge, but may experience significant waiting times at the Pass and Identification Office. The Government does not guarantee the contractor's successful enrollment or the successful enrollment of any contractor employees in the NCACS program.
- 10.1.3 Regular Working Hours. All on-site work shall be performed during PSNS&IMF, Bremerton Site's regular work hours from 7:20 a.m. to 4:00 p.m., Monday through Friday except for Federal Holidays. Exceptions require prior approval. Requests for alternative work schedules shall be submitted to the APOC for approval a minimum of two (2) working days prior to the proposed work date. NCACS or CAC credentials are required for perimeter access outside of regular working hours.
- 10.2 **Passes and Badges**
- 10.2.1 This section discusses the requirements for requesting, obtaining and using badges. Do not use other form of Government ID that has not been issued by the local command. The only exception to this is the use of "RAPIDGate". RAPIDGate: Registered And Previously ID'd" is a Identity verification and background screening of vendor/contractor employees. Information and application available at <https://eform.rapidgate.com>. Contact information is: 1-877-RapidGate (1-877-727-4342) info@rapidgate.com or www.eidpassport.com. This system is considered voluntary/optional. RAPIDGATE may facilitate quicker entry into a site and assist

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with multiple entries for a visit. Contractor shall be responsible for collecting badges from personnel no longer needing access to bases.

- 10.2.2 Locally produced credentials, issued by the Bremerton site's Pass and ID office, are required for access to the CIA. Contractor personnel needing access to the CIA shall be admitted to the work site only after they have been issued a Security Pass/ID Badge permitting unescorted access.
- 10.2.3 Persons who are currently on probation or parole from a felony conviction cannot qualify for a Security Pass/ID Badge and will be denied access to the Shipyard.
- 10.2.4 A request for Visitor Badge, PSNS Form 5512/127, completed by the sponsor (typically the Contracting Officer or the Receiving Activity Point of Contact) and submitted by the sponsor (Receiving Activity Point of Contact) to the Pass and I.D. Office, at least five (5) business days before the badges are needed.
- 10.2.5 Contractor personnel requesting access to the CIA will be required to view an orientation videotape lasting approximately 30 minutes prior to receiving a badge.
- 10.2.6 Contractor shall allow approximately two (2) hours for each employee to acquire a badge. Contractor personnel working in the CIA shall visibly display/wear the Government issued badge chest high over the front of their outermost clothing.
- 10.2.7 Proof of U.S. Citizenship – Contractor personnel working within the CIA are required to be United States citizens and must present proof of citizenship to the Pass and ID Office prior to receiving a badge. Acceptable forms of proof are:
- a. Original Birth Certificate or Department of State Birth Certificate
 - b. Certificate of Person Born Abroad
 - c. Original Naturalization Certificate
 - d. Valid United States Passport
- 10.2.8 Foreign Nationals Or Affiliations. The Contractor shall comply with security regulations imposed by the Government for the installation where work is to be performed, including obtaining any necessary personnel security clearances and vehicle passes. Every company requesting access to the CIA, whether they have foreign nationals working for them or not, are required to fill out a Foreign Interest Determination form. Requests for forms shall be directed to the APOC.
- 10.3 Vehicle Passes. Contractors will be allowed to bring company vehicles into the CIA based upon the nature of their work as determined by the Commanding Officer in conjunction with the Industrial Security Officer.
- 10.3.1 Forms for obtaining vehicle passes and permits may be obtained from the Receiving Activity Point of Contact.
- 10.3.2 Each contractor, subcontractor and vendor vehicle shall be registered with the Pass and I.D. Office located in Bldg. 981.

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- 10.3.3 Contractors shall clearly display an authorized company sign or logo on their vehicle.
- 10.3.4 Contractor vehicles are not allowed to enter the CIA with more than three (3) people onboard.
- 10.3.5 Each permit will include the company name, license plate number and expiration date. CIA permits will be issued to each authorized vehicle by license number.
- 10.3.6 Contractor personnel shall provide the state registration or a photocopy and proof of insurance documents of each approved vehicle to the Pass and I.D. Office where a vehicle permit will be issued.
- 10.3.7 Lay-down Permit - A permit that authorizes the vehicle to be brought in to transport tools, parts, or materials to/from the site or function as a work platform. Vehicles with Lay-down permits are kept at the negotiated job site when not traveling to/from the gate.
- 10.3.8 Load/Unload Permit - A permit that authorizes the vehicle to be brought in to drop off or pick up tools, equipment and machinery which cannot be hand carried. Vehicles with Load/Unload Permits shall not be left unattended at the job site for more than 30 minutes.
- 10.3.9 Service Permit –
- NOTE: Any vehicle that has a crane attached must comply with the “Contractor Cranes” portion of this document.
- A permit that authorizes the vehicle to be brought in and used as a mobile work platform because it contains tools, parts, materials, supplies and/or fabrication equipment. Vehicles with Service Permits allow the vehicle to be used at job sites throughout the CIA where no negotiated lay-down area exists. Attachment 11) “Vehicle Pass Request Controlled Industrial Area (CIA).” Puget site only.
- 10.3.10 Forms for obtaining vehicle passes and permits may be obtained from the Receiving Activity Point of Contact. Each contractor, subcontractor and vendor vehicle shall be registered with the Pass and I.D. Office located in Bldg. 981.
- 10.3.11 The Contractor shall be responsible for notifying their vendors and suppliers that access of vehicles is subject to the presentation of proper identification and shipping documents. Enter Naval Base Kitsap at Bremerton via the Vehicle Inspection Station Gate, on the west end, off Highway 304.
- 10.3.12 Vehicle operators on a DOD Installation, and operators of Government owned vehicles, shall not use cell phones unless the vehicle is safely parked or unless they are using a hands-free device. The wearing of any other portable headphones, earphones, or other listening devices while operating a motor vehicle is prohibited. Violators may be fined.

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10.3.13 Vehicular Movement Restrictions. Vehicular movement within the CIA is prohibited between 1602 and 1609. This regulation will be strictly enforced. Violators may be fined.

11 SECURITY CAUTIONS

11.1 General

11.1.1 Neither the Contractor nor any of its employees or subcontractors shall disclose or cause to be disseminated any information concerning the operations of the activity which could result in or increase the possibility of a breach of the activity's security or interrupt the continuity of its operations.

11.1.2 Disclosure of information to any person not entitled to receive it, or failure to safeguard any classified information that may come to the Contractor or any person under his control in connection with work under this contract, may subject the Contractor, his agents or employees, to criminal liability under 18 U.S.C. Sections 793 and 798.

11.1.3 All inquiries, comments, or complaints arising from any matter observed, experienced, or learned as a result of or in connection with the performance of this contract, the resolution of which may require the dissemination of official information, will be directed to the APOC.

11.1.4 Deviations from or violations of any of the provisions of this section (11) will, in addition to all other criminal and civil remedies provided by law, subject the Contractor to Termination for Cause and/or the individuals involved to a withdrawal of the Government's access permission.

11.1.5 Whenever facility security is breached by any work performed under this contract, the Contractor shall be responsible for providing temporary measures in order to ensure security is restored and maintained.

11.2 Cameras (including watches and cellular phones with cameras). Cameras are not allowed in the Shipyard. All cellular telephones as well as any electronic device that can create, store and/or transmit digital images (pictures) are not allowed in the Shipyard and are subject to immediate confiscation.

11.3 Computers (including "Personal Digital Assistants (PDA)"). The use of any personally owned computer device including handhelds are prohibited in the Shipyard.

11.4 Laptop Computers. Submit AIS Survey Form (PSNS&IMF 5239/49), (Attachment 7) to request authorization to bring laptop computers into the Shipyard. Each unit requires a separate permit. If approved, the form must remain with the laptop during the visit. The laptop must be kept in control by the Contractor personnel, who signed, Attachment 7, at all times. Systems operating in the Shipyard that are not in compliance will be confiscated by Shipyard Police. **(Submittal)**

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- 11.5 Radio Operations. If the Contractor will be using company radios other than Nextel, the Contractor shall submit a Radio Operations Request Form (PSNS&IMF 2400/2) (Attachment 8), to the APOC ten (10) working days prior to accessing government property. **(Submittal)**

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12 CRANES

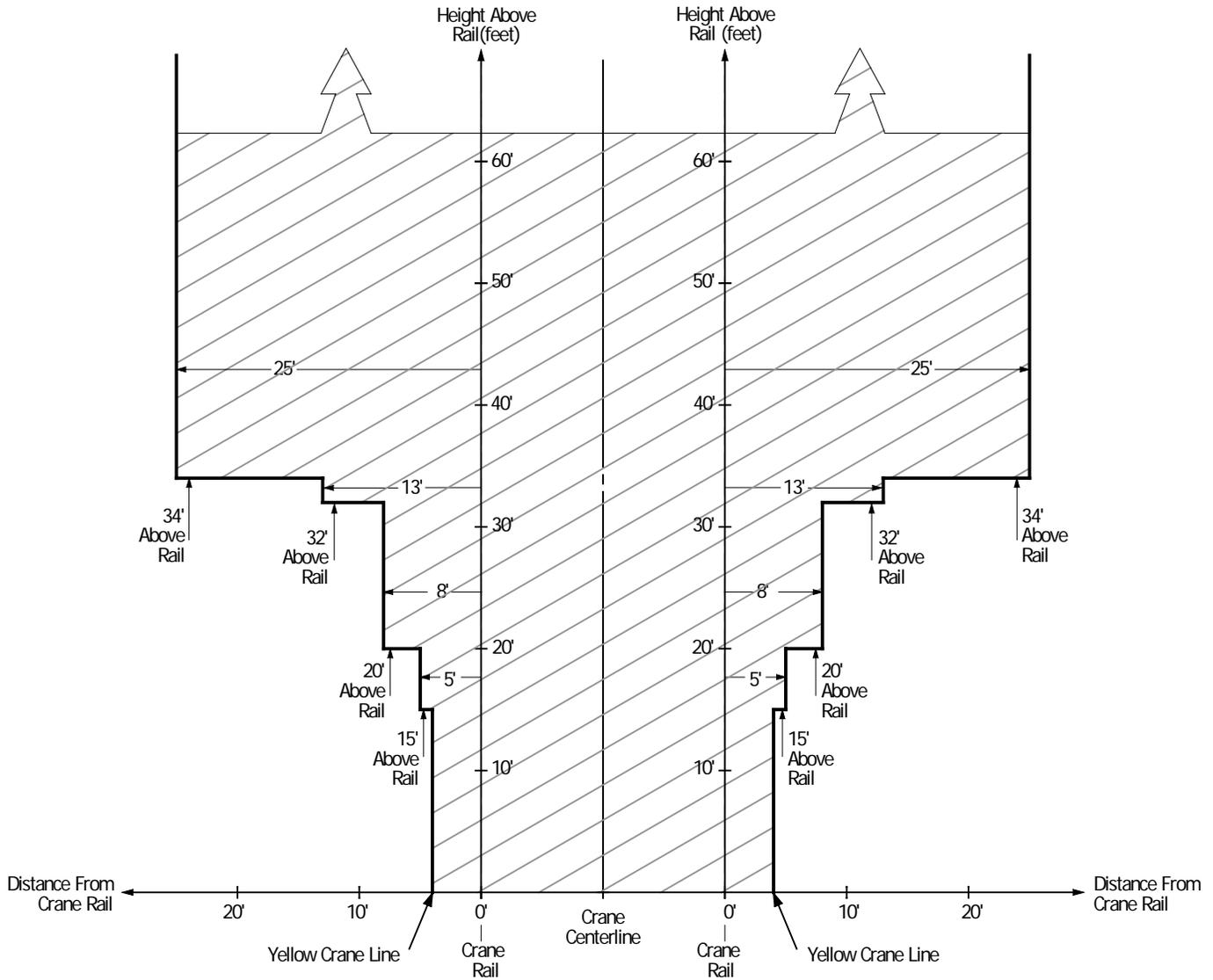
- 12.1 General. Any lifting and handling operations shall comply with the requirements of this section.
- 12.2 Acceptable Lubricants. To be added later.

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- 12.3 Ground Loading. All areas within the Shipyard have an allowable ground load limit (see Public Works Drawing 63752, latest revision, Allowable Ground Loading). Any work performed by the contractor shall take into account the allowable ground loading limit. Documentation that the allowable ground loading is not being exceeded shall be provided to the Contracting Officer prior to start of lifting and handling operations.
- 12.4 Crane Envelope. All work performed and any permanent equipment installed by the Contractor shall take into account the existing surrounding cranes space envelopes.
- 12.4.1 Bridge Cranes. The OSHA/CMAA 70 and ASME B30.2 required clearance of 3" top and 2" sides shall be maintained or exceeded.
- 12.4.2 Portal Cranes. The clearance shown in the following figure shall be maintained around portal cranes and tracks.

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Master - Portal Crane Clearance Envelope



NOTE: The Portal Crane Clearance Envelope drawing above encompasses all portal crane restrictions and shall be used when determining where it is safe to place permanent or semi-permanent building/ structure near portal crane rails. To locate any item inside this crane envelope requires approval from the Contracting Officer.

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12.5 Contractor Cranes

NOTE: THESE REQUIREMENTS APPLY TO ALL: CONTRACTOR CRANES, MULTI-PURPOSE MACHINES, FORKLIFTS, CONSTRUCTION EQUIPMENT, AND RIGGING GEAR

12.5.1 The following is a list of requirements that contractors shall comply with for all contracts that may result in the use of a category 1 or 4 crane, multi-purpose machines, forklifts, construction equipment and rigging gear when used on Navy property to lift suspended loads. Non-compliance with the requirements of this instruction may result in denial of access, stopping of operations, or removal from shipyard[[/NBK Bremerton site](#)] property. *[For the purposes of this instruction, the term “crane” shall include multi-purpose machines, material handling equipment, construction equipment used to lift loads suspended by rigging gear, unless otherwise specified.]*

12.5.2 References:

12.5.2.1 NAVFAC P-307, Management of Weight Handling Equipment

12.5.2.2 American Society of Mechanical Engineers (ASME) B30.3 (tower cranes), B30.5 (mobile cranes), B30.8 (floating cranes), B30.9 (slings), B30.20 (below the hook lifting devices), and B30.22 (articulating booms), B30.26 (rigging hardware); ANSI/ITSDF B56.6 (rough terrain forklifts); Safety Standards for Cableways, Cranes, Derricks, Hoists, Hooks, Jacks, and Slings,

12.5.2.3 CFR, Title 29, Chapter XVII, Part 1917, Marine Terminals.

12.5.2.4 CFR, Title 29, Chapter XVII, Part 1926, Safety and Health Regulations for Construction

12.5.2.5 CFR, Title 29, Chapter XVII, Part 1915, Occupational Safety and Health Standards for Shipyard Employment

12.5.2.6 OPNAVINST 5100.23, Navy Safety and Occupational Health Program Manual

12.5.2.7 EM 385-1-1, Safety and Health Requirements Manual, U.S. Army Corps of Engineers

12.5.2.8 NAVFAC Guide Specification NFGS-01525D, Safety Requirements

12.5.3 These requirements are solely intended to provide for the protection of Government property and personnel and are not intended to, and do not, in any manner whatsoever, relieve the contractor of its responsibility, including, without limitation, its responsibility for the protection of its equipment and personnel.

12.5.4 Notification Requirement. Contractor shall notify the contracting officer in advance of the intent of bringing a non-Navy owned crane onto Shipyard[[/NBK Bremerton site](#)] property (allows contracting officer to notify shipyard 3 days in advance of entry), or of any multi-purpose machines, material handling equipment, or construction equipment that may be used in a crane-like application to lift suspended loads. The contractor shall also specify when crane entry onto Shipyard[[/NBK Bremerton site](#)] property is scheduled during back shift, weekend, or holiday hours of operation. All entries shall be through a prearranged entry point. The following documentation shall be provided along with notification: *[documentation from the crane*

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manufacturer showing maximum outrigger load and maximum axle loads of the crane(s),] a copy of the Certification of Compliance (reference 12.5.2.1) and objective evidence of operator qualifications for cranes with rated capacities of 2,000 lbs. or greater. [Objective evidence of operator qualifications from a source that qualifies crane operators (i.e., a union, a government agency, or an organization that tests and qualifies crane operators) is not required for multi-purpose machines, material handling equipment, construction equipment used to lift loads suspended by rigging gear.] Failure to schedule or provide necessary documentation may result in the crane being denied access to the facility.

12.5.5 The contractor shall comply with applicable reference 12.5.2.2 standards (e.g., B30.3 for construction tower cranes, B30.5 for mobile cranes, B30.8 for floating cranes, B30.9 for slings, B30.20 for below the hook lifting devices, and B30.22 for articulating boom cranes, B30.26 for rigging hardware, and ANSI/ITSDF B56.6 for rough terrain forklifts). Barge mounted mobile cranes require the following:

- third party certification from an OSHA accredited organization (or from a state accredited organization for those states with OSHA approved state plans). Third party certification is not required for barge-mounted mobile cranes at naval activities in foreign countries.
- a load indicating device, a wind-indicating device, and a marine type list and trim indicator readable in one-half degree increments.

12.5.6 Certification of Compliance (reference 12.5.2.1). The contractor shall complete a certificate of compliance that the crane (or other machine if used to lift suspended loads) and rigging gear meet applicable OSHA and ANSI/ASME regulations (with the contractor citing which OSHA regulations are applicable, e.g., cranes/multi-purpose machines used in cargo transfer shall comply with reference 12.5.2.3; cranes/multi-purpose machines used in construction, demolition, or maintenance shall comply with reference 12.5.2.4; cranes/multi-purpose machines used in ship repair shall comply with reference 12.5.2.5; slings shall comply with ASME B30.9, rigging hardware shall comply with ASME B30.26). For cranes (or other machines used to lift suspended loads) and rigging equipment at naval activities in foreign countries, the contractor shall certify that the crane (or other machine) and the rigging equipment conform to the appropriate host country safety standards. The contractor shall also certify that all of its crane (or other machine) operators working on the naval activity have been trained not to bypass safety devices (e.g., anti-two block devices) during lifting operations, and that its operators, riggers and company officials are aware of the actions required in the event of an accident as specified in the contract. The contractor shall post certifications on the crane. When a crane on shipyard/[NBK Bremerton site] property is not authorized for use, the Certification of Compliance shall state, "Operation of this Crane is NOT Authorized."

12.5.7 The contractor shall certify (reference 12.5.2.1) that the crane or machine operator is qualified and trained for the operation of the crane to be used. For mobile and commercial truck mounted cranes with OEM rated capacities of greater than 2,000 pounds, the crane operator shall be designated as qualified by a source that qualifies crane operators (i.e., a union, a government agency, or an organization that tests and qualifies crane operators) *[Objective evidence of operator qualifications from a source that qualifies crane operators (i.e., a union, a government agency, or an organization that tests and qualifies crane operators) is not required for multi-purpose machines, material handling equipment, construction equipment used to lift loads suspended by rigging gear.]* Operators of cranes used in construction at activities covered by this instruction shall follow the qualification and certification requirements of 29 CFR 1926.1427. The contractor shall certify that signal persons used in construction work are qualified in accordance with 29 CFR 1926.1428. Proof of current qualification shall be provided.

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12.5.8 For multi-purpose machines, material handling equipment, and construction equipment used to lift loads suspended by rigging equipment, the contractor shall have proof of authorization from the machine OEM that the machine is capable of making lifts of loads suspended by rigging equipment. The contractor shall demonstrate that the equipment is properly configured to make such lifts and is equipped with a load chart.

12.5.9 All hooks used on cranes, hoists, other machines, and rigging gear shall have self-closing latches or the throat opening shall be "moused" (secured with wire, rope, heavy tape, etc.) or otherwise secured to prevent the attached item from coming free of the hook under a slack condition. The following exceptions apply and shall be approved by the contractor's technical organization: items where the hook throat is fully obstructed and not available for manual securing and lifts where securing the hook throat increases the danger to personnel such as forge shop, dip tank, or underwater work.

12.5.10 Loading Limitations.

CAUTION: Piers and waterfront areas such as along dry docks and quay walls may have load restrictions.

12.5.10.1 The contractor shall notify the contracting officer prior to moving a crane on a pier, dry dock, or other waterfront area. The contractor shall provide the contracting officer with the crane make, model, and configuration in which it is to be used. *[Configuration information shall include the maximum axle loads in a travel configuration and the maximum outrigger loads in the configuration in which the crane will provide lift(s)].*

12.5.10.2 The contractor shall comply with crane access routes and load limitations issued with the contract.

12.5.11 Prior to making any critical lift, the contractor shall provide a critical lift plan *[to the contracting officer]* for each of the following lifts: lifts over 75 percent of the capacity of the crane, hoist, or other machine (50 percent of the capacity of a barge mounted mobile crane's hoists) at any radius of lift; lifts involving more than one crane, hoist, or other machine; lifts of personnel (lifts of personnel suspended by rigging equipment from multi-purpose machines, material handling equipment, or construction equipment shall not be permitted); lifts made in the vicinity of overhead power lines; erection of cranes; and lifts involving non-routine rigging or operation, sensitive equipment, or unusual safety risks. The plan shall include the following as applicable:

12.5.11.1 The size and weight of the load to be lifted, including crane (or other machine) and rigging equipment that add to the weight. The OEM's maximum load capacities for the entire range of the lift shall also be provided.

12.5.11.2 The lift geometry, including the crane (or other machine) position, boom length and angle, height of lift, and radius for the entire range of the lift. Applies to both single and tandem crane/machine lifts.

12.5.11.3 A rigging plan, showing the lift points, rigging equipment, and rigging procedures.

12.5.11.4 The environmental conditions under which lift operations are to be stopped.

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12.5.11.5 For lifts of personnel, the plan shall demonstrate compliance with the requirements of 29 CFR 1926.1431.

12.5.11.6 For barge mounted mobile cranes, barge stability calculations identifying crane placement/footprint; barge list and trim based on anticipated loading; and load charts based on calculated list and trim specific to the barge the crane is mounted on. The amount of list and trim shall be within the crane manufacturer's requirements.

12.5.11.7 For lifts in the vicinity of overhead power lines (i.e., if any part of the crane or other machine, including the fully extended boom of a telescoping boom crane or machine, or the load could approach the distances noted in figure 10-3 of reference 12.5.2.1 during a proposed operation), the plan shall demonstrate compliance to 29 CFR 1926.1408 - 1411.

12.5.12 Contractor provided tower cranes used in construction must meet the additional requirements of CFR 1926.1435. The following additional documentation is required for contractor provided tower cranes (those cranes defined by ASME B30.3).

12.5.12.1 Foundation design and requirements.

12.5.12.2 Installation instructions.

12.5.12.3 Assembly and disassembly instructions including climbing/jumping instructions if applicable.

12.5.12.4 Operating manual, limitations, and precautions.

12.5.12.5 Periodic inspection and maintenance requirements.

12.5.13 Crane and Rigging Gear Accident Reporting and Record Keeping. Contractors operating cranes on Shipyard/[NBK Bremerton site] property shall report all WHE accidents that occur incidental to an operation, project, or facility as prescribed by paragraphs (12.5.13.1) through (12.5.13.3) requirements below. Contractors shall report directly to their respective contracting officer. There are two general categories of accidents as defined below. Crane accidents are those that occur during operation of a crane. Rigging gear accidents are those that occur when gear is used by itself in weight handling operation i.e., without a crane. *[Refer to rigging accident definition and requirements for mishaps during the operation of multi-purpose machines, material handling equipment, construction equipment used to lift loads suspended by rigging gear.]*

12.5.13.1 Crane Accident: For the purpose of this definition, it is assumed there is an "operating envelope" around any crane, and inside the envelope are the following elements:

1. The crane
2. The operator
3. The rigger(s) and crane walker
4. Other personnel involved in the operation (supervisor, mechanic, tag line handler, engineer, etc.)
5. The rigging gear between the hook and the load
6. The load

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7. The crane's supporting structure (ground, rail, etc.)
8. The lift procedure

12.5.13.1.1 Definition. A crane accident occurs when any one or more of the elements in the operating envelope fails to perform correctly during operation, including operation during maintenance, or testing resulting in the following:

1. Personnel injury or death. Minor injuries that are inherent in any industrial operation, including strains and repetitive motion related injuries, shall be reported by the normal personnel injury reporting process in lieu of these requirements.
2. Material or equipment damage
3. Dropped load
4. Derailment
5. Two-blocking
6. Overload (This includes load tests when the test load tolerance is exceeded.)
7. Collision, including unplanned contact between the load, crane, and/or other objects.

A component failure (e.g., motor burnout, gear tooth failure, bearing failure) is not considered an accident solely due to material or equipment damage unless the component failure results in damage to other components (e.g., dropped boom, dropped load, roll over, etc.). Items 3, 4, 5, 6, and 7 are considered crane accidents even though no material damage or injury occurs.

Exception. If a crane is used as an anchor point for a portable hoist/rigging gear, a rigging gear accident as defined in paragraph 12.5.13.2 below is not considered a crane accident if the crane is not being operated (no functions are in motion) at the time of the rigging gear accident, unless the accident results in an overload or damage to the crane, in which case it shall be reported as a crane accident.

12.5.13.2 Rigging Gear Accidents: For the purpose of this definition, it is assumed there is an "operating envelope" around any weight handling operation, and inside the envelope are the following:

1. Rigging gear and miscellaneous equipment
2. The user of the gear or equipment.
3. Other personnel involved in the operation (supervisor, mechanic, tag line handler, engineer, etc.)
4. The load
5. The gear or equipment's supporting structure
6. The load's rigging path
7. The rigging procedure

12.5.13.2.1 Definition. A rigging gear accident occurs when any one or more of the elements in the operating envelope fails to perform correctly during weight handling operations resulting in the following:

1. Personnel injury or death. Minor injuries that are inherent in any industrial operation, including strains and repetitive motion related injuries, shall be reported by the normal personnel injury reporting process of the activity in lieu of these requirements.

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2. Material or equipment damage that requires the damaged item to be repaired because it can no longer perform its intended function. This does not include superficial damage such as scratched paint, damaged lagging, or normal wear on rigging gear.
3. Dropped load.
4. Two-blocking of cranes and powered hoists.
5. Overload. (This includes load tests when the test load tolerance is exceeded).

A component failure (e.g., motor burnout, gear tooth failure, bearing failure) is not considered an accident solely due to material or equipment damage unless the component failure results in damage to other components (e.g., dropped load, damaged load, etc.). Items 3, 4, and 5 are considered accidents even though no material damage or injury occurs.

12.5.13.3 The contractor shall notify the contracting officer as soon as practical, but not later than four hours, after any WHE accident. The contractor shall secure the accident site and protect evidence until released by the contracting officer. The contractor shall conduct an accident investigation to establish the root cause(s) of the accident. Crane operations shall not proceed until cause is determined and corrective actions have been implemented to the satisfaction of the contracting officer. The contractor shall provide the contracting officer within 30 days of any accident a Crane and Rigging Gear Accident Report using the form provided in reference 12.5.2.1 consisting of a summary of circumstances, an explanation of causes(s), photographs if available, and corrective actions taken. These notifications and reporting requirements are in addition to those promulgated by reference 12.5.2.6 and related claimant instructions.

12.5.14 Each contractor shall perform the following actions prior to conducting crane operations on Shipyard[[/NBK Bremerton site](#)] property:

12.5.14.1 Inspection Requirements. It shall be the sole responsibility of the contractor to assure the contracting officer and/or designated Shipyard personnel that the crane and associated rigging gear are in good working order and safe for use.

12.5.14.1.1 Crane Inspection. Perform pre-operational inspection of the crane in the presence of a representative of the contracting office of the crane prior to starting work on Shipyard[[/NBK Bremerton site](#)] property. Inspection shall meet all applicable reference 12.5.2.2, reference 12.5.2.7 (for NAVFAC construction contracts), and OSHA requirements.

12.5.14.1.2 Wire Rope Inspection. Perform a Wire Rope Inspection in the presence of a representative of the contracting office to applicable reference 12.5.2.2, reference 12.5.2.7 (for NAVFAC construction contracts), and OSHA requirements.

12.5.14.1.3 Rigging Gear Inspection. Perform a Rigging Gear Inspection in the presence of a representative of the contracting office to applicable reference 12.5.2.2, reference 12.5.2.7 (for NAVFAC construction contracts), and OSHA requirements.

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SITE SPECIFIC REQUIREMENTS
FOR
NAVAL BASE KITSAP,
BANGOR, WASHINGTON

1 SCOPE

This supplement to the Statement of Work provides site specific contractor requirements or contract services performed at Puget Sound Naval Shipyard and Intermediate Maintenance Facility (PSNS&IMF), Naval Base Kitsap (NBK), Bangor, Washington. 7000 Finback Circle, Silverdale, WA 98315-7000. The NBK, Bangor includes Delta Pier, Intermediate Maintenance Facility (IMF), and any tenant activities within NBK boundaries, and ships moored within the NBK.

2 APPLICABLE DOCUMENTS

The following documents form a part of this Statement of Work. Unless otherwise indicated, the issue in effect on the issue date of a request for proposals or request for quotes shall apply.

Washington State Administration Code (WAC)

WAC 173-60	Maximum Environmental Noise Levels
WAC 173-303	Washington Dangerous Waste Regulations
WAC 173-350	Solid Waste Handling Standards

Code of Federal Regulations (CFR)

29 CFR 1910	Occupational Safety and Health Standards (OSHA)
29 CFR 1915	Occupational Safety and Health Standards for Shipyard Employment
29 CFR 1926	Safety and Health Regulations for Construction
40 CFR 261	Identification and Listing of Hazardous Waste

Corporate Lifting and Handling Manual (CLHM)

Vol 1 Ch 8	Contractor Cranes and Rigging
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Environmental Protection Agency (EPA)

EPA 832-R-92-005	Storm Water Management for Construction Activities
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Washington State Department of Ecology (WSDE)

Washington State Stormwater Management Manual (SMM)	for Western Washington
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Puget Sound Clean Air Agency Washington State Department (PSCAA)

PSCAA Regulation	Regulation I, II, and III
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American National Standards Institute (ANSI)

American Society of Safety Engineers (ASSE)

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ANSI/ASSE Z359.1 Safety Requirements for Personal Fall Arrest Systems,
Subsystems and Components

3 GENERAL REQUIREMENTS

3.1 Regular Working Hours. All work is to be performed during Bangor Site's regular work hours 6:30 a.m. to 3:00 p.m. Monday through Friday except for Federal Holidays. Contractor requests to work on Saturdays, Sundays, holidays, or outside the regular or specified hours/days, shall be submitted to the receiving activity point of contact a minimum of five (5) work days prior to the anticipated work date. In no event shall the contractor carry out work outside the hours and days specified in the contract without prior approval.

3.2 Federal Holidays/ PSNS&IMF Holiday Shutdown. No work shall be performed on federal holidays or the period between Christmas and New Year. Contractor requests to work on a federal holiday shall be submitted to the receiving activity point of contract a minimum of five (5) work days prior to the anticipated work date. Request to work the holiday shutdown shall be submitted three (3) months prior to the shutdown.

3.3 STORAGE OF EQUIPMENT AND SUPPLIES. The Contracting Officer will designate outdoor storage space for the storage of equipment and supplies but will assume no liability for the protection and safety thereof. This location may not be on Delta Pier, depending on available space and security restrictions.

3.4 GENERAL RESTRICTIONS

a. Persons entering onto government property are subject to all applicable regulations, directives and instructions. All such persons, including their vehicles are, as a condition of access, subject to searches.

b. The Contractor shall comply with any Safety and Accident Prevention Provisions of the contract and technical specification.

c. For safety reasons, all on-site contractor and subcontractor personnel shall be able to read, write and speak the English language fluently.

d. Contractor personnel are not allowed to hunt or to fish on Government property. If an animal is accidentally injured or killed, Base Security shall be notified immediately.

e. The use of Citizen's Band (CB) radio is prohibited. If VHF or walkie-talkie type radio is required for operation during construction, approval will be on a case-by-case basis. The Contractor is required to submit the frequency desired transmitter power and type of antenna to be used, for prior approval.

f. Contractor personnel shall not bring onto Government property any alcoholic beverages, illegal drugs, guns, or concealed weapons. Camera may be brought on such property only if specifically authorized.

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3.5 WORK RESTRICTIONS

3.5.1 Delays, Suspensions, and/or Restrictions

- a. Contractor operations are subject to reasonable delays, suspensions, and/or restrictions because of emergencies, alerts, drills, equipment movements and other such activities.
- b. At no time shall work unreasonably interfere with normal traffic flow. Fire lanes shall be kept open at all times.

3.5.2 Delays inside NBK-Bangor and Delta Pier Area. Because of the extraordinary security requirements in the NBK-Bangor and Delta Pier Operations Area, delays due to security drills, alerts, or missile movements in the NBK-Bangor and Delta Pier Operations Area can be expected to be more frequent and longer duration than would be expected elsewhere on the base. There is no predictable pattern, but delays averaging up to forty-eight (48) hours per month shall be expected and shall not be the cause for a claim or a change order.

3.6 SPECIAL SCHEDULING REQUIREMENTS

- a. Have materials, equipment, and personnel required to perform the work at the site prior to the commencement of work.
- b. Permission to interrupt any Activity, roads, railroads, and/or utility service (i.e., utility cutovers) shall be requested in writing a minimum of fifteen (15) calendar days prior to the desired date of the interruption.
- c. Core drilling through concrete crane beam must be coordinated a minimum of fifteen (15) calendar days in advance. Access to be coordinated with operational requirements of the pier.

3.7 Submittals. All documentation, correspondence, and/or communication specified in the Statement of Work shall, unless specified otherwise, be submitted to the Contracting Officer (CO) or the Activity Point of Contact (APOC).

3.7.1 Agency-Specific Forms or Publications. The Contracting Officer has the following agency-specific forms or publications that will be provided to the Contractor at time of award:

- a. Waste Information Sheet (WIS) (Attachment 1)
- b. SUBASE Fire Prevention Practices (Attachment 2)
- c. Foreign Interest Determination Questionnaire PSNS/IMF 5531-1 (Attachment 3)
- d. Badge Authorization Visitor's Request (BAVR) (Attachment 4)

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- e. WRA Vehicle Request (Attachment 5)
- f. AIS Survey, (PSNS&IMF 5239/49 (Attachment 6)
- g. Crane and Rigging Accident Report NAVFAC P-307 Chapter 12-4 (Attachment 7)

3.8. Environmental and Safety Compliance, General Awareness Training, and Regulatory Interface

- 3.8.1 Contractors working at the Naval Base Kitsap (NBK) are required to perform their work in compliance with all Federal, State, and local regulations pertaining to the environment at all times.
- 3.8.2 The Contractor will comply with all environmental regulatory notices or orders, including payment of any fine, attributable to the Contractor's conduct, regardless of whether or not the Contractor is the name recipient of the notice, order or fine.
- 3.8.3 The Contractor will perform all duties and responsibilities for environmental and safety compliance set forth in this contract. The Contracting Officer may use the Contractor's failure to comply with environmental and safety requirements as a basis for a Termination for Cause under clause FAR 52.212-4(m).
- 3.8.4 Failure to comply with or repeated violations of local, State, or Federal regulations can result in the violator(s) losing their access to the NBK or the operation being suspended until the Contractor can provide properly trained and/or supervised personnel. Certification of training shall be presented upon request of the Contracting Officer. The Contractor's (including its employees and subcontractors') loss of access to the NBK will not be considered by the Contracting Officer as excusable delay forming a basis for a modification to the required completion date nor will suspension of NBK access form the basis for any equitable adjustment. A Contractor whose access to all or part of the NBK has been denied, or who intends to use subcontractors denied that access, is not eligible for contract award.
- 3.8.5 The Contractor will conduct periodic routine inspections of the work-site and storage areas to maintain compliance with the cleanliness, material and waste management, and pollution controls. The Contractor will provide oversight on the work performed by employees and subcontractors to ensure compliance with the safety and environmental requirements in this contract.
- 3.8.6 All contacts with environmental regulatory agencies shall be coordinated with the Contracting Officer in advance. Documents requested by a regulatory agency must be turned over to the Contracting Officer. The Contracting Officer will review and forward document(s) to the requesting agency. The contractor shall provide the Contracting Officer with a copy of any related correspondence record of communication between the contractor and the regulatory agency in a timely manner.

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- 3.9 Definitions –
- 3.9.1 Naval Base Kitsap (NBK). The NBK, Bangor, includes a Core Area, Operations area, Delta Pier, and any tenant activities within NBK boundaries, and ships moored within the NBK.
- 3.9.2 Construction and Demolition (CD) Waste. Non-dangerous largely inert waste, resulting from the demolition, razing, or construction of buildings, roads, and other man-made structures. Plaster (i.e., sheet rock or plaster), yard wastes, stumpage, or any other materials that are likely to produce gases or leachate during the decomposition process are not considered to be CD waste for the purposes of this definition. Construction and demolition items that are recycled, and PCB or asbestos containing materials, are not considered CD waste for the purposes of this contract.
- 3.9.3 Contractor. The term Contractor refers to both the prime Contractor and its subcontractors. The prime Contractor shall ensure that its subcontractors comply with the safety and environmental provisions of this contract
- 3.9.4 Dangerous Waste. Defined under WAC 173-303. This includes, but is not limited to, hazardous waste, extremely hazardous waste and state-only dangerous waste.
- 3.9.5 Delta Pier. The Delta Pier is the secured area within Naval Base Kitsap at Bangor. There are additional security gates and turnstiles to enter the Delta Pier. Personnel access requires a security badge. Vehicle access is extremely limited. (See Security Requirements of this enclosure.)
- 3.9.6 Fugitive Dust. Particulate matter or any visible air contaminants (smoke, dust, or fume) other than uncombined water that is not collected by a capture system and emitted from a stack, but is released to the atmosphere at the point of generation.
- 3.9.7 Hazardous Material. Any material which, by virtue of its potentially dangerous nature (e.g., toxic, flammable, corrosive, oxidizing, irritating, sensitizing, reactive), requires control in its use, packaging, handling, storage, or stowage, to assure safety to life and property. This definition is intended to apply to proprietary industrial, commercial, or locally prepared blends, mixtures, formulations, or compounds of gases, liquids, and solids intended for use at the job site.
- 3.9.8 Hazardous Waste. See definition for dangerous waste. The terms are used synonymously.
- 3.9.9 Rubbish. Common trash that has been determined or designated not to be a dangerous waste, hazardous substance, problem waste, construction/demolition waste, used oil, sanitary waste, or garbage.
- 3.9.10 Solid Waste. Any solid, semi-solid, or liquid waste that has not been designated as dangerous waste, asbestos, or PCB.

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- 3.9.11 Volatile Organic Compound (VOC). An organic compound that participates in atmospheric photochemical reactions. This excludes all compounds determined to have negligible photochemical reactivity by the U.S. Environmental Protection Agency and listed in 40 CFR 51.100(s) in effect July 1, 1998.

4 MANAGEMENT OF HAZARDOUS MATERIALS

- 4.1 WASTE MANAGEMENT PLAN. Contractor shall submit a Hazardous Material and Waste Plan to the Government Appointed Point of Contact (APOC). The APOC will coordinate with the Base Environment Office (BEO) for contractor Waste Control training. The contractor must attend this training prior to commencement of work by the contractor. The contractor shall allow 2 hours for the training.
- 4.2 HAZARDOUS MATERIAL CONTROL AND WASTE PLAN TEMPLATE. The following documents provide a template for the Hazardous Material Control and Waste Plan. Spill Response Procedures are also provided.

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HAZARDOUS MATERIAL and WASTE PLAN TEMPLATE
 (For Project contractors working within NBK Bangor)

Name of company: _____
 Work Request Number: _____
 Project Name: _____ Contact Number: _____
 This Hazardous Material and Waste Management Plan (HMW Plan) is submitted to the Base Environmental Office (BEO):

4.3 HAZARDOUS MATERIAL CONTROL

- A. Estimated HM Table (See sample below): Provided by the contractor. The Estimated HM Table provides quantities of each hazardous material to be used on this project. Copies of all MSDSs shall be submitted to the BEO and also be kept on site where the work is being performed.
- B. Contractor shall not use HM composed of any of the following chemicals or substances: Leads, chromium, mercury, phenols, trichloroethylene, chlorofluorocarbons, halon, PCBs, asbestos, silica sand (for use as blasting agent), Class I ODS, radioactive materials or instruments capable of producing ionizing radiation, and chemicals listed in 40 CFR 355.50 Appendix B.
- C. If additional HM is required for this project, an MSDS shall be submitted to the BEO for approval before the HM is brought on board Naval Base Kitsap at Bangor. The contractor shall not bring on board Naval Base Kitsap at Bangor any HM until approved by the BEO.
- D. All containers of hazardous material shall be resealed, placed in a secure area while on base, and transported off base for reuse of material at other contractor projects. The Contractor shall not generate any contractor generated hazardous or dangerous waste on this project.

**Sample
 Estimated Hazardous Material Table**

Hazardous Material Name	Part #, MSDS # or NSN #	Quantities to be used (lbs)
Glass Bead blast Agent	MSDS # 1434	6000 lbs
Acrylic Latex Paint	Part # B66WW10	400 lbs

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4.4 WASTE CONTROL

- A. **Training:** The contractor has met with the BEO and has attended Waste Facility Site Specific Training.
- B. **WIS Forms:** The contractor has submitted completed NBK Bangor Waste Information Specification (WIS) forms for each waste expected to be generated during the course of this project and has obtained the BEO final waste designation along with BEO WIS instructions. If additional wastes are produced or if changes occur to already WIS'd wastes after this plan is approved, then the contractor shall submit new or updated WISs for each waste to the BEO, for designation by the government. (Attachment 1).
- C. **A specific contractor waste handling procedure** is provided below, for each waste identified within the Design Specification Estimated Waste Table (see attached table excerpted from Design Spec).

(Examples)

1. Hazardous/Dangerous Wastes:

- a. The WIS for _____ shall be contained in contractor provided containers, and turned into the government by following all the Originator instructions on side 2 of the WIS. The contractor shall ensure that all HW is picked up by the WSBOSC within 72 hours of the date the waste was first originated.
- b. The WIS for _____ shall be contained in contractor provided containers, and turned into the government by following all the Originator instructions on side 2 of the WIS. The contractor shall ensure that all HW is picked up by the WSBOSC within 72 hours of the date the waste was first originated.

2. Refuse and Recyclable Wastes (Government and Contractor Generated):

- a. Refuse shall be placed into contractor provided covered refuse containers in an on-site secure area and shall be hauled off base by the contractor to Olympic View Transfer Station (OVTS) at the end of each working day.
- b. Recyclable vegetation shall be placed into contractor provided covered refuse containers in an on-site secure area and shall be hauled off base to _____ at the end of each working day.
- c. Recyclable Scrap Metal shall be hauled to _____.

- D. Refuse and Recycle Quantities: All refuse and Recycle quantities shall be provided to the Contracting Officer after each load is delivered to a permitted disposal/recycle facility.

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Sample
ESTIMATED WASTE DESIGNATION TABLE

PROJECT No:			PROVIDED BY BEO
WASTE NAME: Provided By Design Engineer	WASTE COMPOSITION: PROVIDED BY DESIGN ENGINEER	QTY (LBS)	ESTIMATED DESIGNATION
SEGREGATED:			
Refuse	Non-painted construction debris	300 lbs	R
Vegetation		500 lbs	RM
Painted Debris (exceeds TCLP limits)	Painted GWB, Paneling, window trim, door trim	1000 lbs	HW
Scrap Metal		7500 lbs	RM
<p>*Estimated Designation: HW = Hazardous Waste, R= Refuse, S= Sewage, RM= Recyclable Material Note: HW: must be properly labeled and turned over to the government per WIS instructions, for government disposal. R, RM or S: Must be disposed or recycled by contractor via government approved and permitted facility. This table does not take the place of a WIS Form. The above table is included to provide estimated Government waste designations for wastes originating from the project site during site preparation, demolition, construction and any other operations. Any additions or mixing of wastes by the contractor into the wastes listed above shall most probably result in the estimated designations being changed during the WIS process and all such wastes disposed of at the contractor's expense. Final WIS designations shall be provided by Naval Base Kitsap at Bangor, BEO within 2 weeks of receiving completed Side 1 of WIS from the project contractor, unless lab sample or other additional data is required, which requires up to an additional month. Mixing or co-mingling of waste is prohibited unless approved by Naval Base Kitsap at Bangor, BEO and supported by value Engineered Change Proposal.</p>			

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4.4 SPILL RESPONSE PROCEDURES

The Contractor shall follow the following spill response procedures:

- A. Emergency Spill Event: In the event of an emergency Spill Event, ABC, Inc. will immediately notify the Naval Base Kitsap at Bangor Central Dispatch at (360) 396-4444. We will then isolate the spill area, stay up wind and uphill of the spill and wait for direction from the Naval Base Kitsap at Bangor fire department. We will maintain a safe distance and attempt initial spill containment only if it can be done without endangering the safety and health of our workers.
- B. Non-emergency Spill Event: In the event of a non-emergency spill event, ABC, Inc. will follow the non-emergency spill procedures listed in Section D below.
- C. A guide to telling the difference between an emergency and non-emergency spill is as follows:

General Responsibilities: Everyone within Naval Base Kitsap at Bangor has the responsibility to take proper action when confronted with a spill. Depending on the size and nature of the spill, a person may attempt to clean up the spill themselves, but only if they are trained. A person should ask themselves the following questions:

- (1) Are sufficient personnel available to clean up the spill?
- (2) Do I know the hazards of the spilled material?
- (3) Do I know how to protect myself from those hazards?
- (4) Is the spill contained within the building? (Material entering the air, land, or water, or any drain, outlet, or exhaust fans is not contained.)

If the answer is "NO", or "I DON'T KNOW", to any of these questions, then LEAVE THE SPILL ALONE and call the Naval Base Kitsap at Bangor Fire Department at extension 6-4444

- D. Non-emergency spills will be cleaned up by the contractor.

5 NOT USED

6 NOT USED

7 WATER POLLUTION AND BEST MANGEMENT PROACTICES (BMPs)

- 7.1 Water Pollution Control. Comply with the Federal Clean Water Act, 40 CFR 122, and 40 CFR 403. Provide a WIS for each unique type of wastewater and fill out the blank label to be provided by the Government. In no event shall waste or any other material be disposed of into Hood Canal or the storm sewer system. Discharge to a sanitary sewer drain (e.g., sinks & toilets) is prohibited unless prior authorization has been obtained (via the Waste Information Sheet). Allowing non-approved discharges may result in a direct violation of regulations and/or permits issued by the Environmental Protection Agency (EPA), or the Washington State Department of Ecology (WSDE).

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- 7.1.1 In no event shall waste or any other material be disposed of in the storm sewer system.
- 7.1.2 This system is normally indicated with a metal fish tag stating "DO NOT DISCHARGE - - DRAINS TO BAY".
- 7.1.3 Discharge to a sanitary sewer drain (e.g., sinks & toilets) is prohibited unless prior authorization has been obtained.
- 7.1.4 Pamphlets entitled WATER POLLUTION PREVENTION PRACTICES (BMPs) and "Contractor's Guide to Environmental Compliance", PSNS&IMF P5090 (4) are available from the APOC upon request. The pamphlet and guide will help explain what types of practices need to be identified and utilized for contractor activities.
- 7.1.5 Pollution prevention practices include but are not limited to: good housekeeping; proper materials storage and handling; drip pans, control of dust and overspray, over water protection, protection of storm drains, and preventive maintenance.

8 AIR POLLUTION CONTROL AND REPORTING

- 8.1 Containers of paint, epoxy, solvents, or other volatile organic compounds (VOC) are not to be left open to the atmosphere unless they are being used. All containers are to be secured at the end of each shift. Evaporation of solvents shall not be used as a means of minimizing or disposing of dangerous waste.
- 8.2 Report the usage of Volatile Organic Compounds (VOC) and Toxic Air Contaminants to the Contracting Officer. Completion and submission of the Contractor Hazardous Material Inventory, specified in the Hazardous Material section, will satisfy this reporting requirement.
- 8.3 Utilize Best Available Control Technology (BACT) to minimize dust emissions. The control measures mentioned below merely represent some examples of control techniques necessary to prevent fugitive emissions and are not to be construed to represent an all inclusive list of BACT.
 - 8.3.1 Use controls at all times when visible dust emissions are created during both working and non-working periods. Dry power brooming shall not be permitted. Instead, use vacuuming, wet mopping, wet sweeping, or wet power brooming.
 - 8.3.2 Employ water sprays to prevent visible emissions of dust generated by demolition, handling, and transport. Materials removed during renovation shall either be carefully lowered to the ground (not thrown) or transported via dust-tight chutes into the disposal container. Discharge of water run-off into the storm drain is not permitted.
 - 8.3.3 Refrain from grinding, blasting, and painting during windy periods when other BACTs are not effective.

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8.3.4 Gasoline transport tanks may not be used unless a valid inspection sticker is displayed .

9 HEALTH AND SAFETY

9.1 Personal Health and Safety. Contractor work performed at the NBK is an industrial area and subject to OSHA Standards. The Contractor shall conduct all work in a safe manner and shall provide all necessary safety equipment.

9.1.1 Prior to starting work, the Contractor representative(s) shall meet in conference with the Government APOC, Supervision, and other necessary Government personnel to discuss and develop mutual understanding relative to environment, safety, methods and schedules, security, waste management and any other subject necessary for a smooth and successful operation.

9.1.2 The Contractor shall make the maximum use of low-noise emission equipment as certified by the Environmental Protection Agency. Applicable regulatory requirements for maximum environmental noise levels are published in the Washington Administrative Code, WAC 173-60. The Contractor shall provide hazardous noise signs and label equipment wherever work procedures and equipment produce sound-pressure levels greater than 84 dB (A) steady state and/or 140 dB peak sound pressure level for impact or impulse noise, regardless of the duration of the exposure.

9.2 Compliance with OSHA. The Contractor will perform all work in accordance with the most current OSHA rules and regulations issued by the Department of Labor, 29 CFR Parts 1910, 1915, and 1926 as applicable.

9.3 Safety Equipment. During the performance of work under this contract, all Contractor personnel shall have in their possession and shall properly wear OSHA and ANSI approved personnel protective safety equipment (i.e. fall-protection devices, hard-hats, steel toe safety shoes, safety glasses and hearing protection).

9.3.1 The Contractor shall provide all appropriate safety barricades, signs, and signal lights.

9.4 Operator Licenses. If the Contractor requires the use of contractor provided cranes, aerial work platforms or other equipment, the Contractor shall submit proof to the APOC, that the operator is trained, qualified and licensed (if applicable) for the operation of the equipment to be used. **(Submittal)**

9.5 Safety Compliance. The Contractor's workspace may be inspected by OSHA periodically. The Contractor will abate violations caused by its subcontractors or employees.

9.5.1 The Contractor shall provide assistance to the Safety Office escort and the federal OSHA inspector if a complaint is filed. Fines levied on the Contractor by OSHA offices due to safety/health violations shall be paid promptly by the Contractor.

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- 9.5.1.1 Failure to comply with or repeated violations of OSHA safety requirements can result in the violator(s) losing their access to the Government facility or the operation being suspended until the contractor can provide properly trained personnel. Certification of training shall be presented upon request by the Contracting Officer.
- 9.5.2 Abatement of violations will be the responsibility of the Contract and/or the Government as determined by the Contracting Officer.
- 9.5.2.1 The contractor shall ensure that any additional measures that the Contracting Officer or the APOC determines to be reasonably necessary for safety are taken.
- 9.6 Voluntary Protection Program (VPP)
- 9.6.1 PSNS & IMF is a Star site in OSHA's Voluntary Protection Program. The following OSHA web site provides additional information on VPP:
<http://www.osha.gov/dcsp/vpp/index.html>.
- 9.6.2 Contractors are required to develop and implement effective safety and health management systems. This includes, but is not limited to, submission of their safety plan in their bid package, specifically including methods to ensure compliance with OSHA regulations during work accomplishment. Example: If the work to be accomplished involves lockout/tagout, confined space entry, fall protection, respirator use, then the contractor will submit their safety plan on those items.
- 9.6.3 PSNS & IMF is required for injury reporting purposes to include contractors and their subcontractors, who have worked at Bangor a total of 1,000 or more hours in at least one calendar quarter.
- 9.6.4 Use of OSHA 300 Log is required and a copy is to be submitted to PSNS & IMF Code 106.23 via the APOC by the end of the project or by 10 January for the previous calendar year, whichever comes first. Negative reporting is required. The submitted log is to identify only work at PSNS & IMF (Bangor Site) meeting the criteria in the paragraph above.
- 9.6.5 The contractor is responsible for conducting routine inspections of the work and non-work areas, under the contractor's cognizance. The purpose of the inspections is to document the timely identification, correction, and tracking of uncontrolled hazards. Provide this documentation upon request.
- 9.7 Accident Reporting. The Contractor shall submit to the Contracting Officer, using the cognizant regulatory agencies prescribed forms, exposure data and all accidents resulting in death, trauma, or occupational disease. Accident reports shall be submitted within 24 hours of their occurrence.
- 9.7.1 The Contractor shall submit to the Contracting Officer a full report of damage to Government property or equipment by Contractor employees. Damage reports shall be submitted within 24 hours of the occurrence.

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- 9.8 Emergency Medical Care. Only emergency medical care is available in Government facilities to Contractor employees who suffer on-the-job injury or disease. Care will be rendered at the rates in effect at the time of treatment. Reimbursement shall be made by the Contractor to the Naval Regional Medical Center Collection Agent upon receipt of statement.
- 9.9 Fire Protection. The Contractor and his employees shall know where the fire alarms are located and how to turn them on. The Contractor shall handle and store all combustible supplies, materials, waste, and trash in a manner that prevents fire or hazards to persons, facilities, and materials. Contractor employees operating critical equipment shall be trained to properly respond during a fire alarm or fire.
- 9.9.1 Contractor fire-watch training. Contractors that anticipate welding, burning, cutting or grinding during the performance of the contract, Fire Watch training is required. Contractors require access badges to attend the training. This training is provided without charge, is typically held on the second Friday of each month at Puget Sound Naval Shipyard & Intermediate Maintenance Facility Bremerton Site, and is approximately one (1) hour in length. Contractors shall provide a list of names and other required information to the Government Point of Contact of those who will be attending the training. The Government APOC will coordinate this training with the Government Fire Inspector. The contractor shall coordinate this training with the Government Point of Contact. **(Submittal)**
- 9.9.2 Any hot work (welding, burning, grinding, cutting, etc.) requires a hot work permit prior to starting such work. Contractors shall obtain this permit from the PSNS & IMF Fire Department via the APOC.
- a. Explosive carrying vehicles are identified by Department of Transportation explosive placards. Convoys are additionally identified with the words "CONVOY DO NOT PASS" and flashing red light on the lead and trailing vehicles. Do not attempt to overtake or pass convoys.
 - b. Fuel shall be stored according to standard safety procedures; i. e., in original or approved containers.
 - c. No mercury or mercury containing devices, instruments, etc. shall be brought into IMF areas. Thermometers shall be organic fluid type.
 - d. The contractor shall not use any heat or spark producing device or perform drilling, grinding, burning, soldering, brazing, welding or otherwise use an open flame without obtaining a burn permit from the Contracting Office.
 - e. Matches, lighters or flame producing devices are not permitted in buildings or area containing explosive or flammable materials. Strike-anywhere matches are not permitted on NBK-Bangor. Smoking is allowed on in posted areas.
 - f. Smoking in vehicles inside the NBK-Bangor Operations Area (all property north of the fence with a gate located on Trigger Avenue by the railroad crossing) is prohibited.
 - g. See (Attachment 2) "SUBASE Fire Prevention Practices" for additional information and emergency phone numbers.

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- 9.10 Confined Spaces. Entry into a confined or enclosed space by personnel for any purpose, including hot work, shall be prohibited until the qualified person has conducted appropriate tests to ensure the confined or enclosed space safe for the work intended. Contractor operations which involve confined or enclosed space entry or work are governed by 29 CFR 1915, OSHA Regulation for Shipyard Industry, for all operations other than construction sites segregated from existing facilities or ships under overhaul. Where Contractors are performing work at PSNS & IMF, the following provisions shall be observed:
- 9.10.1 The Contractor, when performing Maritime Operations that involves combustible and hazardous material, shall provide NFPA (National Fire Protection Association), Certified Marine Chemist and/or competent person as appropriate under the provisions of 29 CFR 1915.
- 9.10.2 The Contractor, when performing Non-Maritime Operations, in segregated sites, shall provide for confined space safety in accordance with 29 CFR 1910.146 or 29 CFR 1926 as applicable.
- 9.10.3 Where Government and Contractor personnel are to occupy the same confined space for a given task or operation, both parties shall certify the area as gas free and notify the other party of their findings.
- 9.11 Energy Control and Tagout
- 9.11.1 The Government will provide the Contractor with a copy of the lock out and tag out (LOTO) controls used by the Government facility where the equipment is to be placed.
- 9.11.1.1 After contract award and prior to starting work, the Contractor and their subcontractor(s) shall submit and exchange LOTO-plus program procedures with the APOC. The contractor is required to meet with the APOC to discuss the LOTO s-plus interface. The Contractor shall use their LOTO-plus procedures IAW 29CFR 1915.89.
- 9.11.2 Energy Isolating Devices. The equipment shall be provided with energy isolating devices (e.g., power switches, safety switches, circuit breakers, valves, etc.) that protect personnel from the release of hazardous energy. The devices shall be designed and manufactured such that they can be padlocked in the user-selected position (ON or OFF, OPEN or CLOSED) to prevent inadvertent or unauthorized change. All energy isolating devices installed or modified shall be capable of being locked **and be** integral to the equipment installed. This includes both mechanical and electrical devices. An energy-isolating device shall be installed as the first energy control device on all major components of the system such that the component can be isolated at the component level.
- 9.12 Restricted Use of Certain Colors. The NBK uses the colors yellow, blue, and red to identify specifically controlled materials. These colors are not to be used for any

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other purpose. Yellow plastic tape, bags, coverings, or other wrapping materials are strictly prohibited. Blue must be used for asbestos identification only and clearly identified as asbestos. Red must be used only for Infectious Medical Waste and clearly identified as such.

9.13 Smoking

9.13.1 Smoking is allowed in designated smoking areas (DSA) only. Any smoker may use any designated smoking area. Smokers may not smoke or carry ignited tobacco products outside of DSA.

9.13.2 Where conflicts arise between the rights of non-smokers and the rights of smokers, the rights of non-smokers to a smoke-free airspace shall prevail.

9.13.3 The Contractor shall use existing Government designated smoking areas.

9.13.4 DSA's must be a minimum distance of 10 feet from sidewalks, passageways, building doorways, open windows, intake ventilation air ducts, and eating areas. Comply with posted distance requirements for any nearby hazardous, flammable, or toxic material, which may be more stringent.

9.13.5 Dry docks are limited to one DSA. The Government will establish the DSA in each dry dock with an active project. Contractors may establish a DSA in non-active dry docks.

9.13.6 Smokeless tobacco is prohibited during meetings, briefings, training sessions, and inspections.

9.13.7 Dispose of tobacco waste in appropriate receptacles and in a sanitary manner. Spitting in wastebaskets, common trash containers, on the ground, or on other structural features out of doors is prohibited. Place saliva and smokeless tobacco waste mixtures in closeable containers. Empty reusable containers for smokeless waste in toilets or dispose of closed containers as common trash.

9.14 Eating Facilities/Sanitation. PSNS&IMF prohibits consumption of food and beverages except in designated eating areas. Per the Code of Federal Regulations, 29 CFR 1910.141(g), Sanitation, employees may not eat or drink in regulated work areas or in other industrial work areas where toxic materials are present. Hardhats, gloves and any other regulated work clothing shall not be worn or placed in designated eating areas.

10 SECURITY REQUIREMENTS

10.1 GENERAL REQUIREMENTS

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- 10.1.1 The contractor shall comply with all security regulations imposed by the installation Commander and the agency occupying the space where the work is to be performed.
- 10.1.2 Persons who are currently on probation or parole from a felony conviction cannot qualify for a Security Pass/ID Badge and will be denied access.
- 10.1.3 Contractor personnel working at Bangor shall visibly display/wear the Government issued badge chest high over the front of their outermost clothing.
- 10.1.4 Contractors shall clearly display an authorized company sign or logo on their vehicle.
- 10.1.5 The Contractor shall be responsible for notifying their vendors and suppliers that access of vehicles is subject to the presentation of proper identification and shipping documents.
- 10.3.12 Vehicle operators on a DOD Installation, and operators of Government owned vehicles, shall not use cell phones unless the vehicle is safely parked or unless they are using a hands-free device. The wearing of any other portable headphones, earphones, or other listening devices while operating a motor vehicle is prohibited. Violators may be fined.

10.2 IDENTIFICATION

- 10.2.1 Furnishing Access List. The Contractor shall furnish the Contracting Office with lists identifying personnel and vehicles requiring access to the work site. The Contractor shall decide who will require unescorted badges and escort badges. (submittal)
- 10.2.2 Foreign Interest. Every company (including su-contractors) requesting access to Bangor, whether they have foreign nationals working for them or not, are required to fill out a Foreign Interest Determination form PSNS&IMF 5531-1. (Attachment 3) Requests for forms shall be directed to the APOC (submittal)
- 10.2.3 Vehicles. The listing of vehicles shall include descriptions, license numbers, owners' names and insurance information including names of insurers and expiration dates of coverage. (submittal)

10.3 BADGING OF PERSONNEL

- 10.3.1 Badges for access to NBK-Bangor and its tenant commands will be issued by the Pass and Identification Office, Building 1035, located adjacent to Trident Boulevard Gate off Washington State Highway 3. This is also known as the Main Gate. Each badge shall be returned to the Pass and Identification Office or satisfactorily account for, at the completion of the project. Failure to do so may affect issuance of future badges. Bangor Pass and Identification hours are 0600 to 1400, Monday through Friday.
- 10.3.2 Personnel Access to Delta Pier

Contractor will be required to submit through the Badge Authorization Visitor's Request (BAVR) system, information that will allow access to Delta Pier. (Attachment (4) provides on-line instructions. (On-Line Submittal)

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10.3.3 Waterborne Access Delta Pier

After all badging requirements are met; a security sweep of the vessel(s) will be required prior to entry to Delta Pier. To schedule, contact PSNS/IMF primary contractor oversight person (TBD) and Greg Erxleben (360) 340-5058. This requires as a minimum, two (2) working-day notification. Due to any emergencies that may arise, the Government will to all extend possible to accommodate entrance but is not guaranteed.

10.4 ACCESS OF VEHICLES

a. Every delivery vehicle will be subject to inspection and search by NBK-Bangor security, and may be inspected and searched EACH TIME before access to NBK-Bangor is permitted. Additional inspection is conducted prior to entering Delta Pier.

b. The Contractor shall be responsible for notifying its suppliers that access of delivery vehicles is subject to the presentation of proper identification and shipping documents.

10.4.1 Vehicle Access to Restricted Waterfront Area (WRA)

a. Vehicle access to the WRA pier, requires the contractor complete and submit a WRA Vehicle pass request. (Attachment 5) The form shall be submitted within five (5) business days in order to process the request. Vehicle passes must be picked up at the SWFPAC office, Building 6401, located on Skipjack Circle, lower base. Directions – Main Gate, Trident Boulevard, right on Trigger Avenue through 08 Gate, left at first stop light which turns onto Skipjack Circle. (Submittal)

b. In order to transit the community area which is the Main Gate, Contractor will require a RAPIDGate credential. This is an on-line process and can take up to 30 days. If the contractor has enrolled at other sites, the time is greatly reduced. Information and application available at <https://eform.rapidgate.com>. Contact information is: 1-877-RapidGate (1-877-727-4342) info@rapidgate.com or www.eidpassport.com.

11 SECURITY CAUTIONS

11.1 General

11.1.1 Neither the Contractor nor any of its employees or subcontractors shall disclose or cause to be disseminated any information concerning the operations of the activity which could result in or increase the possibility of a breach of the activity's security or interrupt the continuity of its operations.

11.1.2 Disclosure of information to any person not entitled to receive it, or failure to safeguard any classified information that may come to the Contractor or any person under his control in connection with work under this contract, may subject the Contractor, his agents or employees, to criminal liability under 18 U.S.C. Sections 793 and 798.

11.1.3 All inquiries, comments, or complaints arising from any matter observed, experienced, or learned as a result of or in connection with the performance of this

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contract, the resolution of which may require the dissemination of official information, will be directed to the APOC.

- 11.1.4 Deviations from or violations of any of the provisions of this section (11) will, in addition to all other criminal and civil remedies provided by law, subject the Contractor to Termination for Cause and/or the individuals involved to a withdrawal of the Government's access permission.
- 11.1.5 Whenever facility security is breached by any work performed under this contract, the Contractor shall be responsible for providing temporary measures in order to ensure security is restored and maintained.
- 11.2 Cameras (including watches and cellular phones with cameras). Cameras are not allowed in the Shipyard. All cellular telephones as well as any electronic device that can create, store and/or transmit digital images (pictures) are not allowed in the Shipyard and are subject to immediate confiscation.
- 11.3 Computers (including "Personal Digital Assistants (PDA)"). The use of any personally owned computer device including handhelds are prohibited in the Shipyard.
- 11.4 Laptop Computers. Submit AIS Survey Form (PSNS&IMF 5239/49), (Attachment) to request authorization to bring laptop computers into the Shipyard. Each unit requires a separate permit. If approved, the form must remain with the laptop during the visit. The laptop must be kept in control by the Contractor personnel, who signed, Attachment 6, at all times. Systems operating in the Shipyard that are not in compliance will be confiscated by Shipyard Police. **(Submittal)**
- 11.5 Additional Security Requirements when located in the Operational Area (OA) or WRA of Naval Base Kitsap, Bangor. Part of IMF is located within the Waterfront Restricted Area (WRA), a Level Three Restricted Area. The WRA includes Delta Pier, Marginal Wharf and the Explosive Handling Wharf.
- 11.5.1 Badge Site Access
- NAVSEA Red/Yellow/Green badges issued to PSNS & IMF personnel allow access through the OA Gate. Red/Yellow badges allow access into the WRA. Only Red badges allow access to the boats in the WRA.
 - NAVSEA badges issued to PSNS & IMF Visitors allow access through the OA Gate. Visitor badges normally do not allow access to the WRA unless specially vetted through the SWFPAC command.
 - NAVSEA badges issued by PSNS & IMF to tenant commands or contractors do not allow access into the WRA.
 - Badges issued from other shipyards are not authorized through the perimeter gates at Bangor.
- 11.5.2 WRA Security: WRA security forces are trained for a specific Bangor mission. They are authorized to use Deadly Force, defined as that force used for the purpose of causing death or serious bodily harm if threat or hostile indicators are present. They do not have to request

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permission to use deadly force and warning shots will not be fired. Always follow all instructions given by WRA security forces.

- 11.5.3 Contraband: You will be asked if you know what contraband is and if you have any. Contraband includes the following:
- a. Any device or system containing a camera lens or recording device, regardless of whether the device was disabled by the factory or subsequently altered (e.g. lens drilled out and hole filled with epoxy). A device where the lens/recorder was disabled by the factory and has a factory installed solid plate covering the lens/recorder is permitted in the WRA. Lenses can be found in all types of electronic equipment including but not limited to: cell phones; IPODS or other music systems; Kindles, Nooks or other reading devices; hand-held copiers/scanning devices, laptops, or gaming devices. Government-owned equipment must be accompanied by an authorized PSNS (or IMF) camera pass and a SWFPAC camera pass.
 - b. Weapons of any type including firearms, knives with blades greater than 3" (except for trade tools), nightsticks, brass knuckles, martial arts weapons, bows/arrows etc.
 - c. Incapacitating Agents (i.e. Pepper Spray, Mace, etc.)
 - d. Ammunition or explosives;
 - e. Alcoholic beverages or illegal drugs of any kind.
- 11.5.4 Security Concerns: The following will result in a written Discrepancy Report Form (DRF), WRA access denial, or detainment:
- a. Not wearing badge properly;
 - b. Possession of attempt to gain entry/exit with any contraband item;
 - c. Any potential for compromise of classified material;
 - d. Failure to comply with WRA security force instructions or orders;
 - e. Other violations as determined by competent authority.
- 11.5.5 Security Violations: "Security Violation" is the term used to declare a force protection issues within the WRA. Security violations will be announced through pier announcement systems. Your actions during a security incident should be:
- a. If indoors, stay indoors.
 - b. If on foot, quickly seek shelter in the closest building and stand fast. If you are not close to a building, security forces may direct you to lay face down on the ground. If told to do so, immediately COMPLY.
 - c. If in a vehicle, immediately pull over to the edge of the road, turn off the engine and remain in place until otherwise instructed by the security forces.
 - d. or specific operations taking place in the WRA (crane, dry dock evolutions, etc.), contact the Bangor Site Security Officer for specific guidance.

WARNING: COMPLY WITH ALL REQUESTS MADE BY WRA SECURITY FORCES. DO NOT ARGUE, ASK UNNECESSARY QUESTIONS OR PROVIDE UNSOLICITED COMMENTS. FULL COOPERATION IS REQUIRED FOR YOUR SAFETY.

BANGOR SITE SECURITY OFFICE INFORMATION: Location: Bldg. 7000, Room N137; Contact #'s (360) 315-1187, 315-1190, or 315-5112; Fax (360) 396-6909.

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12 CRANES

- 12.1 General. Any lifting and handling operations shall comply with the requirements of this section.
- 12.2 Acceptable Lubricants. To be added later.

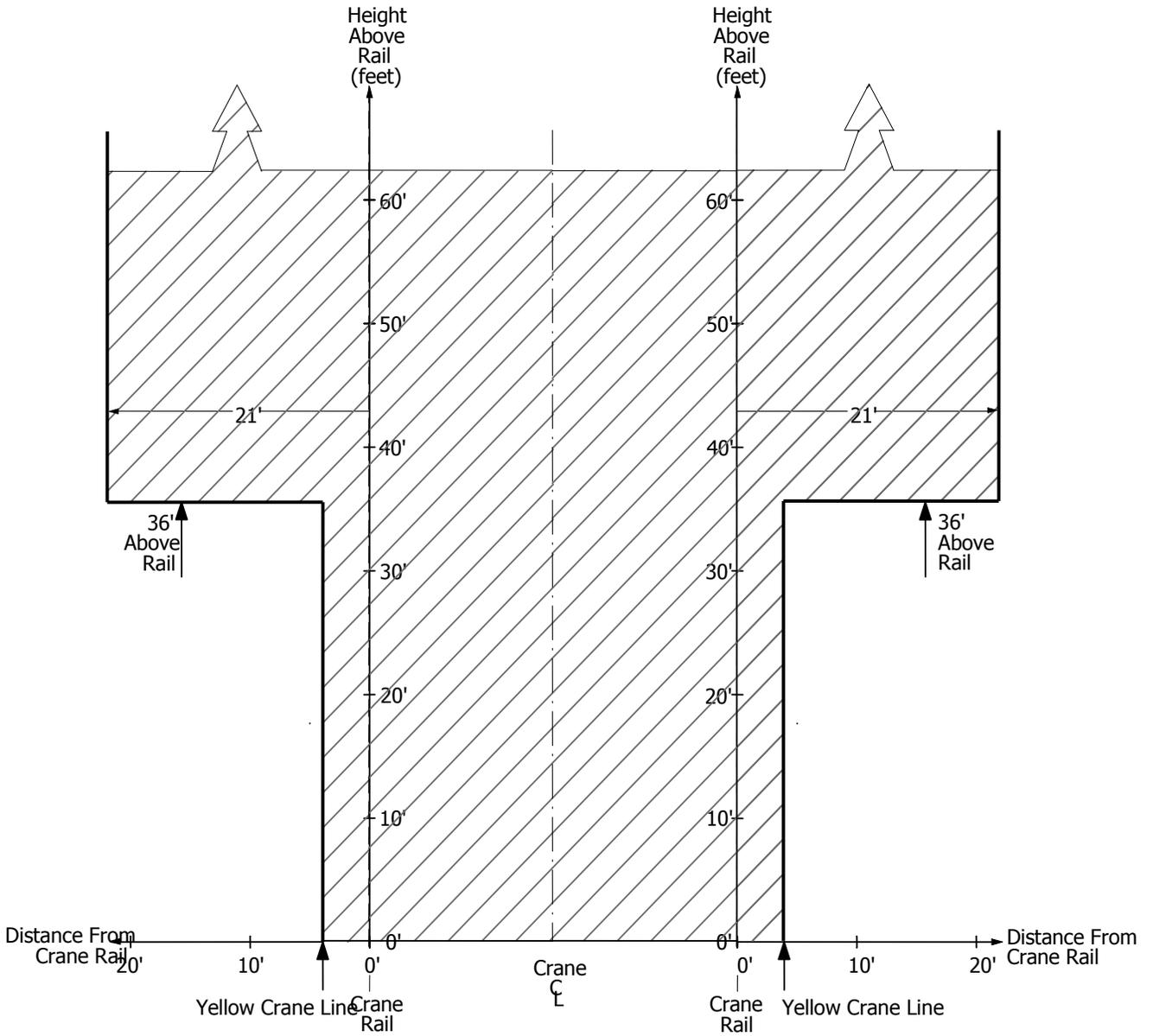
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- 12.3 Ground Loading. All areas within Bangor have an allowable ground load limit. Any work performed by the contractor shall take into account the allowable ground loading limit. Documentation that the allowable ground loading is not being exceeded shall be provided to the Contracting Officer prior to start of lifting and handling operations.
- 12.4 Crane Envelope. All work performed and any permanent equipment installed by the Contractor shall take into account the existing surrounding cranes space envelopes.
- 12.4.1 Bridge Cranes. The OSHA/CMAA 70 and ASME B30.2 required clearance of 3" top and 2" sides shall be maintained or exceeded.
- 12.4.2 Portal Cranes. The clearance shown in the following figure shall be maintained around portal cranes and tracks.

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IMF Bangor Master Portal Crane Clearance Envelope



NOTE: The Portal Crane Clearance Envelope drawing above encompasses all portal crane restrictions and shall be used when determining where it is safe to place permanent or semi-permanent building/ structure near portal crane rails. To locate any item inside this crane envelope requires approval from the Contracting Officer.

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12.5 Contractor Cranes

NOTE: THESE REQUIREMENTS APPLY TO ALL: CONTRACTOR CRANES, MULTI-PURPOSE MACHINES, FORKLIFTS, CONSTRUCTION EQUIPMENT, AND RIGGING GEAR

12.5.1 The following is a list of requirements that contractors shall comply with for all contracts that may result in the use of a category 1 or 4 crane, multi-purpose machines, forklifts, construction equipment and rigging gear when used on Navy property to lift suspended loads. Non-compliance with the requirements of this instruction may result in denial of access, stopping of operations, or removal from the property. *[For the purposes of this instruction, the term "crane" shall include multi-purpose machines, material handling equipment, construction equipment used to lift loads suspended by rigging gear, unless otherwise specified.]*

12.5.2 References:

12.5.2.1 NAVFAC P-307, Management of Weight Handling Equipment

12.5.2.2 American Society of Mechanical Engineers (ASME) B30.3 (tower cranes), B30.5 (mobile cranes), B30.8 (floating cranes), B30.9 (slings), B30.20 (below the hook lifting devices), and B30.22 (articulating booms), B30.26 (rigging hardware); ANSI/ITSDF B56.6 (rough terrain forklifts); Safety Standards for Cableways, Cranes, Derricks, Hoists, Hooks, Jacks, and Slings,

12.5.2.3 CFR, Title 29, Chapter XVII, Part 1917, Marine Terminals.

12.5.2.4 CFR, Title 29, Chapter XVII, Part 1926, Safety and Health Regulations for Construction

12.5.2.5 CFR, Title 29, Chapter XVII, Part 1915, Occupational Safety and Health Standards for Shipyard Employment

12.5.2.6 OPNAVINST 5100.23, Navy Safety and Occupational Health Program Manual

12.5.2.7 EM 385-1-1, Safety and Health Requirements Manual, U.S. Army Corps of Engineers

12.5.2.8 NAVFAC Guide Specification NFGS-01525D, Safety Requirements

12.5.3 These requirements are solely intended to provide for the protection of Government property and personnel and are not intended to, and do not, in any manner whatsoever, relieve the contractor of its responsibility, including, without limitation, its responsibility for the protection of its equipment and personnel.

12.5.4 Notification Requirement. Contractor shall notify the contracting officer in advance of the intent of bringing a non-Navy owned crane onto Government property (allows contracting officer to notify activity 3 days in advance of entry), or of any multi-purpose machines, material handling equipment, or construction equipment that may be used in a crane-like application to lift suspended loads. The contractor shall also specify when crane entry onto Government property is scheduled during back shift, weekend, or holiday hours of operation. All entries shall be through a prearranged entry point. The following documentation shall be provided along with notification: *[documentation from the crane manufacturer showing maximum outrigger load and*

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maximum axle loads of the crane(s),] a copy of the Certification of Compliance (reference 12.5.2.1) and objective evidence of operator qualifications for cranes with rated capacities of 2,000 lbs. or greater. *[Objective evidence of operator qualifications from a source that qualifies crane operators (i.e., a union, a government agency, or an organization that tests and qualifies crane operators) is not required for multi-purpose machines, material handling equipment, construction equipment used to lift loads suspended by rigging gear.]* Failure to schedule or provide necessary documentation may result in the crane being denied access to the facility.

12.5.5 The contractor shall comply with applicable reference 12.5.2.2 standards (e.g., B30.3 for construction tower cranes, B30.5 for mobile cranes, B30.8 for floating cranes, B30.9 for slings, B30.20 for below the hook lifting devices, and B30.22 for articulating boom cranes, B30.26 for rigging hardware, and ANSI/ITSDF B56.6 for rough terrain forklifts). Barge mounted mobile cranes require the following:

- third party certification from an OSHA accredited organization (or from a state accredited organization for those states with OSHA approved state plans). Third party certification is not required for barge-mounted mobile cranes at naval activities in foreign countries.
- a load indicating device, a wind-indicating device, and a marine type list and trim indicator readable in one-half degree increments.

12.5.6 Certification of Compliance (reference 12.5.2.1). The contractor shall complete a certificate of compliance that the crane (or other machine if used to lift suspended loads) and rigging gear meet applicable OSHA and ANSI/ASME regulations (with the contractor citing which OSHA regulations are applicable, e.g., cranes/multi-purpose machines used in cargo transfer shall comply with reference 12.5.2.3; cranes/multi-purpose machines used in construction, demolition, or maintenance shall comply with reference 12.5.2.4; cranes/multi-purpose machines used in ship repair shall comply with reference 12.5.2.5; slings shall comply with ASME B30.9, rigging hardware shall comply with ASME B30.26). For cranes (or other machines used to lift suspended loads) and rigging equipment at naval activities in foreign countries, the contractor shall certify that the crane (or other machine) and the rigging equipment conform to the appropriate host country safety standards. The contractor shall also certify that all of its crane (or other machine) operators working on the naval activity have been trained not to bypass safety devices (e.g., anti-two block devices) during lifting operations, and that its operators, riggers and company officials are aware of the actions required in the event of an accident as specified in the contract. The contractor shall post certifications on the crane. When a crane on Government property is not authorized for use, the Certification of Compliance shall state, "Operation of this Crane is NOT Authorized."

12.5.7 The contractor shall certify (reference 12.5.2.1) that the crane or machine operator is qualified and trained for the operation of the crane to be used. For mobile and commercial truck mounted cranes with OEM rated capacities of greater than 2,000 pounds, the crane operator shall be designated as qualified by a source that qualifies crane operators (i.e., a union, a government agency, or an organization that tests and qualifies crane operators) *[Objective evidence of operator qualifications from a source that qualifies crane operators (i.e., a union, a government agency, or an organization that tests and qualifies crane operators) is not required for multi-purpose machines, material handling equipment, construction equipment used to lift loads suspended by rigging gear.]* Operators of cranes used in construction at activities covered by this instruction shall follow the qualification and certification requirements of 29 CFR 1926.1427. The contractor shall certify that signal persons used in construction work are qualified in accordance with 29 CFR 1926.1428. Proof of current qualification shall be provided.

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12.5.8 For multi-purpose machines, material handling equipment, and construction equipment used to lift loads suspended by rigging equipment, the contractor shall have proof of authorization from the machine OEM that the machine is capable of making lifts of loads suspended by rigging equipment. The contractor shall demonstrate that the equipment is properly configured to make such lifts and is equipped with a load chart.

12.5.9 All hooks used on cranes, hoists, other machines, and rigging gear shall have self-closing latches or the throat opening shall be "moused" (secured with wire, rope, heavy tape, etc.) or otherwise secured to prevent the attached item from coming free of the hook under a slack condition. The following exceptions apply and shall be approved by the contractor's technical organization: items where the hook throat is fully obstructed and not available for manual securing and lifts where securing the hook throat increases the danger to personnel such as forge shop, dip tank, or underwater work.

12.5.10 Loading Limitations.

CAUTION: Piers and waterfront areas such as along dry docks and quay walls have load restrictions.

12.5.10.1 The contractor shall notify the contracting officer prior to moving a crane on a pier, dry dock, or other waterfront area. The contractor shall provide the contracting officer with the crane make, model, and configuration in which it is to be used. *[Configuration information shall include the maximum axle loads in a travel configuration and the maximum outrigger loads in the configuration in which the crane will provide lift(s)].*

12.5.10.2 The contractor shall comply with crane access routes and load limitations issued with the contract.

12.5.11 Prior to making any critical lift, the contractor shall provide a critical lift plan *[to the contracting officer]* for each of the following lifts: lifts over 75 percent of the capacity of the crane, hoist, or other machine (50 percent of the capacity of a barge mounted mobile crane's hoists) at any radius of lift; lifts involving more than one crane, hoist, or other machine; lifts of personnel (lifts of personnel suspended by rigging equipment from multi-purpose machines, material handling equipment, or construction equipment shall not be permitted); lifts made in the vicinity of overhead power lines; erection of cranes; and lifts involving non-routine rigging or operation, sensitive equipment, or unusual safety risks. The plan shall include the following as applicable:

12.5.11.1 The size and weight of the load to be lifted, including crane (or other machine) and rigging equipment that add to the weight. The OEM's maximum load capacities for the entire range of the lift shall also be provided.

12.5.11.2 The lift geometry, including the crane (or other machine) position, boom length and angle, height of lift, and radius for the entire range of the lift. Applies to both single and tandem crane/machine lifts.

12.5.11.3 A rigging plan, showing the lift points, rigging equipment, and rigging procedures.

12.5.11.4 The environmental conditions under which lift operations are to be stopped.

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12.5.11.5 For lifts of personnel, the plan shall demonstrate compliance with the requirements of 29 CFR 1926.1431.

12.5.11.6 For barge mounted mobile cranes, barge stability calculations identifying crane placement/footprint; barge list and trim based on anticipated loading; and load charts based on calculated list and trim specific to the barge the crane is mounted on. The amount of list and trim shall be within the crane manufacturer's requirements.

12.5.11.7 For lifts in the vicinity of overhead power lines (i.e., if any part of the crane or other machine, including the fully extended boom of a telescoping boom crane or machine, or the load could approach the distances noted in figure 10-3 of reference 12.5.2.1 during a proposed operation), the plan shall demonstrate compliance to 29 CFR 1926.1408 - 1411.

12.5.12 Contractor provided tower cranes used in construction must meet the additional requirements of CFR 1926.1435. The following additional documentation is required for contractor provided tower cranes (those cranes defined by ASME B30.3).

12.5.12.1 Foundation design and requirements.

12.5.12.2 Installation instructions.

12.5.12.3 Assembly and disassembly instructions including climbing/jumping instructions if applicable.

12.5.12.4 Operating manual, limitations, and precautions.

12.5.12.5 Periodic inspection and maintenance requirements.

12.5.13 Crane and Rigging Gear Accident Reporting and Record Keeping. Contractors operating cranes on Government property shall report all WHE accidents that occur incidental to an operation, project, or facility as prescribed by paragraphs (12.5.13.1) through (12.5.13.3) requirements below. Contractors shall report directly to their respective contracting officer. There are two general categories of accidents as defined below. Crane accidents are those that occur during operation of a crane. Rigging gear accidents are those that occur when gear is used by itself in weight handling operation i.e., without a crane. *[Refer to rigging accident definition and requirements for mishaps during the operation of multi-purpose machines, material handling equipment, construction equipment used to lift loads suspended by rigging gear.]*

12.5.13.1 Crane Accident: For the purpose of this definition, it is assumed there is an "operating envelope" around any crane, and inside the envelope are the following elements:

1. The crane
2. The operator
3. The rigger(s) and crane walker
4. Other personnel involved in the operation (supervisor, mechanic, tag line handler, engineer, etc.)
5. The rigging gear between the hook and the load
6. The load
7. The crane's supporting structure (ground, rail, etc.)
8. The lift procedure

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12.5.13.1.1 Definition. A crane accident occurs when any one or more of the elements in the operating envelope fails to perform correctly during operation, including operation during maintenance, or testing resulting in the following:

1. Personnel injury or death. Minor injuries that are inherent in any industrial operation, including strains and repetitive motion related injuries, shall be reported by the normal personnel injury reporting process in lieu of these requirements.
2. Material or equipment damage
3. Dropped load
4. Derailment
5. Two-blocking
6. Overload (This includes load tests when the test load tolerance is exceeded.)
7. Collision, including unplanned contact between the load, crane, and/or other objects.

A component failure (e.g., motor burnout, gear tooth failure, bearing failure) is not considered an accident solely due to material or equipment damage unless the component failure results in damage to other components (e.g., dropped boom, dropped load, roll over, etc.). Items 3, 4, 5, 6, and 7 are considered crane accidents even though no material damage or injury occurs.

Exception. If a crane is used as an anchor point for a portable hoist/rigging gear, a rigging gear accident as defined in paragraph 12.5.13.2 below is not considered a crane accident if the crane is not being operated (no functions are in motion) at the time of the rigging gear accident, unless the accident results in an overload or damage to the crane, in which case it shall be reported as a crane accident.

12.5.13.2 Rigging Gear Accidents: For the purpose of this definition, it is assumed there is an “operating envelope” around any weight handling operation, and inside the envelope are the following:

1. Rigging gear and miscellaneous equipment
2. The user of the gear or equipment.
3. Other personnel involved in the operation (supervisor, mechanic, tag line handler, engineer, etc.)
4. The load
5. The gear or equipment’s supporting structure
6. The load’s rigging path
7. The rigging procedure

12.5.13.2.1 Definition. A rigging gear accident occurs when any one or more of the elements in the operating envelope fails to perform correctly during weight handling operations resulting in the following:

1. Personnel injury or death. Minor injuries that are inherent in any industrial operation, including strains and repetitive motion related injuries, shall be reported by the normal personnel injury reporting process of the activity in lieu of these requirements.
2. Material or equipment damage that requires the damaged item to be repaired because it can no longer perform its intended function. This does not include superficial damage such as scratched paint, damaged lagging, or normal wear on rigging gear.

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3. Dropped load.
4. Two-blocking of cranes and powered hoists.
5. Overload. (This includes load tests when the test load tolerance is exceeded.)

A component failure (e.g., motor burnout, gear tooth failure, bearing failure) is not considered an accident solely due to material or equipment damage unless the component failure results in damage to other components (e.g., dropped load, damaged load, etc.). Items 3, 4, and 5 are considered accidents even though no material damage or injury occurs.

12.5.13.3 The contractor shall notify the contracting officer as soon as practical, but not later than four hours, after any WHE accident. The contractor shall secure the accident site and protect evidence until released by the contracting officer. The contractor shall conduct an accident investigation to establish the root cause(s) of the accident. Crane operations shall not proceed until cause is determined and corrective actions have been implemented to the satisfaction of the contracting officer. The contractor shall provide the contracting officer within 30 days of any accident a Crane and Rigging Gear Accident Report using the form (Attachment 7) provided in reference 12.5.2.1 consisting of a summary of circumstances, an explanation of causes(s), photographs if available, and corrective actions taken. These notifications and reporting requirements are in addition to those promulgated by reference 12.5.2.6 and related claimant instructions.

12.5.14 Each contractor shall perform the following actions prior to conducting crane operations on Government property:

12.5.14.1 Inspection Requirements. It shall be the sole responsibility of the contractor to assure the contracting officer and/or designated Government personnel that the crane and associated rigging gear are in good working order and safe for use.

12.5.14.1.1 Crane Inspection. Perform pre-operational inspection of the crane in the presence of a representative of the contracting office prior to starting work on Government property. Inspection shall meet all applicable reference 12.5.2.2, reference 12.5.2.7 (for NAVFAC construction contracts), and OSHA requirements.

12.5.14.1.2 Wire Rope Inspection. Perform a Wire Rope Inspection in the presence of a representative of the contracting office to applicable reference 12.5.2.2, reference 12.5.2.7 (for NAVFAC construction contracts), and OSHA requirements.

12.5.14.1.3 Rigging Gear Inspection. Perform a Rigging Gear Inspection in the presence of a representative of the contracting office to applicable reference 12.5.2.2, reference 12.5.2.7 (for NAVFAC construction contracts), and OSHA requirements.