E-PROJECT NO. 870919

NAVFAC SPECIFICATION No. 84-15-7009

CONSTRUCTION CONTRACT No.

REPLACE A/C SYSTEM ACP-1 (CTF-72), BLDG. 978

At the

U.S. NAVAL AIR FACILITY, MISAWA, JAPAN

PREPARED BY:

NAVAL FACILITIES ENGINEERING COMMAND, FAR EAST

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SECTION 01 11 00

SUMMARY OF WORK

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM E 2114	Standard Terminology for Sustainability Relative to the Performance of Buildings

GREEN BUILDING INITIATIVE (GBI)

Green Globes	Green Globes(tm) US Green Building Rating System

HEADQUARTERS, US FORCES JAPAN, DEPARTMENT OF DEFENSE (DOD)

JEGS	(2008 September) Japan Environmental Governing Standards

DEPARTMENT OF DEFENSE (DOD)

DOD 4717.05 G	OEBGD Overseas Environmental Baseline Guidance Document

JAPAN GREENBUILD COUNCIL / JAPAN SUSTAINABLE BUILDING CONSORTIUM

CASBEE	Comprehensive Assessment System for Building Environmental Efficiency

1.2 DEFINITIONS

Definitions pertaining to sustainable development are as defined in JEGS, Section 01 57 19.00 20 “TEMPORARY ENVIRONMENTAL CONTROLS”, and as specified.

a. "Environmentally preferable products" have a lesser or reduced effect on the environment in comparison to conventional products and services. This comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product.

b. "Indoor environmental quality" is the physical characteristics of the building interior that impact occupants, including air quality, illumination, acoustics, occupant control, thermal comfort, daylighting, and views.

c. "Operational performance" is the functional behavior of the building as a whole or of the building components.

d. "Sustainability" is the balance of environmental, economic, and societal considerations.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Submit the following items to the Contracting Officer:

Utility Outage Requests; G (FEAD)

Hot Work Permits; G (FEAD)

1.4 WORK COVERED BY CONTRACT DOCUMENTS

1.4.1 Project Scope and Description

The work includes the replacement of existing packaged air conditioning systems located in the basement of U.S. Navy CTF-72 Building 978, Misawa Air Base. The work includes the replacement of all associated piping, controls, sensors, and packaged evaporators and compressor/condensing units necessary to provide a complete and usable system. The work includes replacement of existing returns air fan and removal of humidifier. The work also includes modification and replacement of existing electrical systems to accommodate new equipment. The work shall be installed in accordance with the more stringent of the Drawings or Specifications or Manufacturer’s Prime Recommendations.

Refrigerant bleed from the existing system shall be conducted in accordance with specifications herein and all applicable environmental regulations.

It is expected that Lead Based Paint or Asbestos Containing Materials will not be encountered on this project. Report to the Contracting Officer immediately if those items are found at the work site. A Change Order or Supplemental Agreement modification to this Contract may be issued for the special handling of the hazardous waste.

The Contractor is responsible for the verification of all dimensional information and site conditions.

1.4.1.1 Specifications and Standards

The specifications and standards referenced in this project specification, including addenda, amendments, and errata listed, will govern in all cases where references thereto are made. In case of differences between referenced specifications or standards and this project specification or its accompanying drawings, this project specification or its accompanying drawings will govern to the extent of such differences. Otherwise, the referenced specifications and standards will apply.

1.4.1.2 Variation Requirements

The Contractor shall be permitted to make suggestions for variation from these drawings and specifications, however, approval of the Contracting Officer is required in all cases.

1.4.2 Location

The work shall be located at U.S. Navy CTF-72 Building 978, Misawa Air Base, approximately as indicated. The exact location will be shown by the Contracting Officer.

1.5 CONTRACT DRAWINGS

Contractor shall immediately check furnished drawings and notify the Government of any discrepancies. The Contractor is responsible for verifying all dimensional information.

The following drawings accompany this specification and are a part thereof.

a. Index of Contract Drawings:

NAVFAC DWG NO.	TITLE
17165752	REMOVAL AND NEW AIR CONDITIONING PLAN
17165753	REMOVAL AND NEW STEAM PIPING PLAN
17165754	REMOVAL AND NEW AIR CONDITIONING DUCT PLAN
17165755	REMOVAL AND NEW AIR CONDITIONING DUCT SECTION
17165756	REMOVAL AND NEW POWER WIRING PLAN
17165757	PANELBOARD SCHEDULE

1.5.1 Reference Drawings Accompanying Specification

The following reference drawings accompany this specification and are intended only to show the original construction.

ENCLOSURE NO.	TITLE
ENCL-1	EXISTING A/C PLAN, BASEMENT FLOOR, BLDG 978

1.6 PROJECT SCHEDULE AND TIME CONSTRAINTS

1.6.1 Commencement and Completion of Work

The Contractor shall be required to complete the entire work, ready for use, not later than 300 calendar days after the date of Award. This time period includes a “mailing period” which includes the days for mailing of the Notice of Award and the submission of the required bonds and Certificate of Insurance. The time for completion shall include final clean-up of the premises. The Contractor shall complete all the on-site work within an approved scheduled (cool weather season) continuous period of 45 calendar days within the allowed 300 day period.

1.7 PROJECT ENVIRONMENTAL GOALS

Contractor shall distribute copies of the Environmental Goals to each subcontractor and the Contracting Officer. The overall goal for design, construction, and operation is to produce a building that meets the

functional program needs and incorporates the principles of sustainability. Specifically:

a. Preserve and restore the site ecosystem and biodiversity; avoid site degradation and erosion. Minimize offsite environmental impact.

b. Use the minimum amount of energy, water, and materials feasible to meet the design intent. Select energy and water efficient equipment and strategies.

c. Use environmentally preferable products and decrease toxicity level of materials used.

d. Use renewable energy and material resources.

e. Optimize operational performance (through commissioning efforts) in order to ensure energy efficient equipment operates as intended. Consider the durability, maintainability, and flexibility of building systems.

f. Manage construction site and storage of materials to ensure no negative impact on the indoor environmental quality of the building.

g. Reduce construction waste through reuse, recycling, and supplier take-back.

1.7.1 Independent Verification

1.7.1.1 JAPAN GREENBUILD COUNCIL / JAPAN SUSTAINABLE BUILDING CONSORTIUM - CASBEE(tm) Rating System.

Provide materials, work, and equipment targeted to be consistent with CASBEE, level B+ goals.

1.8 OCCUPANCY OF PREMISES

As specified in Section 01 14 00 “Work Restrictions.”

1.9 EXISTING WORK

In addition to "FAR 52.236-9, Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements":

a. Remove or alter existing work in such a manner as to prevent injury or damage to any portions of the existing work which remain.

b. Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as approved by the Contracting Officer. At the completion of operations, existing work shall be in a condition equal to or better than that which existed before new work started.

1.10 ON-SITE PERMITS

1.10.1 Utility Outage Requests and Utility Connection Requests

Work shall be scheduled to hold outages to a minimum. Utility outage, Government operation outages are specified in section 01 14 00 “Work Restriction.”

Utility outages and connections required during the prosecution of work that affect existing systems shall be arranged for at the convenience of the Government.

Contracting Officer may permit utility outages at his discretion.

Requests for utility outages and connections shall be made in writing to the Contracting Officer at least 15 calendar days in advance of the time required. Each request shall state the system involved, area involved, approximate duration of outage, and the nature of work involved.

1.10.2 Hot Work Permits

ACTIVITY	SUBMISSION DATE	SUBMISSION FORM
Hot Work Permits	7 calendar days prior to work	Misawa AF Form 592

Obtain Hot Work Permits from the Misawa Air Base Fire Department. Permits shall be posted at a conspicuous location in the construction area. Burning of trash or rubbish is not permitted on project site.

1.11 CONCILIATION CLAUSE

a. If the parties to this contract by mutual consent, which consent shall be memorialized in writing, agree to use the United States - Japan Joint Committee as a means of alternative dispute resolution (ADR) in accord with the DISPUTES clause of this contract, then disagreement arising under this contract that is not yet resolved by the parties to this contract may be submitted to the United States - Japan Joint Committee for conciliation in accordance with paragraph 10, Article XVIII, of the Status of Forces Agreement under Article VI of the Treaty of Mutual Cooperation and Security between Japan and United States of America.

b. The decision of the United States - Japan Joint Committee shall be non-binding on the parties, and as such, the United States - Japan Joint Committee’s consideration of a dispute shall not prejudice any right which the parties to the contract may have to file a civil suit with either the United States Armed Services Board of Contract Appeals or the United States Court of Federal Claims.

c. Upon filing a request for conciliation with the Joint Committee, the Contractor shall immediately notify the FEAD (ROICC) in writing of the request.

1.12 GOVERNMENT-FURNISHED MATERIAL AND EQUIPMENT

No Government Furnished Materials (GFM) will be provided.

1.13 GOVERNMENT-INSTALLED WORK

No Government Installed Work will be provided.

1.14 SALVAGE MATERIAL AND EQUIPMENT

No Salvage Material or Equipment will be involved.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

SECTION 01 14 00

WORK RESTRICTIONS

PART 1 GENERAL

The work is located in a highly restricted area. The Contractor shall enter the building each day through the Main Entrance Security Desk (only), sign-in, and obtain a daily pass which shall be worn by each employee.

1.1 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES

SD-01 Preconstruction Submittals:

Employee List for High Restricted area; G (FEAD)

1.2 RESTRICTIONS ON OPERATIONS

1.2.1 Coordination with Other Work

The Contract Clause entitled FAR 52.236-8 "Other Contracts"; the paragraph entitled "Order of Work".

1.3 SPECIAL SCHEDULING REQUIREMENTS

a. Each System shall be ready for operation as approved by Contracting Officer before work is started on subsequent Systems which would interfere with normal business operations, unless specifically allowed by the Contracting Officer.

b. Have materials, equipment, and personnel required to perform the work at the site prior to the commencement of the work. Specific items of work to which this requirement applies include:

HVAC SYSTEM ACP-1

c. The mechanical equipment and piping for adjacent systems shall remain in operation during the entire construction period. Conduct operations so as to cause the least possible interference with normal business operations of the activity.

d. Permission to interrupt any Activity roads, and/or utility service shall be requested in writing a minimum of 17 calendar days prior to the desired date of interruption.

The work under this contract requires special attention to the scheduling and conduct of the work in connection with existing operations. Identify on the construction schedule each factor which constitutes a potential interruption to operations.

The following conditions apply:

(1) Air conditioning service interruptions shall be minimized during the construction period.

(2) Down-times for System service shall be scheduled to the maximum extent practicable during cooler spring, fall and winter seasons.

(3) System cross-over work shall be done one system at a time to prevent the possibility of simultaneous loss of service of multiple Systems.

1.4 CONTRACTOR ACCESS AND USE OF PREMISES

1.4.1 Activity Regulations

Ensure that Contractor personnel employed on the Activity become familiar with and obey Activity regulations including safety, environment, fire, traffic and security regulations. Provide written Air Force Form 103 “Work Clearance Request” to the U.S. Navy Construction Representative. Keep within the limits of the work and avenues of ingress and egress. Wear safety gear such as hard hats and high visibility vests with the Contractor's name prominently displayed on the construction site and designated areas. Do not enter any restricted areas unless required to do so and until cleared for such entry. The Contractor's equipment shall be conspicuously marked for identification.

1.4.1.1 Identification Badges

Identification badges will be furnished without charge. Application for and use of badges will be as directed. Furnish a completed EMPLOYEE LIST signed by the employer as directed by the U.S. Navy Construction Representative. Badges must be returned following the completion of work. Immediately report instances of lost or stolen badges to the Contracting Officer. A copy of the security regulations may be obtained from the security office. All badges must be returned or accounted for to the Pass and Identification Office upon expiration of the badge or contract, or termination of the employee.

1.4.1.2 Personnel Entry Approval

Log-in at the CTF-72 main entrance security desk each day to receive daily security pass.

1.4.1.3 CTF-72 (Building 978) Security Policy

CTF-72 has specific security entry requirements for Building 978. Contractor must comply with the directions of the Building Security Escort provided each day.

1.4.1.4 Hot Work Requirement:

Obtain Hot Work permits (AF Form 592) from the Air Force Civil Engineer’s Office and route to the Misawa Air Base Fire Department for approval. After approval by the Base Fire Department, submit a copy of the permit to the Contracting Officer.

1.4.1.5 No Smoking Policy

Smoking is prohibited within all buildings on installations under the cognizance of NAVFAC, except in designated smoking areas. This applies to existing buildings, buildings under construction and buildings under renovation. Discarding tobacco materials other than into designated tobacco receptacles is considered littering and is subject to fines. The Contracting Officer will identify designated smoking areas, if any are available.

1.4.2 Entry to Radiologically Controlled Areas

Contractor personnel shall not, under any circumstances, enter a radiologically controlled area or cross any posted radiological boundary. This paragraph applies to all phases of contract work. Radiation areas are posted with signs consistent with OSHA requirements. Ensure that employees are familiar with the radiation signs and symbols. All personnel entering the shipyard for the first time are required to receive radiological indoctrination training.
Should contract workers encounter radiological postings and/or boundaries which appear to limit their ability to access or carry out their intended work, they shall notify their contract administrator for resolution of the problem.

1.4.2.1 Radioactive Materials and Equipment

No radiographic testing equipment or any radioactive equipment or materials are allowed on-base in connection with this contract.

However, Smoke Detectors may be allowed upon approval of the Contracting Officer.

1.4.3 Working Hours

Regular working hours for the U.S. Navy Construction Representative are between the hours of 07:30 to 16:30. The Contractor shall attempt to schedule and perform work within these time limits each normal working day. However, should extended hours be necessary (especially at critical system cross-over times), the Contractor may request additional site access time by obtaining approval of the Contracting Officer. The Contracting Office will make every effort to cooperate with the Contractor’s request, however, additional site access time is not guaranteed.

1.4.4 Work Outside Regular Hours

Work outside regular working hours requires Contracting Officer approval. If the Contractor desires to carry on work outside regular hours, including Saturdays, Sundays, and Government holidays, submit a written request giving specific dates, hours, location, type of work to be performed, contract number, and project title for approval. Submit request for outside-regular-hours work 48-hours in advance of the date the proposed work will start. During periods of darkness, light the work in an approved manner. All work outside of regular hours is subject to approval.

1.4.5 Occupied and Existing Building[s]

a. The Contractor shall be working in an existing building (Building 978) which is currently occupied. Do not enter the building without prior approval of the Contracting Officer. Before work is started, the Contractor shall arrange with the Contracting Officer a sequence of procedure, means of access, space for storage of materials and equipment (if any is available), and use of approaches, corridors, and stairways.

b. Do not interrupt occupant’s access to main entrance during construction. The Contractor shall provide temporary covering, partition, and other protection to secure occupant safety and convenience. The Contractor shall provide 5 days advance notice to the Contracting Officer of scheduled work for each entrance, if any.

c. Prevent the spread of dust and debris to occupied portions of the project area and avoid the creation of a nuisance or hazard in the surrounding area. Do not use water if it results in hazardous or objectionable conditions such as, but not limited to, ice, flooding, or pollution. Vacuum and dust the work area daily using filtered vacuum equipment. Sweep outdoor pavements as often as necessary to control the spread of debris.

d. The existing buildings and their contents shall be kept secure at all times. Provide temporary closures as required to maintain security as directed by the Contracting Officer.

e. Provide dust covers or protective enclosures to protect existing work located in the area during the construction period.

f. Relocate movable furniture away from the Contractor's working area as required to perform the work, protect the furniture, and replace the furniture in its original location upon completion of the work. Leave installed equipment in place and protect it against damage, or temporarily disconnect, relocate, protect, and reinstall it at the completion of the work.

1.4.6 Utility Cutovers and Interruptions

a. Make utility cutovers and interruptions after normal working hours or on Saturdays, Sundays, and Government holidays, when directed. Conform to procedures required in the paragraph "Work Outside Regular Hours."

b. Ensure that new utility lines are complete, except for the connection, before interrupting existing service.

c. Interruption to water, sanitary sewer, storm sewer, telephone service, electric service, air conditioning, heating, fire alarm, compressed air, and others shall be conducted outside regular hours to the maximum extent practicable.

d. Limit interruption to sewage service to not greater than five (5) consecutive hours between 11 p.m. and 4 a.m. during this project. This time limit includes time for deactivation and reactivation.

e. Operation of Station Utilities: The Contractor shall not operate nor disturb the setting of control devices in the station utilities system, including water, sewer, electrical, and steam services. The Government will operate the control devices as required for normal conduct of the

work. The Contractor shall notify the Contracting Officer giving reasonable advance notice when such operation is required.

f. Interruption to Fire Alarm System: Deactivation of fire alarm system in this building will be permitted between 8:00 a.m. and 4:00 p.m. during regular working hours as approved by the Contracting Officer. Such interruption shall be observed by contractor's Fire Watch. This time limit includes time for deactivation and reactivation. The system shall be activated during the period when the Contractor’s workers are not working and during outside regular working hours. Submit Air Force Form 103 for approval of any work affecting the Fire Alarm and Control System and coordinate with the U.S. Navy Construction Representative.

g. Interruption to Telephone and LAN Service: Consult with the following offices prior to interruption of electric, telephone, or LAN system interuptions. Any of the telephone and LAN system components, including cabinets, box, conduits, and manholes involving telephone and LAN systems shall not be disturbed without approval of these offices (U.S. Navy Construction Representative will coordinate):

Air Force Base Communications Squadron (if applicable)		226-2666
Navy Computer and Telecommunications Station Detachment		226-3813
U.S. Navy Construction Representative	0176-77-5329	226-5329

These Personnel will attend project site as a witness to the interruption to telephone and LAN service.”

h. Interruption to Mass Notification System: Deactivation of Mass Notification system in this building will be permitted between 8:00 a.m. and 4:00 p.m. during regular working hours, as approved by the Contracting Officer. Such interruption shall be observed by contractor's Fire Watch. This time limit includes time for deactivation and reactivation. The system shall be activated during the period when the Contractor’s workers are not working and during outside regular working hours.

1.4.7 Sound Limitation

As specified in Section 01 57 19.00 20 “TEMPORARY ENVIRONMENTAL CONTROLS”.

1.5 SECURITY REQUIREMENTS

Contract Clause "FAR 52.204-2, Security Requirements and Alternate II," "FAC 5252.236-9301, Special Working Conditions and Entry to Work Area," and the following apply:

1.5.1 Security Area Requirements

Building 978 is a Secured Area. The Contractor shall comply with the directions of the CTF-72 Security Desk and the following security requirements.

1.5.1.1 Escort

For entrance to and work inside the building, CTF-72 will provide escort services in the affected area.

1.5.2 Access to Unclassified Information

Access to unclassified U.S. Navy technology and related technical information manuals, documents, drawings, plans, specifications, and other unclassified information is restricted to official need-to-know basis. Handle, control, and safeguard to prevent oral, visual, and documentary disclosure to the public, to foreign sources, and to personnel not having an official need-to-know. Return any printed or digital file information to the U.S. Navy upon completion of contracted work, except when specific retention authorization is granted by the Contracting Officer.

1.5.2.1 Photographs

Unofficial photographs are prohibited in the Building and on-Base. When operationally required, submit a written request containing specific justification and details to the Contracting Officer prior to taking photographs.

1.5.3 Identification Badges

In addition to the requirements specified in Section 01 30 00, ADMINISTRATIVE REQUIRMENTS, comply with the following:

a. Employees shall wear and display the CTF-72 Security Badge on the chest area at all times while entering, remaining in, and exiting CTF-72 spaces and the badge shall be used only by the specific individual named on the badge.

b. Maintain strict accountability over identification badges and passes issued by the Pass & ID Office and CTF-72. Return badges/passes to the Pass Office or CTF-72 Security Desk immediately upon termination of any employee, expiration, completion of contract, or when no longer required.

1.6 TRAFFIC CONTROL

As specified in Section 01 50 00 “TEMPORARY FACILITIES AND CONTROLS”.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

SECTION 01 20 00.00 20

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EP-1110-1-8	Construction Equipment Ownership and Operating Expense Schedule, Volumes 1 - 12 (Regions I - XII)

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Earned Value Report; G (FEAD)

1.3 EARNED VALUE REPORT

1.3.1 Data Required

This contract requires the use of a cost-loaded Network Analysis Schedule. The information required for the Schedule of Prices will be entered as an integral part of the Network Analysis Schedule (NAS). Within 15 calendar days of notice of award, prepare and deliver to the Contracting Officer an Earned Value Report (construction contract) on the forms furnished by the Government. Provide a detailed breakdown of the contract price, giving quantities for each of the various kinds of work, unit prices, and extended prices.

1.3.2 Schedule Instructions

Payments will not be made until the Cost-loaded NAS have been submitted to and accepted by the Contracting Officer. Identify the cost for site work, and include incidental work to the 1.5 m (5 foot) line. Identify costs for the building(s), and include work out to the 1.5 m(5 foot) line. Work out to the 1.5 m (5 foot) line shall include construction encompassed within a theoretical line 1.5 m (5 feet) from the face of exterior walls and shall include attendant construction, such as cooling towers, placed beyond the 1.5 m (5 foot) line.

1.4 CONTRACT MODIFICATIONS

In conjunction with the Contract Clause "DFARS 252.236-7000, Modification Proposals-Price Breakdown," and where actual ownership and operating costs of construction equipment cannot be determined from Contractor accounting records, equipment use rates shall be based upon the applicable provisions of the EP-1110-1-8.

1.5 CONTRACTOR'S INVOICE AND CONTRACT PERFORMANCE STATEMENT

1.5.1 Content of Invoice

Requests for payment will be processed in accordance with the Contract Clause "FAR 52.232-27, Prompt Payment Construction Contracts" and shall include the documents listed below. If NFAS Clause 5252.232-9301 is included in the contract, the listed documents shall be provided as attachments in Wide Area Work Flow (WAWF). The maximum size of each WAWF attachment is two megabytes, but there are no limits on the number of attachments. If a document cannot be attached in WAWF due to system or size restriction it shall be provided as instructed by the Contracting Officer.

a. The Contractor's invoice, on NAVFAC Form 7300/30 furnished by the Government, showing in summary form, the basis for arriving at the amount of the invoice. Form 7300/30 shall include certification by Quality Control (QC) Manager as required by the contract.

b. The “Estimate for Voucher” or “Earned Value Report” from the cost-loaded NAS or “Contract Performance Statement” on NAVFAC Form 7300/30 (form furnished by the Government), showing in detail: the estimated cost, percentage of completion, and value of completed performance for each of the construction categories stated in this contract.

c. A final invoice shall be accompanied by the certification required by DFARS 252.247.7023 TRANSPORTATION OF SUPPLIES BY SEA, and the Contractor's Final Release. If the Contractor is incorporated, the Final Release shall contain the corporate seal. An officer of the corporation shall sign and the corporate secretary shall certify the Final Release.

d. Updated Project Schedule and any reports required by the contract.

e. Contractor Safety Self Evaluation Checklist

f. Monthly Work-hour report

g. Solid Waste Disposal Report

h. Other supporting documents as requested

1.5.2 Submission of Invoices

All invoices shall be submitted electronically via WAWF when NFAS Clause 5252.232-9301 is included in the contract.

a. Invoices not completed in accordance with contract requirements will be returned to the Contractor for correction of the deficiencies.

b. Final invoices not accompanied by the Contractor's Final Release and the certification of Transportation of Supplies by Sea will be considered incomplete and will be returned to the Contractor.

For final invoices being submitted, the certification of Transportation of Supplies by Sea and the duly executed original Contractor's Final Release must be provided to the respective contracting officer prior to submission of the invoice.

Submit final invoice and attach a copy of the transportation certification and final release documents.

1.6 PAYMENTS TO THE CONTRACTOR

Payments will be made on submission of itemized requests by the Contractor which comply with the requirements of this section, and will be subject to reduction for overpayments or increase for underpayments made on previous payments to the Contractor.

1.6.1 Obligation of Government Payments

The obligation of the Government to make payments required under the provisions of this contract will, at the discretion of the Contracting Officer, be subject to reductions and/or suspensions permitted under the FAR and agency regulations including the following in accordance with "FAR 32.503-6:

a. Reasonable deductions due to defects in material or workmanship;

b. Claims that the Government may have against the Contractor under or in connection with this contract;

c. Unless otherwise adjusted, repayment to the Government on demand for overpayments made to the Contractor; and

d. Failure to provide up to date record drawings not current as stated in Contract Clause "FAC 5252.236-9310, Record Drawings."

1.6.2 Payment for Materials Offsite

Payments may be made to the Contractor for materials stored off construction sites under the following conditions:

a. Conditions described in the paragraph entitled "Payments to the Contractor";

b. Material located and stored in Japan;

c. Materials adequately insured and protected from theft and exposure;

d. Materials not susceptible to deterioration or physical damage in storage or in transit to the job site are acceptable for progress payments. Items such as non-magnetic steel, aluminum, non-magnetic aggregate, machinery, pre-cast/pre-stressed concrete products, and plastic lumber (e.g., fender piles and curbs) are acceptable for progress payments;

e. Conditions specified in FAR 52.232-5(b) PAYMENTS UNDER FIXED PRICE CONSTRUCTION CONTRACTS; and

f. Payment requests for off-site materials include consent of surety.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

SECTION 01 30 00

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

15 CFR 772	Definitions of Terms
15 CFR 773	Special Licensing Procedures

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

List of contact personnel of the Contractor and Subcontractors; G (FEAD)

Certificate of Insurance; G (FEAD Contract Specialist)

Vehicle list; G (FEAD)

1.3 MINIMUM INSURANCE REQUIREMENTS

Procure and maintain during the entire period of performance under this contract the following minimum insurance coverage:

a. Comprehensive general liability: ¥50,000,000 per occurrence

(1) Certificate of Insurance for Comprehensive general liability

Certificate of insurance shall indicate *Contract Number, Contract Title, Insurance Limit,* and *Insurance coverage*.

Certificate of insurance shall provide for at lease 30 days written notice to the Contracting Officer by the insurance company prior to cancellation or material change in policy coverage.

b. Automobile liability: ¥20,000,000 per person, ¥50,000,000 per occurrence for bodily injury, ¥2,000,000 per occurrence for property damage

c. Workmen's compensation as required by Japanese law or Federal and State workers' compensation and occupational disease laws.

d. Employer's liability coverage of ¥10,000,000.

e. Others as required by Japanese law.

1.4 CONTRACTOR PERSONNEL REQUIREMENTS

1.4.1 List of contact personnel of the Contractor and Subcontractors

Submit a list of contact personnel of the Contractor and subcontractors including the names, job titles, addresses and telephone numbers for use in the event of an emergency 15 days prior to planned start of on-site work. As changes occur and additional information becomes available, correct and change the information contained in previous lists.

1.4.1.1 Vehicle List

Submit an original list of vehicles to be utilized at the work site with the following information for each vehicle:

a. Make

b. Year

c. Model

d. License number

e. Registered owner

f. Current BASE pass expiration date.

1.4.2 Identification Badges

Identification badges, if required, will be furnished without charge. Application for and use of badges will be as directed. Immediately report instances of lost or stolen badges to the Contracting Officer.

1.5 SUPERVISION

Have at least one qualified supervisor capable of reading, writing, and conversing fluently in the English language on the job site during working hours. In addition, if a Quality Control (QC) representative is required on the contract, then that individual shall also have fluent English communication skills. Alternatively, provide a full-time on-site Interpreter.

1.6 PERFORMANCE EVALUATION

Contractor’s performance will be evaluated using the contractor performance evaluation report entry system located on the website http://www.cpars.csd.disa.mil/cparsmain.htm On-line training for Contractor’s personnel is available on the website. Prior to commencement of work, the Contractor is required to provide the government with the name, phone number and e-mail address of the “Contractor’s Representative” that

will be responsible for receipt and review of draft performance evaluations prepared by the government. It is the Contractor’s responsibility to keep this contact information current. After contractor performance evaluation is completed, it will be placed in the Federal Government’s Past Performance Information Retrieval System (PPIRS) for use by source selection officials when considering contractors for award of new contracts.

1.7 INTERPRETER

The Contractor shall furnish the service of an interpreter on the job. This interpreter shall have strong knowledge of the English language in terms of writing, listening, speaking and reading skills. Interpreter's English skills shall also be well suited to the construction industry. If at any time the FEAD feels the Contractor's interpreter is unable to perform the duties required of him/her, the FEAD will ask for his/her immediate replacement. When the QC manager or the project superintendent talks with the Government representative, on-site or off-site, they shall be accompanied by their interpreter.

1.8 PRECONSTRUCTION CONFERENCE

After award of the contract but prior to commencement of any work at the site, meet with the Contracting Officer to discuss and develop a mutual understanding relative to the administration of the value engineering and safety program, preparation of the schedule prices, shop drawings, and other submittals, scheduling programming, and prosecution of the work.
Major subcontractors who will engage in the work shall also attend.

1.9 PARTNERING

LEVEL C PARTNERING: To most effectively accomplish this contract, the Government requires the formation of a cohesive partnership with the Contractor and its subcontractors. The partnership will draw on the strength of each organization in an effort to achieve a quality project done right the first time, within budget, on schedule, and without any safety mishaps. This level of partnering discusses partnering concepts and benefits and should become a part of the preconstruction conference. The senior Government representative and senior Contractor representative present will jointly host the partnering sessions. The partners will determine the frequency of the follow-on sessions. Partnering sessions should be held at or near the location of the activity contracting office. The participants shall bear their own costs for meals, lodging, and transportation associated with partnering.

1.10 AVAILABILITY OF CADD DRAWING FILES

After award and upon request, the electronic "Computer-Aided Drafting and Design (CADD)" drawing files, AUTOCAD 2007 U.S version, will only be made available to the Contractor for use in preparation of construction data related to the referenced contract subject to the following terms and conditions.
Data contained on these electronic files shall not be used for any purpose other than as a convenience in the preparation of construction data for the referenced project. Any other use or reuse shall be at the sole risk of the Contractor and without liability or legal exposure to the Government. The Contractor shall make no claim and waives to the fullest extent permitted by law, any claim or cause of action of any nature against the Government, its

agents or sub consultants that may arise out of or in connection with the use of these electronic files. The Contractor shall, to the fullest extent permitted by law, indemnify and hold the Government harmless against all damages, liabilities or costs, including reasonable attorney's fees and defense costs, arising out of or resulting from the use of these electronic files.

These electronic CADD drawing files are not construction documents. Differences may exist between the CADD files and the corresponding construction documents. The Government makes no representation regarding the accuracy or completeness of the electronic CADD files, nor does it make representation to the compatibility of these files with the Contractors hardware or software. In the event that a conflict arises between the signed and sealed construction documents prepared by the Government and the furnished CADD files, the signed and sealed construction documents shall govern. The Contractor is responsible for determining if any conflict exists. Use of these CADD files does not relieve the Contractor of duty to fully comply with the contract documents, including and without limitation, the need to check, confirm and coordinate the work of all contractors for the project.

If the Contractor uses, duplicates and/or modifies these electronic CADD files for use in producing construction data related to this contract, all previous indicia of ownership (seals, logos, signatures, initials and dates) shall be removed.

1.11 ELECTRONIC MAIL (E-MAIL) ADDRESS

The Contractor shall establish and maintain electronic mail (e-mail) capability along with the capability to open various electronic attachments in Microsoft, Adobe Acrobat, and other similar formats. Within 10 days after contract award, the Contractor shall provide the Contracting Officer a single (only one) e-mail address for electronic communications from the Contracting Officer related to this contract including, but not limited to contract documents, invoice information, request for proposals, and other correspondence. The Contracting Officer may also use email to notify the Contractor of base access conditions when emergency conditions warrant, such as hurricanes, terrorist threats, etc. Multiple email address will not be allowed.

It is the Contractor's responsibility to make timely distribution of all Contracting Officer initiated e-mail with its own organization including field office(s). The Contractor shall promptly notify the Contracting Officer, in writing, of any changes to this email address.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

SECTION 01 32 16.00 20

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. The following shall be submitted in accordance with Section 01 33 00.00 20 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Construction schedule; G (FEAD)

1.2 CONSTRUCTION SCHEDULE

Prior to the start of work, prepare and submit to the Contracting Officer for acceptance a construction schedule in the form of a Critical Path Method (CPM), Network Schedule in accordance with the terms in Contract Clause "FAR 52.236-15, Schedules for Construction Contracts," except as modified in this contract.
The Government and the Contractor shall utilize Microsoft Projects 2007 for electronic submittal of all project schedules, unless specified otherwise by the Contracting Officer, throughout the duration of the Contract. Microsoft Projects is registered trademarks of Microsoft Corporation in the U.S.A.

1.3 CONSTRUCTION SCHEDULE

The Schedules will show submittals, government review periods, material/equipment delivery, utility outages, on-site construction, inspection, testing, and closeout activities, at minimum.

1.3.1 Network Analysis Schedule (NAS)

The Contractor shall use the critical path method (CPM) to schedule and control construction activities. The Network shall have a minimum of 20 construction activities. No on-site construction activity shall have durations in excess of 20 working days. The scheduling software that will be utilized by the Government on this project is MS Projects 2007 by Microsoft, Inc.
Notwithstanding any other provision in the contract, schedules submitted for this project must be prepared using MS Projects. Submission of data from another software system where data conversion techniques or software is used to import into MS Projects scheduling software is not acceptable and will be cause for rejection of the submitted schedule. The schedule shall be built as follows:

The Project Schedule shall show submittals, government review periods, material/equipment delivery, utility outages, all on-site construction, inspection, testing, and closeout activities. Government and Contractor on-site work activities shall be driven by calendars that reflect Saturdays, Sundays and all Federal Holidays as non-work days.

With the exception of the Contract Award and End Contract milestone activities, no activities shall be open-ended; each activity shall have predecessor and successor ties.

Each activity shall be assigned its appropriate Responsibility Code indicating responsibility to accomplish the work indicated by the activity, Phase Code and Work Location Code.

Date/time constraint(s) and/or lags, other than those required by the contract, shall not be allowed unless accepted by the Contracting Officer. The Contractor shall include as the last activity in the contract schedule, a milestone activity named "Contract Completion Date". The "Contract Completion Date" milestone shall have a "Mandatory Finish" constraint equal to the contract completion date.

1.3.1.1 Cost Loading Activities

Material, labor and equipment costs will be assigned to their respective Construction Activities. Material and equipment costs for which payment will be requested in advance of installation will be assigned to their respective procurement activity (i.e., the material/equipment on-site activity). Evenly disperse overhead and profit to each activity over the duration of the project. Cost loading shall total to 100 percent of the value of the contract.

1.3.1.2 Network Analysis Schedule (NAS) Submittals and Procedures

a. Submit all network analysis and updates in hard copy and on electronic media as directed by the Contracting Officer. Submit an electronic back-up of the project schedule in an import format compatible with the Government’s scheduling program.

b. Submit an Earned Value Report with each schedule update showing activity budget, cost percent complete, earned amount and cost to complete as directed by the contracting officer.

c. With each schedule submission, provide a Schedule Variance Control (SVC) diagram showing

   (1) Cash Flow S-Curves indicating planned project cost based on projected early and late activity finish dates and
   (2) Earned value to-date. Revise Cash Flow S-Curves when the contract is modified, or as directed by the contracting Officer.

1.4 UPDATED SCHEDULES

Update the construction schedule at monthly intervals or when the schedule has been revised. The updated schedule shall be kept current, reflecting actual activity progress and plan for completing the remaining work. Submit copies of the purchase orders and confirmation of the delivery dates as directed.

1.5 3-WEEK LOOK AHEAD SCHEDULE

The Contractor shall prepare and issue a 3-Week Look Ahead schedule to provide a more detailed day-to-day plan of upcoming work identified on the

Construction Schedule. The work plans shall be keyed to activity numbers when a NAS is required and updated each week to show the planned work for the current and following two-week period. Additionally, include upcoming outages, closures, preparatory meetings, and initial meetings. Identify critical path activities on the 3-Week Look Ahead Schedule. The detail work plans are to be bar chart type schedules, maintained separately from the Construction Schedule on an electronic spreadsheet program and printed on 8 ½ by 11 sheets as directed by the Contracting Officer. Activities shall not exceed 5 working days in duration and have sufficient level of detail to assign crews, tools and equipment required to complete the work. Three hard copies and one electronic file of the 3-Week Look Ahead Schedule shall be delivered to the Contracting Officer no later than 8 a.m. each Monday and reviewed during the weekly CQC Coordination Meeting.

1.6 CORRESPONDENCE AND TEST REPORTS

All correspondence (e.g., letters, Requests for Information (RFIs), e-mails, meeting minute items, Production and QC Daily Reports, material delivery tickets, photographs, etc.) shall reference Schedule activities that are being addressed. All test reports (e.g., concrete, soil compaction, weld, pressure, etc.) shall reference the schedule activities that are being addressed.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section –

REQUEST FOR INFORMATION

ACTIVITY ID		DATE
CONTRACT NO	CONTRACT TITLE	RFI NO
RFI SUBJECT	SPEC SECTION	DWG NO
RFI PRIORITY? ◯ HIGH ◯ NORMAL	SPEC PARAGRAPH	DWG DETAIL
POTENTIAL TIME/COST? ◯ YES ◯ NO		
SCHEDULE REFERENCED? ◯ YES ◯ NO	SPEC PAGE NO	DWG SHEET NO
CRITICAL PATH? ◯ YES ◯ NO		

CONTRACTOR QUESTION AND PROPOSED SOLUTION

RFI QUESTION/ISSUE:

CONTRACTOR PROPOSED SOLUTION:

CONTRACTOR/PROJECT MANAGER DATE

ANSWERS AND COMMENTS

RFI ACTION

RFI REASON CODE

NOTE: If the determination of this RFI is "Answered - No Cost" then this reply is given with the expressed understanding that it does not constitute a basis for any change in the amount or time of subject contract. Information provided in this response does not authorize work not currently included in the contract. If determination of this RFI is "Answered - Pending PCO" then this response may require a change to the contract.

COMMENTS FOR DETAILED REVIEWER:

DETAILED REVIEWER 1 RECOMMENDED RFI SOLUTION:

DETAILED REVIEWER 1 NAME/SIGNATURE	TITLE	RESPONSE DATE

DETAILED REVIEWER 2 RECOMMENDED RFI SOLUTION:

DETAILED REVIEWER 2 NAME/SIGNATURE	TITLE	RESPONSE DATE

RFI RESPONSE:

GOVERNMENT CONSTRUCTION MANAGER DATE

4296/2C (9/98)

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 GENERAL

The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Units of weights and measures used on all submittals are to be the same as those used in the contract drawings. Each submittal is to be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Contractor's Quality Control (CQC) System Manager and the Designer of Record, if applicable, shall check and approve all items prior to submittal to the Government and stamp, sign, and date indicating action taken. Proposed deviations from the contract requirements are to be clearly identified. Include within submittals items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals.

Submittals and samples requiring Government approval are to be scheduled and made prior to the acquisition of the material or equipment covered thereby. Materials shall be picked up and disposed of in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

1.1 DEFINITIONS

1.1.1 Submittal Description (SD)

Submittals requirements are specified in the technical sections. Submittals are identified by Submittal Description (SD) numbers and titles as follows:

SD-01 Preconstruction Submittals
Submittals which are required prior to a notice to proceed commencing work on site. Schedules or tabular list of data or tabular list including location, features, or other pertinent information regarding products, materials, equipment, or components to be used in the work, submitted prior to contract notice to proceed.
Submittals which are required prior to a notice to proceed commencing work on site. Submittals required prior to the start of the next major phase of the construction on a multi-phase contract. Schedules or tabular list of data or tabular list including location, features, or other pertinent information regarding products, materials, equipment, or components to be used in the work, submitted prior to contract notice to proceed or next major phase of construction.

Certificates of insurance
Surety bonds
List of proposed subcontractors
List of proposed products
Construction Progress Schedule
Network Analysis Schedule (NAS)

Submittal register
Cost loaded CPM schedule
Schedule of prices
Health and safety plan
Work plan
Quality control plan
Environmental protection plan

SD-02 Shop Drawings

Drawings, diagrams and schedules specifically prepared to illustrate some portion of the work.

Diagrams and instructions from a manufacturer or fabricator for use in producing the product and as aids to the Contractor for integrating the product or system into the project.

Drawings prepared by or for the Contractor to show how multiple systems and interdisciplinary work will be coordinated.

SD-03 Product Data

Catalog cuts, illustrations, schedules, diagrams, performance charts, instructions and brochures illustrating size, physical appearance and other characteristics of materials, systems or equipment for some portion of the work.

Samples of warranty language when the contract requires extended product warranties.

SD-04 Samples

Fabricated or un-fabricated physical examples of materials, equipment or workmanship that illustrate functional and aesthetic characteristics of a material or product and establish standards by which the work can be judged.

Color samples from the manufacturer's standard line (or custom color samples if specified) to be used in selecting or approving colors for the project.

Field samples and mock-ups constructed on the project site establish standards by which the ensuring work can be judged. Includes assemblies or portions of assemblies which are to be incorporated into the project and those which will be removed at conclusion of the work.

SD-05 Design Data

Design calculations, mix designs, analyses or other data pertaining to a part of work.

SD-06 Test Reports

Report signed by authorized official of testing laboratory that a material, product or system identical to the material, product or system to be provided has been tested in accord with specified

requirements. (Testing must have been within three years of date of contract award for the project.)

Report which includes findings of a test required to be performed by the Contractor on an actual portion of the work or prototype prepared for the project before shipment to job site.

Report which includes finding of a test made at the job site or on sample taken from the job site, on portion of work during or after installation.

Investigation reports.
Daily logs and checklists.
Final acceptance test and operational test procedure.

SD-07 Certificates

Statements printed on the manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements. Must be dated after award of project contract and clearly name the project.

Document required of Contractor, or of a manufacturer, supplier, installer or subcontractor through Contractor, the purpose of which is to further quality of orderly progression of a portion of the work by documenting procedures, acceptability of methods or personnel qualifications.

Confined space entry permits.
Text of posted operating instructions.

SD-08 Manufacturer’s Instructions

Preprinted material describing installation of a product, system or material, including special notices and Material Safety Data sheets concerning impedances, hazards and safety precautions.

SD-09 Manufacturer’s Field Reports

Documentation of the testing and verification actions taken by manufacturer's representative at the job site, in the vicinity of the job site, or on a sample taken from the job site, on a portion of the work, during or after installation, to confirm compliance with manufacturer's standards or instructions. The documentation must be signed by an authorized official of a testing laboratory or agency and must state the test results; and indicate whether the material, product, or system has passed or failed the test.

Factory test reports.

SD-10 Operation and Maintenance Data

Data that is furnished by the manufacturer, or the system provider, to the equipment operating and maintenance personnel. This data is needed by operating and maintenance personnel for the safe and efficient operation, maintenance and repair of the item. This Data is intended

to be incorporated in an operations and maintenance manual or control system.

SD-11 Closeout Submittals

Documentation to record compliance with technical or administrative requirements or to establish an administrative mechanism.

Special requirements necessary to properly close out a construction contract. For example, Record Drawings, manufacturer's help and product lines necessary to maintain and install equipment. Also, submittal requirements necessary to properly close out a major phase of construction on a multi-phase contract.

1.1.2 Approving Authority

Office or designated person authorized to approve submittal.

1.1.3 Work

As used in this section, on- and off-site construction required by contract documents, including labor necessary to produce submittals, construction, materials, products, equipment, and systems incorporated or to be incorporated in such construction.

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Submittal register; G (FEAD)

1.3 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.3.1 Government Approved

Government approval is required for extensions of design, critical materials, deviations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Government approval is required for any deviations from the Solicitation or Accepted Proposal and other items as designated by the Contracting Officer. Within the terms of the Contract Clause entitled "Specifications and Drawings for Construction," they are considered to be "shop drawings."

1.3.2 Information Only

Submittals not requiring Government approval will be for information only. For Design-build construction all submittals not requiring Designer of Record or Government approval will be for information only. They are not

considered to be "shop drawings" within the terms of the Contract Clause referred to above.

1.4 PREPARATION

1.4.1 Transmittal Form

Transmit each submittal, except sample installations and sample panels to office of FEAD. Transmit submittals with electronic transmittal form prescribed by Contracting Officer and standard for project. On the transmittal form identify Contractor, indicate date of submittal, and include information prescribed by transmittal form and required in paragraph entitled "Identifying Submittals." Process transmittal forms to record actions regarding samples. Transmit all electronic submittals less than 1MB by e-mail. All electronic submittals larger than 1MB shall be brought to the FEAD office on CD or DVD.

1.4.2 Identifying Submittals

When submittals are provided by a lower tier contractor the Prime Contractor is to prepare, review and stamp with Contractor's approval all specified submittals prior to submitting for Government approval.
Identify submittals, except sample installations and sample panels, with the following information permanently adhered to or noted on each separate component of each submittal and noted on transmittal form. Mark each copy of each submittal identically, with the following:

a. Project title and location.

b. Construction contract number.

c. Date of the drawings and revisions.

d. Name, address, and telephone number of subcontractor, supplier, manufacturer and any other second tier Contractor associated with submittal.

e. Section number of the specification section by which submittal is required.

f. Submittal description (SD) number of each component of submittal.

g. When a resubmission, add alphabetic suffix on submittal description, for example, submittal 18 would become 18A, to indicate resubmission.

h. Product identification and location in project.

1.4.3 Format for SD-02 Shop Drawings

a. Shop drawings are not to be less than 210 by 297 mm nor more than 1189 by 841 mm, except for full size patterns or templates. Prepare drawings to accurate size, with scale indicated, unless other form is required. Drawings are to be suitable for reproduction and be of a quality to produce clear, distinct lines and letters with dark lines on a white background.

b. Present A4 297 by 210 mm sized shop drawings as part of the bound volume for submittals required by section. Present larger drawings in sets.

c. Include on each drawing the drawing title, number, date, and revision numbers and dates, in addition to information required in paragraph entitled "Identifying Submittals."

d. Number drawings in a logical sequence. Contractors may use their own number system. Each drawing is to bear the number of the submittal in a uniform location adjacent to the title block. Place the Government contract number in the margin, immediately below the title block, for each drawing.

e. Reserve a blank space, no smaller than 25 millimeter on the right hand side of each sheet for the Government disposition stamp.

f. Dimension drawings, except diagrams and schematic drawings; prepare drawings demonstrating interface with other trades to scale. Use the same unit of measure for shop drawings as indicated on the contract drawings. Identify materials and products for work shown.

g. Include the nameplate data, size and capacity on drawings. Also include applicable federal, military, industry and technical society publication references.

1.4.4 Format of SD-03 Product Data and SD-08 Manufacturer's Instructions

a. Present product data submittals for each section as a complete, bound volume. Include table of contents, listing page and catalog item numbers for product data.

b. Indicate, by prominent notation, each product which is being submitted; indicate specification section number and paragraph number to which it pertains.

c. Supplement product data with material prepared for project to satisfy submittal requirements for which product data does not exist. Identify this material as developed specifically for project, with information and format as required for submission of SD-07 Certificates.

d. Provide product data in metric dimensions. Where product data are included in preprinted catalogs with English units only, submit metric dimensions on separate sheet.

e. Include the manufacturer's name, trade name, place of manufacture, and catalog model or number on product data. Also include applicable federal, military, industry and technical society publication references. Should manufacturer's data require supplemental information for clarification, submit as specified for SD-07 Certificates.

f. Where equipment or materials are specified to conform to industry and technical society reference standards of the organizations such as Japanese Industrial Standard (JIS), American National Standards Institute (ANSI), ASTM International (ASTM), National Electrical Manufacturer's Association (NEMA), Underwriters Laboratories (UL), and Association of Edison Illuminating Companies (AEIC), submit proof of such compliance. The label or listing by the specified organization will

be acceptable evidence of compliance. In lieu of the label or listing, submit a certificate from an independent testing organization, competent to perform testing, and approved by the Contracting Officer. State on the certificate that the item has been tested in accordance with the specified organization's test methods and that the item complies with the specified organization's reference standard.

g. Collect required data submittals for each specific material, product, unit of work, or system into a single submittal and marked for choices, options, and portions applicable to the submittal. Mark each copy of the product data identically. Partial submittals will be accepted for expedition of construction effort.

h. Submit manufacturer's instructions prior to installation.

1.4.5 Format of SD-04 Samples

a. Furnish samples in sizes below, unless otherwise specified or unless the manufacturer has prepackaged samples of approximately same size as specified:

(1) Sample of Equipment or Device: Full size.

(2) Sample of Materials Less Than 50 by 75 mm: Built up to A4 297 by 210 mm.

(3) Sample of Materials Exceeding A4 297 by 210 mm: Cut down to A4 297 by 210 mm and adequate to indicate color, texture, and material variations.

(4) Sample of Linear Devices or Materials: 250 mm length or length to be supplied, if less than 250 mm. Examples of linear devices or materials are conduit and handrails.

(5) Sample of Non-Solid Materials: 750 ml. Examples of non-solid materials are sand and paint.

(6) Color Selection Samples: 50 by 100 mm. Where samples are specified for selection of color, finish, pattern, or texture, submit the full set of available choices for the material or product specified. Sizes and quantities of samples are to represent their respective standard unit.

(7) Sample Panel: 1200 by 1200 mm.

(8) Sample Installation: 10 square meters.

b. Samples Showing Range of Variation: Where variations in color, finish, pattern, or texture are unavoidable due to nature of the materials, submit sets of samples of not less than three units showing extremes and middle of range. Mark each unit to describe its relation to the range of the variation.

c. Reusable Samples: Incorporate returned samples into work only if so specified or indicated. Incorporated samples are to be in undamaged condition at time of use.

d. Recording of Sample Installation: Note and preserve the notation of area constituting sample installation but remove notation at final clean up of project.

e. [When color, texture or pattern is specified by naming a particular manufacturer and style, include one sample of that manufacturer and style, for comparison.]

1.4.6 Format of SD-05 Design Data and SD-07 Certificates

Provide design data and certificates on 297 by 210 mm paper. Provide a bound volume for submittals containing numerous pages.

1.4.7 Format of SD-06 Test Reports and SD-09 Manufacturer's Field Reports

a. Provide reports on 297 by 210 mm paper in a complete bound volume.

b. Indicate by prominent notation, each report in the submittal. Indicate specification number and paragraph number to which it pertains.

1.4.8 Format of SD-10 Operation and Maintenance Data (O&M)

Comply with the requirements specified in Section 01 78 23 OPERATION AND MAINTENANCE DATA for O&M Data format.

1.4.9 Format of SD-01 Preconstruction Submittals and SD-11 Closeout Submittals

a. When submittal includes a document which is to be used in project or become part of project record, other than as a submittal, do not apply Contractor's approval stamp to document, but to a separate sheet accompanying document.

b. Provide all dimensions in administrative submittals in metric. Where data are included in preprinted material with English units only, submit metric dimensions on separate sheet.

1.5 QUANTITY OF SUBMITTALS

All submittals to the Government shall be in English or with English translation.

1.5.1 Number of Copies of SD-02 Shop Drawings

Submit three copies of submittals of shop drawings requiring review and approval only by QC organization and one CD copy of shop drawings requiring review and approval by the Government.

1.5.2 Number of Copies of SD-03 Product Data and SD-08 Manufacturer's Instructions

Submit in compliance with quantity requirements specified for shop drawings.

1.5.3 Number of Samples SD-04 Samples

a. Submit two samples, or two sets of samples showing range of variation, of each required item. One approved sample or set of samples will be retained by approving authority and one will be returned to Contractor.

b. Submit one sample panel or provide one sample installation where directed. Include components listed in technical section or as directed.

c. Submit one sample installation, where directed.

d. Submit one sample of non-solid materials.

1.5.4 Number of Copies SD-05 Design Data and SD-07 Certificates

Submit in compliance with quantity requirements specified for shop drawings.

1.5.5 Number of Copies SD-06 Test Reports and SD-09 Manufacturer's Field Reports

Submit in compliance with quantity and quality requirements specified for shop drawings other than field test results that will be submitted with QC reports.

1.5.6 Number of Copies of SD-10 Operation and Maintenance Data

Submit three copies of O&M Data to the Contracting Officer for review and approval.

1.5.7 Number of Copies of SD-01 Preconstruction Submittals and SD-11 Closeout Submittals

Unless otherwise specified, submit two sets of administrative submittals.

1.6 VARIATIONS / SUBSTITUTION REQUESTS

Variations from contract requirements require Government approval pursuant to contract Clause FAR 52.236-21 and will be considered where advantageous to Government.

1.6.1 Considering Variations

Discussion with Contracting Officer prior to submission, will help ensure functional and quality requirements are met and minimize rejections and re-submittals. When contemplating a variation which results in lower cost, consider submission of the variation as a Value Engineering Change Proposal (VECP).
Specifically point out variations from contract requirements in transmittal letters. Failure to point out deviations may result in the Government requiring rejection and removal of such work at no additional cost to the Government.

1.6.2 Proposing Variations

When proposing variation, deliver written request to the Contracting Officer, with documentation of the nature and features of the variation and why the variation is desirable and beneficial to Government. If lower cost is a benefit, also include an estimate of the cost savings. In addition to

documentation required for variation, include the submittals required for the item. Clearly mark the proposed variation in all documentation.

1.6.3 Warranting That Variations Are Compatible

When delivering a variation for approval, Contractor warrants that this contract has been reviewed to establish that the variation, if incorporated, will be compatible with other elements of work.

1.6.4 Review Schedule Is Modified

In addition to normal submittal review period, a period of 15 calendar days will be allowed for consideration by the Government of submittals with variations.

1.7 SUBMITTAL REGISTER

Prepare and maintain submittal register, as the work progresses. Do not change data which is output in columns (c), (d), (e), and (f) as delivered by Government; retain data which is output in columns (a), (g), (h), and (i) as approved. A submittal register showing items of equipment and materials for which submittals are required by the specifications is provided as an attachment. This list may not be all inclusive and additional submittals may be required. Maintain a submittal register for the project in accordance with Section 01 45 01.00 20 “QUALITY CONTROL (QC) MINOR CONSTRUCTION” 01 45 20 “NAVFAC QUALITY CONTROL” with the following fields completed, to the extent that will be required by the Government during subsequent usage.

Column (c): Lists specification section in which submittal is required.

Column (d): Lists each submittal description (SD No. and type, e.g. SD-02 Shop Drawings) required in each specification section.

Column (e): Lists one principal paragraph in specification section where a material or product is specified. This listing is only to facilitate locating submitted requirements. Do not consider entries in column (e) as limiting project requirements.

Column (f): Indicate approving authority for each submittal. Approved offices, flowing “G”, are to be used as follows;

AD- FEAD
EV- Environment Office
Blank – Contractor QC Manager

1.7.1 Use of Submittal Register

Submit submittal register. Submit with QC plan and project schedule. Verify that all submittals required for project are listed and add missing submittals. Coordinate and complete the following fields on the register submitted with the QC plan and the project schedule:

Column (a) Activity Number: Activity number from the project schedule.

Column (g) Contractor Submit Date: Scheduled date for approving authority to receive submittals.

Column (h) Contractor Approval Date: Date Contractor needs approval of submittal.

Column (i) Contractor Material: Date that Contractor needs material delivered to Contractor control.

1.7.2 Contractor Use of Submittal Register

Update the following fields with each submittal throughout contract.

Column (b) Transmittal Number: Contractor assigned list of consecutive numbers.

Column (j) Action Code (k): Date of action used to record Contractor's review when forwarding submittals to QC.

Column (l) List date of submittal transmission.

Column (q) List date approval received.

1.7.3 Approving Authority Use of Submittal Register

Update the following fields.

Column (b) Transmittal Number: Contractor assigned list of consecutive numbers.

Column (l) List date of submittal receipt.

Column (m) through (p) List Date related to review actions.

Column (q) List date returned to Contractor.

1.7.4 Contractor Action Code and Action Code

Entries for columns (j) and (o), are to be used are as follows (others may be prescribed by Transmittal Form):

NR - Not Received
AN - Approved as noted
A – Approved
RA or F – Receipt, acknowledged
RR - Disapproved, Revise, and Resubmit

1.7.5 Copies Delivered to the Government

Deliver one copy of submittal register updated by Contractor to Government with each invoice request.

1.8 SCHEDULING

Schedule and submit concurrently submittals covering component items forming a system or items that are interrelated. Include certifications to be submitted with the pertinent drawings at the same time. No delay damages or time extensions will be allowed for time lost in late submittals. An additional 21 calendar days will be allowed and shown on the register for review and approval of submittals for fire protection systems, [food service

equipment] [, refrigeration, and HVAC control systems] and telecommunication systems.

a. Coordinate scheduling, sequencing, preparing and processing of submittals with performance of work so that work will not be delayed by submittal processing. Allow for potential resubmittal of requirements.

b. Submittals called for by the contract documents will be listed on the register. If a submittal is called for but does not pertain to the contract work, the Contractor is to include the submittal in the register and annotate it "N/A" with a brief explanation. Approval by the Contracting Officer does not relieve the Contractor of supplying submittals required by the contract documents but which have been omitted from the register or marked "N/A".

c. Re-submit register and annotate monthly by the Contractor with actual submission and approval dates. When all items on the register have been fully approved, no further re-submittal is required.

d. Carefully control procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

e. Except as specified otherwise, allow review period, beginning with receipt by approving authority, that includes at least 15 calendar days for submittals for QC Manager approval and 15 calendar days for submittals for Contracting Officer approval. Period of review for submittals with Contracting Officer approval begins when Government receives submittal from QC organization.

f. For submittals requiring review by environment office, allow review period, beginning when Government receives submittal from QC organization, of 21 calendar days for return of submittal to the Contractor.

g. For submittals requiring review by fire protection engineer, allow review period, beginning when Government receives submittal from QC organization, of 21 calendar days for return of submittal to the Contractor.

h. Period of review for each resubmittal is the same as for initial submittal.

Within 15 calendar days of notice to proceed, provide, for approval by the Contracting Officer, the following schedule of submittals:

a. A schedule of shop drawings and technical submittals required by the specifications and drawings. Indicate the specification or drawing reference requiring the submittal; the material, item, or process for which the submittal is required; the "SD" number and identifying title of the submittal; the Contractor's anticipated submission date and the approval need date.

b. A separate schedule of other submittals required under the contract but not listed in the specifications or drawings. Schedule will indicate the contract requirement reference; the type or title of the submittal; the

Contractor's anticipated submission date and the approved need date (if approval is required).

1.8.1 Reviewing, Certifying, Approving Authority

The QC organization is responsible for reviewing and certifying that submittals are in compliance with contract requirements. Approving authority on submittals is QC Manager unless otherwise specified for specific submittal. At each "Submittal" paragraph in individual specification sections, a notation "G," following a submittal item, indicates Contracting Officer is approving authority for that submittal item.

1.8.2 Constraints

a. Conform to provisions of this section, unless explicitly stated otherwise for submittals listed or specified in this contract.

b. Submit complete submittals for each definable feature of work. Submit at the same time components of definable feature interrelated as a system.

c. When acceptability of a submittal is dependent on conditions, items, or materials included in separate subsequent submittals, submittal will be returned without review.

d. Approval of a separate material, product, or component does not imply approval of assembly in which item functions.

1.8.3 QC Organization Responsibilities

a. Note date on which submittal was received from Contractor on each submittal.

b. Review each submittal; and check and coordinate each submittal with requirements of work and contract documents.

c. Review submittals for conformance with project design concepts and compliance with contract documents.

d. Act on submittals, determining appropriate action based on QC organization's review of submittal.

   (1) When QC Manager is approving authority, take appropriate action on submittal from the possible actions defined in paragraph entitled, "Actions Possible."

   (2) When Contracting Officer is approving authority or when variation has been proposed, forward submittal to Government with certifying statement or return submittal marked "not reviewed" or "revise and resubmit" as appropriate. The QC organization's review of submittal determines appropriate action.

e. Ensure that material is clearly legible.

f. Stamp each sheet of each submittal with QC certifying statement or approving statement, except that data submitted in bound volume or on one sheet printed on two sides may be stamped on the front of the first sheet only.

(1) When approving authority is Contracting Officer, QC organization will certify submittals forwarded to Contracting Officer with the following certifying statement:

"I hereby certify that the (equipment) (material) (article) shown and marked in this submittal is that proposed to be incorporated with contract Number [_____], is in compliance with the contract drawings and specification, can be installed in the allocated spaces, and is submitted for Government approval.
Certified by Submittal Reviewer _____, Date _____
(Signature when applicable)
Certified by QC Manager _____, Date _____"
(Signature)

(2) When approving authority is QC Manager, QC Manager will use the following approval statement when returning submittals to Contractor as "Approved" or "Approved as Noted."

"I hereby certify that the (material) (equipment) (article) shown and marked in this submittal and proposed to be incorporated with contract Number [_____], is in compliance with the contract drawings and specification, can be installed in the allocated spaces, and is approved for use.
Certified by Submittal Reviewer _____, Date _____
(Signature when applicable)
Approved by QC Manager _____, Date _____"
(Signature)

g. Sign certifying statement or approval statement. The QC organization member designated in the approved QC plan is the person signing certifying statements. The use of original ink for signatures is required. Stamped signatures are not acceptable.

h. Update submittal register as submittal actions occur and maintain the submittal register at project site until final acceptance of all work by Contracting Officer.

i. Retain a copy of approved submittals at project site, including Contractor's copy of approved samples.

1.9 GOVERNMENT APPROVING AUTHORITY

When approving authority is Contracting Officer, the Government will:

a. Note date on which submittal was received from QC Manager.

b. Review submittals for approval within scheduling period specified and only for conformance with project design concepts and compliance with contract documents.

c. Identify returned submittals with one of the actions defined in paragraph entitled "Review Notations" and with markings appropriate for action indicated.

Upon completion of review of submittals requiring Government approval, stamp and date approved submittals. If the contract requires submittals in hard

copy, three copies of the approved submittal will be retained by the Contracting Officer and four copies of the submittal will be returned to the Contractor.

1.9.1 Review Notations

Contracting Officer review will be completed within 15 calendar days after date of submission. Submittals will be returned to the Contractor with the following notations:

a. Submittals marked "approved" or "accepted" authorize the Contractor to proceed with the work covered.

b. Submittals marked "approved as noted" "or approved except as noted, resubmittal not required," authorize the Contractor to proceed with the work covered provided he takes no exception to the corrections.

c. Submittals marked "not approved" or "disapproved," or "revise and resubmit," indicate noncompliance with the contract requirements or design concept, or that submittal is incomplete. Resubmit with appropriate changes. No work shall proceed for this item until resubmittal is approved.

d. Submittals marked "not reviewed" will indicate submittal has been previously reviewed and approved, is not required, does not have evidence of being reviewed and approved by Contractor, or is not complete. A submittal marked "not reviewed" will be returned with an explanation of the reason it is not reviewed. Resubmit submittals returned for lack of review by Contractor or for being incomplete, with appropriate action, coordination, or change.

1.10 DISAPPROVED OR REJECTED SUBMITTALS

Contractor shall make corrections required by the Contracting Officer. If the Contractor considers any correction or notation on the returned submittals to constitute a change to the contract drawings or specifications; notice as required under the clause entitled, "Changes" is to be given to the Contracting Officer. Contractor is responsible for the dimensions and design of connection details and construction of work. Failure to point out deviations may result in the Government requiring rejection and removal of such work at the Contractor's expense. If changes are necessary to submittals, the Contractor shall make such revisions and submission of the submittals in accordance with the procedures above. No item of work requiring a submittal change is to be accomplished until the changed submittals are approved.

1.11 APPROVED/ACCEPTED SUBMITTALS

The Contracting Officer's approval or acceptance of submittals is not be construed as a complete check, and indicates only that the general method of construction, materials, detailing and other information are satisfactory design, general method of construction, materials, detailing and other information appear to meet the Solicitation and Accepted Proposal. Approval or acceptance will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the Contractor Quality Control (CQC) requirements of this contract is responsible for dimensions, the design of adequate connections and details, and the satisfactory

construction of all work. After submittals have been approved or accepted by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.12 APPROVED SAMPLES

Approval of a sample is only for the characteristics or use named in such approval and is not be construed to change or modify any contract requirements. Before submitting samples, the Contractor to assure that the materials or equipment will be available in quantities required in the project. No change or substitution will be permitted after a sample has been approved. Match the approved samples for Materials and equipment incorporated in the work. If requested, approved samples, including those which may be damaged in testing, will be returned to the Contractor, at his expense, upon completion of the contract. Samples not approved will also be returned to the Contractor at its expense, if so requested.
Failure of any materials to pass the specified tests will be sufficient cause for refusal to consider, under this contract, any further samples of the same brand or make of that material. Government reserves the right to disapprove any material or equipment which previously has proved unsatisfactory in service.
Samples of various materials or equipment delivered on the site or in place may be taken by the Contracting Officer for testing. Samples failing to meet contract requirements will automatically void previous approvals.
Contractor to replace such materials or equipment must meet contract requirements.
Approval of the Contractor's samples by the Contracting Officer does not relieve the Contractor of his responsibilities under the contract.

1.13 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

SUBMITTAL TRANSMITTAL

ACTIVITY ID		DATE
CONTRACT NO	CONTRACT TITLE	SUBMI NO
SUBM ITEM DESCRIPTION	SUBMITTAL PRIORITY? ◯ HIGH ◯ NORMAL PREPARED BY CQC MGR? ◯ YES ◯ NO SCHEDULE REFERENCED? ◯ YES ◯ NO CRITICAL PATH? ◯ YES ◯ NO	
SPEC SECTION	SPEC PARAGRAPH	SPEC PAGE NO

CQC REMARKS:

CONTRACTOR/QUALITY CONTROL MANAGER DATE

APPROVAL AND COMMENTS

COMMENTS FOR DETAILED REVIEWER:

DETAILED REVIEWER 1 COMMENTS:

DETAILED REVIEWER 1 NAME/SIGNATURE	TITLE	RESPONSE DATE

DETAILED REVIEWER 2 COMMENTS:

DETAILED REVIEWER 2 NAME/SIGNATURE	TITLE	RESPONSE DATE

APPROVER'S COMMENTS:

SUBM STATUS

GOVERNMENT CONSTRUCTION MANAGER DATE

4296/2C (9/98)

Transmittal/Review/Approval

DATE

CONTRACT NO	TITLE Fill in Project Title/Location Here		
FROM (CONTRACTOR)	TO	SUBMITTAL NO.	FOR SPEC. SECTION

Add Del

ENCL. NO.	NO. OF COPIES	DESCRIPTION	SPEC. SEC.PARA./DWG.NO.	SCHEDULE ACTIVITY NO.	CQC CODE

DATE NEEDED BY:

TRANSMITTED FOR: ☐ APPROVAL ☐ CLARIFICATION ☐ SELECTION ☐ RECORD ☐ VARIANCE

It is hereby certified that the material submitted herein conforms to contract requirements and can be installed in the allocated spaces. CONTRACTOR'S SIGNATURE

FROM SIGNATURE: DATE:

TO: *For review/comment ( ) copies of enclosures forwarded. RETURN WITHIN ( ) WORKING DAYS, unless submittal is for record/info purposes only and there are no adverse comments.*

FROM: TO DATE:

RECOMMEND:

☐ APPROVAL/ACCEPTANCE, subject to contract requirements
☐ APPROVAL/ACCEPTANCE, as noted, subject to contract requirements
☐ RETURN for correction and resubmission
☐ DISAPPROVAL
☐ REVIEWED AND PROCEED
☐

REMARKS:

SIGNATURE:

☐ copies of encls retained

FROM: TO (CONTRACTOR) DATE:

Enclosure(s) is (are):

☐ APPROVED/ACCEPTED, subject to contract requirements
☐ APPROVED/ACCEPTED, as noted, subject to contract requirements
☐ RETURNED for correction and resubmission
☐ DISAPPROVED
☐ NOT REVIEWED
☐ RECEIVED FOR RECORD

REMARKS:

SIGNATURE

☐ copies of encls returned

Copy to: Contract File (w/encls)
ConRep/ET (w/encls)
CME (w/encls)

BY DIRECTION OF THE CONTRACTING OFFICER

SUBMITTAL REGISTER

CONTRACT NO. EP-870919

TITLE AND LOCATION: REPLACE A/C SYSTEM ACP-1 (CTF-72), BLDG 978, NAF MISAWA, JAP

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECTION	SD NUMBER	PARAGRAPH NUMBER AND DISCRIPTION	GOVT REVIEWER OR CQC	CLASSIFICATION	CONTRACTOR: SCHEDULE DATE			CONTRACTOR ACTION			APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FRM APPR AUTH	DATE FWD TO OTHER REVIEWER	DATE RCD FRM OTHER REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 11 00	SD-01	Utility Outage Requests	G (AD)													
			SD-01	Hot work Permits	G (AD)													
		01 14 00	SD-01	Employee List for High Restricted area	G (AD)													
		01 20 00.00 20	SD-01	Earned Value Report	G (AD)													
		01 30 00	SD-01	List of contact personnel of the Contractor and Subcontractors	G (AD)													
			SD-01	Certificate of Insurance	G(CS)													
			SD-01	Vehicle list	G (AD)													
		01 32 16.00 20	SD-01	Construction schedule	G (AD)													
		01 33 00	SD-01	Submittal register	G (AD)													
		01 35 26	SD-01	Accident Prevention Plan (APP)	G (AD)													
			SD-01	Activity Hazard Analysis (AHA)	G (AD)													
			SD-01	Crane Critical Lift Plan	G (AD)													
			SD-01	Proof of qualification for Crane Operators	G (AD)													
			SD-01	Temporary Wiring and Lighting sketch	G (AD)													
			SD-01	Fall Protection and Prevention (FP&P) Plan	G (AD)													
			SD-01	Scaffolding plan	G (AD)													
			SD-01	Energized Electrical Work Permit	G (AD)													
			SD-06	Reports	G (AD)													
			SD-06	Accident Reports	G (AD)													
			SD-06	Crane Reports	G (AD)													
			SD-07	Hot work permit	G (AD)													
			SD-07	Contractor safety self-evaluation checklist	G (AD)													

NOTE: AD=FEAD, CS= FEAD Contract Specialist, FE=Far East Fire Protection Engineer, EV =NAVFACFE Environment Office

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(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
			SD-07	Certificate of compliance (Crane)	G (AD)												
			SD-07	Confined space entry permit	G (AD)												
		01 45 01.00 20	SD-01	QC Plan	G (AD)												
		01 50 00	SD-01	Construction site plan	G (AD)												
			SD-01	Traffic control plan	G (AD)												
		01 57 19.00 20	SD-01	Contractor/Vendor Environmental Service Agreement	G (AD) (EV)												
			SD-01	Preconstruction Survey	G (AD) (EV)												
			SD-01	Solid Waste Management Plan and Permit	G (AD) (EV)												
			SD-01	Transportation and disposal permits/licenses for hazardous waste	G (AD) (EV)												
			SD-01	ODS handling certification	G (AD) (EV)												
			SD-01	Hazardous Material List and MSDS	G (AD) (EV)												
			SD-01	Environmental Management Plan	G (AD) (EV)												
			SD-06	Disposal Requirements	G (AD) (EV)												
			SD-11	Disposal Documentation for Hazardous and Regulated Waste	G (AD) (EV)												
			SD-11	Hazardous, and Toxic Waste Manifests	G (AD) (EV)												
			SD-11	Regulatory notification	G (AD) (EV)												

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(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
			SD-11	Contractor Hazardous Material Inventory Log	G (AD) (EV)												
		01 58 00	SD-02	Preliminary drawing indicating layout and text content	G (AD)												
		01 74 19	SD-01	Waste Management Plan	G (AD)												
			SD-11	Records with manifests	G (AD)												
		01 77 00.00 20	SD-10	Equipment/Product Warranty List	G (AD)												
			SD-11	As-Built Drawings	G (AD)												
			SD-11	Disposal Manifests for Construction, Demolition, and Hazardous Wastes	G (AD)												
		02 41 00.00 20	SD-01	Demolition Plan	G (AD)												
			SD-07	Disposal manifest for Solid Waste	G (AD)												
			SD-07	Disposal manifest for Ozone Depleting Substance (ODS)	G (AD)												
			SD-07	Register, fluorocarbon refrigerant gas remover	G (AD)												
		09 90 00	SD-08	Manufacturer's Material Safety Data Sheets	G (AD)												
		22 00 00	SD-03	Pipe and Fittings	G (AD)												
			SD-03	Pipe Hangers and Supports	G (AD)												
			SD-06	Drainage Tests	G (AD)												
		23 00 00	SD-03	Return Air Fan	G (AD)												
			SD-03	Flexible Duct Connection	G (AD)												
			SD-03	HVAC TAB Procedures	G (AD)												
			SD-06	Return Air Fan	G (AD)												
			SD-06	HVAC TAB Report	G (AD)												

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(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
			SD-10	Return Air Fan	G (AD)													
		23 00 00.00 40	SD-03	Packaged Air Conditioning Units	G (AD)													
			SD-03	Modulating 2-way Control Valve	G (AD)													
			SD-03	Steam Traps	G (AD)													
			SD-03	Vlaves	G (AD)													
			SD-03	Strainers	G (AD)													
			SD-03	Pipe and Pipe Fittings	G (AD)													
			SD-06	Field Tests for Packaged Air Conditioning Unit	G (AD)													
			SD-07	Brazing	G (AD)													
			SD-08	Installation Manual for Packaged Air Conditioing Unit	G (AD)													
			SD-08	Installation Manual for Modulating 2-way Control Valve	G (AD)													
			SD-10	Packaged Air Conditioning Unit, Data Package 5	G (AD)													
			SD-10	Modulating 2-way Control Valve	G (AD)													
		23 07 00	SD-03	Insulation	G (AD)													
		26 00 00.00 20	SD-07	Qualifications of second grade electrician	G (AD)													
		26 20 00	SD-01	Testing methods for each field test	G (AD)													
			SD-03	Conduit and fittings (each type)	G (AD)													
			SD-03	Wires and Cables (each type)	G (AD)													
			SD-03	Circuit breaker	G (AD)													
			SD-03	Pull box w/ cover	G (AD)													
			SD-03	Electromagnetic contactor, Thermal relay and Condenser	G (AD)													
			SD-03	Ammeter	G (AD)													

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(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
			SD-06	Insulation resistance test, 600-volt grade	G (AD)													
			SD-07	Certificate of electrician	G (AD)													

NOTE: AD=FEAD, CS= FEAD Contract Specialist, FE=Far East Fire Protection Engineer, EV =NAVFACFE Environment Office

SECTION 01 35 26

GOVERNMENTAL SAFETY REQUIREMENTS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE/SAFE)

ASSE/SAFE A10.32	(2004) Personal Fall Protection – Safety Requirements for Construction and Demolition Operations
ASSE/SAFE A10.34	(2001; R 205) Protection of the Public on or Adjacent to Construction Sites
ASSE/SAFE Z359.1	(2007) Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components
ASSE/ISEA 107	(2004) Standard for High Visibility Safety Apparel

ASME INTERNATIONAL (ASME)

ASME B30.22	(2005) Articulating Boom Cranes
ASME B30.3	(2009) Construction Tower Cranes
ASME B30.5	(2007) Mobile and Locomotive Cranes
ASME B30.8	(2004) Floating Cranes and Floating Derricks

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 10	(2010) Portable Fire Extinguishers
NFPA 241	(2009) Safeguarding Construction, Alteration, and Demolition Operations
NFPA 306	(2009) Safeguarding Construction, Alteration, and Demolition Operations
NFPA 51B	(2009) Fire Prevention During Welding, Cutting, and Other Hot Work
NFPA 70	(2008; AMD 1 2008) National Electrical Code
NFPA 70E	(2009; Errata 2009) Standard for Electrical Safety in the Workplace

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2008) Safety and Health Requirements Manual

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1910.146	Permit-required Confined Spaces
29 CFR 1915	Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment
29 CFR 1919	Gear Certification
29 CFR 1926	Safety and Health Regulations for Construction
29 CFR 1926.500	Fall Protection

LAW OF THE JAPANESE GOVERNMENT

No. 57	Industrial Safety and Health Law

NAVFAC FAR EAST INSTRUCTION

NAVFACFEINS 11260.1G	Weight Handling Equipment (WHE) Program Manual

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval and are submitted for information only. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Accident Prevention Plan (APP); G (FEAD)

Activity Hazard Analysis (AHA); G (FEAD)

Crane Critical Lift Plan; G (FEAD)

Proof of qualification for Crane Operators; G (FEAD)

Temporary Wiring and Lighting sketch; G (FEAD)

Fall Protection and Prevention (FP&P) Plan; G (FEAD)

Scaffolding plan; G (FEAD)

Energized Electrical Work Permit; G (FEAD)

SD-06 Test Reports

Reports; G (FEAD)

Submit reports as their incidence occurs, in accordance with the requirements of the paragraph entitled, "Reports."

Accident Reports; G (FEAD)

Crane Reports; G (FEAD)

SD-07 Certificates

Hot work permit; G (FEAD)

Contractor safety self-evaluation checklist; G (FEAD)

Certificate of compliance (Crane); G (FEAD)

Confined space entry permit; G (FEAD)

Submit one copy of each permit/certificate attached to each Daily Quality Control Report.

1.3 DEFINITIONS

a. Competent Person for Fall Protection. A person who is capable of identifying hazardous or dangerous conditions in the personal fall arrest system or any component thereof, as well as their application and use with related equipment, and has the authority to take prompt corrective measures to eliminate the hazards of falling.

b. Crane. Contractor operated crane includes cranes, multi-purpose machines, material handling equipment (Forklifts), and Construction Equipment when used as cranes to lift suspended loads and rigging equipment in weight handling operations.

c. High Visibility Accident. Any mishap which may generate publicity and/or high visibility.

d. Medical Treatment. Treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even through provided by a physician or registered personnel.

e. Operating Envelope. The area surrounding any crane. Inside this "envelope" is the crane, the operator, riggers and crane walkers, rigging gear between the hook and the load, the load and the crane's supporting structure (ground, rail, etc.).

f. Qualified Person for Fall Protection. A person with a recognized degree or professional certificate, and with extensive knowledge, training and experience in the field of fall protection; who is capable of performing design, analysis, and evaluation of fall protection systems and equipment.

g. Recordable Injuries or Illnesses. Any work-related injury or illness that results in:

(1) Death, regardless of the time between the injury and death, or the length of the illness;

(2) Days away from work (any time lost after day of injury/illness onset);

(3) Restricted work;

(4) Transfer to another job;

(5) Medical treatment beyond first aid;

(6) Loss of consciousness; or

(7) A significant injury or illness diagnosed by a physician or other licensed health care professional, even if it did not result in (1) through (6) above.

h. "USACE" property and equipment specified in USACE EM 385-1-1 should be interpreted as Government property and equipment.

i. Weight Handling Equipment (WHE) Accident. A WHE accident occurs when any elements in the operating envelope fails to perform correctly during operation, including operation during maintenance or testing resulting in personnel injury or death; (minor injuries that are inherent to any industrial operation, including strains and repetitive motion related injury shall be reported by normal personnel injury reporting process of this contract.

j. Material or equipment damage; dropped load; derailment; two-blocking; overload (This includes load test when test load tolerances is exceeded); and/or collision, including unplanned contact between the load, crane, and/or other objects. A dropped load, derailment, two-blocking, overload and collision are considered accidents even though no material damage or injury occur. 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, rollover, etc.).

Exception. If a crane is used as an anchor point for a portable hoist/rigging gear, a rigging gear accident as defined in paragraph 12.3 NAVFAC P-307 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.

k. Rigging Gear Accident. For the purpose of this definition it is assumed there is an "Operating Envelop" around any weight handling operation and inside the envelop are the following Rigging and miscellaneous equipment used for lifting, the user of the rigging gear or equipment, other personnel involved in the operation, the load, the rigging gear or equipment’s supporting structure, the loads rigging path and the rigging procedure.

l. A rigging gear accident occurs when any elements in the operating envelope fails to perform correctly during weight handling operations

resulting in personnel injury or death, (minor injuries that are inherent to any industrial operation, including strains and repetitive motion related injury shall be reported by normal personnel injury reporting process of this contract. material or equipment damage, dropped load, two-blocking of cranes and powered hoists or an overload (This includes load test when test load tolerances is exceeded) The last three mentioned items are considered accidents even if no material damage or injuries occurred.

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.)

1.4 CONTRACTOR SAFETY SELF-EVALUATION CHECKLIST

Contracting Officer will provide a "Contractor Safety Self-Evaluation Checklist" to the Contractor at the pre-construction conference. The checklist will be completed monthly by the Contractor and submitted with each request for payment voucher. An acceptable score of 90 or greater is required. Failure to submit the completed safety self-evaluation checklist or achieve a score of at least 90, will result in a retention of up to 10 percent of the voucher.

1.5 REGULATORY REQUIREMENTS

In addition to the detailed requirements included in the provisions of this contract, work performed shall comply with USACE EM 385-1-1, and the applicable federal, state, state, and local laws, host nation, ordinances, criteria, rules and regulations. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements shall apply.

1.6 SITE QUALIFICATIONS, DUTIES AND MEETINGS

1.6.1 Personnel Qualifications

1.6.1.1 Site Safety and Health Officer (SSHO)

a. The contractor shall provide a Safety oversight team that includes a minimum of one (1) Competent Person at each project site to function as the Safety and Health Officer (SSHO). The SSHO shall be at the work site at all times, unless specified differently in the contract, to perform safety and occupational health management, surveillance, inspections, and safety enforcement for the Contractor, and their training, experience, and qualifications shall be as required by EM 385-1-1 paragraph 01.A.17 and all associated sub-paragraphs. A Competent Person shall be provided for all of the hazards identified in the Contractor's Safety and Health Program in accordance with the accepted Accident Prevention Plan, and shall be on-site at all times when the work that presents the hazards associated with their professional expertise is being performed. The credentials of the Competent Person (s) shall be approved by the Contracting Officer in consultation with the Safety Office.

The Contractor Quality Control (QC) person can be the same person as the SSHO on this project.

NOTE: Host Nation Safety training will be considered to the equivalent 30 hour OSHA Construction safety class training requirement. The Japan Construction Occupational Safety and Health Association (JCOSHA) provides the construction safety course "Kouji Shunin", or "Course for Construction Site Managers", which is an acceptable equivalent to the 30-Hour OSHA Construction Safety Course mentioned above. Completion of this training will fulfill the requirements of the above. This training can be viewed at the JCOSHA website http://www.kensaibou.or.jp, or http://www.kensaibou.or.jp/english.

NOTE: All Host Nation Safety equivalent training, OSHA 30-Hour OSHA Construction Safety Class, and other Competent Person training will require re-fresher training every 5 years from the date of completion.

b. Complete the NAVFAC Far East 24-hr EM 385-1-1 Awareness Course for Contractors within 6 months of award of contract. The completion of the 24-hr EM 385-1-1 Awareness Course for Contractors cannot be used as credit for the 24-hrs of additional formal safety training required by EM 385-1-1, para 01.A.17.

SSHOs shall receive additional 24-hrs of formal safety training every 4 years for continuing safety training from a Host Country or CONUS recognized training provider IAW EM 385-1-1, para 01.A.17.

Note 1: EM 385-1-1 Awareness course will require re-fresher training every 5 years or when a new EM 385-1-1 manual is issued. Which ever comes first will apply.

Note 2: Certification of training for the EM 385-1-1 Awareness can be valid up to two years after a NEW edition of the EM 385-1-1 is placed into effect. GDA reserves the authority to terminate or grant extensions of validation for the EM 385-1-1 Awareness course up to two years.

EM 385-1-1 Awareness Course is not all inclusive of the contract or project site safety requirements. SSHO and Prime Contractor are still required to implement a safety program IAW contract specification and Host Nation safety requirements.

1.6.1.2 Competent Person for Scaffolding

Provide a scaffolding competent person to perform the work meeting the definition and requirements of EM 385-1-1.

1.6.1.3 Competent Person for Confined Space Entry

Provide a competent person for confined space meeting the definition and requirements of EM 385-1-1.

For work involving marine operations that handle combustible or hazardous materials, this person shall have the ability to understand and follow through on the air sampling, PPE, and instructions of a Marine Chemist, Coast Guard authorized persons, or Certified Industrial Hygienist. All confined space and enclosed space work shall comply with NFPA 306, OSHA 29 CFR 1915, Subpart B, "Confined and Enclosed Spaces and Other Dangerous

Atmospheres in Shipyard Employment" or as applicable, 1910.147 for general industry.

1.6.1.4 Crane Operators

Meet the crane operators requirements in USACE EM 385-1-1, Section 16 and Appendix I, NAVFAC P-307 and NAVFACFEINST 11260.1G or most current version. In addition, for mobile cranes with Original Equipment Manufacturer (OEM) rated capacitates of 0.5 tons or greater, designate crane operators as qualified by a source that qualifies crane operators (i.e., union, a government agency, or and organization that tests and qualifies crane operators). Provide proof of current qualification. Operators of Category four (UNIC) truck cranes are not allowed to operate the boom or load past the middle of the front stabilizers without prior written approval of the FEAD/ROICC officer.

The contractor shall also certify that all of crane (or other machines used for lifting suspended loads) operators working on the naval activity have been trained not to bypass safety devices (e.g. anti-two block devices) during lifting operations. Require that the certifications be posted on the crane.

Crane operators shall also meet the requirement of host nation’s laws and regulations regarding to Crane operation.

1.6.2 Personnel Duties

1.6.2.1 Site Safety and Health Officer (SSHO)/Superintendent

In addition to duties required in EM 385-1-1, perform the following duties:

a. Conduct daily safety and health inspections and maintain a written log which includes area/operation inspected, date of inspection, identified hazards, recommended corrective actions, estimated and actual dates of corrections. Attach safety inspection logs to the Contractors' daily production report.

b. Conduct a crane specific safety brief if cranes or any other equipment used to suspend a load or rigging gear used by itself. To include all of the details of the lift and any obstructions to include working in the vicinity of power lines if this is the case there should be a critical lift plan submitted before work can start.

c. Conduct mishap investigations and complete required reports. Maintain the OSHA Form 300 (or equivalent) and Daily Production reports for prime and sub-contractors.

d. Maintain applicable safety reference material on the job site.

e. Attend the pre-construction conference, pre-work meetings including preparatory inspection meeting, and periodic in-progress meetings.

f. Review implement and enforce accepted APPS and AHAs.

g. Maintain a safety and health deficiency tracking system that monitors outstanding deficiencies until resolution. Post a list of unresolved safety and health deficiencies the safety bulletin board.

h. Ensure sub-contractor compliance with safety and health requirements.

i. Maintain a list of hazardous chemicals on site and their material safety data sheets.

j. Complete Contractor Safety Self-Evaluation Checklist per paragraph 1.4.

k. Validates, ensures, and oversees onsite Competent Personnel (CP) are provided for all of the hazards identified in the Contractor's Safety and Health Program in accordance with the accepted Accident Prevention Plan, and are on-site when the work that presents the hazards associated with their professional expertise is being performed.

Failure to perform the above duties will result in dismissal of the superintendent and/or SSHO, and a project work stoppage. The project work stoppage will remain in effect pending approval of a suitable replacement.

1.6.3 Meetings

1.6.3.1 Preconstruction Conference

a. Contractor representatives who have a responsibility or significant role in accident prevention on the project shall attend the preconstruction conference. This includes the project superintendent, site safety and health officer, quality control supervisor, or any other assigned safety and health professionals who participated in the development of the APP (including the Activity Hazard Analyses (AHAs) and special plans, program and procedures associated with it).

b. The Contractor shall discuss the details of the submitted APP to include incorporated plans, programs, procedures and a listing of anticipated AHAs that will be developed and implemented during the performance of the contract. This list of proposed AHAs will be reviewed at the conference and an agreement will be reached between the Contractor and the Contracting Officer's representative as to which phases will require an analysis. In addition, a schedule for the preparation, submittal, review, and acceptance of AHAs shall be established to preclude project delays.

c. Deficiencies in the submitted APP will be brought to the attention of the Contractor at the preconstruction conference, and the Contractor shall revise the plan to correct deficiencies and re-submit it for acceptance. Work shall not begin until there is an accepted APP.

d. The functions of a Preconstruction conference may take place at the Post-Award Kickoff meeting for Design & Build Contracts.

1.6.3.2 Safety Meetings

Conduct and document safety meetings (daily) as required by EM 385-1-1. Attach minutes showing contract title, signatures of attendees and a list of topics discussed to the Contractors' daily production report. Daily safety meeting for all workers performing work activities identified in the activity hazard analysis shall be conducted by the competent person(s) for that activity.

1.7 ACCIDENT PREVENTION PLAN (APP)

Use a qualified person to prepare the written site-specific APP. Prepare the APP in accordance with the format and requirements of USACE EM 385-1-1 and as supplemented herein. Cover all paragraph and subparagraph elements in USACE EM 385-1-1, Appendix A, "Minimum Basic Outline for Accident Prevention Plan". Specific requirements for some of the APP elements are described below. The APP shall be job-specific and address any unusual or unique aspects of the project or activity for which it is written. The APP shall interface with the Contractor's overall safety and health program. Include any portions of the Contractor's overall safety and health program referenced in the APP in the applicable APP element and made site-specific. The Government considers the Prime Contractor to be the "controlling authority" for all work site safety and health of the subcontractors. Contractors are responsible for informing their subcontractors of the safety provisions under the terms of the contract and the penalties for noncompliance, coordinating the work to prevent one craft from interfering with or creating hazardous working conditions for other crafts, and inspecting subcontractor operations to ensure that accident prevention responsibilities are being carried out. The APP shall be signed by the person and firm (senior person) preparing the APP, the Contractor, the on-site superintendent, the designated site safety and health officer and the Contractor Quality control Manager.

Submit the APP to the Contracting Officer 7 calendar days prior to the date of the preconstruction conference for acceptance. Work cannot proceed without an accepted APP.

Once accepted by the Contracting Officer, the APP and attachments will be enforced as part of the contract. Disregarding the provisions of this contract or the accepted APP will be cause for stopping of work, at the discretion of the Contracting Officer, until the matter has been rectified.

Once work begins, changes to the accepted APP shall be made with the knowledge and concurrence of the Contracting Officer, project superintendent, SSHO and quality control manager. Should any hazard become evident, stop work in the area, secure the area, and develop a plan to remove the hazard. Notify the Contracting Officer within 24 hours of discovery. Eliminate/remove the hazard. In the interim, all necessary action shall be taken to restore and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public (as defined by ASSE A10.34,) and the environment.

Copies of the accepted plan will be maintained at the Contracting Officer's office and at the job site.
The plan shall be continuously reviewed and amended, as necessary, throughout the life of the contract. Incorporate unusual or high-hazard activities not identified in the original APP as they are discovered.

1.7.1 EM 385-1-1 Contents

In addition to the requirements outlines in Appendix A of USACE EM 385-1-1, the following is required to be submitted:

a. Names and qualifications (resumes including education, training, experience and certifications) of all Site Safety and Health Officer (SSHO) personnel designated to perform work on this project to include

the and other competent and qualified personnel to be used such as Scaffolding, Fall Protection, Excavation, Electrical, Confined Spaces, etc. Specify the duties of each position.

b. Qualifications of competent and of qualified persons. As a minimum, competent persons shall be designated and qualifications submitted for each of the following major areas: excavation; scaffolding; fall protection; hazardous energy; confined space; health hazard recognition, evaluation and control of chemical, physical and biological agents; personal protective equipment and clothing to include selection, use and maintenance.

c. Confined Space Entry Plan. Develop a confined space entry plan in accordance with USACE EM 385-1-1, applicable OSHA standards 29 CFR 1910, 29 CFR 1915, and 29 CFR 1926, and any other federal, state and local regulatory requirements identified in this contract. Identify the qualified person's name and qualifications, training, and experience. Delineate the qualified person's authority to direct work stoppage in the event of hazardous conditions. Include procedure for rescue by contractor personnel and the coordination with emergency responders.

d. Crane Critical Lift Plan. Prepare and sign weight handling critical lift plans for lifts over 75 percent of the capacity of the crane or hoist (or lifts over 50 percent of the capacity of a barge mounted mobile crane's hoists) at any radius of lift; lifts involving more than one crane or hoist; lifts of personnel; lifts made in the vicinity of overhead power lines, and lifts involving non-routine rigging or operation, sensitive equipment, or unusual safety risks.
The plan shall be submitted 15 calendar days prior to on-site work and include the requirements of USACE EM 385-1-1, paragraph 16.H and the following:

(1) For lifts of personnel, the plan shall demonstrate compliance with the requirements of 29 CFR 1926.550(g).

(2) For barge mounted mobile cranes, barge stability calculations identifying barge list and trim based on anticipated loading; and load charts based on calculated list and trim. The amount of list and trim shall be within the crane manufacturer's requirements.

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

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

(5) A rigging plan, showing the lift points, rigging gear, and rigging procedures.

(6) The environmental conditions under which lift operations are to be stopped.

e. Fall Protection and Prevention (FP&P) Plan. The plan shall be site specific and address all fall hazards in the work place and during

different phases of construction. Address how to protect and prevent workers from falling to lower levels when they are exposed to fall hazards above 1.8 m (6 feet). A qualified person for fall protection shall prepare and sign the plan. Include fall protection and prevention systems, equipment and methods employed for every phase of work, responsibilities, assisted rescue, self-rescue and evacuation procedures, training requirements, and monitoring methods.. Revise the Fall Protection and Prevention Plan [every six months] for lengthy project, reflecting any changes during the course of construction due to changes in personnel, equipment, systems or work habits. Keep and maintain the accepted Fall Protection and Prevention Plan at the job site for the duration of the project. Include the Fall Protection and Prevention Plan in the Accident Prevention Plan (APP).

f. Occupant Protection Plan. Submit plan to protect building occupants during construction.

g. FIRE PREVENTION PLAN. A Fire Protection and Prevention Plan shall be submitted in accordance with EM 385 1-1 Section 9 and Section 26D.

1.8 ACTIVITY HAZARD ANALYSIS (AHA)

The Activity Hazard Analysis (AHA) format (see attached) shall be in accordance with USACE EM 385-1-1, Section 1 and the attached “Activity Hazard Analysis Review”. Submit the AHA for review at least fifteen (15) calendar days prior to the start of each Definable Feature Of Work (DFOW). Format subsequent AHAs as amendments to the APP. The analysis should be used during daily inspections to ensure the implementation and effectiveness of the activity's safety and health controls.

The AHA list will be reviewed periodically (at least monthly) at the Contractor supervisory safety meeting and updated as necessary when procedures, scheduling, or hazards change.

Develop the activity hazard analyses using the project schedule as the basis for the DFOWs to be performed. Any DFOWs listed on the project schedule will require an AHA. The AHAs will be developed by the contractor, supplier or subcontractor and provided to the prime contractor for submittal to the Contracting Officer.

Integrate the concepts of Operational Risk Management (ORM) into the AHA. Identify the hazards of the activity in the Principle Steps, Assess the Risks in the Potential Safety and Health Hazards, Make Risks Decisions in the Recommended Controls, Implement Controls for the Equipment and Training and supervise during the Inspection Process.

1.9 DISPLAY OF SAFETY INFORMATION

Within 1 calendar day after commencement of work, erect a safety bulletin board at the job site. *Where size, duration, or logistics of project do not facilitate a bulletin board, an alternative method, acceptable to the Contracting Officer, that is accessible and includes all mandatory information for employee and visitor review, shall be deemed as meeting the requirement for a bulletin board.* Include and maintain information on safety bulletin board as required by EM 385-1-1, section 01.A.06. Additional items required to be posted include:

a. Confined space entry permit.

b. Hot work permit.

c. Excavation and road closure permit.

1.10 SITE SAFETY REFERENCE MATERIALS

Maintain safety-related references applicable to the project, including those listed in the article "References." Maintain applicable equipment manufacturer's manuals.

1.11 EMERGENCY MEDICAL TREATMENT

Contractors will arrange for their own emergency medical treatment. Government has no responsibility to provide emergency medical treatment.

1.12 REPORTS

1.12.1 Accident Reports

a. Conduct an accident investigation for recordable injuries and illnesses, as defined in 1.3.g and property damage accidents resulting in at least $2,000 in damages, to establish the root cause(s) of the accident, complete the Navy Contractor Significant Incident Report (CSIR) and provide the report to the Contracting Officer within five(5) days of the accident. The Contracting Officer will provide copies of any required or special forms.

b. Conduct an accident investigation for any weight handling equipment accident (including rigging gear accidents) to establish the root cause(s) of the accident, complete the WHE Accident Report (Crane and Rigging Gear) form and provide the report to the Contracting Officer within five (5 days) of the accident. Do not proceed with crane operations until cause is determined and corrective actions have been implemented to the satisfaction of the contracting officer. The Contracting Officer will provide a blank copy of the accident report form.

1.12.2 Accident Notification

Notify the Contracting Officer as soon as practical, but not later than four hours, after any accident meeting the definition of Recordable Injuries or Illnesses or High Visibility Accidents, property damage equal to or greater than $2,000, or any weight handling equipment accident and complete the NAVFAC Initial Mishap Notification form (see attached) to the Contracting Officer. Within notification include contractor name; contract title; type of contract; name of activity, installation or location where accident occurred; date and time of accident; names of personnel injured; extent of property damage, if any; extent of injury, if known, and brief description of accident (to include type of construction equipment used, PPE used, etc.). Preserve the conditions and evidence on the accident site until the Government investigation team arrives on-site and Government investigation is conducted.

1.12.3 Crane Reports

Submit crane inspection reports required in accordance with USACE EM 385-1-1, Appendix I and as specified herein with Daily Reports of Inspections.

1.12.4 Certificate of Compliance

Provide a Certificate of Compliance for each crane, or other equipment used to lift or suspend a load and rigging gear entering an activity under this contract (see Contracting Officer for a blank certificate). State within the certificate that the crane and rigging gear meet applicable OSHA regulations (with the Contractor citing which OSHA regulations are applicable, e.g., cranes used in construction, demolition, or maintenance comply with applicable ANSI or ASME, 29 CFR 1926, and USACE EM 385-1-1 section 16 and Appendix I) and crane and rigging gear conform to the appropriate host country safety standards. Certify on the Certificate of Compliance that the crane operator(s) is qualified and trained in the operation of the crane to be used. For cranes machines and rigging equipment at naval activities in foreign countries, the Contractor shall certify that the cranes, machines, and rigging gear conform to the appropriate host country safety standards. The Contractor shall also certify that all of its crane operators working on the DOD activity have been trained in the proper use of all safety devices (e.g., anti-two block devices) and not to bypass these devices. These certifications shall be posted on the crane.

For multi-purpose machines, material handling equipment, and construction equipment used to lift loads suspended by rigging equipment, require proof or authorization from the machine OEM (Original Equipment Manufacture) that the machine is capable of making lifts of loads suspended by rigging equipment. Require the contractor to demonstrate that the equipment is properly configured to make such lifts and is equipped with a load chart.

1.12.5 Third Party Certification of Barge-Mounted Mobile Cranes

THIS PARAGRAPH NOT APPLICABLE TO THIS CONTRACT (SYSTEM ACP3).

Third party certification is not required for barge-mounted mobile cranes at naval activities in foreign countries. Certify barge-mounted mobile cranes in accordance with 29 CFR 1919 by an OSHA accredited person.

1.13 HOT WORK

Submit and obtain a written permit prior to performing "Hot Work" (welding, cutting, etc.) or operating other flame-producing/spark producing devices, from the Fire Division. CONTRACTORS ARE REQUIRED TO MEET ALL CRITERIA BEFORE A PERMIT IS ISSUED. The Contractor will provide at least two (2) twenty (20) pound 4A:20 BC rated extinguishers for normal "Hot Work". All extinguishers shall be current inspection tagged, approved safety pin and tamper resistant seal. It is also mandatory to have a designated FIRE WATCH for any "Hot Work" done at this activity. The Fire Watch shall be trained in accordance with NFPA 51B and remain on-site for a minimum of one hour after completion of the task or as specified on the hot work permit.

When starting work in the facility, require their personnel to familiarize themselves with the location of the nearest fire alarm boxes and place in memory the emergency Fire Division phone number. ANY FIRE, NO MATTER HOW SMALL, SHALL BE REPORTED TO THE RESPONSIBLE FIRE DIVISION IMMEDIATELY.

1.13.1 Projects Involving Fuel Tank/Pipes or CONFINED SPACES

Obtain services from a NFPA Certified Marine Chemist related to hot work operation for "Hot Work" within or around flammable materials (such as fuel systems, welding/cutting on fuel pipes) or confined spaces (such as sewer wet wells, manholes, vaults, etc. that have the potential for flammable or explosive atmospheres.

THE CONTRACTOR IS CAUTIONED THAT BUILDING 978 HAS AN EMERGENCY GENERATOR AND, THEREFORE HAS FUEL STORAGE IN THE AREA. THE A/C SYSTEM (ACP3) WORK AREA IS UNDERGROUND (BASEMENT), THEREFORE, THERE IS ALWAYS THE POTENTIAL FOR FUEL TANK LEAKAGE VAPOR MIGRATION TO THE UNDERGROUND (BASEMENT) CONFINED SPACES. THE CONTRACTOR SHALL DETERMINE THE AREA CLEAR AND OBTAIN AUTHORIZATION BEFORE ENTERING (AND CONDUCTING HOT WORK) IN ANY CONFINED SPACES. COORDINATE WITH THE U.S. NAVY CONSTRUCTION REPRESENTATIVE (WHO WILL ARRANGE COORDINATION WITH THE NAVAL AIR FACILITY MISAWA SAFETY OFFICE). THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ITS OWN ATMOSPHERIC DIAGNOSIC (MAY BE HAND-HELD TYPE) METERS.

1.13.2 Hazardous Areas

Hazardous areas shall be defined as any area within 30 m (100 feet) of active aboveground storage tanks, areas within 30 m (100 feet) of leaking sections of fuel pipelines or other vapor sources, areas within 60 m (200 feet) of the downwind side of potential vapor emission sources (i.e., pressure-vacuum vents or open vents on active tanks, leaking sections of pipelines), areas within existing tanks, and areas within a dike.

1.13.3 Daily "Hot Work" permits shall be required for "hot work" in hazardous areas. "Hot work" permits shall be issued by the Station Fire Department.

1.13.4 "Hot work" shall not be permitted within 30 m (100 feet) of storage tanks containing JP-4, AVGAS, or MOGAS.

1.13.5 "Hot work" shall not be permitted within 30 m (100 feet) of leaking sections of fuel pipelines.

1.13.6 "Hot work" shall not be permitted within 60 m (200 feet) of the downwind side of potential vapor emission sources such as pressure-vacuum vents, open tank vents, or leaking sections of fuel pipelines.

1.14 SCAFFOLDING PLAN

Submit scaffolding plan within 15 calendar days prior to start of work. Provide scaffolds in accordance with the Japanese Labor Safety and Sanitation Law and U.S. Department of Labor Occupational Safety and Health Administration (OSHA) Regulation, 29 CFR 1926. Scaffolding shall have guardrails, mid-rails, toeboards, and ramps. Scaffolding shall be one of the following types: (1) steel pipe scaffolds (Tankan-ashiba); (2) steel pipe frame type scaffolds (Wakugumi-ashiba); in accordance with Japanese Architectural Standard Specification (JASS) 2.5.4. and Japanese Industrial Standard JIS A 8951, Tubular Steel Scaffolds; or (3) hung type scaffolds (Tsuri-ashiba) in accordance with JASS 2.5.5. Provide warning signs

(sign-board) on the scaffolding to prevent unauthorized persons from climbing on the scaffolding regardless of where it was located. Sample figure of warning sign is attached as ATTACHMENT-5 at the end of this section. Scaffolding plan shall include license for scaffolding competent person.

1.15 FLAMMABLE/COMBUSTIBLE LIQUIDS

Plastic containers shall not be used for storage of flammable and combustible liquids. Safety cans of not more than 5 gal (18.9 Liters) capacity, having a spring-closing cover and designed to safely relieve internal pressures under fire exposures shall be used on this project. The safety can shall be labeled/listed and painted red with a yellow band around the can and the name of the contents legibly indicated on the container. The safety can shall be kept in well ventilated locations, free from excessive heat, smoke, sparks, flame, or direct rays of the sun.

1.16 RADIATION SAFETY REQUIREMENTS

Use of radiation materials or equipment is strictly prohibited for all NAVFAC Far East project sites and facilities. The Prime Contractor is responsible to ensure all sub-contractors are in compliance with this requirement. However, Fire/Smoke Detectors may be approved by the Contracting Officer.

1.17 FACILITY OCCUPANCY CLOSURE

Streets, walks, and other facilities occupied and used by the Government shall not be closed or obstructed without written permission from the Contracting Officer.

1.18 SEVERE STORM PLAN

In the event of a severe storm warning, the Contractor must:

a. Secure outside equipment and materials and place materials that could be damaged in protected areas.

b. Check surrounding area, including roof, for loose material, equipment, debris, and other objects that could be blown away or against existing facilities.

c. Ensure that temporary erosion controls are adequate.

1.19 CONFINED SPACE ENTRY REQUIREMENTS

Contractors entering and working in confined spaces performing general industry work are required to follow the requirements of OSHA 29 CFR Part 1926.

Navy personnel entering and working in confined spaces performing non-maritime facility work are required to follow the requirements of OPNAVINST 5100.23G Chapter 27.

PART 2 PRODUCTS

Not used.

2.1 CONFINED SPACE SIGNAGE

The Contractor shall provide permanent signs integral to or securely attached to access covers for new permit-required confined spaces. Signs wording: "DANGER--PERMIT-REQUIRED CONFINED SPACE - DO NOT ENTER -" in English and Japanese bold letters a minimum of 25 mm (one inch) in height and constructed to be clearly legible with all paint removed. The signal word "DANGER" shall be red and readable from 1.52 m (5 feet).

2.2 FALL PROTECTION ANCHORAGE

Leave in place fall protection anchorage, conforming to ASSE/SAFE Z359.1, installed under the supervision of a qualified person in fall protection, for continued customer use and so identified by signage stating the capacity of the anchorage (strength and number of persons who may be tied-off to it at any one time).

PART 3 EXECUTION

3.1 CONSTRUCTION AND/OR OTHER WORK

Comply with USACE EM 385-1-1, NFPA 241, the APP, the AHA, Federal and/or State OSHA regulations, and other related submittals and activity fire and safety regulations. The most stringent standard prevails.

3.1.1 Hazardous Material Use

Each hazardous material must receive approval from the Contracting Office or their designated representative prior to being brought onto the job site or prior to any other use in connection with this contract. Allow a minimum of 10 working days for processing of the request for use of a hazardous material.

3.1.2 Hazardous Material Exclusions

Notwithstanding any other hazardous material used in this contract, radioactive materials or instruments capable of producing ionizing/non-ionizing radiation (with the exception of radioactive material and devices used in accordance with USACE EM 385-1-1 such as nuclear density meters for compaction testing and laboratory equipment with radioactive sources) as well as materials which contain asbestos, mercury or polychlorinated biphenyls, di-isocynates, lead-based paint are prohibited. The Contracting Officer, upon written request by the Contractor, may consider exceptions to the use of any of the above excluded materials. The Radiation Safety Officer (RSO) must be notified prior to excepted items of radioactive material and devices being brought on base.

3.1.3 Unforeseen Hazardous Material

The design should have identified materials such as PCB, lead paint, and friable and non-friable asbestos and other regulated materials defined in

JEGS or OSHA (i.e. 29 CFR Part 1910.1000). If additional material, not indicated, that may be hazardous to human health upon disturbance during construction operations is encountered, stop that portion of work and notify the Contracting Officer immediately. Within **35** calendar days the Government will determine if the material is hazardous. If material is not hazardous or poses no danger, the Government will direct the Contractor to proceed without change. If material is hazardous and handling of the material is necessary to accomplish the work, the Government will issue a modification pursuant to "FAR 52.243-4, Changes" and "FAR 52.236-2, Differing Site Conditions."

3.2 PRE-OUTAGE COORDINATION MEETING

Contractors are required to apply for utility outages at least 21 days in advance. As a minimum, the request should include the location of the outage, utilities being affected, duration of outage and any necessary sketches. Special requirements for electrical outage requests are contained elsewhere in this specification section. Once approved, and prior to beginning work on the utility system requiring shut down, the Contractor shall attend a pre-outage coordination meeting with the Contracting Officer to review the scope of work and the lock-out/tag-out procedures for worker protection. No work will be performed on energized electrical circuits unless proof is provided that no other means exist.

3.3 CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT)

Whenever possible, all equipment and circuits to be worked on shall be de-energized before work is started and personnel protected by clearance procedures, lockout/tagout, and grounding.

Work on energized equipment or circuits will require the completion of the NAVFAC Far East Energized Electrical Work Permit and approval from the NAVFAC Far East Commanding Officer. Permit can be obtained from the Contracting Officer.

Contractor shall ensure that each employee is familiar with and complies with these procedures and USACE EM 385-1-1, Section 12, Control of Hazardous Energy.

Contracting Officer will, at the Contractor's request, apply lockout/tagout tags and take other actions that, because of experience and knowledge, are known to be necessary to make the particular equipment safe to work on for government owned and operated systems.

No person, regardless of position or authority, shall operate any switch, valve, or equipment that has an official lockout/tagout tag attached to it, nor shall such tag be removed except as provided in this section. No person shall work on any energized equipment including, but not limited to activities such as erecting, installing, constructing, repairing, adjusting, inspecting, un-jamming, setting up, trouble shooting, testing, cleaning, dismantling, servicing and maintaining machines equipment of processes until an evaluation has been conducted identifying the energy source and the procedures which will be taken to ensure the safety of personnel.

When work is to be performed on electrical circuits, only qualified personnel shall perform work on electrical circuits.

No person shall work on any equipment that requires a lockout/tagout tag unless he, his immediate supervisor, project leader, or a subordinate has in his possession the stubs of the required lockout/tagout tags.

A supervisor who is required to enter an area protected by a lockout/tagout tag will be considered a member of the protected group provided he notifies the holder of the tag stub each time he enters and departs from the protected area.

Identification markings on building light and power distribution circuits shall not be relied on for established safe work conditions.

Before clearance will be given on any equipment other than electrical (generally referred to as mechanical apparatus), the apparatus, valves, or systems shall be secured in a passive condition with the appropriate vents, pins, and locks.

Pressurized or vacuum systems shall be vented to relieve differential pressure completely.

Vent valves shall be tagged open during the course of the work.

Where dangerous gas or fluid systems are involved, or in areas where the environment may be oxygen deficient, system or areas shall be purged, ventilated, or otherwise made safe prior to entry.

3.3.1 Tag Placement

Lockout/tagout tags shall be completed in accordance with the regulations printed on the back thereof and attached to any device which, if operated, could cause an unsafe condition to exist.

If more than one group is to work on any circuit or equipment, the employee in charge of each group shall have a separate set of lockout/tagout tags completed and properly attached.

When it is required that certain equipment be tagged, the Government will review the characteristics of the various systems involved that affect the safety of the operations and the work to be done; take the necessary actions, including voltage and pressure checks, grounding, and venting, to make the system and equipment safe to work on; and apply such lockout/tagout tags to those switches, valves, vents, or other mechanical devices needed to preserve the safety provided. This operation is referred to as "Providing Safety Clearance."

3.3.2 Tag Removal

When any individual or group has completed its part of the work and is clear of the circuits or equipment, the supervisor, project leader, or individual for whom the equipment was tagged shall turn in his signed lockout/tagout tag stub to the Contracting Officer. That group's or individual's lockout/tagout tags on equipment may then be removed on authorization by the Contracting Officer.

3.4 FALL HAZARD PROTECTION AND PREVENTION PROGRAM

Establish a Site-Specific Fall Protection and Prevention Plan IAW EM 385-1-1, para 21.C, for the protection of all employees exposed to fall hazards. Within the program include company policy, identify responsibilities, education and training requirements, fall hazard identification, prevention and control measures, inspection, storage, care and maintenance of fall protection equipment and rescue and evacuation procedures.

Safety monitoring systems are not adequate fall protection and are not authorized for any fall protection hazards. A 100 percent fall protection program will be instituted for all projects. Safety nets will be required for all unguarded work areas 25 feet or more above the adjacent floor level.

For workers erecting and dismantling scaffolds, an evaluation shall be conducted by a Competent Person (CP) for fall protection to determine the feasibility and safety of providing fall protection. If fall protection is not feasible, then an AHA detailing the rational for infeasibility of use of fall protection shall be submitted to the Contracting Officer for review and acceptance.

AHA shall be attached or part of the Scaffolding Plan.

3.4.1 Training

Institute a fall protection training program. As part of the Fall Hazard Protection and Prevention Program, provide training for each employee who might be exposed to fall hazards. Provide training by a competent person for fall protection in accordance with USACE EM 385-1-1, Section 21.B.

3.4.2 Fall Protection Equipment and Systems

Enforce use of the fall protection equipment and systems designated for each specific work activity in the Fall Protection and Prevention Plan and/or AHA at all times when an employee is exposed to a fall hazard. Protect employees from fall hazards as specified in EM 385-1-1, Section 21. In addition to the required fall protection systems, safety skiff, personal floatation devices, life rings etc., are required when working above or next to water in accordance with USACE EM 385-1-1, Paragraphs 21.N through 21.N.04. Personal fall arrest systems are required when working from an articulating or extendible boom, swing stages, or suspended platform. In addition, personal fall arrest systems are required when operating other equipment such as scissor lifts if the work platform is capable of being positioned outside the wheelbase. The need for tying-off in such equipment is to prevent ejection of the employee from the equipment during raising, lowering, or travel. Fall protection must comply with 29 CFR 1926.500, Subpart M, USACE EM 385-1-1 and ASSE/SAFE A10.32.

3.4.2.1 Personal Fall Arrest Equipment

Personal fall arrest equipment, systems, subsystems, and components shall meet ASSE/SAFE Z359.1. Only a full-body harness with a shock-absorbing lanyard or self-retracting lanyard is an acceptable personal fall arrest body support device. Body belts may only be used as a positioning device system (for uses such as steel reinforcing assembly and in addition to an approved fall arrest system). Harnesses shall have a fall arrest attachment affixed to the body support (usually a Dorsal D-ring) and specifically designated for attachment to the rest of the system. Only locking snap hooks and carabineers shall be used. Webbing, straps, and ropes shall be

made of synthetic fiber. The maximum free fall distance when using fall arrest equipment shall not exceed 1.8 m (6 feet). The total fall distance and any swinging of the worker (pendulum-like motion) that can occur during a fall shall always be taken into consideration when attaching a person to a fall arrest system.

3.4.3 Fall Protection for Roofing Work

Implement fall protection controls based on the type of roof being constructed and work being performed. Evaluate the roof area to be accessed for its structural integrity including weight-bearing capabilities for the projected loading.

3.4.4 Existing Anchorage

Certified (or re-certified) by a qualified person for fall protection existing anchorages, to be used for attachment of personal fall arrest equipment in accordance with ASSE/SAFE Z359.1. Exiting horizontal lifeline anchorages must be certified (or re-certified) by a registered professional engineer with experience in designing horizontal lifeline systems.

3.4.5 Horizontal Lifelines

Design, install, certify and use under the supervision of a qualified person horizontal lifelines for fall protection as part of a complete fall arrest system which maintains a safety factor of 2 (29 CFR 1926.500).

3.4.6 Guardrails and Safety Nets

Design, install and use guardrails and safety nets in accordance with EM 385-1-1 and 29 CFR 1926 Subpart M.

3.4.7 Rescue and Evacuation Procedures

When personal fall arrest systems are used, the contractor must ensure that the mishap victim can self-rescue or can be rescued promptly should a fall occur. Prepare a Rescue and Evacuation Plan and include a detailed discussion of the following: methods of rescue; methods of self-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility. Include the Rescue and Evacuation Plan within the Activity Hazard Analysis (AHA) for the phase of work, in the Fall Protection and Prevention (FP&P) Plan, and the Accident Prevention Plan (APP).]

3.5 SCAFFOLDING

Provide employees with a safe means of access to the work area on the scaffold. Climbing of any scaffold braces or supports not specifically designed for access is prohibited. Access scaffold platforms greater than 6 m(20 feet) maximum in height by use of a scaffold stair system. Do not use vertical ladders commonly provided by scaffold system manufacturers for accessing scaffold platforms greater than 6 m(20 feet) maximum in height. The use of an adequate gate is required. Ensure that employees are qualified to perform scaffold erection and dismantling. Do not use scaffold without the capability of supporting at least four times the maximum intended load or without appropriate fall protection as delineated in the

accepted fall protection and prevention plan. Stationary scaffolds must be attached to structural building components to safeguard against tipping forward or backward. Give special care to ensure scaffold systems are not overloaded. Side brackets used to extend scaffold platforms on self-supported scaffold systems for the storage of material is prohibited. The first tie-in shall be at the height equal to 4 times the width of the smallest dimension of the scaffold base. Place work platforms on mud sills. Scaffold or work platform erectors shall have fall protection during the erection and dismantling of scaffolding or work platforms that are more than six feet. Delineate fall protection requirements when working above six feet or above dangerous operations in the Fall Protection and Prevention (FP&P) Plan and Activity Hazard Analysis (AHA) for the phase of work.

Submit scaffolding plan within 15 calendar days prior to start of work. Manufactured scaffolding shall be erected, used, tested, maintained, and repaired in accordance with EM 385-1-1, Section 22 or equivalent and manufacture recommendations. All scaffolding shall have guardrails, midrails, toeboards, and safe means of access IAW EM 385-1-1, Section 21,22, and 24. Stairways shall be provided for scaffolding greater than 20 ft (12 m) unless fall protection is used.

Scaffolding with a mesh, plastic, tarp, etc. covering will require a Registered Professional Engineer (RPE) to design and certify the scaffolding system is adequately braced, supported, anchored, etc. for maximum anticipated wind loads for the area and season.

Scaffold plan shall consist of detailed engineering drawing of the scaffolding system to include size and dimensions of mudsills, safe access points, tie-ins/anchoring of scaffold, location of outriggers, guardrails, mid-rails, maximum rated capacity, etc. for GDA review and acceptance.

All scaffolding designs and components shall be capable of supporting without failure at least 4 times the maximum anticipated loads and validated by the Competent Person (CP) or Qualified Person (QP) for safe scaffolding

3.5.1 Scaffold Tagging System

Contractors shall use a scaffold tagging system in which all scaffolds are tagged by the Competent Person. Tags shall be color-coded: green indicates the scaffold has been inspected and is safe to use; red indicates the scaffold is unsafe to use. Tags shall be readily visible, made of materials that will withstand the environment in which they are used, be legible and shall include:

a. The Competent Person’s name and signature;

b. Dates of initial and last inspections.

3.5.2 Stilts

The use of stilts for gaining additional height in construction, renovation, repair or maintenance work is prohibited.

3.6 EQUIPMENT

3.6.1 Contractor Operated Crane

a. Require the contractor to comply with applicable ANSI or ASME standards (e.g., ASME B30.0 for construction tower cranes, and ASME B30.8 for floating cranes, ASME B30.9 for slings, ASMEB30.20 for below the hook lifting device, and ASME B30.26 for rigging hardware, ANSI/ITSDF B56.6 for rough terrain forklifts).

b. Require that all hooks used on cranes, hoists, other machines, and rigging gear shall have self-closing latches or the throat opening shall be “mouse” (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.

3.6.2 Material Handling Equipment

a. Material handling equipment such as forklifts shall not be modified with work platform attachments for supporting employees unless specifically delineated in the manufacturer's printed operating instructions.

b. The use of hooks on equipment for lifting of material must be in accordance with manufacturer's printed instructions. The manufacture must provide a load chart and instruction on the proper use of the hook.

c. Operators of forklifts or power industrial trucks shall be licensed in accordance with OSHA.

d. Material handling equipment (MHE) shall be inspected daily prior to being used and inspection records shall be maintained for the duration of the project.

3.6.3 Weight Handling Equipment

Comply with EM 385-1-1, Section 16, host nation safety standards, NAVFAC P-307, and NAVFACFEINST 11260.1G or most current version.

a. Equip cranes and derricks as specified in EM 385-1-1, section 16.

b. Notify the Contracting Officer 15 days in advance of any cranes entering the activity so that necessary quality assurance spot checks can be coordinated. Contractor's operator shall remain with the crane during the spot check.

c. The Contracting Officer or there representative will perform on-site-spot checks to assure that crane safety is observed and any unsafe conditions or actions will cause the stoppage of crane work. The Contractor Crane Operation Checklist and Contractor Crane Operator’s daily checklist attached at the end of this section will be utilized for this surveillance.

d. Comply with the crane manufacturer's specifications and limitations for erection and operation of cranes and hoists used in support of the work. Perform erection under the supervision of a designated person (as defined in ASME B30.5). Perform all testing in accordance with the manufacturer's recommended procedures.

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

f. Under no circumstance shall a Contractor make a lift at or above 90% of the cranes rated capacity in any configuration.

g. When operating in the vicinity of overhead transmission lines, operators and riggers shall be alert to this special hazard and follow the requirements of USACE EM 385-1-1 Section 11 and ASME B30.5 or ASME B30.22 as applicable and the requirements of the NAVFAC P-307 for critical lifts.

h. Do not crane suspended personnel work platforms (baskets) unless the Contractor proves that using any other access to the work location would provide a greater hazard to the workers or is impossible. Do not lift personnel with a line hoist or friction crane. Personal lift must comply with 29 CFR 1926.550 (g) and be approved by NAVFAC and Base safety Offices prior to the lift being conducted.

i. Inspect, maintain, and recharge portable fire extinguishers as specified in NFPA 10, Standard for Portable Fire Extinguishers.

j. All employees must keep clear of loads about to be lifted and or suspended loads.

k. Use cribbing when performing lifts on outriggers.

l. The crane hook/block must be positioned directly over the loads center of gravity. Side loading of the crane is prohibited.

m. A physical barricade must be positioned to prevent personnel from entering the counterweight swing (tail swing) area of the crane.

n. Certification records which include the date of inspection, signature of the person performing the inspection, and the serial number or other identifier of the crane that was inspected shall always be available for review by Contracting Officer personnel.

o. Written reports listing the load test procedures used along with any repairs or alterations performed on the crane shall be available for review by Contracting Officer personnel.

p. Certify that all crane operators have been trained in proper use of all safety devices (e.g. anti-two block devices) and that these devices will not be bypassed during lifting operations.

q. Take steps to ensure that wind speed does not contribute to loss of control of the load during lifting operations. Prior to conducting lifting operations set a maximum wind speed at which a crane can be safely operated based on the equipment being used, the load being lifted, experience of operators and riggers, and hazards on the work site. This maximum wind speed determination shall be included as part of the activity hazard analysis plan for that operation.

r. A wind gage shall be installed on the boom tip of the crane. A reading device shall be installed at the operator's station. All lifts will be suspended when the wind speeds reach or exceed the crane manufacturer's recommendations.

s. All lifts will be made with the outriggers fully extended to the appropriate setting indicated by the load chart. The outriggers will be deployed so that the weight of the machine is totally removed from the wheels at every setting.

t. The Contractor will ensure with the local NAVFAC the ground loading prior to setting up any crane.

3.6.4 Machinery and Mechanized Equipment

a. Proof of qualifications for operator shall be kept on the project site for review.

b. Manufacture specifications or owner's manual for the equipment shall be on-site and reviewed for additional safety precautions or requirements that are sometimes not identified by OSHA or USACE EM 385-1-1. Such additional safety precautions or requirements shall be incorporated into the AHAs.

c. Shall be equipped with at least one fire extinguisher with a minimum rating of 10-B:C.

3.7 EXCAVATIONS

Perform soil classification by a competent person in accordance with 29 CFR 1926.

3.7.1 Utility Locations

Prior to digging, the appropriate digging permit must be obtained. All underground utilities in the work area must be positively identified by a private utility locating service in addition to any station locating service and coordinated with the station utility department. Any markings made during the utility investigation must be maintained throughout the contract. Refer also to instruction contained within Section 01 14 00 WORK RESTRICTIONS.

3.7.2 Utility Location Verification

The Contractor must physically verify underground utility locations by hand digging using wood or fiberglass handled tools when any adjacent construction work is expected to come within three feet of the underground system. Digging within 610 mm (2 feet) of a known utility must not be performed by means of mechanical equipment; hand digging shall be used. If construction is parallel to an existing utility expose the utility by hand digging every 30.5 m (100 feet) if parallel within 1.5 m (5 feet) of the excavation.

3.7.3 Shoring Systems

Trench and shoring systems must be identified in the accepted safety plan and AHA. Manufacture tabulated data and specifications or registered

engineer tabulated data for shoring or benching systems shall be readily available on-site for review. Job-made shoring or shielding must have the registered professional engineer stamp, specifications, and tabulated data. Extreme care must be used when excavating near direct burial electric underground cables.

3.7.4 Trenching Machinery

Operate trenching machines with digging chain drives only when the spotters/laborers are in plain view of the operator. Provide operator and spotters/laborers training on the hazards of the digging chain drives with emphasis on the distance that needs to be maintained when the digging chain is operating. Keep documentation of the training on file at the project site.

3.8 UTILITIES WITHIN CONCRETE SLABS

Utilities located within concrete slabs or pier structures, bridges, and the like, are extremely difficult to identify due to the reinforcing steel used in the construction of these structures. Whenever contract work involves concrete chipping, saw cutting, or core drilling, the existing utility location must be coordinated with station utility departments in addition to a private locating service. Outages to isolate utility systems must be used in circumstances where utilities are unable to be positively identified. The use of historical drawings does not alleviate the contractor from meeting this requirement

3.9 ELECTRICAL

3.9.1 Conduct of Electrical Work

Underground electrical spaces must be certified safe for entry before entering to conduct work. Cables that will be cut must be positively identified and de-energized prior to performing each cut. Positive cable identification must be made prior to submitting any outage request for electrical systems. Arrangements are to be coordinated with the Contracting Officer and Station Utilities for identification. The Contracting Officer will not accept an outage request until the Contractor satisfactorily documents that the circuits have been clearly identified. Perform all high voltage cable cutting remotely using hydraulic cutting tool. When racking in or live switching of circuit breakers, no additional person other than the switch operator will be allowed in the space during the actual operation. Plan so that work near energized parts is minimized to the fullest extent possible. Use of electrical outages clear of any energized electrical sources is the preferred method. When working in energized substations, only qualified electrical workers will be permitted to enter. When work requires Contractor to work near energized circuits as defined by the NFPA 70, high voltage personnel must use personal protective equipment that includes, as a minimum, electrical hard hat, safety shoes, insulating gloves with leather protective sleeves, fire retarding shirts, coveralls, face shields, and safety glasses. In addition, provide electrical arc flash protection for personnel as required by NFPA 70E. Insulating blankets, hearing protection, and switching suits may also be required, depending on the specific job and as delineated in the Contractor's AHA.

Whenever possible, all equipment and circuits to be worked on shall be de-energized before work is started and personnel protected by clearance procedures, lockout/tagout, and grounding.

Work on energized equipment or circuits will require the completion of the NAVFAC Far East Energized Electrical Work Permit and approval from the NAVFAC Far East Commanding Officer. Permit can be obtained from the Contracting Officer.

3.9.2 Portable Extension Cords

Size portable extension cords in accordance with manufacturer ratings for the tool to be powered and protected from damage. Immediately removed from service all damaged extension cords. Portable extension cords shall meet the requirements of NFPA 70E and OSHA electrical standards.

3.9.3 Ground Fault Circuit Interrupter (GFCI)

All receptacle outlets that provide temporary electrical power during construction, remodeling, maintenance, repair, or demolition shall have a Ground Fault Circuit Interrupter (GFCI) protection for personnel IAW EM 385-1-1, para 11.D.05.

The GFCI device shall be calibrated to trip within the threshold values of 5 ma +/- 1 ma.

All GFCI’s shall be tested at least monthly with a GFCI tester that applies a load to the GFCI circuit in addition to a function test.

3.9.4 Temporary Wiring and Lighting

All temporary electrical distribution systems and devices shall be checked and found acceptable for polarity, ground continuity, and ground resistance (less than 25 ohms) before initial use, before use after repair/modification and inspected/tested at least monthly by a Qualified Person (QP) for electrical safety.

Temporary lighting circuits shall be separated from electrical tool circuits. Receptacle circuits shall be dedicated to either temporary lighting or electrical tools and shall be labeled “Lights Only” or “Tools Only” as applicable.

3.10 WORK IN CONFINED SPACES

Comply with the requirements in Section 34 of USACE EM 385-1-1, OSHA 29 CFR 1910.146 and OSHA 29 CFR 1926.21(b)(6). Any potential for a hazard in the confined space requires a permit system to be used.

a. Entry Procedures. Prohibit entry into a confined space by personnel for any purpose, including hot work, until the qualified person has conducted appropriate tests to ensure the confined or enclosed space is safe for the work intended and that all potential hazards are controlled or eliminated and documented. (See Section 34 of USACE EM 385-1-1 for entry procedures.) All hazards pertaining to the space shall be reviewed with each employee during review of the AHA.

b. Forced air ventilation is required for all confined space entry operations and the minimum air exchange requirements must be maintained to ensure exposure to any hazardous atmosphere is kept below its' action level.

3.11 SAFETY APPAREL ON CONSTRUCTION JOBSITES

All personnel on construction jobsites shall wear high-visibility safety apparel (garment, vest, or harness of retroreflective and fluorescent material) meeting ANSI/ISEA 107 2004 or later requirements. As a minimum, all personnel shall wear ANSI/ISEA 107 2004 Class II compliant apparel. When the risk level exceeds, Class II, then Class III safety apparel shall be worn.

All workers will be required to wear their hard hats with the bill facing forward. Ball caps, knit caps, or other headdress worn under the hard hat is prohibited unless approved by the hard hat manufacturer.

3.12 FORMS

See ATTACHMENTS following this section

-- End of Section --

FOR OFFICIAL USE ONLY

CRANE AND RIGGING GEAR ACCIDENT REPORT

Accident Category: ☐ Crane Accident ☐ Rigging Gear Accident

From:

UIC:

To: Navy Crane Center
Bldg 491 NNSY
Portsmouth, VA 23709
Fax (757) 967-3808

Activity: | Report No:

Crane No: | Category: | Accident Date: | Time: hrs

Category of Service: ☐ SPS ☐ GPS | Crane Type: | Crane Manufacturer:

Was Crane/Rigging Gear Being Used in SPS? Yes ☐ No ☐

Was Crane/Rigging Gear Being Used in a Complex Lift/Critical non-crane rigging operation? Yes ☐ No ☐

Location: | Weather:

Crane Capacity: | Hook Capacity: | Weight of Load on Hook:

Fatality or Permanent Disability? ☐ Yes ☐ No

Reported to NAVSAFECEN? ☐ Yes ☐ No

Material/Property Cost Estimate:

Accident Type:

☐ Personal Injury ☐ Overload ☐ Derail ☐ Damaged Rigging Gear
☐ Load Collision ☐ Two Blocked ☐ Dropped Load ☐ Damaged Crane
☐ Crane Collision ☐ Damaged Load ☐ Other Specify

Cause of Accident:

☐ Improper Operation ☐ Equipment Failure ☐ Inadequate Visibility
☐ Improper Rigging ☐ Switch Alignment ☐ Inadequate Communication
☐ Track Condition ☐ Procedural Failure ☐ Other Specify

Chargeable to:

☐ Crane Walker ☐ Rigger ☐ Operator
☐ Maintenance ☐ Management/Supervision ☐ Other Specify

Crane Function:

☐ Travel ☐ Hoist ☐ Rotate ☐ Luffing ☐ Telescoping ☐ Other ☐ N/A

Is this accident indicative of a recurring problem? ☐ Yes ☐ 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:

Prime contractor management	Print and sign	Code	Date
NAVFAC Project manager		Code	Date
FEAD/ROICC Officer		Code	Date
		Code PWO	Date
For concurrence and serialization		Code PW 7.4	Date

FOR OFFICIAL USE ONLY

APPENDIX P - CONTRACTOR CRANE (OR ALTERNATE MACHINE USED TO LIFT SUSPENDED LOAD) AND RIGGING GEAR REQUIREMENTS

DECEMBER 2009 VERSION

CERTIFICATE OF COMPLIANCE
コンプライアンス証書

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) 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.
本証明書は本契約の下、あらゆる目的のためにクレーン（又は玉掛け用具で荷物を吊上げる事に使用される多目的機器・フォークリフト・建設機器）を用意する会社の役員の署名を必要とする。記入済み証書を海軍施設内に持ち込む各クレーン又はクレーンに代わる機器（当該機器が関与しない玉掛けのみの作業については業者の現場事務所内）に掲示すること。

CONTRACTING OFFICER'S POINT OF CONTACT (Government Representative): 契約担当官の連絡先（アメリカ政府代表者）:	PHONE : 電話番号:
PRIME CONTRACTOR / PHONE: 主契約業者/電話番号:	CONTRACT NUMBER : 契約番号:
LOCATION (To include building / pier number or specific information to identify work location. In case a contract involves multiple work locations, list all of them) 作業現場（建物/岸壁番号、もしくは作業現場を特定できる具体的な情報を記入。複数の場所で作業を行う場合は全ての現場名を記入）	CRANE/RIGGING OPERATION PERIOD クレーン/玉掛け作業期間 START DATE 開始日 / END DATE 終了日
CRANE OR ALTERNATE MACHINE SUPPLIER/PHONE (if different from prime contractor): クレーン又はクレーンに代わる機器の供給業者/電話番号（主契約業者と異なる場合）:	CRANE OR ALTERNATE MACHINE NUMBER (i.e., ID number) : クレーン又はクレーンに代わる機器の番号（例 識別番号等）:

CRANE OR ALTERNATE MACHINE MANUFACTURER/TYPE/CAPACITY :
クレーン又はクレーンに代わる機器の製造者/形式/容量:

CRANE OR ALTERNATE MACHINE OPERATOR'S NAME (S) / LICENSE NUMBER :
クレーン又はクレーンに代わる機器の運転士名（複数可）／ 免許証番号:

I certify that
私は下記を証明します。
1. The above noted crane or alternate machine and associated 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:_____
1.上記のクレーン又はクレーンに代わる機器および付属の玉掛け用具は該当するOSHA（アメリカ労働省労働安全保健局）の規則（アメリカ国外に駐留する海軍基地においては現地の法令および規則）および該当するASME B30規格に準拠している。
次のOSHA規則およびASME規格を適用する:_____
2. The operators noted above have been trained and are qualified for the operation of the above noted crane(s) or alternate machine(s).
2.上記の運転士は本記載のクレーン又はクレーンに代わる機器を運転する訓練を受け運転資格を所持している。
3. The operators noted above have been trained not to bypass safety devices during lifting operations.
3.上記の運転士はクレーン作業中に安全装置を解除しないよう教育を受けている。
4. The operators, riggers and company officials are aware of the actions required in the event of an accident as specified in the contract.
4.上記の運転士・玉掛け作業員・会社役員は当該契約中に規定する事故発生時の処置を承知している。

COMPANY OFFICIAL SIGNATURE : 会社役員の署名:	DATE : 日付:

COMPANY OFFICIAL NAME/TITLE :
会社役員の氏名/役職名:

POST ON CRANE (OR ALTERNATE MACHINE) (IN CAB OR VEHICLE)
クレーン（又はクレーンに代わる機器）に掲示 （運転室または車両）
(or in the contractor's on-site office for rigging operations)
（当該機器が関与しない玉掛けのみの作業については業者の現場事務所内に掲示）

FIGURE P-1

P-1

CONTRACTOR CRANE OR RIGGING OPERATION CHECKLIST
契約業者クレーン及び玉掛け作業チェックリスト

		YES はい	NO いいえ
1	Is the Certificate of Compliance, P-1, in the operator's cab (or in the contractor's on-site office for rigging operations) with the current operator's name listed? 運転室内（玉掛け作業については業者の現場事務所内）に現在操作している運転士の名前が記載されたコンプライアンス証書（P-1）があるか？		
2	Is the crane/machine transited to and from the job site correctly? Are the OEM instructions for travel being followed? クレーン/機器は作業現場へ（から）正しく搬送されているか？製造メーカーの走行手順が順守されているか？		
3	Does the operator know the weight of the load to be lifted? 運転士は吊り上げる荷物の重量を知っているか？		
4	Is the load to be lifted within the crane/machine manufacturer's rated capacity in its present configuration? 荷物の重量は現在のクレーン/機器のセッティングにおいて製造メーカーの定める定格容量以内にあるか？		
5	Are outriggers or stabilizers required? アウトリガー又はスタビライザーは必要か？		
6	If outriggers are required, are outriggers fully extended and down, and the crane load off the wheels? アウトリガーが必要な場合、完全に張り出されて接地しているか？クレーンの車輪が地面から離れているか？		
7	If the crane/machine level and on firm ground, if the ground is not firm is the crane/machine blocked? クレーン/機器は水平で堅固な地面にあるか？もし地面が堅固でないならば、クレーン/機器に敷板が使用されているか？		
8	If blocking is required, is the entire surface of the outrigger pad supported and is the blocking material of sufficient strength to safely support the loaded outrigger pad? 敷板が必要な場合、アウトリガーパッドの全面が敷板によって支持されているか？十分な強度を持つ敷板が荷重が掛かったアウトリガーパッドを安全に支持しているか？		
9	If outriggers are not used, is the crane/machine rated for on-rubber lifts by the manufacturer's load chart? If stabilizers are used and not outriggers and the wheels are not off the ground is this the correct setup in accordance with the OEM? アウトリガーが使用されない場合、クレーン/機器は製造メーカーの荷重表でタイヤ接地状態による吊り上げが定められているか？アウトリガーが装備されていない機器でスタビライザーが使用され車輪が地面から離れていない場合、それは製造メーカーの手順に従う正しいセットアップか？		
10	Is the swing radius of the crane counterweight clear of people and obstructions and accessible areas within the swing area barricaded to prevent injury or damage? クレーンのカウンターウエイト旋回範囲内に人や障害物がないか？旋回範囲内の立ち入り可能な区域はケガや損傷を防止するためにバリケードでふさがれているか？		
11	Has the hook been centered over the load in such a manner to minimize swing? フックは荷振れを最小限にするために荷物の中心の真上に置かれているか？		
12	Is the load well secured and balanced in the sling or lifting device before it is lifted more than a few inches? 荷物が数インチ以上吊り上げられる前にスリングや吊具で十分に締められてバランスを取られているか？		
13	Is the lift and swing path clear of obstructions? 吊り上げ及び旋回経路に障害物がないか？		
14	If rotation of the load being lifted is hazardous, is a tag or restraint line being used? 吊り上げられている荷物の回転が危険な場合、タグライン（介錯ロープ）、引き綱が使用されているか？		
15	Are personnel prevented from standing or passing under a suspended load? 人員が吊荷の下に立つことや通行するのを防止されているか？		
16	Is the operator's attention diverted? 運転士の注意がそれているか？		
17	Are proper signals being used at all times? Is the operator responding properly to the signals? Are radios used for blind lifts? 常に適切な合図が使われているか？運転士は適切に合図に反応しているか？運転士から荷物が見えない吊上げ（ブラインドリフト）には無線機が使用されているか？		
18	Is the load lifted a few inches to ensure it is secure and balanced? 荷物が適切に締結されてバランス状態を確実にする為に地切り時に数インチ吊り上げられて確認されているか？		
19	Are empty hooks lashed or otherwise secured during travel to prevent swinging? 走行時の振れを防止する為に空のフックは紐等で固定されるか、もしくは別の方法で固定されているか？		
20	Does the operator remain at the controls while the load is suspended? 荷物が吊られている間、運転士は操作場所（操縦席）に留まっているか？		
21	Do the operations ensure that side loading is prohibited? 荷物の横引きが禁止されていることを徹底しているか？		
22	Are personnel prevented from riding on a load? 人員が荷物の上に乗ることを防止されているか？		
23	Are start and stop motions in a smooth fluid motion (no sudden acceleration or deceleration)? クレーン操作において始動と停止の動きはスムーズであるか？（急加速又は急減速は禁止）		
24	If operating near electric power lines, are the rules and guidelines understood and adhered to? 送電線付近での作業の場合、規則や指針が理解され順守されているか？		
25	Is the lift a critical lift? 実施する吊り上げ作業は危険度が高い作業か？		

FIGURE P-2 (1 of 2)

P-2

CONTRACTOR CRANE OR RIGGING OPERATION CHECKLIST
契約業者クレーン及び玉掛け作業チェックリスト

		YES はい	NO いいえ
26	If so, are all regulations understood and check-off sheets initialed and signed off? 上記の場合、全ての規則が理解されチェックシート(コンプレックス/クリティカルリフトプラン)にイニシャルと署名が記入されてあるか？		
26.1	Are any overhead power lines in the vicinity? 周囲に頭上の送電線があるか？		
26.2	If so, are complex lift rules and 1926.550(a)(15) being followed? 上記の場合、コンプレックスリフトの規則と1926.550(a)(15)が順守されているか？		
27	If pick and carry operations are allowed and performed, are OEM directions followed? (e.g. rotation lock engaged, boom centered over front or rear, etc.)? もしクレーン/機器の走行吊り作業が許可されていて実行される場合、製造メーカーの手順が順守されているか？ (例えば旋回ブレーキロックが掛けられる、ブームが前方もしくは後方の中心に来る様に合わせる、等)		
28	When the crane / machine is left unattended, is it in a safe condition? クレーン/機器は運転士が離れている時、安全な状態にあるか？		
29	Is rigging gear undamaged and acceptable for the application? 玉掛け用具は損傷なく使用用途に適しているか？		
30	Does rigging gear meet applicable ASME or host country standards(e.g. ASME B30.9 for slings, B30.10 for hooks, B30.26 for hardware such as shackles, safety hoist rings, eyebolts, etc, B30.20 for below the hook lifting devices, etc.)? 玉掛け用具は適用可能なASME、又は現地の法令及び規則を満たしているか？(例えばASME B30.9 スリング、B30.10 フック、 B30.26 シャックル、安全吊上リング、アイボルト等の様な金属製品、B30.20 フック下の吊上装置、等)		
31	Is the rigging gear inspected prior to use? 玉掛け用具は使用前に検査されているか？		
32	Is chafing gear used to protect slings (especially synthetic slings) and equipment from damage due to sharp corners and edges? スリング(特に繊維スリング)や器具を鋭い角や端部の損傷から保護するために当て物用具が使用されているか？		
33	Is the rigging gear used in accordance with its working load limit? Is the load limit visible? 玉掛け用具はその作業制限荷重に従って使用されているか？その制限荷重は明白に表示されているか？		
34	Are positive latching devices used on crane and rigging hooks, or are the hooks "moused"? クレーンと玉掛け用具のフックに確実な掛け金装置が使用されているか？又はフックの開口部が他の方法で閉じられているか？		

Contractor : 契約業者名：	Subcontractor : 下請け業者名：

Location (To include building / pier number or specific information to identify work location) :
作業現場(建物/岸壁番号、もしくは作業現場を特定できる具体的な情報を記入)

Notes :
注記：

Signature of Contracting Officer's Representative : 契約担当官の代表者の署名：	Date : 日付:

FIGURE P-2 (2 of 2)

CONTRACTOR CRANE OPERATOR'S DAILY CHECKLIST
契約業者クレーン日常点検表

	Check Items 確認項目	YES はい	NO いいえ
1	Is the Certification of Compliance, P-1, in the operator's cab with the current operator's name listed? 運転室内のコンプライアンス証書には最新の運転者名が記載されてあるか?		
2	Does the operator know the weight of the load to be lifted? 運転士は吊り上げる品物の重量を把握しているか?		
3	Is the load to be lifted on the plan within the crane manufacturer's rated capacity in its present configuration? 作業計画での吊荷の重量は、現状のクレーン構成においてクレーン製造者の定める定格容量の範囲内であるか?		
4	Is the crane level and on firm ground? クレーンは水平で堅固な地面に設置されているか?		
5	Are outriggers required? アウトリガーは必要か?		
6	If so, are outriggers fully extended and down, and the crane load off the wheels? アウトリガーが必要な場合、完全に張り出されて接地しているか。クレーンのタイヤが地面から浮いているか?		
7	Is Outrigger block the entire surface of the outrigger pad supported and is the blocking material of sufficient strength to safely support the loaded outrigger pad? 敷板は、アウトリガーパッド全面が受けられているか? 敷板の材質の強度は、荷重が加わったアウトリガーパッドを安全に支えられるか?		
8	If outriggers are not used, is the crane rated for on-rubber lifts by the manufacturer's load chart? アウトリガーを使用しない場合、当該クレーンはクレーン製造者の定格総荷重表にタイヤ接地状態での吊り上げが定められているか?		
9	Is the swing radius of the crane counterweight clear of people and obstructions and accessible areas within the swing area barricaded to prevent injury or damage? クレーンのカウンターウエイト旋回範囲内に人や障害物がないか。旋回範囲内への立ち入り可能な区域は、ケガや損傷を防止するために閉鎖されているか?		
10	Is the lift and swing path clear of obstructions? 吊り上げ、及び旋回経路に障害物はないか?		
11	Are personnel prevented from standing or passing under a suspended load? 吊荷の下に立つ、又は通行が出来ないよう安全対策が施されているか?		
12	If operating near electric power lines, are the rules and guidelines understood and adhered to? 送配電線付近で作業する場合、規則や指針を理解し順守しているか?		
13	Is the lift a critical lift? クレーン作業は危険度の高い(または重要な)作業であるか?		
14	If so, are all regulations understood and check-off sheets initialed and signed off? 上記の場合、全ての規則が周知されてチェックシートにイニシャルと署名が記入されてあるか?		
15	Is rigging gear undamaged and acceptable for the application? 玉掛け用具に損傷が無く、使用用途に適したものか?		
I certify obeying about the following check items during crane operation. 私はクレーン作業の間、以下の確認項目に付いて遵守する事を証明します。			
16	To ensure that the hook is set at center of the load for minimizing swing. フックは荷振れを最小限にするために吊荷の中心にセットされていることを確実にすること。		
17	To confirm whether the load will be being secured and balanced well before lifting more than a few inches. 数インチ以上吊り上げる前に、吊荷は固縛されており、又バランスが保たれているかどうか確認すること。		
18	To use a tag line, If rotation of the load being lifted is hazardous. 吊り上げ中の荷が回転して危険な場合、誘導ロープを使用すること。		
19	To pay attention always, while the crane operator is controlling the crane. クレーン運転者がクレーンを操作している間、常に注意を払うこと。		
20	To ensure that proper signals are used at all times. 適切な合図が常に使われることを確実にすること。		
21	To ensure that side loading is prohibited at crane operation. 吊荷の横引きが禁じられていることを確実にすること。		
22	To prevent that a personnel ride on a load. 人が吊荷の上に乗ることを禁止すること。		
23	To ensure that the start and stop of crane operation is performed smoothly (no sudden acceleration or deceleration). クレーン作業の始動と停止がスムーズに行われる事を徹底すること。(急加速または急減速は禁止)?		

チェック実施者名(ローマ字)：	所属会社名(ローマ字)：	Date日付：

Location (To include the building number, pier number, etcetera location's information)
作業現場 (建物/岸壁番号、もしくは作業現場を特定できる具体的な情報を記入):

Notes 注記：

現場責任者署名(ローマ字)：	所属会社名(ローマ字)：	Date日付：

CATEGORY 2 & 3 NON CAB OPERATED CRANE OPERATOR'S PRE-USE / MONTHLY CHECKLIST
カテゴリー ２＆３運転室無しクレーン 始業前／月例点検表

CRANE NO. クレーン番号	TYPE/CAPACITY 形式/容量	LOCATION 場所	CERTIFICATION EXPIRATION DATE 使用許可認証有効期限	SHOP / CODE ショップ／コード	DATE 日付

OPERATORS 運転士

LEGEND 凡例
S = SATISFACTORY 良　U = UNSATISFACTORY 不良　NA = NOT APPLICABLE 適用外

1 WALK AROUND CHECK 見回り点検		S	U	NA	2 MACHINERY HOUSE 機械室点検		S	U	NA	3 OPERATIONAL TEST 操作点検		S	U	NA
a	Safety Guards and Plates 安全ガードとプレート				a	House Keeping 清掃状態				a	Area Safety 周囲の安全性 *			
b	General hardware 外観				b	Leaks 漏れ				b	I Unusual Noises 異常音			
c	Wire Rope ワイヤロープ *				c	Lubrication 潤滑				c	Control Action 制御動作 *			
d	Reeving ワイヤロープの巻きかけ状態 *				d	Clutch and Brakes クラッチとブレーキ *				d	Wire rope/ chain ワイヤーロープ/チェーン *			
e	Block/Blocks ブロック *				e	Electric Motors 電動機 *				e	Brakes ブレーキ *			
f	Hook /Hooks フック *				f	Danger/Caution Tags 危険/警告札 *				f	Limit Switch リミットスイッチ *			
g	Sheaves シーブ *				g	Hoist Drum Pawl/ratchet Locks ホイストドラムの爪/ラチェットロック				g	Emergency shut off 緊急停止装置 *			
h	Rail / Bumpers stop レール、バンパー止め				h	Certification tag 認証札 *				h	General Safety Devices 一般安全装置）			
i	Leaks 漏れ				i	Warning / Indicator lights 警告灯／表示灯 *								
j	Load chain on chain hoist チェーンホイストのロードチェーン *													
k	Area Safety 周囲の安全性 *													

INSTRUCTIONS（記入方法）– Check all applicable items indicated, each shift. Suspend all operations immediately when observing an unsatisfactory condition of any item indicated with an asterisk (*) unless the condition has been reviewed and continued operation has been authorized by the activity engineering organization. In addition, suspend operation when any unsafe condition is observed and immediately notify supervisor. For any unsatisfactory item, identify the specific component and describe the deficiency in the "REMARKS" block.
始業毎に上記の該当する項目をすべて点検すること。星印 (*) がついた項目に不具合を見つけた場合には、ただちにクレーンの使用を中止すること。所属部隊の技術部門が不具合状態を点検して使用継続が認められない限り、クレーンを使用してはならない。また、不安全状態を発見した場合にはクレーンの使用を中止して、ただちに監督者に報告すること。不良が見つかった個所の部品名を具体的に示し、不具合の状態を備考欄に記入すること。

OPERATOR'S SIGNATURE 運転士署名

DATE 日付

REMARKS 備考

SUPERVISOR'S SIGNATURE 監督者署名

DATE 日付

CATEGORY 1, 2, 4 AND CAB OPEATED CATEGORY 3 CRANE OPERATOR'S DAILY CHECKLIST
カテゴリー１，２，４と運転室付きカテゴリー＆３クレーン日常点検表

CRANE NO. クレーン番号	TYPE/CAPACITY 形式/容量	LOCATION 場所	CERTIFICATION EXPIRATION DATE 使用許可認証有効期限	SHIFT 勤務形態	HOUR METER アワーメーター START	HOUR METER アワーメーター STOP	HRS OPERATED 運転時間	DATE 日付
				1 2 3				

OPERATORS 運転士

LEGEND 凡例
S = SATISFACTORY 良　U = UNSATISFACTORY 不良　NA = NOT APPLICABLE 適用外

	1 WALK AROUND CHECK 見回り点検	S	U	NA		2 MACHINERY HOUSE 機械室点検	S	U	NA		3 OPERATOR CAB CHECK 運転室点検	S	U	NA		4 PRE LIFT OPERATIONAL TEST 操作点検	S	U	NA
a	Safety Guards and Plates 安全ガードとプレート				a	House Keeping 清掃状態				a	Gauges 計器類				a	Area Safety 周囲の安全性 *			
b	Carrier Frame and Rotate Base * キャリアフレーム・旋回ベース				b	Diesel Engine * ディーゼルエンジンと発電機				b	Indicator and Warning Lights/Bells 指示灯・警告灯・警鐘				b	Outriggers and Stabilizers * アウトリガー・安定装置			
c	General Hardware 締め付け具（ボルト・ナット等）				c	Leaks 漏れ				c	Visibility * 視界				c	Unusual Noises 異常音			
d	Wire Rope * ワイヤロープ				d	Lubrication 潤滑				d	Load Rating Charts * 定格荷重表				d	Operation * 操作			
e	Reeving * ワイヤロープの巻きかけ状態				e	Battery バッテリー				e	List/Trim Indicator (Floating Cranes) * リスト/トリム計（浮きクレーン）				e	Wire rope/chain * ワイヤーロープ/チェーン			
f	Block * ブロック				f	Lights 照明				f	Boom Angle/Radius Indicator * ブーム角度/半径計				f	Control Action * 制御動作			
g	Hook * フック				g	Glass ガラス				g	Fire Extinguishers 消火器				g	Brakes * ブレーキ			
h	Sheaves * シーブ				h	Clutch and Brakes * クラッチとブレーキ				h	Level Indicator (Mobile Cranes) * 水準器（移動式クレーン）				h	Boom Angle/Radius Indicator * ブーム角度/半径計			
i	Boom and Jib * ブームとジブ				i	Electric Motors * 電動機				i	Danger/Caution Tags * 危険/警告札				i	Limit Switch * リミットスイッチ			
j	Gantry, Pendants and Boom Stops * ガントリ・ペンダント・ブームストップ				j	Compressor 補助エンジンとコンプレッサー									j	Emergency Stop * 緊急停止装置			
k	Walkways, Ladders and Handrails 通路・はしご・手すり				k	Danger/Caution Tags * 危険/警告札									k	Other Operational Safety Devices * 運転安全操作装置類			
l	Wind locks and Boom Stops 旋回ロック・ブームストップ				l	Fire Extinguishers 消火器									l	General Safety Devices 一般安全装置			
m	Tires/Wheel /Tracks タイヤ・ホイール・走行台車				m	Hoist Drum Pawl/ratchet Locks * ホイストドラムの爪/ラチェットロック									m	Fleeting Sheaves フリーディングシーブ (動滑車)			
n	Leaks 漏れ														n	Wind speed within the limit 運転規制値内を超える風速か			
o	Outriggers/Stabilizers and Locking Devices * アウトリガー・安定装置・固定装置																		
p	Area Safety * 周囲の安全性																		

INSTRUCTIONS（記入方法）– Check all applicable items indicated, each shift. Suspend all operations immediately when observing an unsatisfactory condition of any item indicated with an asterisk (*) unless the condition has been reviewed and continued operation has been authorized by the activity engineering organization. In addition, suspend operation when any unsafe condition is observed and immediately notify supervisor. For any unsatisfactory item, identify the specific component and describe the deficiency in the "REMARKS" block.
始業毎に上記に該当する項目について点検を行うこと。星印 (*) のついた項目に不具合を見つけた場合には、ただちにクレーンの使用を中止すること。所属部隊の技術部門が不具合状態を点検して使用継続が認められない限り、クレーンを使用してはならない。また、不安全状態を発見した場合にはクレーンの使用を中止して、ただちに監督者に報告すること。不良が見つかった個所の部品名を具体的に示し、不具合の状態を備考欄に記入すること。

SUPERVISOR'S SIGNATURE 監督者署名

DATE 日付

FIRST OPERATOR'S SIGNATUR 最初の運転士署名	OPERATOR'S SIGNATURE 運転士署名	OPERATOR'S SIGNATURE 運転士署名	OPERATOR'S SIGNATURE 運転士署名	Wind Velocity (m/s) /Time monitored 風速 (m/s)・計測時
DATE 日付	DATE 日付	DATE 日付	DATE 日付	

REMARKS 備考

Activity Hazard Analysis (AHA)

Activity/Work Task:	Overall Risk Assessment Code (RAC) (Use highest code)
Project Location:	
Contract Number:	
Date Prepared:	
Prepared by (Name/Title):	
Reviewed by (Name/Title):	
Notes: (Field Notes, Review Comments, etc.)	

Risk Assessment Code (RAC) Matrix

Severity	Probability				
	Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic	E	E	H	H	M
Critical	E	H	H	M	L
Marginal	H	M	M	L	L
Negligible	M	L	L	L	L

Step 1: Review each **"Hazard"** with identified safety **"Controls"** and determine RAC (See above)

"Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.

"Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible

Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.

RAC Chart

- E = Extremely High Risk
- H = High Risk
- M = Moderate Risk
- L = Low Risk

Job Steps	Hazards	Controls	RAC

Equipment to be Used	Training Requirements/Competent or Qualified Personnel name(s)	Inspection Requirements

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND FAR EAST
PSC 473 BOX 13
FPO AP 96349-0013

5100
Ser 09SF/ 0159
13 Apr 10

From: Commanding Officer, Naval Facilities Engineering Command Far East
To: Distribution

Subj: ELECTRICAL SAFETY

Ref: (a) Electrical Safety Field Guide, OPNAV P-45-117-6-98, dated 30 Jun 98
(b) Electrical SAFE SOP/JSA PWBL 003, Working On or Near Exposed and Enclosed Energized Electrical Systems
(c) Safety and Health Requirements Manual, EM 385-1-1, Section 11, dated 15 Sep 08
(d) Electrical SAFE SOP/JSA PWBL 004, Measuring/Testing Parameters of Energized Electrical Systems (High and Low Voltage)

Encl: (1) NAVFAC Far East Energized Electrical Work Permit

1. References (a), (b) and (c) establish minimum standards to prevent hazardous electrical exposures to personnel and ensure compliance with regulatory requirements applicable to electrical systems. Working on electrical equipment in a de-energized state is **required** unless de-energizing introduces an increased hazard or is infeasible. When energized electrical work is to be performed due to aforementioned reasons, it shall be conducted by qualified electrical workers, who are trained and provided with the appropriate safe work procedures, protective equipment and other necessary controls. All energized work **REQUIRES MY PERSONAL APPROVAL** utilizing the work permit provided as enclosure (1) for both in-house workforce and contractor employees. This work permit is to be submitted by PWOs/ROICCs to my attention via the Operations Officer. There will be no energized electrical work performed unless the work permits are approved. The only exception to this requirement is when measuring and/or testing electrical parameters is performed per reference (d).

2. When work is to be conducted within ten feet of exposed energized electrical systems, I expect everyone to apply the Operational Risk Management (ORM) process to determine the degree of potential risks involved. If personnel are at risk as a result of the hazard assessment, the work permit system will apply.

3. We have the responsibility to comply with the established standards and policy in meeting this requirement in addition to any local installation requirements. I solicit your support to help create and sustain a safe work environment for our personnel.

R. A. MCLEAN

NAVFAC FAR EAST
Energized Electrical Work Permit

Part I: Request for Special Permiss **MAXIMO W/O #/Contract #/Task Order** _____

1. Description of circuit/equipment:					
2. Job Location:					
3. Description of work to be done:					
4. Justification of why the circuit/equipment cannot be de-energized:					
5. Anticipated Duration of Work Requiring Special Permission:	(hours/minutes)		On (date)		
6. Means Employed to Restrict Access of Unqualified Persons:					
7. Voltage:					
8. Approach Boundaries: (distance)	Limited	Restricted	Prohibited	Flash	
9. Description of work practices to be followed:					
10. PPE to be used: (in addition to required daily wear)	Leather Gloves			Y	N
	Voltage Rated Rubber Gloves with Leather Protectors			Y	N
	Safety Glasses			Y	N
	Arc Flash Face Shield rated 10-cal/cm sq or more			Y	N
	Arc Flash Hood rated 20 cal/cm sq or more			Y	N
	Hard Hat			Y	N
	Balaclava (Head Sock)			Y	N
	Hearing Protection (single level)			Y	N
	Voltage Rated Tools			Y	N
	Hazard Risk 3 Clothing			Y	N
Source of Lighting:	Outside Daylight	Inside Existing Artificial	Temporary Portable Lighting	(AC)	Battery

Name of Employee(s) Assigned to Job: _____

Requested by _____ Date _____

PWO/ROICC _____ Activity _____ Date _____

Part II: Approval

Reviewed by: _____ Date _____
NAVFAC Far East Operations Officer

Approved by: _____ Date _____
NAVFAC Far East Commanding Officer

Enclosure (/)

NAVFAC INITIAL MISHAP NOTIFICATION

☐ **Navy Civilian Employee** ☐ **Contract Employee** ☐ **Military**

1) Name of activity and exact location where mishap occurred:

2) Type of work being performed:

3) Date and Time of Mishap:

4) If contractor mishap - also identify Contractor name and type of contract:

5) Name of injured person, if known:

6) Brief description of mishap, including extent of injuries:

7) Extent of property damage if applicable:

8) Corrective action taken at initial notification and indicate if and when follow up information will be provided:

9) Safety investigator assigned if known at this time:

10) Employee immediate supervisor or responsible person:

11) A summary of initial lessons learned:

12) Mishap Review Board anticipated date:

SECTION 01 45 01.00 20

QUALITY CONTROL (QC) - MINOR CONSTRUCTION

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

JAPANESE SCIENCE AND TECHNOLOGY AGENCY PUBLICATION

2004-2005	List of Testing Laboratories (Zen-koku Shiken Kenkyu Kikan Meikan)

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2008) Safety -- Safety and Health Requirements

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

QC Plan; G (FEAD)

Submit a QC plan within 15 calendar days after receipt of Notice of Award.

1.3 INFORMATION FOR THE CONTRACTING OFFICER (KO)

Prior to commencing work on construction, the Contractor can obtain a single copy set of the current report forms from the KO. The report forms will consist of the Contractor Production Report, Contractor Production Report (Continuation Sheet), Contractor Quality Control (CQC) Report, CQC Report (Continuation Sheet), Preparatory Phase Checklist, Initial Phase Checklist, Rework Items List, and Testing Plan and Log.

Deliver the following to the Contracting Officer:

a. CQC Report: Submit as directed by the Contracting Officer by 10:00 AM the next working day after each day that work is performed;

b. Contractor Production Report: Submit as directed by the Contracting Officer by 10:00 AM the next working day after each day that work is performed;

c. Preparatory Phase Checklist: Submit preparatory phase checklist attached to the original CQC Report and one copy attached to each copy;

d. Initial Phase Checklist: Submit initial phase checklist attached to the original CQC Report and one copy attached to each copy;

e. Field Test Reports: Submit as directed by the Contracting Officer within two working days after the test is performed, attached to the CQC Report;

f. QC Meeting Minutes: Submit as directed by the Contracting Officer within two working days after the meeting; and

g. QC Certifications: As required by the paragraph entitled "QC Certifications."

h. WITH THE APPROVAL OF THE CTF-72 SECURITY DESK AND SECURITY ESCORT, the Contractor shall maintain a photographic record of the project throughout the duration of construction. Photographs shall be digital in nature and be kept electronically for a period of one year past the projects completion. A printed copy of each photograph shall be submitted when requested. Photographs shall be taken as follows;

(1) Before construction starts, take enough photographs to accurately document existing conditions.

(2) Before the start of each definable feature of work, take photographs of that definable feature of work.

(3) After the completion of each definable feature of work, take photographs of that definable feature of work.

(4) Take photographs to document significant events. Significant events may include, but are not limited to, inspections, tests, defective materials, construction deficiencies, and accidents that result in injury or damage.

(5) Take photographs as directed by the Contracting Officer.

A digital copy of all photographs taken shall be submitted with the final invoice.

1.4 QC PROGRAM REQUIREMENTS

Establish and maintain a QC program as described in this section. The QC program consists of a QC Manager, a QC plan, a Coordination and Mutual Understanding Meeting, QC meetings, three phases of control, submittal review and approval, testing, and QC certifications and documentation necessary to provide materials, equipment, workmanship, fabrication, construction and operations which comply with the requirements of this contract. The QC program shall cover on-site and off-site work and shall be keyed to the work sequence. No work or testing may be performed unless the QC Manager is on the work site.

1.4.1 Preliminary Work Authorized Prior to Acceptance

The only work that is authorized to proceed prior to the acceptance of the QC plan is mobilization of storage and office trailers, temporary utilities, and surveying.

1.4.2 Acceptance

Acceptance of the QC plan is required prior to the start of construction. The KO (Contracting Officer) reserves the right to require changes in the QC plan and operations as necessary, including removal of personnel, to ensure the specified quality of work. The KO reserves the right to interview any member of the QC organization at any time in order to verify the submitted qualifications.

1.4.3 Notification of Changes

Notify the KO (Contracting Officer), in writing, of any proposed change, including changes in the QC organization personnel, a minimum of seven calendar days prior to a proposed change. Proposed changes shall be subject to the acceptance by the KO.

1.5 QC ORGANIZATION

1.5.1 QC Manager

1.5.1.1 Duties

Provide a QC Manager at the work site to implement and manage the QC program. In addition to implementing and managing the QC program, the QC Manager may perform the duties of project superintendent. The QC Manager is required to attend the Coordination and Mutual Understanding Meeting, conduct the QC meetings, perform the three phases of control, perform submittal review and approval, ensure testing is performed and provide QC certifications and documentation required in this contract. The QC Manager is responsible for managing and coordinating the three phases of control and documentation performed by others. The QC Manager can be designated as the safety competent person described in Section 01 35 26 “Governmental Safety Requirements.”The QC Manager shall not be designated as the safety competent person as described in Section 01 35 26 “Governmental Safety Requirements.”

1.5.1.2 Qualifications

An individual with a minimum of 5 years combined experience as a superintendent, inspector, QC Manager, project manager, or construction manager on similar size and type construction contracts that included the major trades that are part of this contract. The individual must be familiar with the requirements of the EM 385-1-1 and have experience in the areas of hazard identification and safety compliance.

The individual must have the Japanese license of Construction Quality Management Technician (“Kanri Gijyutsu-sha Shikaku-sha Shou”) and any of the following:

Class-1 Engineering Manager, Civil Construction
“1 Kyu, Doboku sekou kanri gishi”

Class-1 Engineering Manager, Architectural Construction
“1 Kyu, Kenchiku sekou kanri gishi”

Class-1 Engineering Manager, Electical Construction
“1 Kyu, Denki kouji sekou kanri gishi”

Class-1 Engineering Manager, Plumbing Work Construction
“1 Kyu, Kankouji sekou kanri gishi”

1.5.1.3 Construction Quality Management Training

In addition to the above experience and education requirements, the QC Manager shall have completed the course Construction Quality Management for Contractors or equivalent and will have a current certificate.

1.5.2 Alternate QC Manager Duties and Qualifications

Designate an alternate for the QC Manager to serve in the event of the designated QC Manager's absence. The period of absence may not exceed two weeks at one time, and not more than 30 workdays during a calendar year. The qualification requirements for the Alternate QC Manager shall be the same as for the QC Manager.

1.6 QC PLAN

1.6.1 Requirements

Provide, for acceptance by the KO, a QC plan submitted in a three-ring binder that covers both on-site and off-site work and includes the following with a table of contents listing the major sections identified with tabs.

I. QC ORGANIZATION: A chart showing the QC organizational structure and its relationship to the production side of the organization.

II. NAMES AND QUALIFICATIONS: In resume format, for each person in the QC organization. Include the CQM for Contractors course certification required by the paragraph entitled "Construction Quality Management Training".

III. DUTIES, RESPONSIBILITY AND AUTHORITY OF QC PERSONEL: Of each person in the QC organization.

IV. OUTSIDE ORGANIZATIONS: A listing of outside organizations such as architectural and consulting engineering firms that will be employed by the Contractor and a description of the services these firms will provide.

V. APPOINTMENT LETTERS: Letters signed by an officer of the firm appointing the QC Manager and Alternate QC Manager and stating that they are responsible for managing and implementing the QC program as described in this contract. Include in this letter the QC Manager's authority to direct the removal and replacement of non-conforming work.

VI. SUBMITTAL PROCEDURES AND INITIAL SUBMITTAL REGISTER: Procedures for reviewing, approving and managing submittals. Provide the name(s) of the person(s) in the QC organization authorized to review and certify submittals prior to approval.

VII. TESTING LABORATORY INFORMATION: Testing laboratory information required by the paragraphs "Accredited Laboratories" or "Testing Laboratory Requirements", as applicable.

VIII. TESTING PLAN AND LOG: A Testing Plan and Log that includes the tests required, referenced by the specification paragraph number requiring the test, the frequency, and the person responsible for each test.

IX. PROCEDURES TO COMPLETE REWORK ITEMS: Procedures to identify, record, track and complete rework items.

X. DOCUMENTATION PROCEDURES: Use Government formats.

XI. LIST OF DEFINABLE FEATURES: A Definable Feature of Work (DFOW) is a task, which is separate and distinct from other tasks, has the same control requirements and work crews. The list shall be cross-referenced to the Contractor's Construction Schedule and the specification sections. For projects requiring a Progress Chart, the list of definable features of work shall include but not be limited to all items of work on the schedule. For projects requiring a Network Analysis Schedule, the list of definable features of work shall include but not be limited to all critical path activities.

XII. PROCEDURES FOR PERFORMING THREE PHASES OF CONTROL: For each DFOW provide Preparatory and Initial Phase Checklists. Each list shall include a breakdown of quality checks that will be used when performing the quality control functions, inspections, and tests required by the contract documents. The preparatory and initial phases shall be conducted with a view towards obtaining quality construction by planning ahead and identifying potential problems.

XIII. PERSONNEL MATRIX: Not Applicable.

XIV. PROCEDURES FOR COMPLETION INSPECTION: See the paragraph entitled "COMPLETION INSPECTIONS".

XV. TRAINING PROCEDURES AND TRAINING LOG: Not Applicable.

1.7 COORDINATION AND MUTUAL UNDERSTANDING MEETING

During either the Pre-Construction conference or Post-Award Kickoff meeting, whichever is applicable, but prior to the start of construction, discuss the QC program required by this contract. The purpose of this meeting is to develop a mutual understanding of the QC details, including documentation, administration for on-site and off-site work, and the coordination of the Contractor's management, production and the QC personnel. At the meeting, the Contractor will be required to explain how three phases of control will be implemented for each DFOW. Contractor's personnel required to attend shall include the QC Manager, project manager, and superintendent. Minutes of the meeting will be prepared by the QC Manager and signed by both the Contractor and the KO. The Contractor shall provide a copy of the signed

minutes to all attendees. Repeat the coordination and mutual understanding meeting when a new QC Manager is appointed.

1.8 QC MEETINGS

After the start of construction, the QC Manager shall conduct QC meetings once every two weeks at the work site with the superintendent and the foreman responsible for the ongoing and upcoming work. The QC Manager shall prepare the minutes of the meeting and provide a copy to the KO within two working days after the meeting. As a minimum, the following shall be accomplished at each meeting:

a. Review the minutes of the previous meeting;

b. Review the schedule and the status of work and rework;

c. Review the status of submittals;

d. Review the work to be accomplished in the next two weeks and documentation required;

e. Resolve QC and production problems (RFIs, etc.);

f. Address items that may require revising the QC plan; and

g. Review Accident Prevention Plan (APP).

h. Review Waste Management Plan;

1.9 THREE PHASES OF CONTROL

The three phases of control shall adequately cover both on-site and off-site work and shall include the following for each DFOW.

1.9.1 Preparatory Phase

Notify the KO (Contracting Officer) at least two work days in advance of each preparatory phase.
Conduct the preparatory phase with the superintendent and the foreman responsible for the definable feature of work. Document the results of the preparatory phase actions in the daily CQC Report and in the QC checklist. Perform the following prior to beginning work on each definable feature of work:

a. Review each paragraph of the applicable specification sections;

b. Review the contract drawings;

c. Verify that field measurements are as indicated on construction and/or shop drawings before confirming product orders, in order to minimize waste due to excessive materials;

d. Verify that appropriate shop drawings and submittals for materials and equipment have been submitted and approved. Verify receipt of approved factory test results, when required;

e. Review the testing plan and ensure that provisions have been made to provide the required QC testing;

f. Examine the work area to ensure that the required preliminary work has been completed;

g. Examine the required materials, equipment and sample work to ensure that they are on hand and conform to the approved shop drawings and submitted data;

h. Review the APP and appropriate Activity Hazard Analysis (AHA) to ensure that applicable safety requirements are met, and that required Material Safety Data Sheets (MSDS) are submitted; and

i. Discuss construction methods and the approach that will be used to provide quality construction by planning ahead and identifying potential problems for each DFOW.

1.9.2 Initial Phase

Notify the KO at least two work days in advance of each initial phase. When construction crews are ready to start work on a DFOW, conduct the Initial Phase with the foreman responsible for that DFOW. Observe the initial segment of the work to ensure that it complies with contract requirements. Document the results of the Initial Phase in the daily CQC Report and in the QC checklist. Perform the following for each DFOW:

a. Establish the quality of workmanship required;

b. Resolve conflicts;

c. Ensure that testing is performed by the approved laboratory; and

d. Check work procedures for compliance with the APP and the appropriate AHA to ensure that applicable safety requirements are met.

1.9.3 Follow-Up Phase

Perform the following for on-going work daily, or more frequently as necessary, until the completion of each DFOW and document in the daily CQC Report and in the QC checklist:

a. Ensure the work is in compliance with contract requirements;

b. Maintain the quality of workmanship required;

c. Ensure that testing is performed by the approved laboratory;

d. Ensure that rework items are being corrected; and

e. Perform safety inspections.

1.9.4 Additional Preparatory and Initial Phases

Additional preparatory and initial phases shall be conducted on the same DFOW if the quality of on-going work is unacceptable, if there are changes in the applicable QC organization, if there are changes in the on-site

production supervision or work crew, if work on a DFOW is resumed after substantial period of inactivity, or if other problems develop.

1.9.5 Notification of Three Phases of Control for Off-Site Work

Notify the KO at least two weeks prior to the start of the preparatory and initial phases.

1.10 SUBMITTAL REVIEW AND APPROVAL

Procedures for submission, review, and approval of submittals are described in the submittal section of the specification.

1.11 TESTING

Except as stated otherwise in the specification sections, perform sampling and testing required under this contract.

1.11.1 Accreditation Requirements

Construction materials testing laboratories must be accredited by a laboratory accreditation authority and will be required to submit a copy of the Certificate of Accreditation and Scope of Accreditation. The laboratory's scope of accreditation must include the appropriate Japanese Standards (ie; JIS, JASS) or ASTM standards (ASTM E 329, ASTM C 1077, ASTM D 3666, ASTM D 3740, ASTM A 880, ASTM E 543) listed in the technical sections of the specifications. Laboratories engaged in Hazardous Materials Testing shall meet the requirements of Japanese Laws, OSHA and EPA. The policy applies to the specific laboratory performing the actual testing, not just the Corporate Office.

1.11.2 Laboratory Accreditation Authorities

Laboratory Accreditation Authorities include the National Voluntary Laboratory Accreditation Program (NVLAP) administered by the National Institute of Standards and Technology, the American Association of State Highway and Transportation Officials (AASHTO), International Accreditation Services, Inc. (IAS), U. S. Army Corps of Engineers Materials Testing Center (MTC), the American Association for Laboratory Accreditation (A2LA), or Japanese Equivalent testing laboratory listed in “List of Testing Laboratories (Zen-koku Shiken Kenkyu Kikan Meikan).

1.11.3 Capability Check

The KO (Contracting Officer) retains the right to check laboratory equipment in the proposed laboratory and the laboratory technician's testing procedures, techniques, and other items pertinent to testing, for compliance with the standards set forth in this contract.

1.11.4 Test Results

Cite applicable Contract requirements, tests or analytical procedures used. Provide actual results and include a statement that the item tested or analyzed conforms or fails to conform to specified requirements. If the item fails to conform, notify the KO immediately. Conspicuously stamp the cover sheet for each report in large red letters "CONFORMS" or "DOES NOT CONFORM" to the specification requirements, whichever is applicable. Test results

shall be signed by a testing laboratory representative authorized to sign certified test reports. Furnish the signed reports, certifications, and other documentation to the KO via the QC Manager.

1.12 QC CERTIFICATIONS

1.12.1 Contractor Quality Control Report Certification

Each CQC Report shall contain the following statement: "On behalf of the Contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report."

1.12.2 Invoice Certification

Furnish a certificate to the KO with each payment request, signed by the QC Manager, attesting that as-built drawings are current and attesting that the work for which payment is requested, including stored material, is in compliance with contract requirements.

1.12.3 Completion Certification

Upon completion of work under this contract, the QC Manager shall furnish a certificate to the KO attesting that "the work has been completed, inspected, tested and is in compliance with the contract."

1.13 COMPLETION INSPECTIONS

1.13.1 Punch-Out Inspection

Near the completion of all work or any increment thereof established by a completion time stated in the Contract clause "Commencement, Prosecution, and Completion of Work," or stated elsewhere in the specifications, the QC Manager shall conduct an inspection of the work and develop a punch list of items which do not conform to the approved drawings and specifications. Include in the punch list any remaining items of the "Rework Items List", which were not corrected prior to the Punch-Out inspection. The punch list shall include the estimated date by which the deficiencies will be corrected. A copy of the punch list shall be provided to the KO. The QC Manager or staff shall make follow-on inspections to ascertain that all deficiencies have been corrected. Once this is accomplished, the Contractor shall notify the Government that the facility is ready for the Government "Pre-Final Inspection".

1.13.2 Pre-Final Inspection

The Government will perform this inspection to verify that the facility is complete and ready to be occupied. A Government pre-final punch list may be developed as a result of this inspection. The QC Manager shall ensure that all items on this list are corrected prior to notifying the Government that a "Final" inspection with the customer can be scheduled. Any items noted on the "Pre-Final" inspection shall be corrected in a timely manner and shall be accomplished before the contract completion date for the work or any particular increment thereof if the project is divided into increments by separate completion dates.

1.13.3 Final Acceptance Inspection

The QC Manager, the superintendent, or other Contractor management personnel and the KO will be in attendance at this inspection. Additional Government personnel may be in attendance. The final acceptance inspection will be formally scheduled by the KO based upon results of the "Pre-Final Inspection". Notice shall be given to the KO at least 14 days prior to the final inspection. The notice shall state that all specific items previously identified to the Contractor as being unacceptable will be complete by the date scheduled for the final acceptance inspection.
Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the KO to bill the Contractor for the Government's additional inspection cost in accordance with the contract clause "Inspection of Construction".

1.14 DOCUMENTATION

Maintain current and complete records of on-site and off-site QC program operations and activities. The forms identified under the paragraph "INFORMATION FOR THE CONTRACTING OFFICER (KO)" shall be used. Reports are required for each day work is performed. Account for each calendar day throughout the life of the contract. Every space on the forms must be filled in. Use N/A if nothing can be reported in one of the spaces. The superintendent and the QC Manager must prepare and sign the Contractor Production and CQC Reports, respectively. The reporting of work shall be identified by terminology consistent with the construction schedule. In the "remarks" section in this report which will contain pertinent information including directions received, problems encountered during construction, work progress and delays, conflicts or errors in the drawings or specifications, field changes, safety hazards encountered, instructions given and corrective actions taken, delays encountered and a record of visitors to the work site. For each remark given, identify the Schedule Activity No. that is associated with the remark.

1.14.1 Quality Control Validation

Establish and maintain the following in a series of three ring binders. Binders shall be divided and tabbed as shown below. These binders shall be readily available to the Government's Quality Assurance Team during all business hours.

a. All completed Preparatory and Initial Phase Checklists, arranged by specification section.

b. All milestone inspections, arranged by Activity/Event Number.

c. A current up-to-date copy of the Testing and Plan Log with supporting field test reports, arranged by specification section.

d. Copies of all contract modifications, arranged in numerical order. Also include documentation that modified work was accomplished.

e. A current up-to-date copy of the Rework Items List.

f. Maintain up-to-date copies of all punch lists issued by the QC Staff on the Contractor and Sub-Contractors and all punch lists issued by the Government.

1.14.2 As-Built Drawings

The QC Manager is required to review the as-built drawings, required by Section 01 77 00.00 20 CLOSEOUT PROCEDURES, are kept current on a daily basis and marked to show deviations, which have been made from the Contract drawings. Ensure each deviation has been identified with the appropriate modifying documentation, e.g. PC number, modification number, RFI number, etc. The QC Manager shall initial each deviation or revision. Upon completion of work, the QC Manager shall submit a certificate attesting to the accuracy of the as-built drawings prior to submission to the KO.

1.15 NOTIFICATION ON NON-COMPLIANCE

The KO will notify the Contractor of any detected non-compliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the KO may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall make no part of the time lost due to such stop orders the subject of claim for extension of time, for excess costs, or damages.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

-- End of Section --

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE

CONTRACT NO	TITLE AND LOCATION	REPORT NO
Enter Cnt # Here	Enter Title and Location of Construction Contract Here	Enter Rpt # Here

CONTRACTOR	SUPERINTENDENT
Enter Title and Location of Construction Contract Here	Enter Title and Location of Construction Contract Here

AM WEATHER	PM WEATHER	MAX TEMP (F)	MIN TEMP (F)
Enter AM Weather Data Here	Enter PM Weather Data Here	Enter Max Temp Here	Enter Min Temp Here

WORK PERFORMED TODAY Add Del

Schedule Activity No	WORK LOCATION AND DESCRIPTION	EMPLOYER	NUMBER	TRADE	HRS

JOB SAFETY

WAS A JOB SAFETY MEETING HELD THIS DATE? (IF YES attach copy of the meeting minutes) YES NO

WERE THERE ANY LOST TIME ACCIDENTS THIS DATE? (IF YES attach copy of completed OSHA report) YES NO

WAS CRANE/MANLIFT/TRENCHING/SCAFFOLD/HV ELEC/HIGH WORK/HAZMAT WORK DONE? (IF YES attach statement or checklist showing inspection performed) YES NO YES NO

TOTAL WORK HOURS ON JOB SITE. THIS DATE, INCL CON'T SHEETS	
CUMULATIVE TOTAL OF WORK HOURS FROM PREVIOUS REPORT	
TOTAL WORK HOURS FROM START OF CONSTRUCTION	

Schedule Activity No	LIST SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED

☐ SAFETY REQUIREMENTS HAVE BEEN MET Add Del

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB (INDICATE SCHEDULE ACTIVITY NUMBER) Add Del

Schedule Activity No	Submittal #	Description of Equipment/Material Received

CONSTRUCTION AND PLANT EQUIPMENT ON JOB SITE TODAY. INDICATE HOURS USED AND SCHEDULE ACTIVITY NUMBER. Add Del

Schedule Activity No	Owner	Description of Construction Equipment Used Today (incl Make and Model)	Hours Used

Add Del

Schedule Activity No	REMARKS

CONTRACTOR/SUPERINTENDENT DATE

4296/2C (9/98)

CONTRACTOR QUALITY CONTROL REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE

REPORT NO Enter Rpt # Here

PHASE | CONTRACT NO Enter Cnt # Here | CONTRACT TITLE Enter Title and Location of Construction Contract Here

PREPARATORY WAS PREPARATORY PHASE WORK PREFORMED TODAY? ◯ YES ◯ NO
IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.
Add Del

Schedule Activity No	Definable Feature of Work	Index #

INITIAL WAS INITIAL PHASE WORK PREFORMED TODAY? ◯ YES ◯ NO
IF YES, FILL OUT AND ATTACH SUPPLEMENTAL INITIAL PHASE CHECKLIST.
Add Del

Schedule Activity No	Definable Feature of Work	Index #

FOLLOW-UP WORK COMPLIES WITH CONTRACT AS APPROVED DURING INITIAL PHASE? ◯ YES ◯ NO
WORK COMPLIES WITH SAFETY REQUIREMENTS AND INSPECTION COMPLIES WITH EM385-1-1? ◯ YES ◯ NO
Add Del

Schedule Activity No	Description of Work, Testing Performed & By Whom, Definable Feature of Work, Specification Section, Location and List of Personnel Present

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS) | REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)
Add Del

Schedule Activity No	Description	Schedule Activity No	Description

REMARKS (Also Explain Any Follow-Up Phase checklist Item From Above That Was Answered "NO"; Work Deficiency, Safety Deficiency.) Manuf. Rep On-Site, etc.
Add Del

Schedule Activity No	Description

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

AUTHORIZED QC MANAGER AT SITE DATE

GOVERNMENT QUALITY ASSURANCE REPORT

DATE

QUALITY ASSURANCE REPRESENTATIVE'S REMARKS AND/OR EXCEPTIONS TO THE REPORT
Add Del

Schedule Activity No	Description

GOVERNMENT QUALITY ASSURANCE MANAGER DATE

4296/2C (9/98)

PREPARATORY PHASE CHECKLIST

(CONTINUED ON SECOND PAGE)

SPEC SECTION: Enter Spec Section # Here

DATE:

CONTRACT NO: Enter Cnt# Here

DEFINABLE FEATURE OF WORK: Enter DFOW Here

SCHEDULE ACT NO.: Enter Sched Act ID Here

INDEX #: Enter Index # Here

PERSONNEL PRESENT	GOVERNMENT REP NOTIFIED ____ HOURS IN ADVANCE: ◯ YES ◯ NO	Add / Del
	NAME / POSITION / COMPANY/GOVERNMENT	
SUBMITTALS	REVIEW SUBMITTALS AND/OR SUBMITTAL REGISTER. HAVE ALL SUBMITTALS BEEN APPROVED? (IF YES, MAINTAIN IN PRESENT CONDITION AS LONG AS POSSIBLE AND DESCRIBE LOCATION OF SAMPLE) ◯ YES ◯ NO	Add / Del
	ARE ALL MATERIALS ON HAND? IF NO, WHAT ITEMS ARE MISSING. ◯ YES ◯ NO	Add / Del
	CHECK APPROVED SUBMITTALS AGAINST DELIVERED MATERIAL. (THIS SHOULD BE DONE AS MATERIAL ARRIVES.) COMMENTS.	Add / Del
MATERIAL STORAGE	ARE MATERIALS STORED PROPERLY? IF NO, WHAT ACTION IS TAKEN? ◯ YES ◯ NO	Add / Del
SPECIFICATIONS	REVIEW EACH PARAGRAPH OF SPECIFICATIONS.	Add / Del
	DISCUSS PROCEDURE FOR ACCOMPLISHING THE WORK.	Add / Del
	CLARIFY ANY DIFFERENCES.	Add / Del
PRELIMINARY WORK & PERMITS	ENSURE PRELIMINARY WORK IS CORRECT AND PERMITS ARE ON FILE. IF NOT, WHAT ACTION IS TAKEN?	Add / Del
TESTING	IDENTIFY TEST TO BE PERFORMED, FREQUENCY, AND BY WHOM.	Add / Del
	WHEN REQUIRED?	Add / Del
	WHERE REQUIRED?	Add / Del
	REVIEW TESTING PLAN.	Add / Del
	HAS TEST FACILITIES BEEN APPROVED?	Add / Del
SAFETY	ACTIVITY HAZARD ANALYSIS APPROVED? REVIEW APPLICABLE PORTION OF EM 385-1-1. ◯ YES ◯ NO	Add / Del
MEETING COMMENTS	NAVY/ROICC COMMENTS DURING MEETING.	Add / Del
OTHER ITEMS OR REMARKS	OTHER ITEMS OR REMARKS.	Add / Del

QC MANAGER _____ DATE _____

4296/2C (9/98)

INITIAL PHASE CHECKLIST

SPEC SECTION: Enter Spec Section # Here

DATE:

CONTRACT NO: Enter Cnt# Here

DEFINABLE FEATURE OF WORK: Enter DFOW Here

SCHEDULE ACT NO.: Enter Sched Act ID Here

INDEX #: Enter Spec Section # Here

PERSONNEL PRESENT

GOVERNMENT REP NOTIFIED ____ HOURS IN ADVANCE: ◯ YES ◯ NO

Add / Del

NAME	POSITION	COMPANY/GOVERNMENT

PROCEDURE COMPLIANCE

IDENTIFY FULL COMPLIANCE WITH PROCEDURES IDENTIFIED AT PREPARATORY, COORDINATE PLANS, SPECIFICATIONS AND SUBMITTALS

Add / Del

COMMENTS:

PRELIMINARY WORK

ENSURE PRELIMINARY WORK IS COMPLETE AND CORRECT. IF NOT, WHAT ACTION IS TAKEN?

Add / Del

WORKMANSHIP

ESTABLISH LEVEL OF WORKMANSHIP
WHERE IS WORK LOCATED?

Add / Del

IS SAMPLE PANEL REQUIRED? ◯ YES ◯ NO
WILL THE INITIAL WORK BE CONSIDERED A SAMPLE? ◯ YES ◯ NO

(IF YES, MAINTAIN IN PRESENT CONDITION AS LONG AS POSSIBLE AND DESCRIBE LOCATION OF SAMPLE)

Add / Del

RESOLUTION

RESOLVE ANY DIFFERENCES.

Add / Del

COMMENTS:

CHECK SAFETY

REVIEW JOB CONDITIONS USING EM 385-1-1 ACTIVITY HAZARD ANALYSIS AND MSDS

Add / Del

COMMENTS:

OTHER

OTHER ITEMS OR REMARKS

Add / Del

QC MANAGER DATE

4296/2C (9/98)

CONSTRUCTION CONTRACT NON-COMPLIANCE NOTICE

NAVFAC 4330/36 (Rev. 7-87)

This is prepared on CARBONLESS paper.
Tear off a complete set before filling in.
See additional instructions on reverse side.

1. CONTRACTOR/RESPONSIBLE INDIVIDUAL

3. NOTICE NUMBER

2. CONTRACT NUMBER, PROJECT AND ACTIVITY

4. DATE

5. SPEC PARAGRAPH AND/OR DRAWING NUMBER

6. REFERENCE (Shop Drawing, Certification, CQC Report Number)

7. DEFICIENCY IN WORKMANSHIP AND/OR MATERIAL/REPLY DATE

Add
Del

8. CORRECTIVE ACTION ACCOMPLISHED

Add
Del

This notice does NOT authorize any work not included in the Contract and shall not constitute a basis for additional payment or time.

If you are in disagreement with this Notice, contact the Resident Officer in Charge of Construction immediately

9A. NAVY QA REPRESENTATIVE

DATE NOTED | Signature | Title

9B. ROICC/ROICC REPRESENTATIVE

DATE NOTED | Signature | Title

10. CONTRACTOR'S ACKNOWLEDGEMENT

DATE NOTED | Signature | Title

INSTRUCTIONS

General

This form is applicable to construction contracts accomplished under the cognizance of the Commander, Naval Facilities Engineering Command.

Distribution of completed form

Superintendent of CQC Representative (White) (Original and first copy)
Contractor's home office (Pink)
ROICC designated representative (Blue)
ROICC Office (Yellow)

Item No. 1, Contractor/Responsible Individual

Individual responsible - superintendent, foreman, or sub-foreman

Item No. 3, Notice Number

Number consecutively for each job with only ONE DEFICIENCY noted.

Item No. 7, Deficiency in workmanship and/or material - reply date.

Briefly describe the deficiency and include the date that RETURN of white copy with Item No. 8 completed to the OICC?ROICC is required.

Item No. 10, Contractor's Acknowledgement

For completion by contractor as appropriate. If this is a CQC job, indicate corrective action on daily CQC report and post in the non-compliance check-off list.

Appendix P-2

REWORK ITEMS LIST

Contractor No. and Title: ______________________________

Contractor: ______________________________

NUMBER	DATE IDENTIFIED	DESCRIPTION	CONTRACT REQUIREMENT (Spec. Section and Par.No.Drawing No. And Detail No., etc.)	ACTION TAKEN BY THE QC MANAGER	RESOLUTION	DATE COMPLETED

42963/3 9/98 SHEET OF

TESTING PLAN AND LOG

CONTRACT NUMBER			PROJECT TITLE AND LOCATION							CONTRACTOR	
SPECIFICATION SECTION AND PARAGRAPH NUMBER	ITEM OF WORK	TEST REQUIRED	ACCREDITED/ APROVED LAB		SAMPLED BY	TESTED BY	LOCATION OF TEST		DATE COMPLETED	DATE FORWARDED TO CONTR. OFF.	REMARKS
			YES	NO			ON SITE	OFF SITE			

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SUMMARY

Requirements of this Section apply to, and are a component of, each section of the specifications.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN WATER WORKS ASSOCIATION (AWWA)

AWWA C511	Reduced-Pressure Principle Backflow Prevention Assembly

FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH (FCCCHR)

FCCCHR List	List of Approved Backflow Prevention Assemblies
FCCCHR Manual	Manual of Cross-Connection Control

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 241	Safeguarding Construction, Alteration, and Demolition Operations
NFPA 70	National Electrical Code

U.S. FEDERAL AVIATION ADMINISTRATION (FAA)

FAA AC 70/7460-1	Obstruction Marking and Lighting

LAW OF THE GOVERNMENT OF JAPAN

Japanese Aviation Law “Koukuu-hou”

U.S. FEDERAL HIGHWAY ADMINISTRATION (FHWA)

MUTCD	Manual of Uniform Traffic Control Devices

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. When used, a designation following the "G" designation identifies

the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Construction site plan; G (FEAD)

Traffic control plan; G (FEAD)

1.4 CONSTRUCTION SITE PLAN

Prior to the start of work, submit a site plan showing the locations and dimensions of temporary facilities (including layouts and details, equipment and material storage area (onsite and offsite), and access and haul routes, avenues of ingress/egress to the fenced area and details of the fence installation. Identify any areas which may have to be graveled to prevent the tracking of mud. Indicate if the use of a supplemental or other staging area is desired. Show locations of safety and construction fences, site trailers, construction entrances, trash dumpsters, temporary sanitary facilities, and worker parking areas.]

PART 2 PRODUCTS

2.1 TEMPORARY SIGNAGE

2.1.1 Bulletin Board

Immediately upon beginning of work, provide a weatherproof glass-covered bulletin board not less than 915 by 1220 mm in size for displaying the Equal Employment Opportunity poster, a copy of the wage decision contained in the contract, Wage Rate Information poster, and other information approved by the Contracting Officer. Locate the bulletin board at the project site in a conspicuous place easily accessible to all employees, as approved by the Contracting Officer.

2.1.2 Project and Safety Signs

The requirements for the signs, their content, and location are as specified in Section 01 58 00 PROJECT IDENTIFICATION. Erect signs within 15 days after receipt of the notice to proceed. Correct the data required by the safety sign daily, with light colored metallic or non-metallic numerals.

2.2 TEMPORARY TRAFFIC CONTROL

2.2.1 Haul Roads

At contractors expense construct access and haul roads necessary for proper prosecution of the work under this contract. Construct with suitable grades and widths; sharp curves, blind corners, and dangerous cross traffic are be avoided. Provide necessary lighting, signs, barricades, and distinctive markings for the safe movement of traffic. The method of dust control, although optional, must be adequate to ensure safe operation at all times. Location, grade, width, and alignment of construction and hauling roads are subject to approval by the Contracting Officer. Lighting must be adequate

to assure full and clear visibility for full width of haul road and work areas during any night work operations.

2.2.2 Barricades

Erect and maintain temporary barricades to limit public access to hazardous areas. Whenever safe public access to paved areas such as roads, parking areas or sidewalks is prevented by construction activities or as otherwise necessary to ensure the safety of both pedestrian and vehicular traffic barricades will be required. Securely place barricades clearly visible with adequate illumination to provide sufficient visual warning of the hazard during both day and night.

2.2.3 Fencing

a. Provide fencing along the construction site at all open excavations and tunnels to control access by unauthorized people. Fencing must be installed to be able to restrain a force of at least 114.00 kg against it.

b. Enclose the project work area and Contractor lay-down area with a 1.8 m high steel fence with steel sheet and steel mesh netting. Remove the fence upon completion and acceptance of the work. Intent is to block public access to work area.

c. If the project have potential to generate scattered items (such as building demolition, cliff protection, etc), enclose the work area with minimum 3.0 m high steel sheeting fence and gate. Remove the fence upon completion and acceptance of the work. Intent is to protect a pedestrian and vehicular from scattered items generated by the work area.

d. In addition, prior to the start of work, enclose those areas at the construction site which are not within the construction fence with a temporary safety fence, including gates and warning signs, to protect the public from construction activities. The safety fence shall match the base standard color (or bright orange where it protects excavated areas), shall be made of plastic fence, a minimum of 42 inches high, supported and tightly secured to steel posts located on minimum 10 foot centers. Remove the fence from the work site upon completion of the contract.

e. Fence in public areas shall be clearly visible with adequate illumination to provide sufficient visual warning of the hazard during both day and night.

f. Signs warning of the presence of construction hazards and requiring unauthorized persons to keep out of the construction area shall be posted on the fencing. At minimum, signs shall be posted every 150 ft (45.7 m). Fenced sides of projects that are less than 150 ft (45.7 m) shall, at minimum, have at least one warning sign.

2.2.4 Temporary Wiring

Provide temporary wiring in accordance with NFPA 241 and NFPA 70, Assured Equipment Grounding Conductor Program. Include frequent inspection of all equipment and apparatus.

PART 3 EXECUTION

3.1 EMPLOYEE PARKING

Contractor employees will park privately owned vehicles in an area designated by the Contracting Officer. This area will be within reasonable walking distance of the construction site. Contractor employee parking must not interfere with existing and established parking requirements of the government installation.

3.2 AVAILABILITY OF UTILITIES SERVICES

3.2.1 Temporary Utilities

Provide temporary utilities required for construction. Materials may be new or used, must be adequate for the required usage, not create unsafe conditions, and not violate applicable codes and standards.

3.2.2 Payment for Utility Services

a. The Government will make all reasonably required utilities (except off-base telephone and temporary sanitation) available to the Contractor from existing outlets and supplies.

b. Reasonable amounts of utilities services will be made available to the Contractor without charge.

3.2.3 Sanitation

a. Consult the U.S. Navy Construction Representative to determine if sanitation services can be offered at the site in nearby facilities. If not available, provide and maintain within the construction area minimum field-type sanitary facilities approved by the Contracting Officer and periodically empty wastes into a municipal, district, or station sanitary sewage system, or remove waste to a commercial facility. Obtain approval from the system owner prior to discharge into any municipal, district, or commercial sanitary sewer system. Any penalties and / or fines associated with improper discharge will be the responsibility of the Contractor. Coordinate with the Contracting Officer and follow station regulations and procedures when discharging into the station sanitary sewer system. Maintain these conveniences at all times without nuisance. Include provisions for pest control and elimination of odors. (Government toilet facilities may or may not be available to Contractor's personnel, depending on site conditions.)

Provide temporary sewer and sanitation facilities that are self-contained units with both urinals and stool capabilities. Ventilate the units to control odors and fumes and empty and clean them at least once a week or more often if required by the Contracting Officer. The doors shall be self-closing. The exterior of the unit shall match the base standard color. Locate the facility behind the construction fence or out of the public view.

3.2.4 Obstruction Lighting of Cranes

Provide a minimum of 2 aviation red or high intensity white obstruction lights on temporary structures (including cranes) over 60 m (100 feet) above

ground level. Light construction and installation must comply with FAA AC 70/7460-1 or Japanese aviation law “Koukuu-hou”. Lights must be operational during periods of reduced visibility, darkness, and as directed by the Contracting Officer.

3.2.5 Fire Protection

Provide temporary fire protection equipment for the protection of personnel and property during construction. Remove debris and flammable materials daily to minimize potential hazards. On Misawa Air Base, follow the written and verbal directions of the Air Force Fire Department Inspector.

3.3 TRAFFIC PROVISIONS

3.3.1 Maintenance of Traffic

a. Conduct operations in a manner that will not close any thoroughfare or interfere in any way with traffic except with written permission of the Contracting Officer at least 15 calendar days prior to the proposed modification date, and provide a Traffic Control Plan detailing the proposed controls to traffic movement for approval. [Make all notifications and obtain any permits required for modification to traffic movements outside Station's jurisdiction.]. Contractor may move oversized and slow-moving vehicles to the worksite provided requirements of the highway authority have been met.

b. Conduct work so as to minimize obstruction of traffic, and maintain traffic on at least half of the roadway width at all times. Obtain approval from the Contracting Officer prior to starting any activity that will obstruct traffic.

c. Provide, erect, and maintain, at contractors expense, lights, barriers, signals, passageways, detours, and other items, that may be required by the Life Safety Signage, overhead protection authority having jurisdiction.

3.3.2 Protection of Traffic

Maintain and protect traffic on all affected roads during the construction period except as otherwise specifically directed by the Contracting Officer. Measures for the protection and diversion of traffic, including the provision of watchmen and flagmen, erection of barricades, placing of lights around and in front of equipment the work, and the erection and maintenance of adequate warning, danger, and direction signs, will be as required by the State and local authorities having jurisdiction. Protect the traveling public from damage to person and property. Minimize the interference with public traffic on roads selected for hauling material to and from the site. Investigate the adequacy of existing roads and their allowable load limit. Contractor is responsible for the repair of any damage to roads caused by construction operations.

3.3.3 Dust Control

Dust control methods and procedures must be approved by the Contracting Officer. Treat dust abatement on access roads with applications of calcium chloride, water sprinklers, or similar methods or treatment.

3.4 CONTRACTOR'S TEMPORARY FACILITIES

3.4.1 Safety

Protect the integrity of any installed safety systems or personnel safety devices. If entrance into systems serving safety devices is required, the Contractor must obtain prior approval from the Contracting Officer. If it is temporarily necessary to remove or disable personnel safety devices in order to accomplish contract requirements, provide alternative means of protection prior to removing or disabling any permanently installed safety devices or equipment and obtain approval from the Contracting Officer.

3.4.2 Administrative Field Offices (Contractor’s Facility)

If there is adequate land area available, and on the basis of non-interference in the requirements of the Government, the Contractor may be permitted to provide administrative field office facilities within the construction area at the designated site and the contractor shall maintain the facilities.

Government office and warehouse facilities will not be available to the Contractor's personnel.

The Government is under no obligation to provide such land, but the FEAD will accept a written request for temporary assignment of an area for such use. If approved, the Contractor may proceed, providing that it is clearly understood that the Government will bear no responsibility for the safety and security of the structure or its contents (including equipment, material or any other things of whatever nature). If the Contractor erects a structure on Government controlled land in accordance with the foregoing, it shall at all times be kept in a neat, clean, orderly condition in order to improve safety and reduce fire hazards. The disposal of trash and debris shall be the Contractor's responsibility. Electric power, water, and telephone may be installed in the structure, subject to approval of the Government, on payment by the Contractor of the established charges unless otherwise specified. Within 15 calendar days after completion of this project, the Contractor shall remove the temporary facilities for this project to restore the land to the original condition.

3.4.3 Administrative Field Offices (Contractor’s Facility)

Office space is not available.

3.4.4 Storage Area (outside) – see “Storage in Existing Buildings”

Storage Area may not be available. The Contractor may request area for on-site storage, however provision of space can not be guaranteed.

3.4.5 Trailers or Storage Buildings

a. Trailers or storage buildings will be permitted, where space is available, subject to the approval of the Contracting Officer. The trailers or buildings shall be in good condition, free from visible damage rust and deterioration, and meet all applicable safety requirements. Trailers shall be roadworthy and comply with all appropriate state and local vehicle requirements. Failure to maintain storage trailers or buildings to these standards shall result in the

removal of non-complying units at the Contractor's expense. A sign not smaller than 24 by 24 inches shall be conspicuously placed on the trailer depicting the company name, business phone number, and emergency phone number. Trailers shall be anchored to resist high winds and must meet applicable state of local standards for anchoring mobile trailers.

b. Trailer Sign. A sign shall be mounted on the trailer or building that shows the company name, phone number, emergency phone number.

3.4.6 Maintenance of Storage or Trailer Area

a. Keep area in a state of good appearance. Grassed or unpaved areas, which are not established roadways, will be covered with a layer of gravel as necessary to prevent rutting and the tracking of mud onto paved or established roadways, should the Contractor elect to traverse them with construction equipment or other vehicles; gravel gradation will be at the Contractor's discretion. Mow and maintain grass located within the boundaries of the construction site for the duration of the project. Grass and vegetation along fences, buildings, under trailers, and in areas not accessible to mowers will be edged or trimmed neatly.
b. Cut grass or weeds within the construction and storage sites to a maximum 4 inch height at least once a week during the growing season unless the grass area is not visible to the public. Trim the grass around fences at time of grass cutting. Maintain grass or weeds on stockpiled earth as descried above.

3.4.7 Security Provisions

Provide adequate outside security lighting at the Contractor's temporary facilities. The Contractor will be responsible for the security of its own equipment; in addition, the Contractor will notify the appropriate law enforcement agency requesting periodic security checks of the temporary project field office.

3.4.8 Storage in Existing Buildings

The Contractor will be working in and around existing buildings; the storage of material, if authorized by the Contracting Officer, shall be located and secured and occupants protected as directed. Submit request to the Contracting Officer.

3.4.9 Weather Protection of Temporary Facilities and Stored Materials

Take necessary precautions to ensure that roof openings and other critical openings in the building are monitored carefully. Take immediate actions required to seal off such openings when rain or other detrimental weather is imminent, and at the end of each workday. Ensure that the openings are completely sealed off to protect materials and equipment in the building from damage.

3.4.9.1 Site Storm Protection

When a warning of gale force winds is issued, take precautions to minimize danger to persons, and protect the work and nearby Government property. Precautions must include, but are not limited to, closing openings; removing loose materials, tools and equipment from exposed locations; and removing or securing scaffolding and other temporary work. Close openings in the work

when storms of lesser intensity pose a threat to the work or any nearby Government property.

3.4.9.1.1 TROPICAL CYCLONE CONDITIONS OF READINESS (TCCOR):

Unless directed otherwise by the Contracting Officer, comply with:

In order to protect U.S. Government property, the following actions will be taken upon declaration of Tropical Cyclone conditions and/or high warnings.

Tropical Cyclone Condition 3: When Condition 3 is declared, the Contractor will perform general area clean up which will exceed the requirements contained in contract clause 52.236-12 entitled Cleaning Up. All loose debris waste and excess Contractor owned supplies, materials and equipment will be removed from U.S. Government facilities and disposed of in accordance with local Prefecture laws and conduct adequate clean.
Tropical Cyclone Condition 2: When condition 2 is declared, all exterior work will cease immediately, but interior work may be continued until Condition 1C is declared. The Contractor will take necessary actions listed below to secure the project site against damage, which may result from anticipated weather conditions. The Contractor may be called at any time to complete tropical cyclone clean up; therefore, he will provide emergency telephone number and/or addresses where at least three (3) officials of the company may be reached and notified that immediate securing materials and equipments are necessary.

General Area Clean Up: Clean up and disposal of loose debris and waste will continue as directed under TCCOR 3.

Usable Lumber: Usable lumber will be taken inside of a building and tied by heavy wire, cable or rope. This lumber may be securely tied together and anchored to the ground if there is not room inside a building or no building is available.

Barrels: All remaining barrels will be placed within the construction building when available, and barrels will be tied together and securely staked to the ground or filled with sand or gravel.

Contractor Field Office: All Contractor field offices will be either removed from the military installation or securely anchored by heavy cable as approved by the Contracting Officer.

Concrete Form, Form Supports, and Accessory Materials: All concrete forms, form supports and accessory materials required for future construction will be tied together into bundles with heavy wire, cable or rope and will be placed within the construction building or structures where available and practical.

Sand and Aggregate: All piles of sand or aggregate on or near the flight line will be completely covered by either a tarpaulin weighted with building blocks or other methods approved by the Contractor Officer.
Contractor Equipment: All medium size equipment will be removed or placed close to a building will be secured with blocks or anchored with cable or both. Items of small equipment will be moved inside a building and secured or moved off U.S. Government facilities.

Tropical Cyclone Condition 1: When Condition 1 is declared without the normal progression through Condition 3 and/or 2, the Contractor will take actions listed in paragraphs 12.2.a through 12.2.g above. The Contractor will be notified either at the job site or the emergency phone numbers and/or addresses when tropical cyclone clean-up is required in accordance with this paragraph.

High Wind Warning: When wind gusts of 30 knots per hour or greater are forecasted, the Contractor may be required to accomplish general area clean up in accordance with paragraph 12.1 to bundle and securely tie or securely cover and weight small wooden items, to remove and secure wooden barricades and to remove loose materials from roofs and other high unprotected areas. Precautions shall include, but are not limited to, closing openings, removing loose materials, tools and equipment from exposed locations, and removing or securing scaffolding and other temporary work. Close openings in the work when storm of lesser intensity pose a threat to the work or in nearby Government property.

The Contractor's representative will not leave the project site after notification under TCCOR 3, TCCOR2 and TCCOR1 above until the project site has been inspected and cleared by the Contracting Officer. The Contractor may request an inspection by calling the Contracting Officer.]

3.4.9.2 Tropical Cyclone Condition of Readiness

Unless directed otherwise, comply with:

a. Condition FOUR (Sustained winds of 50 knots or greater expected within 72 hours): Normal daily jobsite cleanup and good housekeeping practices. Collect and store in piles or containers scrap lumber, waste material, and rubbish for removal and disposal at the close of each work day. Maintain the construction site including storage areas, free of accumulation of debris. Stack form lumber in neat piles less than 4 feet high. Remove all debris, trash, or objects that could become missile hazards. [Contact Contracting Officer for [Condition Requirements][Condition of Readiness (COR) updates and completion of required actions].]

b. Condition THREE (Sustained winds of 50 knots or greater expected within 48 hours): Maintain "Condition FOUR" requirements and commence securing operations necessary for "Condition ONE" which cannot be completed within 18 hours. Cease all routine activities which might interfere with securing operations. Commence securing and stow all gear and portable equipment. Make preparations for securing buildings. Review requirements pertaining to "Condition TWO" and continue action as necessary to attain "Condition THREE" readiness. Contact Contracting Officer for weather and COR updates and completion of required actions.

c. Condition TWO (Sustained winds of 50 knots or greater expected within 24 hours): Curtail or cease routine activities until securing operation is complete. Reinforce or remove form work and scaffolding. Secure machinery, tools, equipment, materials, or remove from the jobsite. Expend every effort to clear all missile hazards and loose equipment from general base areas. Contact Contracting Officer for weather and Condition of Readiness (COR) updates and completion of required actions.

d. Condition ONE. (Sustained winds of 50 knots or greater expected within 12 hours): Secure the jobsite, and leave Government premises.

3.5 PLANT COMMUNICATION

Whenever the Contractor has the individual elements of its plant so located that operation by normal voice between these elements is not satisfactory, the Contractor must install a means of communication, such as telephone or other suitable devices and made available for use by Government personnel.

3.6 TEMPORARY PROJECT SAFETY FENCING

When necessary to protect Building Occupants or General Public, as soon as practicable, but not later than 15 days after the date established for commencement of work, furnish and erect temporary project safety fencing at the work site. The safety fencing must be a high visibility orange colored, high density polyethylene grid or approved equal, a minimum of 42 inches high, supported and tightly secured to steel posts located on maximum 10 foot centers, constructed at the approved location. Maintain the safety fencing during the life of the contract and, upon completion and acceptance of the work, will become the property of the Contractor and be removed from the work site.

3.7 CLEANUP

Remove construction debris, waste materials, packaging material and the like from the work site daily. Any dirt or mud which is tracked onto paved or surfaced roadways must be cleaned away. Store within the fenced area described above or at the supplemental storage area any materials resulting from demolition activities which are salvageable. Neatly stacked stored materials not in trailers, whether new or salvaged.

3.8 RESTORATION OF STORAGE OR OTHER AREAS USED

Upon completion of the project remove the bulletin board, signs, barricades, haul roads, and any other temporary products from the site. After removal of trailers, materials, and equipment from within the fenced area, remove the fence that will become the property of the Contractor. Restore to the original or better condition, areas used by the Contractor for the storage of equipment or material, or other use. Gravel used to traverse grassed areas must be removed and the area restored to its original condition, including top soil and seeding as necessary.

3.9 TEMPORARY WIRING

Provide temporary wiring in accordance with NFPA 241 and NFPA 70, Assured Equipment Grounding Conductor Program. Program shall include frequent inspection of all equipment and apparatus. Wear Personal Protective Equipment (PPE) clothing in accordance with EM 381 1-1 Safety Manual, when required.

-- End of Section --

SECTION 01 57 19.00 20

TEMPORARY ENVIRONMENTAL CONTROLS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Japanese Law (JL)

No. 64	The Oscillation (Vibration) Control Act.
No. 53	The Soil Contamination Countermeasures.
No. 85	Nature Conservation Law
No. 91	The Basic Environment Law.
No. 97	The Air Pollution Control Act (Clean Air Act)
No. 98	The Noise Control Act.
No. 137	The Waste Management and Public Cleansing Act
No. 138	The Water Pollution Prevention Act

Aomori Prefectural Office's Publication

"Aomori-ken Kohgai Bohshi Jyorei Kitei" (Pollution Control Laws and Official Regulations)

Notification of the Environment Agency, Japan

No. 13	Detection Method for the Presence of Toxicity

HEADQUARTERS, US FORCES JAPAN, DEPARTMENT OF DEFENSE (DOD)

JEGS	Japan Environmental Governing Standards (JEGS)

DEPARTMENT OF DEFENSE (DOD

DOD 4717.05 G	OEBGD (May 2007) Overseas Environmental Baseline Guidance Document

1.2 DEFINITIONS

1.2.1 Construction and Demolition Waste

The waste building materials, packaging, and rubble resulting from construction, remodeling, repair and demolition operations on pavements, houses, commercial buildings, and other structures.

1.2.2 Sediment

Soil and other debris that have eroded and have been transported by runoff water or wind.

1.2.3 Solid Waste

Garbage, refuse, debris, sludge, or other discharged material, including solid, liquid, semisolid, or contained gaseous materials resulting from domestic, industrial, commercial, mining, or agricultural operations. Types of solid waste typically generated at construction sites may include:

a. Green waste: The vegetative matter from landscaping, land clearing and grubbing, including, but not limited to, grass, bushes, scrubs, small trees and saplings, tree stumps and plant roots. Marketable trees, grasses and plants that are indicated to remain, be re-located, or be re-used are not included.

b. Surplus soil: Existing soil that is in excess of what is required for this work, including aggregates intended, but not used, for on-site mixing of concrete, mortars and paving. Contaminated soil meeting the definition of hazardous material or hazardous waste is not included.

c. Debris: Non-hazardous solid material generated during the construction, demolition, or renovation of a structure which exceeds 60 mm (2.5 inch) particle size that is: a manufactured object; plant or animal matter; or natural geologic material (e.g. cobbles and boulders), broken or removed concrete, masonry, and rock asphalt paving; ceramics; roofing paper and shingles. Inert materials may be reinforced with or contain ferrous wire, rods, accessories and weldments. A mixture of debris and other material such as soil or sludge is also subject to regulation as debris if the mixture is comprised primarily of debris by volume, based on visual inspection.

d. Wood: Dimension and non-dimension lumber, plywood, chipboard, hardboard. Treated and/or painted wood that meets the definition of lead contaminated or lead based contaminated paint is not included.

e. Scrap metal: Scrap and excess ferrous and non-ferrous metals such as reinforcing steel, structural shapes, pipe and wire that are recovered or collected and disposed of as scrap. Scrap metal meeting the definition of hazardous material or hazardous waste is not included.

f. Paint cans: Metal cans that are empty of paints, solvents, thinners and adhesives. If permitted by the paint can label, a thin dry film may remain in the can.

g. Recyclables: Materials, equipment and assemblies such as doors, windows, door and window frames, plumbing fixtures, glazing and mirrors that are recovered and sold as recyclable. Metal meeting the definition of lead contaminated or lead based paint contaminated may be included as recyclable if sold to a scrap metal company. Paint cans may be included.

h. Hazardous Waste: By definition, to be a hazardous waste a material must first meet the definition of a solid waste. Hazardous waste and

hazardous debris are special cases of solid waste. They have additional regulatory controls and must be handled separately. They are thus defined separately in this document.

Material not regulated as solid waste are: nuclear source or byproduct materials regulated under the Federal Atomic Energy Act of 1954 as amended; suspended or dissolved materials in domestic sewage effluent or irrigation return flows, or other regulated point source discharges; regulated air emissions; and fluids or wastes associated with natural gas or crude oil exploration or production.

1.2.4 Hazardous Debris

As defined in Solid Waste paragraph, debris that contains listed hazardous waste (either on the debris surface, or in its interstices, such as pore structure) per JEGS; or debris that exhibits a characteristic of hazardous waste per JEGS.

1.2.5 Chemical Wastes

This includes salts, acids, alkalizes, herbicides, pesticides, and organic chemicals.

1.2.6 Garbage

Refuse and scraps resulting from preparation, cooking, dispensing, and consumption of food.

1.2.7 Hazardous Waste

Any discarded material, liquid, solid, semi-solid, gas, or contained gas, which meets the definition of hazardous material specified below or is designated hazardous waste by JEGS.
Hazardous waste include any waste material which because of its quantity, concentration, or physical, chemical, or infectious characteristics may pose a substantial hazard to human health or the environment and which has been so designated.

1.2.8 Hazardous Materials

Hazardous material is any material that:

a. Hazardous materials as defined in JEGS, or

b. Requires a Material Safety Data Sheet (MSDS),

c. During end use, treatment, handling, packaging, storage, transpiration, or disposal meets or has components that meet or have potential to meet the definition of a hazardous waste as defined by JEGS or prefectural regulations.

Designation of a material by this definition, when separately regulated or controlled by other instructions or directives, does not eliminate the need for adherence to that hazard-specific guidance which takes precedence over this instruction for "control" purposes. Such material include ammunition, weapons, explosive actuated devices, propellants, pyrotechnics, chemical and biological warfare materials, medical and pharmaceutical supplies, medical

waste and infectious materials, bulk fuels, radioactive materials, and other materials such as asbestos, mercury, and polychlorinated biphenyls (PCBs). Nonetheless, the exposure may occur incident to manufacture, storage, use and demilitarization of these items.

1.2.9 POL (Petroleum, Oil, and Lubricants)

Refined petroleum, oils, and lubricants, including, but not limited to, petroleum, fuel, lubricant oils, synthetic oils, mineral oils, animal fats, vegetable oil, sludge, and POL mixed with wastes other than dredged spoil.

1.2.10 Oily Waste

Those materials which are, or were, mixed with used oil and have become separated from that used oil. Oily wastes also means materials, including wastewaters, centrifuge solids, filter residues or sludges, bottom sediments, tank bottoms, and sorbents which have come into contact with and have been contaminated by, used oil and may be appropriately tested and discarded in a manner which is in compliance with other Japanese and local requirements.

This definition includes materials such as oily rags, "kitty litter" sorbent clay and organic sorbent material. These materials may be land filled provided that:

a. It is not prohibited in local prefectural regulations/ordinances

Large quantities of this material, generated as a result of a major spill or in lieu of proper maintenance of the processing equipment, are a solid waste. As a solid waste, a hazardous waste determination must be performed prior to disposal. As this can be an expensive process, it is recommended that this type of waste be minimized through good housekeeping practices and employee education.

1.2.11 Regulated Waste

Those solid waste that have specific additional local controls for handling, storage, or disposal.

1.2.12 Class I Ozone Depleting Substances (ODS)

Class I ODS is defined in Table C2.T2 of OEBGD and Table 8-1 of OPNAVINST 5090.1C; and includes The Following Chemicals:

Chlorofluorocarbon-11 (CFC-11)
Chlorofluorocarbon-12 (CFC-12)
Chlorofluorocarbon-13 (CFC-13)
Chlorofluorocarbon-111 (CFC-111)
Chlorofluorocarbon-112 (CFC-112)
Chlorofluorocarbon-113 (CFC-113)
Chlorofluorocarbon-114 (CFC-114)
Chlorofluorocarbon-115 (CFC-115)
Chlorofluorocarbon-211 (CFC-211)
Chlorofluorocarbon-212 (CFC-212)
Chlorofluorocarbon-213 (CFC-213)
Chlorofluorocarbon-214 (CFC-214)
Chlorofluorocarbon-215 (CFC-215)

Chlorofluorocarbon-216 (CFC-216)
Chlorofluorocarbon-217 (CFC-217)
Chlorofluorocarbon-500 (CFC-500)
Chlorofluorocarbon-502 (CFC-502)
Chlorofluorocarbon-503 (CFC-503)
Halon-1211
Halon-1301
Halon-2402
Carbon tetrachloride
Methyl bromide
Methyl chloroform

1.2.13 Class II Ozone Depleting Substances (ODS)

Class II ODS is defined in Table C2.T2 of OEBGD and Table 8-2 of OPNAVINST 5090.1C; and includes The Following Chemicals:

hydrochlorofluorocarbon-21 (HCFC-21)
hydrochlorofluorocarbon-22 (HCFC-22)
hydrochlorofluorocarbon-31 (HCFC-31)
hydrochlorofluorocarbon-121 (HCFC-121)
hydrochlorofluorocarbon-122 (HCFC-122)
hydrochlorofluorocarbon-123 (HCFC-123)
hydrochlorofluorocarbon-124 (HCFC-124)
hydrochlorofluorocarbon-131 (HCFC-131)
hydrochlorofluorocarbon-132 (HCFC-132)
hydrochlorofluorocarbon-133 (HCFC-133)
hydrochlorofluorocarbon-141 (HCFC-141)
hydrochlorofluorocarbon-142 (HCFC-142)
hydrochlorofluorocarbon-151 (HCFC-151)
hydrochlorofluorocarbon-221 (HCFC-221)
hydrochlorofluorocarbon-222 (HCFC-222)
hydrochlorofluorocarbon-223 (HCFC-223)
hydrochlorofluorocarbon-224 (HCFC-224)
hydrochlorofluorocarbon-225 (HCFC-225)
hydrochlorofluorocarbon-226 (HCFC-226)
hydrochlorofluorocarbon-231 (HCFC-231)
hydrochlorofluorocarbon-232 (HCFC-232)
hydrochlorofluorocarbon-233 (HCFC-233)
hydrochlorofluorocarbon-234 (HCFC-234)
hydrochlorofluorocarbon-235 (HCFC-235)
hydrochlorofluorocarbon-241 (HCFC-241)
hydrochlorofluorocarbon-242 (HCFC-242)
hydrochlorofluorocarbon-243 (HCFC-243)
hydrochlorofluorocarbon-244 (HCFC-244)
hydrochlorofluorocarbon-251 (HCFC-251)
hydrochlorofluorocarbon-252 (HCFC-252)
hydrochlorofluorocarbon-253 (HCFC-253)
hydrochlorofluorocarbon-261 (HCFC-261)
hydrochlorofluorocarbon-262 (HCFC-262)
hydrochlorofluorocarbon-271 (HCFC-271)

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. When used, a designation following the "G" designation identifies

the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Contractor/Vendor Environmental Service Agreement; G (FEAD and Environmental Office).

Service agreement is signed by the contractor/vendor representative acknowledging that all workers are aware and received the station’s environmental policy, EMS and General Environmental awareness training.

Preconstruction Survey; G (FEAD and Environmental Office)

Solid Waste Management Plan and Permit; G (FEAD and Environmental Office)

Transportation and disposal permits/licenses for hazardous waste; G (FEAD and Environmental Office)

Transportation and disposal permits/licenses include certificates of landfill facility, treatment facility, and transpiration of hazardous/regulated waste.

ODS handling certification; G (FEAD and Environmental Office)

Hazardous Material list and MSDS; G (FEAD and Environmental Office)

Environmental Management Plan; G (FEAD and Environmental Office)

SD-11 Closeout Submittals

Some of the records listed below are also required as part of other submittals. For the "Records" submittal, maintain on-site a separate three-ring Environmental Records binder and submit at the completion of the project. Make separate parts to the binder corresponding to each of the applicable sub items listed below.

Disposal Documentation for Hazardous and Regulated Waste; G (FEAD and Environmental Office)

Disposal documentation includes certificates of landfill facility, treatment facility, and transpiration of hazardous/regulated waste. And completed signed hazardous/regulated/solid waste manifest.

Hazardous, and Toxic Waste Manifests; G (FEAD and Environmental Office)]

Regulatory notification; G (FEAD and Environmental Office)

Contractor Hazardous Material Inventory Log; G (FEAD and Environmental Office)

1.4 ENVIRONMENTAL PROTECTION REQUIREMENTS

Provide and maintain, during the life of the contract, environmental protection as defined. Plan for and provide environmental protective measures to control pollution that develops during normal construction practice. Plan for and provide environmental protective measures required to correct conditions that develop during the construction of permanent or temporary environmental features associated with the project. Comply with JEGS, station requirements and local regulations pertaining to the environment.

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

1.5 QUALITY ASSURANCE

1.5.1 Preconstruction Survey

Perform a Preconstruction Survey of the project site with the Contracting Officer, and take photographs showing existing environmental conditions in and adjacent to the site. Submit a report for the record.

1.5.2 Regulatory Notification

The Contractor is responsible for notifying the Contracting Officer of all regulatory notification requirements in accordance with JEGS, all applicable Japanese local laws, ordinances and regulations. The Contractor will forward copies of regulatory notification to the Contracting Officer prior to commencement of work activities. The contractor will forward notifications to the regulatory agencies. Typically, regulatory notifications must be provided for the following (this listing is not all inclusive): demolition, renovation, remediation of controlled substances (asbestos, hazardous waste, lead paint).

1.5.3 Environmental Brief

Attend an environmental brief to be included in the preconstruction meeting. Provide the following information: types, quantities, and use of hazardous materials that will be brought onto the activity; types and quantities of wastes/wastewater that may be generated during the contract. Discuss the results of the Preconstruction Survey at this time.

Prior to initiating any work on site, meet with the Contracting Officer and activity environmental staff to discuss the proposed Environmental Protection Plan. Develop a mutual understanding relative to the details of environmental protection, including measures for protecting natural/cultural/historical resources, required reports, required permits, permit requirements, and other measures to be taken.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 ENVIRONMENTAL MANAGEMENT PLAN / ENVIRONMENTAL PROTECTION PLAN

Prior to initiating any work on site, the Contractor will meet with the Contracting Officer to discuss the proposed Environmental Protection Plan and develop a mutual understanding relative to the details of environmental protection, including measures for protecting natural/cultural/historical resources, required reports, and other measures to be taken. The Environmental Management Plan will be submitted in the following format and shall include the elements specified below.

a. Description of the Environmental Protection Plan

(1) General overview and purpose

(a). A brief description of each specific plan required by environmental permit or elsewhere in this contract.

(b). The duties and level of authority assigned to the person(s) on the job site that oversee environmental compliance.

(c). A copy of any standard or project specific operating procedures that will be used to effectively manage and protect the environment on the project site.

(d). Communication and training procedures that will be used to convey environmental management requirements to contractor employees and subcontractors.

(e). Emergency contact information contact information (office phone number, cell phone number, and e-mail address).

(2) General site information

b. Management of Natural Resources

(1) Land resources

(2) Tree protection

(3) Replacement of damaged landscape features

(4) Temporary construction

(5) Stream crossings

(6) Fish and wildlife resources

(7) Wetland areas

c. Protection of Historical and Archaeological Resources

(1) Objectives

(2) Methods

d. Storm Water Management and Control

(1) Ground cover

(2) Erodible soils

(3) Temporary measures

(a) Mechanical retardation and control of runoff

(b) Vegetation and mulch

(4) Effective selection, implementation and maintenance of Best Management Practices (BMPs)

e. Protection of the Environment from Waste Derived from Contractor Operations

(1) Control and disposal of non-hazardous solid and sanitary waste

(2) Control and disposal of hazardous waste (Hazardous Waste Management Section)

f. Prevention of Releases to the Environment

(1) Procedures to prevent releases to the environment

(2) Notifications in the event of a release to the environment

g. Regulatory Notification and Permits

(1) List what notifications and permit applications must be made. Include copies of all applicable, environmental permits.

3.1.1 Permits

Obtain permits necessary to perform this project. No permits will be obtained by the contracting Officer.

Where required by the local government, the inspections and certifications will be provided through the services of a Professional Engineer. As a part of the quality control plan, which is required to be submitted for approval by the quality control section, provide a sub item containing the name, appropriate professional registration or license number, address, and telephone number of the professionals or other qualified persons who will be performing the inspections and certifications for each permit.

3.2 PROTECTION OF NATURAL RESOURCES

Preserve the natural resources within the project boundaries and outside the limits of permanent work. Restore to an equivalent or improved condition upon completion of work. Confine construction activities to within the limits of the work indicated or specified.

When the Contractor encounter any species listed in Red Data Books, issued by Ministry of the Environment Japan or Prefectural Government, notify the Contracting Officer.

Do not disturb fish and wildlife. Do not alter water flows or otherwise significantly disturb the native habitat adjacent to the project and critical to the survival of fish and wildlife, except as indicated or specified.

Except in areas to be cleared, do not remove, cut, deface, injure, or destroy trees or shrubs without the Contracting Officer's permission. Do not fasten or attach ropes, cables, or guys to existing nearby trees for anchorages unless authorized by the Contracting Officer. Where such use of attached ropes, cables, or guys is authorized, the Contractor will be responsible for any resultant damage.

Protect existing trees which are to remain and which may be injured, bruised, defaced, or otherwise damaged by construction operations. Remove displaced rocks from uncleared areas. By approved excavation, remove trees with 30 percent or more of their root systems destroyed. Remove trees and other landscape features scarred or damaged by equipment operations, and replace with equivalent, undamaged trees and landscape features. Obtain Contracting Officer's approval before replacement.

3.2.1 Erosion and Sediment Control Measures

3.2.1.1 Protection of Excavated Soil

Protect excavated soil material from rain and wind erosions.

3.2.1.2 Burnoff

Burnoff of the ground cover is not permitted.

3.2.1.3 Protection of Erodible Soils

Immediately finish the earthwork brought to a final grade, as indicated or specified. Immediately protect the side slopes and back slopes upon completion of rough grading. Plan and conduct earthwork to minimize the duration of exposure of unprotected soils.

3.2.1.4 Temporary Protection of Erodible Soils

Use the following methods to prevent erosion and control sedimentation:

a. Mechanical Retardation and Control of Runoff

(1) Mechanically retard and control the rate of runoff from the construction site. This includes construction of diversion ditches, benches, berms, and use of silt fences and straw bales to retard and divert runoff to protected drainage courses.

b. Sediment Basins

(1) Trap sediment in temporary sediment basins. Select a basin size to accommodate the runoff of a local 20-year storm (“kouu no kakuritsu nenn”). Pump dry and remove the accumulated sediment, after each storm. Use a paved weir or vertical overflow pipe for overflow. Remove collected sediment from the site. Institute effluent quality monitoring programs.

(2) Install, inspect, and maintain best management practices (BMPs) as required by the general permit. Prepare BMP Inspection Reports as required by the general permit. If required by the permit, include those inspection reports.

c. Vegetation and Mulch

(1) Provide temporary protection on sides and back slopes as soon as rough grading is completed or sufficient soil is exposed to require erosion protection. Protect slopes by accelerated growth of permanent vegetation, temporary vegetation, mulching, or netting. Stabilize slopes by hydroseeding, anchoring mulch in place, covering with anchored netting, sodding, or such combination of these and other methods necessary for effective erosion control.

(2) Seeding: Provide new seeding where ground is disturbed. Include topsoil or nutriment during the seeding operation necessary to establish a suitable stand of grass.

3.2.2 Erosion and Sediment control Inspection Reports

3.2.2.1 Storm Water Notice of Intent for Construction Activities

The Contractor shall submit a Storm Water Notice of Intent and a Storm Water Pollution Prevention Plan (SWPPP) for the project to the Contracting Officer prior and gain approval prior to the commencement of work. The SWPPP will meet the requirements of the Japanese Laws and local government regulations for storm water discharges from construction sites. Submit the SWPPP along with any required Notice of Intents, Notice of Termination, and appropriate permit fees, via the Contracting Officer, to the appropriate agency for approval, a minimum of 14 calendar days prior to the start of any land disturbing activities. The Contractor shall maintain an approved copy of the SWPPP at the construction on-site office, and continually update as regulations require, to reflect current site conditions.

a. The SWPPP shall:

(1) Identify potential sources of pollution which may be reasonably expected to affect the quality of storm water discharge from the site.

(2) Describe and ensure implementation of practices which will be used to reduce the pollutants in storm water discharge from the site.

(3) Ensure compliance with terms of the Japanese Law and local government general permit for storm water discharge.

(4) Select applicable best management practices from EPA 832-R-92-005.

3.2.3 Storm water Drainage and Construction Dewatering

There will be no discharge of excavation ground water to the sanitary sewer, storm drains, or to the river without prior specific authorization of the Environmental Division in writing. Discharge of hazardous substances will not be permitted under any circumstances.

Construction site runoff will be prevented from entering any storm drain or the river directly by the use of straw bales or other method suitable to the Environmental Division. Contractor will provide erosion protection of the surrounding soils.

Construction Dewatering shall not be discharged to the sanitary sewer. If the construction dewatering is noted or suspected of being contaminated, it may only be released to the storm drain system if the discharge is specifically permitted. Authorization for any contaminated groundwater release shall be obtained in advance from the base Environmental Officer. Discharge of hazardous substances will not be permitted under any circumstances.

3.3 SOLID WASTE MANAGEMENT PLAN AND PERMIT

Provide to the contracting officer written notification of the quantity of solid waste/ debris that is anticipated to be generated by construction. Include in the report the locations where varies types of waste will be disposed, turned in, or recycled.
Submit a copy of the applicable Japanese local permits and licenses for transportation, treatment, storage and disposal of solid waste (“Sangyou Haikibutsu”) by permitted facilities.

3.3.1 Solid Waste Management Report

Monthly the Contractor will submit a solid waste disposal management report to the Contracting Officer. For each waste, the report will state the classification (using the definitions provided in this section), amount, location, and name of the business receiving the solid waste.

The Contractor shall submit all waste disposal manifests.
For each solid waste retained by the Contractor for his own use, the Contractor will submit on the solid waste disposal report the information previously described in this paragraph. Prices paid or received will not be reported to the Contracting Officer unless required by other provisions or specifications of this Contract or public law.

3.3.2 Control and Management of Solid Wastes

Pick up solid wastes, and place in covered containers which are regularly emptied. Do not prepare or cook food on the project site. Prevent contamination of the site or other areas when handling and disposing of wastes. At project completion, leave the areas clean. Recycling is encouraged and can be coordinated with the Contracting Officer and the activity recycling coordinator. Remove all solid waste (including non-hazardous debris) from Government property and dispose off-site at an approved landfill. Solid waste disposal off-site must comply with most stringent JEGS, Japanese law, local regulations, and codes.

Manage spent hazardous material used in construction, including but not limited to, aerosol cans, waste paint, cleaning solvents, contaminated brushes, and used rags, as per Japanese law, local prefectural regulations, and JEGS.

Submit Disposal manifests and QRP (Qualifying Recycling Program) Tonnage form and manifest as specified in Section 01 74 19 “Construction and Demolition Waste Management”.

3.3.3 Disposal Documentation for Regulated Waste

Manifest, pack, ship and dispose of Regulated Waste that is generated as a result of construction in accordance with the generating facilities generator status under the GOJ Environmental laws and Aomori prefecture ordinance.

Submit a copy of the applicable permit(s), manifest(s), or license(s) for transportation, treatment, storage, and disposal of hazardous and regulated waste by permitted facilities.

3.4 POLLUTION PREVENTION/HAZARDOUS WASTE MINIMIZATION

Minimize the use of hazardous materials and the generation of hazardous waste. Include procedures for pollution prevention/ hazardous waste minimization in the Hazardous Waste Management Section of the Environmental Protection Plan. Consult with the activity Environmental Office for suggestions and to obtain a copy of the installation's pollution prevention/hazardous waste minimization plan for reference material when preparing this part of the plan. If no written plan exists, obtain information by contacting the Contracting Officer. Describe the types of the hazardous materials expected to be used in the construction when requesting information.

3.5 HAZARDOUS MATERIALS AND HAZARDOUS WASTES PROHIBITIONS

No hazardous materials shall be abandoned on government property. The Contractor shall transport and turn in hazardous wastes in accordance with GOJ Environmental laws and Aomori prefecture ordinance. No hazardous material shall be brought onto the government property that are not directly related to requirements for the performance of this contract. The government is not responsible for the disposals of Contractor's wastes/materials brought on the job site which are not required in the performance of this contract. The intent of this provision is to dispose hazardous wastes that is defined in this section, is generated as part of this contract, and is existed within the boundary of the Contract limits and not brought in from offsite by the Contractor. Incidental wastes used to support this contract including, but not limited to aerosol cans, waste paints, cleaning solvents, contaminated brushes, rags, clothing, Personal Protection Equipments (PPEs), etc. are considered as hazardous wastes.

3.5.1 Hazardous Materials & Hazardous Waste Management:

No hazardous material shall be brought onto government property that does not directly relate to requirements for the performance of this contract.

Include hazardous material control procedures in the Safety Plan. Address procedures and proper handling of hazardous materials, including the appropriate transportation requirements. Submit a MSDS and estimated quantities to be used for each hazardous material to the Contracting Officer and Environmental office prior to bringing the material on base. Typical materials requiring MSDS and quantity reporting include, but are not limited to, oil and latex based painting and caulking products, solvents, adhesives,

aerosol, and petroleum products. Ensure that all containers of hazardous materials have Hazardous Chemical Warning Label (HCWL) or their equivalent. Keep copies of the MSDS for hazardous materials on site at all times. Certify that all hazardous materials removed from the site are hazardous materials and do not meet the definition of hazardous waste per JEGS Chapter 5 and 6.

3.5.1.1 Licenses and Permits for Construction Waste

Obtain necessary licenses and permits in conjunction with treatment and disposition of construction wastes defined in all applicable GOJ Environmental laws and Aomori prefecture ordinance; and submit the licenses and/or permits to the Contracting Officer.

3.6 PETROLEUM PRODUCTS

a. Petroleum Products Used For Contractor’s Own Equipment And Motor Vehicles

Conduct the fueling and lubricating of equipment and motor vehicles in a manner that protects against spills and evaporation. Contractor’s will not store any POL products on site (only daily use). Manage all used oil generated on site in accordance with JEGS Chapter 6. Determine if any used POL products generated while on-site exhibits a characteristic of hazardous waste. Used POL products containing solvents will be considered a hazardous waste as defined GOJ Environmental laws and Aomori prefecture ordinance; and disposed of at Contractor's expense. Used POL products mixed with a hazardous waste will also be considered a hazardous waste.

3.6.1 Oily and Hazardous Substances

Prevent POL products or hazardous substances from entering the ground, drainage areas, or navigable waters.
Surround all temporary POL products storage tanks with a temporary berm or containment of sufficient size and strength to contain the contents of the tanks, plus 10 percent freeboard for precipitation. The berm will be impervious to oil for 72 hours and be constructed so that any discharge will not permeate, drain, infiltrate, or otherwise escape before cleanup occurs. Spill preventive measures shall be taken. A secondary containment system shall be applied. Appropriate and compatible spill kits shall be readily available at a job site. Further guidance on spill prevention measures is available; contact Station Environmental Office at 226-2307.

3.7 FUEL TANKS

If temporary POL products containing tanks/containers are to be stored at a job site, spill preventive measures shall be taken. A secondary containment system shall be applied. Appropriate and compatible spill kits shall be readily available at a job site. Further guidance on spill prevention measures is available; contact Station’s Environmental Office at 226-2307.

3.8 RELEASES/SPILLS OF OIL AND HAZARDOUS SUBSTANCES

Exercise due diligence to prevent, contain, and respond to spills of hazardous material, hazardous substances, hazardous waste, sewage, regulated gas, POL products, and other substances regulated by JEGS, GOJ Environmental laws and Aomori prefecture ordinance. Maintain spill cleanup equipment and

materials at the work site. In the event of a spill, take prompt, effective action to stop, contain, curtail, or otherwise limit the amount, duration, and severity of the spill/release. In the event of any releases of POL products and hazardous substances, chemicals, or gases; immediately (within 15 minutes) notify the Contracting Officer and Base or Activity Fire Department at 911.

The Contractor is responsible for verbal and written notifications as required by the JEGS, GOJ Environmental laws and Aomori prefecture ordinance. Spill response will be in accordance with JEGS, GOJ Environmental laws and Aomori prefecture ordinance. Contain and clean up these spills without cost to the Government. If Government assistance is requested or required, the Contractor will reimburse the Government for such assistance. Provide copies of the written notification and documentation that a verbal notification was made within 20 days.

Maintain spill cleanup equipment and materials at the work site. Clean up all hazardous and non-hazardous waste spills. The Contractor shall reimburse the government for all material, equipment, and clothing generated during any spill cleanup. The Contractor shall reimburse the government for all costs incurred including sample analysis materials, equipment, and labor if the government must initiate its own spill cleanup procedures, for Contractor responsible spills, when:

a. The Contractor has not begun spill cleanup procedure within one hour of spill discovery/occurrence, or

b. If, in the government's judgment, the Contractor's spill cleanup is not adequately abating life threatening situation and/or is a threat to any body of water or environmentally sensitive areas.

3.9 DISPOSAL OF HAZARDOUS WASTES

3.9.1 Hazardous Waste/Debris Management

Identify all construction activities which will generate hazardous waste/debris. Provide a documented waste determination for all resultant waste streams.

Hazardous waste/debris that is brought in from offsite by the Contractor will be identified, labeled, handled, stored, and disposed of in accordance with GOJ Environmental laws and Aomori prefecture ordinance.

3.9.1.1 Materials to be removed

If materials to be removed, that may be hazardous waste or hazardous to human health during construction operations is encountered, stop that portion of work and immediately notify the Contracting Officer and request sampling to the Government. The Government will sample the material to determine if it is hazardous waste. Within 35 calendar days the Government will determine if the material is hazardous. If material is not hazardous or poses no danger, the Government will direct the Contractor to proceed without change. If material is hazardous and handling of the material is necessary to accomplish the work, the Government will issue a modification pursuant to "FAR 52.243-4, Changes" and "FAR 52.236-2, Differing Site Conditions".

3.10 HANDLING AND DISPOSAL OF REGULATED MATERIALS

3.10.1 Class I and II ODS Prohibition

Class I and II ODS as defined and identified herein will not be used in the performance of this contract, nor be provided as part of the equipment. This prohibition will be considered to prevail over any other provision, specification, drawing, or referenced documents.

3.10.2 ODS Training:

ODS handling technicians shall be certified through Refrigerants Recycling Promotion and Technology Center. The Contractor shall provide copies of certifications to the Contracting Officer. Copies shall be maintained at the employees' place of business and be carried as a wallet card by the technician as mandated by Japanese environmental laws.

3.10.3 ODS Management Procedures:

The Contractor shall verify the presence of Class I and II ODS prior to performing work and shall not vent or discharge any Class I and II ODS to the environment. Accidental venting of ODS is a release and shall be immediately reported to the Contracting Officer or COR. Refrigerant and fire suppression chemicals shall be captured and transferred to the appropriate location for recycling and/or disposal.

3.10.3.1 ODS Storage:

The Contractor is prohibited from storing or accumulating cylinders/containers of ODS, refrigerant or fire suppression chemicals on all installations. The Contractor shall store or accumulate the ODS cylinders/containers on contractor’s premises.

3.10.3.2 Refrigerant

Refrigerant (Class I ODS), used in air conditioning and refrigeration equipment and fire protection systems, which shall be removed in this contract, shall be properly disposed of accordance with GOJ Environmental laws and Aomori Prefecture ordinance.

Place recovered ODS in cylinders meeting the recommendation of the air conditioning or refrigeration system manufacturer suitable for the type ODS (filled to no more than 80 percent capacity) and provide appropriate labeling.

3.11 DUST CONTROL

Keep dust down at all times, including during nonworking periods. Sprinkle or treat, with dust suppressants, the soil at the site, haul roads, and other areas disturbed by operations. Dry power brooming will not be permitted. Instead, use vacuuming, wet mopping, wet sweeping, or wet power brooming. Air blowing will be permitted only for cleaning nonparticulate debris such as steel reinforcing bars. Only wet cutting will be permitted for cutting concrete blocks, concrete, and bituminous concrete. Do not unnecessarily shake bags of cement, concrete mortar, or plaster.

Do not discharge any construction waste water or surface cleaning water into the storm drain or on-base sewer line directly. Keep sediment leaves, and construction debris away from storm drains (use barriers).

3.12 LIGHT FIXTURES WASTE

Light Fixtures waste including but not limited to some mercury containing building products such florescent lamps, mercury vapor lamps, and high pressure sodium lamps shall be disposed off-base as Hazardous Waste in accordance with GOJ Environmental Law and Aomori Prefecture Ordinance. Non hazardous waste shall be disposed off-base in accordance with GOJ Environmental Law and Aomori Prefecture Ordinance. Lighting fixture ballast may contain PCB as specified in Paragraph “PCB Contained Waste materials and Equipment”.

3.13 MERCURY CONTAINING ITEMS

Mercury is prohibited in the construction of this facility, unless specified otherwise, and with the exception of mercury vapor lamps and fluorescent lamps. Dumping of mercury-containing materials and devices such as mercury vapor lamps, fluorescent lamps, and mercury switches, etc., in Base trash enclosures is strictly prohibited. Such material shall be carefully removed without breaking, appropriately packaged to prevent breakage and disposed, off-base in accordance with GOJ Environmental Law and Aomori Prefecture Ordinance. In case of breakage or any mercury spillage, the Contactor shall report immediately to the contracting Officer. The Contactor shall take no action to cleanup unless directed by the contacting Officer.

Lighting fixture, thermostats, and temperature gauge that contains mercury shall be disposed, off-base in accordance with GOJ Environmental Law and Aomori Prefecture Ordinance. Non hazardous waste shall be disposed off-base in accordance with all GOJ Environmental Law and Aomori Prefecture Ordinance.

3.14 CHEMICAL PAINT REMOVER

Chemical paint removers shall be disposed as Hazardous Waste off-base in accordance with GOJ Environmental Law and Aomori Prefecture Ordinance. Non hazardous waste shall be disposed off-base in accordance with GOJ Environmental Law and Aomori Prefecture Ordinance.

3.15 NOISE

Make the maximum use of low-noise emission products, as certified by applicable occupational safety and health officials. Blasting or use of explosives will not be permitted without written permission from the Contracting Officer, and then only during the designated times.

3.16 CONTRACTOR LIABILITIES FOR ENVIRONMENTAL AND NATURAL RESOURCE PROTECTION

The Contractor is advised that this project and the station are subject to Environment Inspector to review compliance with environmental laws and regulations. The Contractor will fully cooperate with the Environment Inspector who may visit the job site and will provide immediate notification to the Contracting Officer, who will accompany him/her on any subsequent site inspections.

The Contractor will complete, maintain, and make available to the Contracting Officer and the Environment Inspector all documentation relating to environmental compliance under JEGS, applicable DoD, local laws and regulations.

The Contractor will be responsible for all damages to persons or property resulting from Contractor fault or negligence as well as for the payment of any civil fines or penalties which may be assessed by the Environment Inspector or the Contracting Officer as a result of the Contractor's or any subcontractor's violation of JEGS, any applicable DoD, local environmental law and/or regulation.

The Contractor is advised that this project and the station are subject to inspections of the Natural Resources Program Manager (NRPM) to review compliance with environmental laws and regulations. The Contractor will fully cooperate with the NRPM who may visit the job site and will provide immediate notification to the Contracting Officer, who will accompany him/her on any subsequent site inspections.

The Contractor will complete, maintain, and make available to the Contracting Officer and the NRPM all documentation relating to environmental compliance under JEGS, applicable DoD, local laws and regulations.

The Contractor will be responsible for all damages to persons or property resulting from Contractor fault or negligence as well as for the payment of any civil fines or penalties which may be assessed by the NRPM or the Contracting Officer as a result of the Contractor's or any subcontractor's violation of JEGS, any applicable DoD, local environmental law and/or regulation.

-- End of Section --

SECTION 01 58 00

PROJECT IDENTIFICATION

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

JAPANESE AGRICULTURAL STANDARD (JAS) PUBLICATIONS

SP-86	Special Plywood
SL-86	Sawn Lumber

JAPANESE INDUSTRIAL STANDARDS (JIS)

A 5508	Nails

AMERICAN WOOD-PRESERVERS' ASSOCIATION (AWPA)

AWPA C1	All Timber Products – Preservative Treatment by Pressure Processes
AWPA C2	Lumber, Timber, Bridge Ties and Mine Ties - Preservative Treatment by Pressure Processes

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Preliminary drawing indicating layout and text content; G (FEAD)

1.3 PROJECT SIGN

Prior to initiating any work on site, provide one project identification sign at the location designated. Construct the sign in accordance with the project sign detail attached at the end of this section. Maintain sign throughout the life of the project. Upon completion of the project, remove the sign from the site. The metal signs will not require the same support structure as the wooden signs. The Contractor shall supply emergency contact information on the sign as directed by the Contracting Officer.

1.3.1 Project Identification Signboard (Navy)

A project identification signboard shall be provided in accordance with attached Plates -1, -2, -3, and -4 at the end of this Section. Provide

preliminary drawing indicating layout and text content. The signboard shall be provided at a conspicuous location on the job site where directed by the Contracting Officer. The dimensions on the sketch can be proportional sized to fit on a single sheet of Japanese plywood (910 x 1820 mm).

a. The field of the sign shall consist of Grade B-B medium density overlaid exterior plywood or JAS grade Type-1 “1-rui” waterproof exterior plywood. Lumber shall be B or better Southern pine, pressure-preservative treated in accordance with AWPA C1 and AWPA C2 or JAS sawn lumber no-knot “Mubushi” grade. Nails shall be of flat head galvanized steel screw nail conforming to JIS A 5508.

b. The entire signboard and supports shall be given one coat of exterior alkyd primer and two coats of exterior alkyd enamel paint. The lettering and sign work shall be performed by a skilled sign painter using paint known in the trade as bulletin colors. The colors, lettering sizes, and lettering styles shall be as indicated. Where preservative-treated lumber is required, utilize only cured pressure-treated wood which has had the chemicals leached from the surface of the wood prior to painting.

c. Use spray applied automotive quality high gloss acrylic white enamel paint as background for the NAVFAC logo. NAVFAC logo shall be an applied 2 millimeter film sticker/decal with either transparent or white background or paint the logo by stencil onto the sign. The weather resistant sticker/decal film shall be rated for a minimum of 2-year exterior vertical exposure. The self-adhering sticker shall be mounted to the sign with pressure sensitive, permanent acrylic adhesive. Shop cut sticker/decal to rectangular shape and provide pull-off backing sheet on adhesive side of design sticker for shipping.

d. Sign paint colors (manufacturer's numbers/types listed below for color identification only)

   (1) Blue = To match dark blue color in the NAVFAC logo.

   (2) White = To match Brilliant White color in the NAVFAC logo.

e. NAVFAC logo must retain proportions and design integrity. NAVFAC logos in electronic format may be obtained from the NAVFAC web portal via the following link:

   https://portal.navfac.navy.mil/portal/page/portal/navfac/navfac_formedia_pp/navfac_presskits_pp

   Use the following to choose color values for the paint to be used:

   (1) Dark Blue = equivalent to CMYK values 100, 72, 0, 8.

   (2) Light Blue = equivalent to CMYK values 69, 34, 0, 0.

   (3) Cyan = equivalent to CMYK values 100, 9, 0, 6.

   (4) Yellow = equivalent to CMYK values 0.9,94, 0.

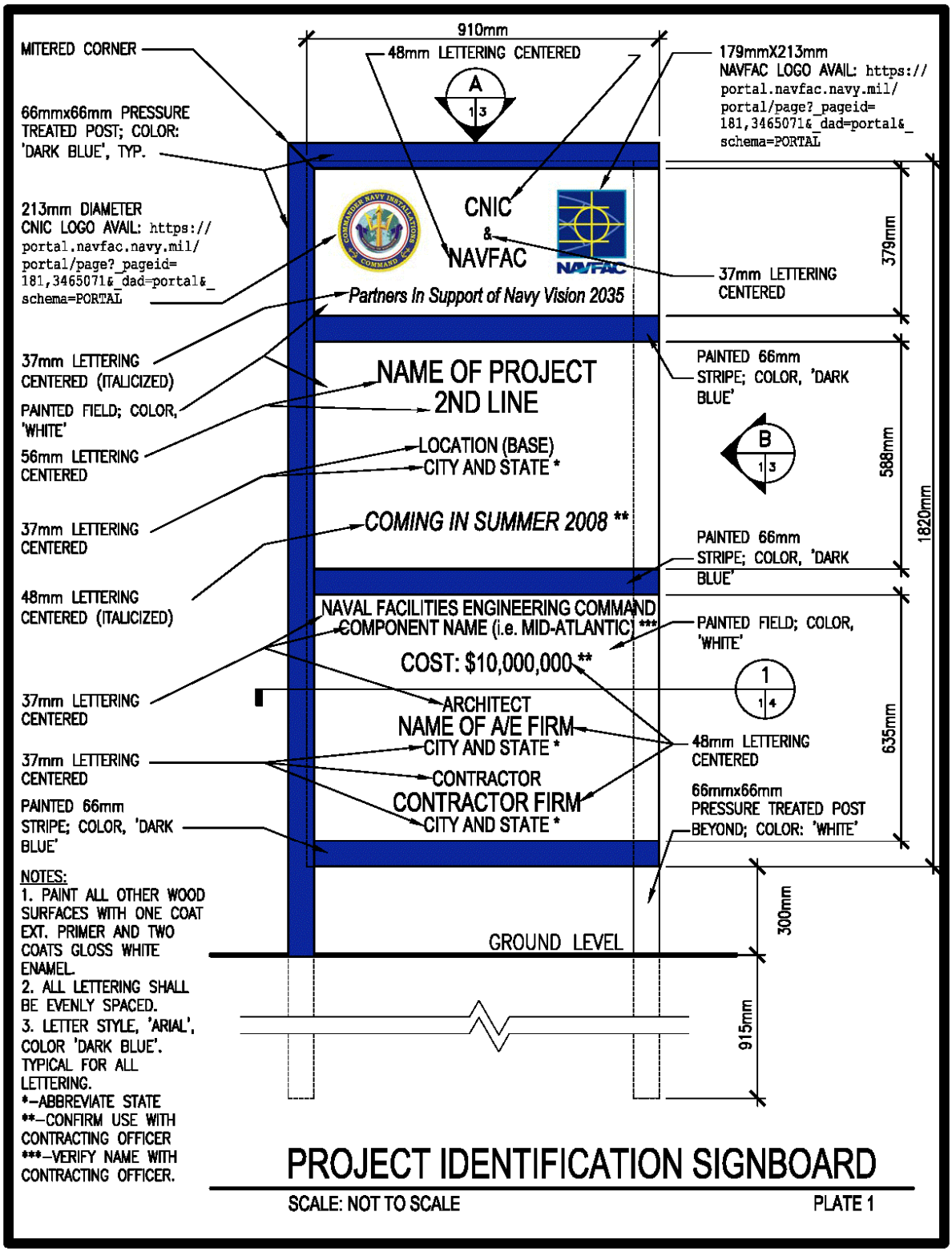
PART 2 PRODUCTS

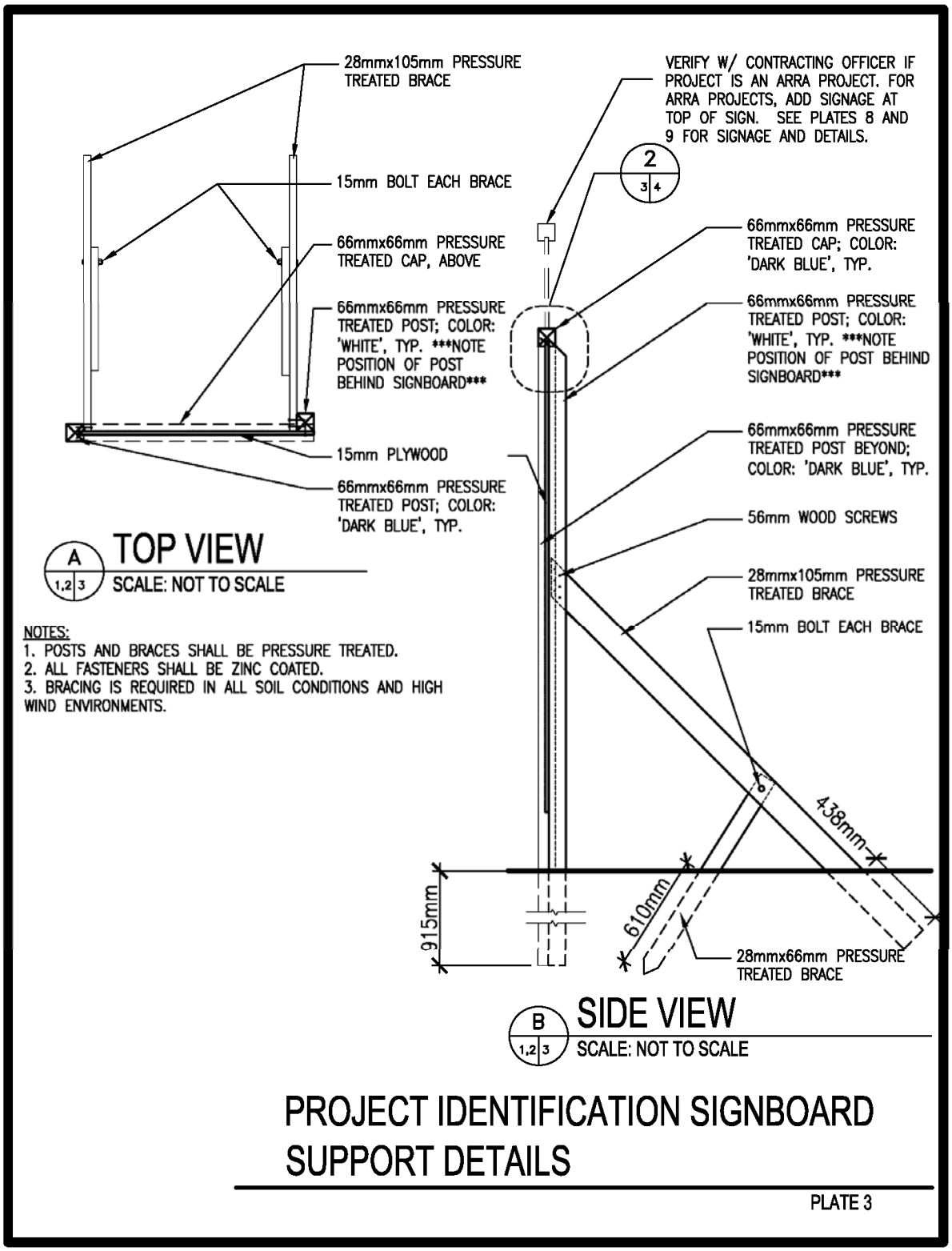
Not used.

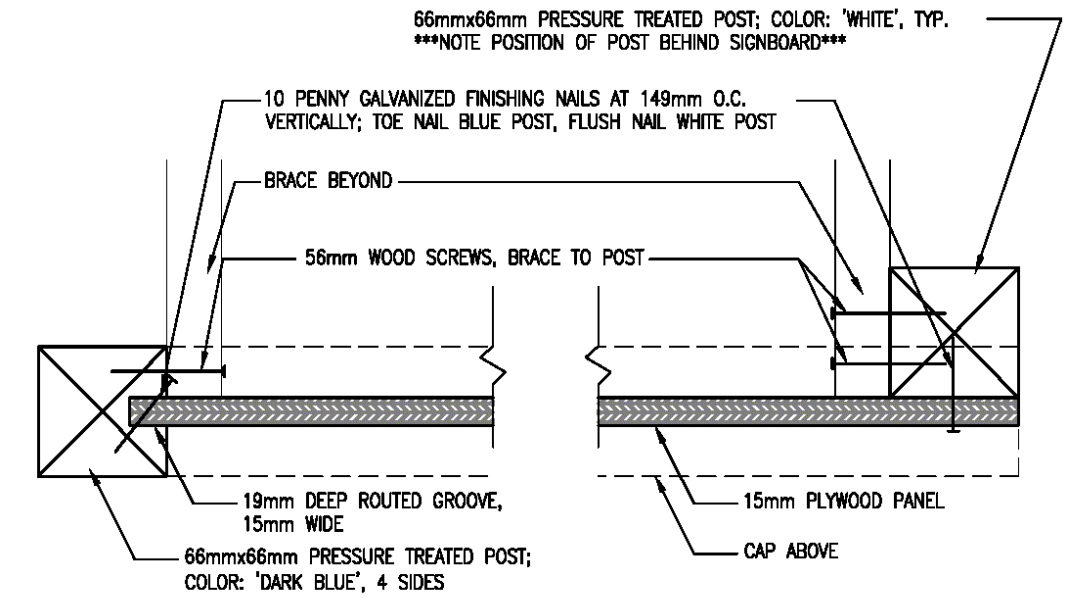
PART 3 EXECUTION

Not used.

-- End of Section --


910mm
MITERED CORNER
48mm LETTERING CENTERED
179mmX213mm NAVFAC LOGO AVAIL: https://portal.navfac.navy.mil/portal/page?_pageid=181,3465071&_dad=portal&_schema=PORTAL
66mmx66mm PRESSURE TREATED POST; COLOR: 'DARK BLUE', TYP.
213mm DIAMETER CNIC LOGO AVAIL: https://portal.navfac.navy.mil/portal/page?_pageid=181,3465071&_dad=portal&_schema=PORTAL
CNIC
&
NAVFAC
37mm LETTERING CENTERED
Partners In Support of Navy Vision 2035
37mm LETTERING CENTERED (ITALICIZED)
PAINTED FIELD; COLOR, 'WHITE'
56mm LETTERING CENTERED
NAME OF PROJECT
2ND LINE
PAINTED 66mm STRIPE; COLOR, 'DARK BLUE'
LOCATION (BASE)
CITY AND STATE *
37mm LETTERING CENTERED
COMING IN SUMMER 2008 **
PAINTED 66mm STRIPE; COLOR, 'DARK BLUE'
48mm LETTERING CENTERED (ITALICIZED)
NAVAL FACILITIES ENGINEERING COMMAND
COMPONENT NAME (i.e. MID-ATLANTIC) ***
PAINTED FIELD; COLOR, 'WHITE'
COST: $10,000,000 **
37mm LETTERING CENTERED
ARCHITECT
NAME OF A/E FIRM
CITY AND STATE *
48mm LETTERING CENTERED
37mm LETTERING CENTERED
CONTRACTOR
CONTRACTOR FIRM
CITY AND STATE *
PAINTED 66mm STRIPE; COLOR, 'DARK BLUE'
66mmx66mm PRESSURE TREATED POST BEYOND; COLOR: 'WHITE'
379mm
588mm
635mm
1820mm
300mm
915mm
GROUND LEVEL
NOTES:
1. PAINT ALL OTHER WOOD SURFACES WITH ONE COAT EXT. PRIMER AND TWO COATS GLOSS WHITE ENAMEL.
2. ALL LETTERING SHALL BE EVENLY SPACED.
3. LETTER STYLE, 'ARIAL', COLOR 'DARK BLUE'. TYPICAL FOR ALL LETTERING.
*–ABBREVIATE STATE
**–CONFIRM USE WITH CONTRACTING OFFICER
***–VERIFY NAME WITH CONTRACTING OFFICER.
PROJECT IDENTIFICATION SIGNBOARD
SCALE: NOT TO SCALE
PLATE 1

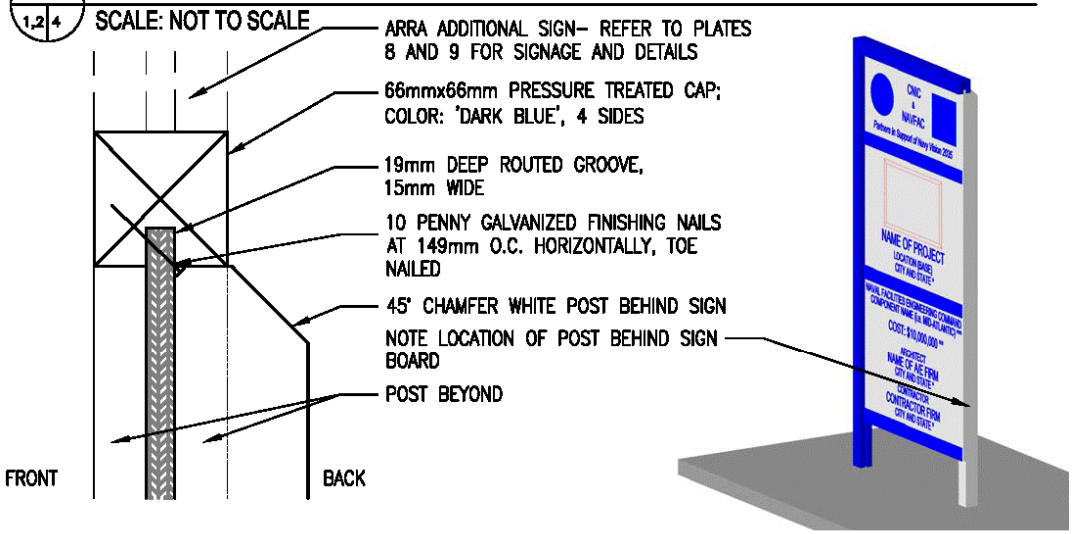

28mmx105mm PRESSURE TREATED BRACE
15mm BOLT EACH BRACE
66mmx66mm PRESSURE TREATED CAP, ABOVE
66mmx66mm PRESSURE TREATED POST; COLOR: 'WHITE', TYP. ***NOTE POSITION OF POST BEHIND SIGNBOARD***
15mm PLYWOOD
66mmx66mm PRESSURE TREATED POST; COLOR: 'DARK BLUE', TYP.
A
1,2 3
TOP VIEW
SCALE: NOT TO SCALE
NOTES:
1. POSTS AND BRACES SHALL BE PRESSURE TREATED.
2. ALL FASTENERS SHALL BE ZINC COATED.
3. BRACING IS REQUIRED IN ALL SOIL CONDITIONS AND HIGH WIND ENVIRONMENTS.
VERIFY W/ CONTRACTING OFFICER IF PROJECT IS AN ARRA PROJECT. FOR ARRA PROJECTS, ADD SIGNAGE AT TOP OF SIGN. SEE PLATES 8 AND 9 FOR SIGNAGE AND DETAILS.
2
3 4
66mmx66mm PRESSURE TREATED CAP; COLOR: 'DARK BLUE', TYP.
66mmx66mm PRESSURE TREATED POST; COLOR: 'WHITE', TYP. ***NOTE POSITION OF POST BEHIND SIGNBOARD***
66mmx66mm PRESSURE TREATED POST BEYOND; COLOR: 'DARK BLUE', TYP.
56mm WOOD SCREWS
28mmx105mm PRESSURE TREATED BRACE
15mm BOLT EACH BRACE
438mm
915mm
610mm
28mmx66mm PRESSURE TREATED BRACE
B
1,2 3
SIDE VIEW
SCALE: NOT TO SCALE
PROJECT IDENTIFICATION SIGNBOARD SUPPORT DETAILS
PLATE 3



1 PLAN SECTION

1,2 4

SCALE: NOT TO SCALE



2 SECTION AT TOP

1,2 4

SCALE: NOT TO SCALE

3 ISO VIEW

2 4

SCALE: NOT TO SCALE

PROJECT IDENTIFICATION SIGNBOARD SECTIONS

PLATE 4

SECTION 01 74 19

CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM E 1609	Development and Implementation of a Pollution Prevention Program

Headquarters, US Forces Japan, Department of Defense (DOD)

JEGS	(2008 September) Japan Environmental Governing Standards

DEPARTMENT OF DEFENSE (DOD)

DOD 4717.05 G	OEBGD (May 2007) Overseas Environmental Baseline Guidance Document

1.2 GOVERNMENT POLICY

Government policy is to apply sound environmental principles in the construction and use of facilities. As part of the implementation of that policy the Contractor shall: (1) practice efficient waste management when sizing, cutting, and installing products and materials and (2) use all reasonable means to divert construction and demolition waste from landfills and incinerators to facilitate their recycling or reuse.

a. Hazardous Waste/Material

All hazardous waste/material defined in JEGS Chapter 5 and 6 shall be turned in/disposed of at appropriate location in accordance with GOJ Environmental laws and Aomori prefecture ordinance.

b. Solid waste (not included Hazardous Waste)

All solid waste defined JEGS Chapter 7, C7.2. (not included JEGS Chapter 7, C7.2.14. hazardous waste) shall become the property of the Contractor and shall be removed from Government property. The contractor shall deliver all solid waste shall be turned in/disposed of at appropriate location in accordance with GOJ Environmental laws and Aomori prefecture ordinance, where the solid waste are generated. Do not include any thermal insulation or PCB, asbestos, lead-base paint, containing items in Solid waste.

c. Refrigerants

Refrigerants shall be removed by a technician licensed to perform such work in accordance all applicable regulations.

1.3 MANAGEMENT

Develop and implement a waste management program in accordance with GOJ Environmental laws and Aomori prefecture ordinance and as specified. Take a pro-active, responsible role in the management of construction and demolition waste and require all subcontractors, vendors, and suppliers to participate in the effort.

Construction and demolition waste includes products of demolition or removal, excess or unusable construction materials, packaging materials for construction products, and other materials generated during the construction process but not incorporated into the work. In the management of waste consideration shall be given to the availability of viable markets, the condition of the material, the ability to provide the material in suitable condition and in a quantity acceptable to available markets, and time constraints imposed by internal project completion mandates. The Contractor is responsible for implementation of any special programs involving rebates or similar incentives related to recycling of waste. Revenues or other savings obtained for salvage, or recycling accrue to the Contractor. Appropriately permit firms and facilities used for recycling, reuse, and disposal for the intended use to the extent required by federal, state, and local regulations. Also, provide on-site instruction of appropriate separation, handling, recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.

1.4 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Waste Management Plan; G (FEAD)

SD-11 Closeout Submittals

Records with manifests; G (FEAD and Environmental Office)

1.5 MEETINGS

Conduct Construction Waste Management meetings. After award of the Contract and prior to commencement of work, schedule and conduct a meeting with the Contracting Officer to discuss the proposed Waste Management Plan and to develop a mutual understanding relative to the details of waste management. At a minimum, environmental and waste management goals and issues shall be discussed at the following additional meetings:

a. Preconstruction meeting.

b. Regular QC meetings.

c. Work safety meetings.

1.6 WASTE MANAGEMENT PLAN

A waste management plan shall be submitted within 15 days after contract award and prior to initiating any site preparation work.

a. Name of individuals on the Contractor's staff responsible for waste prevention and management.

b. Actions that will be taken to reduce solid waste generation, including coordination with subcontractors to ensure awareness and participation.

c. Description of the regular meetings to be held to address waste management.

d. Description of the specific approaches to be used in recycling/reuse of the various materials generated, including the areas on site and equipment to be used for processing, sorting, and temporary storage of wastes.

e. Characterization, including estimated types and quantities, of the waste to be generated.

f. Name of landfill and/or incinerator to be used and the estimated costs for use, assuming that there would be no salvage or recycling on the project.

g. Identification of local and regional reuse programs. Include the name, location, and phone number for each reuse facility to be used, and provide a copy of the permit or license for each facility.

h. List of specific waste materials that will be salvaged for resale, salvaged and reused on the current project, salvaged and stored for reuse on a future project, or recycled. Recycling facilities that will be used shall be identified by name, location, and phone number, including a copy of the permit or license for each facility.

i. Identification of materials that cannot be recycled/reused with an explanation or justification, to be approved by the Contracting Officer.

j. Description of the means by which any waste materials identified in item (h) above will be protected from contamination.

k. Description of the means of transportation of the recyclable materials (whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler and removed from the site).

l. Anticipated net cost savings determined by subtracting Contractor program management costs and the cost of disposal from the revenue generated by sale of the materials and the incineration and/or landfill cost avoidance.

Revise and resubmit Plan as required by the Contracting Officer. Approval of Contractor's Plan will not relieve the Contractor of responsibility for

compliance with applicable environmental regulations or meeting project cumulative waste diversion requirement. Distribute copies of the Waste Management Plan to each subcontractor, the Quality Control Manager, and the Contracting Officer.

1.7 RECORDS

Records shall be maintained to document the quantity and type of waste generated and disposal.
The records shall be made available to the Contracting Officer during construction, and a copy of the records with manifests and receipt shall be delivered to the Contracting Officer upon completion of the construction.

1.8 DISPOSAL

Control accumulation of waste materials and trash, but hazardous waste is not included. Recycle or dispose of collected materials off-site at intervals approved by the Contracting Officer and in compliance with waste management procedures.
Hazardous waste shall not accumulate at construction site, and contractor shall responsible for accumulate, management, and disposal of appropriate location.
Disposal shall be in accordance with the GOJ Environmental laws and Aomori prefecture ordinance.

1.8.1 Recycle

Waste materials not suitable for reuse, but having value as being recyclable, shall be made available for recycling. Arrange for timely pickups from the site or deliveries to recycling facilities in order to prevent contamination of recyclable materials.
Waste materials not suitable for reuse, but having value as being recyclable, shall be made available for recycling whenever economically feasible. Recycle concrete aggregate, asphalt paving, soil materials, wood, lumber and etc, in accordance with latest guide-line of JAPAN MINISTRY OF LAND, INFRASTRUCTURE AND TRANSPORT.

1.8.2 Turn-in

As specified in Paragraph 1.2 .

1.8.3 Waste

Materials with no practical use or economic benefit shall be disposed at a landfill or incinerator in accordance with JEGS and GOJ Environmental laws and Aomori prefecture ordinance.
Materials with no practical use or economic benefit shall be disposed at a landfill or incinerator.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section ----

Solid Waste Operations Information

Solid Waste (FSC)	Tons	Cost ($)	Revenue ($)		
Landfill					
Incinerator					
Composted					
Landfill Tipping Fee (yen):					
Incineration Tipping Fee (yen):					
Other Selected Waste (?)					
	Disposal (Tons)	**Disposal Cost ($)**	**Recycle (Tons)**	**Recycle Cost ($)**	**# of Projects**
Construction					
Demolition					
Other selected Waste (HWB)					
	Disposal (Tons)	**Disposal Cost ($)**	**Recycle (Tons)**	**Recycle Cost ($)**	
Oils					
Antifreeze			1.2	1,539.00	
Lead Acid Batteries			34	No Cost	

Frank Floros
P:\OPS\OPCI\SPEC\STANDARD\Plan & Spec\D01\Japan Yokosuka, Sasebo,Misawa,Atsugi,Iwakuni\fig\Solid Waste Disposal\P2ADS Data Collection Form (FY08) (2).xlsP2ADS Data Collection Form (FY08) (2).xls
SW Operations

SAMPLE FORM OF RECORDS

SECTION 01 77 00.00 20

CLOSEOUT PROCEDURES

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM E 1971	Stewardship for the Cleaning of Commercial and Institutional Buildings

GREEN SEAL (GS)

GS-37	Industrial and Institutional Cleaners

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-10 Operation and Maintenance Data

Equipment/Product Warranty List;

SD-11 Closeout Submittals

As-Built Drawings; G (FEAD)

Disposal Manifests for Construction, Demolition, and Hazardous Wastes; G (FEAD)

1.3 PROJECT RECORD DOCUMENTS

1.3.1 As-Built Drawings

Submit within 10 calendar days after completion of work, one set of marked up as-built drawings and one set of computer data (AutoCAD 2007 U.S version file format) on DVD/CD-R to FEAD. The marked-up drawings shall not be less than A1 (841 x 594 mm) nor more than A0 (1189 x 841 mm). Project CAD drawings (AutoCAD 2007 U.S version file format) will be available to the contractor as specified in section 01 30 00 ADMINISTRATIVE REQUIREMENT. During the work performance, the marked-up drawings shall be kept on-site. Up-dated as-built drawings shall be reviewed by the Government representative prior to invoice submittal.

1.4 WARRANTY

1.4.1 Pre-Warranty Conference

Prior to contract completion and at a time designated by the FEAD, the Contractor shall meet with the FEAD to develop a mutual understanding with respect to the requirements of this clause. Communication procedures for Contractor notification of warranty defects, priorities with respect to the type of defect, reasonable time required for Contractor response, and other details deemed necessary by the FEAD for the execution of the construction warranty shall be reviewed at this meeting.

1.5 CLEANUP

Provide final cleaning in accordance with ASTM E 1971. Leave premises "broom clean." Comply with GS-37 for general purpose cleaning and bathroom cleaning. Only nonhazardous cleaning materials, including natural cleaning materials, shall be used in the final cleanup. Clean interior and exterior glass surfaces exposed to view; remove temporary labels, stains and foreign substances; polish transparent and glossy surfaces; vacuum carpeted and soft surfaces. Clean equipment and fixtures to a sanitary condition.
Clean filters of operating equipment and comply with the Indoor Air Quality (IAQ) Management Plan. Clean debris from roofs, gutters, downspouts and drainage systems. Sweep paved areas and rake clean landscaped areas. Remove waste and surplus materials, rubbish and construction facilities from the site. Recycle, salvage, and return construction and demolition waste from project in accordance with the Waste Management Plan. Promptly and legally transport and dispose of any trash.
Do not burn, bury, or otherwise dispose of trash on the project site.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

SECTION 01 78 23

OPERATION AND MAINTENANCE DATA

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM E 1971	Stewardship for the Cleaning of Commercial and Institutional Buildings

1.2 SUBMISSION OF OPERATION AND MAINTENANCE DATA

Submit Operation and Maintenance (O&M) Data specifically applicable to this contract and a complete and concise depiction of the provided equipment, product, or system, stressing and enhancing the importance of system interactions, troubleshooting, and long-term preventative maintenance and operation. The subcontractors shall compile and prepare data and deliver to the Contractor prior to the training of Government personnel. The Contractor shall compile and prepare aggregate O&M data including clarifying and updating the original sequences of operation to as-built conditions. Organize and present information in sufficient detail to clearly explain O&M requirements at the system, equipment, component, and subassembly level. Include an index preceding each submittal. Submit in accordance with this section and Section 01 33 00 SUBMITTAL PROCEDURES.

1.2.1 Package Quality

Documents must be fully legible. Poor quality copies and material with hole punches obliterating the text or drawings will not be accepted.

1.2.2 Package Content

Data package content shall be as shown in the paragraph titled "Schedule of Operation and Maintenance Data Packages." Comply with the data package requirements specified in the individual technical sections, including the content of the packages and addressing each product, component, and system designated for data package submission, except as follows. Commissioned items without a specified data package requirement in the individual technical sections shall use Data Package 3. Commissioned items with a Data Package 1 or 2 requirement shall use instead Data Package 3.

1.2.3 Changes to Submittals

Manufacturer-originated changes or revisions to submitted data shall be furnished by the Contractor if a component of an item is so affected subsequent to acceptance of the O&M Data. Changes, additions, or revisions required by the Contracting Officer for final acceptance of submitted data, shall be submitted by the Contractor within 30 calendar days of the notification of this change requirement.

1.2.4 O&M Database

Develop a database from the O&M manuals that contains the information required to start a preventative maintenance program.

1.3 TYPES OF INFORMATION REQUIRED IN O&M DATA PACKAGES

1.3.1 Operating Instructions

Include specific instructions, procedures, and illustrations for the following phases of operation for the installed model and features of each system:

1.3.1.1 Safety Precautions

List personnel hazards and equipment or product safety precautions for all operating conditions.

1.3.1.2 Operator Prestart

Include procedures required to install, set up, and prepare each system for use.

1.3.1.3 Startup, Shutdown, and Post-Shutdown Procedures

Provide narrative description for Startup, Shutdown and Post-shutdown operating procedures including the control sequence for each procedure.

1.3.1.4 Normal Operations

Provide narrative description of Normal Operating Procedures. Include Control Diagrams with data to explain operation and control of systems and specific equipment.

1.3.1.5 Emergency Operations

Include Emergency Procedures for equipment malfunctions to permit a short period of continued operation or to shut down the equipment to prevent further damage to systems and equipment. Include Emergency Shutdown Instructions for fire, explosion, spills, or other foreseeable contingencies. Provide guidance and procedures for emergency operation of all utility systems including required valve positions, valve locations and zones or portions of systems controlled.

1.3.1.6 Operator Service Requirements

Include instructions for services to be performed by the operator such as lubrication, adjustment, inspection, and recording gage readings.

1.3.1.7 Environmental Conditions

Include a list of Environmental Conditions (temperature, humidity, and other relevant data) that are best suited for the operation of each product, component or system. Describe conditions under which the item equipment should not be allowed to run.

1.3.2 Preventive Maintenance

Include the following information for preventive and scheduled maintenance to minimize corrective maintenance and repair for the installed model and features of each system. Include potential environmental and indoor air quality impacts of recommended maintenance procedures and materials.

1.3.2.1 Lubrication Data

Include preventative maintenance lubrication data, in addition to instructions for lubrication provided under paragraph titled "Operator Service Requirements":

a. A table showing recommended lubricants for specific temperature ranges and applications.

b. Charts with a schematic diagram of the equipment showing lubrication points, recommended types and grades of lubricants, and capacities.

c. A Lubrication Schedule showing service interval frequency.

1.3.2.2 Preventive Maintenance Plan and Schedule

Include manufacturer's schedule for routine preventive maintenance, inspections, tests and adjustments required to ensure proper and economical operation and to minimize corrective maintenance. Provide manufacturer's projection of preventive maintenance work-hours on a daily, weekly, monthly, and annual basis including craft requirements by type of craft.
For periodic calibrations, provide manufacturer's specified frequency and procedures for each separate operation.

1.3.2.3 Cleaning Recommendations

Provide environmentally preferable cleaning recommendations in accordance with ASTM E 1971.

1.3.3 Corrective Maintenance (Repair)

Include manufacturer's recommended procedures and instructions for correcting problems and making repairs for the installed model and features of each system.

1.3.3.1 Troubleshooting Guides and Diagnostic Techniques

Include step-by-step procedures to promptly isolate the cause of typical malfunctions. Describe clearly why the checkout is performed and what conditions are to be sought. Identify tests or inspections and test equipment required to determine whether parts and equipment may be reused or require replacement.

1.3.4 Wiring Diagrams and Control Diagrams

Wiring diagrams and control diagrams shall be point-to-point drawings of wiring and control circuits including factory-field interfaces. Provide a complete and accurate depiction of the actual job specific wiring and control work. On diagrams, number electrical and electronic wiring and

pneumatic control tubing and the terminals for each type, identically to actual installation configuration and numbering.

1.3.4.1 Maintenance and Repair Procedures

Include instructions and a list of tools required to repair or restore the product or equipment to proper condition or operating standards.

1.3.4.2 Removal and Replacement Instructions

Include step-by-step procedures and a list required tools and supplies for removal, replacement, disassembly, and assembly of components, assemblies, subassemblies, accessories, and attachments. Provide tolerances, dimensions, settings and adjustments required. Instructions shall include a combination of text and illustrations.

1.3.4.3 Spare Parts and Supply Lists

Include lists of spare parts and supplies required for maintenance and repair to ensure continued service or operation without unreasonable delays. Special consideration is required for facilities at remote locations. List spare parts and supplies that have a long lead-time to obtain.

1.3.5 Corrective Maintenance Work-Hours

Include manufacturer's projection of corrective maintenance work-hours including requirements by type of craft. Corrective maintenance that requires completion or participation of the equipment manufacturer shall be identified and tabulated separately.

1.3.6 Appendices

Provide information required below and information not specified in the preceding paragraphs but pertinent to the maintenance or operation of the product or equipment. Include the following:

1.3.6.1 Product Submittal Data

Provide a copy of all SD-03 Product Data submittals required in the applicable technical sections.

1.3.6.2 Manufacturer's Instructions

Provide a copy of all SD-08 Manufacturer's Instructions submittals required in the applicable technical sections.

1.3.6.3 O&M Submittal Data

Provide a copy of all SD-10 Operation and Maintenance Data submittals required in the applicable technical sections.

1.3.6.4 Parts Identification

Provide identification and coverage for all parts of each component, assembly, subassembly, and accessory of the end items subject to replacement. Include special hardware requirements, such as requirement to use high-strength bolts and nuts. Identify parts by make, model, serial

number, and source of supply to allow reordering without further identification. Provide clear and legible illustrations, drawings, and exploded views to enable easy identification of the items. When illustrations omit the part numbers and description, both the illustrations and separate listing shall show the index, reference, or key number that will cross-reference the illustrated part to the listed part. Parts shown in the listings shall be grouped by components, assemblies, and subassemblies in accordance with the manufacturer's standard practice.
Parts data may cover more than one model or series of equipment, components, assemblies, subassemblies, attachments, or accessories, such as typically shown in a master parts catalog

1.3.6.5 Warranty Information

List and explain the various warranties and clearly identify the servicing and technical precautions prescribed by the manufacturers or contract documents in order to keep warranties in force. Include warranty information for primary components such as the compressor of air conditioning system.

1.3.6.6 Personnel Training Requirements

Provide information available from the manufacturers that is needed for use in training designated personnel to properly operate and maintain the equipment and systems.

1.3.6.7 Testing Equipment and Special Tool Information

Include information on test equipment required to perform specified tests and on special tools needed for the operation, maintenance, and repair of components.

1.3.6.8 Testing and Performance Data

Include completed prefunctional checklists, functional performance test forms, and monitoring reports. Include recommended schedule for retesting and blank test forms.

1.3.6.9 Contractor Information

Provide a list that includes the name, address, and telephone number of the General Contractor and each Subcontractor who installed the product or equipment, or system. For each item, also provide the name address and telephone number of the manufacturer's representative and service organization that can provide replacements most convenient to the project site. Provide the name, address, and telephone number of the product, equipment, and system manufacturers.

1.4 TYPES OF INFORMATION REQUIRED IN CONTROLS O&M DATA PACKAGES

Include Data Package 5 and the following for control systems:

a. Narrative description on how to perform and apply all functions, features, modes, and other operations, including unoccupied operation, seasonal changeover, manual operation, and alarms. Include detailed technical manual for programming and customizing control loops and algorithms.

b. Full as-built sequence of operations.

c. Copies of all checkout tests and calibrations performed by the Contractor.

d. Full points list. A listing of rooms shall be provided with the following information for each room:

(1) Floor

(2) Room number

(3) Room name

(4) Air conditioning outside unit ID

(5) Reference drawing number

(6) Air conditioning inside unit

e. Full print out of all schedules and set points after testing and acceptance of the system.

f. Full as-built print out of software program.

g. Electronic copy on disk or CD of the entire program for this facility.

h. Marking of all system sensors and thermostats on the as-built floor plan and mechanical drawings with their control system designations.

1.5 SCHEDULE OF OPERATION AND MAINTENANCE DATA PACKAGES

Furnish the O&M data packages specified in individual technical sections. The required information for each O&M data package is as follows:

1.5.1 Data Package 1

a. Safety precautions

b. Cleaning recommendations

c. Maintenance and repair procedures

d. Warranty information

e. Contractor information

f. Spare parts and supply list

1.5.2 Data Package 2

a. Safety precautions

b. Normal operations

c. Environmental conditions

d. Lubrication data

e. Preventive maintenance plan and schedule

f. Cleaning recommendations

g. Maintenance and repair procedures

h. Removal and replacement instructions

i. Spare parts and supply list

j. Parts identification

k. Warranty information

l. Contractor information

1.5.3 Data Package 3

a. Safety precautions

b. Operator prestart

c. Startup, shutdown, and post-shutdown procedures

d. Normal operations

e. Emergency operations

f. Environmental conditions

g. Lubrication data

h. Preventive maintenance plan and schedule

i. Cleaning recommendations

j. Troubleshooting guides and diagnostic techniques

k. Wiring diagrams and control diagrams

l. Maintenance and repair procedures

m. Removal and replacement instructions

n. Spare parts and supply list

o. Product submittal data

p. O&M submittal data

q. Parts identification

r. Warranty information

s. Testing equipment and special tool information

t. Testing and performance data

u. Contractor information

1.5.4 Data Package 4

a. Safety precautions

b. Operator prestart

c. Startup, shutdown, and post-shutdown procedures

d. Normal operations

e. Emergency operations

f. Operator service requirements

g. Environmental conditions

h. Lubrication data

i. Preventive maintenance plan and schedule

j. Cleaning recommendations

k. Troubleshooting guides and diagnostic techniques

l. Wiring diagrams and control diagrams

m. Maintenance and repair procedures

n. Removal and replacement instructions

o. Spare parts and supply list

p. Corrective maintenance man-hours

q. Product submittal data

r. O&M submittal data

s. Parts identification

t. Warranty information

u. Personnel training requirements

v. Testing equipment and special tool information

w. Testing and performance data

x. Contractor information

1.5.5 Data Package 5

a. Safety precautions

b. Operator prestart

c. Start-up, shutdown, and post-shutdown procedures

d. Normal operations

e. Environmental conditions

f. Preventive maintenance plan and schedule

g. Troubleshooting guides and diagnostic techniques

h. Wiring and control diagrams

i. Maintenance and repair procedures

j. Removal and replacement instructions

k. Spare parts and supply list

l. Product submittal data

m. Manufacturer's instructions

n. O&M submittal data

o. Parts identification

p. Testing equipment and special tool information

q. Warranty information

r. Testing and performance data

s. Contractor information

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

SECTION 02 41 00.00 20

DEMOLITION

PART 1 GENERAL

1.1 REFERENCES

The following publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

Department of Defense (DOD)

Japan Environmental Governing Standards (JEGS), by US Forces Japan

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2008) Safety -- Safety and Health Requirements

1.2 GENERAL REQUIREMENTS

Do not begin demolition until authorization is received from the Contracting Officer. Remove rubbish and debris from the project site; do not allow accumulations inside or outside the buildings. Store materials that cannot be removed daily in areas specified by the Contracting Officer.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. Submit the following in accordance with Section 01 33 00 “SUBMITTAL PROCEDURES”:

SD-01, Preconstruction submittals

Demolition Plan; G (FEAD)

Submit demolition and removal procedures for approval before work is started.

SD-07, Certificates

Disposal manifest for Solid Waste; G (FEAD)

Disposal manifest for Ozone Depleting Substance (ODS); G (FEAD)

Register, fluorocarbon refrigerant gas remover; G (FEAD)

1.4 REGULATORY AND SAFETY REQUIREMENTS

Comply with federal, GOJ, prefectural, local, and Japan Environmental Governing Standards (JEGS) regarding hauling and disposal regulations.

1.5 DUST AND DEBRIS CONTROL

Prevent the spread of dust and debris to occupied portions of the building and avoid the creation of a nuisance or hazard in the surrounding area. Do not use water if it results in hazardous or objectionable conditions such as, but not limited to, ice, flooding, or pollution. Vacuum and dust the work area daily.

1.6 PROTECTION

1.6.1 Traffic Control Signs

Where pedestrian and driver safety is endangered in the area of removal work, use traffic barricades with flashing lights. Provide signal person if necessary. Notify the Contracting Officer prior to beginning such work.

1.6.2 Existing Conditions Documentation

Before beginning any demolition or deconstruction work, survey the site and examine the drawings and specifications to determine the extent of the work. Record existing conditions in the presence of the Contracting Officer showing the condition of structures and other facilities adjacent to areas of alteration or removal. Photographs sized 100 mm (4 inch) will be acceptable as a record of existing conditions. Include in the record the elevation of the top of foundation walls, finish floor elevations, possible conflicting electrical conduits, plumbing lines, alarms systems, the location and extent of existing cracks and other damage and description of surface conditions that exist prior to before starting work. It is the Contractor's responsibility to verify and document all required outages which will be required during the course of work, and to note these outages on the record document.

1.6.3 Items to Remain in Place

Take necessary precautions to avoid damage to existing items to remain in place, to be reused, or to remain the property of the Government. Repair or replace damaged items as approved by the Contracting Officer. Coordinate the work of this section with all other work indicated. Construct and maintain shoring, bracing, and supports as required. Ensure that structural elements are not overloaded. Increase structural supports or add new supports as may be required as a result of any cutting, removal, demolition work performed under this contract. Do not overload structural elements and pavements to remain. Provide new supports and reinforcement for existing construction weakened by demolition or removal work. Repair, reinforcement, or structural replacement require approval by the Contracting Officer prior to performing such work.

1.6.4 Existing Construction

Do not disturb existing construction beyond the extent indicated or necessary for installation of new construction. Provide temporary shoring and bracing for support of building components to prevent settlement or migration of dust and dirt in all work areas. Remove dust, dirt, and debris from work areas daily.

1.6.5 Weather Protection

For portions of the building to remain, protect building interior and materials and equipment from the weather at all times. Where removal of existing roofing is necessary to accomplish work, have materials and workmen ready to provide adequate and temporary covering of exposed areas.

1.6.6 Utility Services

Maintain existing utilities indicated to stay in service and protect against damage during demolition operations. Prior to start of works, the Contractor shall shut off utilities serving each area of removal as directed by the Government and disconnect and seal.

1.6.7 Facilities

Protect electrical and mechanical services and utilities. Where removal of existing utilities and pavement is specified or indicated, provide approved barricades, temporary covering of exposed areas, and temporary services or connections for electrical and mechanical utilities. Floors, roofs, walls, columns, plasters, and other structural components that are designated and constructed to stand without lateral support or shoring, and are determined to be in stable condition, shall remain standing without additional bracing, shoring, or lateral support until demolished, unless directed otherwise by the Contracting Officer. Ensure that any elements deemed unstable are not left unsupported. Place secure bracing, shoring, or lateral supports as required on any cutting, removal, or demolition work performed under this contract that may become unstable.

1.6.8 Protection of Personnel

Before, during and after the demolition work the Contractor shall continuously evaluate the condition of the structure being demolished and take immediate action to protect all personnel working in and around the project site. No area, section, or component of floors, roofs, walls, columns, pilasters, or other structural element will be allowed to be left standing without sufficient bracing, shoring, or lateral support to prevent collapse or failure while workmen remove debris or perform other work in the immediate area.

1.7 BURNING

Burning will not be permitted.

1.8 REQUIRED DATA

The demolition plan shall include procedures for careful removal and disposition of materials specified to be salvaged, coordination with other work in progress, a disconnection schedule of utility services, and a detailed description of methods and equipment to be used for each operation and of the sequence of operations. Provide procedures for safe conduct of the work in accordance with EM 385-1-1.

Include statement affirming Contractor inspection of the existing roof deck and its suitability to perform as a safe working platform or if inspection reveals a safety hazard to workers, state provisions for securing the safety of the workers throughout the performance of the work.

1.9 ENVIRONMENTAL PROTECTION

As specified in Section 01 57 19.00 20, “Temporary Environmental Controls.”

1.10 USE OF EXPLOSIVES

Use of explosives will not be permitted.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 EXISTING FACILITIES TO BE REMOVED

As indicated on drawings.

3.2 EXISTING FACILITIES TO BE REMAINED

3.2.1 Patching

Where removals leave holes and damaged surfaces exposed in the finished work, patch and repair these holes and damaged surfaces to match adjacent finished surfaces. Where new work is to be applied to existing surfaces, perform removals and patching in a manner to produce surfaces suitable for receiving new work. Finished surfaces of patched area shall be flush with the adjacent existing surface and shall match the existing adjacent surface as closely as possible as to texture and finish.

3.2.2 Lead-based Paint (LBP)

Paint or other surface coatings that contain lead equal to or exceeding 1.0 milligram per cm^2 or 0.5 percent by weight or 5,000 ppm by weight are defined as Lead-based Paint (LBP).

3.2.2.1 Lead-based Paint (LBP) Removal Work

It is expected that Lead Based Paint will not be encountered on this project. If discovered, report to the Contracting Officer and a Change Order to this Contract will be negotiated for the special handling of Hazardous Waste.

3.2.3 Asbestos Containing Materials

Any material containing more than 0.1 percent asbestos by weight is defined as Asbestos Containing Material (ACM).

3.2.3.1 Asbestos Containing Materials Removal Work

It is expected that Asbestos Containing Materials will not be encountered on this project. If discovered, report to the Contracting Officer and a Change Order to this Contract will be negotiated for the special handling of Hazardous Waste.

3.3 DISPOSITION OF MATERIAL

3.3.1 Title to Materials

Except where specified, all materials and equipment removed (except the materials and equipment to be reused, salvaged, and turn-in) shall become the property of the Contractor and shall be removed from Government property. Title to materials resulting from demolition, and materials and equipment to be removed, is vested in the Contractor upon approval by the Contracting Officer of the Contractor's demolition and removal procedures, and authorization by the Contracting Officer to begin demolition. The Government will not be responsible for the condition or loss of, or damage to, such property after notice to proceed. Materials and equipment shall not be viewed by prospective purchasers or sold on the site.

3.3.2 Hazardous and Regulated Materials and Equipment

3.3.2.1 Disposal of Ozone Depleting Substance (ODS)

As specified in Section 01 57 19.00 20, “Temporary Environmental Controls.”

3.3.2.2 Disposal of Hazardous Waste

As specified in Section 01 57 19.00 20, “Temporary Environmental Controls.”

3.4 CLEANUP

3.4.1 Debris and Rubbish

Remove and transport debris and rubbish in a manner that will prevent spillage on pavements, streets or adjacent areas. Clean up spillage from pavements, streets and adjacent areas.

-- End of Section --

SECTION 02 82 16.00 20

ENGINEERING CONTROL OF ASBESTOS CONTAINING MATERIALS

PART 1 GENERAL

1.1 REFERENCES

The latest issue publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN INDUSTRIAL HYGIENE ASSOCIATION (AIHA)

AIHA Z9.2	Fundamentals Governing the Design and Operation of Local Exhaust Systems

American National Standards Institute (ANSI)

ANSI Z88.2	Respiratory Protection

American Society for Testing and Materials (ASTM)

ASTM E 1368	Visual Inspection of Asbestos Abatement Projects

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA 560/5-85-024	Guidance for Controlling Asbestos-Containing Materials in Buildings (Purple Book)

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1926.103	Respiratory Protection
29 CFR 1926.1101	Asbestos, Tremolite, Anthophyllite, Actinolite
29 CFR 1926.200	Accident Prevention Signs and Tags
29 CFR 1926.51	Sanitation
29 CFR 1926.59	Hazard Communication
40 CFR 61-SUBPART A	General Provisions
40 CFR 763	Asbestos

U.S. NAVAL FACILITIES ENGINEERING COMMAND (NAVFAC)

ND OPNAVINST 5100.23	Navy Occupational Safety and Health (NAVOSH) Program Manual

UNDERWRITERS LABORATORIES INC. (UL)

UL 586	High-Efficiency, Particulate, Air Filter Units

Department of Defense (DOD)

Japan Environmental Governing Standards (JEGS), by US Forces Japan

JAPANESE LAWS

Air Pollution Control Law ("Taiki Osenn Boushi Hou")

Industrial Safety and Health Law ("Rou-dou Anzen Eisei Hou")

Measuring Law ("Keiryo Hou")

Waste Disposal and Public Cleansing Law ("Haiki-butsu Shori Oyobi Seisou-ni Kansuru Houritsu")

MINISTER OF THE ENVIRONMENT, GOVERNMENT OF JAPAN (KANKYO-SHO)

Asbestos Abatement Manual for Demolition of Buildings ("Kenchikubutsu no kaitai-tou ni kakaru Sekimen Hisan Boushi Taisaku Maniaru"), established by the Air Pollution Control Division, the Air Quality Bureau, Japan.

JAPANESE INDUSTRIAL STANDARDS (JIS)

JIS K 3362	Testing Methods for Synthetic Detergent
JIS K 3850	Measuring Method for Airborne Fibrous Particles
JIS Z 4812	HEPA Filters for Radioactive Aerosols

1.2 DEFINITIONS

1.2.1 ACM

Asbestos Containing Materials

1.2.2 Amended Water

Water containing a wetting agent or surfactant with a maximum surface tension of 29 dynes per centimeter when tested in accordance with ASTM D 1331.

1.2.3 Area Sampling

Sampling of asbestos fiber concentrations which approximates the concentrations of asbestos in the theoretical breathing zone but is not actually collected in the breathing zone of an employee.

1.2.4 Asbestos

The term asbestos includes chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite and any of these minerals that has been chemically treated or altered. Materials are considered to contain asbestos

if the asbestos content of the material is determined to be more than 0.1 percent by weight.

1.2.5 Asbestos Control Area

That area where asbestos removal operations are performed which is isolated by physical boundaries which assist in the prevention of the uncontrolled release of asbestos dust, fibers, or debris.

1.2.6 Asbestos Fibers

Those fibers having an aspect ratio of at least 3:1 and longer than 5 micrometers as determined by National Institute for Occupational Safety and Health (NIOSH) Method 7400.

1.2.7 Asbestos Permissible Exposure Limit

0.1 fibers per cubic centimeter of air as an 8-hour time weighted average measured in the breathing zone as defined by 29 CFR 1926.1101 or other Federal legislation having legal jurisdiction for the protection of workers health.

1.2.8 Background

The ambient airborne asbestos concentration in an uncontaminated area as measured prior to any asbestos hazard abatement efforts. Background concentrations for other (contaminated) areas are measured in similar but asbestos free locations.

1.2.9 Contractor

The Contractor is that individual, or entity under contract to the Navy to perform the herein listed work.

1.2.10 Competent Person

A person meeting the requirements for competent person as specified in 29 CFR 1926.1101 including a person capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure, who has the authority to take prompt corrective measures to eliminate them, and is specifically trained in a training course which meet the criteria of EPA's Model Accreditation Plan (40 CFR 763) for project designer or supervisor.

1.2.11 Encapsulation

The abatement of an asbestos hazard through the appropriate use of chemical encapsulates.

1.2.12 Encapsulates

Specific materials in various forms used to chemically or physically entrap asbestos fibers in various configurations to prevent these fibers from becoming airborne. There are four types of encapsulates as follows which must comply with performance requirements as specified herein.

a. Removal Encapsulate (can be used as a wetting agent)

b. Bridging Encapsulate (used to provide a tough, durable surface coating to asbestos containing material)

c. Penetrating Encapsulate (used to penetrate the asbestos containing material encapsulating all asbestos fibers and preventing fiber release due to routine mechanical damage)

d. Lock-Down Encapsulate (used to seal off or "lock-down" minute asbestos fibers left on surfaces from which asbestos containing material has been removed).

1.2.13 Friable Asbestos Material

Material containing more than 0.1 percent asbestos by weight that can be crumbled, pulverized, or reduced to powder by hand pressure when dry.

1.2.14 Glovebag Technique

Those asbestos removal and control techniques put forth in 29 CFR 1926.1101 Appendix G.

1.2.15 HEPA Filter Equipment

High efficiency particulate air (HEPA) filtered vacuum and/or exhaust ventilation equipment (negative air machine and/or waste water pump) with a filter system capable of collecting and retaining asbestos fibers. Filters shall retain 99.97 percent of particles 0.3 microns or larger as indicated in UL 586.

1.2.16 Negative Pressure Enclosure (NPE)

That engineering control technique described as a negative pressure enclosure in 29 CFR 1926.1101.

1.2.17 Nonfriable Asbestos Material

Material that contains asbestos in which the fibers have been immobilized by a bonding agent, coating, binder, or other material so that the asbestos is well bound and will not normally release asbestos fibers during any appropriate use, handling, storage or transportation. It is understood that asbestos fibers may be released under other conditions such as demolition, removal, or mishap.

1.2.18 Personal Sampling

Air sampling which is performed to determine asbestos fiber concentrations within the breathing zone of a specific employee, as performed in accordance with 29 CFR 1926.1101.

1.2.19 Private Qualified Person (PQP)

A qualified person hired by the Prime Contractor to perform the herein listed task as a third party entity.

Industrial Hygienist who has successfully completed training and is therefore accredited under a legitimate Model Accreditation Plan as described in 40 CFR 763 as a Building Inspector, Contractor/Supervisor

Abatement Worker, and Asbestos Project Designer; and has successfully completed the National Institute of Occupational Safety and Health (NIOSH) 582 course "Sampling and Evaluating Airborne Asbestos Dust". The PQP must be qualified to perform visual inspections as indicated in ASTM E 1368 and certified by the American Board of Industrial Hygienist(ABIH).

The PQP shall be onsite whenever asbestos activities are on going. The use of Industrial Hygiene Technicians (IHTs) to assist the PQP with the management and oversight of asbestos activities may be authorized by the Contracting Officer. The PQP is still responsible to conduct routine site visits to review asbestos controls and ensure onsite IHTs and abatement contractor personnel are in compliance with contract specifications and accepted asbestos plan. PQP shall visit the project site at least twice per month or weekly depending on the duration and level of risk of asbestos activities. PQP shall also be available whenever the PQP is needed for inspections/clearances, training requirements, emergencies, and other required times per contract specifications for the duration of asbestos activities.

IHTs shall have at least 3 years of field experience in asbestos abatement and air monitoring to include completed training from a legitimate Model Accreditation Plan as described in 40 CFR 763 as a Building Inspector, Contractor/Supervisor Abatement Worker and hands-on field experience in asbestos air monitoring techniques and management practices.

PQP shall provide the Contracting Officer an IHT delegation letter that will delegate project specific PQP roles and responsibilities to IHT as the onsite alternate PQP for review and acceptance. The delegation letter shall specify the reporting relationship between the PQP and IHT; statement from the PQP that the IHT meets asbestos training requirements, years of experience, and competencies for air monitoring; IHT roles and responsibilities for effective management of onsite abatement work; authorization to stop work for non-compliance with contract specifications or accepted asbestos abatement plan; statement the IHT has read the accepted asbestos plan and contract specifications; statement the IHT will serve as the extension of the PQP and the PQP assumes full responsibility of the IHT actions as the onsite alternate PQP. Delegation letter shall be signed by the PQP and onsite IHT and submitted to the Contracting Officer for record.

1.2.20 TEM

Refers to Transmission Electron Microscopy.

1.2.21 Time Weighted Average (TWA)

The TWA is an 8-hour time weighted average airborne concentration of asbestos fibers.

1.2.22 Wetting Agent

A chemical added to water to reduce the water's surface tension thereby increasing the water's ability to soak into the material to which it is applied. An equivalent wetting agent must have a surface tension of at most 2.9 Pa (0.00042 psi) when tested in accordance with ASTM D 1331.

1.3 REQUIREMENTS

1.3.1 Description of Work

It is expected that Asbestos Containing Materials will not be encountered on this project. If discovered, report to the Contracting Officer and a Change Order to this Contract will be negotiated for the special handling of Hazardous Waste.

The work covered by this section includes the handling and control of asbestos containing materials and describes some of the resultant procedures and equipment required to protect workers, the environment and occupants of the building or area, or both, from contact with airborne asbestos fibers. The work also includes the disposal of any asbestos containing materials generated by the work. More specific operational procedures shall be outlined in the Asbestos Hazard Abatement Plan called for elsewhere in this specification.

1.3.2 Medical Requirements

Provide medical requirements including but not limited to medical surveillance and medical record keeping as listed in 29 CFR 1926.1101.

1.3.2.1 Medical Examinations

Before exposure to airborne asbestos fibers, provide workers with a comprehensive medical examination as required by 29 CFR 1926.1101 or other pertinent State or local directives. This requirement must have been satisfied within the 12 months prior to the start of work on this contract. The same medical examination shall be given on an annual basis to employees engaged in an occupation involving asbestos and within 30 calendar days before or after the termination of employment in such occupation. Specifically identify x-ray films of asbestos workers to the consulting radiologist and mark medical record jackets with the word "ASBESTOS."

1.3.2.2 Medical Records

Maintain complete and accurate records of employees' medical examinations, medical records, and exposure data for a period of 50 years after termination of employment and make records of the required medical examinations and exposure data available for inspection.

1.3.3 Employee Training

Submit certificates prior to the start of work but after the main abatement submittal, signed by each employee indicating 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, including the illnesses possible from exposure to airborne asbestos fibers; understands the use and limits of the respiratory equipment to be used; and understands the results of monitoring of airborne quantities of asbestos as related to health and respiratory equipment as indicated in 29 CFR 1926.1101 on an initial and annual basis. Certificates shall be organized by individual worker, not grouped by type of certification. Post appropriate evidence of compliance with the training requirements of 40 CFR 763. Train all personnel involved in the asbestos control work in accordance with United States Environmental Protection Agency (USEPA) Asbestos Hazard Emergency Response Act (AHERA) training criteria. The Contractor shall document the training by providing: dates of

training, training entity, course outline, names of instructors, and qualifications of instructors upon request by the Contracting Officer. Furnish each employee with respirator training and fit testing administered by the PQP as required by 29 CFR 1926.1101. Fully cover engineering and other hazard control techniques and procedures.

1.3.4 Permits, Licenses, and Notifications

Obtain necessary permits and licenses in conjunction with asbestos, hauling (Tokubetsu Kanri Sangyo Haikibutsu Syuusyuu Unpangyo Kyokasho) and furnish notification of such actions prior to the start of work. The activity Asbestos Program Manager (APM) shall notified of scope of asbestos work through the Contracting Officer.

Submit abatement plans (English) for CFAO Environmental Office to review and approve.

1.3.5 Environment, Safety and Health Compliance

In addition to detailed requirements of this specification, comply with those applicable laws, ordinances, criteria, rules, and regulations of regional, GOJ, prefectural, and local authorities regarding handling, storing, transporting, and disposing of asbestos waste materials. Comply with the applicable requirements of the current issue of Japanese lows, and DOD JEGS. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting the work. Where the requirements of this specification, applicable laws, rules, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirement as defined by the Government shall apply. The following laws, ordinances, criteria, rules and regulations regarding removal, handling, storing, transporting and disposing of asbestos materials apply:

a. Air Pollution Control Law (“Taiki Osen Boushi Hou” Japanese Law)

b. Industrial Safety and Health Law (“Rou-ou Anzen Eisei Hou” Japanese Law)

c. Working Space Environmental Measuring Law (“Sagyou Kannkyou Sokutei Hou” Japanese Law)

d. Measuring Law (“Keiryou Hou” Japanese Law)

e. Waste Disposal and Public Cleansing Law (“Haikibutsu Shori Oyobi Seisou ni kansuru Houritsu” Japanese Law)

1.3.6 Respiratory Protection Program

Establish and implement a respirator program as required by ANSI Z88.2, 29 CFR 1926.1101, and 29 CFR 1926.103. Submit a written description of the program to the Contracting Officer. Submit a written program manual or operating procedure including methods of compliance with regulatory statutes.

1.3.6.1 Respirator Program Records

Submit records of the respirator program as required by ANSI Z88.2, 29 CFR 1926.103, and 29 CFR 1926.1101.

1.3.7 Asbestos Hazard Control Supervisor

The Contractor shall be represented on site by a supervisor, trained using the model Contractor accreditation plan as indicated in the Federal statutes for all portions of the herein listed work.

1.3.8 Hazard Communication

Adhere to all parts of 29 CFR 1926.59 and provide the Contracting Officer with a copy of the Material Safety Data Sheets (MSDS) for all materials brought to the site.

1.3.9 Asbestos Hazard Abatement Plan

Submit a detailed plan of the safety precautions such as lockout, tagout, tryout, fall protection, and confined space entry procedures and equipment and work procedures to be used in the removal or encapsulation of materials containing asbestos. The plan, not combined with other hazard abatement plans, shall be prepared, signed, and sealed by the PQP. Provide a Table of Contents for each abatement submittal, which shall follow the sequence of requirements in the contract. Such plan shall include but not be limited to the precise personal protective equipment to be used including, but not limited to, respiratory protection, type of whole-body protection and if reusable coveralls are to be employed decontamination methods (operations and quality control plan), the location of asbestos control areas including clean and dirty areas, buffer zones, showers, storage areas, change rooms, removal or encapsulation method, interface of trades involved in the construction, 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. The plan shall also include (both fire and medical emergency) response plans. The Asbestos Hazard Abatement Plan must be approved in writing prior to starting any asbestos work. The Contractor, Asbestos Hazard Control Supervisor, and PQP shall meet with the Contracting Officer prior to beginning work, to discuss in detail the Asbestos Hazard Abatement Plan, including work procedures and safety precautions. Once approved by the Contracting Officer, the plan will be enforced as if an addition to the specification. Any changes required in the specification as a result of the plan shall be identified specifically in the plan to allow for free discussion and approval by the Contracting Officer prior to starting work.

1.3.10 Testing Laboratory

Submit 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 (AAR) and successful participation of the laboratory in the Proficiency Analytical Testing (PAT) Program. Where analysis to determine asbestos content in bulk materials or transmission electron microscopy is required, submit evidence that the laboratory is accredited by the National Institute of Science and Technology (NIST) under National Voluntary Laboratory Accreditation Program (NVLAP) for asbestos analysis. The testing laboratory firm shall be independent of the

asbestos contractor and shall have no employee or employer relationship which could constitute a conflict of interest.

1.3.11 Medical Certification

Provide a written certification for each worker and supervisor, signed by a licensed physician indicating that the worker and supervisor has met or exceeded all of the medical prerequisites listed herein and in 29 CFR 1926.1101 and 29 CFR 1926.103 as prescribed by law. Submit certificates prior to the start of work but after the main abatement submittal.

1.3.12 ACM Replacement Record

After completion of construction, submit the ACM replacement record indicating following items;

a. Construction contract No.

b. Project title

c. Contractor’s name/address/phone No.

d. Date (when ACM replacement work has been completed)

e. Record-writer's name

f. Facility name, building No., room No., and name of utility system (where replacement of ACM has been conducted).

1.4 SUBMITTALS

It is expected that Asbestos Containing Materials will not be encountered on this project. The following submittals will be omitted from this contract requirement.

SD-01 Preconstruction Submittals

Asbestos hazard abatement plan; G (FEAD)

SD-03 Product Data

Local exhaust equipment; G (FEAD)

Vacuums; G (FEAD)

Protective clothing; G (FEAD)

Filters for vacuum cleaner and waste water; G (FEAD)

Respirators; G (FEAD)

Pressure differential automatic recording instrument; G (FEAD)

Amended water; G (FEAD)

Glovebags; G (FEAD)

Negative air machine and manometer; G (FEAD)

Material Safety Data Sheets (MSDS) for all materials proposed for transport to the project site; G (FEAD)

Encapsulants; G (FEAD)

SD-06 Test Reports

Air sampling results; G (FEAD)

Pressure differential recordings for local exhaust system; G (FEAD)

Asbestos disposal quantity report; G (FEAD)

Encapsulation test patches; G (FEAD)

Clearance sampling; G (FEAD)

SD-07 Certificates

Testing laboratory; G (FEAD)

Private qualified person(PQP) documentation, including delegation letter; G (FEAD)

Contactor’s license; G (FEAD)

Competent person documentation; G (FEAD)

Worker’s license; G (FEAD)

Employee training; G (FEAD)

Medical certification requirements; G (FEAD)

Respiratory Protection Program; G (FEAD)

Vacuum; G (FEAD)

Water filtration equipment; G (FEAD)

Ventilation systems; G (FEAD)

Other equipment used to contain airborne asbestos fibers; G (FEAD)

Chemical encapsulants sealers; G (FEAD)

Show compliance with ANSI Z9.2 by providing manufacturers' certification.

SD-11 Closeout Submittals

Notifications; G (FEAD)

Rental equipment; G (FEAD)

Respirator program records; G (FEAD)

Permits and licenses; G (FEAD)

Protective clothing decontamination quality control records; G (FEAD)

Protective clothing decontamination facility notification; G (FEAD)

1.5 QUALITY ASSURANCE

1.5.1 Private Qualified Person Documentation

Submit the name, address, and telephone number of the Private Qualified Person (PQP) selected to prepare the Asbestos Hazard Abatement Plan, direct monitoring and training, and documented evidence that the PQP has successfully completed training in and is accredited and where required is certified as, a Building Inspector, Contractor/Supervisor Abatement Worker, and Asbestos Project Designer as described by 40 CFR 763 and has successfully completed the National Institute of Occupational Safety and Health (NIOSH) 582 course "Sampling and Evaluating Airborne Asbestos Dust" or equivalent. The PQP and the asbestos contractor shall not have an employee/employer relationship or financial relationship which could constitute a conflict of interest. The PQP shall be a first tier subcontractor.

1.5.2 Competent Person Documentation

Submit training certification and a current Asbestos Contractor's and Supervisor's License.

1.5.3 Air Sampling Results

Complete fiber counting and provide resulting to the PQP for review within 16 hours of the "time off" of the sample pump. Notify the Contracting Officer immediately of any airborne levels of asbestos fibers in excess of the acceptable limits. Submit sampling results to the Contracting Officer and the affected Contractor employees where required by law within 3 working days, signed by the testing laboratory employee performing air sampling, the employee that analyzed the sample, and the PQP. Notify the Contractor and the Contracting Officer immediately of any variance in the pressure differential which could cause adjacent unsealed areas to have asbestos fiber concentrations in excess of 0.01 fibers per cubic centimeter or background whichever is higher. In no circumstance shall levels exceed 0.1 fibers per cubic centimeter.

1.5.4 Pressure Differential Recordings for Local Exhaust System

If the abatement plan requires negative pressure enclosures, provide a local exhaust system that creates a negative pressure of at least 0.51 mm (0.02 inches) of water relative to the pressure external to the enclosure and operate it continuously, 24 hours a day, until the temporary enclosure of the asbestos control area is removed. Submit pressure differential recordings for each work day to the PQP for review and to the Contracting Officer within 24 hours from the end of each work day.

1.5.5 Protective Clothing Decontamination Quality Control Records

Provide all records that document quality control for the decontamination of reusable outer protective clothing.

1.5.6 Protective Clothing Decontamination Facility Notification

Submit written evidence that persons who decontaminate, store, or transport asbestos contaminated clothing used in the performance of this contract were duly notified in accordance with 29 CFR 1926.1101.

1.6 EQUIPMENT

1.6.1 Rental Equipment

Provide a copy of the written notification to the rental company concerning the intended use of the equipment and the possibility of asbestos contamination of the equipment.

PART 2 PRODUCTS

2.1 AMENDED WATER

Water containing a wetting agent or surfactant with a maximum surface tension of 2.9 Pa (29 dynes per square centimeter) when tested in accordance with ASTM D 1331 or JIS K 3362.

2.2 ENCAPSULANTS

Shall conform to current USEPA requirements, shall contain no toxic or hazardous substances as defined in 29 CFR 1926.59, and shall conform to the following performance requirements.

2.2.1 Removal Encapsulants

Requirement	Test Standard
Flame Spread - 25, Smoke Emission – 50	ASTM E 84
Life Expectancy - 20 years	ASTM C 732 Accelerated Aging Test
Permeability - Minimum 0.4 perms	ASTM E 96/E 96M

PART 3 EXECUTION

3.1 EQUIPMENT

At all times, provide the Contracting Officer or the Contracting Officer's Representative, with at least two complete sets of personal protective equipment including decontaminating reusable coveralls as required for entry to and inspection of the asbestos control area. Provide equivalent training to the Contracting Officer or a designated representative as provided to Contractor employees in the use of the required personal protective equipment. Provide manufacturer's certificate of compliance for all equipment used to contain airborne asbestos fibers.

3.1.1 Respirators

Select respirators from those approved by the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services.

3.1.1.1 Respirators for Handling Asbestos

Provide personnel engaged in pre-cleaning, cleanup, handling, encapsulation, removal, or demolition of asbestos materials with respiratory protection as indicated in 29 CFR 1926.1101 and 29 CFR 1926.103.

3.1.2 Exterior Whole Body Protection

3.1.2.1 Outer Protective Clothing

Provide personnel exposed to asbestos with disposable "non-breathable," or reusable "non-breathable" whole body outer protective clothing, head coverings, gloves, and foot coverings. Provide disposable plastic or rubber gloves to protect hands. Cloth gloves may be worn inside the plastic or rubber gloves for comfort, but shall not be used alone. Make sleeves secure at the wrists, make foot coverings secure at the ankles, and make clothing secure at the neck by the use of tape.

3.1.2.2 Work Clothing

Provide cloth work clothes for wear under the outer protective clothing and foot coverings.

3.1.2.3 Decontamination

Provide decontamination area or personal decontamination unit.

3.1.2.3.1 Decontamination Area Requirement

Provide two layers of vinyl sheet area or plastic room next to the control area and provide HEPA filtered vacuuming equipment. Rope off at the perimeter of the decontamination area and post with warning signs.

3.1.2.3.2 Personal Decontamination Unit Requirement

Provide a temporary, negative pressure unit with a separate decontamination locker room and clean locker room with a shower that complies with 29 CFR 1926.51(f)(4)(ii) through (V) in between for personnel required to wear whole body protective clothing. Provide two separate lockers for each asbestos worker, one in each locker room. Keep street clothing and street shoes in the clean locker. HEPA vacuum and remove asbestos contaminated disposable protective clothing while still wearing respirators at the boundary of the asbestos work area and seal in impermeable bags or containers for disposal. If the contractor use reusable protective clothing, HEPA vacuum and remove asbestos contaminated reusable protective clothing while still wearing respirators at the boundary of the asbestos work area, seal in two impermeable bags, label outer bag as asbestos contaminated waste, and transport for decontamination. Do not wear work clothing between home and work. Locate showers between the decontamination locker room and the clean locker room and require that all employees shower before changing into street clothes. Collect used shower water and filter with approved water filtration equipment to remove asbestos contamination. Discharge clean water to the sanitary system. Decontamination units shall be physically

attached to the asbestos control area. Build both a personnel decontamination unit and an equipment decontamination unit onto and integral with each asbestos control area.

3.1.2.4 Decontamination of Reusable Outer Protective Clothing

When reusable outer protective clothing is used, transport the double bagged clothing to a previously notified commercial/industrial decontamination facility for decontamination. Perform non-destructive testing to determine the effectiveness of asbestos decontamination. If representative sampling is used, ensure the statistical validity of the sampling results. If representative sampling is used, reject any entire batch in which any of the pieces exceed 40 fibers per square millimeter. Inspect reusable protective clothing prior to use to ensure that it will provide adequate protection and is not or is not about to become ripped, torn, deteriorated, or damaged, and that it is not visibly contaminated. Notify, in writing, all personnel involved in the decontamination of reusable outer protective clothing as indicated in 29 CFR 1926.1101.

3.1.2.5 Eye Protection

Provide goggles to personnel engaged in asbestos abatement operations when the use of a full face respirator is not required.

3.1.3 Warning Signs and Labels

Provide bilingual warning signs printed in English and Japanese at all approaches to asbestos control areas. Locate signs at such a distance that personnel may read the sign and take the necessary protective steps required before entering the area. Provide labels and affix to all asbestos materials, scrap, waste, debris, and other products contaminated with asbestos.

3.1.3.1 Warning Sign

Provide vertical format conforming to 29 CFR 1926.200, and 29 CFR 1926.1101 minimum 500 by 355 mm (20 by 14 inches) displaying the following legend in the lower panel:

Legend	Notation
Danger	25 mm (1-inch) Sans Serif Gothic or Block
Asbestos	25 mm (1-inch) Sans Serif Gothic or Block
Cancer and Lung Disease Hazard	6 mm (1/4-inch) Sans Serif Gothic or Block
Authorized Personnel Only	6 mm (1/4-inch) Gothic
Respirators and Protective Clothing are Required in this Area	6 mm (1/4-inch) Gothic

Spacing between lines shall be at least equal to the height of the upper of any two lines.

3.1.3.2 Warning Labels

Provide bilingual labels conforming to 29 CFR 1926.1101 of sufficient size to be clearly legible, displaying the following legend:

DANGER

CONTAINS ASBESTOS FIBERS

AVOID CREATING DUST

CANCER AND LUNG DISEASE HAZARD

BREATHING ASBESTOS DUST MAY
CAUSE SERIOUS BODILY HARM

3.1.4 Local Exhaust System

If the approved abatement plan requires negative enclosure, provide a local exhaust system in the asbestos control area in accordance with ANSI Z9.2 and 29 CFR 1926.1101 that will provide at least four air changes per hour inside of the negative pressure enclosure. Local exhaust equipment shall be operated 24 hours per day, until the asbestos control area is removed and shall be leak proof to the filter and equipped with HEPA filters. Maintain a minimum pressure differential in the control area of minus 0.51 mm (0.02 inch) of water column relative to adjacent, unsealed areas. Provide continuous 24-hour per day monitoring of the pressure differential with a pressure differential automatic recording instrument. In no case shall the building ventilation system be used as the local exhaust system for the asbestos control area. Filters on exhaust system shall conform to AIHA Z9.2 and UL 586. The local exhaust system shall terminate out of doors and remote from any public access or ventilation system intakes.

3.1.5 Tools

Vacuums shall be leak proof to the filter and equipped with HEPA filters. Filters on vacuums shall conform to AIHA Z9.2 and UL 586. Do not use power tools to remove asbestos containing materials unless the tool is equipped with effective, integral HEPA filtered exhaust ventilation systems. Remove all residual asbestos from reusable tools prior to storage or reuse.

3.1.6 Rental Equipment

If rental equipment is to be used, furnish written notification to the rental agency concerning the intended use of the equipment and the possibility of asbestos contamination of the equipment.

3.1.7 Glovebags

If the approved abatement plan requires glovebag technique, Submit written manufacturers proof that glovebags will not break down under expected temperatures and conditions.

3.2 WORK PROCEDURE

Perform asbestos related work in accordance with 29 CFR 1926.1101, 40 CFR 61-SUBPART M, DOD JEGS, approved asbestos hazard abatement plan, and as specified herein.

Personnel shall wear and utilize protective clothing and equipment as specified herein. Eating, smoking, drinking, chewing gum, tobacco, or applying cosmetics shall not be permitted in the asbestos work or control areas.

Personnel of other trades not engaged in the encapsulation or removal of asbestos containing material shall not be exposed at any time to airborne concentrations of asbestos unless all the personnel protection and training provisions of this specification are complied with by the trade personnel.

3.2.1 Protection of Existing Work to Remain

Perform work without damage or contamination of adjacent work. Where such work is damaged or contaminated as verified by the Contracting Officer using visual inspection or sample analysis, it shall be restored to its original condition or decontaminated by the Contractor at no expense to the Government as deemed appropriate by the Contracting Officer. This includes inadvertent spill of dirt, dust, or debris in which it is reasonable to conclude that asbestos may exist. When these spills occur, stop work immediately. Then clean up the spill. When satisfactory visual inspection and air sampling results are obtained from the PQP work may proceed at the discretion of the Contracting Officer.

3.2.2 Furnishings

Furniture and equipment, mechanical equipment, apparatus, and piping systems will remain in the building. Cover and seal furnishings with 0.15 mm (6-mil) plastic sheet or remove from the work area and store in a location on site approved by the Contracting Officer.

3.2.3 Precleaning

Wet wipe and HEPA vacuum all surfaces potentially contaminated with asbestos prior to establishment of an enclosure.

3.2.4 Asbestos Control Area Requirements

Provide asbestos control area, where ACM are removed.

3.2.4.1 Negative Pressure Enclosure

Use negative pressure enclosure technique, if the glovebag technique is infeasible for the removal.

Block and seal openings in areas where the release of airborne asbestos fibers can be expected. Establish an asbestos negative pressure enclosure with the use of curtains, portable partitions, or other enclosures in order to prevent the escape of asbestos fibers from the contaminated asbestos work area. Negative pressure enclosure development shall include protective covering of uncontaminated walls, and ceilings with a continuous membrane of two layers of minimum 0.15 mm (6-mil) plastic sheet sealed with tape to prevent water or other damage. Provide two layers of 0.15 mm (6-mil) plastic sheet over floors and extend a minimum of 300 mm (12 inches) up walls. Seal

all joints with tape. Provide local exhaust system in the asbestos control area. Openings will be allowed in enclosures of asbestos control areas for personnel and equipment entry and exit, the supply and exhaust of air for the local exhaust system and the removal of properly containerized asbestos containing materials. Replace local exhaust system filters as required to maintain the efficiency of the system.

3.2.4.2 Glovebag

Use alternate techniques as indicated in 29 CFR 1926.1101. Establish designated limits for the asbestos control area with the use of rope or other continuous barriers, and maintain all other requirements for asbestos control areas. The PQP shall conduct personal samples of each worker engaged in asbestos handling (removal, disposal, transport and other associated work) throughout the duration of the project. If the quantity of airborne asbestos fibers monitored at the breathing zone of the workers at any time exceeds background or 0.01 fibers per cubic centimeter whichever is greater, stop work, evacuate personnel in adjacent areas or provide personnel with approved protective equipment at the discretion of the Contracting Officer. This sampling may be duplicated by the Government at the discretion of the Contracting Officer. If the air sampling results obtained by the Government differ from those obtained by the Contractor, the Government will determine which results predominate. If adjacent areas are contaminated as determined by the Contracting Officer, clean the contaminated areas, monitor, and visually inspect the area as specified herein.

3.2.5 Removal Procedures

Perform asbestos removal work in accordance with approved asbestos hazard abatement plan, and as specified herein.

Remove material and immediately place in 0.15 mm (6 mil) plastic disposal bags. Remove asbestos containing material in a gradual manner, with continuous application of the amended water or wetting agent in such a manner that no asbestos material is disturbed prior to being adequately wetted. Where unusual circumstances prohibit the use of 0.15 mm (6 mil) plastic bags, submit an alternate proposal for containment of asbestos fibers to the Contracting Officer for approval. For example, in the case where both piping and insulation are to be removed, the Contractor may elect to wet the insulation, wrap the pipes and insulation in plastic and remove the pipe by sections. Asbestos containing material shall be containerized while wet. At no time shall asbestos material be allowed to accumulate or become dry. Lower and otherwise handle asbestos containing material as indicated in 40 CFR 61-SUBPART M.

3.2.6 Encapsulation Procedures

3.2.6.1 Preparation of Test Patches

Install at least three test patches of encapsulant. Use airless spray at the lowest pressure and as recommended by the encapsulant manufacturer. Follow exactly the manufacturer's instructions for thinning recommendations, application procedures and rates. Curing time shall be not less than five days or that recommended by the manufacturer, whichever is more. A test patch shall be 0.8 square meter (9 square feet) in size.

3.2.6.2 Field Testing

Field test the encapsulation test patches in accordance with ASTM E 1494, paragraph "Required Field Test," in the presence of the Contracting Officer. Keep a written record of the testing procedures and test results. Upon successful testing of the encapsulant, submit a signed statement to the Contracting Officer certifying that the encapsulant is suitable for installation on the particular asbestos containing material.

3.2.6.3 Large-Scale Application

Apply encapsulant using the same equipment and procedures as employed for the test patches. Keep the encapsulant material stirred to prevent settling. Keep a clean work area. Change pre-filters in the ventilation equipment as soon as they appear clogged by encapsulant aerosol or pressure differential drops below 0.02 mmHg.

3.2.7 Air Sampling

Sampling of airborne concentrations of asbestos fibers shall be performed in accordance with 29 CFR 1926.1101 and as specified herein. Sampling performed in accordance with 29 CFR 1926.1101 shall be performed by the PQP. Unless otherwise specified, use NIOSH Method 7400 for sampling and analysis. Monitoring may be duplicated by the Government at the discretion of the Contracting Officer. If the air sampling results obtained by the Government differ from those results obtained by the Contractor, the Government will determine which results predominate.

3.2.7.1 Sampling prior to Asbestos Work

Provide area air sampling and establish the baseline one day prior to the masking and sealing operations for each demolition, removal, or encapsulation site. Establish the background by performing area sampling in similar but uncontaminated sites in the building.

3.2.7.2 Sampling during Asbestos Work

The PQP shall provide personal and area sampling as indicated in 29 CFR 1926.1101 and governing environmental regulations. In addition, provided the same type of work is being performed, provide area sampling at least once every work shift close to the work inside the enclosure, outside the clean room entrance to the enclosure, and at the exhaust opening of the local exhaust system. If sampling outside the enclosure shows airborne levels have exceeded background or 0.01 fibers per cubic centimeter, whichever is greater, stop all work, correct the condition(s) causing the increase, and notify the Contracting Officer immediately. Where alternate methods are used, perform personal and area air sampling at locations and frequencies that will accurately characterize the evolving airborne asbestos levels.

3.2.7.3 Sampling after Final Clean-Up (Clearance Sampling)

Provide area sampling of asbestos fibers and establish an airborne asbestos concentration of less than 0.01 fibers per cubic centimeter after final clean-up but before removal of the enclosure or the asbestos work control area. After final cleanup and the asbestos control area is dry but prior to clearance sampling, the PQP shall perform a visual inspection in accordance with ASTM E 1368 to ensure that the asbestos control and work area is free of any accumulations of dirt, dust, or debris. Prepare a written report signed and dated by the PQP documenting that the asbestos control area is free of dust, dirt, and debris and all waste has been removed.

3.2.8 Lock-Down

Prior to removal of plastic barriers and after pre-clearance clean up of gross contamination, the PQP shall conduct a visual inspection of all areas affected by the removal or encapsulation in accordance with ASTM E 1368. Inspect for any visible fibers , and to ensure that encapsulants were applied evenly and appropriately. A post removal (lock-down) encapsulant shall then be spray applied to ceiling, walls, floors and other areas exposed in the removal area. The exposed area shall include but not be limited to plastic barriers, furnishings and articles to be discarded as well as dirty change room, air locks for bag removal and decontamination chambers.

3.2.9 Site Inspection

While performing asbestos engineering control work, the Contractor shall be subject to on-site inspection by the Contracting Officer who may be assisted by or represented by safety or industrial hygiene personnel. If the work is found to be in violation of this specification, the Contracting Officer or his representative will issue a stop work order to be in effect immediately and until the violation is resolved. All related costs including standby time required to resolve the violation shall be at the Contractor's expense.

3.3 CLEAN-UP AND DISPOSAL

3.3.1 Housekeeping

Essential parts of asbestos dust control are housekeeping and clean-up procedures. Maintain surfaces of the asbestos control area free of accumulations of asbestos fibers. Give meticulous attention to restricting the spread of dust and debris; keep waste from being distributed over the general area. Use HEPA filtered vacuum cleaners. DO NOT BLOW DOWN THE SPACE WITH COMPRESSED AIR. When asbestos removal is complete, all asbestos waste is removed from the work-site, and final clean-up is completed, the Contracting Officer will attest that the area is safe before the signs can be removed. After final clean-up and acceptable airborne concentrations are attained but before the HEPA unit is turned off and the enclosure removed, remove all pre-filters on the building HVAC system and provide new pre-filters. The Contracting Officer will visually inspect all surfaces within the enclosure for residual material or accumulated dust or debris. The Contractor shall re-clean all areas showing dust or residual materials. If re-cleaning is required, air sample and establish an acceptable asbestos airborne concentration after re-cleaning. The Contracting Officer must agree that the area is safe in writing before unrestricted entry will be permitted. The Government shall have the option to perform monitoring to determine if the areas are safe before entry is permitted.

3.3.2 Title to Materials

Collect asbestos waste, asbestos contaminated water, scrap, debris, bags, containers, equipment, and asbestos contaminated clothing which may produce airborne concentrations of asbestos fibers, and turn in to the Government in accordance with Section 01 74 19 “Construction and Demolition Waste Management”.

-- End of Section --

SECTION 02 83 13.00 20

LEAD IN CONSTRUCTION

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred within the text by the basic designation only.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z9.2	Fundamentals Governing the Design and Operation of Local Exhaust Systems
ANSI Z88.2	Respiratory Protection

CODE of Federal Regulations (CFR)

29 CFR 1926.21	Safety Training and Education
29 CFR 1926.33	Access to Employee Exposure and Medical
29 CFR 1926.55	Gases, Vapors, Fumes, Dusts, and Mists
29 CFR 1926.59	Hazard Communication
29 CFR 1926.62	Lead Exposure in Construction
29 CFR 1926.65	Hazardous Waste Operations and Emergency Response
29 CFR 1926.103	Respiratory Protection
29 CFR 1910.134	Respiratory Protection
40 CFR 260	Hazardous Waste Management Systems: General
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Generators of Hazardous Waste
40 CFR 263	Transporters of Hazardous Waste
40 CFR 264	Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 265	Interim Status Standard for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 268	Land Disposal Restrictions

40 CFR 745	Lead; Requirements for Lead-Based Paint Activities
49 CFR 172	Hazardous Materials, Tables, and Hazardous Materials Communications Regulations
49 CFR 178	Shipping Container Specification

MILITARY SPECIFICATIONS (MIL)

MIL-A-22262	Abrasive Blasting Media Ship Hull Blast Cleaning

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT (HUD)

HUD Guidelines	Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing

UNDERWRITERS LABORATORIES INC. (UL)

UL 586	High-Efficiency, Particulate, Air Filter Units

Department of Defense (DOD)

Japan Environmental Governing Standards (JEGS), by US Forces Japan

1.2 DEFINITIONS

1.2.1 Action Level

Employee exposure, without regard to use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter of air averaged over an 8 hour period in an occupational/industrial environment.

1.2.2 Area Sampling

Sampling of lead concentrations within the lead control area and inside the physical boundaries which is representative of the airborne lead concentrations but is not collected in the breathing zone of personnel.

1.2.3 Competent Person (CP)

As used in this section, refers to a person employed by the Contractor who is trained in the recognition and control of lead hazards in accordance with current federal regulations. An industrial hygienist or safety professional certified for comprehensive practice by the American Board of Industrial Hygiene or by the Board of Certified Safety Professionals is the best choice.

1.2.4 Contaminated Room

Refer to a room for removal of contaminated personal protective equipment (PPE).

1.2.5 Decontamination (Decon) Area

Decontamination area is for changing clothes and cleaning-up tools and equipment.

1.2.6 Decontamination Shower Facility

That facility that encompasses a clean clothing storage room, and a contaminated clothing storage and disposal rooms, with a shower facility in between.

1.2.7 Eight-Hour Time Weighted Average (TWA)

Airborne concentration of lead to which an employee is exposed, averaged over an 8 hour workday as indicated in 29 CFR 1926.62.

1.2.8 High Efficiency Particulate Air (HEPA) Filter Equipment

HEPA filtered vacuuming equipment with a UL 586 or JIS Z 4812 filter system capable of collecting and retaining lead-contaminated paint dust. A high efficiency particulate filter means 99.97 percent efficient against 0.3 micron or larger size particles.

1.2.9 Lead

Metallic lead, inorganic lead compounds, and organic lead soaps. Excludes other forms of organic lead compounds.

1.2.10 Lead Based Paint (LBP)

Protective or decorative coating which contains lead.

1.2.11 Lead Control Area

A system of control methods to prevent the spread of lead dust, paint chips or debris to adjacent areas that may include temporary containment, floor or ground cover protection, physical boundaries, and warning signs to prevent unauthorized entry of personnel. HEPA filtered local exhaust equipment may be used as engineering controls to further reduce personnel exposures or building/outdoor environmental contamination.

1.2.12 Lead Permissible Exposure Limit (PEL)

Fifty micrograms per cubic meter of air as an 8 hour time weighted average as determined by 29 CFR 1926.62. If an employee is exposed for more than eight hours in a work day, the PEL shall be determined by the following formula:

PEL (micrograms/cubic meter of air) = 400/No. hrs worked per day

1.2.13 Material Containing Lead/Paint with Lead (MCL/PWL)

Any material, including paint, which contains lead as determined by the testing laboratory using a valid test method. The requirements of this section does not apply if no detectable levels of lead are found using a quantitative method for analyzing paint or MCL using laboratory instruments

with specified limits of detection (usually 0.0%). An X-Ray Fluorescent (XRF) instrument is not considered a valid test method.

1.2.14 Personal Sampling

Sampling of airborne lead concentrations within the breathing zone of an employee to determine the 8 hour time weighted average concentration in accordance with 29 CFR 1926.62. Samples shall be representative of the employees' work tasks. Breathing zone shall be considered an area within a hemisphere, forward of the shoulders, with a radius of 150 to 225 mm (six to nine inches) and centered at the nose or mouth of an employee.

1.2.15 Physical Boundary

Area physically roped or partitioned off around lead control area to limit unauthorized entry of personnel.

1.3 DESCRIPTION

1.3.1 Description of Work

The work covered by this section includes the handling and control of material containing lead and describes some of the resultant procedures and equipment required to protect workers, the environment and occupants of the building or area, or both, from contact with lead. The work also includes turn-in of any lead containing materials generated by the work. More specific operational procedures shall be outlined in the Lead Compliance Plan called for elsewhere in this specification.

1.3.1.1 Lead Containing Materials

Existing paint on steel surface of supports and hangers contains lead in intact condition. The Contractor shall remove materials taking the utmost care to not disturb existing painted surface of supports and hangers.

1.3.2 Coordination with Other Work

The contractor shall coordinate with work being performed in adjacent areas. Coordination procedures shall be explained in the Plan and shall describe how the Contractor will prevent lead exposure to other contractors and/or Government personnel performing work unrelated to lead activities.

1.4 SUBMITTALS

It is judged that there is not the work including Lead Based Paint in this project. The following submittals will be omitted from this contract requirement.

SD-01 Preconstruction Submittals

Lead Compliance Plan including CP approval (signature, date, and certification number); G (FEAD)

Competent Person qualifications; G (FEAD)

Training Certification of workers and supervisors; G (FEAD)

Lead waste management plan; G (FEAD)

Material safety data sheets for all chemicals; G (FEAD)

Certification of Medical Examinations; G (FEAD)

SD-03 Manufacturer's Catalog Data

Vacuum filters: G (FEAD)

Respirators; G (FEAD)

Material for chemical removal method; G (FEAD)

SD-06 Test Reports

Sampling results; G (FEAD)

Occupational and Environmental Assessment Data Report; G (FEAD)

SD-07 Certificates

Testing laboratory qualifications; G (FEAD)

Occupant Notification; G (FEAD)

Third party consultant qualifications; G (FEAD)

Clearance Certification; G (FEAD)

SD-08 Instructions

Chemicals removal method;

1.5 QUALITY ASSURANCE

1.5.1 Qualifications

1.5.1.1 Competent Person (CP)

Submit name, address, and telephone number of the CP selected to perform responsibilities specified in paragraph titled "Competent Person (CP) Responsibilities." Provide previous experience of the CP. Submit proper documentation that the CP is trained and licensed in accordance with federal, or local laws.

1.5.1.2 Training Certification

Submit a certificate for each employee, signed and dated by the approved training source, stating that the employee has received the required lead training.

1.5.1.3 Testing Laboratory

Submit the name, address, and telephone number of the testing laboratory selected to perform the air and wipe analysis, testing, and reporting of airborne concentrations of lead. Use a laboratory participating in the EPA National Lead Laboratory Accreditation Program (NLLAP) by being accredited by either the American Association for Laboratory Accreditation (A2LA) or the American Industrial Hygiene Association (AIHA) and that is successfully participating in the Environmental Lead Proficiency Analytical Testing (ELPAT) program to perform sample analysis. Laboratories selected to perform blood lead analysis shall be OSHA approved.

1.5.1.4 Third Party Consultant Qualifications

Submit the name, address and telephone number of the third party consultant selected to perform the wipe sampling for determining concentrations of lead in dust. Submit proper documentation that the consultant is trained and certified as an inspector technician or inspector/risk assessor by the USEPA authorized State (or local) certification and accreditation program.

1.5.2 Requirements

1.5.2.1 Competent Person (CP) Responsibilities

a. Verify training meets all federal, and local requirements.

b. Review and approve Lead Compliance Plan for conformance to the applicable referenced standards.

c. Continuously inspect PWL or MCL work for conformance with the approved plan.

d. Perform (or oversee performance of) air and wipe sampling. Recommend upgrades or downgrades (whichever is appropriate based on exposure) on the use of PPE (respirators included) and engineering controls.

e. Ensure work is performed in strict accordance with specifications at all times.

f. Control work to prevent hazardous exposure to human beings and to the environment at all times.

g. Supervise final cleaning of the lead control area, take clearance wipe samples if necessary; review clearance sample results and make recommendations for further cleaning.

h. Certify the conditions of the work as called for elsewhere in this specification.

1.5.2.2 Lead Compliance Plan

Submit a detailed job-specific plan of the work procedures to be used in the disturbance of PWL or MCL. The plan shall include 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. Include a description of equipment and materials, work practices, controls and job responsibilities for each activity from which lead is emitted. Include in the plan, eating,

drinking, smoking, hygiene facilities 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 lead is not released outside of the lead control area. Include site preparation, cleanup and clearance procedures. Include occupational 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. Include a description of arrangements made among contractors on multicontractor worksites to inform affected employees and to clarify responsibilities to control exposures.

In occupied buildings, the plan shall also include an occupant protection program that describes the measures that will be taken during the work to notify and protect the building occupants.

1.5.2.3 Occupational and Environmental Assessment Data Report

If initial monitoring is necessary, submit occupational and environmental sampling results to the Contracting Officer within three working days of collection, signed by the testing laboratory employee performing the analysis, the employee that performed the sampling, and the CP.

In order to reduce the full implementation of 29 CFR 1926.62, the Contractor shall provide documentation. Submit a report that supports the determination to reduce full implementation of the requirements of 29 CFR 1926.62 and supporting the Lead Compliance Plan.

a. The initial monitoring shall represent each job classification, or if working conditions are similar to previous jobs by the same employer, provide previously collected exposure data that can be used to estimate worker exposures per 29 CFR 1926.62. The data shall represent the worker's regular daily exposure to lead for stated work.

b. Submit worker exposure data gathered during the task based trigger operations of 29 CFR 1926.62 with a complete process description. This includes manual demolition, manual scraping, manual sanding, heat gun, power tool cleaning, rivet busting, cleanup of dry expendable abrasives, abrasive blast enclosure removal, abrasive blasting, welding, cutting and torch burning where lead containing coatings are present.

c. The initial assessment shall determine the requirement for further monitoring and the need to fully implement the control and protective requirements including the lead compliance plan per 29 CFR 1926.62.

1.5.3 Medical Examinations

Before exposure to lead-contaminated dust, provide workers with a comprehensive medical examination to check blood lead levels under 40µg/dl. The examination will not be required if adequate records show that employees have been examined within the last year. Maintain complete and accurate medical records of employees for a period of at least 30 years or for the duration of employment plus 30 years, whichever is longer.

1.5.3.1 Training

Train each employee performing work that disturbs lead, who performs MCL/PWL disposal, and air sampling operations prior to the time of initial job assignment and annually thereafter, in accordance with 29 CFR 1926.21, 29 CFR 1926.62, and local regulations where appropriate.

1.5.3.2 Respiratory Protection Program

a. Provide each employee required to wear a respirator a respirator fit test at the time of initial fitting and at least annually thereafter as required by 29 CFR 1926.62.

b. Establish and implement a respiratory protection program as required by ANSI Z88.2, 29 CFR 1926.103, 29 CFR 1926.62, and 29 CFR 1926.55.

1.5.3.3 Hazard Communication Program

Establish and implement a Hazard Communication Program as required by 29 CFR 1926.59.

1.5.3.4 Lead Waste Management

The Lead Waste Management Plan shall comply with applicable requirements of federal, and local regulations. and address:

a. Identification and classification of LBP wastes associated with the work.

b. Estimated quantities of wastes to be generated and turn-in or disposed of.

c. Names and qualifications of each contractor that will be transporting, storing, treating, and disposing of the wastes. Include the facility location and operator and a 24-hour point of contact. Furnish two copies of local industrial waste permits and Identification numbers.

d. Names and qualifications (experience and training) of personnel who will be working on-site with industrial wastes.

e. List of waste handling equipment to be used in performing the work, to include cleaning, volume reduction, and transport equipment.

f. Spill prevention, containment, and cleanup contingency measures including a health and safety plan to be implemented in accordance with 29 CFR 1926.65.

g. Work plan and schedule for waste containment, removal and disposal. Wastes shall be cleaned up and containerized daily.

h. Include any process that may alter or treat waste rendering a hazardous waste non hazardous.

1.5.4 Pre-Construction Conference

Along with the CP, meet with the Contracting Officer to discuss in detail the Lead Waste Management Plan and the Lead Compliance Plan, including procedures and precautions for the work.

1.6 EQUIPMENT

1.6.1 Respirators

Furnish appropriate respirators approved by the Mine Safety and Health Administration (MSHA) and the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services, for use in atmospheres containing lead dust. Respirators shall comply with the requirements of 29 CFR 1926.62.

1.6.2 Special Protective Clothing

Furnish personnel who will be exposed to lead-contaminated dust with proper disposable or reusable protective whole body clothing, head covering, gloves, and foot coverings as required by 29 CFR 1926.62. Furnish proper disposable plastic or rubber gloves to protect hands. Reduce the level of protection only after obtaining approval from the CP.

1.6.3 Rental Equipment Notification

If rental equipment is to be used during lead based paint handling and disposal, notify the rental agency in writing concerning the intended use of the equipment. Furnish a copy of the written notification to the Contracting Officer.

1.6.4 Vacuum Filters

UL 586 labeled HEPA filters.

1.6.5 Equipment for Government Personnel

Furnish the Contracting Officer with at least two complete sets of personal protective equipment (PPE) daily, as required herein, for entry into and inspection of the lead removal work within the lead controlled area. Personal protective equipment shall include disposable whole body covering, including appropriate foot, head, eye, and hand protection. PPE shall remain the property of the Contractor. The Government will provide respiratory protection for the Contracting Officer.

1.7 PROJECT/SITE CONDITIONS

1.7.1 Protection of Existing Work to Remain

Perform work without damage or contamination of adjacent areas. Where existing work is damaged or contaminated, restore work to its original condition or better as determined by the Contracting Officer.

PART 2 PRODUCTS

2.1 CHEMICALS

Submit applicable Material Safety Data Sheets for all chemicals used in paint removal work. Use the least toxic product approved by the Contracting Officer.

2.1.1 Chemical Stripper

Shall consist of chemical stripper and non-phosphate ion detergent for cleaning, in accordance with the approved manufacturer. Chemical stripper shall not contain dichloromethane and methylene chloride, shall not produce harmful fumes for workers, and shall not burn skin of workers.

PART 3 EXECUTION

3.1 PREPARATION

3.1.1 Protection

3.1.1.1 Notification

a. Notify the Contracting Officer at least 20 days prior to the start of any paint removal work.

3.1.1.2 Lead Control Area Requirements

a. Boundary Requirements - Provide physical boundaries around the lead control area by roping off the area designated in the work plan or providing curtains, portable partitions or other enclosures to ensure that lead will not escape outside of the lead control area.

b. Warning Signs - Provide warning signs at approaches to lead control areas. Locate signs at such a distance that personnel may read the sign and take the necessary precautions before entering the area. Signs shall comply with the requirements of 29 CFR 1926.62.

3.1.1.3 Furnishings

Protect and cover existing furniture and equipment, mechanical equipment, apparatus, and piping systems which remain in the lead control area, or remove from the work area and store in a location approved by the Contracting Officer.

3.1.1.4 Heating, Ventilating and Air Conditioning (HVAC) Systems

Shut down, lock out, and isolate HVAC systems that supply, exhaust, or pass through the lead control areas. Seal intake and exhaust vents in the lead control area with 0.15 mm (6 mil) plastic sheet and tape. Seal seams in HVAC components that pass through the lead control area.

3.1.1.5 Decontamination Shower Facility

Provide clean and contaminated change rooms and shower facilities in accordance with this specification.

3.1.1.6 Decontamination Area

Provide two layers of vinyl sheet area or plastic room next to the control area and provide HEPA filtered vacuuming equipment. Rope off at the perimeter of the decontamination area and post with warning signs.

3.1.1.7 Eye Wash Station

Where eyes may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes shall be provided within the work area.

3.1.1.8 Mechanical Ventilation System

a. To the extent feasible, use local exhaust ventilation or other collection systems, approved by the CP.

b. Vent local exhaust outside the building and away from building ventilation intakes or ensure system is connected to HEPA filters.

c. Use locally exhausted, power actuated tools or manual hand tools.

3.1.1.9 Personnel Protection

Personnel shall wear and use protective clothing and equipment as specified herein. Eating, smoking, or drinking or application of cosmetics is not permitted in the lead control area. No one will be permitted in the lead control area unless they have been appropriately trained and provided with protective equipment.

3.2 ERECTION

3.2.1 Lead Control Area Requirements

Establish a lead control area by completely establishing barriers and physical boundaries around the area or structure where PWL or MCL removal operations will be performed.

3.3 APPLICATION

3.3.1 Lead Work

Perform lead work in accordance with approved Lead Compliance Plan. Use procedures and equipment required to limit occupational exposure and environmental contamination with lead when the work is performed in accordance with 29 CFR 1926.62 or 40 CFR 745, and as specified herein.

3.3.2 Paint with Lead or Material Containing Lead Removal

Manual or power sanding or grinding of lead surfaces or materials is not permitted unless tools are equipped with HEPA attachments or wet methods. The dry sanding or grinding of surfaces that contain lead is prohibited. Provide methodology for removing lead in the Lead Compliance Plan. Select lead removal processes to minimize contamination of work areas outside the control area with lead-contaminated dust or other lead-contaminated debris or waste and to ensure that unprotected personnel are not exposed to hazardous concentrations of lead. Describe this removal process in the Lead Compliance Plan.

3.3.2.1 Paint with Lead or Material Containing Lead - Indoor Removal

Perform manual or mechanical removal and thermal cutting in the lead control areas using enclosures, barriers or containments and powered locally exhausted tools. Collect residue and debris for disposal in accordance with federal, State, and local requirements.

3.3.2.2 Paint with Lead or Material Containing Lead - Outdoor Removal

Perform outdoor removal as indicated in federal, State, and local regulations and in the Lead Compliance Plan. The worksite preparation (barriers or containments) shall be job dependent and presented in the Lead Compliance Plan.

3.3.2.3 Lead-based Paint (LBP) on Steel Surface

3.3.2.3.1 Drilling

Prior to drilling on steel surface, provide fine spray of water and remove existing LBP with wet type sanding paper at least 30 mm around for preventing LBP scattering. Provide PPE (Personal Protection Equipment) for workers as specified herein after. The LBP removal worker shall wear personal protection equipment during LBP removal work. Provide floor covering under LBP removal portion to correct LBP dust and debris. After completion of LBP removal, surfaces shall be cleaned with wet rag. Touch up damaged paint as specified in Section 09 90 00, “Paints and Coatings”.

3.3.2.3.2 Cutting

Remove existing LBP on steel surface to be gas cutting and welding by applying chemical stripper, within 150 mm of the cut or welding line on all side, in accordance with the approved chemical stripping methodology. When doing chemical stripping jobs, put down drop cloth to catch the debris and waste sludge below the LBP applied steel surface and chemical waste. Do not let the removed paint and chemical waste go down the sewer system, into water or onto soil. All debris and waste sludge are collected and put into drum or container. After completion of removal work of LBP, surfaces shall be cleaned with wet rag including approved non-phosphate ion detergent for cleaning that shall bind residual lead particle. Surfaces bare by chemical stripping shall be neutralized.

3.3.2.3.3 Loosening bolts

Bolted flanges to be Removed: Lay vinyl down drop cloth and loosen existing bolts, and collect paint chips for disposal in accordance with JEGS, and local requirements. Take whatever precautions necessary to minimize damage to the underlying substrate.

3.3.3 Personnel Exiting Procedures

Whenever personnel exit the lead-controlled area, they shall perform the following procedures and shall not leave the work place wearing any clothing or equipment worn in the control area:

a. Vacuum all clothing before entering the contaminated change room.

b. Remove protective clothing in the contaminated change room, and place them in an approved impermeable disposal bag.

c. Shower.

d. Wash hands and face at the site, don appropriate disposable or uncontaminated reusable clothing, move to an appropriate shower facility, shower.

e. Change to clean clothes prior to leaving the clean clothes storage area.

3.4 FIELD QUALITY CONTROL

3.4.1 Tests

3.4.1.1 Air and Wipe Sampling

Conduct sampling for lead in accordance with 29 CFR 1926.62 and as specified herein. Air and wipe sampling shall be directed or performed by the CP.

a. The CP shall be on the job site directing the air and wipe sampling and inspecting the PWL or MCL removal work to ensure that the requirements of the contract have been satisfied during the entire PWL or MCL operation.

b. Collect personal air samples on employees who are anticipated to have the greatest risk of exposure as determined by the CP. In addition, collect air samples on at least twenty-five percent of the work crew or a minimum of two employees, whichever is greater, during each work shift.

c. Submit results of air samples, signed by the CP, within 72 hours after the air samples are taken.

d. Conduct area air sampling daily, on each shift in which lead-based paint removal operations are performed, in areas immediately adjacent to the lead control area. Sufficient area monitoring shall be conducted to ensure unprotected personnel are not exposed at or above 30 micrograms per cubic meter of air. If 30 micrograms per cubic meter of air is reached or exceeded, stop work, correct the conditions(s) causing the increased levels. Notify the Contracting Officer immediately. Determine if condition(s) require any further change in work methods. Removal work shall resume only after the CP and the Contracting Officer give approval.

e. Before any work begins, collect and analyze baseline wipe and soil samples in accordance with methods defined by federal, State, and local standards inside and outside of the physical boundary to assess the degree of dust contamination in the facility prior to lead disturbance or removal.

f. Surface Wipe Samples - Collect surface wipe samples on floors at a location no greater than 3 m (10 feet) outside the lead control area at a frequency of once per day while lead removal work is conducted in occupied buildings. Surface wipe results shall meet criteria in paragraph "Clearance Certification.

3.4.1.2 Sampling after Removal

After the visual inspection, collect wipe samples to determine the lead content of settled dust in micrograms per square meter foot of surface area.

3.4.1.3 Testing of Material Containing Lead Residue

Test residue in accordance with JEGS for hazardous waste.

3.5 CLEANING AND DISPOSAL

3.5.1 Cleanup

Maintain surfaces of the lead control area free of accumulations of dust and debris. Restrict the spread of dust and debris; keep waste from being distributed over the work area. Do not dry sweep or use pressurized air to clean up the area. At the end of each shift and when the lead operation has been completed, clean the controlled area of visible contamination by vacuuming with a HEPA filtered vacuum cleaner, wet mopping the area and wet wiping the area as indicated by the Lead Compliance Plan. Reclean areas showing dust or debris. After visible dust and debris is removed, wet wipe and HEPA vacuum all surfaces in the controlled area. If adjacent areas become contaminated at any time during the work, clean, visually inspect, and then wipe sample all contaminated areas. The CP shall then certify in writing that the area has been cleaned of lead contamination before clearance testing.

3.5.1.1 Clearance Certification

The CP shall certify in writing that air samples collected outside the lead control area during paint removal operations are less than 30 micrograms per cubic meter of air; the respiratory protection used for the employees was adequate; the work procedures were performed in accordance with 29 CFR 1926.62; and that there were no visible accumulations of material and dust containing lead left in the work site. Do not remove the lead control area or roped off boundary and warning signs prior to the Contracting Officer's acknowledgement of receipt of the CP certification.

3.5.2 Title to Materials

Collect lead-contaminated waste, scrap, debris, bags, containers, equipment, and lead-contaminated clothing which may produce airborne concentrations of lead particles. Label the containers in accordance with 29 CFR 1926.62 and JEGS, and turn in to the Government in accordance with Section 01 74 19 “Construction and Demolition Waste Management”.

-- End of Section --

SECTION 03 30 00

CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

1.1.1 JAPANESE ARCHITECTURAL STANDARD SPECIFICATION(JASS)

JASS 5 Reinforced Concrete Work

1.1.2 JAPANESE INDUSTRIAL STANDARDS (JIS)

A 5005-09 Crushed Stone and Manufactured Sand for Concrete

A 5308-09 Ready-Mixed Concrete

A 6204-06 Chemical Admixtures for Concrete

G 3112-04 Steel Bars for Concrete Reinforcement

R 5210-03 Portland Cement

1.2 DEFINITIONS

a. "Cementitious material" as used herein must include all Portland cement, pozzolan, fly ash, ground granulated blast-furnace slag, and silica fume.

b. "Exposed to public view" means situated so that it can be seen from eye level from a public location after completion of the building. A public location is accessible to persons not responsible for operation or maintenance of the building.

c. "Chemical admixtures" are materials in the form of powder or fluids that are added to the concrete to give it certain characteristics not obtainable with plain concrete mixes.

d. "Workability (or consistence)" is the ability of a fresh (plastic) concrete mix to fill the form/mould properly with the desired work (vibration) and without reducing the concrete's quality. Workability depends on water content, chemical admixtures, aggregate (shape and size distribution), cementitious content and age (level of hydration).

1.3 MODIFICATION OF REFERENCES

Accomplish work in accordance with JASS 5 publications except as modified herein. Consider the advisory or recommended provisions to be mandatory. Interpret reference to the "Building Official," the "Structural Engineer," and the "Architect/Engineer" to mean the Contracting Officer.

1.4 DELIVERY, STORAGE, AND HANDLING

Do not deliver concrete until vapor barrier, forms, reinforcement, embedded items, and chamfer strips are in place and ready for concrete placement. JASS 5 for job site storage of materials. Protect materials from contaminants such as grease, oil, and dirt. Ensure materials can be accurately identified after bundles are broken and tags removed. Do not store concrete curing compounds or sealers with materials that have a high capacity to adsorb volatile organic compound (VOC) emissions. Do not store concrete curing compounds or sealers in occupied spaces.

1.4.1 Reinforcement

Store reinforcement of different sizes and shapes in separate piles or racks raised above the ground to avoid excessive rusting. Protect from contaminants such as grease, oil, and dirt. Ensure bar sizes can be accurately identified after bundles are broken and tags removed.

1.5 QUALIFICATIONS FOR CONCRETE TESTING SERVICE

Perform concrete testing by an approved laboratory and inspection service experienced in sampling and testing concrete. Testing agency must meet the requirements of ASTM E 329.

PART 2 PRODUCTS

2.1 MATERIALS FOR FORMS

Provide wood, plywood, plastic, carton, or steel. Use plywood or steel forms where a smooth form finish is required.

2.2 FORM TIES AND ACCESSORIES

The use of wire alone is prohibited. Provide form ties and accessories that do not reduce the effective cover of the reinforcement.

2.3 CONCRETE

2.3.1 Contractor-Furnished Mix Design

JASS 5 except as otherwise specified. Indicate the compressive strength of the concrete for each portion of the structure(s) as specified below.

Location	28-day Compressive Strength (N/mm^2)	Range of Slump (cm)	Maximum Nominal Aggregate Size (mm)
Reinforced Concrete	21	15	20

2.3.2 Ready-Mix Concrete

Provide concrete that meets the requirements of JIS A 5308 and JASS 5. Ready-mixed concrete manufacturer must provide duplicate delivery tickets with each load of concrete delivered. Provide delivery tickets with the following information:

Type and brand cement

Cement content

Maximum size of aggregate

Amount and brand name of admixtures

Total water content expressed by water/cement ratio

2.4 MATERIALS

2.4.1 Cement

JIS R 5210, normal Portland cement.

2.4.2 Water

Minimize the amount of water in the mix. The amount of water must not exceed 45 percent by weight of cementitious materials (cement + pozzolans), and in general, improve workability by adjusting the grading rather than by adding water. Water must be fresh, clean, and potable; free from injurious amounts of oils, acids, alkalis, salts, organic materials, or other substances deleterious to concrete.

2.4.3 Aggregates

JIS A 5005.

2.4.4 Admixtures

JIS A 6204.

2.5 REINFORCEMENT

2.5.1 Reinforcing Bars

JIS G 3112, Type SD295A , as indicated on drawing.

2.5.2 Expansion Anchor

Tubular, multi-slit, internal thread, with stud bolt having a head of the expander shape, as indicated on drawing. Do not use plastic material.

PART 3 EXECUTION

3.1 WORK PROCEDURE

In accordance with JASS 5 and each manufacturer’s installation instruction.

-- End of Section --

SECTION 09 90 00

PAINTS AND COATINGS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

1.1.1 JAPANESE ARCHITECTURAL STANDARD SPECIFICATION(JASS)

JASS 18	Paint Work

1.1.2 JAPANESE INDUSTRIAL STANDARDS (JIS)

K 5516-03	Ready Mixed Paint (Synthetic Resin Type)
K 5633-02	Etching Primer
K 5621-03	Anticorrosive Paint for General Use
K 5674-08	Lead-free, Chromium-free Anticorrosive Paint

1.1.3 JAPAN PAINT MANUFACTURER’S ASSOCIATION (JPMA) PUBLICATION

2009 E	Paint Color Samples

1.1.4 CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910.1000	Air Contaminants

1.1.5 ASME INTERNATIONAL (ASME)

ASME A13.1 (2007)	Scheme for the Identification of Piping Systems

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

1.2.1 SD-08 Manufacturer's Instructions

Manufacturer's material safety data sheets (MSDS);

1.3 REGULATORY REQUIREMENTS

1.3.1 Environmental Protection

In addition to requirements specified elsewhere for environmental protection, provide coating materials that conform to the restrictions of the local Air

Pollution Control District and regional jurisdiction. Notify Contracting Officer of any paint specified herein which fails to conform.

1.3.2 Lead Content

Do not use coatings having a lead content over 0.06 percent by weight of nonvolatile content.

1.3.3 Chromate Content

Do not use coatings containing zinc-chromate or strontium-chromate.

1.3.4 Asbestos Content

Materials shall not contain asbestos.

1.3.5 Mercury Content

Materials shall not contain mercury or mercury compounds.

1.3.6 Silica

Abrasive blast media shall not contain free crystalline silica.

1.4 PACKAGING, LABELING, AND STORAGE

Paints shall be in sealed containers that legibly show the contract specification number, designation name, formula or specification number, batch number, color, quantity, date of manufacture, manufacturer's formulation number, manufacturer's directions including any warnings and special precautions, and name and address of manufacturer. Pigmented paints shall be furnished in containers not larger than 20 liters (5 gallons). Paints and thinners shall be stored in accordance with the manufacturer's written directions, and as a minimum, stored off the ground, under cover, with sufficient ventilation to prevent the buildup of flammable vapors, and at temperatures between 4 to 35 degrees C (40 to 95 degrees F). Do not store paint, polyurethane, varnish, or wood stain products with materials that have a high capacity to adsorb VOC emissions. Do not store paint, polyurethane, varnish, or wood stain products in occupied spaces.

1.5 SAFETY AND HEALTH

Apply coating materials using safety methods and equipment in accordance with the following:

1.5.1 Safety Methods

Used during Coating Application Comply with the requirements of SSPC PA Guide 3.

1.5.2 Toxic Materials

To protect personnel from overexposure to toxic materials, conform to the most stringent guidance of:

a. The applicable manufacturer’s Material Safety Data Sheets (MSDS) or local regulation.

b. 29 CFR 1910.1000.

c. The Japanese Labor, Safety, and Sanitation Law.

d. Japanese Regulation of Organic Solvent Toxication Prevention

1.6 ENVIRONMENTAL CONDITIONS

Comply, at minimum, with manufacturer recommendations for space ventilation during and after installation.

1.6.1 Coatings

Do not apply coating when air or substrate conditions are:

a. Less than 3 degrees C (37.4 degrees F) above dew point;

b. Below 10 degrees C (50 degrees F) or over 35 degrees C (95 degrees F), unless specifically pre-approved by the Contracting Officer and the product manufacturer. Under no circumstances shall application conditions exceed manufacturer recommendations.

1.6.2 Post-Application

Vacate space for as long as possible after application. Wait a minimum of 48 hours before occupying freshly painted rooms. Maintain one of the following ventilation conditions during the curing period, or for 72 hours after application:

a. Supply 100 percent outside air 24 hours a day.

b. Supply airflow at a rate of 6 air changes per hour, when outside temperatures are between 55 degrees F(13 degrees C) and 85 degrees F (29 degrees C) and humidity is between 30 percent and 60 percent.

c. Supply airflow at a rate of 1.5 air changes per hour, when outside air conditions are not within the range stipulated above.

1.7 SCHEDULING

Allow paint, polyurethane, varnish, and wood stain installations to cure prior to the installation of materials that adsorb VOCs.

1.8 COLOR AND TEXTURE SELECTION

Color and texture of finish coats shall be as indicated or specified. Where not indicated or specified, colors, type of paint (such as gloss, semi-gloss, etc.), and texture shall be selected by the Contracting Officer from samples of JPMA.

1.9 LOCATION AND SURFACE TYPE TO BE PAINTED

1.9.1 Painting Included

Where a space or surface is indicated to be painted, include the following unless indicated otherwise.

a. Surfaces behind portable objects and surface mounted articles readily detachable by removal of fasteners, such as screws and bolts.

b. New factory finished surfaces that require identification or color coding and factory finished surfaces that are damaged during performance of the work.

c. Existing coated surfaces that are damaged during performance of the work.

1.9.2 Painting Excluded

Do not paint the following unless indicated otherwise.

a. Surfaces concealed and made inaccessible by panelboards, fixed ductwork, machinery, and equipment fixed in place.

b. Surfaces in concealed spaces. Concealed spaces are defined as enclosed spaces above suspended ceilings, furred spaces, attic spaces, crawl spaces, elevator shafts and chases.

c. Steel to be embedded in concrete.

d. Copper, stainless steel, aluminum, brass, and lead except existing coated surfaces.

e. Hardware, fittings, and other factory finished items.

1.10 TOUCH-UP PAINT

Touch up damaged coatings on existing steel surface after gas-cut torch and welding.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Steel Surface, except Electrical Conduit Pipe

Primer: Anti-corrosive paint in accordance with the top coat manufacturer.
Top Coat: Ready mixed paint, synthetic resin type, JIS K 5516, Type 1.

2.1.2 Electrical Conduit Pipe

Etching primer: JIS K 5633, Type 1.
Anti-corrosive Paint: JIS K 5621, Type 1 for interior and JIS K 5674 for exterior.
Top Coat: Ready mixed paint, synthetic resin type, JIS K 5516, Type 1.

PART 3 EXECUTION

3.1 PROTECTION OF AREAS AND SPACES NOT TO BE PAINTED

Prior to surface preparation and coating applications, remove, mask, or otherwise protect, hardware, hardware accessories, machined surfaces, radiator covers, plates, lighting fixtures, public and private property, and other such items not to be coated that are in contact with surfaces to be coated. Following completion of painting, workmen skilled in the trades involved shall reinstall removed items.

Restore surfaces contaminated by coating materials, to original condition and repair damaged items.

3.2 SURFACE PREPARATION

Remove dirt, splinters, loose particles, grease, oil, disintegrated coatings, and other foreign matter and substances deleterious to coating performance as specified for each substrate before application of paint or surface treatments. Oil and grease shall be removed prior to mechanical cleaning. Cleaning shall be programmed so that dust and other contaminants will not fall on wet, newly painted surfaces. Exposed ferrous metals such as nail heads on or in contact with surfaces to be painted with water-thinned paints, shall be spot-primed with a suitable corrosion-inhibitive primer capable of preventing flash rusting and compatible with the coating specified for the adjacent areas.

3.2.1 Steel Surface, except Electrical Conduit Pipe

Remove existing loose and deteriorated paint with hand tool in accordance with SSPC SP-2 and solvent clean in accordance with SSPC-SP 1 to remove oil and grease.

3.2.2 Electrical Conduit Pipe

Remove rust, dirt, loose and deteriorated debris with hand tool in accordance with SSPC SP-2, solvent clean in accordance with SSPC-SP 1 to remove oil and grease, and apply etching primer, JIS K 5633, Type 1, in accordance with JASS 18.

3.3 APPLICATION

Apply coating materials in accordance with JASS 18, the each paint and coating manufacturer’s instruction, and specified hereinafter. Maintain MSDS of all chemicals at the work site.

3.3.1 Steel Surface, except Electrical Conduit Pipe

Apply anticorrosive paint and two top coats, in accordance with JASS 18 and the each paint manufacturer.

3.3.2 Electrical Conduit Pipe Surface

Apply anticorrosive paint, JIS K 5621, Type 1 for interior, and JIS K 5674 for exterior, in accordance with the top coat manufacturer, and two top coats, synthetic resin type ready mixed paint, JIS K 5516, Type 1, in accordance with JASS 18.

3.4 IDENTIFICATION SYSTEMS

3.4.1 Identification Tags

Identification tags made of brass, engraved laminated plastic, or engraved anodized aluminum, indicating service and valve number shall be installed on valves, except those valves installed on supplies at plumbing fixtures. Tags shall be 35 mm (1-3/8 inch) minimum diameter, and marking shall be stamped or engraved. Indentations shall be black, for reading clarity. Tags shall be attached to valves with No. 12 AWG, copper wire, chrome-plated beaded chain, or plastic straps designed for that purpose.

3.4.2 Pipe Color Code and Identification

Color Coding for Facility/Utility Connections: Paint piping the designated color in finished spaces. Wrap around outside of piping and conduit with self-adhering plastic bands with the designated color and the width in unfinished spaces at maximum of 6 meter intervals. In addition to color coding provide labels to identify contents of pipes and arrows to show direction of flow. Labels shall have color coded background to signify levels of hazard in accordance with ASME A13.1. Legends and type and size of characters shall also conform as ASME A13.1. Make labels of plastic sheet with pressure sensitivity suitable for the intended applications, or they may be premolded of plastic to fit over pipe.

On piping not covered by ASME A13.1, stencil approved names or code letters, in letters a minimum of 13 mm (1/2 inch) high for piping and a minimum of 50 mm (2 inches) high elsewhere. Stencil arrow-shaped markings on piping to indicate direction of flow using black stencil paint.

Color Coding for Facility Utility Connections

Service	Color	FED-STD-595 No.
Refrigerant	Gray	26251
Steam	Gray	26493
Drain Water	Black	17038

Width of Band	Outside Diameter of Piping or Covering
1″ (25 mm)	Under 3 1/2″ (Under 90 mm)
2″ (50 mm	3 1/2″ to 13″ (90mm to 330 mm)

-- End of Section --

SECTION 22 00 00

PLUMBING, GENERAL PURPOSE

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS INTERNATIONAL (ASME)

ASME A13.1	Scheme for the Identification of Piping System

JAPANESE INDUSTRIAL STANDARD (JIS)

JIS B 2303	Screwed drainage fittings
JIS G 3452	Carbon steel pipes for ordinary piping

U.S. GENERAL SERVICES ADMINISTRATION (GSA)

FED-STD-595	Colors Used in Government Procurement

MANUFACTURERS STANDARDIZATION SOCIETY OF THE VALVE AND FITTINGS INDUSTRY (MSS)

MSS SP-58	Standard for Pipe Hangers and Supports - Materials, Design and Manufacture
MSS SP-69	Standard for Pipe Hangers and Supports - Selection and Application

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Pipe and fittings; G (FEAD)

Pipe hangers and supports; G (FEAD)

SD-06 Test Reports

Drainage Tests; G (FEAD)

1.3 STANDARD PRODUCTS

Specified materials and equipment shall be standard products of a manufacturer regularly engaged in the manufacture of such products. Specified equipment shall essentially duplicate equipment that has performed satisfactorily at least two years prior to bid opening. Standard products shall have been in satisfactory commercial or industrial use for two years prior to bid opening. The two year use shall include applications of equipment and materials under similar circumstances and of similar size. The product shall have been for sale on the commercial market through advertisements, manufacturers' catalogs, or brochures during the two year period.

1.3.1 Alternative Qualifications

Products having less than a two-year field service record will be acceptable if a certified record of satisfactory field operation for not less than 6000 hours, exclusive of the manufacturer's factory or laboratory tests, can be shown.

1.3.2 Modification of References

In each of the publications referred to herein, consider the advisory provisions to be mandatory, as though the word, "shall" had been substituted for "should" wherever it appears. Interpret references in these publications to the "authority having jurisdiction", or words of similar meaning, to mean the Contracting Officer.

1.3.2.1 Definitions

For the International Code Council (ICC) Codes referenced in the contract documents, advisory provisions shall be considered mandatory, the word "should" shall be interpreted as "shall." Reference to the "code official" shall be interpreted to mean the "Contracting Officer." For Navy owned property, references to the "owner" shall be interpreted to mean the "Contracting Officer." For leased facilities, references to the "owner" shall be interpreted to mean the "lessor." References to the "permit holder" shall be interpreted to mean the "Contractor."

1.3.2.2 Administrative Interpretations

For ICC Codes referenced in the contract documents, the provisions of Chapter 1, "Administrator," do not apply. These administrative requirements are covered by the applicable Federal Acquisition Regulations (FAR) included in this contract and by the authority granted to the Officer in Charge of Construction to administer the construction of this project. References in the ICC Codes to sections of Chapter 1, shall be applied appropriately by the Contracting Officer as authorized by his administrative cognizance and the FAR.

1.4 DELIVERY, STORAGE, AND HANDLING

Handle, store, and protect equipment and materials to prevent damage before and during installation in accordance with the manufacturer's

recommendations, and as approved by the Contracting Officer. Replace damaged or defective items.

1.5 PROJECT/SITE CONDITIONS

The Contractor shall become familiar with details of the work, verify dimensions in the field, and advise the Contracting Officer of any discrepancy before performing any work.

PART 2 PRODUCTS

2.1 DRAIN PIPE FOR AIR COOLED A/C SYSTEM

Fittings shall be long radius fittings.

JIS G 3452, Carbon steel pipes, galvanized for ordinary piping and JIS B 2303 Screwed drainage fittings.

2.2 PIPING FINISH

2.2.1 Insulation and finishing

Insulation and finishing shall be as specified in Section 23 07 00 THERMAL INSULATION FOR MECHANICAL SYSTEMS.

2.2.2 Painting

Paint exposed drain pipes of A/C system as specified in section 09 90 00 PAINT AND COATINGS. Paint color shall much the color of adjacent wall.

PART 3 EXECUTION

3.1 GENERAL INSTALLATION REQUIREMENTS

The plumbing system shall be installed complete with necessary fixtures, fittings, and accessories. Piping shall be connected to the exterior service lines. Valves shall be installed with control no lower than the valve body.

3.1.1 Drain Pipe, Fittings, and Connections

3.1.1.1 Cutting and Repairing

The work shall be carefully laid out in advance, and unnecessary cutting of construction shall be avoided. Damage to building, piping, wiring, or equipment as a result of cutting shall be repaired by mechanics skilled in the trade involved.

3.1.1.2 Protection of Fixtures, Materials, and Equipment

Pipe openings shall be closed with caps or plugs during installation. Fixtures and equipment shall be tightly covered and protected against dirt, water, chemicals, and mechanical injury. Upon completion of the work, the

materials, and equipment shall be thoroughly cleaned, adjusted, and operated. Safety guards shall be provided for exposed rotating equipment.

3.1.1.3 Mains, Branches, and Runouts

Piping shall be installed as indicated. Pipe shall be accurately cut and worked into place without springing or forcing. Structural portions of the building shall not be weakened. Aboveground piping shall run parallel with the lines of the building, unless otherwise indicated. Branch pipes from service lines may be taken from top, bottom, or side of main, using crossover fittings required by structural or installation conditions. Change in direction shall be made with fittings.

3.1.1.4 Joints

Installation of pipe and fittings shall be made in accordance with the manufacturer’s recommendations. Mitering of joints for elbows and notching of straight runs of pipe for tees will not be permitted. Joints shall be made up with fittings of compatible material and made for the specific purpose intended.

3.1.1.5 Threaded

Threaded joints shall have JIS pipe thread which shall match to fixtures and fittings. Only male pipe threads shall be coated with graphite or with an approved graphite compound, or with an inert filler and oil, or shall have a polytetrafluoroethylene tape applied.

3.1.1.6 Unions and Flanges

Unions and flanges shall not be concealed in walls, ceilings, or partitions. Unions shall be used on pipe sizes 65 mm (2-1/2 inches) and smaller; flanges shall be used on pipe sizes 80 mm (3 inches) and larger.

3.1.2 Supports

3.1.2.1 General

Hangers used to support piping 50 mm (2 inches) and larger shall be fabricated to permit adequate adjustment after erection while still supporting the load. Pipe guides and anchors shall be installed to keep pipes in accurate alignment, to direct the expansion movement, and to prevent buckling, swaying, and undue strain. In the support of multiple pipe runs on a common base member, a clip or clamp shall be used where each pipe crosses the base support member. Spacing of the base support members shall not exceed the hanger and support spacing required for an individual pipe in the multiple pipe run. Threaded sections of rods shall not be formed or bent.

3.1.2.2 Pipe Supports and Structural Bracing, Seismic Requirements

Piping and attached valves shall be supported and braced to resist seismic loads. Structural steel required for reinforcement to properly support piping, headers, and equipment, but not shown, shall be provided.

3.1.2.3 Pipe Hangers, Inserts, and Supports

Installation of pipe hangers, inserts and supports shall conform to MSS SP-58 except as modified herein.

3.1.2.4 Maximum Spacing between Supports

a. Vertical Piping: Support metal piping at each floor, but at not more than 3 meters intervals. Support plastic piping at each floor and at midpoint between floors, but at not more than 1.50 meters intervals.

b. Horizontal Piping: Support cast-iron piping not over then 0.3 meters from the pipe fitting joint at each change of direction of the piping. Pipe supports shall be spaced not over 1.5 meters apart at valves and shall be at not more than 3 meters intervals close to the joint. Support plastic piping at manufacturer's recommendations for material and service condition. Support steel piping and copper tubing as follows:

MAXIMUM SPACING (METERS)

Nominal Pipe Size (mm)	25 and under	32	40	50	65	80	90	100	125	150
Steel Pipe	2	2.5	2.75	3	3.25	3.62	4	4.25	4.75	5
Copper Tube	1.75	2	2.50	2.50	2.75	3	3.25	3.62	4	4.25

3.1.2.5 Structural Attachments

Attachment to building structure concrete and masonry shall be by cast-in concrete inserts, built-in anchors, or masonry anchor devices. Inserts and anchors shall be applied with a safety factor not less than 5. Supports shall not be attached to metal decking. Supports shall not be attached to the underside of concrete filled floor or concrete roof decks unless approved by the Contracting Officer. Masonry anchors for overhead applications shall be constructed of ferrous materials only.

3.1.3 Pipe Cleanouts

Pipe cleanouts shall be the same size as the pipe except that cleanout plugs larger than 100 mm (4 inches) will not be required. Cleanouts in connection with other pipe, where indicated, shall be T-pattern, 90-degree branch drainage fittings with cast-brass screw plugs. Plugs shall be the same size as the pipe up to and including 100 mm (4 inches).

3.2 IDENTIFICATION SYSTEMS

3.2.1 Identification Tags

Identification tags made of brass, engraved laminated plastic, or engraved anodized aluminum, indicating service and valve number shall be installed on valves, except those valves installed on supplies at plumbing fixtures. Tags shall be 35 mm (1-3/8 inch) minimum diameter, and marking shall be stamped or engraved. Indentations shall be black, for reading clarity. Tags shall be attached to valves with No. 12 AWG, copper wire, chrome-plated beaded chain, or plastic straps designed for that purpose.

3.2.2 Pipe Color Code and Identification

Color Coding for Facility/Utility Connections: Paint piping the designated color in finished spaces. Wrap around outside of piping and conduit with self-adhering plastic bands with the designated color and the width in unfinished spaces at maximum of 6 meter intervals. In addition to color coding provide labels to identify contents of pipes and arrows to show direction of flow. Labels shall have color coded background to signify levels of hazard in accordance with ASME A13.1. Legends and type and size of characters shall also conform as ASME A13.1. Make labels of plastic sheet with pressure sensitivity suitable for the intended applications, or they may be premolded of plastic to fit over pipe.

On piping not covered by ASME A13.1, stencil approved names or code letters, in letters a minimum of 13 mm (1/2 inch) high for piping and a minimum of 50 mm (2 inches) high elsewhere. Stencil arrow-shaped markings on piping to indicate direction of flow using black stencil paint.

Color Coding for Facility Utility Connections

Service	Color	FED-STD-595 No.
Drain Water	Black	17038

Width of Band	Outside Diameter of Piping or Covering
1″ (25 mm)	Under 3 1/2″ (Under 90 mm)

3.3 ESCUTCHEONS

Escutcheons shall be provided at finished surfaces where bare or insulated piping, exposed to view, passes through floors, walls, or ceilings, except in boiler, utility, or equipment rooms. Escutcheons shall be fastened securely to pipe or pipe covering and shall be satin-finish, corrosion-resisting steel, polished chromium-plated zinc alloy, or polished chromium-plated copper alloy. Escutcheons shall be either one-piece or split-pattern, held in place by internal spring tension or setscrew.

3.4 PAINTING

Painting of pipes, hangers, supports, and other iron work, either in concealed spaces or exposed spaces, is specified in Section 09 90 00 PAINTS AND COATINGS.

3.5 TESTS

3.5.1 Drain Pipe System

The following tests shall be performed on the plumbing system in accordance with ICC IPC. Drainage system final test shall include the water fill test. If the system is tested in section, each opening shall be plugged and each section tested with not less than a 3.0-meter head of water

3.5.2 Defective Work

If inspection or test shows defects, such defective work or material shall be replaced or repaired as necessary and inspection and tests shall be repeated. Repairs to piping shall be made with new materials. Caulking of screwed joints or holes will not be acceptable.

-- End of Section --

SECTION 23 00 00

AIR SUPPLY, DISTRIBUTION, VENTILATION, AND EXHAUST SYSTEMS

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA).

SMACNA 1780 Testing, Adjusting and Balancing, 3rd Edition

ASSOCIATED AIR BALANCE COUNCIL (AABC).

AABC MN-1 National Standards for Total System Balance

AABC MN-4 Test and Balance Procedures

1.2 GENERAL REQUIREMENTS

Section 23 03 00.00 20 “Basic Mechanical Materials and Methods," applies to this section with the additions and modifications specified herein.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Products Data:

Return air fan; G (FEAD)

Flexible duct connection; G (FEAD)

HVAC TAB procedures; G (FEAD)

SD-06 Test Report

Return air fan; G (FEAD)

HVAC TAB report; G (FEAD)

SD-10 Operation and Maintenance Manuals

Return air fan; G (FEAD)

Submit operation and maintenance data in accordance with Section 01 78 23, OPERATION AND MAINTENANCE DATA and as specified herein.

PART 2 PRODUCTS

2.1 DUCTS

Exhaust fan to be replaced shall be connected to the existing ductwork.

Arrange metal duct for connection to existing air duct of air conditioning unit and return air fan as specified in section 23 31 13 METAL DUCTS.

2.2 RETURN AIR FAN

2.2.1 Axial flow fan

Provide axial flow fan with direct drive, steel construction frame, aluminum fan blade and spring-type vibration isolating support.

2.3 FLEXIBLE DUCT CONNECTION

Provide airtight, fire-retardant, fume and vapor resistant, chloroprene or chlorosulfonated polyethylene impregnated, woven fibrous glass fabric, rated for continuous service at 121 degrees C.

2.4 HANGERS AND SUPPORTS

Provide hangers and supports as specified in section 23 00 00.00 40 HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC).

PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Equipment

Installation equipment in accordance with each manufacturer’s instructions and recommendations and as indicated on drawings.

3.2 TESTS AND INSPECTIONS

3.2.1 Ductwork

The ductwork shall be tested under normal operation and checked to see that it is functioning correctly.

3.2.2 Start-up and Operation Tests

The exhaust fans, heat recovery type ventilators and its components shall be started and initially placed under operation and checked to see that it is functioning correctly. Adjust safety and automatic control instruments as

necessary to place them in proper operation and sequence. The operational tests shall be not less than 8 hours.

3.2.3 Performance Testing and Balancing of Air Duct System

Comply with SMACNA HVAC TAB and AABC National Standard to achieve and confirm compliance with references and specifications, prepare complete report of final test results. All air quantities shall be measured according to AABC National Standard. The flow-measuring hood is a device to be recommended strongly to use.

-- End of Section --

SECTION 23 00 00.00 40

HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASME INTERNATIONAL (ASME)

ASME B31.1	Power Piping

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI B9.1	Safety Code for Mechanical Refrigeration
ASME/ANSI B31.5	Refrigeration Piping

Manufacturers Standardization Society (MSS)

MSS SP-58	Pipe Hangers and Supports – Materials, Design, Manufacture, Selection, Application, and Installation

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70	(2007) National Electrical Code - 2008 Edition
NFPA 90A	(2002; Errata 2003; Errata 2005) Standard for the Installation of Air Conditioning and Ventilating Systems

JAPANESE INDUSTRIAL STANDARD (JIS)

JIS B 2011	Bronze, gate, globe, angle, and check valves
JIS B 2301	Screwed type malleable cast iron pipe fittings
JIS B 2302	Screwed type steel pipe fittings
JIS A 3891	Standard qualification procedure for silver brazing technique
JIS B 8620	Safety Code for Small Refrigerating Equipment

JIS A 9511	Preformed Cellular Plastic Thermal Insulation Materials
JIS G 3141	Cold-reduced Carbon Steel Sheets and Strip
JIS G 3193	Dimensions, Weight and Permissible Variations of Hot Rolled Steel Plates, Sheets and Strip
JIS H 3300	Copper and Copper Alloy Seamless Pipes and Tubes
JIS G 3442	Galvanized steel pipes for ordinary piping
JIS G 3454	Carbon steel pipes for pressure service
JIS Z 2371	Methods of Salt Spray Testing
JIS Z 3621	Recommended practice for brazing

THE SOCIETY OF HEATING, AIR-CONDITIONING AND SANITARY ENGINEERS OF JAPAN (SHASE)

SHASE S-010	Standard Specification for Air-conditioning and Plumbing Works

JAPAN REFRIGERATION AND AIR CONDITIONING INDUSTRY ASSOCIATION STANDARDS

JRA 9002	Salty circumstance proof coating for outside unit

Manufacturers Standardization Society (MSS)

MSS SP-58	Pipe Hangers and Supports – Materials, Design, Manufacture, Selection, Application, and Installation

1.2 GENERAL REQUIREMENTS

Section 23 03 00.00 20 "Basic Mechanical Materials and Methods", applies to this section with the additions and modifications specified herein.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Packaged Air Conditioning Unit; G (FEAD)

Modulating 2-way Control Valve; G (FEAD)

Steam Traps; G (FEAD)

Valves; G (FEAD)

Strainers; G (FEAD)

Pipe and Pipe Fittings; G (FEAD)

SD-06 Test Reports

Field Tests for Packaged Air Conditioning Unit; G (FEAD)

SD-07 Certificates

Brazing; G (FEAD)

A copy of a list of names and license of qualified welders and welding operators.

SD-08 Manufacturer's Instructions

Installation manual for Packaged Air Conditioning Unit; G (FEAD)

Installation manual for Modulating 2-way Control Valve; G (FEAD)

SD-10 Operation and Maintenance Data

Packaged Air Conditioning Unit, Data Package 5; G (FEAD)

Modulating 2-way Control Valve; G (FEAD)

1.4 COORDINATION

Contractor shall coordinate the work of the different trades so that interference between piping, equipment, structural, and electrical work will be avoided. All necessary offsets in piping and ductwork, and all fittings, and other components, required to install the work properly shall be furnished complete in place at no additional cost to the Government.

1.5 MECHANICAL SYSTEMS IDENTIFICATION

1.5.1 Identification Tags

Identification tags made of brass or aluminum indicating function of a control or similar component shall be installed on such system devices. Tags shall be 50 millimeter (2 inches) in diameter and marking shall be stamped. Equipment shall be provided with metal identification tags displaying an equipment designation number matching drawing or control diagram designation. Tags shall be wired to valve or equipment items with No. 12 AWG 2 millimeter (0.0808-inch) diameter corrosion-resistant steel wire.

1.5.2 Service Labeling

All piping, including that concealed in accessible spaces; exposed, bare and painted; and insulated, shall be labeled to designate service. Each label

shall include an arrow or arrows to indicate flow direction. Labels shall be made of self-sticking, plastic film designed for permanent installation.

1.6 COLOR CODING

Color coding of all piping systems shall be in accordance with Section 09 90 00 “PAINTS AND COATINGS.”

1.7 PERFORMANCE REQUIREMENTS

1.7.1 Brazing

Copper tube brazing shall be in accordance with qualified procedures using performance-qualified operators. Qualification of the brazing operators is required as indicated in JIS Z 3891.

1.8 PREVENTION OF CORROSION

Metallic materials shall be protected against corrosion. Equipment enclosures shall be given rust-inhibiting treatment and standard finish by the manufacturer. Aluminum shall not be used in contact with earth, and where connected to dissimilar metal, shall be protected by approved fittings, barrier material, or treatment. Ferrous parts such as anchors, bolts, braces, boxes, bodies, clamps, fittings, guards, nuts, pins, rods, shims, thimbles, washers, and miscellaneous parts not of corrosion-resistant steel or nonferrous materials shall be hot-dip galvanized for exterior locations and cadmium-plated for interior locations.

1.9 REFRIGERANTS

Refrigerants shall have an Ozone Depletion Factor (ODF) of 0. The ODF shall be in accordance with the "Montreal Protocol on Substances That Deplete the Ozone Layer," September 1987, sponsored by the United Nations Environment Program. CFCs, HCFCs and Halons shall not be permitted.

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

Materials and equipment shall conform to the respective specifications, standards and other requirements specified below. Materials and equipment not otherwise specified herein shall be approved commercial products and suitable for the intended purpose.

2.2 REFRIGERANT GAS PIPING AND LIQUID PIPING

Factory fabricated type copper pipe with polyethylene insulation as indicated. Pipe shall conform to JIS H 3300, seamless copper pipes, type C l220. Fittings shall conform to JIS B 8607.

2.2.1 Soft Solder

JIS Z 3621 or JIS Z 3891.

2.3 DRAIN PIPE FOR HEAT PUMP A/C SYSTEMS

As specified in section 22 00 00 PLUMBING, GENERAL PURPOSE.

2.4 LOW PRESSURE STEAM PIPING AND CONDENSATE RETURN PIPING

Steel Piping shall confirm to JIS G 3454, Carbon steel pipes for pressure service, schedule 40, black steel seamless. Fittings shall conform to JIS B 2301, Screwed type malleable cast iron pipe fittings, threaded.

2.5 VALVES

Bronze Gate Valves shall conform to JIS B 2011, Threaded ends, and not less than Class 10K.

2.6 STRAINERS

Style Y (Y pattern) for Class 10K, provide 80 mesh screen.

2.7 STEAM TRAPS

Provide float type steam traps. Design traps to permit removal and replacement of all operating and wearing parts without disturbing piping connections to trap body. Provide traps with separate strainers and locate as indicated.

2.8 CONTROL SYSTEM VALVES

Provide valve bodies shall be designed for 125 psig minimum working pressure or 150 percent of the operating pressure, whichever is greater. Valve leakage rating shall be 0.01 percent of rated Cv value. Provide bronze valve bodies, 2 inch iron pipe size and smaller, with flanged end connections. If 2-1/2 inch and larger, provide cast iron valve bodies with flanged end connections. Provide single seated valves for dead-end service except where otherwise indicated. Provide modulating service valves with plugs matched to the characteristics of the coil for effective control. Provide tetrafluoroethylene, spring-loaded, and self-adjusting valve-stem packing. Provide valves with position indicators and, where indicated or required for proper operation, provide with positioners. Provide valve linkage with an adjustment for valve lift.

2.8.1 Modulating 2-way Control Valve

Provide valve bodies and trim that are rated for service pressures saturated steam. Provide valve replaceable plugs and seats. Provide maximum pressure drop across any steam valve at maximum flow as indicated.

2.9 EQUIPMENT

2.9.1 Multiple Type Air-To-Air Heat Pump A/C Systems

Provide self-contained units, designed, factory assembled and factory tested. Unit shall include fan section, filter section, cooling coil and heating coil, compressors, condensers, controls and interconnecting piping internal to external unit. Minimum cooling capacity shall be not less than that indicated. Unit shall be packaged for all season and inverter operation type.

As indicated on drawing. Equipment rating/performance shall conform to JIS B 8616. Materials used in construction of refrigerating machine shall be suitable for purpose intended and those coming in contract with refrigerant shall be highly resistant to corrosion by the refrigerant. Principal parts shall be standard products of a reputable refrigerating machine manufacture. Minor accessories and piping, not produced by manufacturer shall be in accordance with refrigerant machine manufacturer’s standard practice and specific recommendations.

As indicated on drawing. Provide manufacturer supplied accessories including of salty weather resistance finish (Tai-Engai), pressure gauges, integrating hour meter and air filters.

2.9.1.1 Outside Unit

Salty weather resistance type outside unit as indicated. Provide A/C manufacturer supplied accessories as indicated.

2.9.1.2 Inside Units

As indicated on drawing. Provide A/C manufacturer supplied accessories as indicated.

2.9.1.3 Refrigerant Gas

Provide air conditioning systems containing refrigerant with zero Ozone Depleting Substances (ODS).

2.10 HANGERS AND SUPPORTS

Conform to section 22 00 00 PLUMBING, GENERAL PURPOSE.

2.11 IDENTIFICATION PLATES

In addition to standard manufacturer's identification plates, engraved laminated phenolic identification plates shall be provided for each piece of mechanical equipment. Identification plates shall designate the function of the equipment. Designation shall be submitted with the shop drawings. Identification plates shall be three layers, black-white-black, engraved to show white letters on black background. Letters shall be upper case. Identification plates 40 millimeter (1-1/2-inches) high and smaller shall be 1.6 millimeter (1/16-inch) thick, with engraved lettering 3 millimeter (1/8-inch) high; identification plates larger than 40 millimeter (1-1/2-inches) high shall be 3 millimeter (1/8-inch) thick, with engraved lettering of suitable height. Identification plates 40 millimeter (1-1/2-inches) high and larger shall have beveled edges. Identification plates shall be installed using a compatible adhesive.

2.12 PAINTING

Equipment units shall be painted in accordance with approved equipment manufacturer's standards unless specified otherwise. Field retouching shall be accomplished only if approved; otherwise equipment shall be returned to the factory for refinishing.

PART 3 EXECUTION

3.1 INSTALLATION

Materials and equipment shall be installed in accordance with the requirements of the approved recommendations of the manufacturers. Installation shall be accomplished by workers skilled in this type of work. Installation shall be made so that there is no degradation of the designed fire ratings of walls, partitions, ceilings, and floors. No installation shall be permitted which blocks or otherwise impedes access to any existing machine or system. All hinged doors shall swing open a minimum of 120 degrees.

3.1.1 Steam Supply and Condensate Return Piping

Fabricate, assemble, and install all piping and pipe system in accordance with ASME B31.1 and as further qualified herein. All piping shall follow the general arrangement shown. Cut all piping accurately to measurements established for the work by the Contractor, and work into place without springing or forcing. Locate all piping and equipment within buildings, entirely out of the way of lighting fixtures, conduits, doors, windows, and other openings. Make provision for expansion and contraction of pipe lines. Do not bury, conceal, or insulate piping until it has been inspected, tested, and approved. Run piping as indicated, and avoid interference with other piping, conduit, or equipment. Do not trap lines except where indicated. Use reducing, fittings for changes in pipe sizes. The use of bushings is prohibited. Support and anchor pipe so that strain from weight and thermal movement of piping is not imposed on the equipment. Thoroughly clean each section of pipe, fittings, and valves and positively free of all foreign matter before erection. Before final connections are made to the apparatus, blow out all piping with high-pressure compressed air, removing all rust, oil, chips, sand, and other material. Plug or cap open ends of pipes during all shutdown periods. Do not leave lines open at any place where any foreign matter might accidentally enter pipe.

3.1.2 Refrigerant Piping

Cut pipe accurately to measurements established at the site and work into place without springing or forcing. Install piping with sufficient flexibility to adequately provide for expansion and contraction due to temperature fluctuation inherent in its operation. Except where specifically indicated otherwise, run piping plumb and straight and parallel to walls and ceilings. Provide fire resistant wall penetration kit of suitable size for all lines passing through firewalls. Braze refrigerant piping with specified solder. The inside of tubing and fittings shall be free of flux. Clean the parts to be jointed with emery cloth and keep hot until the solder has penetrated the full depth of the fitting and the extra flux has been expelled. Cool joints in air and remove flame marks and traces of flux. During the brazing operation, prevent an oxide film from forming on the inside of the tubing by slowly flowing dry nitrogen to expel the air.

Brazing, JIS Z 3621, bending, forming and assembly of refrigerant piping shall conform to ANSI B31.5. Refrigerant piping shall also conform to ANSI B9.1 or JIS B 8620.

3.1.3 Hangers and Supports

As manufacturer’s recommendation and as indicated on drawing. Continuous inserts and expansion bolts may be used.

3.1.4 Grading of Pipe Lines

Unless otherwise indicated, install horizontal lines of piping to grade down in the direction of flow with a pitch of not less than one cm in 3.6 m. When counterflow of condensate within the steam pipe occurs in a portion of a pipeline, pitch up in the direction of the flow a minimum of 1/200 and increase pipe diameters by one standard pipe size.

3.1.5 Equipment Installation

Install all equipment in accordance with the manufacturers' instruction and recommendations.

3.1.5.1 Air-Conditioning Systems

Install system as indicated, in accordance with the requirements of SHASE S-010, and as recommended in the manufacturers' installation and operational instructions.

3.1.5.2 Electrical Work

Electric motor driven equipment specified herein Electrical equipment and wiring shall be in accordance with section 26 20 00 entitled, “Interior Distribution Systems.”

3.1.5.3 Trap Installation

Install traps in accordance with the manufacturer's instructions.

3.1.6 Cutting and Patching

Contractor shall install his work in such a manner and at such time as will require a minimum of cutting and patching of the building structure. Holes in exposed locations, in or through existing floors, shall be drilled and smoothed by sanding. Use of a jackhammer will be permitted only where specifically approved. Holes through masonry walls to accommodate sleeves shall be made with an iron pipe masonry core saw.

3.1.7 Cleaning

Exposed surfaces of piping and equipment that have become covered with dirt, plaster, or other material during handling and construction shall be thoroughly cleaned before such surfaces are prepared for final finish painting or are enclosed within the building structure. Before final acceptance, mechanical equipment, including piping, ducting, and fixtures, shall be clean and free from dirt, grease, and finger marks. When the work area is in an occupied space such as office, guest rooms and so on, all furniture and equipment shall be protected from dirt and debris. Field construction work shall incorporate housekeeping which leaves all furniture and equipment in the affected area free of construction generated dust and debris; and all floor surfaces vacuum-swept clean.

3.1.7.1 Cleaning of System

As installations of the various system components are completed, adequately clean before final closing. Remove all foreign matter from equipment and surrounding areas. Preliminary or final tests shall not be permitted until the cleaning is approved.

3.2 FIELD TESTS AND INSPECTIONS

All tests shall be performed and materials and equipment required for test shall be furnished by the Contractor. Tests after installation and prior to acceptance shall be performed in the presence of a representative of the Contracting Officer and subject to his approval. Equipment and material certified as having been successfully tested by the manufacturer in accordance with referenced specifications and standards will not require retesting before installation. Equipment and materials not tested at the place of manufacturer will be tested before or after installation, as applicable, where necessary to determine compliance with referenced specifications and standards.

The Contractor shall give the Contracting Officer 7 days advance written notice of the dates and times scheduled for tests and inspections.

3.2.1 Test Instruments and Apparatus

Provide instruments and apparatus currently certified as being accurate to within one percent of their full scale. Use gauges with a maximum scale between 1-1/2 and 2 times test pressure.

3.2.2 Field Inspections

Inspect piping system prior to initial operation, for conformance to drawings, specifications, and ASME B31.1. All equipment, material, or work rejected because of defects or non-conformance with drawings, specifications, and ASME B31.1 shall be replaced or corrected by the Contractor as directed by the Contracting Officer.

3.2.3 Field Tests

Conduct the following tests after completion of the piping installation and prior to initial operation.

3.2.3.1 Evacuation, Dehydration, and Charging

After installation evacuate the system using a reliable gage and a vacuum pump capable of pulling a vacuum of at least 133 Pa (one mm Hg) absolute. Evacuate system in accordance with the triple-evacuation and blotter method or in accordance with equipment manufacturer's printed instructions. After system is found to be without leaks, charge refrigerant gas in accordance with the manufacturers’ recommendation.

3.2.3.2 Refrigerant Piping System Leak Test

Upon completion of installation of the air conditioning equipment, test all factory as well as field refrigerant piping with an electronic type leak detector to acquire a leak tight refrigerant system. If leaks are detected at the time of installation or during the guarantee period, remove the

entire refrigerant charge from the system, correct the leaks and retest the system.

3.2.3.3 Additional Charging

After system is found to be without leaks, charge additional refrigerant gas in accordance with the manufacturers recommendation.

3.2.3.4 Equipment and Material

Equipment and material certified as having been successfully tested by the manufacturer in accordance with referenced specifications and standards will not require retesting before installation. Test before or after installation as applicable equipment and material not tested at place of manufacture where necessary to determine compliance with reference specifications and standards. Test & check equipment/components' sound leak and vibration.

3.2.3.5 Startup and Operational Test

Start up the system and initially operate with all components operating. During the test, periodically clean the various strainers until no further accumulation of foreign material occurs. Exercise care so that minimum loss of steam occur when strainers are cleaned. Adjust safety and automatic control instruments as necessary to place them in proper operation and sequence.

3.3 REPORTS

The Contractor is responsible for recording all test data, results, and preparation of test report in English and Japanese. Three copies each of the above tests shall be submitted to the Contracting Officer.

-- End of Section --

SECTION 23 03 00.00 20

BASIC MECHANICAL MATERIALS AND METHODS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

JAPANESE INDUSTRIAL STANDARD (JIS)

JIS Z 2371 Methods of Salt Spray Testing

1.2 RELATED REQUIREMENTS

This section applies to all Section 22 00 00 PLUMBING, GENERAL PURPOSE and Section 23 00 00.00 40 HEATING, VENTILATING AND AIR-CONDITIONING (HVAC) of this project specification, unless specified otherwise in the individual section.

1.3 QUALITY ASSURANCE

1.3.1 Material and Equipment Qualifications

Provide materials and equipment that are standard products of manufacturers regularly engaged in the manufacture of such products, which are of a similar material, design and workmanship. Standard products shall have been in satisfactory commercial or industrial use for 2 years prior to bid opening. The 2-year use shall include applications of equipment and materials under similar circumstances and of similar size. The product shall have been for sale on the commercial market through advertisements, manufacturers' catalogs, or brochures during the 2 year period.

1.3.2 Alternative Qualifications

Products having less than a two-year field service record will be acceptable if a certified record of satisfactory field operation for not less than 6000 hours, exclusive of the manufacturer's factory or laboratory tests, can be shown.

1.3.3 Service Support

The equipment items shall be supported by service organizations. Submit a certified list of qualified permanent service organizations for support of the equipment which includes their addresses and qualifications. These service organizations shall be reasonably convenient to the equipment installation and able to render satisfactory service to the equipment on a regular and emergency basis during the warranty period of the contract.

1.3.4 Manufacturer's Nameplate

Each item of equipment shall have a nameplate bearing the manufacturer's name, address, model number, and serial number securely affixed in a conspicuous place; the nameplate of the distributing agent will not be acceptable.

1.3.5 Modification of References

In each of the publications referred to herein, consider the advisory provisions to be mandatory, as though the word, "shall" had been substituted for "should" wherever it appears. Interpret references in these publications to the "authority having jurisdiction", or words of similar meaning, to mean the Contracting Officer.

1.3.5.1 Definitions

For the International Code Council (ICC) Codes referenced in the contract documents, advisory provisions shall be considered mandatory, the word "should" shall be interpreted as "shall." Reference to the "code official" shall be interpreted to mean the "Contracting Officer." For Navy owned property, references to the "owner" shall be interpreted to mean the "Contracting Officer." For leased facilities, references to the "owner" shall be interpreted to mean the "lessor." References to the "permit holder" shall be interpreted to mean the "Contractor."

1.3.5.2 Administrative Interpretations

For ICC Codes referenced in the contract documents, the provisions of Chapter 1, "Administrator," do not apply. These administrative requirements are covered by the applicable Federal Acquisition Regulations (FAR) included in this contract and by the authority granted to the Officer in Charge of Construction to administer the construction of this project. References in the ICC Codes to sections of Chapter 1, shall be applied appropriately by the Contracting Officer as authorized by his administrative cognizance and the FAR.

1.4 DELIVERY, STORAGE, AND HANDLING

Handle, store, and protect equipment and materials to prevent damage before and during installation in accordance with the manufacturer's recommendations, and as approved by the Contracting Officer. Replace damaged or defective items.

1.5 ELECTRICAL REQUIREMENTS

Furnish motors, controllers, disconnects and contactors with their respective pieces of equipment. Motors, controllers, disconnects and contactors shall conform to and have electrical connections provided under Section 26 20 00 INTERIOR DISTRIBUTION SYSTEM. Furnish internal wiring for components of packaged equipment as an integral part of the equipment. Extended voltage range motors will not be permitted. Controllers and contactors shall have a maximum of 120 volt control circuits, and shall have auxiliary contacts for use with the controls furnished. When motors and equipment furnished are larger than sizes indicated, the cost of additional electrical service and related work shall be included under the section that specified that motor or equipment. Power wiring and conduit for field installed equipment shall be provided under and conform to the requirements of Section 26 20 00 INTERIOR DISTRIBUTION SYSTEM.

1.6 INSTRUCTION TO GOVERNMENT PERSONNEL

When specified in other sections, furnish the services of competent instructors to give full instruction to the designated Government personnel in the adjustment, operation, and maintenance, including pertinent safety requirements, of the specified equipment or system. Instructors shall be thoroughly familiar with all parts of the installation and shall be trained in operating theory as well as practical operation and maintenance work.

Instruction shall be given during the first regular work week after the equipment or system has been accepted and turned over to the Government for regular operation. The number of man-days (8 hours per day) of instruction furnished shall be as specified in the individual section. When more than 4 man-days of instruction are specified, use approximately half of the time for classroom instruction. Use other time for instruction with the equipment or system.

When significant changes or modifications in the equipment or system are made under the terms of the contract, provide additional instruction to acquaint the operating personnel with the changes or modifications.

1.7 ACCESSIBILITY

Install all work so that parts requiring periodic inspection, operation, maintenance, and repair are readily accessible. Install concealed valves, expansion joints, controls, dampers, and equipment requiring access, in locations freely accessible through access doors.

1.8 PIPE PENETRATIONS

Cutting structural members for passage of pipes or for pipe-hanger fastenings will not be permitted. Pipes that must penetrate concrete or masonry walls or concrete floors shall be core-drilled and provided with pipe sleeves. Each sleeve shall be Schedule 40 galvanized steel pipe and shall extend through its respective wall or floor and be cut flush with each wall surface. Sleeves shall provide required clearance between the pipe and the sleeve. The space between the sleeve and the pipe shall be firmly packed with mineral wool insulation. Where pipes penetrate fire walls, fire partitions, or floors, pipes shall be fire stopped. In penetrations that are not fire-rated or not a floor penetration, the space between the sleeve and the pipe shall be sealed at both ends with plastic waterproof cement that will dry to a firm but pliable mass or with a mechanically adjustable segmented elastomer seal.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 PAINTING OF NEW EQUIPMENT

New equipment painting shall be factory applied or shop applied, and shall be as specified herein, and provided under each individual section.

3.1.1 Factory Painting Systems

Manufacturer's standard factory painting systems may be provided subject to certification that the factory painting system applied for salty weather resistance for exterior units.

-- End of Section --

SECTION 23 07 00

THERMAL INSULATION FOR MECHANICAL SYSTEMS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

JAPANESE INDUSTRIAL STANDARD (JIS)

JIS A 9501	Standard Practice for Thermal Insulation Works
JIS A 9504	Man Made Mineral Fiber Thermal Insulation Material
JIS A 9505	Man Made Glass Fiber Thermal Insulation Material
JIS A 9511	Preformed Cellular Plastic Thermal Insulation Materials

STANDARD SPECIFICATION PUBLISHED BY THE SOCIETY OF HEATING, AIR-CONDITIONING AND SANITARY ENGINEERS OF JAPAN

SHASE S-010	Standard Specification for Air-Conditioning and Plumbing Work

MANUFACTURERS STANDARDIZATION SOCIETY OF THE VALVE AND FITTINGS INDUSTRY (MSS)

MSS SP-58	Standard for Pipe Hangers and Supports - Materials, Design and Manufacture

1.2 GENERAL REQUIREMENTS

Section 23 03 00.00 20, "BASIC MECHANICAL MATERIALS AND METHODS," and the additions and modifications specified herein applies to this specification.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD—03 Product Data

Insulation; G (FEAD)

1.4 DEFINITIONS

1.4.1 Finished Spaces

Spaces used for habitation of occupancy where rough surfaces are plastered, paneled, or otherwise treated to provide a pleasing appearance.

1.4.2 Unfinished Spaces

Spaces used for storage or work areas where appearance is not a factor, such as unexcavated spaces a crawl space.

1.4.3 Concealed Spaces

Spaces out of sight. For example, above ceilings; below floors; between double walls; furred-in areas; pipe and duct shafts; and similar spaces.

1.4.4 Exposed

Open to view. For example, pipe running through a room and not covered by other construction.

1.4.5 Fugitive Treatments

Treatments subject to deterioration due to aging, moisture, high humidity, oxygen, ozone, and heat. Fugitive materials are entrapped materials that can cause deterioration, such as solvents and water vapor.

1.4.6 Conditioned Space

An area, room or space normally occupied and being heated or cooled for human habitation by any equipment.

1.5 MANUFACTURER'S STAMP OR LABEL

Every package or standard container of insulation, jackets, cement, adhesives, and coatings delivered to the project site for use must have the manufacturer's stamp or label attached giving name of manufacturer, brand, and description of material. Insulation packages and containers shall be asbestos-free.

1.5.1 Materials Tests

Test factory-applied materials as assembled. Field-applied materials may be tested individually. Use no fugitive or corrosive treatments to impart flame resistance. UL label or satisfactory certified test report from a testing laboratory will be required to indicate that fire hazard rating for materials proposed for use do not exceed those specified. Flame-proofing treatment subject to deterioration due to effects of moisture or high humidity are not acceptable.

PART 2 PRODUCTS

2.1 PIPING SYSTEMS INSULATION

Provide factory applied pipe insulation as required by the service. Pipe insulation shall be manufactured with the Mechanical Standard Specification of Ministry of Land, Infrastructure and Transport Japan Plumbing Code.

Unless otherwise specified, insulate all fittings. Use factory pre-molded, precut, or field-fabricated insulation of the same thickness and conductivity as used on adjacent piping.

2.1.1 Steam Supply and Condensation Return Piping

Provide insulation for steam supply and condensation return pipes. Insulation shall be JIS A 9504, Heat insulator made of rock wool. Cylinder mold and blanket 40 mm thickness.

2.1.2 Refrigerant piping

Provide factory applied pipe insulation as required by the service. Pipe insulation shall be manufactured with the Mechanical Standard Specification of Ministry of Land, Infrastructure and Transport Japan Plumbing Code.

2.1.3 Piping Insulation Finishes

2.1.3.1 Aluminum Glass Cloth Tape for Steam Supply and Condensation Return Piping

At least 0.02 mm thick aluminum foil, conforming to JIS H 4160, with 200 filament 13 micron single yarn glass fabric conforming to JIS R 3413 and yawned plain cloth weighing at least 85 g/m2, glued together with acrylic adhesive.

2.1.3.2 Protection Tape on Refrigerant Piping

Provide protection tape recommended by refrigerant piping manufacturer on refrigerant piping on interior part and as indicated on drawing.

2.2 DUCT (HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS (HVAC)) INSULATION

2.2.1 Duct

Provide insulation on galvanized steel ducts for HVAC duct system. Insulation shall be JIS A 9505, Heat insulator made of glass wool. Cylinder mold, boards and blanket 50 mm thickness.

2.2.2 Acoustically Lined Ducts Insulation

JIS A 9505, Heat insulator made of glass wool boards 50 mm thickness. Insulation boards shall be covered glass cloth as specified Type EP 17A in JIS R 3414.

2.2.3 Duct Insulation Finishes

2.2.3.1 Aluminum Glass Cloth

JIS A 9501 and SHASE-S 010. Provide aluminum glass cloth on duct insulation.

2.3 ACCESSORIES

Shall conform to JIS A 9501 and SHASE-S 010.

2.3.1 Anchor Pins

Provide anchor pins and speed washers recommended by the insulation manufacturer.

PART 3 EXECUTION

3.1 PREPARATION

Do not insulate materials until all system tests have been completed and surfaces to be insulated have been cleaned of dirt, rust, and scale and dried. Modify insulation to avoid obstruction with valve handle, safety relief, and other such items. Allow adequate space for pipe expansion. Conditioned space shall be defined as an area, room or space normally occupied and being heated or cooled for human habitation by any equipment. Do not use scrap pieces where a full length section will fit. Insulation shall be continuous through sleeves, wall and ceiling openings, except at fire dampers in duct systems. Extend surface finishes to protect all surfaces, ends, and raw edges of insulation. Apply coatings and adhesives at the manufacturer's recommended coverage per gallon. Provide a moisture and vapor seal where insulation terminates against metal hangers, anchors and other projections through the insulation on surfaces for which a vapor seal is specified. Keep insulation dry during the application of any finish.

3.2 PIPING INSULATION

JIS A 9501 and SHASE-S 010. Place sections of insulation around the pipe and joints tightly butted into place.

3.3 DUCTS (HVAC) INSULATION

JIS A 9501 and SHASE-S 010. Place sections of insulation around the duct and joints tightly butted into place.

3.4 FIELD INSPECTION

Visually inspect to ensure that materials provided conform to specifications. Inspect installations progressively for compliance with requirements.

-- End of Section --

SECTION 23 31 13

METAL DUCTS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA).

SMACNA HVAC Duct Const Stds	HVAC Duct Construction Standards - Metal and Flexible

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 90A	Standard for the Installation of Air Conditioning and Ventilating Systems

JAPANESE INDUSTRIAL STANDARDS (JIS)

JIS A 4009	Components of Air Duct
JIS G 3302	Hot-dip Zinc-coated Steel Sheets and Coils

1.2 GENERAL REQUIREMENTS

Section 23 03 00.00 20 “Basic Mechanical materials and Methods”, applies to this section with the additions and modifications specified herein.

PART 2 PRODUCTS

2.1 DUCTS

2.1.1 Rectangular Duct

Galvanized steel rectangular duct as indicated. Steel sheet shall conform to JIS G 3302.

PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Ducts

Installation shall conform to the manufacturer's recommendation; JIS A 4009 or SMACNA HVACDCS; and NFPA 90A. Provide mounting and supporting of ductwork and accessories including, but not limited to, structural supports, hangers, vibration isolators, stands, clamps and brackets, access doors, and dampers.

3.1.1.1 Duct Insulation

Apply thermal insulation to new ducts connected to existing duct system as specified in Section 23 07 00, "Thermal Insulation for Mechanical System."

3.2 FIELD TESTS AND INSPECTIONS

The Contractor is responsible for the administration and direction of tests. Furnish instruments, equipment, connecting devices, and personnel for the tests. Notify Contracting Officer 3 days before inspection or testing is scheduled. Correct all defects in the work. Repeat tests until the work is in compliance.

-- End of Section --

SECTION 26 00 00.00 20

BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70	National Electrical Code

JAPANESE INDUSTRIAL STANDARD (JIS)

JIS C 0920	Degrees of protection provided by enclosures (IP Code)
JIS Z 8304	Design Standard for Nameplates
JIS Z 8903	Standard Type of Letters used in Mechanical Engraving(Joyo Kanji, Common-use Chinese Characters)
JIS Z 8904	Standard Type of Letters used in Mechanical Engraving (Katakana Characters)
JIS Z 8905	Standard Type of Letters used in Mechanical Engraving(Arabic Figures and Roman types)
JIS Z 8906	Standard Type of Letters used in Mechanical Engraving(Hiragana Characters)

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE C2	National Electrical Safety Code
IEEE Std 100	The Authoritative Dictionary of IEEE Standards Terms

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA 250	Enclosures for Electrical Equipment (1000 Volts Maximum)

1.2 RELATED REQUIREMENTS

This section applies to all sections of Division 26 "ELECTRICAL, " Division 33 "UTILITIES", of this project specification unless specified otherwise in the individual sections.

1.3 DEFINITIONS

a. Unless otherwise specified or indicated, electrical and electronics terms used in these specifications, and on the drawings, shall be as defined in IEEE Std 100.

b. The technical sections referred to herein are those specification sections that describe products, installation procedures, and equipment operations and that refer to this section for detailed description of submittal types.

c. The technical paragraphs referred to herein are those paragraphs in PART 2 -PRODUCTS and PART 3 -EXECUTION of the technical sections that describe products, systems, installation procedures, equipment, and test methods.

d. Interior distribution system includes interior and exterior distribution system for the building/facility as specified in Section 26 20 00, "INTERIOR DISTRIBUTION SYSTEM."

1.4 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-07 Certificates

Qualifications of second grade electrician; G (FEAD)

1.5 ELECTRICAL CHARACTERISTICS

Electrical characteristics for this project shall be specified or indicated.

1.6 ADDITIONAL SUBMITTALS INFORMATION

Submittals required in other sections that refer to this section must conform to the following additional requirements as applicable.

1.6.1 Written Submittals

Written submittals shall be written in both English and Japanese.

1.6.2 Shop Drawings (SD-02)

Include wiring diagrams and installation details of equipment indicating proposed location, layout and arrangement, control panels, accessories, piping, ductwork, and other items that must be shown to ensure a coordinated installation. Wiring diagrams shall identify circuit terminals and indicate the internal wiring for each item of equipment and the interconnection between each item of equipment. Drawings shall indicate adequate clearance for operation, maintenance, and replacement of operating equipment devices.

1.6.3 Product Data (SD-03)

Submittal shall include performance and characteristic curves.

Catalog cuts shall be in color. Black and white photocopy shall not be permitted.

1.7 QUALITY ASSURANCE

1.7.1 Regulatory Requirements

In each of the publications referred to herein, consider the advisory provisions to be mandatory, as though the word, "shall" had been substituted for "should" wherever it appears. Interpret references in these publications to the "authority having jurisdiction," or words of similar meaning, to mean the Contracting Officer. Equipment, materials, installation, and workmanship shall be in accordance with the mandatory and advisory provisions of NFPA 70 unless more stringent requirements are specified or indicated.

1.7.2 Standard Products

Provide materials and equipment that are products of manufacturers regularly engaged in the production of such products which are of equal material, design and workmanship. Products shall have been in satisfactory commercial or industrial use for 2 years prior to bid opening. The 2-year period shall include applications of equipment and materials under similar circumstances and of similar size. The product shall have been on sale on the commercial market through advertisements, manufacturers' catalogs, or brochures during the 2-year period. Where two or more items of the same class of equipment are required, these items shall be products of a single manufacturer; however, the component parts of the item need not be the products of the same manufacturer unless stated in the technical section.

1.7.2.1 Alternative Qualifications

Products having less than a 2-year field service record will be acceptable if a certified record of satisfactory field operation for not less than 6000 hours, exclusive of the manufacturers' factory or laboratory tests, is furnished.

1.7.2.2 Material and Equipment Manufacturing Date

Products manufactured more than 3 years prior to date of delivery to site shall not be used, unless specified otherwise.

1.7.3 Qualification of Electrician

The electrician who do not have license of first grade electrician, "Dai-1-syu Denki Kohjishi", or second grade electrician, "Dai-2-syu Denki Kohjishi", shall not be permitted to perform electrical work.

All electricians shall bring the license card during electrical work in progress. These requirements shall be applied entire electrical work in this contract.

Prior to work, the contractor shall submit a list of electricians who perform electrical work. This list includes copies of license certified by the Ministry of Economy, Trade and Industry, Japan.

1.8 WARRANTY

The equipment items shall be supported by service organizations which are reasonably convenient to the equipment installation in order to render satisfactory service to the equipment on a regular and emergency basis during the warranty period of the contract.

1.9 POSTED OPERATING INSTRUCTIONS

Provide for each system and principal item of equipment as specified in the technical sections for use by operation and maintenance personnel. The operating instructions shall include the following:

a. Wiring diagrams, control diagrams, and control sequence for each principal system and item of equipment.

b. Start up, proper adjustment, operating, lubrication, and shutdown procedures.

c. Safety precautions.

d. The procedure in the event of equipment failure.

e. Other items of instruction as recommended by the manufacturer of each system or item of equipment.

Print or engrave operating instructions and frame under glass or in approved laminated plastic. Post instructions where directed. For operating instructions exposed to the weather, provide weather-resistant materials or weatherproof enclosures. Operating instructions shall not fade when exposed to sunlight and shall be secured to prevent easy removal or peeling.

Operating instructions shall be printed in English and Japanese. Instructions written by hand will not be permitted.

1.10 NAMEPLATE

1.10.1 Manufacturer's Nameplate

Each item of equipment shall have a nameplate bearing the manufacturer's name, address, model number, electrical characteristics (voltage, phase, wire, Hz) and serial number securely affixed in a conspicuous place; the nameplate of the distributing agent will not be acceptable. Letter for manufacturer's nameplate shall be written in English and Japanese.

1.10.2 Nameplates for Cabinet

JIS Z 8304. Provide nameplates for each panelboard, rack, switch box, breaker box, equipment enclosure, switch, and device. Each nameplate inscription shall identify the function and, when applicable, the position. Nameplate shall be engraved black lettering on white plastic material, unless otherwise specified or indicated. Paper material will not be permitted. Copper, copper alloy, stainless steel and aluminum will be

permitted as a nameplate material. Minimum size of nameplate shall be 25 by 65 mm (1 by 2.5 inches), unless otherwise indicated. Lettering shall be written in English and Japanese and shall conform to JIS Z 8903, JIS Z 8904, JIS Z 8905, and JIS Z 8906. Lettering size shall be a minimum of 6.4 mm (0.25 inch) high normal block style, unless otherwise indicated.

1.11 CABLE AND WIRE TAGS

Tag new wire and cable provided under this contract and existing wire and cable which are indicated to have splices and terminations provided by this contract.

1.12 ELECTRICAL REQUIREMENTS

Electrical installations shall conform to IEEE C2, NFPA 70, and requirements specified herein.

1.12.1 Verification of Existing Electrical Condition

The Contractors shall be responsible for check and verification of actual conditions of the electrical circuit before commencement of electrical work.

1.12.2 Materials and Equipment

All materials and equipment used in this project shall be new, unless otherwise specified or indicated as existing.

1.13 INSTRUCTION TO GOVERNMENT PERSONNEL

Where specified in the technical sections, furnish the services of competent instructors to give full instruction to designated Government personnel in the adjustment, operation, and maintenance of the specified systems and equipment, including pertinent safety requirements as required. Instructors shall be thoroughly familiar with all parts of the installation and shall be trained in operating theory as well as practical operation and maintenance work. Instruction shall be given during the first regular work week after the equipment or system has been accepted and turned over to the Government for regular operation. The number of man-days (8 hours per day) of instruction furnished shall be as specified in the individual section. When more than 4 man-days of instruction are specified, use approximately half of the time for classroom instruction. Use other time for instruction with equipment or system. When significant changes or modifications in the equipment or system are made under the terms of the contract, provide additional instructions to acquaint the operating personnel with the changes or modifications.

1.14 UNIT

Dimensions, volume, and mass of the material shall be written in Metric System. Metric system is prioritized than English system.

PART 2 PRODUCTS

2.1 FACTORY APPLIED FINISH

Electrical equipment shall have factory-applied painting systems which shall, as a minimum, meet the requirements of JIS C 0920 or NEMA 250 corrosion-resistance test and the additional requirements specified in the technical sections.

PART 3 EXECUTION

3.1 FIELD APPLIED PAINTING

Paint electrical equipment as required to match finish of adjacent surfaces or to meet the indicated or specified safety criteria. Painting shall be as specified in Section 09 90 00 PAINTS AND COATINGS.

3.2 CABLE AND WIRE TAG MOUNTING

3.2.1 Tag of Interior Distribution

Install cable and wire tags in each panelboard, rack, switch box, breaker box, unit substations, unit switching stations, and cable racks when they appeared in this project. Cable and wire direction and electrical characteristics shall be indicated in tag as read "from" to "to", voltage, type of cable and wire. Tag shall be of plastic material inscribed black letter in white back ground. Letters and figures shall be written in both, English and Japanese.

3.3 MOUNTING HEIGHTS OF ELECTRICAL EQUIPMENT AND MATERIALS

Unless otherwise indicated on drawings and specifications, the mounting heights shall be determined at the project site in accordance with direction of the Government personnel.

3.4 INTERFERENCE

Unless otherwise specified or indicated, existing objects which interfere to accomplish new work shall be removed temporarily and reinstall them upon completion of the work.

-- End of Section --

SECTION 26 20 00

INTERIOR DISTRIBUTION SYSTEM

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70	National Electrical Code
NFPA 70E	Electrical Safety in the Workplace

Ministry of Land, Infrastructure, Transport and Tourism, GOVERNMENT OF JAPAN (KOKUDO KOTSU-SHO)

Public architectural equipment construction specifications (electric construction)

Public architectural equipment renovation construction specifications (electric construction)

Electric construction management guideline

JAPANESE INDUSTRIAL STANDARD (JIS)

JIS B 1180	Hexagon Head Bolts and Hexagon Head Screws
JIS B 1181	Hexagon Nuts and Hexagon Thin Nuts
JIS B 1256	Plain Washers
JIS B 9703	Safety of machinery—Emergency stop—Principles for design
JIS C 0920	Degrees of protection provided by enclosures (IP Code)
JIS C 1302	Insulation resistance testers
JIS C 2336	Pressure-Sensitive Adhesive Polyvinyl Chloride Tapes for Electrical Purposes
JIS C 2805	Crimp-Type Terminal Lugs for Copper Conductors
JIS C 2806	Non-Insulated Crimp-Type Sleeve for Copper Conductors

JIS C 2810	General Rules on Non-separable Type Wire Connectors for Interior Wiring
JIS C 2811	Terminal blocks for industrial and similar use
JIS C 3102	Annealed Copper Wires for Electrical Purposes
JIS C 3401	Control Cables
JIS C 3605	600V Polyethylene Insulated Cables
JIS C 3612	600V Flame Retardant Polyethylene Insulated Wires
JIS C 8201-2-1	Low-voltage switchgear and controlgear - Part 2-1: Circuit-breakers
JIS C 8201-2-2	Low-voltage swichgear and controlgear - Part 2-2: Circuit-breakers incorporating residual current protection
JIS C 8201-4-1	Low-voltage swichgear and controlgear – Part 4: Contactors and motor-starters – Section 1: Electromechanical contactors and motor-starters
JIS C 8201-5-101	Low-voltage swichgear and controlgear – Part 5-101: Contactor relays and auxiliary contact for contactors and motor-starters
JIS C 8269-1	Low-voltage fuses-Part 1: General requirements
JIS C 8305	Rigid Steel Conduit
JIS C 8309	Pliable Metal Conduits
JIS C 8330	Fittings for Rigid Metal Conduits
JIS C 8350	Fittings for Flexible Metal Conduits
JIS C 8371	Residual current operated circuit breakers
JIS C 8480	Box-Type Switchgear Assemblies for Low-Voltage Distribution Purpose
JIS G 3350	C-channel
JIS H 5120	Copper and copper alloy castings
JIS H 8641	Hot dip galvanized coatings

JAPANESE CABLE MAKERS' ASSOCIATION STANDARD (JCS)

JCS 1226	Stranded bare copper wire

JCS 4258	Control Cables (with Shield)

LAW OF THE GOVERNMENT OF JAPAN

No.234	Electrical Appliance and Material Safety Law

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE Std 100	The Authoritative Dictionary of IEEE Standards Terms

UNDERWRITERS LABORATORIES (UL)

UL 489	Molded-Case Circuit Breakers, Molded-Case Switches and Circuit-Breaker Enclosures

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910.147	Control of Hazardous Energy (Lock Out/Tag Out)

U.S. GENERAL SERVICES ADMINISTRATION (GSA)

FED-STD-595	Colors Used in Government Procurement

1.2 RELATED REQUIREMENTS

SECTION 26 00 00.00 20, BASIC ELECTRICAL MATERIALS AND METHODS, applies to this section with additions and modifications specified herein. Electrical distribution systems specified in this section includes interior and exterior distribution system related to the building/facilities, except distribution system for pole mounted site lighting.

1.3 DEFINITIONS

Unless otherwise specified or indicated, electrical and electronics terms used in these specifications, and on the drawings, shall be as defined in IEEE Std 100.

1.4 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Testing methods for each field test; G (FEAD)

SD-03 Product Data

Conduit and fittings (each type); G (FEAD)

Wires and Cables (each type); G (FEAD)

Circuit breaker; G (FEAD)

Pull box w/cover; G (FEAD)

Electromagnetic Contactor, thermal relay and condenser; G (FEAD)

Ammeter; G (FEAD)

SD-06 Test Reports

Insulation resistance test, 600-volt grade; G (FEAD)

SD-07 Certificates:

Certificate of electrician: Prior to work, the Contractor shall submit a list of electricians who perform electrical work. This list includes copies of license of 2nd grade electrician “Dai ni-shu denki kohji-shi” certified by the Ministry of Economy, Trade and Industry, Japan. Definition of the “Denki Kohjishi” required in this contract shall be specified in Section 26 00 00.00 20, “Base Electrical Materials and Methods. “G (FEAD)

1.5 QUALITY ASSURANCE

In each standard referred to herein, consider the advisory provisions to be mandatory, as though the word "shall" has been substituted for "should" wherever it appears. Interpret references in these standards to "authority having jurisdiction," or words of similar meaning, to mean Contracting Officer.

1.6 LEAD-CONTAINING PAINT MATERIAL

Use of Lead-containing paint shall not be permitted. Submit the Certification of Lead Free for pull box and field-applied paint in accordance with Section 09 90 00 PAINTS AND COATINGS.

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

All materials, equipment, and devices shall, as a minimum, meet the requirements of UL or JIS where UL or JIS Standards are established for those items, and the requirements of NFPA 70. All items shall be new unless specified or indicated otherwise.

2.2 CONDUIT AND FITTINGS

2.2.1 Rigid Steel Conduit (Zinc-coated)

JIS C 8305, threaded type and diameter of conduit shall be as indicated. All ferrous conduits shall be zinc-coated.

2.2.2 Fittings for Rigid Steel Conduit (Zinc-coated)

JIS C 8330, all ferrous fittings shall be zinc-coated. Fittings shall be the threaded type.

2.2.3 Flexible Metal Conduit

JIS C 8309, class 2, vinyl covered type.

2.2.4 Fittings for Flexible Metal Conduit

JIS C 8350.

2.2.5 Caulking Compound (Putty)

Compound for the sealing of conduit risers shall be of a putty like consistency workable with the hands at temperatures as low as 1.7 degrees C (35 degrees F), shall not slump at a temperature of 149 degrees C (300 degrees F), and shall not harden materially when exposed to air. The compound shall readily caulk or adhere to clean surfaces of the materials with which it is designed to be used. The compound shall have no injurious effects upon the hands of workmen or upon the materials.

2.3 PULL BOXES

Pull box shall conform to the Standard, “Public architectural equipment construction specifications (electric construction)”.

2.3.1 Steel type

Thickness of sheet steel for the pull boxes shall be not less than 2.3 mm.

2.3.2 Stainless Steel Type

Pull box shall be of Stainless Steel (SUS304).

2.4 SUPPORTS

2.4.1 Saddles

Saddles shall be formed sheet stainless (SUS304).

2.4.2 C-Channel

JIS G 3350, stainless (SUS304).

2.4.3 Anchor Bolt (Expansion Anchor) For Conduit Support

Tubular, multi-slit, internal thread, with stud bolt having a head of the expander shape. Do not use plastic material.

2.4.3.1 Nuts

JIS B 1181, galvanized.

2.5 WIRES AND CABLES

Wires and cables shall meet applicable requirements of NFPA 70, UL and JIS for type of insulation, jacket, and conductor specified or indicated. All

conductors shall be copper. Conductor sizes are based on copper. Wires and cables manufactured more than 12 months prior to date of delivery to site shall not be used.

2.5.1 Conductors

Conductors 5.5 mm^2 (No. 10 AWG) and larger diameter shall be stranded. Conductors 2.0 mm (No. 12 AWG) and smaller diameter shall be solid, except that conductors for remote control, alarm, and signal circuits, classes 1, 2, and 3, shall be stranded unless specifically indicated otherwise. Conductor sizes and ampacities shown are based on copper, unless indicated otherwise. All conductors shall be copper.

2.5.1.1 Equipment Manufacturer Requirements

When manufacturer's equipment requires copper conductors at the terminations or requires copper conductors to be provided between components of equipment, provide copper conductors or splices, splice boxes, and other work required to satisfy manufacturer's requirements.

2.5.1.2 Minimum Conductor Sizes

Minimum size for branch circuits shall be 2.0 mm (No. 12 AWG); for Class 1 remote-control and signal circuits, 1.6 mm or 2 mm^2 (No. 14 AWG); for Class 2 low-energy, remote-control and signal circuits, 1.2 mm or 1.25 mm^2 (No. 16 AWG); and for Class 3 low-energy, remote-control, alarm and signal circuits, 0.65 mm (No. 22 AWG).

2.5.2 Color Coding

Provide for service, branch, control, and signaling circuit conductors. Color shall be green for grounding conductors and white for neutrals; except where neutrals of more than one system are installed in same raceway or box, other neutral shall be white with colored (not green) stripe. Color of ungrounded conductors in different voltage systems shall be as follows:

a. single phase, three wires:

(1) Phase A (R)- red

(2) Phase B (S) / C (T) - black

(3) Phase N - white

b. 3-phase, 3 wires (non-grounding):

(1) Phase A (R) - red

(2) Phase B (S) (non-grounding) - black

(3) Phase C (T) - blue

c. 3-phase, 4 wires:

(1) Phase A (R) - red

(2) Phase B (S) - black

(3) Phase C (T) - blue

(4) Phase N – white

The color of branch circuit wire shall be the same color as the main circuit wire/bus-bar.

2.5.2.1 Modification of Existing Color Coding

In case of conflict with color coding between new and existing wiring, the existing color coding shall be corrected by using heat shrinking colored-plastic-tubing and shall be matched to new color coding. Minimum length of tubes shall be 50 mm (2-inch).

2.5.3 Insulated Wires

Unless specified or indicated otherwise or required by NFPA 70, wires shall be JIS C 3612, Type IE/F (common name EM-IE).

2.5.4 Bonding Conductors

Solid bare copper wire for sizes 3.2 mm (No. 8 AWG) in diameter and smaller shall be JIS C 3102: Stranded bare copper wire shall be JCS 1226.

2.5.5 Control Cables

JCS 4258, type CEE-S/F (common name EM-CEE-S).

2.5.6 Low Voltage Cables

JIS C 3605, 600 V grade, type CE/F (common name EM-CE).

2.6 SPLICES AND TERMINATION COMPONENTS

JIS C 2805, JIS C 2806, and JIS C 2810 for wire connectors and JIS C 2336 for insulating tapes. Provide solderless terminal lugs on all conductors.

2.7 CIRCUIT BREAKERS

JIS C 8201-2-1 or UL 489, Thermal-magnetic or solid-state (electronic) type with interrupting capacity as indicated. Plug-in circuit breakers unacceptable.

Interrupting rating of circuit breakers shall be as indicated. If not shown, do not select circuit breakers less than 10,000A asymmetrical interrupting rating for voltages 240V and under, and 14,000A asymmetrical interrupting rating for over 240V but not exceeding 480V.

Provide labeling as indicated on the drawings. Handwritten labeling is unacceptable. Stenciled lettering shall be provided using printer. Labeling shall include designation labels and label covers for circuit identification.

2.7.1 Multipole Breakers

Provide common trip-type with single operating handle. Breaker design shall be such that overload in one pole automatically causes all poles to open. Maintain phase sequence throughout each panel so that any three adjacent breaker poles are connected to Phase A (R), B (S), and C (T), respectively.

2.7.2 Circuit Breaker with Shunt trip

Provide circuit breakers with shunt trip devices.

2.7.3 Circuit Breaker with GFCI

JIS C 8201-2-2. Provide with “push-to-test” button, visible indication of tripped condition, and ability to detect and trip on current imbalance of 15 milliamperes or greater per requirements or as indicated on drawings.

2.8 ELECTROMAGNETIC CONTACTOR

JIS C 8201-4-1.

2.9 ELECTROMAGNETIC RELAY

JIS C 4530, JIS C 8201-5-101 and JEM 1038.

2.10 LOCKOUT REQUIREMENTS

Provide disconnecting means capable of being locked out for machines and other equipment to prevent unexpected startup or release of stored energy in accordance with 29 CFR 1910.147. Mechanical isolation of machines and other equipment shall be in accordance with requirements of Division 23, "Mechanical."

PART 3 EXECUTION

3.1 REUSE MATERIALS CHECK BEFORE CONSTRUCTION

The contractor shall check reuse materials before starting of construction work to confirm existing condition in presence of the Contracting Officer. Coordinate the schedule with the Contracting Officer.

3.2 INSTALLATION

Electrical installations shall conform to requirements of NFPA 70, NFPA 70E, Public architectural equipment construction specifications (electric construction), Public architectural equipment renovation construction specifications (electric construction), Electric construction management guideline and to requirements specified herein.

3.2.1 Hazardous Locations

Work in hazardous locations, as defined by NFPA 70 or TR-NO.39, shall be performed in strict accordance with NFPA 70 or TR-NO.39 for particular "Class," "Division," and "Group" of hazardous locations involved. Provide conduit and cable seals where required by NFPA 70 or TR-NO.39. Conduit shall have tapered threads.

3.2.2 Splices

Make splices in accessible locations. Make splices in conductors 2.6 mm and 5.5 mm^2 (No. 10 AWG) and smaller diameter with insulated, pressure-type connector. Make splices in conductors 3.2 mm and 8 mm^2 (No. 8 AWG) and larger diameter with solderless connector, and cover with insulation material equivalent to conductor insulation.

3.2.3 Bends in cables

Bends in cables shall have an inner radius not less than 10 times the cable diameter.

3.2.4 Grounding and Bonding

In accordance with NFPA 70.

3.3 WARNING SIGN MOUNTING

Provide the number of signs required to be readable from each accessible side. Space the signs in accordance with NFPA 70E.

3.4 TEMPORARY WORK

Temporary electrical work shall be in accordance with NFPA 70.

3.5 FIELD QUALITY CONTROL

Furnish test equipment and personnel and submit written copies of test results. Give Contracting Officer 5 working days notice prior to each test.

3.5.1 Devices Subject to Manual Operation

Each device subject to manual operation shall be operated at least five times, demonstrating satisfactory operation each time.

3.5.2 Insulation Resistance Test

3.5.2.1 Test on Low volt Wiring

Test wiring rated 600 volt and less to verify that no short circuits or accidental grounds exist. Perform insulation resistance tests on wiring using instrument which applies voltage of approximately 500 volts to provide direct reading of resistance (JIS C 1302). Minimum resistance shall be 5 megohms.

-- End of Section --