

# APPENDIX A-1

## SPECIFICATIONS

## **886 ANP MATOC FY2011 (Region II - East)**

### **Section 01010 – Scope of Work**

This Multiple Award Task Order Contract (MATOC) is for Design-Build, Design-Bid-Build and Site Adapt projects that consist of new construction and renovations, repairs and additions to existing construction. The scope of work includes the following:

- Site Assessments and Master Site Plan Development
- UXO Removal
- Road, Parking and Walkway Networks
- Force Protection
- Site Demolition & Grading
- Geotechnical Investigation & Report
- Potable Water Development & Distribution
- Sanitary & Waste Water Treatment Systems
- Site & Storm Drainage Systems
- Electrical & Communication Systems
- Incidental Environmental Remedial Work

Typically, the task orders issued under this MATOC contract will be for new vertical construction that includes, but is not limited to the following facilities types: administrative, barracks, latrine & laundry, medical clinic, training, FRU, CID/FRU, DFAC, detention, fire station, vehicle maintenance & fueling, force protection, dog kennel, and storage. Primary buildings are typically reinforced concrete moment frame structures. Auxiliary buildings may be a concrete, masonry, structural steel or a combination thereof.

A task order *may* be issued for Design-Build. However, most are expected to be issued as Site-Adapt task orders. A Site-Adapt task order requires the contractor to provide a design analysis; to construct the work in conformance to the government-furnished austere designs and specifications; and to prepare all additional drawings and specifications necessary to complete all other remaining contract requirements. The design analysis and contractor-developed drawings and specifications shall be submitted to the government for review and approval. The Contractor and its design agent shall be fully responsible for the final design of all work after site adaptations have been made.

The Contract shall be for a base period of two year, and shall have a limit of \$45 million over the life of the Contract. Task orders issued under any resultant contract(s) will be for a Firm-Fixed Price, and will be competitively awarded with a maximum value of \$7,804,000 each. The MATOC CLINs will include Design-Build, Site-Adapt, and general construction scope of work. Task orders will be competed among the contract awardees using Fair Opportunity procedures (IAW FAR 16.505 and DFARS 216.505-70), which allow each firm the opportunity to compete. Any deviation from the Fair Opportunity Process will be justified and approved by the Government in writing for the task order for which it applies.

This MATOC solicitation is limited to projects located in provinces within “Region II – East” of the Afghanistan Engineer District-North (AED-N). This region includes the following provinces: Kabul, Badakshan, Bamyan, Parwan, Panjshayr, Kapisa, Nuristan, Laghman, Kunar, and Nangarhar.

A Sample Task Order (to be furnished to Offerors at a later date) will be issued and used as part of the MATOC evaluation process. The Sample Task Order will be typical of the projects that will be solicited under this MATOC. The Sample Task Order project will not be awarded. However, each Offeror shall prepare a proposal for the furnished Sample Task Order.

Additionally, AED-N reserves the right to issue an Actual Task Order for the solicitation and use it as part of the MATOC evaluation process. In this case the Actual Task Order project will be awarded. The Government will evaluate this Sample Task Order proposal using the 886 “Afghan First” Lowest Priced source selection process (FAR Part 15.101-2). During this process the technical capabilities of an Offeror’s proposal are evaluated for acceptability. If a proposal is found to be technically acceptable, then the Sample Task Order proposal price will be used as a factor in the MATOC Best Value Decision.

**Basis for Award of Individual Task Orders:** Subject to the provisions contained herein, award will be made to the Offeror who is responsible in accordance with the FAR, whose offer conforms to the solicitation requirements, and whose proposal, judged by an overall assessment of the evaluation criteria and other considerations specified in the task order solicitation, represents the Best Value (Lowest-Price Technically Acceptable, Past Performance process) to the Government, or whose price is determined to be the lowest of the prices proposed, at the discretion of the Government. The Government will identify in the task order RFP the basis for award of that particular task order, either Lowest Price Technically Acceptable (with a past performance technical factor) or lowest price.

## **SECTION 01040**

### **SECURITY**

#### **1.0 GENERAL**

The Contractor shall be solely responsible for providing adequate security measures, consistent with the requirements of this Section and taking into account the actual security at the worksite and relevant surrounding or associated areas. Security measures shall include physical security of: all Contractor personnel; materials, supplies, and equipment of every description, including property which may be Government-furnished or owned; all areas occupied jointly by the Contractor and the Government; as well as for all work performed.

The Contractor's security measures shall be used for the protection and defense of Contractor personnel, or other non-security personnel on the worksite, as well as the Contractor's plant and equipment, the worksite, all completed work and personnel, materials and equipment being transported to the worksite. The Contractor and its personnel are not combatants; direct participation in hostilities against enemy forces shall not be conducted.

#### **1.1 REFERENCES**

U.S. DEPARTMENT OF DEFENSE (DoD)

COS USCENTCOM 070902z Nov 06

Policy and Delegation of Authority for Personal Protection and Contract Security Service Arming of DOD Civilian Personnel and Contractors for Iraq and Afghanistan

#### **1.2 SUBMITTALS**

SD-01 Preconstruction Submittals

Physical Security Plan; G, RO

Security Plan; G, RO

Security Personnel Roster;

Security Training Plan;

Key Control Log;

SD-06 Test Reports

Recurring Reports, G, Security Officer

#### **1.3 QUALITY ASSURANCE**

##### **1.3.1 GOVERNMENT AUTHORITIES**

The Government will have a hierarchical security organization that disseminates essential security information and provides consistent and comprehensive use of security information. Roles and responsibilities are as described herein.

a. District Commander

Has overall responsibility for successful implementation of the District's security program; authorized to approve Contractor Security Plan(s) up to and including the risk level of "Extremely High Threat."

b. District Operations Officer

Coordinates the District's security program, including the activities of the Area and Resident Office Security Officer(s), and the District Joint Operations Center (JOC); coordinates the District's response to Serious Incidents (SI) involving threats to or breaches of Contractor security; authorized to approve Contractor Security Plan(s) up to and including the risk level of "High Threat."

c. USACE Area Officer in Charge (OIC) / Non-Commissioned Officer in Charge (NCOIC)

Serves as the Area Office Security Officer; authorized to approve Contractor Security Plan(s) up to and including the risk level of "Moderate Threat.;" monitors Contractor compliance with Security Plan and reports deviations or deficiencies from or with the terms of the Security Plan to the appropriate official(s) as necessary; when required, requests Security Plan review support from the Anti-Terrorism/Force Protection (AT/FP) experts in the District Joint Operations Center (JOC).

d. USACE Resident Officer in Charge (OIC) / Non-Commissioned Officer in Charge (NCOIC)

Serves as the Resident Office Security Officer; authorized to approve Contractor Security Plan(s) up to and including the risk level of "Moderate Threat;" monitors Contractor compliance with Security Plan and reports deviations or deficiencies from or with the terms of the Security Plan to the appropriate official(s) as necessary.

e. USACE / TAN District Joint Operations Center (JOC)

Provides Security Plan review and Anti-Terrorism/Force Protection (AT/FP) support to the District Commander, District Operations Officer and Area and Resident Office Security Officers.

f. USACE Contracting Officer's Representative (COR)

Monitors Contractor performance on the work site; may report deviations or violations of the terms of the Security Plan to the appropriate official(s) as necessary.

g. USACE Administrative Contracting Officer (ACO)

Monitors overall Contractor performance under the Contract; issues change orders under the Contract's "Changes" clause; provides Interim and Final Contractor Performance Evaluations which include security performance; authorized to execute Contract Modifications amounting up to \$500,000.

h. USACE Contracting Officer

Responsible for and monitors overall Contractor performance under the Contract; executes Contract Modifications over \$500,000. All USACE officials listed in this paragraph work to implement the Contracting Officer's supervision and administration over the Contract.

### **1.3.2 CONTRACTOR PHYSICAL SECURITY OFFICER**

Coordinates and supervises implementation of the Contractor's Security Program; identifies security vulnerabilities and raises all security issues to the appropriate contractor officials. Depending on the threat level status of the project, the Contractor's Security Officer may be a part-time position or the incumbent may have other duties.

### **1.3.3 ARMING LICENSES**

a. Contractor personnel, including PSC subcontractor personnel, who are armed, must be properly authorized to carry arms in Afghanistan.

b. Authorization by the GIROA for Contractor and subcontractor personnel (including PSC personnel) to be armed may be withdrawn at any time by the GIROA. The Contractor shall, at its own expense, find

alternative sources of security personnel, such as ANA, ANP, APPF and Coalition forces. The Contractor's Security Plan shall detail how the Contractor will go about doing this, in the event the need arises.

- c. The Contractor shall:
  - 1. Obtain through USFOR-A from the Afghanistan Ministry of Interior (MOI) arming registration and licenses for its personnel and its subcontractor personnel to carry arms;
  - 2. Properly train and qualify armed personnel about each weapon they will be authorized to use;
  - 3. Provide evidence of licensing and weapons training to the COR, Resident and Area OICs, the Contracting Officer and District Operations Officer, or others designated by these officials, upon demand;
- d. All armed Contractor personnel, and armed subcontractor personnel, must carry a copy of their Letter of Authorization (LOA) and their MOI license at all times. U.S. and Coalition Forces may demand that the contractor and subcontractor personnel produce this documentation at any time.

#### **1.3.4 LOCAL HIRE VETTING PROGRAM**

- a. The Contractor's Security Plan shall detail its local hire vetting program for all local hires required under performance of this Contract. The Contractor's Vetting Program shall include:
  - 1. A description of the manner by which background checks will be undertaken;
  - 2. How the Contractor will conduct interviews and review employment application information for local hire candidates;
  - 3. The process by which results of local hire interviews and information reviews are provided to the USACE security representative for appropriate review and action;
  - 4. The Contractor's policy and procedure for approving reports of threats and intimidation and forwarding them to appropriate Government agencies for resolution;
  - 5. Policy and procedures for demonstrating and implementing awareness of cultural nuances, to include ethnic and tribal relationships, etc., and employment of culturally sensitive measures when conducting interviews.
- b. The Government will verify the Contractor's local hire vetting process by entering all armed Contractor and PSC personnel into the nation-wide Biometrics network.

#### **1.3.5 TRAINING**

- a. The Contractor's Security Plan shall include an outline of its proposed Training Plan for each aspect of its security operations. Detailed and final versions of the Contractor's Training Plan(s) shall be provided to the Government Security Officer for review and comment when they are completed.
- b. In addition to mandatory training for Contractor and PSC subcontractor personnel, the Contractor's Security Officer(s) shall receive mandatory, periodic training to maintain their capacity and expertise in their positions. Training plans shall be prepared by the Contractor and provided to the Government Security Officer for review and comment.
- c. The Contractor shall ensure that all security personnel receive initial and (at a minimum) quarterly follow-on training to maintain certification, proficiency, and safety in security operations. The Contractor shall maintain records of the training for the entire duration of the Contract and shall provide them to the COR and Security Officer for inspection upon demand.
- d. For PSC subcontractor personnel, at a minimum, the following training topics shall be covered during initial and periodic follow-on training:
  - 1. COMISAF/USFOR-A Tactical Directive
  - 2. Rules of Engagement / Rules for Use of Force

3. Escalation of Force
  4. Withdrawal / Clearing drills
  5. Proportionality of Force Rules
  6. Target Discrimination
  7. Positive Identification
  8. Law of War
  9. Small Unit Tactics
  10. General Convoy Procedures
  11. Weapons Qualification
  12. Vehicle Operations
  13. Improvised Explosive Device (IED) Avoidance
  14. Site Security
  15. Traffic / Entry Control Points
  16. Safety and Risk Assessment
  17. Basic and Advanced First Aid, including Combat Life Saver training
- e. Other Contractor security personnel, not PSC subcontractor personnel, shall receive similar or equivalent training, commensurate with their responsibilities and whether they are armed or not.
  - f. Security training for ANA, ANP, APPF and Coalition security forces remains the responsibility of those forces. The Contractor shall assure that its security personnel are fully qualified in basic marksmanship and safe weapons handling techniques. Training shall be conducted in tactics and situational awareness while performing a security (mission) function.
  - g. The Contractor shall provide a sufficient number of trained personnel to meet the required security level for the project beginning on the date of mobilization.

#### **1.4 SITE SECURITY**

##### **1.4.1 SECURITY PLAN**

The Contractor shall ensure that its Security Plan and implementing measures account for all likely levels and codes for on-site threat postures (i.e., site security, uniforms, weapons, and vehicle movements).

The security rating will normally determine the type and content of the Contractor's Security Plan, as well as the approval level of implementation measures under the security plan. However, the Government may require different Security Plan submissions and content as circumstances dictate.

##### **1.4.2 SECURITY LEVELS**

The Contractor's Security Plan will incorporate at least four force protection condition levels for the purposes of planning and implementation of security measures. The levels are:

###### **a. Extremely High Risk**

Site requires significant security forces to operate, and is under continuous threat of armed attack which poses great threat to operations, personnel and equipment. Operations may face repeated interruption even with significant security measures in place.

###### **b. High Risk**

Site requires significant security forces to operate, and is under intermittent threat of armed attacks which may pose a threat to operations, personnel and equipment, and cause occasional interruptions of work.

c. Moderate Risk

Site requires security forces to operate, and may face some risk of armed attacks that could pose a threat to operations, personnel and equipment, and cause an interruption of work.

d. Low Risk

Site may require security forces to operate, but some or all of these might be unarmed. While some risk of armed attack exists, the major threat is theft, vandalism, or harassment of workers; interruptions of work are generally unlikely due to security problems.

### 1.4.3 SECURITY RATING

As of the date of this solicitation the security rating for this contract is:

**[Extremely High] [High] [Moderate] [Low] Risk**

### 1.4.4 APPROVAL AUTHORITY

The level of the Government's required approval authority depends on the degree of the security threat to the Contractor and project and is ranked as follows:

- a. Extremely High Threat: District Commander
- b. High Threat: District Operations Officer
- c. Moderate Threat: Chief of Construction, Area OIC/NCOIC, or Area Engineer
- d. Low Threat: Resident OIC/NCIOC, Resident Engineer

## 2.0 PRODUCTS

### 2.1 SECURITY PLAN

#### 2.1.1 SUBMITTAL REQUIREMENTS

- a. The Contractor shall prepare a Security Plan for the project for the review and approval by the Government. The Security Plan shall take into account the requirements stated in this Section, and the actual security situation at the worksite and relevant surrounding or associated areas.
- b. The Contractor shall submit its Security Plan in accordance with Section 01335 SUBMITTAL PROCEDURES. The Contractor's Security Plan shall be approved by an official listed in Paragraph 2.0 above, on behalf of the Contracting Officer, as a condition to the Government's issuance of Notice to Proceed (NTP).
- c. The Government's approval of the Contractor's Security Plan, described within this Section, shall not create any liability on the part of the Government in the event that the Security Plan and its implementation are not adequate to protect the Contractor against loss or damage to plant, equipment, installed work, or injury or death to its personnel. The Contractor shall bear all risk in the event that its security arrangements are inadequate.
- d. Submit one paper copy and one electronic copy (on DVD – in MS Word 2003 or 2007 format) of the proposed Security Plan to the Government Security Officer. The paper copy of the proposed security plan shall be bound in a three ring binder and printed on either A4 or 8.5" x 11" plain white paper. Print the security plan on both sides of each sheet of paper.
- e. Format for the Security Plan is detailed in attachment 01040a SECURITY PLAN FORMAT.

## **2.1.2 APPLICABLE LAWS AND REGULATIONS**

In preparing and implementing its Security Plan, the Contractor shall apply and abide by all relevant national laws of the Government of the Islamic Republic of Afghanistan (GIROA), the laws and regulations of the United States Government, including the United States Department of Defense and the United States Central Command (USCENTCOM), and the provisions of this Contract.

## **2.1.3 SECURITY PLAN REQUIREMENTS**

### **2.1.3.1 SUMMARY**

The following information shall be included in a summary at the beginning of the security plan:

- a. The entity or agency providing armed security (i.e., Contractor-provided self security, PSC, ANA, ANP, APPF or Coalition Forces);
- b. A copy of the Contractor's Contract with the Ministry of Interior to provide security services to the contractor under the Contract, if applicable;
- c. The structure and composition of the ANSF security detail (if not in an MOI support contract);
- d. The name and contact information for the Contractor's security officer (the liaison with the ANSF security forces); and
- e. Points of contact information for the supporting ANSF Security Forces.

### **2.1.3.2 CONTENTS**

The Contractor's Security Plan shall:

- a. Detail the proposed process by which the Contractor shall continually submit the coordinates of the Contractor's base camps, quarries, and current work locations;
- b. List the persons within the chain of supervision within the Contractor's organization responsible for implementing the Contractor's Security Plan;
- c. Detail the lines of communication and liaison between the Contractor and ANA, ANP, Coalition or PSC Security Forces, as appropriate;
- d. Require all security personnel to be biometrically registered;
- e. Detail how at all times Force Protection conditions and vehicle route status will be publicized or made available to the Contractor's personnel;
- f. Specify the conditions and details for increasing manpower and equipment required during high threat conditions, if needed;
- g. Contain other requirements, as discussed in this Section and as indicated in Attachment 01040a SECURITY PLAN FORMAT.

### **2.1.3.3 PERSONNEL**

The Contractor shall maintain the names, photos, and tazkira numbers of security personnel, including those personnel with access to weapons and ammunition, and those persons who will be handling or transporting explosives.

## **2.1.4 SECURITY CONTRACTOR REQUIREMENTS**

- a. The Contractor shall submit the names of all employees who will be working in security positions prior to their performance of any such work on this Contract.
- b. All security personnel will be subject to Biometrics testing by representatives of the Contracting Officer, at any time during performance of work on the Contract. Biometrics testing may entail either

enrollment or scanning (retinal scan); the Contractor must be prepared to submit its personnel to either process.

- c. The names of security personnel and the Biometrics testing results will be vetted with the Afghanistan government, International Security Assistance Forces (ISAF), or U.S. Forces-Afghanistan to determine if any of the proposed security personnel are on the list of enemy combatants compiled by these sources.
- d. If the Contractor is notified by the Contracting Officer that such security personnel are on any of these lists of enemy combatants, or known criminal background, such employees shall be immediately removed from the work under this Contract.

## **2.2 CONTRACTOR PROVIDED EQUIPMENT**

- a. The Contractor's Security Plan shall include a list of key and essential equipment that shall be furnished to ensure its security program functions as planned.
  1. The key and essential equipment list shall detail from which source(s) the equipment shall be furnished — ANA, ANP, APPF, Coalition forces, PSC subcontractor or contractor furnished.
  2. The key and essential equipment list shall detail the type, quantity, nomenclature and expected use of major items of key and essential equipment — to include, but not be limited to: weapons, explosive devices, personal protective equipment, radios, phones, other communications devices, vehicles, uniforms, and the like.
- b. Security forces such as the ANA, ANP, APPF and Coalition forces, shall be expected to provide their own weapons, and other military or security equipment with which to perform their duties. The Contractor shall coordinate equipment needs with its PSC subcontractor, as necessary. The Contractor shall not provide equipment to ANA, ANP, APPF or Coalition security forces, which by nature of their organizations and missions, they are required to keep and maintain, unless prior approval from the Government's Contracting Officer is obtained.
- c. The Contractor shall assure that its security personnel are properly armed. Armament shall be commensurate to the level of threat and to ensure survivability of contractor and Government personnel.

## **3.0 EXECUTION**

### **3.1 SECURITY**

#### **3.1.1 DEFINITIONS**

- a. The Contractor shall develop a Security Plan and maintain a Security Program which is consistent with the Security Rating for the project and which takes into account the nature of the security requirements associated with the project. The Government has identified the following security requirements which are generally applicable to its contractors:
  1. Projects outside of active Coalition Force bases
  2. Projects on active Coalition Force bases
  3. Security for road projects, transportation and convoys
  4. Movement of project supplies and equipment
- b. During preparation of its Security Plan, the Contractor shall identify which security requirements apply to its Contract and incorporate this Section's standards concerning each security requirement into its plan.

### **3.1.2 SECURITY ASSETS**

- a. Currently there are six (6) sources of Security Assets available to a Contractor in Afghanistan:
  1. Private Security Companies (PSC);
  2. Contractor-provided, self-security;
  3. Coalition security forces;
  4. Afghan National Army (ANA) security forces;
  5. Afghan National Police (ANP) security forces;
  6. Afghan Public Protection Force (APPF).
- b. The Contractor may use one or a combination of more than one of these sources of security assets in its Security Program. The GIROA has announced plans to limit or eliminate legal use of PSCs and Contractor-provided, self-security in the near future.
- c. At present, use of PSCs and/or Contractor-provided self-security may be prohibited in some areas of the country, or may shortly be prohibited. The Contractor shall take into account these possible developments as it considers and implements its security options.

### **3.1.3 SECURITY ALTERNATIVES**

- a. Any Contractor Security Plan which proposes use of PSCs and/or Contractor-provided self-security must propose alternative means of providing security assets from among the remaining sources of security assets. This Section shall not prohibit the Contractor from seeking and obtaining security assets directly from Coalition, ANA or ANP Security Forces.
- b. ANA or ANP Security Forces may be available for providing armed security along routes being used to support projects, or for providing armed security at fixed sites, other than Coalition sites.
- c. On ANA facilities, the Contractor must coordinate for armed security support with relevant ANA military officials.
- d. For all other sites, the Contractor must coordinate security assets through the Afghanistan National Police (ANP) or Ministry of Interior (MOI).
- e. In the future, the Contractor may be required to coordinate security assets with APPF officials.
- f. Coalition forces may be available for providing armed security on Coalition sites. Coordinate security issues for such sites with relevant Coalition authorities.
- g. The Contractor is solely responsible for coordinating and obtaining all sources of security assets. The Government is not obligated to assist the Contractor in obtaining security assets from any source; however, relevant Coalition military authorities may assist the Contractor in contacting relevant ANA, ANP, APPF or Coalition officials for the purpose of the contractor arranging for security assets.

### **3.1.4 PAYMENT**

- a. It is the Government's policy that ANA, ANP or APPF elements shall not be paid from sources outside of the GIROA for actions in performance of their assigned duties.
- b. Costs of obtaining alternative security assets, following approval of the Contractor's Security Plan, shall be borne entirely by the Contractor.

### **3.1.5 SECURITY PLAN**

The Contractor's Security Plan shall, as applicable, include discussion of planned activities and security measures for conditions as outlined below. The Contractor's Security Plan may also include discussion of planned activities and security measures for one or more of the situations described below, even if it is not immediately clear that the situations will apply to the project.

### **3.1.5.1 PROJECTS OUTSIDE OF ACTIVE COALITION FORCE BASES**

In the event that the project requires work at a project site outside of active Coalition force bases, the Contractor's Security Plan and implementation shall include information and discussion about:

1. The Contractor's proposed procedures and organization necessary to produce and maintain effective security within the Contract limits 24 hours a day seven 7 days a week;
2. Perimeter force protection security arrangements for the worksite;
3. How authorized, licensed armed guards shall man key perimeter positions, all entry control points (ECP) and external security positions, as applicable, at all times;
4. Perimeter security measures that are robust enough to thwart any attempted theft, vandalism, or attacks, consistent with the risk level applicable to the project;
5. Provisions for roving guards or patrols, manned and operated in such a way as to ensure that unauthorized personnel are not given access to the Contractor's compound, staging areas, or other facilities; guards and patrols shall prevent damage or sabotage of facilities and/or equipment and prevent snipers or any other hostile external activity that might threaten the site;
6. Details about how worksite security organizations will be organized, manned and operated in such a way as to be able to protect and defend the site of work against threats from nearby buildings, hilltops, and concealed terrain, when applicable, while still providing immediate on-site security to the construction equipment and personnel;
7. The planned capabilities of security personnel to control facility access, limit entry by unauthorized personnel, conduct vehicle and personnel bomb searches, report suspicious persons, question persons as required, and respond to calls for security support and assistance;
8. How security personnel shall employ culturally appropriate means of searching personnel;
9. Plans for coordination of security with local governments, ANA, ANP or APPF units, and Coalition forces.

### **3.1.5.2 PROJECTS ON ANA, ANP AND / OR COALITION BASES**

- a. In the event that the project requires work at a project site inside of ANA, ANP, or active Coalition force bases, the Contractor's Security Plan and implementation shall include information and discussion about:
  1. The proposed means for coordinating security measures with base officials;
  2. Perimeter security measures for the work site, which may include but is not limited to temporary fences and armed or unarmed security guards;
  3. How the Contractor's perimeter security measures shall be designed to prevent unauthorized site access and provide site protection to the Contractor's work force and any Government personnel collocated there, for the duration of the project; and protect the construction site from vandalism and theft.
- b. The Contractor may, at its discretion, utilize unarmed security forces when appropriate to augment, or replace armed security inside a base or installation in order to protect against such threats as pilferage and vandalism.

### **3.1.5.3 ROAD PROJECTS**

In the event that the project requires work on a road, the Contractor's Security Plan and implementation shall include information and discussion about:

1. Maintenance of at least two traffic control points (TCPs) at 300 meters in both directions of the section of the on-going roadwork that the Contractor is working on, or at a distance that the terrain at the work site dictates the best defensive posture;

2. Whether the TCPs shall employ armed security forces or not, and shall be commensurate with the security risk level assigned to the project;
3. Security details and plan for the Contractor's base camp(s) or operations site(s), when it is working from such facilities. In such instances, the security plans and measures discussed in paragraph 3.1.5.1 of this Section shall be included in the Contractor's Security Plan;
4. Provision for adequate inspection of vehicles entering the TCPs for explosives, contraband, and unauthorized personnel at a distance away from the ongoing work to minimize damage from potential (IED) blast radius;
5. The Contractor's plan for checking of proper identification and conducting physical searches of personnel entering and leaving the TCPs, reporting suspicious persons, questioning persons as required, and responding to calls for security support assistance; the plan must include a contingency plan for additional Quick Reaction Forces (QRF), MEDEVAC and withdrawal (evacuation);
6. Details as to how the Contractor shall employ control barricades to slow traffic in both directions, but not to block the road completely, employ culturally appropriate means of searching personnel, and how a vehicle will be ready for immediate evacuation or escape from hostile forces trying to enter the construction site.

#### **3.1.5.4 EQUIPMENT MOVEMENT / TRANSPORTATION CONVOYS**

- a. In the event that the project requires movement of project equipment and supplies and/or transportation and convoy activities, the Contractor's Security Plan and implementation shall include information and discussion about:
  1. Details about how the Contractor will inform the Government no later than 72 hours before any movement of project equipment and supplies outside of any Coalition Force bases in the CJOA-A;
  2. The Contractor's procedures and processes for maintaining information security to discuss movements, which may include using face-to-face meetings, courier mail, or other secure means of communication;
  3. How the Contractor shall implement the minimum requirement to use two armed security details in the front and rear of every convoy, and a center armed security detail at the center of convoys longer than three vehicles; the Security Plan shall recognize a "security detail" as a vehicle with at least two armed security personnel, each carrying an AK-47 or equivalent weapon; the Security Plan shall discuss the conditions under which additional security assets will be employed for convoy movements and the nature of the additional requirements;
  4. Methods and procedures to anticipate, plan for, and react to potential armed ambushes from hostile forces;
  5. Type, quantity, and use of communications equipment specifically dedicated to movements, transportation and convoys, which may include use of cell phones, satellite phones, Contractor or Government supplied communications/tracking equipment, and the like.
- b. The Contractor's Security Plan shall discuss how it shall react to the following range of road movement safety restriction codes for roads it intends to use:
  1. Green           Route Open  
                      No restrictions.
  2. Amber          Route Open  
                      Only mission essential travel allowed on this route; the Government Security Officer must approve all Contractor movements.
  3. Red             Route Open

Requires Commander's approval for travel; forces are required to use armored vehicles; all non-essential ground site visits suspended.

4. Black

Route Closed

Route Closed to Coalition Forces except for emergency travel.

**3.2 COORDINATION WITH LOCAL AUTHORITIES**

- a. The Contractor shall communicate with local ANSF to determine local area threats and adjust force protection conditions as required.
- b. Regardless of the source of its security personnel, the Contractor shall coordinate all aspects of its security program with applicable area Coalition Forces or Provincial Reconstruction Team (PRT) Commanders.

**3.3 COMMUNICATIONS**

- a. The Contractor will maintain 24 hour communications capability to contact each guard on duty and notify all on-site personnel of increased threats and protective actions to take during working hours.
- b. The Contractor shall also have continuous communication capability with local Coalition, ANA, ANP or APPF security forces, and with the District JOC for rapid emergency response.
- c. Communications can be via cell phone, email, satellite phones, VHF, HF, CODAN, text, or other communication technologies compatible with the Government's capabilities.
- d. The Contractor shall provide the Government with all relevant contact information (names, numbers, frequencies, email addresses, transponder IDs, etc.) for the project site encompassing all available communication means.
- e. The Contractor shall use language assistants/interpreters if a language difference exists between the armed security personnel, the contractor project manager, and other on-site personnel. The Contractor must assure that an interpreter is always present when accompanying Government personnel.

**3.4 KEY CONTROL**

- a. The Contractor shall establish and implement methods in writing to ensure that all keys issued by the Contractor are not lost or misplaced and are not used by unauthorized persons.
- b. The Contractor shall develop procedures covering key control that will be included in its Quality Control System as described in Section 01451 CONTRACTOR QUALITY CONTROL.
- c. The Contractor's Project Manager shall keep a master log of all keys and provide a copy to the Contracting Officer's Representative (COR) for verification. If a key is lost or stolen, the Contractor shall pay to have all impacted locks changed/rekeyed immediately.

**3.5 SAFETY BARRICADES**

As the situation dictates, security guards shall be posted at safety barricades. The Contractor's Security Plan shall discuss under what circumstances security guards shall be posted at safety barricades.

**3.6 CRITICAL INFORMATION TO REPORT**

The Contractor shall report information regarding the following ANA, ANP, APPF, Coalition and PSC incidents to the Government (the COR, Security Officer or Contracting Officer) as quickly as possible, but no later than indicated in the table below:

TYPE OF INCIDENT	INITIAL REPORT	FINAL REPORT	REPORT TO:
Incidents involving escalation of force, to include the use of weapons resulting in the death or injury of any person.	Within 4 hours after incident.	Within 24 hours after incident.	COR or Security Officer
Incidents involving escalation of force, to include use of weapons, without resulting injury or death	Within 12 hours after incident.	Within 48 hours after incident.	COR or Security Officer
Incidents involving escalation of force, to include use of weapons, without resulting injury or death, that result in significant damage to Afghan or USG vehicles, materials or facilities.	Within 8 hours after incident.	Within 48 hours after incident.	COR or Security Officer
Traffic or other accidents, resulting in the death or injury of any person.	Within 4 hours after incident.	Within 24 hours after incident.	COR or Security Officer
Traffic or other accidents, without resulting death or injury.	Within 8 hours after incident.	Within 48 hours after incident.	COR or Security Officer
Traffic or other accidents, without resulting death or injury—contractor, security forces personnel have been detained by the ANP or other authorities.	Within 4 hours after incident.  Periodic reports, every 24 hours until all personnel are released	Within 24 hours after incident terminates.	COR or Security Officer
Attacks against ANA/ANP/APPF/APPF Coalition/PSC activities by Anti-Afghan Forces resulting in the death or injury of any person.	Within 4 hours after incident.	Within 24 hours after incident.	COR or Security Officer
Attacks against ANA/ANP/APPF	Within 12 hours after incident.	Within 48 hours after incident.	COR or Security Officer

Coalition/PSC activities by Anti-Afghan Forces, without resulting death or injury of any person.			
ANA/ANP/APPF Coalition/PSC escort or independent activities which have lost contact with their companies.	Within 4 hours after incident. Periodic reports every 4 hours until contact reestablished.	Within 48 hours after incident terminates.	COR or Security Officer
Small arms fire RPG fire, indirect fire (IDF), improvised explosive devices (IEDs), and/or complex attacks by Anti-Afghan Forces against ANA/ANP/APPF Coalition/PSC activities.	Within 4 hours after incident.	Within 24 hours after incident.	COR or Security Officer
Accidental or negligent discharge of a weapon by ANA/ANP/Coalition/PSC personnel.	Within 12 hours after incident.	Within 48 hours after incident.	COR or Security Officer

**3.7 REOCCURRING REPORTS**

Every month the Contractor shall report the following to the designated Contract Security Officer:

1. The number, type, and general description of every weapons discharge by the Contractor or any tier of subcontractor on the project;
2. The name of the Contractor’s Security Manager and the total number of armed personnel working on the project;
3. The total number by type/caliber of all weapons employed on the project;
4. The serial numbers and license plates of all armored vehicles used for the project;
5. The type of transponder/tracking system used for any moving equipment used for the project;
6. Any changes made to security personnel (new hires, employees who quit or were let go, transfers, etc.);
7. Biometric registration of all new personnel.

**-- END OF SECTION--**

## **SECTION 01040a**

### **SECURITY PLAN FORMAT**

The Contractor's Security Plan shall, a minimum, contain the elements, and shall conform to the format given below:

#### **1.0 CONSTRUCTION CONTRACT INFORMATION**

- a. Contract number, title, location of the project;
- b. Type of construction work;
- c. Name of the contracting agency (e.g., USACE-AED-N), and the Area and Resident Offices;
- d. Names and contact information for:
  1. Contracting Officer;
  2. Administrative Contracting Officer (ACO);
  3. Authorized Representative of the Contracting Officer (COR);
  4. Resident Office security officer;
- e. Construction contractor's name with:
  1. Security officer's name and contact information;
  2. MOI license number (if applicable);
  3. AISA license number (mandatory);

#### **2.0 PURPOSE OF SECURITY PLAN**

#### **3.0 DESCRIPTION OF SECURITY TEAM**

Provide the information as listed below if applicable to this Contract:

#### **3.1 PRIVATE SECURITY COMPANY (PSC) CONTRACTOR / SUBCONTRACTOR**

1. Company name(s);
2. Country of registration/origin;
3. MOI license number (mandatory);
4. AISA license number (mandatory);
5. Point of contact (POC) name with contact details;
6. Type of security work;
7. Number of security personnel by type (U.S., Afghan, Other);
8. Roles and responsibilities of security personnel;
9. Type of weapons authorized;
10. Previous work on similar projects/sites;
11. Description of standard employee vetting program / biometric registration process.

### **3.2 CONTRACTOR SELF-SECURITY**

1. Point of contact (POC) name with contact details;
2. Number of security personnel by type (U.S., Afghan, Other);
3. Roles and responsibilities of security personnel;
4. Type of weapons authorized;
5. Previous work on similar projects/sites;
6. Description of standard employee vetting program / biometric registration process.

### **3.3 ANSF SECURITY FORCES**

1. Type of security force(s) (i.e., ANA, ANP, APPF, etc.; also, base security, mobile elements, etc.);
2. Point of contact (POC) name with contact details;
3. Type of security work;
4. Number of security personnel by type (base security, mobile elements, etc.)
5. Roles and responsibilities of security personnel;
6. Type of weapons authorized
7. Previous work on similar projects/sites
8. Description of standard personnel vetting program / biometric registration process (if any).

### **3.4 COALITION SECURITY FORCES**

1. Type of security force(s) (base security, mobile elements, etc.);
2. Country of origin;
3. Point of contact (POC) name with contact details;
4. Type of security work;
5. Number of security personnel by type (base security, mobile elements, etc.);
6. Roles and responsibilities of security personnel;
7. Type of weapons authorized;
8. Previous work on similar projects/sites;
9. Description of standard personnel vetting program / biometric registration process.

### **4.0 SITE SECURITY PLAN**

- a. Threat Assessment;
- b. Force Protection Condition Levels;
- c. Construction site layout with coordinates of the base camps, quarries, and work locations;
- d. Site specific procedures (e.g., on base, outside the wire, road work, etc.).

### **5.0 CONVOY SECURITY PLAN**

- a. Minimum requirements (e.g., # of vehicles and armed personnel);
- b. Movement security procedures.

**6.0 COMMUNICATIONS PLAN AND EQUIPMENT LIST**

**7.0 REPORTING PROCEDURES**

- a. Critical information to report;
- b. SALUTE and IED reports;
- c. Reoccurring reports.

**8.0 PHYSICAL SECURITY**

- a. Measures to protect from sabotage, damage, and theft;
- b. Fencing & key control;

**9.0 COORDINATION AND WORK ETHICS PLAN**

- a. Coordination with local ANSF Commanders and government officials (to the greatest extent possible);
- b. Ethics when dealing with local ANA, ANP, APPF or Local/Provincial Government (i.e., avoiding corruption).

**10.0 ARMING PACKETS**

- a. Arming Memoranda;
- b. Number of security personnel by type (U.S., Afghan, Other);
- c. Number/type of weapons authorized;
- d. Training Documents/Certifications.

**-- END OF SECTION--**

## **SECTION 01060 SPECIAL REQUIREMENTS**

### **1. GENERAL**

#### **1.1 SUBMITTALS**

##### SD-01 Preconstruction Submittals

Area Use Plan; G, RO

Project Schedule;

Preliminary O&M Training Plan; G, RO

O&M Training Plan; G, RO

Notice of Application of U.S. Criminal Jurisdiction;

Notice of Drug Free Workforce;

Notice of Combating Trafficking in Persons, Commercial Sex Acts, Forced Labor

Prompt Payment of Subcontractors;

Submit with Progress Payment Requests

##### SD-10 Operation and Maintenance Data

Manufacturer Manuals and Data;

#### **1.2 PRECONSTRUCTION CONFERENCE**

##### **1.2.1 SCHEDULE OF MEETING**

At the earliest practicable time, prior to commencement of the work, the Contractor and any Subcontractors whose presence is necessary or requested, shall meet in conference with representatives of the Contracting Officer to discuss and develop a mutual understanding relative to the details of the administration and execution of this contract. This will include but not necessarily be limited to the Contractor's Quality Control (CQC) Program, the Contractors Accident Prevention Program, submittals, correspondence, schedule, access to the work site, security requirements, interface requirements, temporary facilities and services, hazards and risks, working after normal hours or on weekends or holidays, assignment of inspectors, representations, special requirements, phasing, and other aspects of this project that warrant clarification and understanding.

##### **1.2.2 MEETING MINUTES**

It shall be the responsibility of the Contractors CQC System Manager to prepare detailed minutes of this meeting and submit those minutes to the Contracting Officer for approval within three (3) workdays. Any corrections deemed necessary by the Contracting Officer shall be incorporated and resubmitted within two (2) calendar days after receipt. Upon approval of the minutes by the Contracting Officer, the Contractor shall distribute the minutes to all parties present or concerned.

#### **1.3 AREA USE PLAN**

The Contractor shall submit to the Contracting Officer - within seven (7) calendar days after NTP - an Area Use Plan designating intended use of all areas within the project boundaries (it should be delivered with other pre-construction documents, APP, QCP, etc.). This plan shall include, but not necessarily be limited to the following: the proposed location and dimensions of any area to be fenced and used by the

Contractor; construction plant and building installations/the number of trailers and facilities to be used; avenues of ingress/egress to the fenced areas and details of the fence installation; drawings showing temporary electrical installations; temporary water and sewage disposal installations; material storage areas; hazardous storage areas. Any areas that may have to be graveled shall also be identified. The plan shall also include a narrative description of the building structural system, the site utility system and the office or administration facilities. The Contractor shall also indicate if the use of a supplemental or other staging area is desired. The Contractor shall not begin construction of the mobilization facilities prior to approval by the Contracting Officer of the Area Use Plan described herein.

#### **1.4 CONTRACTOR'S MOBILIZATION AREA**

The Contractor will be permitted to use an area approved by the Contracting Officer within the contract limits for operation of his construction equipment and plants, shops, warehouses, and offices. Utilities will be provided for the Contractor as described below. The Contractor is responsible for obtaining any required additional mobilization area above that designated. The construction site shall be cleared of construction debris and other materials and the area restored to its final grade.

##### **1.4.1 [GOVERNMENT FIELD OFFICE]**

###### **1.4.1.1 [GENERAL**

The Contractor shall furnish a temporary field office complete with the services and features indicated below for use by Corps of Engineers personnel and other persons as designated by the Contracting Officer. The Contractor shall fully maintain and repair all facilities, furnishings and equipment listed below. All facilities, furnishings, materials and equipment provided and / or installed by the Contractor under this Contract shall remain the property of the Contractor at the completion of the Contract. Facility structures should be modular or containerized, suitable for easy movement at a later date.

###### **1.4.1.2 FEATURES**

This facility shall meet all construction and security criteria identified in section 1.3.2 for the Contractor's Administrative Field office. In addition, the following features and services shall be included:

1. Minimum 3.5 m x 3.5 m in size;
2. Provide minimum two (2) office desks and two (2) chairs;
3. Provide one (1), four-drawer filing cabinet;
4. The office shall have potable water, electricity, heating and cooling;
5. Provide one (1) western style water closet and sink;
6. Provide one (1) small refrigerator.

###### **1.4.1.3 LOCATION**

Coordinate location of Government Field Office on site with the Contracting Officer. Ensure security as specified in Section 01040 SECURITY.]

#### **1.4.2 CONTRACTOR'S TEMPORARY FACILITIES**

##### **1.4.2.1 GENERAL**

All facilities within the Contractor's mobilization area shall be of substantial construction suitable for the local weather conditions. Sanitary facilities shall meet the requirements of Corps of Engineers, Safety and Health Requirements Manual EM 385-1-1. Local nationals will not be granted any privileges under this contract. Government provided services are for American and Foreign national contractors only.

#### **1.4.2.2 ADMINISTRATIVE FIELD OFFICES**

The Contractor may provide and maintain administrative field office facilities within the mobilization area at the designated site. Government office and warehouse facilities will not be available to the Contractor's personnel.

#### **1.4.2.3 STORAGE AREA**

The Contractor shall construct a temporary 1.8 meter high chain link fence around trailers and materials. The fence shall include plastic strip inserts, colored green or brown, so that visibility through the fence is obstructed. Fence posts may be driven, in lieu of concrete bases, where soil conditions permit. Trailers, materials, or equipment shall not be placed or stored outside the fenced area unless approved in writing by the Contracting Officer.

#### **1.4.2.4 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 shall install a satisfactory means of communication, such as telephone or other suitable devices. If radio communication is approved by Contracting Officer / installation security office, frequency selection shall be approved by Contracting Officer to prevent interference with installation operations. Such devices shall be provided by the Contractor and made available for use by Government personnel as requested.

#### **1.4.2.5 APPEARANCE OF MOBILIZATION SITE FACILITIES AND/OR TRAILERS**

Mobilization Site Facilities and/or Trailers utilized by the Contractor for administrative or material storage purposes shall present a clean and neat exterior appearance and shall be in a state of good repair. Trailers or other transportable structures which, in the opinion of the Contracting Officer, require exterior painting or maintenance will not be allowed on the construction site until such work or maintenance has been performed to the satisfaction of the Contracting Officer.

#### **1.4.2.6 MAINTENANCE OF STORAGE AREA**

Fencing shall be kept in a state of good repair and proper alignment. Should the Contractor elect to traverse unpaved areas which are not established roadways with construction equipment or other vehicles, such areas shall be covered with a layer of gravel as necessary to prevent rutting and the tracking of soil onto paved or established roadways; gravel gradation shall be at the Contractor's discretion.

#### **1.4.2.7 SECURITY PROVISIONS**

Adequate outside security lighting shall be provided at the Contractor's temporary facilities. The Contractor shall be responsible for the security of its own facilities and equipment in accordance with Section 01040 SECURITY.

#### **1.4.2.8 SANITATION**

1. The contractor shall comply with the sanitation requirements of Section 02 of 385-1-1.
2. Sanitary Facilities: The Contractor shall be responsible for maintaining such facilities at no expense to the Government.
3. Trash Disposal: The Contractor shall be responsible for collection and disposal of trash from the work areas and from the mobilization area. General construction debris and demolition debris shall be collected and transported by the Contractor to a location designated by the Government. Construction debris, waste materials, packaging material and the like shall be removed from the work site daily. Loose debris capable of being windblown, shall be immediately placed in sealed or

covered containers to prevent it from being blown onto taxiways or runways. Any dirt or soil that is tracked onto paved or surfaced roadways shall be cleaned daily. Materials resulting from demolition activities that are salvageable shall be stored within the fenced area described above. Stored material not indoors, whether new or salvaged, shall be neatly stacked when stored.

#### **1.4.2.9 TELEPHONE**

The Contractor shall make arrangements to install and pay all costs for telephone facilities desired.

#### **1.4.2.10 RESTORATION OF STORAGE AREA**

Upon completion of the project and after removal of mobilization facilities, trailers, materials, and equipment from within the fenced area, the fence shall be removed and will become the property of the Contractor. Areas used by the Contractor for the storage of equipment or material, or other use, shall be restored to the original or better condition. Gravel used to traverse unpaved areas shall be removed and all such areas restored to their original conditions.

#### **1.4.3 PROTECTION AND MAINTENANCE OF TRAFFIC**

During construction the Contractor shall provide access and temporary relocated roads as necessary to maintain traffic. The Contractor shall 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 and the work, and the erection and maintenance of adequate warning, danger, and direction signs, shall be as required by the Host Nation and base authorities having jurisdiction. The traveling public shall be protected from damage to person and property. The Contractor's traffic on roads selected for hauling material to and from the site shall interfere as little as possible with base traffic. The Contractor shall investigate the adequacy of existing roads and the allowable load limit on these roads. The Contractor shall be responsible for the repair of any damage to roads caused by construction operations.

##### **1.4.3.1 USE OF EXISTING ROADS AS HAUL ROUTES**

The Contractor shall be responsible for coordinating with the base authorities for use of any existing roads as haul routes. Construction, and routing of new haul roads, and/or upgrading of existing roads to carry anticipated construction traffic shall be coordinated with the Base authorities and is the sole responsibility of the Contractor.

##### **1.4.3.2 EMPLOYEE PARKING**

The Contractor's employees may be allowed parking on the military installation. The Contractor is responsible for transporting workers (local nationals) from off post to the worksite, coordinating security identification screening, and cooperating in gate searches with the base authorities. The government reserves the right to terminate any and all contractor parking at any time.

#### **1.4.4 TEMPORARY PROJECT SAFETY FENCING AND BARRICADES**

The Contractor shall impose all measures necessary to limit public access to hazardous areas and to ensure the restriction of workers to the immediate area of the construction and mobilization site. The Contracting Officer may require in writing that the Contractor remove from the work any employee found to be in violation of this requirement.

##### **1.4.4.1 BARRICADES**

Barricades shall be required 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 shall be securely placed, clearly visible with adequate illumination to provide sufficient visual warning of the hazard during both day and night. Travel to and from the project site shall be restricted to a route approved by the Contracting Officer.

#### **1.4.5 HOST NATION AUTHORIZATIONS, PERMITS AND LICENSES**

It shall be the Contractor's responsibility to obtain such local authorizations, permits and licenses necessary to establish his quarry operations, batching operations and haul routes (See Special Clause entitled: COMPLIANCE WITH HOST COUNTRY RULES AND CUSTOMS).

#### **1.5 RESPONSIBILITY FOR PHYSICAL SECURITY**

Prior to mobilization, the Contractor shall submit his proposed means of providing project security to meet the requirements of Section 01040 SECURITY and prevent unauthorized access to equipment, facilities, materials and documents, and to safeguard them against sabotage, damage, and theft. The Contractor shall be responsible for physical security of all materials, supplies, and equipment of every description, including property which may be Government-furnished or owned, for all areas occupied jointly by the Contractor and the Government, as well as for all work performed.

#### **1.6 DUST CONTROL**

The Contractor shall be required to control objectionable dust in the work areas, access roadways, and haul roads by means of controlled vehicle speeds or dust palliatives. Vehicles transporting sand, cement, gravel or other materials creating a dust problem shall be covered, as directed by the Contracting Officer, or in accordance with local Laws, codes, and regulations.

#### **1.7 DIGGING PERMITS**

##### **1.7.1 REQUIREMENTS FOR DIGGING PERMITS**

Prior to the start of any work activity that requires excavation within the current base, the Contractor shall obtain a digging permit.

##### **1.7.2 REQUESTS FOR DIGGING PERMITS**

Requests for Digging Permits shall be submitted to Contracting Officer a minimum of seven (7) days prior to the start of the work activity covered by the permit. The request for a Digging Permit shall include a narrative description of the work to be performed and a detailed map of the area of the excavation clearly marking the location of all known utilities or other obstructions. If the work activity covered by the Digging Permit request also requires a utility outage, a separate request for the outage shall be submitted in accordance with the paragraph entitled CONNECTIONS TO EXISTING UTILITIES.

##### **1.7.3 PREPARATION OF REQUESTS FOR DIGGING PERMITS**

Prior to submitting a request for a Digging Permit, the Contractor shall carefully review the area to be excavated to determine the location of existing utilities and other obstructions. The Contractor will review available drawings and will conduct a visual inspection of the site. The Contractor will utilize underground utility detecting devices such as metal and cable detectors to determine the location of existing utilities. All utility lines found shall be clearly flagged or marked and the location of the utility shall be shown on the drawing to be submitted with the request for Digging Permit.

##### **1.7.4 EXISTING UNDERGROUND UTILITIES**

The Contractor shall exercise utmost care in researching locations of existing utilities and reducing

damage to existing utilities. Any utilities damaged by the Contractor shall be promptly repaired by the Contractor. The Contracting Officer will review and approve any proposed repairs. Any damage to existing utilities will be immediately reported to the Contracting Officer and the Base Commander.

## **1.8 CONNECTIONS TO EXISTING UTILITIES**

### **1.8.1 GENERAL**

Any outage involving disruption of electrical service beyond the site area shall be requested in writing at least ten (10) days in advance of the date requested for the commencement of the outage. The Contractor shall provide a request, detailing the type of outage needed (water, sewer, electrical, steam, etc.), the time needed to perform the work, the reason for the outage, and the known affected facilities. The Contracting Officer shall be contacted prior to the outage to confirm the time and date. If the Contractor fails to initiate work at the approved time, the Contracting Officer may cancel the approved outage and may direct the Contractor to resubmit a new request. No part of the time lost due to the Contractor's failure to properly schedule an outage shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

#### **1.8.1.1 PERFORMANCE OF WORK DURING NON-STANDARD HOURS**

To minimize outage impact to the mission of the installation, all outages shall be scheduled on weekends or after the project area's regular base duty hours and/or as directed by Contracting Officer Representative (COR). The period proposed for performance of the outage shall include sufficient contingencies to preclude impact to the peak working hours during the workweek.

#### **1.8.1.2 EXTERIOR NIGHT LIGHTING**

Exterior night lighting shall be provided in conformance with EM-385-1-1 entitled Safety and Health Requirements Manual.

### **1.8.2 EXISTING UNDERGROUND UTILITIES**

The Contractor is provided notice that existing utilities may be present in the construction area. The Contractor shall exercise the utmost care in researching locations of existing utility lines by implementing control measures to eliminate, or reduce to a level acceptable to the Contracting Officer, the chance of damaging or destroying existing utilities.

#### **1.8.2.1 USE OF UNDERGROUND UTILITY DETECTING DEVICE**

Prior to any excavation, a metal and/or cable-detecting device shall be used along the route of the excavation. All underground utilities discovered by this method will be flagged a minimum distance of one-half (1/2) meter on each side of the location.

#### **1.8.2.2 HAND EXCAVATION**

Hand excavation methods and special supervisory care shall be used between any flagged markers, in areas of known or suspected hazards, and in areas known or suspected to have multiple and/or concentrated utility lines or connections.

### **1.8.3 REPAIR OF DAMAGED UTILITIES**

The Contractor shall be responsible to repair any utilities damaged by him. The method of repair and schedule for performance of the repair shall be coordinated with, and subject to the approval of, the Contracting Officer. The repair work and any temporary work required to keep the system operational while repairs are being completed, shall be performed at no cost to the Government.

## **1.9 WATER**

The Contractor shall install and maintain necessary supply connections and piping for same, but only at such locations and in such manner as may be approved by the Contracting Officer. Water required for final testing, adjusting and balancing of HVAC systems will be [furnished by the Government] [the responsibility of the contractor]. Before final acceptance of systems, or facilities, all temporary connections and piping installed by the Contractor shall be removed at his expense in a manner satisfactory to the Contracting Officer.

## **1.10 ELECTRICITY**

Electrical service is not available for use under this contract; therefore all electric current required by the Contractor shall be the responsibility of the Contractor, furnished at his own expense. The Contractor shall provide diesel generators to meet his demand requirements. Electricity required for final testing of systems shall be the responsibility of the contractor. The means of doing so, such as by temporary distribution systems, shall be the responsibility of the Contractor. All temporary connections for electricity shall be subject to the approval of the Contracting Officer and shall comply with Corps of Engineers manual EM 385-1-1 entitled Safety and Health Requirements Manual. All temporary lines shall be furnished, installed, connected and maintained by the Contractor in a workmanlike manner satisfactory to the Contracting Officer. Before final acceptance of systems, or facilities, all temporary connections installed by the Contractor shall be removed at his expense in a manner satisfactory to the Contracting Officer.

## **1.11 WORK OUTSIDE REGULAR HOURS**

If the Contractor desires to carry on work outside the project area's regular base duty hours, or on holidays, including the following U.S. holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving and Christmas. The Contractor shall submit an application to the Contracting Officer. Due to reliance upon local national laborers and time off due to local observances, there may be disruptions. Potentials dates are the following local observances: National Islamic Holiday of Ashura, Ramadan (actual date varies – check with local authorities). The Contractor shall allow ample time to enable satisfactory arrangements to be made by the Government for inspecting the work in progress. At night, exterior lighting shall be provided in conformance with EM-385-1-1 entitled "Safety and Health Requirements Manual".

## **1.12 SCHEDULING OF WORK IN EXISTING FACILITIES**

As soon as practicable, but in any event not later than thirty (30) calendar days after award of this contract, the Contractor shall meet in conference with the Contracting Officer, or his duly authorized representatives, to discuss and develop mutual understanding relative to the scheduling of work in and access to the existing facilities where work has to be performed under this contract, so that the Contractor's proposed construction schedule is coordinated with the operating and security requirements of the installation.

## **1.13 SPECIAL FACILITIES AND SERVICES TO BE FURNISHED BY THE CONTRACTOR**

The Contractor shall furnish the facilities and services listed in this clause for Corps of Engineers personnel and other persons as designated by the Contracting Officer. All facilities, furnishings, materials, and equipment shall be new when furnished at the site. The Contractor shall fully maintain and repair all facilities, furnishings and equipment listed below. All facilities, furnishings, materials, and equipment furnished and/or installed by the Contractor under this clause shall remain the property of the Contractor at the completion of the contract. Facility structures shall be modular or containerized, suitable for easy movement at a later date.

#### **1.14 CERTIFICATES OF COMPLIANCE**

Any certificates required for demonstrating proof of compliance of materials with specification requirements shall be executed in accordance with Section 01335 SUBMITTAL PROCEDURES. Each certificate shall be signed by an official authorized to certify in behalf of the manufacturing company involved and shall contain the name and address of the Contractor, the project name and location, description and the quantity of the items involved, and date or dates of shipment or delivery to which the certificates apply. Copies of laboratory test reports submitted with certificates shall contain the name and address of the testing laboratory and the date or dates of the tests to which the report applies. Certification shall not be construed as relieving the Contractor from furnishing satisfactory material.

#### **1.15 ACCIDENT PREVENTION**

The Contractor shall comply with all applicable Host Country laws and with such additional measures as the Contracting Officer may find necessary in accordance with CONTRACT CLAUSE 52.236-13 entitled ACCIDENT PREVENTION (NOV1991)-ALTERNATE 1 (APR 1984). Applicable provisions of the Corps of Engineers manual entitled Safety and Health Requirements Manual EM 385-1-1 will be applied to all work under this contract. The referenced manual may be obtained from the Contracting Officer at the jobsite or from the Afghanistan Engineer District at Kabul, Afghanistan.

##### **1.15.1 ACCIDENT PREVENTION PROGRAM**

Within seven (7) days after NTP and at least ten (10) days prior to the accident prevention pre-work conference, four (4) copies of the Accident Prevention Plan required by the CONTRACT CLAUSE 52.236-13 entitled ACCIDENT PREVENTION (NOV 1991)- ALTERNATE I shall be submitted for review by the Contracting Officer. The Contractor shall not commence physical work at the site until the Accident Prevention Plan (APP) has been reviewed and accepted by the Contracting Officer. The APP shall meet the requirements listed in Appendix A of EM385-1-1. The program shall include the following: TAC Form 61 " Accident Prevention Program Hazard Analysis (Activity Hazard Analysis)" fully completed and signed by an executive officer of the company in block No. 13. The Activity Hazard Analysis is a method in which those hazards likely to cause a serious injury or fatality are analyzed for each phase of operations. Corrective action is planned in advance, which will eliminate the hazards. An analysis is required for each new phase of work. On large or complex jobs the first phase may be presented in detail with the submittal of the Accident Prevention Plan rather than presenting the complete analysis. If the plan is to be presented in phases, a proposed outline for future phases must be submitted as a part of the initial Accident Prevention Plan submittal. Accident Prevention Plans will be reviewed for timeliness and adequacy at least monthly with a signature sheet signed and dated documenting that these reviews took place. A copy of company policy statement of Accident Prevention and any other guidance as required by EM 385-1-1, Appendix A.

##### **1.15.2 GROUND FAULT CIRCUIT INTERRUPTER (GFCI) REQUIREMENT – OVERSEAS CONSTRUCTION**

The Corps of Engineers Health and Safety Manual, EM 385-1-1, section 11.C.05.a. states: "The GFCI device shall be calibrated to trip within the threshold values of 5 ma +/- 1 ma as specified in Underwriters Laboratory (UL) Standard 943." A variance from USACE has been granted allowing 10 ma, in lieu of 5 ma, for overseas activities that use 220 Volts (V)/50 hertz (Hz) electrical power.

##### **1.15.3 TEMPORARY POWER - ELECTRICAL DISTRIBUTION BOXES**

EM 385-1-1 section 11.A.01.a. states, "All electrical wiring and equipment shall be a type listed by a nationally recognized testing laboratory for the specific application for which it is to be used." This includes temporary electrical distribution boxes. Locally manufactured electrical boxes will not be allowed. Only manufactured electrical distribution boxes that meet the European CE requirements, with 10 ma CE type GFCIs installed shall be allowed. The Contractors shall do the following:

1. Make no modifications that might void any CE or manufacturer certification.
2. Test the installed systems to demonstrate that they operate properly and provide the 10 ma earth leakage protection.
3. Ensure GFCIs will have an integral push-to-test function. The testing shall be performed on a regular basis.
4. Check that proper grounding is checked regularly and flexible cords, connectors, and sockets inspected before each use.
5. Comply with all requirements of Section 11 of 385-1-1 Safety Manual.
6. Submit a sketch of the proposed temporary power distribution system to the GDA as a part of the Accident Prevention Plan.

#### **1.16 HAZARDOUS MATERIALS**

Should the Contractor encounter asbestos or other hazardous materials, during the construction period of this contract, he shall immediately stop all work activities in the area where the hazardous material is discovered. The Contractor shall then notify the Contracting Officer; identify the area of danger; and not proceed with work in that area until given approval from the Contracting Officer to continue work activities. Hazardous material is considered to be asbestos, explosive devices, toxic waste, or material hazardous to health and safety. The Contractor shall secure the area from daily traffic until it is safe to resume normal activities.

#### **1.17 OPERATION AND MAINTENANCE (O&M)**

##### **1.17.1 GENERAL**

The requirements contained herein are in addition to all shop drawings submission requirements stated in other sections of the specifications. The Contractor shall include the provisions for all items required under this clause in all purchase orders and sub-contract agreements. Submittals required hereinafter will not relieve the Contractor of any responsibilities under the Warranty of Construction Provisions of this contract or under the various Guarantee Clauses of the Technical Provisions.

##### **1.17.2 SUBMITTALS**

The Contractor shall submit all items requiring submission of O&M data under this and other sections of these specifications in accordance with Section 01335 SUBMITTAL PROCEDURES of the specifications.

##### **1.17.3 OPERATION AND MAINTENANCE (O&M) DATA**

The Contractor shall furnish operation and maintenance manuals for all facilities constructed under this contract. The manuals shall be loose leaf, indexed and shall consist of manufacturer's brochures, manufacturer's operation and maintenance manuals, service and repair manuals, catalogs, service bulletins, instruction charts, diagrams, other information as necessary to support the operation and maintenance of the end items of equipment, assemblies and systems. Each type of facility (housing, barracks, mosque, etc.) shall be covered by a separate manual (or manuals) consisting of all data pertaining to the equipment and/or systems within that facility. Identical equipment within a single major system shall require only one submittal of data. The Contractor shall furnish all O&M manuals to the Contracting Officer not less than thirty (30) calendar days prior to Contract completion. If the Contractor fails to furnish all O&M manuals to the Contracting Officer as specified herein, the Contracting Officer will deduct from the final contract payment an amount representing the lesser of 1% of the total contract cost or \$50,000. Required number of submittals (number of sets) shall be as specified in Section 01335 SUBMITTAL PROCEDURES.

**1.17.4 SUPPLEMENTAL SUBMITTALS OF DATA**

After initial submittal of O&M manuals and until final acceptance of all equipment, the Contractor shall prepare and deliver to the Contracting Officer supplemental technical data as previously described for all changes, modifications, revisions and substitutions to equipment and components. For equipment or systems introduced into the contract under change order, or modified by change order, supplemental data shall be furnished within forty-five (45) calendar days after issuance of the change order. The supplemental data furnished shall be properly prepared and identified for insertion into the O&M manuals.

**1.17.5 FRAMED INSTRUCTIONS FOR SYSTEMS**

Approved wiring and control diagrams showing the complete layout of the entire system, including equipment, piping, valves and control sequence, framed under glass or in approved laminated plastic, shall be posted, where applicable, in all mechanical equipment rooms. In addition, detailed operating instructions explaining safe starting and stopping procedures for all systems shall be prepared in typed form along with the inspections required to insure normal safe operations. The instructions shall be framed as specified above for the wiring and control diagrams and posted beside the diagram. Proposed diagrams, instructions, and other sheets shall be submitted for approval prior to posting. Operating instructions shall be posted before acceptance testing of the systems and verified during acceptance testing.

**1.17.6 ADDITIONAL SUBMITTALS/RE-SUBMITTALS**

The Contracting Officer reserves the right to determine whether the above specified information, as furnished by the Contractor, is adequate and complete and to require such additional submittals by the Contractor as necessary to insure that adequate information has been furnished to provide the satisfactory operation and maintenance of the various items of equipment and to fulfill the intent of the specifications. Additional submittals or re-submittals supplementing incorrect or incomplete data shall be made within thirty (30) calendar days after receiving notice by the Contracting Officer. All costs arising from these resubmissions shall be borne by the Contractor.

**1.18 INSTRUCTIONS AND TRAINING FOR OPERATION AND MAINTENANCE**

**1.18.1 GENERAL**

The Contractor shall be responsible for the instruction and training of operating and maintenance personnel as specified below and in the Technical Provisions of the specifications. Unless otherwise indicated in the Technical Provisions, operating and maintenance instructions shall be given for a minimum period as follows:

Title	Duration of Training
Mechanical Systems	10 Days
Electrical Systems	10 Days

**1.18.2 OPERATION AND MAINTENANCE TRAINING**

The Contractor shall provide competent instructors for training of personnel designated by the Contracting Officer to operate mechanical and electrical building systems and equipment, perform the required preventive maintenance to minimize breakdown, and to perform necessary repairs when malfunction or breakdown of equipment occurs. Such training shall consist of classroom and on-the-equipment training for the period specified, which shall be completed prior to acceptance of a system or equipment, as applicable. The instructor(s) shall have no other duties during the period of training. Classroom instruction shall not exceed fifty percent (50%) of the total training time, with the balance devoted to on-the-equipment demonstration and familiarization. Emphasis will be given to both electrical and mechanical features, in accordance with approved training plans.

### **1.18.3 ARRANGEMENTS**

The training shall be for not less than the periods of time specified, five (5) days per week, and eight (8) hours per day, subject to review and approval by the Contracting Officer. Each individual training session shall be presented one time only, shall be video taped in a television system compatible with the local area, and be scheduled in a manner acceptable to the Contracting Officer. At the completion of training, the videotapes shall become the property of the Government. In addition to the Contractor's requirements to video tape each training section, the Government reserves the right to record, in any manner, the subject training material, or training sessions given by the Contractor, without additional cost to the Government.

Recordings obtained will be used in future training by the Government. The operating and maintenance manual data, as specified to be furnished in these Special Clauses, shall be used as the base material for training.

### **1.18.4 SCHEDULING**

The Contractor shall contact the Contracting Officer for the purpose of preliminary planning, scheduling, and coordination of training, to maximize effectiveness of the training program for available operating and maintenance personnel. The Contractor shall initiate and make arrangements for such contact within thirty (30) calendar days after receipt of notification of award of contract; and shall include all significant times in scheduling and completing training in his PROJECT SCHEDULE. The Contractor shall provide a draft outline of training outline in sufficient detail to provide a broad indication of the type of scope of training to be given. It shall include but not be limited to; (a) a list of subjects to be presented; (b) estimated amounts of classroom and on-the-equipment instruction for each subject; (c) a list of minimum qualifications for instructors; and (d) discussions concerning the types and amounts of visual aids, reference materials, tools and test equipment, mock-up and other training materials that will be employed during training.

### **1.18.5 PRELIMINARY PLAN**

The Contractor shall submit seven (7) copies of an outline of his proposed training plan to the Contracting Officer for review and approval not later than 60 calendar days after award of this contract. The plan will be reviewed and coordinated with the content of the O&M manuals.

### **1.18.6 PLAN**

The Contractor shall submit seven (7) copies of his proposed training plan to the Contracting Officer for approval not later than ninety (90) calendar days prior to start of any training. The plan shall include the following:

1. A weekly outline showing overall form and design of training presentation;
2. A day-by-day schedule showing time intervals, the major and subordinate subjects to be covered in each, the name of the instructor(s) and qualification summary of each, and identification of related handouts;
3. Summary of the number of hours of classroom and on-the-equipment training
4. A list of reference materials to be provided by the Contractor to the trainees; and
5. A list and description of the training materials to be used, such as text, visual aids, mock-up, tools, etc.

The Contractor shall be responsible for furnishing all training materials except the following: The Government will provide space, chairs, and tables for classroom training, and three (3) sets of the five (5) sets of O&M Manuals required by the Contractor per Section 01335 SUBMITTAL PROCEDURES of the specifications.

Provision of these manuals is solely for reference purposes, and in no way relieves the Contractor from

providing all instruction and materials necessary for training personnel designated by the Government. All costs for resubmission of training plans, training materials, etc., as requested by the Contracting Officer shall be borne by the Contractor. Re-submittals shall be made within twenty (20) days of notice from the Contracting Officer.

**1.18.7 ATTENDANCE ROSTER/TAC FORM 356**

The Contractor shall develop an attendance roster or a similar document indicating each student's attendance, prior to the start of each class, subject and/or topic. This includes both "Hands-On" and classroom training. It is strongly recommended that each student trained be required to sign this document at the beginning of each class day for each and every class, subject and/or topic taught on that day. The Contractor's failure to have student attendance verified in writing may be cause for the Government to order the Contractor to repeat schooling where evidence of attendance cannot be verified. No part of the time lost due to such repeat instruction shall be made the subject of claim for extension of time or for excess costs or damage by the Contractor. Within ten (10) working days after completion of Operation and Maintenance Training conducted in accordance with this clause and/or applicable Technical Provision section, the Contractor shall complete and submit TAC Form 356 "Operation and Maintenance Training Validation Certificate". The attendance roster shall be included as an attachment to TAC Form 356.

**1.19 CONTRACTOR FURNISHED EQUIPMENT LISTS**

The Contractor shall furnish a list of all items, other than integral construction type items, furnished under the contract. Items such as furniture, drapes, rugs, vehicles, office machines, appliances, etc., shall fall under this category. The Contractor's list shall describe the item; give the unit price and total quantities of each. Model and serial numbers for equipment shall be provided when applicable. The Contractor shall keep an up-to-date register of all covered items and make this information available to the Contracting Officer at all times. Prior to acceptance, the Contractor shall submit the complete register to the Contracting Officer.

**1.20 TIME EXTENSIONS**

**1.20.1 GENERAL**

This provision specifies the procedure for determination of time extensions for unusually severe weather in accordance with the Contract Clause 52.249-10 entitled DEFAULT (FIXED-PRICE CONSTRUCTION) APR 1984. The listing below defines the anticipated monthly unusually severe weather for the contract period and is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the geographic location of the project. The schedule of anticipated unusually severe weather will constitute the baseline for determining monthly weather time evaluations. Upon award of this contract and continuing throughout the contract each month, actual unusually severe weather days will be recorded on a calendar day basis (including weekends and holidays) and compared to the monthly anticipated unusually severe weather in the schedule below. The term "actual unusually severe weather days" shall include days actually impacted by unusually severe weather. The Contractor's schedule must reflect the anticipated unusually severe weather days on all weather dependent activities.

**Xxxxxx Province - Xxxxx**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
xx												

Kabul Province – Kabul

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
22	18	11	10	07	01	02	01	01	03	16	20	114

Parwan Province - Bagram

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
19	13	07	04	03	02	00	00	00	02	08	19	77

Kunar Province – Asadabad

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
07	08	10	08	05	03	04	06	04	02	03	05	65

Laghman Province – Mihterlam

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
07	04	02	01	01	01	01	01	01	00	01	05	25

Nangahar Province – Jalalabad

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
03	01	01	04	00	00	01	02	01	01	01	02	17

Badakhshan Province – Feyzabad

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
16	16	01	01	00	00	00	00	00	00	03	12	49

Bamiyan Province – Bamiyan

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
21	19	13	03	01	00	00	00	01	09	19	21	107

**NOTE FOR PREPARER:** In the event the project is located in either Nuristanm, Panjsher, Samangan, Sari Pul, Takhar, Wardak or any other province not listed above, then the closest neighboring province should be selected, or if the project is located equidistant between two provinces, than the average of the two provinces should be used.

**1.20.2 TIME EXTENSIONS**

The number of actual unusually severe weather days shall be calculated chronologically from the first to the last day in each month. Unusually severe weather days must prevent work for fifty percent (50%) or more of the Contractor's workday and delay work critical to the timely completion of the project. If the number of actual unusually severe weather days exceeds the number of days anticipated in the paragraph above, the Contracting Officer will determine whether the Contractor is entitled to a time extension. The Contracting Officer will convert any qualifying delays to calendar days and issue a modification in accordance with the Contract Clause 52.249-10 entitled DEFAULT (FIXED-PRICE CONSTRUCTION) APR 1984.

**1.20.3 OTHER DELAYS**

Construction delays due to full or partial base closures due to incidents such as demonstrations, civil unrest and outright attacks will be examined on an individual basis for consideration of time extensions.

**1.21 STANDARDIZATION**

Where two or more items of the same type or class of product, system or equipment furnished in this project are required, the units shall be products of the same manufacturer and shall be interchangeable

when of the same size, capacity, performance characteristics, and rating. The only exception to this requirement is where the items are interchangeable due to conformance with industry standards (valves, fittings, etc.); they need not be by the same manufacturer. This requirement applies to all manufactured items in the project that normally require repair or replacement during the life of the equipment.

## **1.22 COMPLIANCE WITH HOST COUNTRY RULES AND CUSTOMS**

The laws of Host Country may prohibit access to certain areas of the country that are under military control. The Contractor shall furnish the Contracting Officer the names of personnel, type, and amounts of equipment, dates and length of time required at the site, and the purpose of entering the host country. It is understood that areas to which rights of entry are provided by the Host Government are to be used only for work carried out under the contract and no destruction or damages shall be caused, except through normal usage, without concurrence of the Host Government.

### **1.22.1 CONTRACTOR'S RESPONSIBILITIES**

The following items are the sole responsibility of the Contractor to investigate, estimate as to cost, and assume the risk, as normally encountered by Contractors. The Contractor shall be responsible for determining the effect of the following on his own cost of performance of the contract and for including sufficient amount in the contract price:

1. Official language and type of accounts required to satisfy the officials of the Local Government.
2. Entry and exit visas, residence permits, and residence laws applicable to aliens. This includes any special requirements of the Host Government, including those required by local Labor Offices, which the Contractor may have to fulfill before an application for a regular block of visas will be accepted.
3. Passports, health and immunization certificates, and quarantine clearance.
4. Compliance with local labor and insurance laws, including payment of employer's share of contribution, collecting balance from employee and paying into insurance funds.
5. Strikes, demonstrations and work stoppage.
6. Collection through withholding and payment to local Government, of any Host Country income tax on employees subject to tax.
7. Arranging to perform work in the Host Country, to import personnel, to employ non-indigenous labor, to receive payments and to remove such funds from the country.
8. Operating under local laws, practices, customs and controls, and with local unions, in connection with hiring and firing, mandatory wage scales, vacation pay, severance pay, overtime, holiday pay, 7th day of rest, legal notice or pay in lieu thereof for dismissal of employees, slowdown and curtailed schedules during religious holidays and ratio of local labor employed in comparison to others.
9. Possibility of claims in local bureaus, litigation in local courts, or attachment of local bank accounts.
10. Compliance with workmen's compensation laws and contributions into funds. Provisions of necessary medical service for Contractor employees.
11. Special license required by the local Government for setting up and operating any manufacturing plant in the Host Country, e.g. concrete batching, precast concrete, concrete blocks, etc.
12. Sales within the host country of Contractor-owned materials, and equipment.
13. Special licenses for physicians, mechanics, tradesmen, drivers, etc.
14. Identification and/or registration with local police of imported personnel.
15. Stamp tax on documents, payments and payrolls.

16. Base passes for permanent staff, day laborers, motor vehicles, etc.
17. Compliance with all customs and import rules, regulations and restrictions, including, but not limited to, local purchase requirements.

## **1.23 EMPLOYEE ACCESS TO PROJECT SITE**

### **1.23.1 EMPLOYEE IDENTIFICATION**

The Contractor shall be responsible for furnishing to each employee and for requiring each employee engaged on the work, to display identification as approved and directed by the Contracting Officer. Prescribed identification shall immediately be delivered to the Contracting Officer for cancellation upon release of any employee. When required, the Contractor shall obtain and provide fingerprints of persons employed on the project. Contractor and subcontractor personnel shall wear identifying markings on hard hats clearly identifying the company for whom the employee works.

#### **1.23.1.1 PREPARATION OF IDENTIFICATION BADGES**

The Contractor shall be required to prepare a written application inclusive color photographs and provide all materials and labor necessary to prepare an identification badge, laminated in plastic, containing the employee's name, badge number, color photo, height and weight, the name of the Contractor's organization and for requiring each employee engaged on the work to display this identification as directed by the Contracting Officer. The Contractor shall submit each application and draft badge through the Contracting Officer to the Base Security Office. A minimum of thirty-five workdays shall be allowed for Government review and certification of badges. The Base Security Office will certify each draft badge by signature, stamp, seal or any combination thereof. Upon certification by the Base Security Office, the badges will be returned to the Contractor for final preparation, lamination, and issuance. Badges shall not be taken out of country during periods of travel or absence. During such periods, the Contractor may be permitted to issue temporary identification badges.

#### **1.23.1.2 EMPLOYEE BACKGROUND AND HISTORICAL INFORMATION**

The Contractor shall be required to prepare and maintain personal background and historical information forms on each employee. These forms may be reviewed by the Base Security Office. The required information shall include but not necessarily be limited to the following:

1. Full name.
2. Place and date of birth.
3. Three (3) current color photographs.
4. Copy of Citizenship/Nationality identification.
5. Copy of Passport.
6. Copy of drivers license.
7. Police Background Check.
8. Work History.
9. Personal background information.
10. Copy of Work Permit and/or Visa.
11. Permanent home of record and in-country address.
12. Other information mandated by local law, the Base Security Regulations or that may be required to coordinate and process the necessary documentation with the government offices responsible for the approval.

13. Registration, insurance company, policy number and expiration date for each vehicle.

### **1.23.2 IDENTIFICATION OF CONTRACTOR VEHICLES**

The Contractor shall be responsible for requiring each vehicle engaged in the work to display permanent vehicular identification as approved and directed by the Contracting Officer. If acceptable to the Base Security Office and approved by the Contracting Officer, the Contractor may institute a system of non-permanent temporary identification for one-time delivery and transit vehicles. Each Contractor vehicle, machine, piece of equipment, or towed trailers, shall show the Contractor's name such that it is clearly visible on both front doors of the vehicle and both sides of a towed trailer. A valid license plate shall be displayed at all times. Contractor vehicles operated on Government property shall be maintained in a good state of repair, shall be insured, and shall be registered in accordance with Afghan Law.

### **1.23.3 SECURITY PLAN**

The Contractor shall submit to the Contracting Officer a security plan as required in Section 01040 SECURITY.

### **1.24 RADIO TRANSMITTER RESTRICTIONS**

To preclude accidental actuation of sensitive electronic equipment, the Contractor shall not use radio-transmitting equipment without prior approval of the Contracting Officer.

### **1.25 PUBLIC RELEASE OF INFORMATION**

#### **1.25.1 PROHIBITION**

There shall be no public release of information or photographs concerning any aspect of the materials or services relating to this bid, contract, purchase order, or other documents resulting there from without the prior written approval of the Contracting Officer.

#### **1.25.2 SUBCONTRACT AND PURCHASE ORDERS**

The Contractor agrees to insert the substance of this clause in all purchase orders and subcontract agreements issued under this contract.

### **1.26 CONSTRUCTION PROJECT SIGN**

The contractor shall fabricate and display at least one sign to identify the project site as a Government of the Islamic Republic of Afghanistan sponsored project associated with the Ministry of [XXXXX]. The Ministry of XXXXX logo and text furnished in the Attachment should be substituted for the Ministry of Interior logo and text on the example sign layout. The project title in Text Group 6 shall read “[*Project Name and Location*]”. The sign shall measure at least 1.8 x 1.2 meters as shown in Attachment. The sign shall be fixed to posts with a sufficient number of bolts to ensure that the sign will not be damaged by weather or vandalism. A minimum of three posts will be utilized. If lumber is used for support posts, the minimum dimension of the lumber vertical posts and bracing will be 10 cm x 10cm. The post will set in field-prepared site-grade concrete. No rebar (reinforcement) and no form work are required for concrete. At any point during construction if deemed necessary by the COR the sign shall be repaired or replaced. Exact placement at the project site shall be coordinated with the COR.

The black, green and red colors on the left side of the sign shall be the Pantone colors listed below:

Black: Pantone Process Black PC

Red: Pantone 485 PC

Green: Pantone 370 PC

Sign panels shall be fabricated from 19mm thick High Density Overlay (HDO) plywood or 2-mm thick sheet metal primed and painted (exterior paint) with lumber or metal uprights and bracing (see the “pdf” Attachment). The sign will be primed and two-coat painted. The sign shall be placed in a location that is visible to pedestrians and/or vehicles passing the project site. Sign face and graphics shall be non-reflective vinyl film prepared on a white adhesive backing or enamel-based exterior type paint. All logos shall be aligned left with typography center text. Dari translations shall be substituted with Pashtun in areas where the language is more predominant/appropriate. If the Text Group T6 (which is the Project Title taken from the Contract) does not make it clear to the public viewing the sign what the project purpose is, succinct wording shall be added to Text Group T2 to make this clear (for example, “Hospital Wastewater Treatment Facility Expansion” or “20 KM paved road” or other project summary), to be submitted and approved by the COR.

## **1.27 ATTACHMENTS**

The following attachments found in Sections 01060A PROJECT SIGNS and 01060B CUSTOM FORMS form an integral part of this specification:

- TAC FORM 61 - Accident Prevention Program Hazard Analysis
- TAC FORM 356 - Operation and Maintenance Training Validation Certificate
- Construction Project Sign Dimensions
- Mounting Diagram
- Ministry Logo

## **2. SPECIAL CONTRACT REQUIREMENTS**

### **2.1 APPLICATION OF U.S. CRIMINAL JURISDICTION**

Reference DODI 5525.11. The Contractor is directed to provide all of its personnel working under this Contract, and to require all of its subcontractors to provide their personnel, with written notification that - with the exception of nationals of Afghanistan and those ordinarily resident in Afghanistan - Contractor and subcontractor personnel, and the dependents of Contractor and subcontractor personnel who are residing with such personnel, may be subject to US criminal jurisdiction as provided for in the Military Extraterritorial Jurisdiction Act, 18 USC 3261-3267; see Section 3267(1)(A)(iii)(I) and (2)(A)(iii). A copy of the notice ***shall be furnished to the contracting officer upon award of the contract***, along with a certification by an authorized company representative attesting to the provision of the notification to contractor personnel.

### **2.2 ATTACKS FROM HOSTILE ENTITIES**

This Contract is firm fixed-price. Costs incurred in the performance of project execution that arise from the attacks of hostile entities, such as costs arising from damage to or destruction of contractor equipment and facilities, and damage to or destruction of the project prior to Government acceptance, are the sole responsibility of the Contractor. The Government makes no guarantee to provide the Contractor with security, and bears no obligation to reimburse the Contractor for costs arising from the attacks of hostile entities. When appropriate, the Contracting Officer may provide the Contractor with an equitable adjustment with respect to time – but not cost – in accordance with clause 52.249-10; see 52.249-10(b)(1)(i) and (2).

### **2.3 INSTALLATION ACCESS AND BADGING**

This Contract is firm fixed-price. It is the responsibility of the Contractor to be knowledgeable of and to abide by any and all applicable installation access procedures and requirements, to include any and all badging procedures and requirements that may be necessary for contractor access to the project site.

Such procedures and requirements may change over the course of contract performance; it is the responsibility of the Contractor to plan accordingly in order to meet its existing obligations under this Contract. The US Army Corps of Engineers, Afghanistan Engineer District, neither controls nor is responsible for any such installation access procedures, requirements or changes thereto.

## **2.4 CUSTOMS CLEARANCE PROCEDURES**

Reference clauses 52.229-6 and 52.225-13. This Contract is firm fixed-price. It is the responsibility of the Contractor to be knowledgeable of and to abide by any and all applicable customs clearance procedures and requirements that may be necessary for the transportation of supplies and equipment into Afghanistan. Such procedures and requirements may change over the course of contract performance; it is the responsibility of the Contractor to plan accordingly in order to meet its existing obligations under this Contract. The US Army Corps of Engineers, Afghanistan Engineer District, neither controls nor is responsible for any such customs clearance procedures, requirements or changes thereto.

### **2.4.1 BACKGROUND**

Every contractor/carrier importing goods into Afghanistan or exporting goods out of the country must comply with national customs regulations and procedures administered by the Afghanistan Customs Department (ACD) of the Ministry of Finance, in compliance with Afghan law. Contractors performing contracts in Afghanistan for the Department of Defense (DoD), including the U.S. Army Corps of Engineers, in support of Operation Enduring Freedom (OEF), may be entitled to certain exemptions from the payment of customs tariffs and duties on goods and materiel imported into Afghanistan for use at DoD construction projects within the country, and on export of materiel from Afghanistan after completion of a project.

Obtaining import tax exemptions and clearances for the release of construction goods and materiel through ACD is often time consuming. Early planning and realistic delivery timelines are essential to prevent avoidable project delays related to customs issues. This section provides general guidance and a list of customs procedures and documents that you may be required to fulfill or provide. Please note that this guidance is provided to alert contractors from the outset that the Afghan customs process is complex and time-consuming, and to strongly encourage early planning. The steps listed below are provided for informational purposes only and cannot be regarded as definitive because the ACD's procedures and requirements may change at any time.

Any deviations from the process described herein shall not form the basis for a request for equitable adjustment.

### **2.4.2 GENERAL REQUIREMENTS**

USACE Contractors must designate an authorized employee of the company as the Customs point of contact (POC) responsible for handling Customs Clearance issues, and must advise the USACE's Customs Coordinator by e-mail of the name and contact information for the authorized Customs POC. This individual must hand-deliver all required documentation between the USACE's Customs Coordinator at Qalaa House and the US Embassy, the Afghan Ministry of Foreign Affairs, and the Customs Department of the Afghan Ministry of Finance in order to obtain required stamps and signatures.

To initiate the customs clearance process, the following steps are necessary as of the time of publication of this solicitation, but cannot be regarded as definitive:

- a. Prepare a Contractor's Letter of Introduction for the Afghanistan Customs Department. The Letter of Introduction should first be emailed to the USACE Customs Coordinator at Qalaa House, Kabul Afghanistan.
- b. The following hard copy original documents should be delivered to the USACE's Customs Coordinator at Qalaa House prior to the movement of goods into or out of Afghanistan:

1. A completed Tax Exemption Form (“Muaffi Nama”), purchased from the Afghan Customs Department and written in the Dari language;
  2. A Bill of Lading (for cargo transiting via ship and motor carrier), Airway Bill (for cargo arriving via air) or CMR (for cargo that has only traveled overland);
  3. An Invoice in US Dollars only. If the goods were purchased elsewhere and invoiced in a different currency, the equivalent U.S. Dollar amount must be clearly shown;
  4. A Customs Clearance Request. See Section 01060B CUSTOM REQUIREMENTS;
  5. A Packing List if the complete cargo manifest is not listed on the invoice;
  6. A Certificate of Origin for cargo coming through Islam Qalat and Heart
- c. The USACE Customs Coordinator will check the documents to ensure that they are complete, accurate, and ready for signature.
- d. Once all stamps and signatures are obtained on the documents listed under paragraph 2, the Afghanistan Customs Department will send them to the applicable customs clearing house and the shipment can be released for border crossing and final delivery.

**Note: When a contractor imports vehicles or equipment for use by the US Government, the items can only remain in country until the contracted project is complete. At the termination of the contract, the vehicles or equipment must be exported following procedures similar to those outlined above, or the original exempted duties must be paid to the Ministry of Finance if the vehicles or equipment remain in Afghanistan.**

It is the sole responsibility of the contractor to know of and abide by all Afghan customs clearance procedures and requirements applicable to the importation of supplies and equipment into Afghanistan, and to make accurate and truthful representations on all customs documents. Please recognize that Afghan customs procedures and requirements may change over the period of contract performance. The US Army Corps of Engineers, Afghanistan Engineer District, therefore provides the information in this section for general guidance purposes only, and advises you that responsibility for customs compliance, and awareness of changing customs procedures, remains your responsibility.

Any contractor or shipping agency that violates Afghan customs procedures may be subject to legal action, including but not limited to revocation of contract, forfeiture of goods and enforced collection of fines and customs fees due the Afghan Government. All contractors and suppliers that import goods tax and duty free are subject to warehouse and storage facility inspections by USACE representatives to confirm that customs manifests are accurate and that abuse of the US Government’s tax-exempt status has not occurred.

## **2.5 TRAVEL WARNINGS**

The Contractor shall provide all personnel working under this contract, and shall require subcontractors to provide their personnel, with a written notification advising such personnel to be aware of US State Department Travel Warnings with respect to Afghanistan, available at <http://travel.state.gov>, in the event they wish to consider bringing their dependants into Afghanistan. A copy of the notice shall be furnished to the Contracting Officer upon award of the contract, along with a certification by an authorized company representative attesting to the provision of the notification to contractor personnel. At no time, subject to the written approval of the contracting officer, may the contractor allow such dependants, or any other unauthorized individuals, to be present on the project site grounds, whether in transit or otherwise.

## **2.6 DRUG-FREE WORKFORCE**

Documentation of the contractor’s drug-free workforce program as required by clause 252.223-7004(b) shall be furnished to the contracting officer upon award of the contract.

**2.7 COMBATING TRAFFICKING IN PERSONS, COMMERCIAL SEX ACTS, FORCED LABOR**

A copy of the employee notification statement as required by clause 52.222-50 Alt 1 shall be furnished to the Contracting Officer upon award of the contract, along with a certification by an authorized company representative attesting to the provision of the notification to contractor personnel.

**2.8 PROMPT PAYMENT OF SUBCONTRACTORS**

In accordance with 52.232.5(b)(1)(v), the contractor shall furnish documentation with each progress payment which indicates that all sub-contractors and suppliers have been paid with funds from the most recent progress payment. In order for the progress payment request to be considered complete, the contractor shall:

1. Submit a listing of all subcontractors, the total amount paid to each subcontractor under the contract and the dates and methods of such payments; and
2. Provide copies of payrolls for each subcontractor working under this contract.

**2.9 SUBCONTRACTORS CLAUSE REQUIREMENT**

In accordance with 52.232.27, the Contractor shall include in each subcontract, a payment clause that obligates each subcontractor to pay their subcontractors for satisfactory performance of work not later than 7 days from the date they receive payment for work under this contract.

**2.10 DEFENSE BASE ACT**

In accordance with FAR 52.228-3 "Workers Compensation Insurance" (Defense Base Act) the Offeror is required to provide, prior to commencing work under this contract, such workers' compensation insurance or security as the Defense Base Act ("DBA") (42 U.S.C.1651 et seq.) requires and to continue to maintain it until performance is complete. The amount listed by the Offeror on this Contract Line Item (CLIN) is the estimated DBA insurance premium (estimated payroll of the Offeror and its subcontractors times the applicable rate(s)). The DBA insurance premium amount varies with payroll and the nature of services and will, therefore, be taken into account during price evaluation of offers. The actual amount paid by the government under that CLIN will be based on the amount of the Rutherford invoice, stamped "paid" and submitted by the Offeror after contract award. In the event of recalculation of the premium by CNA based on actual payroll amounts, the contracting officer will adjust this CLIN by contract modification to reflect the actual premium amounts paid. Failure to fully comply with the Defense Base Act requirements may result in termination for default in accordance with FAR 52.249-10 Default (Fixed-Price Construction).

**2.11 SUBMISSION OF DEFENSE BASE ACT CLAIMS**

The Contractor's Safety Officer shall, in addition to any other duties required to be performed under this contract, do the following:

1. Make timely Defense Base Act insurance claims on behalf of each employee who is injured or killed in the course of their employment under this contract; and
2. Make monthly written reports to the Contracting Officer, Administrative Contracting Officer, and the Agency Safety and / or Occupational Health Manger, providing the name(s) of each such injured or deceased employee, the circumstances surrounding each injury or death, the dates of each injury or death, the date the insurance claim was made on behalf of each employee(s), and the current status of each claim.

The Agency Safety and / or Occupational Health Manger POC will be provided at the pre-construction meeting.

**-- END OF SECTION --**

**Clearance Request Requirements Checklist  
(Requirements as of 24 May 2010)**

For use by all U.S. Army Corps of Engineers (USACE)/ Afghanistan Engineer District (AED) Contractors:

**For questions, contact Nesar Asdaq at [nesar\\_asdaq@yahoo.com](mailto:nesar_asdaq@yahoo.com); cell: (0093) 0700-276-349 or Customs Coordinator at [DLL-CETAN-CAB@usace.army.mil](mailto:DLL-CETAN-CAB@usace.army.mil).**

Please make sure your set of documents contains the following prior to submitting to USACE/AED for Customs Clearance Process:

**ALL DOCUMENTS DELIVERED TO AED-N QALAA HOUSE MUST BE ORIGINALS!**

No	Item Name	Details
1	Cover Letter	To be on Company Letterhead; for more details please refer to Annex A (Sample Cover Letter Format)
2	Original Bill of Lading/CMR/Air Waybill ( <i>Verified copy of original is not acceptable</i> )	This document should include the following information in <b>English Language</b> : A. Document Number B. Date C. Consignee: (USACE, c/o Contractor Name & Address in Afghanistan) D. Contract # and Project Name (e.g W917PM.....ANA Garrison.....) E. Route and Final Destination F. Container Number (if applicable) G. Truck Number (if applicable) H. Number of Pieces I. Description of Goods: 1) (if the goods are Vehicles/Loader/Excavators ...etc) info should include: a) Engine # b) Chassis # c) Model d) Color e) Country of Origin f) Type/Brand 2) For non-mobile Machines like Generators only <b>Serial #</b> and <b>Brand or Type</b> is sufficient
3	Original Invoice ( <i>Verified copy of original is not acceptable</i> )	This document should include the following information in <b>English Language</b> : A. Document Number B. Date C. Consignee: (USACE, c/o Contractor Name & Address in Afghanistan) D. Contract # and Project Name (e.g W917PM.....ANA Garrison.....) E. Container Number (if applicable) F. Description of Goods: 1) (if the goods are Vehicles/Loader/Excavators ...etc) info should include: a) Engine # b) Chassis # c) Model d) Color e) Country of Origin f) Type/Brand 2) For non-mobile Machines like Generators only <b>Serial #, Brand or Type</b> is sufficient G. Currency in <b>USD Only (other currencies will not be accepted)</b> H. Invoice to be Signed & Stamped by Supplier
4	Packing List	To specify contents of Invoice (not required if invoice lists all items)
5	Certificate of Origin ( <i>if applicable</i> )	Required only if cargo arrives in Afghanistan via Herat or Islam Qalah.
6	Exemption Form (MUAFFI NAMA)	To be obtained from Ministry of Finance (MOF) Revenue Department, and completed in the Dari Language

Note: For shipments coming through Pakistan – Karachi Port, we require two copies of the full set of documents in addition to the original documents: one copy for our office record and one copy for US Consulate Karachi– Pakistan. For shipments coming through Mazar e Sharif and Herat, only one copy for our office records suffices.

**Sample Format for Letter of Introduction**

TO: U. S. Army Corps of Engineers, Afghanistan Engineer District (AED)

ATTN: [ name of POC]

FROM: Prime Contractor (*Authorized Person*)

SUBJECT: Customs Clearance Request for U. S. Military Equipment

Request your assistance in obtaining release of the following items, as we require their immediate shipment to Afghanistan for use in support of Operation Enduring Freedom (OEF).

Company:	Full Name and Address
Sub Contractor ( <i>if applicable</i> )	Full Name and Address
Contract No & Task Order No.:	W912ER....., W917PM.....
Project Description:	i.e ANA Garrison Nangarhar, ANP Border Police Kandahar....etc
Shipping Route:	i.e Austria, Karachi – Pakistan, Torkham – Kabul or Turkey, Azerbaijan, Turkmenistan, Herat ...etc

Bill of Lading Details	Number	Date
	1234....	MM DD YY

Container Number:	TOLU4938862, TRLU5949846, TRLU9220744, AMCU4500861 etc...
Number of Pieces:	4 Containers
Contents:	Steel Pipe, Cement, Door, Window...etc ( <i>if Vehicles or Generators, please refer to item (2-I or 3-F of Checklist**)</i> )
Final Destination:	Kabul or Name of respective Province Afghanistan

Invoice Details	Number	Date	Amount	Currency
		123	MM DD YY	100,000.00

Authorized Employee of Company responsible for Customs Clearance:	Name of Company's Employee
Authorized Shipping Agent:	Name and Address of Shipping Agent

Your cooperation in facilitating the clearance of said items from Afghan Custom's authorities and onward transportation to final destination is appreciated.

\*\*If the contractor is importing its own equipment (e.g., vehicles, generators, etc.) for use on the contracted project, this statement is added: "The mentioned Equipment and Accessories are contractor-owned and are temporarily imported to Afghanistan for the contract period of \_\_\_\_\_ to \_\_\_\_\_. At the conclusion of the contract the said items will be removed from Afthanistan, or the original duties will be paid to the Afghanistan Customs Department, Ministry of Finance by the contractor.

Regards,

Name and Title of Authorized Person

Signature

Date

Stamp of Company

SECTION 01312

QUALITY CONTROL SYSTEM (QCS)

1. GENERAL

1.1 GENERAL

The Government will use the Resident Management System for Windows (RMS) to assist in its monitoring and administration of this contract. The Contractor shall use the Government-furnished Construction Contractor Module of RMS, referred to as QCS, to record, maintain, and submit various information throughout the contract period. The Contractor module, user manuals, updates, and training information can be downloaded from the RMS web site: the Contractor can obtain the current address from the Government. This joint Government-Contractor use of RMS and QCS will facilitate electronic exchange of information and overall management of the contract. QCS provides the means for the Contractor to input, track, and electronically share information with the Government in the following areas:

Administration	Submittal Monitoring
Finances	Scheduling
Quality Control	Import/Export of Data

1.1.1 CORRESPONDENCE AND ELECTRONIC COMMUNICATIONS

For ease and speed of communications, both Government and Contractor will, to the maximum extent feasible, exchange correspondence and other documents in electronic format. Correspondence, pay requests and other documents comprising the official contract record shall also be provided in paper format, with signatures and dates where necessary. Paper documents will govern, in the event of discrepancy with the electronic version.

1.1.2 OTHER FACTORS

Particular attention is directed to specifications "SUBMITTAL PROCEDURES", "CONTRACTOR QUALITY CONTROL", "PROJECT SCHEDULE", and Contract Clause, "Payments", which have a direct relationship to the reporting to be accomplished through QCS. Also, there is no separate payment for establishing and maintaining the QCS database; all costs associated therewith shall be included in the contract pricing for the work.

1.2 QCS SOFTWARE

QCS is a Windows-based program that can be run on a stand-alone personal computer or on a network. Prior to the Pre-Construction Conference, the Contractor shall be responsible to download, install and use the latest version of the QCS software from the Government's RMS Internet Website. Any program updates of QCS will be made available to the Contractor via the Government RMS Website as they become available. It shall be the

responsibility of the contractor to maintain the QCS software and install updates as they become available.

### 1.3 SYSTEM REQUIREMENTS

The following listed hardware and software is the minimum system configuration that the Contractor shall have to run QCS. No separate payment shall be made for updating or maintaining the necessary hardware configurations necessary to run QCS:

#### Hardware

IBM-compatible PC with 1000 MHz Pentium or higher processor  
256+ MB RAM for workstation / 512+ MB RAM for server  
1 GB hard drive disk space for sole use by the QCS system  
Digital Video Disk (DVD)-Compact Disk (CD) Reader-Writer (RW/ROM)  
Monitor with a resolution of AT LEAST 1024x768, 16bit colors  
Mouse or other pointing device  
Windows compatible printer. (Laser printer must have 4 MB+ of RAM)  
Connection to the Internet, minimum 56k BPS

#### Software

MS Windows 2000 or higher  
QAS-Word Processing software: MS Word 2000 or newer  
Internet browser supporting HTML 4.0 or higher  
Electronic mail (E-mail) MAPI compatible  
Virus protection software regularly upgraded with all issued manufacturer's updates

### 1.4 RELATED INFORMATION

#### 1.4.1 QCS USER GUIDE

After contract award, the Contractor shall download instructions for the installation and use of QCS from the Government RMS Internet Website; the Contractor can obtain the current address from the Government. In case of justifiable difficulties, the Government will provide the Contractor with a CD-ROM containing these instructions.

#### 1.4.2 CONTRACTOR QUALITY CONTROL (CQC) TRAINING

The use of QCS will be discussed with the Contractor's QC System Manager during the mandatory CQC Training class. The government will provide QCS training if requested by the contractor.

### 1.5 CONTRACT DATABASE

Prior to the pre-construction conference, the Government shall provide the Contractor with basic contract award data to use for QCS. The Government will provide data updates to the Contractor as needed, generally by files attached

to E-mail or via CD-ROM. These updates will generally consist of submittal reviews, correspondence status, QA comments, and other administrative and QA data.

#### 1.6 DATABASE MAINTENANCE

The Contractor shall establish, maintain, and update data for the contract in the QCS database throughout the duration of the contract. Data updates to the Government shall be submitted via either E-mail or electronic media with printed/file attachments, e.g., daily reports, schedule updates, payment requests. If permitted by the Contracting Officer a CD-ROM may be used instead of E-Mail (see Paragraph DATA SUBMISSION VIA CD-ROM). The QCS database typically shall include current data on the following items:

##### 1.6.1 ADMINISTRATION

###### 1.6.1.1 CONTRACTOR INFORMATION

The database shall contain the Contractor's name, address, telephone numbers, management staff, and other required items. Within 14 calendar days of receipt of QCS software from the Government, the Contractor shall deliver Contractor administrative data in electronic format via E-mail.

###### 1.6.1.2 SUBCONTRACTOR INFORMATION

The database shall contain the name, trade, address, phone numbers, and other required information for all subcontractors. A subcontractor must be listed separately for each trade to be performed. Each subcontractor/trade shall be assigned a unique Responsibility Code, provided in QCS. Within 14 calendar days of receipt of QCS software from the Government, the Contractor shall deliver subcontractor administrative data in electronic format via E-mail.

###### 1.6.1.3 CORRESPONDENCE

All Contractor correspondence to the Government shall be identified with a serial number. Correspondence initiated by the Contractor's site office shall be prefixed with "S". Letters initiated by the Contractor's home (main) office shall be prefixed with "H". Letters shall be numbered starting from 0001. (e.g., H-0001 or S-0001). The Government's letters to the Contractor will be prefixed with "C".

###### 1.6.1.4 EQUIPMENT

The Contractor's QCS database shall contain a current list of equipment planned for use or being used on the jobsite, including the most recent and planned equipment inspection dates.

###### 1.6.1.5 MANAGEMENT REPORTING

QCS includes a number of reports that Contractor management can use to track the status of the project. The value of these reports is reflective of the quality of the data input, and is maintained in the various sections of QCS. Among these reports are: Progress Payment Request worksheet, QA/QC comments, Submittal Register Status, Three-Phase Inspection checklists.

## 1.6.2 FINANCES

### 1.6.2.1 PAY ACTIVITY DATA

The QCS database shall include a list of pay activities that the Contractor shall develop in conjunction with the construction schedule. The sum of all pay activities shall be equal to the total contract amount, including modifications. Pay activities shall be grouped by Contract Line Item Number (CLIN), and the sum of the activities shall equal the amount of each CLIN. The total of all CLINs equals the Contract Amount.

### 1.6.2.2 PAYMENT REQUESTS

All progress payment requests shall be prepared using QCS. The Contractor shall complete the payment request worksheet and include it with the payment request. The work completed under the contract, measured as percent or as specific quantities, shall be updated at least monthly. After the update, the Contractor shall generate a payment request report using QCS. A signed paper copy of the approved payment request is also required, which shall govern in the event of discrepancy with the electronic version.

### 1.6.3 QUALITY CONTROL (QC)

QCS provides a means to track implementation of the 3-phase QC Control System, prepare daily reports, identify and track deficiencies, document progress of work, and support other contractor QC requirements. The Contractor shall maintain this data on a daily basis. Entered data will automatically output to the QCS generated daily report.

#### 1.6.3.1 DAILY CONTRACTOR QUALITY CONTROL (CQC) REPORTS.

QCS includes the means to produce the Daily CQC Report. The Daily CQC Report generated by QCS shall be the Contractor's official report. Data from any supplemental reports by the Contractor shall be summarized and consolidated onto the QCS-generated Daily CQC Report. Daily CQC Reports shall be submitted as required by specification 01451 "CONTRACTOR QUALITY CONTROL".

#### 1.6.3.2 DEFICIENCY TRACKING.

The Contractor shall use QCS to track deficiencies. Deficiencies identified by the Contractor will be numerically tracked using QC punch list items. The Contractor shall maintain a current log of its QC punch list items in the QCS database. The Government will log the deficiencies it has identified using its QA punch list items. The Government's QA punch list items will be included in its export file to the Contractor. The Contractor shall regularly update the correction status of both QC and QA punch list items.

#### 1.6.3.3 THREE-PHASE CONTROL MEETINGS

The Contractor shall maintain scheduled and actual dates and times of preparatory and initial control meetings in QCS.

1.6.3.4 ACCIDENT/SAFETY TRACKING.

The Government will issue safety comments, directions, or guidance whenever safety deficiencies are observed. The Government's safety comments will be included in its export file to the Contractor. The Contractor shall regularly update the correction status of the safety comments. In addition, the Contractor shall utilize QCS to advise the Government of any accidents occurring on the jobsite. This brief supplemental entry is not to be considered as a substitute for completion of mandatory reports.

1.6.3.5 FEATURES OF WORK

The Contractor shall include a complete list of the features of work in the QCS database. A feature of work may be associated with multiple pay activities. However, each pay activity (see subparagraph "Pay Activity Data" of paragraph "Finances") will only be linked to a single feature of work.

1.6.3.6 QC REQUIREMENTS

The Contractor shall develop and maintain a complete list of QC testing, transferred and installed property, and user training requirements in QCS. The Contractor shall update all data on these QC requirements as work progresses, and shall promptly provide this information to the Government via QCS.

1.6.4 SUBMITTAL MANAGEMENT

The Contractor shall maintain a complete list of all submittals, including completion of all data columns. Dates on which submittals are received and returned by the Government will be included in its export file to the Contractor. The Contractor shall use QCS to track and transmit all submittals. ENG Form 4025, submittal transmittal form, and the submittal register update, ENG Form 4288, shall be produced using QCS. RMS will be used to update, store and exchange submittal registers and transmittals, but will not be used for storage of actual submittals.

1.6.5 SCHEDULE

The Contractor shall develop a construction schedule consisting of pay activities, in accordance with Specification Section Project Schedule. This schedule shall be input and maintained in the QCS database either manually or by using the Standard Data Exchange Format (SDEF). The updated schedule data shall be included with each pay request submitted by the Contractor.

1.6.6 REQUESTS FOR INFORMATION (RFI)

The Contractor shall use the two-way RFI system contained in QCS for tracking all RFI's generated during the contract. Hard copies of all RFI's shall be provided to the government, and will govern in the event of a discrepancy between electronic and printed mediums.

1.6.7 IMPORT/EXPORT OF DATA

QCS includes the ability to export Contractor data to the Government and to import submittal register and other Government-provided data, and schedule data using SDEF.

1.7 IMPLEMENTATION

Contractor use of QCS as described in the preceding paragraphs is mandatory. The Contractor shall ensure that sufficient resources are available to maintain its QCS database, and to provide the Government with regular database updates. QCS shall be an integral part of the Contractor's management of quality control.

1.8 DATA SUBMISSION VIA CD-ROM

The Government-preferred method for Contractor's submission of updates, payment requests, correspondence and other data is by E-mail with file attachment(s). For locations where this is not feasible, the Contracting Officer may permit use of a computer CD-ROM for data transfer. Data on the CDs shall be exported using the QCS built-in export function.

1.9 MONTHLY COORDINATION MEETING

The Contractor shall update the QCS database each workday. At least monthly, the Contractor shall generate and submit an export file to the Government with schedule update and progress payment request. As required in Contract Clause "Payments", at least one week prior to submittal, the Contractor shall meet with the Government representative to review the planned progress payment data submission for errors and omissions. The Contractor shall make all required corrections prior to Government acceptance of the export file and progress payment request. Payment requests accompanied by incomplete or incorrect data submittals will be returned. The Government will not process progress payments until an acceptable QCS export file is received.

1.10 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the requirements of this specification. 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.

-- END OF SECTION --

**SECTION 01321**

**NETWORK ANALYSIS SCHEDULE**

**PART 1 GENERAL**

**1.1 DESCRIPTION**

The network analysis schedule (NAS) shall consist of a cost loaded Critical Path Method (CPM) schedule and associated reports. The scheduling of all design, procurement and construction shall be the responsibility of the Contractor. All design, procurement and construction activities will be integrated in a single schedule. The schedule will start at NTP Acknowledged and end at Contract Completion. The schedule may extend beyond Contract Completion, for activities such as demobilization, with the approval of the Contracting Officer. The contractual period of performance will be shown as a hammock under Contract Milestones.

The approved NAS constitutes the baseline schedule and represents the contractor's plan for executing the project. The schedule will be updated monthly to show current status. The monthly updates will be used to measure work progress, aid in the evaluation of requests for time extensions, and to provide the basis of all progress payments. All progress payment amounts will equal the earned values calculated in the monthly NAS updates.

For consistency, when scheduling software terminology is used in this specification, the terms in Oracle's Primavera scheduling programs are used. Primavera Project Planner, P3, Primavera P6, and Primavera Contractor are registered trademarks or service marks of Oracle. Adobe and Acrobat are registered trademarks of Adobe Systems Incorporated.

**1.2 SUBMITTALS**

Government approval is required for submittals with a "G" designation. Submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following will be submitted with Transmittal Form (ENG Form 4025) in accordance with Section 01335 SUBMITTAL PROCEDURES FOR DESIGN-BUILD PROJECT:

Preconstruction Submittals

- Scheduler Qualifications; G RE
- Project Execution Plan, G RE
- Activity Code Dictionary; G RE
- Baseline Network Analysis Schedule; G RE

With Pay Requests

- Monthly Network Analysis Schedule Updates; G RE

Closeout Submittals

- As-Built Schedule; G RE

**1.3 SCHEDULE ACCEPTANCE**

Review comments made by the Government on the Contractor's schedules will not relieve the Contractor from compliance with the requirements of the Contract Documents. The Contractor is responsible for scheduling, sequencing, and prosecuting the Work to comply with the requirements of the Contract Documents. The Government will review the schedule for compliance with the

contract (including contractual milestones and scope), cost loading and cost distribution, schedule organization and activity coding, logic, durations, and general conformance with established scheduling concepts and acceptable industry standards.

#### **1.3.1 Schedule Acceptance Prior to Start of Work**

The Baseline NAS described in paragraph 1.7.2 Baseline Network Analysis Schedule must be accepted by the Government before the Contractor will be allowed to request progress payments except for DBA as noted below in 1.3.2.

#### **1.3.2 Acceptance**

- a. After the Baseline NAS is accepted by the Contracting Officer, it will be used by the Contractor for planning, organizing, and directing the work, reporting progress, and to support pay requests. The schedule will be updated monthly by the Contractor to reflect the current status of the work and will be submitted with the progress pay request. Processing pay requests is conditional upon receipt and acceptance of the Baseline NAS and accurate updated schedules accompanying the pay requests. Only DBA insurance will be paid prior to acceptance of the Baseline NAS.
- b. The Baseline NAS and subsequent schedule updates will be considered to be the Contractor's certification that the submitted schedule meets all of the requirements of the Contract Documents, represents the Contractor work plan, accurately reflects the work that has been accomplished, and the sequence in which it was performed.

#### **1.4 SOFTWARE**

The scheduling software that will be utilized by the Government on this project will be either Oracle's Primavera P3 or Primavera P6. Notwithstanding any other provisions in the contract, schedules submitted for this project must be prepared using one of these programs. The program selected by the contractor will be used for the duration of the contract. The Contractor shall provide electronic files saved in compressed backup format (.prx or .xer) with all schedule submittals. If P6 is used, the contractor must provide the version number. Submission of data from another software system where data conversion techniques or software is used to import into Primavera's scheduling software is not acceptable and will be cause for rejection of the submitted schedule.

#### **1.5 QUALIFICATIONS**

The Contractor shall assign a Scheduler based in Afghanistan who will be responsible for the development, preparation, and maintenance of an accurate, computerized Network Analysis Schedule. The Scheduler shall perform on-site coordination, attend project meetings, prepare reports and perform updates as required to support the project. The Scheduler shall have previously developed, created and maintained computerized schedules for at least two projects similar in size and complexity to this contract. A resume outlining the qualifications of the Scheduler shall be submitted for acceptance to the Contracting Officer. If at a later date, the Contracting Officer considers the Contractor's Scheduler to be incompetent or objectionable, the Contractor will propose a new Scheduler who meets the qualification requirements. Payments will not be processed until an acceptable Scheduler is assigned.

## **1.6 SCHEDULE FORMAT**

### **1.6.1 STRUCTURE**

The NAS shall consist of a cost loaded CPM network displayed as time scaled bar charts supported by specified tabular and graphical reports. Sample standard reports are included in Appendix 01321a. The NAS will show the order and interdependence of activities and the sequence in which the work is planned to be accomplished. The basic concept of the network will be followed to show how the start and/or finish of a given activity is dependent on the execution of preceding activities and how it restrains the succeeding activities. Activity durations shall not be resource driven; activities shall not have date constraints, and shall start and finish according to network logic. Diagrams shall be organized with a four or five level work breakdown structure, sorted by Early Start and Early Finish Dates and will show a continuous flow from left to right. With the exception of the NTP Acknowledged and Contract Completion milestones, every activity must have predecessor and successor ties and every finish must have a successor. Activities with only start-to-start successor relationships will not be allowed. Activities in an accepted schedule may not be renamed or renumbered. Critical activities will be shown in red. Critical activities are defined as having zero or less days of Total Float. Near critical activities will be defined as having Total Float in the range of 1 to 14 calendar days. Barcharts will be submitted formatted for 11X17 sheets.

The following information will be shown for each activity:

- a. Activity ID
- b. Activity Description
- c. Original Duration in Work Days
- d. Remaining duration (schedule update reports only)
- e. Early Start Date
- f. Early Finish Date
- g. Total Float
- h. Budgeted Cost
- i. Baseline Start Variance (schedule update reports only)
- j. Baseline Finish Variance (schedule update reports only)

### **1.6.2 ACTIVITY PROPERTIES AND LEVEL OF DETAIL**

Numbering shall be assigned so that, in general, predecessor activity numbers are smaller numerically than the successor activity numbers. Skip numbering shall be used on the network to allow insertion of additional activities for contract modifications and logic changes. All activities in RMS are sorted by activity ID.

Government Activities. All government activities shall be clearly identified in the schedule. Government activities include, but are not limited to; Government approved submittal reviews, Government conducted inspections/tests, environmental permit approvals, utility outages, Notice(s) to Proceed (including Notices to Proceed for each Fast-Track Phase as indicated in other sections of this specification and as directed by the Contracting Officer) and delivery of Government Furnished Material/Equipment. Show activities indicating Government furnished materials and equipment utilizing delivery dates indicated in "FAR 52.245-2, Government Property (Fixed-Price Contracts)". Government activities will be driven by a 7-day calendar, i.e. one with no non-work days.

Construction Quality Management (CQM) Activities. All activities will have a Definable Feature of Work (FOW) as identified in the Contractor's Quality Control Plan. The FOW will be entered in the FOW activity code as defined in the SDEF specification.

#### **1.6.2.1 ACTIVITY BANDS**

The schedule will use the following (phases=PHAS) as the first level of organization:

- a. Milestones. This band contains the contract milestones. If the contractor includes other project milestones, contract milestones and project milestones will be shown as separate bands below MILESTONES.
- b. Pre-Construction. Included in this band are pre-construction meetings and submittals. Pre-construction submittals will be shown as a separate band under PRE-CONSTRUCTION.
- c. Design. This band contains activities related to site investigation, surveys and design including, but not limited to Design Notice to Proceed, Contractor's design by design phase, application for and receipt of required permits, Contractor's constructability reviews, submittal of design packages to Government, Government's design review periods, specified design meetings, transition periods prior to Construction Notice to Proceed, (including Notice to Proceed for each Fast-Track Phased Design as indicated in Section 01335 SUBMITTAL PROCEDURES FOR DESIGN/BUILD PROJECT and as directed by the Contracting Officer). The Government review period shall be from the time the design is received by the Government to the time it is sent back to the Contractor, in calendar days. Design activities will be linked to their associated Submittal, Procurement, and/or Construction activities. If the Government's review of any submittal requires resubmission or does not clear the design for construction, a new series of Design Activities will be inserted into the schedule. The predecessor for the new design preparation activity will be the original approval activity and the successor will be the beginning of the next design phase.
- d. Procurement. This band contains tasks related to the procurement of installed material or equipment including but not limited to material submittal preparation, submittal and approval, fabrication, delivery, extra stock, special tools, O&M manuals, notification of Government Furnished Material/Equipment delivery requirement. As a minimum, separate procurement activities will be provided for every specification section. Submittal approval activities shall be logically tied to associated procurement, delivery, and/or construction activities. If the contractor requires payment upon delivery for materials or equipment, i.e. "stored materials", a one day activity must succeed the delivery activity. The activity description should be "Stored Materials: name of materials or equipment". The activity will carry the documented cost of the materials or equipment and will be statused as actual only after review and approval of the supporting documentation by the COR. Payment for stored materials if allowed by the contract is subject to approval by the Contracting Officer and must be requested in writing prior to submittal of the baseline schedule. If the Government's action on any submittal is "Disapproved" or "Revise and Resubmit", a new series of Submittal Activities will be inserted into the schedule. Predecessor for the new submittal preparation activity will be the original approval activity and the successor will be the fabrication/deliver activity for the equipment or material.

- e. Construction. This band will have as many subordinate bands as are required to provide a logical organization of construction work. These bands will contain all construction activities including but not limited to mobilization, demobilization; installation of temporary facilities tradesman; testing and inspection of installed work; start-up and testing of equipment; commissioning of building and related systems; scheduling of specified manufacturer's representatives. No construction activity shall have a duration greater than 20 working days. Construction activities will be driven by calendars that reflect all scheduled non-work days, i.e. Fridays, official Afghan holidays and severe weather days as listed in section 01060 of the contract.
- f. Contract Closeout. This band will have two or more subordinate bands to provide a logical organization of the closeout work. These bands will contain all closeout activities including but not limited to Punch Out Inspection, Pre-Final Inspection, Final Acceptance Inspection, final clean-up, as-builts, O&M manuals and training.

#### **1.6.2.2 PROJECT MILESTONES**

The NAS will include milestones for the start of the project; any contract required interim start and completion dates, contract completion date and other significant milestones. Only Contract Milestones will be recognized by the Government.

- a. NTP Acknowledged: The schedule shall start no earlier than the NTP Acknowledged Date. NTP Acknowledged will be shown as a start milestone with a start-no-earlier-than constraint date equal to the date shown in RMS.
- b. Contract Complete: The last activity in the schedule will be the Contract Complete milestone. This milestone will have finish-no-later-than constraint date equal to the Contract Required Completion date in RMS.

#### **1.6.2.3 MANDATORY ACTIVITIES**

The following activities, and the procurement activities described in 1.6.2.1d, when applicable, shall be listed as separate activities:

- a. Submission, review and approval of the demining plan and required demining activities through receipt of the certificate.
- b. Submission and approval of the accident prevention plan.
- c. Submission and approval of the security plan.
- d. Submission and approval of the contractor quality control plan
- e. Submission and approval of the design quality control plan
- f. Submission and approval of the area use plan.
- g. Mobilization
- h. Demobilization
- i. Submission, review and acceptance of design packages and all related activities required to support design.
- j. Submission and approval of mechanical/electrical layout drawings.
- k. Submission and approval of O & M manuals.
- l. Submission and approval of as-built drawings.
- m. Submission and approval of 1354 data and installed equipment lists.
- n. Submission and approval of testing and air balance (TAB).
- o. Submission of TAB specialist design review report. Submission and approval of fire protection specialist.
- p. Submission and approval of testing and balancing of HVAC plus commissioning plans and data.

- q. Air and water balance dates.
- r. HVAC commissioning dates.
- s. Controls testing plan.
- t. Controls testing.
- u. Performance Verification testing.
- v. Other systems testing, if required.
- w. Pre-final inspection.
- x. Correction of punch list from pre-final inspection.
- y. Final inspection.

#### **1.6.2.4 ACTIVITY NUMBER (ID) AND DESCRIPTION**

- a. Activity Numbers: Activity numbers will consist of up to 10 alphanumeric characters beginning with a letter and ending with a number. Only letters and numbers will be used. Activities must be numbered in ascending order from start to finish of the project.
- b. Activity ID Codes: The Contractor shall submit the alphanumeric coding scheme for Activity Numbering that shall be used throughout the project. Activity ID Codes may be used to create a work breakdown structure (WBS). Four Activity ID fields are allowed in P3; user defined fields may be used in P6. The coding dictionary shall include the value and description of each code. Once accepted, the coding scheme will be used for the duration of the project. PHAS and AREA are the top two levels of codes.
- c. Activity Description: Each activity shall have a narrative description consisting of a Location (e.g.; Building 1, 3rd floor, northeast quadrant, basement - abbreviate as necessary), Verb (e.g.; form, pour, excavate), and Object (e.g.; slab, footing, under floor plumbing).

#### **1.6.2.5 ACTIVITY CODE DICTIONARY AND VALUES**

The Contractor shall use the activity coding structure defined in USACE Regulation ER 1-1-11 Standard Data Exchange Format (SDEF) Appendix 01321a. The use of this exact structure is mandatory, even if some fields are not used. The SDEF fields may be used only for the purpose for which they are intended. The characters remaining after the SDEF codes are limited to eight in Primavera P3. These activity codes may be used to replace or supplement the Activity ID Codes. The codes will have values assigned that will allow the scheduling program to sort, select, group and organize the activities in the schedule.

Activity codes are used to:

- 1. Group and summarize project activities in a hierarchical structure, in the same way as a work breakdown structure (WBS), to facilitate updating and analysis of the schedule.
- 2. Group and summarize activities and related costs by CLIN and Bid Item
- 3. Select and sort activities to create ad hoc views and reports

#### **1.6.2.6 COST AND RESOURCE LOADING**

- a. Cost Loading Activities:
  - Payment for design work will be made after a design submittal is approved. The cost of the design submittal will be applied to a one day "Design Approved" task after the AED approval activity.

- Payment for mobilization and demobilization shall be paid according to the approved CLIN amount for these items. Unless specified otherwise in the contract, then the amount shall be split 60 percent for mobilization and 40 percent for demobilization and each of these costs applied to these separate cost loaded activities.
  - The cost of installed materials and equipment will be included in the appropriate construction activities except as allowed by the contract and where the Contracting Officer agrees in advance to payment for stored materials.
  - If payment is allowed by the Contracting Officer for stored materials, the cost of the stored materials will be applied to a one day "Stored Materials Accepted" activity after the delivery activity.
  - Unless assigned a CLIN, indirect costs such as management, supervision, security, overhead, G&A and profit will be included in each activity budget. The total of all cost loaded activities shall equal the value of the contract.
  - Cost shall be rounded to zero decimal places if the contract and CLIN costs are in whole dollars. Cost shall be assigned to activities as a resource as described in the QCS requirements for SDEF file transfer.
  - Hammocks (summary bars) will not be cost loaded.
  - CLINs and resources will not be entered for activities with no budget.
- b. Cost Loading Milestones: Milestone activities may not be cost loaded. A one day task should be used in instead of a cost loaded milestone such as Design Approved or Stored Materials Accepted.
- c. Contract Line Item Number (CLIN): As described in Cost Loading, cost shall be assigned to every task type activity. Every activity shall also be assigned to a CLIN. All cost and earned value reports will be grouped by Project and CLIN with sub groups as appropriate. Group totals will be shown for Project and CLIN.
- d. Key Quantities: Key quantities will be included as a resource for all cost loaded construction activities. Resource units of measure and cost per unit will be set up in the resources table. Key quantity resources will be non-driving
- e. Labor Resource Loading: As part of the Baseline Schedule development each construction activity shall have an estimate of the number of workers per day by trade, hours per day by trade and total expected hours used by trade during the execution of the activity. If no workers are required for an activity, then the activity shall be identified as using zero workers per day. All labor resources loaded into the schedule shall be non-driving and will not be used to calculate activity cost or duration. Resource leveling shall not be used. Actual labor resource expended on an activity will be recorded in the monthly updated schedules and will coincide with entries made in the Daily Reports.

#### **1.6.2.7 CALENDARS**

Three calendars will be used in preparing the schedule:

1. 7 day week, no weekends or holidays, and no weather (7 Day Calendar)  
This calendar is used for any activity whose duration is measured in consecutive calendar days. These activities are mainly in the design and procurement phases. Examples are AED design review, fabricate & deliver.
2. 6 day week, with non work weekend days, and public holidays, no weather (Standard Calendar)

This calendar is used for construction activities which are not affected by severe weather conditions. Examples are all interior work and above ground structural work which is not temperature sensitive such as structural steel erection. Some activities may require interior heating in cold weather for example, painting and plastering.

3. 6 day week with public holidays and severe weather days as listed in Section 01060 Special Clauses (Weather Calendar)

This calendar is used for construction activities which cannot or will not be performed in severe weather conditions (such precipitation, high or low temperature, wind), such as earthwork, excavation, compaction, concrete work, exterior plastering.

If the site is shut down for any reason, for example severe weather or adverse security conditions, the shut down periods will be shown as non-work days on Calendars 2 and 3. Site shutdowns will be documented in the EWP (paragraph 1.7.3b).

Although the use of additional calendars is not recommended, the contractor may submit other calendars for AED approval.

#### Afghan Public Holidays

All calendars except Calendar 1 must show official Afghan holidays as non-work days. The dates for 2011 are listed below. The dates of Muslim holidays regress 11 days every year. This rule may be used to estimate the holiday dates for future years.

2011

- |     |        |                                       |
|-----|--------|---------------------------------------|
| 1.  | Feb.15 | Liberation Day                        |
| 2.  | Feb.15 | The Prophet's Birthday*               |
| 3.  | Mar.21 | Nauruz (Afghan New Year)              |
| 4.  | Apr.18 | Liberation Day                        |
| 5.  | Apr.28 | Victory Day                           |
| 6.  | May 1  | Labor Day                             |
| 7.  | Aug.1  | Start of Ramadan - approximate*       |
| 8.  | Aug.19 | Independence Day                      |
| 9.  | Aug.30 | Eid al Fitr (End of Ramadan)*         |
| 10. | Sep.1  | Eid al Fitr Holiday*                  |
| 11. | Sep.2  | Eid al Fitr Holiday*                  |
| 12. | Nov.6  | Eid al Adha (Feast of the Sacrifice)* |
| 13. | Nov.7  | Eid al Adha Holiday*                  |
| 14. | Nov.8  | Eid al Adha Holiday*                  |
| 15. | Nov.9  | Eid al Adha Holiday*                  |
| 16. | Dec.27 | Ashura*                               |

#### Notes:

Holidays marked \*\* are observed according to the Muslim calendar. Dates are tentative. The calendar should be adjusted as required to reflect official announcements for each calendar year within the project schedule.

The month of Ramadan is not included in the construction calendar as non-working time. It should be borne in mind, however, that during this month productivity and availability of manpower tend to be lower than normal. This should be taken into consideration when scheduling work during this period.

#### 1.6.2.8 SCHEDULE SOFTWARE SETTINGS AND RESTRICTIONS

Activity Constraints: Date constraints other than those required by the contract will not be allowed unless accepted by the Contracting Officer. The contractor will identify any constraints proposed and provide an explanation for the purpose of the constraint in the Narrative Report.

Lags: Lags will not be used in place of activities in the logic. For example concrete curing time must be shown as an activity, not as a lag between the activities Pour Concrete and Remove Formwork. Negative lags must not be used. The contractor will identify all lags and provide an explanation for the purpose of the lag in the Narrative Report.

Actual Dates: Actual start and finish dates shall not be automatically updated by default mechanisms that may be included in the scheduling software. Actual Start and Actual Finish dates on the CPM schedule must match the dates in the Daily QC Report. These reports will be the basis for updating actual dates in the schedule.

Percent Complete: The reported percent complete of an activity will be based on the quantity of acceptable work in place.

Actual Hours: The schedule will be updated with actual labor hours as reported in the Daily QC Reports.

Software Settings for Primavera P3: Use the P3 defaults for settings which are not otherwise specified. Settings may only be changed with the contracting officer's approval.

Project Overview:

- Set decimal places to zero if all CLIN values are in whole dollars
- Set Project Start to NTP Acknowledged Date
- Set Project Must Finish By to Contract Required Completion date

Schedule/Level Calculation Options:

- Automatic scheduling and leveling - off
- When scheduling activities apply - retained logic
- Calculate start-to-start lag from - early start
- Schedule durations - contiguous
- Show open ends as - noncritical
- Calculate total float as - finish float

Autocost Rules:

- Uncheck Link Remaining Duration and Schedule Percent Complete
- Check Freeze Resource Units per time period

Summarization:

- Default calendar is 1 (7-day calendar)
- Weighting factor for calculating percent complete is by cost

Critical Activities: Critical activities are activities which have zero or negative total float. The critical path is as calculated by the software longest path.

Format:

Bars: Activities will be shown as bars with no start and end points. Relationship lines will not be shown unless required for a specific report. Activity descriptions will be shown to the right of the bar. Target bars will be shown as a thin black bar above the current schedule. Progress will be shown based on percent complete.

Timescale: The timescale will show calendar dates with the minimum unit being weeks.

Vertical Sight Lines: The major and minor vertical sight lines will generally be months and weeks, respectively. For short term reports such as the 3-week look ahead, the increments will be week and day.

Fonts: The default font will be Arial 10.

Dates: The date format will be ddMMMy. For example, 12JAN10.

Activity type: The default activity type is "Task".

Activity Number Increment: The initial activity number increment will be 10 to allow inserting activities in sequential order.

Store Period Performance: Upon completion of each monthly update, period performance must be stored in order to preserve historical cost distribution.

Software Settings for Primavera P6: Use the P6 defaults for settings unless otherwise stated for P3 above. Settings may only be changed with the contracting officer's approval.

Out-of-Sequence Progress: Activities that have posted progress without all preceding logic being satisfied (Out-of-Sequence Progress) will be not be allowed. The Contractor shall make logic corrections to reflect the as-built construction sequence.

#### **1.6.2.9 FILE NAME**

Each schedule submitted must have a unique name. The schedule ID will consist of four alpha-numeric characters.

- The first character is assigned by the contractor to uniquely identify a USACE contract. It may be a letter from A to Z. The numbers 0 to 9 may be used if the contractor needs to identify more than 26 USACE contracts.
- The second character is B (for Baseline or C for Current update).
- For a baseline schedule the third character is the baseline number and the fourth character is the submittal number. For example, the second submittal of the initial baseline would be 12.
- For a current update the third and fourth characters are the update sequence number from 01 to 99.
- Example baseline schedule ID: AB12 for contract A, initial baseline, second submittal
- Example current update: AC12 for contract A, current update No.12

#### **1.6.3 REQUIRED REPORTS**

The following reports will be included with the specified schedule submittals. A PDF of each report will be included on the CD submitted by the Contractor. Barchart reports will be saved as layouts. Tabular and graphical reports will be saved as report specifications. All redundant layouts, report specifications and filter specification will be deleted from the project before it is transmitted.

#### BASELINE SCHEDULE

- a. Project Schedule Report. This is a barchart showing all activities organized by WBS and sorted by early start and early finish.
- b. Cost Report. This is a barchart showing budget totals by CLIN.
- c. Critical Path Report. This is a barchart showing activities on the longest path. The report layout will be the same as the Project Schedule Report.

#### UPDATE SCHEDULE

These reports will be submitted with the monthly pay request.

- a. Project Schedule Report. This is a barchart showing all activities organized by WBS and sorted by early start and early finish. This report will display the baseline and current update on separate bars.
- b. 3 Week Look Ahead. This is a barchart showing activities in continuing or scheduled to start or finish in the three week period after the data date.
- c. Earned Value Report. This is a barchart listing all activities which have an earned value. The report will be organized by CLIN and WBS, sorted by early start and early finish.
- d. Critical Path Report. This is a barchart showing activities on the longest path. The report layout will be the same as the Project Schedule Report.
- e. Other Reports - Reports necessary to monitor and evaluate the project shall be provided by the contractor as requested by the COR.

### 1.7 SUBMISSION AND ACCEPTANCE

#### 1.7.1 PRELIMINARY MEETING

Before the contractor begins preparation of the initial Baseline Network Analysis Schedule, the Contracting Officer, the Contractor and the AED scheduling consultant shall participate in a preliminary meeting to discuss the proposed schedule and the requirements of this section.

#### 1.7.2 BASELINE NETWORK ANALYSIS SCHEDULE

Once review comments are resolved and the Contracting Officer has accepted the Baseline Network

Analysis Schedule, the contractor shall furnish the following within 5 calendar days:

- a. Two copies of the reports listed in the paragraph entitled "Required Reports".
- b. Two copies of the Cost Loading S-Curve and Histogram indicating the cost loading based upon both early and late dates.
- c. Two sets of CDs containing an electronic file of the project schedule along with a PDF print copy and required reports shall be provided for the initial submission and every periodic project update. A permanent label shall be affixed to each disk submitted. The label shall indicate the type of schedule (Baseline, Update, Recovery, Change, etc.), full contract

number, Project Name used to identify project in scheduling software, contract name & location, data status date, diskette number with total number of diskettes in set, software name and version used to run the schedule, and the name and telephone number of person responsible for the schedule.

- d. The schedule reports shall include a footer which shows the contractor name, contract number, contract title, project ID and data date. A sample footer will be provided at the preliminary meeting.

### **1.7.3 PROJECT EXECUTION PLAN**

#### a. Initial Work Plan

The purpose of the Initial Work Plan (IWP) is to ensure that the contractor understands the scope of work and demonstrates that the project has been properly planned to be executed within the period of performance. The IWP is prepared and submitted with the baseline schedule. It supplements and explains the baseline schedule.

The IWP must conform to the following outline:

- Introduction
  - Scope of work
  - Period of performance
  - Location
  - Climate and topography
- Management Plan
  - Non-manual (management and supervision) staffing
  - Mobilization and demobilization
  - Security: on-site and transportation
  - Logistics
- Engineering and Design
  - Performed by whom and where
  - Design submittals
  - Constraints on procurement
  - Constraints on construction
  - Partial releases for construction, if required
- Procurement
  - Materials submittals
  - Long lead or critical materials and equipment: sources and lead times
  - Constraints on design and construction
- Subcontracting
  - Subcontracting plan
  - Subcontractor resources
- Construction
  - General sequence of construction
  - Schedule allowances for Ramadan, holidays and weather (defer work to favorable weather; methods for cold weather concrete, etc.)
  - Critical constraints on construction

- Labor and equipment constraints
- Construction methods: for example machine excavation vs. hand excavation, pre-fabricated steel vs. on-site fabrication, in-situ vs. precast concrete
- Productivity calculations used for the work durations for all major trades
- Materials testing and quality control

b. Execution Work Plan

The Execution Work Plan (EWP) is an update of the IWP incorporating any issues which could affect performance of the work. The EWP must be revised if there is a significant change in scope or site conditions, or if there is a delay in the schedule. As part of the contract closeout, the EWP will be revised to document how the work was executed.

**1.7.4 MONTHLY NETWORK ANALYSIS UPDATES**

The Contractor and Government representatives will meet monthly to review and agree on the status of each activity after which the contractor shall update the project schedule with the agreed on percentages for each activity progressed during the update period. The purpose of the meeting is to determine progress payment amounts for each activity, allow all parties to evaluate project status at the data date, provide a complete and accurate update of procurement and construction progress, create an historical record of the project and forecast contract completion based upon current status. The contractor is responsible to gather all supporting documentation, present the update data for the schedule and record the meeting minutes. All progress payment amounts will be derived from and tied to the cost-loaded schedule activities. Submit at monthly intervals a report of the actual construction progress by updating the required reports and the time scaled bar charts. Meeting to update the schedule and the submission of an error free, acceptable updated schedule to the Government is a condition precedent to the processing of the Contractor's pay request. As a minimum, the following actions will be accomplished during the meeting:

- a. Identify activities started and completed during the previous period and enter the Actual Start and Actual Finish dates. It will be understood that Actual Start is defined as the date that work begins on an activity with the intent to pursue the work represented by the activity to substantial completion, and Actual Finish is defined as the date that the activity's work is substantially complete to the point that its successor activity(s) may begin. Actual dates must agree with the daily reports.
- b. Show estimated duration (in workdays) to complete each activity started but not completed (remaining duration). Forecast finish dates may not be on the data date.
- c. Show forecast start dates. Forecast start dates may not be on the data date.
- d. Update the percent of work complete for activities which are in progress or have been completed.
- e. Reflect changes in the network diagram. All changes (i.e., remaining duration changes, logic changes, new logic, conformed change orders, new activities, changes due to Conformed Modifications, changes in work sequence, entry of as-built relationship logic, etc.) shall be recorded

and a note added to the activity log field. The log shall include as a minimum, the date and reason for the change, and description of the change. All changes to the schedule shall be clearly identified and explained in the monthly narrative report.

- f. A complete update of the project schedule containing all approved progress, revisions, and adjustments shall be submitted by the 10th of each month to allow adequate time for review and for the contractor to perform any necessary revisions prior to submittal of the updated schedule with the monthly pay request. The progress reported on the updated schedule shall be consistent with and in support of the information reported on the pay request. Processing of the monthly pay request shall be dependent upon the accompanying receipt of an acceptable progress schedule.
- g. The Narrative Report will include:
  - Progress made in each area of the project
  - Changes in the following: activities, original durations, logic interdependencies, milestones, planned sequence of operations, critical path, and resource and loading
  - Pending items and their status including permits, change orders, and time extensions
  - Status of Contract Completion Date and interim milestones
  - Current and anticipated delays (describe cause of the delay and corrective action(s))
  - Discussion of the critical path
  - Description of current and future schedule problem areas
  - Forecast of expected progress in each area of the project for upcoming reporting period or the following 30 calendar days. Each entry in the narrative report will cite the respective Activity ID and Activity Description.
- h. Submit two copies of the reports listed in the paragraph entitled "Required Tabular Reports".
- i. Submit two hard copies of the network diagrams and two sets of data disks.
- j. Submit two copies of the Update Meeting minutes.

#### **1.7.5 RECOVERY PLAN**

In the event the contractor falls 20 or more work days behind schedule then the contractor will be required to submit a recovery plan (schedule and a detailed narrative) describing the steps that will be taken to recover the lost time and return the critical path of the project to at least zero days total float. The contractor shall submit the recovery plan within 7 calendar days of submitting a periodic schedule update that indicates the contractor is 20 or more work days behind schedule. The detailed narrative shall be an update of the Execution Work Plan and will provide a full explanation of the recovery schedule.

#### **1.7.6 QCS INTERFACE**

Data from Primavera P3 and P6 can, and should be, transferred to QCS using SDEF. Eliminating manual entry of this data into QCS will reduce errors, ensure that data in QCS is keyed to the correct schedule activities and eliminate the cost of data entry. Refer to ER-11-1-1 and the Exchanging Data chapter in the QCS User Manual.

### **1.7.7 AS-BUILT SCHEDULE**

As a condition for the release of retention and making final payment, the Contractor shall submit an "As-Built Schedule", which is the last schedule update. The As-Built Schedule shall reflect the exact manner in which the project was actually constructed (including actual start and finish dates, activities, sequences, and logic) and shall be certified by the Contractor's Project Manager and Construction Scheduler as being a true reflection of the way the project was actually constructed. If more than one person filled the position(s) during the course of the project, each person will provide certification for the period of time they were responsible.

### **1.8 CONTRACT MODIFICATION**

When a contract modification is required, the contractor shall submit proposed revisions to the network with a fragnet and a cost proposal for each proposed change. A narrative and all supporting documentation shall be included with the fragnet and cost proposal. All modifications shall be incorporated into the network analysis system as separately identifiable activities broken down and inserted appropriately on the first update following issuance of a directive to proceed with the change. Submit two copies of the Total Float Report, Log Report and a copy of the proposed Time Impact Analysis on disk, with the cost proposal no later than 14 days after the incident (if a delay issue) or after receiving written direction to proceed. Unless the Contracting Officer requests otherwise, only conformed contract modification fragnets will be added into the subsequent monthly updates. All revisions to the baseline schedule that are necessary to further refine the schedule so that the changed work activities can be logically tied to the schedule shall be made. Financial data shall not be incorporated into the schedule until the Contracting Officer signs the contract modification.

#### **1.8.1 Time Impact Analysis:**

The Time Impact Analysis method shall be used by the Contracting Officer and the Contractor in determining if a time extension or reduction to the contract milestone date(s) is justified. The Contractor shall provide a Time Impact Analysis to the Contracting Officer for any proposed contract change or as support for a Value Engineering Proposal, Variance Request, Claim or Request for Equitable Adjustment by the Contractor. The Time Impact Analysis schedule must be submitted on disk and a printed /plotted hardcopy. A narrative and all supporting documentation shall be included with the fragnet and cost proposal.

- a. The Contractor shall submit a Time Impact Analysis illustrating the influence of each change or delay on the Contract Completion Date or milestones. Unless the Contracting Officer requests an interim update to the schedule, the current monthly updated schedule accepted by the Government shall be used to display the impacts of the change. Unless requested by the Contracting Officer, no other non-conformed changes will be incorporated into the schedule being used to justify the change impact.
- b. Each Time Impact Analysis shall include a Fragmentary Network (fragnet) demonstrating how the contractor proposes to incorporate the impact into the project schedule. A fragnet is defined as the sequence of new activities and/or activity revisions, logic relationships and resource changes that are proposed to be added to the existing schedule to demonstrate the influence of impacts to the schedule. The fragnet shall

identify the predecessors to the new activities and demonstrate the impacts to successor activities. The Contractor shall provide a hardcopy printout of the fragnet activities and relationships being added and also insert the fragnet into the most current, accepted Monthly Network Analysis Update, run the schedule calculations and submit the impacted schedule with the proposal, claim, etc. Include a narrative report describing the effects of new activities and relationships to interim and contract completion dates, with each Time Impact Analysis. Submit tie extension requests with a Time Impact Analysis and three hardcopies of the fragnet, impacted schedule (with fragnet loaded), Total Float Report, Narrative Report and Log Report.

- c. Following the Contractor's receipt of a contract modification on a Standard Form 30 signed by the Government; all changes in the fragnet used to determine impacts, shall be incorporated into the schedule. Changes will occur during the next monthly schedule update meeting.

#### **1.8.2 NO RESERVATION-OF-RIGHTS**

All direct costs, indirect costs, and time extensions will be negotiated and made full, equitable and final at the time of modification issuance.

#### **1.9 CHANGES TO THE NETWORK ANALYSIS SCHEDULE**

If changes in the method of operating and scheduling are desired, the Contracting Officer shall be notified in writing stating the reasons for the change. If the Contracting Officer considers these changes to be of a valid nature, the Contractor may be required to revise and submit for acceptance, without additional costs to the Government, the network diagrams and required reports. A change may be considered of a major nature if the estimated time required or actually used for an activity or the network logic has varied from the original plan to a degree that there is a reasonable doubt as to the effect on the contract completion date(s). Changes that affect activities with adequate float time shall be considered a major change when their cumulative effect would extend the contract completion date.

#### **1.10 FLOAT**

Use of float suppression techniques, such as; preferential sequencing (arranging critical path through activities more susceptible to Government caused delay), unjustifiable relationship lags, zero total or free float constraints, extended activity times, or imposing constraint dates other than as required by the contract, shall be cause for rejection of the project schedule or its updates. The use of Resource Leveling (or similar software features) used for the purpose of artificially adjusting activity durations to consume float and influence the critical path is expressly prohibited.

##### **1.10.1 DEFINITION OF FLOAT**

Free Float is the time the start of an activity can be delayed without delaying the start of a successor activity. Total Float is the time finish of activity can be delayed without delaying the project completion date. Project Float is the length of time between the Contractor's Forecast Early Completion and the Contract Required Completion.

### **1.10.2 OWNERSHIP OF FLOAT**

Float available in the schedule, at any time shall not be considered for the exclusive use of either the Government or the Contractor. During the course of the project, any positive float generated due to the efficiencies of either party is not for the sole use of the party generating the float; rather it is a shared commodity to be reasonably used by either party. Efficiencies gained as a result of favorable weather within a calendar month, where the number of days of normally anticipated weather is less than expected, will also contribute to the reserve of float. A schedule showing work completing in less time than the contract time, and accepted by the Government, will be considered to have Project Float. Project Float will be a resource available to both the Government and the Contractor. No time extensions will be granted nor delay damages paid unless a delay occurs which impacts the project's critical path, consumes all available float or contingency time, and extends the work beyond the Contract Required Completion Date.

### **1.10.3 NEGATIVE FLOAT**

Negative float will not be a basis for requesting time extensions. Any extension of time will be addressed in accordance with the paragraphs entitled "CONTRACT MODIFICATION". Scheduled completion date(s) that extend beyond the contract or phase completion date(s) may be used in computations for assessment of payment withholdings. The use of this computation is not to be construed as a means of acceleration.

### **1.11 3 WEEK LOOK AHEAD SCHEDULE**

The 3-Week Look Ahead Schedule provides a focus on the day-to-day planning and execution of near term work. This schedule is filtered from the NAS and shows activities which fall in the period extending from one week before the data date to three weeks after the data date. This schedule will use the standard barchart format described under Current Schedule Update. Two bars will be shown to allow comparison of the current week update with the previous week's schedule. The report will, formatted for printing on 8 ½ by 11 sheets. A pdf of the 3-week schedule shall be emailed to the Contracting Officer at least 3 work hours prior to the start of the weekly coordination meeting.

### **1.12 WEEKLY COORDINATION MEETING**

A coordination meeting will be held each week to discuss the near term work as shown on the 3-Week Look Ahead schedule. The contractor will present an overview of the previous week's work, the current week's work, and the work planned for the following two weeks. Items which should be discussed are changes in the 3-week schedule. Issues which affect execution of the work such as coordination, procurement, labor and equipment. The Contractor will take meeting minutes. All meeting minute entries will be keyed to the schedule activity numbers) being addressed. Within one day of the meeting, the Contractor will provide a draft copy of the meeting minutes to the Contracting Officer for review and comment. Final copies of the minutes containing the comments provided by the Contracting Officer will be issued within 3 days of the meeting.

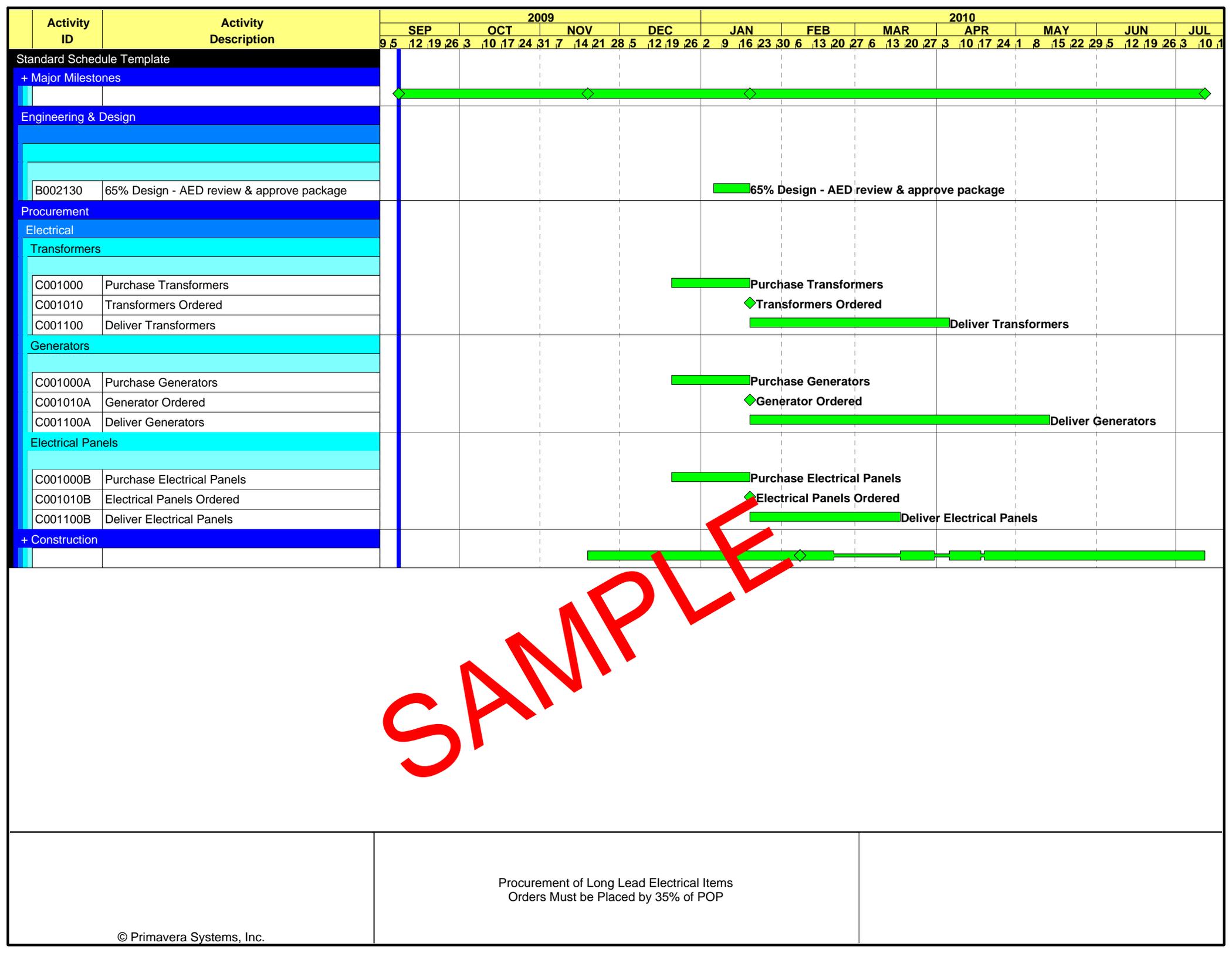
**1.13 CORRESPONDENCE AND TEST REPORTS**

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

**-- End of Section --**

SECTION 01321a

APPENDIX TO 01321



**SAMPLE**

Procurement of Long Lead Electrical Items  
Orders Must be Placed by 35% of POP



005890	Cu and Fiber Optic Cable Laying	25	06NOV10	30NOV10	97	0	Cu and Fiber Optic Cable Layin																																			
005900	Labeling and Testing	10	01DEC10	10DEC10	97	0	Labeling and Testing																																			

**Fire Water System**

005370	Fire Hydrants Installation	10	06NOV10	15NOV10	122	0	Fire Hydrants Installation																																			
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**Building Information Systems**

**Electrical**

004940	Cable Tray Installation	30	18DEC10	17JAN11	9	0	Cable Tray Installatio																																			
004950	Cable Conduit Installation	30	03JAN11	01FEB11	9	0	Cable Conduit Installatio																																			
004960	Cat6 Cable Installation	25	23JAN11	16FEB11	9	0	Cat6 Cable Installatio																																			
004970	Rack Cabinets & Patch Panels Installation	25	12FEB11	08MAR11	9	0	Rack Cabinets & Patch Panels Installatio																																			
004980	Outlets Installation	12	09MAR11	20MAR11	9	0	Outlets Installatio																																			
004990	Labeling and Testing	5	21MAR11	25MAR11	9	0	Labeling and Testin																																			

**Inspections, Punchlist**

005000	Punch List (Clin 0005)	7	21MAR11	27MAR11	9	0	Punch List (Clin 0005)																																			
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**Buildings**

**UOQ Building**

**Foundations**

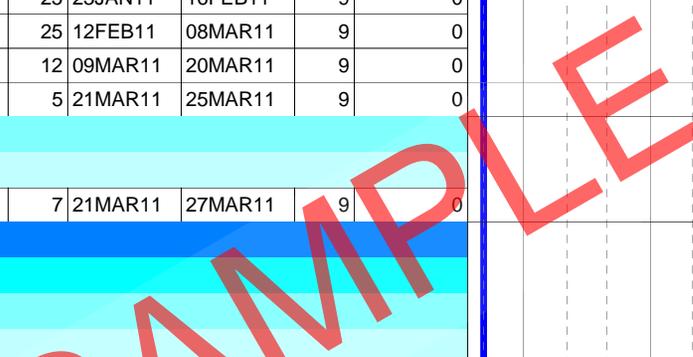
**Basement**

000605	(O.Q)Relocation of Utilities	15	10NOV09	24NOV09	0	0	(O.Q)Relocation of Utilities																																			
000610	[O.Q]Foundation Excavation	15	25NOV09	13DEC09	0	0	[O.Q]Foundation Excavation																																			
000620	[O.Q]Stabilized filling	7	14DEC09	20DEC09	0	0	[O.Q]Stabilized filling																																			
000740	[O.Q]Foundation Rebar Works	20	21DEC09	12JAN10	0	0	[O.Q]Foundation Rebar Works																																			
000750	[O.Q]Foundation FormWork	7	26DEC09	02JAN10	8	0	[O.Q]Foundation FormWork																																			
000760	[O.Q]Foundation Concrete Works	1	13JAN10	13JAN10	0	0	[O.Q]Foundation Concrete Works																																			
000770	[O.Q]Foundation Insulation Works	7	15MAY10	21MAY10	3	0	[O.Q]Foundation Insulation Works																																			
000630	[O.Q]Earthfilling	5	22MAY10	26MAY10	29	0	[O.Q]Earthfilling																																			

**Superstructure**

**Basement**

000780	[O.Q]Basement Floor Columns Rebar Works	20	16JAN10	07FEB10	0	0	[O.Q]Basement Floor Columns Rebar Works																																			
000810	[O.Q]Basement Floor Shear+Ext Walls Cons.Rebar W	20	16JAN10	07FEB10	0	0	[O.Q]Basement Floor Shear+Ext Walls Cons.Rebar W																																			
000790	[O.Q]Basement Floor Columns FormWork	18	21JAN10	10FEB10	0	0	[O.Q]Basement Floor Columns FormWork																																			
000820	[O.Q]Basement Floor Shear+Ext Walls Cons.FormWor	18	21JAN10	10FEB10	0	0	[O.Q]Basement Floor Shear+Ext Walls Cons.FormWor																																			
000800	[O.Q]Basement Floor Columns Concrete Works	15	27JAN10	11FEB10	0	0	[O.Q]Basement Floor Columns Concrete Works																																			
000830	[O.Q]Basement Floor Shear+Ext Walls Cons.Concret	15	27JAN10	11FEB10	0	0	[O.Q]Basement Floor Shear+Ext Walls Cons.Concret																																			



Start Date 21AUG09  
 Finish Date 03MAY11  
 Data Date 01SEP09  
 Run Date 14NOV10 14:16

Early Bar  
 Progress Bar  
 Critical Activity

SPL1  
 XYZ Company  
 W917PM-09-C-0999  
 Sample Project for Section 01321  
 Baseline Schedule

Sheet 3 of 23

Date	Revision	Checked	Approved

# W917PM-09-C-0999

Total		584	01SEP09	07APR11	26	0
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## Mob/Demob

000230	Office/DFAC Facilities & Warehouse/Storages	15	01SEP09	15SEP09	14	0
000240	Temp. Fence, gates, Guard Houses & Acces Control	10	06SEP09	15SEP09	9	0
000250	CoE Office Facility Installation	15	06SEP09	20SEP09	9	0
000270	Workshops	7	09SEP09	15SEP09	17	0
000255	Sanitary and Potable Water systems	10	14SEP09	23SEP09	9	0
000260	Power Utilities & Communication Systems	10	14SEP09	23SEP09	9	0
000280	Removal of Mobilization Facilities	20	14MAR11	02APR11	0	0
000290	Site Clean up & Removal of Temp. Structures	10	29MAR11	07APR11	0	0

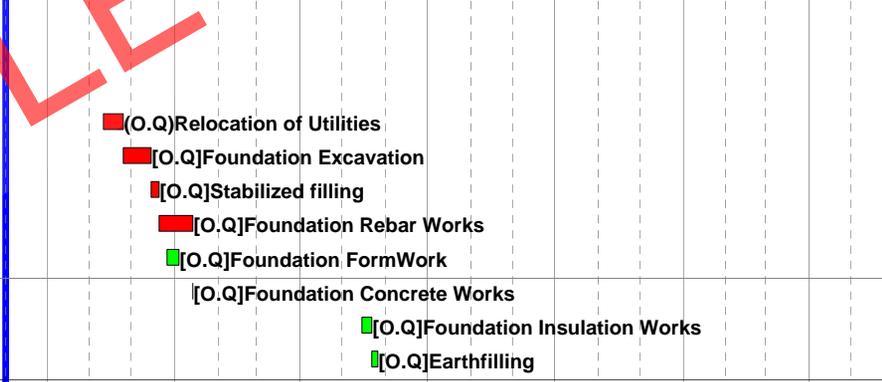


## Unaccompanied Officers Quarters (O.Q.)

### Foundations

#### Basement

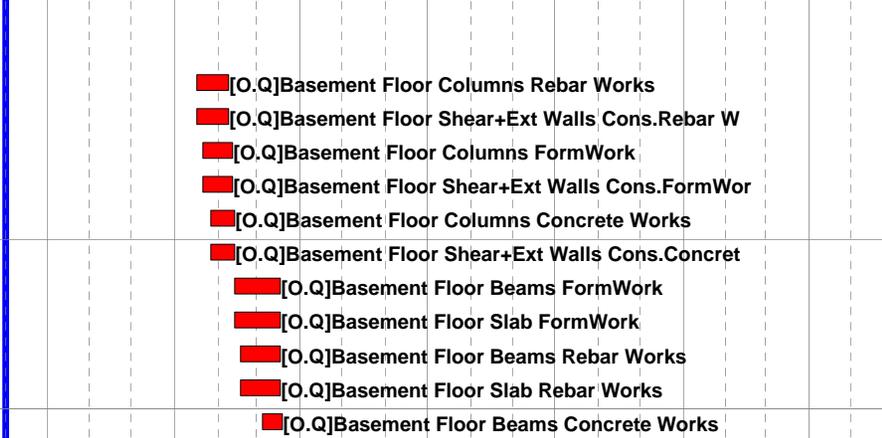
000605	(O.Q)Relocation of Utilities	15	10NOV09	24NOV09	0	0
000610	[O.Q]Foundation Excavation	15	25NOV09	13DEC09	0	0
000620	[O.Q]Stabilized filling	7	14DEC09	20DEC09	0	0
000740	[O.Q]Foundation Rebar Works	20	21DEC09	12JAN10	0	0
000750	[O.Q]Foundation FormWork	7	26DEC09	02JAN10	8	0
000760	[O.Q]Foundation Concrete Works	1	13JAN10	13JAN10	0	0
000770	[O.Q]Foundation Insulation Works	7	15MAY10	21MAY10	3	0
000630	[O.Q]Earthfilling	5	22MAY10	26MAY10	29	0



### Superstructure

#### Basement

000780	[O.Q]Basement Floor Columns Rebar Works	20	16JAN10	07FEB10	0	0
000810	[O.Q]Basement Floor Shear+Ext Walls Cons.Rebar W	20	16JAN10	07FEB10	0	0
000790	[O.Q]Basement Floor Columns FormWork	18	21JAN10	10FEB10	0	0
000820	[O.Q]Basement Floor Shear+Ext Walls Cons.FormWor	18	21JAN10	10FEB10	0	0
000800	[O.Q]Basement Floor Columns Concrete Works	15	27JAN10	11FEB10	0	0
000830	[O.Q]Basement Floor Shear+Ext Walls Cons.Concret	15	27JAN10	11FEB10	0	0
000840	[O.Q]Basement Floor Beams FormWork	30	12FEB10	16MAR10	0	0
000870	[O.Q]Basement Floor Slab FormWork	30	12FEB10	16MAR10	0	0
000850	[O.Q]Basement Floor Beams Rebar Works	26	17FEB10	17MAR10	0	0
000880	[O.Q]Basement Floor Slab Rebar Works	26	17FEB10	17MAR10	0	0
000860	[O.Q]Basement Floor Beams Concrete Works	15	04MAR10	18MAR10	0	0



Start Date	21AUG09	Early Bar
Finish Date	03MAY11	Progress Bar
Data Date	01SEP09	Critical Activity
Run Date	14NOV10 14:27	

SPL1 XYZ Company  
W917PM-09-C-0999  
Sample Project for Section 01321  
Cost Report by CLIN

Date	Revision	Checked	Approved

# W917PM-09-C-0999

Design					
000430	Cleared for Foundation Design Preparation & Subm	25	01SEP09	25SEP09	0
000440	Cleared for Foundation Design Review	30	26SEP09	25OCT09	0

■	[O.Q] Cleared for Foundation Design Preparation & Subm
■	[O.Q] Cleared for Foundation Design Review

Construction					
Buildings					
UOQ Building					
Foundations					
Basement					
000605	(O.Q)Relocation of Utilities	15	10NOV09	24NOV09	0
000610	[O.Q]Foundation Excavation	15	25NOV09	13DEC09	0
000620	[O.Q]Stabilized filling	7	14DEC09	20DEC09	0
000740	[O.Q]Foundation Rebar Works	20	21DEC09	12JAN10	0
000760	[O.Q]Foundation Concrete Works	1	13JAN10	13JAN10	0

■	[O.Q]Relocation of Utilities
■	[O.Q]Foundation Excavation
■	[O.Q]Stabilized filling
■	[O.Q]Foundation Rebar Works
■	[O.Q]Foundation Concrete Works

Superstructure					
Basement					
000780	[O.Q]Basement Floor Columns Rebar Works	20	16JAN10	07FEB10	0
000810	[O.Q]Basement Floor Shear+Ext Walls Cons.Rebar W	20	16JAN10	07FEB10	0
000790	[O.Q]Basement Floor Columns FormWork	18	21JAN10	10FEB10	0
000820	[O.Q]Basement Floor Shear+Ext Walls Cons.FormWor	18	21JAN10	10FEB10	0
000800	[O.Q]Basement Floor Columns Concrete Works	15	27JAN10	11FEB10	0
000830	[O.Q]Basement Floor Shear+Ext Walls Cons.Concret	15	27JAN10	11FEB10	0
000840	[O.Q]Basement Floor Beams FormWork	30	12FEB10	16MAR10	0
000870	[O.Q]Basement Floor Slab FormWork	30	12FEB10	16MAR10	0
000850	[O.Q]Basement Floor Beams Rebar Works	26	17FEB10	17MAR10	0
000880	[O.Q]Basement Floor Slab Rebar Works	26	17FEB10	17MAR10	0
000860	[O.Q]Basement Floor Beams Concrete Works	15	04MAR10	18MAR10	0
000890	[O.Q]Basement Floor Slab Concrete Works	15	04MAR10	18MAR10	0

■	[O.Q]Basement Floor Columns Rebar Works
■	[O.Q]Basement Floor Shear+Ext Walls Cons.Rebar W
■	[O.Q]Basement Floor Columns FormWork
■	[O.Q]Basement Floor Shear+Ext Walls Cons.FormWor
■	[O.Q]Basement Floor Columns Concrete Works
■	[O.Q]Basement Floor Shear+Ext Walls Cons.Concret
■	[O.Q]Basement Floor Beams FormWork
■	[O.Q]Basement Floor Slab FormWork
■	[O.Q]Basement Floor Beams Rebar Works
■	[O.Q]Basement Floor Slab Rebar Works
■	[O.Q]Basement Floor Beams Concrete Works
■	[O.Q]Basement Floor Slab Concrete Works

1st Floor					
000900	[O.Q]1.Floor Columns Rebar Works	20	19MAR10	08APR10	0
000930	[O.Q]1.Floor Shear+Ext Walls Cons.Rebar Works	20	19MAR10	08APR10	0
000910	[O.Q]1.Floor Columns FormWork	18	25MAR10	11APR10	0
000940	[O.Q]1.Floor Shear+Ext Walls Cons.FormWork	18	25MAR10	11APR10	0
000920	[O.Q]1.Floor Columns Concrete Works	15	29MAR10	12APR10	0

■	[O.Q]1.Floor Columns Rebar Works
■	[O.Q]1.Floor Shear+Ext Walls Cons.Rebar Works
■	[O.Q]1.Floor Columns FormWork
■	[O.Q]1.Floor Shear+Ext Walls Cons.FormWork
■	[O.Q]1.Floor Columns Concrete Works

Start Date	21AUG09	■	Early Bar
Finish Date	03MAY11	■	Progress Bar
Data Date	01SEP09	■	Critical Activity
Run Date	14NOV10 14:44		

SPL1 XYZ Company  
 W917PM-09-C-0999  
 Sample Project for Section 01321  
 Critical Path

Sheet 1 of 6

Date	Revision	Checked	Approved

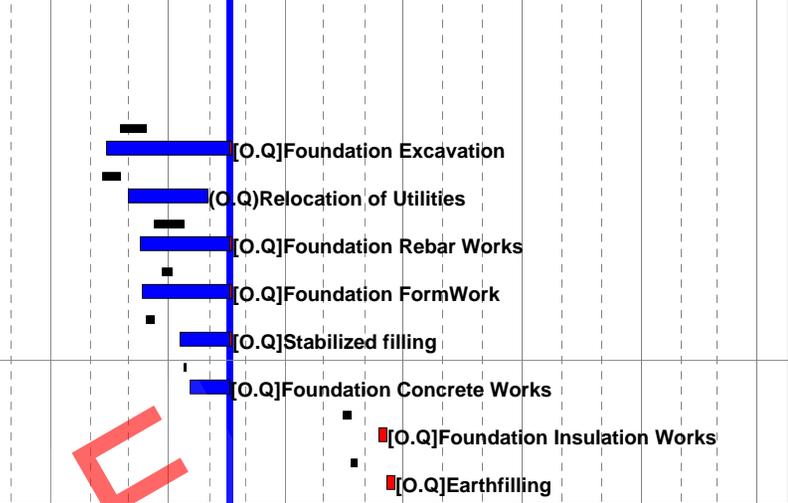
**Buildings**

**UOQ Building**

**Foundations**

**Basement**

000610	[O.Q]Foundation Excavation	15	1	90	14NOV09A	17FEB10	-39	11	-60
000605	(O.Q)Relocation of Utilities	15	0	100	30NOV09A	30JAN10A		-16	-58
000740	[O.Q]Foundation Rebar Works	20	1	60	10DEC09A	17FEB10	-39	11	-33
000750	[O.Q]Foundation FormWork	7	1	60	12DEC09A	17FEB10	-31	14	-41
000620	[O.Q]Stabilized filling	7	1	75	10JAN10A	17FEB10	-39	-25	-53
000760	[O.Q]Foundation Concrete Works	1	0	50	17JAN10A	16FEB10	-31	-4	-31
000770	[O.Q]Foundation Insulation Works	7	7	0	12JUN10	18JUN10	-36	-28	-28
000630	[O.Q]Earthfilling	5	5	0	19JUN10	23JUN10	-10	-28	-28



**Superstructure**

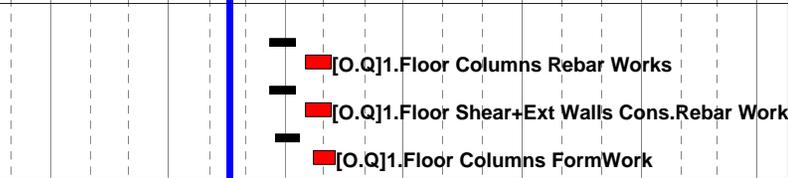
**Basement**

000780	[O.Q]Basement Floor Columns Rebar Works	20	8	30	16FEB10A	25FEB10	-39	-28	-17
000810	[O.Q]Basement Floor Shear+Ext Walls Cons.Rebar W	20	15	30	16FEB10A	06MAR10	-39	-28	-24
000790	[O.Q]Basement Floor Columns FormWork	18	18	0	22FEB10	13MAR10	-39	-28	-28
000820	[O.Q]Basement Floor Shear+Ext Walls Cons.FormWor	18	18	0	22FEB10	13MAR10	-39	-28	-28
000800	[O.Q]Basement Floor Columns Concrete Works	15	15	0	26FEB10	14MAR10	-39	-28	-28
000830	[O.Q]Basement Floor Shear+Ext Walls Cons.Concret	15	15	0	26FEB10	14MAR10	-39	-28	-28
000840	[O.Q]Basement Floor Beams FormWork	30	30	0	15MAR10	14APR10	-39	-28	-28
000870	[O.Q]Basement Floor Slab FormWork	30	30	0	15MAR10	14APR10	-39	-28	-28
000850	[O.Q]Basement Floor Beams Rebar Works	26	26	0	20MAR10	15APR10	-39	-28	-28
000880	[O.Q]Basement Floor Slab Rebar Works	26	26	0	20MAR10	15APR10	-39	-28	-28
000860	[O.Q]Basement Floor Beams Concrete Works	15	15	0	02APR10	16APR10	-39	-28	-28
000890	[O.Q]Basement Floor Slab Concrete Works	15	15	0	02APR10	16APR10	-39	-28	-28



**1st Floor**

000900	[O.Q]1.Floor Columns Rebar Works	20	20	0	17APR10	06MAY10	-39	-28	-28
000930	[O.Q]1.Floor Shear+Ext Walls Cons.Rebar Works	20	20	0	17APR10	06MAY10	-39	-28	-28
000910	[O.Q]1.Floor Columns FormWork	18	18	0	22APR10	09MAY10	-39	-28	-28



Start Date 21AUG09  
 Finish Date 01JUN11  
 Data Date 17FEB10  
 Run Date 14NOV10 17:24

Target  
 Early Bar  
 Progress Bar  
 Critical Activity

SPL2  
 XYZ Company  
 W917PM-C-09-C-0999  
 Project Schedule

Date	Revision	Checked	Approved

Activity ID	Activity Description	Orig Dur	Rem Dur	% Comp	Early Start	Early Finish	Total Float	BL Var Start	BL Var Finish	2010			
										FEB		MAR	
										15	22	1	8
002350	[O.Q]Plumbing Works	315*	303*	0	05FEB10A	18DEC10	44	152	-100				
<b>Admin-SS Building</b>													
<b>Foundations</b>													
<b>Basement</b>													
002730	[A.B]Earthfilling	5	3	75	13JAN10A	20FEB10	50	91	61				
002870	[A.B]Foundation Insulation Works	5	0	75	18JAN10A	16FEB10	50	81	59				
<b>Superstructure</b>													
<b>1st Floor</b>													
003000	[A.B]1.Floor Columns Rebar Works	20	0	60	26JAN10A	16FEB10	15	21	20				
003010	[A.B]1.Floor Columns FormWork	18	0	60	28JAN10A	16FEB10	21	24	23				
003030	[A.B]1.Floor Shear+Ext Walls Cons.Rebar Works	20	20	60	29JAN10A	11MAR10	15	18	0				
003070	[A.B]1.Floor Beams Rebar Works	26	26	35	30JAN10A	19MAR10	24	46	27				
003040	[A.B]1.Floor Shear+Ext Walls Cons.FormWork	18	18	60	31JAN10A	09MAR10	18	21	5				
003090	[A.B]1.Floor Slab FormWork	30	30	40	01FEB10A	29MAR10	15	39	17				
003060	[A.B]1.Floor Beams FormWork	30	30	30	03FEB10A	24MAR10	20	37	22				
003100	[A.B]1.Floor Slab Rebar Works	26	26	30	10FEB10A	25MAR10	19	36	22				
003020	[A.B]1.Floor Columns Concrete Works	15	0	60	11FEB10A	19FEB10	20	15	22				
003050	[A.B]1.Floor Shear+Ext Walls Cons.Concrete Works	15	15	30	11FEB10A	13MAR10	15	15	2				
003080	[A.B]1.Floor Beams Concrete Works	15	15	0	06MAR10	20MAR10	24	27	27				
<b>Electrical</b>													
<b>Basement</b>													
004045	[A.B]EMT and IMC Conduits Base Fl.	14	14	30	15JAN10A	02MAR10	215	165	132				
004145	[A.B]Fire Alarm EMT and IMC Conduits Base Fl.	15	15	0	17FEB10	03MAR10	215	132	132				
004165	[A.B]Fire Alarm Cable Base Fl.	8	8	0	04MAR10	11MAR10	229	132	132				
<b>1st Floor</b>													
004050	[A.B]EMT and IMC Conduits 1.FI.	14	14	30	01FEB10A	05MAR10	227	199	179				
004150	[A.B]Fire Alarm EMT and IMC Conduits 1.FI.	15	15	0	04MAR10	18MAR10	215	168	167				

SAMPLE

Start Date 21AUG09  
 Finish Date 01JUN11  
 Data Date 17FEB10  
 Run Date 14NOV10 17:23

Target  
 Early Bar  
 Progress Bar  
 Critical Activity

SPL2  
 XYZ Company  
 W917PM-C-09-C-0999  
 3-Week Lookahead

Sheet 2A of 3B

Date	Revision	Checked	Approved

Activity ID	Activity Description	Budgeted Cost	% Comp	Earned value cost (BCWP)
<b>SPL2 W917PM-C-09-C-0999</b>				
+ 0001	Mobilization/Demobilization	0	0	0
+ 0002	Design Costs	0	0	0
+ 0003	Unaccompanied Officer's Quarters	0	0	0
+ 0004	Administrative Support Facilities	0	0	0
+ 0005	Building Information Systems	0	0	0
+ 0006	Electrical Distribution Systems	0	0	0
+ 0007	Water Distribution System	0	0	0
+ 0008	Sewer Collection System	0	0	0
+ 0009	Storm Drainage System	0	0	0
+ 0010	Site Improvements and Demolition	0	0	0
+ 0011	Information Distribution Systems	0	0	0
+ 0012	Dining Facility-OPTION	0	0	0
+ 0013	Vehicle Maintenance Shop Facility-OPTION	0	0	0
+ 0014	Paving and Side Walks-OPTION	0	0	0
+ 0015	Power Generation Facility	0	0	0

SAMPLE

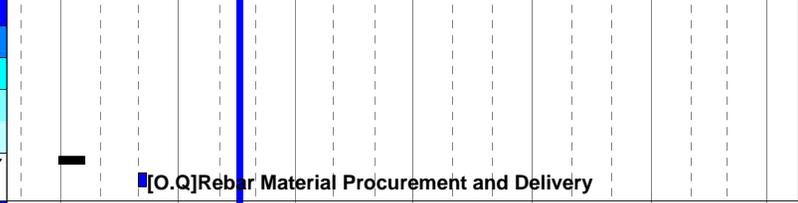
Start Date 21AUG09  
 Finish Date 01JUN11  
 Data Date 17FEB10  
 Run Date 14NOV10 17:21

SPL2 XYZ Company Sheet 1 of 1  
 W917PM-C-09-C-0999  
 Sample Project for 01321  
 Earned Value Report

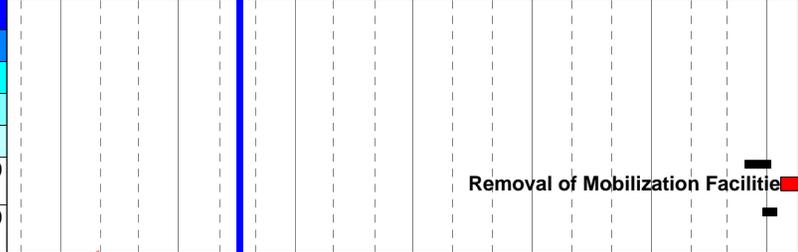
Date	Revision	Checked	Approved

W917PM-C-09-C-0999

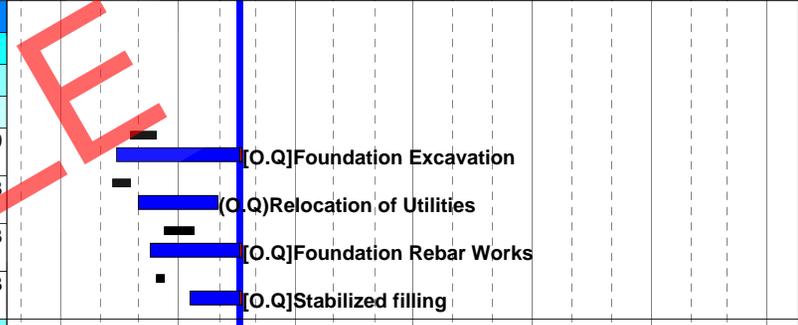
Procurement										
Buildings										
UOQ Building										
000725	[O.Q]Rebar Material Procurement and Delivery	20	0	100	01DEC09	05DEC09		-62	-47	



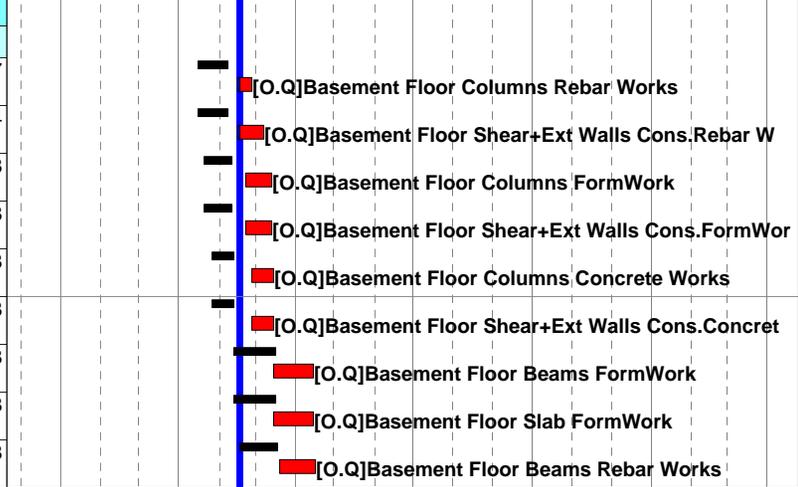
Construction										
Mob/Demob										
Demobilization										
000280	Removal of Mobilization Facilities	20	20	0	12APR11	01MAY11	-39	-29	-29	
000290	Site Clean up & Removal of Temp. Structures	10	10	0	27APR11	06MAY11	-39	-29	-29	



Buildings										
UOQ Building										
Foundations										
Basement										
000610	[O.Q]Foundation Excavation	15	1	90	14NOV09	17FEB10	-39	11	-60	
000605	(O.Q)Relocation of Utilities	15	0	100	30NOV09	30JAN10	-16	-58		
000740	[O.Q]Foundation Rebar Works	20	1	60	10DEC09	17FEB10	-39	11	-33	
000620	[O.Q]Stabilized filling	7	1	75	10JAN10	17FEB10	-39	-25	-53	



Superstructure										
Basement										
000780	[O.Q]Basement Floor Columns Rebar Works	20	8	30	16FEB10	25FEB10	-39	-28	-17	
000810	[O.Q]Basement Floor Shear+Ext Walls Cons.Rebar W	20	15	30	16FEB10	06MAR10	-39	-28	-24	
000790	[O.Q]Basement Floor Columns FormWork	18	18	0	22FEB10	13MAR10	-39	-28	-28	
000820	[O.Q]Basement Floor Shear+Ext Walls Cons.FormWor	18	18	0	22FEB10	13MAR10	-39	-28	-28	
000800	[O.Q]Basement Floor Columns Concrete Works	15	15	0	26FEB10	14MAR10	-39	-28	-28	
000830	[O.Q]Basement Floor Shear+Ext Walls Cons.Concret	15	15	0	26FEB10	14MAR10	-39	-28	-28	
000840	[O.Q]Basement Floor Beams FormWork	30	30	0	15MAR10	14APR10	-39	-28	-28	
000870	[O.Q]Basement Floor Slab FormWork	30	30	0	15MAR10	14APR10	-39	-28	-28	
000850	[O.Q]Basement Floor Beams Rebar Works	26	26	0	20MAR10	15APR10	-39	-28	-28	



Start Date 21AUG09  
 Finish Date 01JUN11  
 Data Date 17FEB10  
 Run Date 14NOV10 17:18

Target  
 Early Bar  
 Progress Bar  
 Critical Activity

SPL2 XYZ Company  
 W917PM-C-09-C-0999  
 Sample Project for Section 01321  
 Critical Path

Sheet 1 of 4

Date	Revision	Checked	Approved

<p>CEMP-CE Regulation No. 1-1-11</p>	<p>Department of the Army U.S. Army Corps of Engineers Washington, DC 20314-1000</p>	<p>ER 1-1-11 15 Jun 95</p>
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U.S. Army Corps of Engineers  
Washington, D.C. 20314-1000

ER 1-1-11

Regulation  
ER 1-1-11

15 June 1995

Administration  
PROGRESS, SCHEDULES, AND NETWORK ANALYSIS SYSTEMS

1. Purpose. This regulation states the policy on the use of any of the various schedule management methods. The basic regulation provides general policy relative to the use of the various systems (bar charts, network analysis etc.) as well as administration of contract provisions. If this ER conflicts with the Federal Acquisition Regulations or any of its supplements, they shall govern over the ER.

2. Applicability. This regulation is applicable to all USACE commands.

3. References.

- a. FAR 52.236-15.
- b. DOD FAR Supplement 236.273
- c. EP 415-1-4
- d. CEGS 01310

4. Policy. Obtaining quality construction on time and within budget is a primary goal of the U.S. Army Corps of Engineers. In order to manage the time specified for the accomplishment of a project, a schedule is required on construction contracts by references 3.a. & 3.b. The contractor is responsible for scheduling the work and progress so that the contract completion date is met. The Administrative Contracting Officers (ACO) monitors the contractor's schedule to assure compliance. If a schedule is not provided, the Contracting Officer may withhold progress payments per paragraph (a) of reference 3.a. If actual progress fails to meet the schedule, the Contracting Officer shall take appropriate actions to assure compliance with the progress of the work. Therefore, the schedule is vital to effective construction management by the contractor and the Government. Reference 3.d. allows the District Technical Staff to choose the type of contract schedule during the design phase. Bar charts can be used to manage simple jobs. When by its nature a construction project or other effort is complex with many interrelated activities, a network schedule may be the most effective tool for analyzing progress, projecting completion, and

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This regulation supersedes ER 1-1-11, dated 15 March 1990.

ER 1-1-11  
15 Jun 95

calculating payment commensurate with actual progress. The determination of applicability of network scheduling is the responsibility of the Contracting Officer. When determined to be applicable, network schedules must be carefully specified, updated regularly, and used effectively. Standard data exchange format shall be used to monitor a contractor's schedule when the contractor and the Government operate on different programs.

5. Description of the System. A network schedule requires first a logic diagram graphically depicting the sequence and interdependence of the work. It can be drawn in either the precedence or arrow diagram format, but it must accurately represent the intended work sequence and indicate actual constraints. Details of diagramming techniques are contained in Reference 3.c. Network Analysis System Guide. Once the logic diagram is made, an analysis is required which calculates early and late start and finish dates for the activities as well as the spare time or float available to accomplish the activity. Resource data such as cost and responsibility may be entered for activities also. Once calculated, these results can be ordered in different arrangements or sorts and compiled into specific reports for management purposes. Actual progress must be entered once work commences. Based on this progress, revised start and finish dates, and progress payment can be calculated.

6. Use of the System.

a. Network Analysis System (NAS), being a management control tool, may be applied to many aspects of the work by the Corps of Engineers. It can be employed profitably in the management of in-house operations such as engineering and design, and life cycle project management. A comprehensive life cycle analysis of a major civil works project should include, but not be limited to, activities for preparation of design memos and environmental impact statements, real estate planning and acquisition, preparation of plans and specifications, reservoir clearing, advertising and/or negotiation for construction, relocation and recreation contracts. Annual funding forecasts can be derived from early and late finish sorts of the analysis if costs have been assigned to each activity. Analysis can be used to set construction time prior to advertisement or select alternative contracting methods when user requirements preclude the use of sealed bidding.

b. Construction schedules after contract award should be contractor prepared in order to involve the contractor in the actual planning. Updates of actual progress should also have contractor participation as well as Government concurrence since

ER 1-1-11  
15 Jun 95

the resultant analysis will project early or late contract accomplishment and progress payment due. Changes to the work and occurrences which impact progress must be entered in the schedule logic in order to keep the schedule up to date, to reflect actual job progress, to determine where the contractor must accelerate to regain the schedule when behind due to his/her own actions, and to determine the impact and effect of Government actions on the contractor in order to provide equitable adjustments to the contract time as required.

#### 7. Contract Administration.

a. When the Contracting Officer has determined that NAS will be specified for use on a construction contract, the provision of the specifications must be carefully edited for the specific job. Reference 3.d. CECS 01310, contains numerous notes indicating where such editing can be done. This editing is not only permissible, but is also mandatory.

b. The contractor should submit his/her NAS within the time required by the specifications. The schedule must be verified as being logical and the completion dates attainable. Failure to enforce this requirement is highly detrimental to project management. Partial payments cannot be processed until an acceptable NAS schedule has been submitted. The Contracting Officer may not allow work to start nor make partial payments until an acceptable schedule (interim or final) is received and approved. Once approved, the schedule must be maintained up to date with regard to job progress and changes. Failure to maintain job progress is fatal to effective schedule management.

c. Reference 3.d. is a guide specification for a contractor prepared NAS. This provision serves as an example of the authorization of reference 3b. Specific contract requirements will dictate how this provision is edited.

d. Appendix A contains the Standard Data Exchange Format specification. This format should be specified and used to transfer contract schedule data between different contractor and Government NAS programs.

8. Implementation. NAS can be a valuable tool in both Corps life cycle project management and contract administration. NAS schedule data can be used to project contract completion, schedule Government actions, incorporate changes and occurrences during execution of the contract, analyze their effect on the contract completion, and arrive at equitable adjustments. The following actions should be implemented to assure effective management by use of NAS where it is selected and specified:

ER 1-1-11  
15 Jun 95

a. Assure that appropriate Government personnel at all levels are adequately trained in the use of NAS. Basic training is available through the HQUSACE Construction Training Program.

b. Carefully edit CEGS 01310 to fit job requirements. When necessary, transfer of data should be accomplished by inclusion of a technical provision for standard data exchange format when the contractor and the Government use different programs. The Government should not dictate a proprietary system.

c. After receipt, promptly and carefully review the submission of the NAS. A conference type review with the contractor is effective. Verify the schedule logic, contract conformance, and approve or disapprove the schedule promptly.

d. Enforce all contract clauses and provisions for submission, updating, reporting, and payments, and insist upon the ACO's approval of all input data prior to updating. Failure to maintain an accurately updated schedule will undermine all attempts to manage the schedule properly.

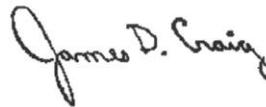
e. Include submittals, approvals, etc in the schedule.

f. At the time notice-to-proceed is given for a change order, promptly incorporate the logic changes in the network. Analysis of the effect of changes on the schedule will provide the basis for equitable time extensions of the contract.

g. When work is delayed by causes beyond the contractor's control, the contractor is obligated to notify the ACO within 10 days of the beginning of the delay. The ACO is then obligated to ascertain the facts, establish the extent of the delay, and extend the contract time when justified. These determinations can be made only if the schedule is accurately updated.

h. Avoid specifying proprietary computer programs. Contractors should be encouraged to prepare their own analysis in lieu of hiring consultants to plan and update their schedules.

FOR THE COMMANDER:



1 Appendix  
APP A - Standard Data Exchange  
Format specification

JAMES D. CRAIG  
Colonel, Corps of Engineers  
Chief of Staff

APPENDIX A

ER 1-1-11  
15 Jun 95

STANDARD DATA EXCHANGE FORMAT SPECIFICATION

PART 1- GENERAL

**1. Application of This Provision:** The Standard Data Exchange Format (SDEF) provides a non-proprietary protocol to exchange project planning and progress data between scheduling systems.

**2. File Type and Format:** The data file shall consist of a 132 character, fixed format, "ASCII" file. Text shall be left-justified and numbers shall be right-justified in each field. Data records must conform, exactly, to the sequence, column position, maximum length, mandatory values, and field definitions described below to comply with the SDEF. Unless specifically stated, all numbers shall be whole numbers. Fields containing numbers shall not be zero filled. All data columns shall be separated by a single blank column. The file shall not contain blank lines.

**3. Usage Notes:** Where appropriate, notes regarding proper usage of systems to support the SDEF have been included in brackets ( [ ] ). These notes are included to assist users in creating SDEF-compatible files, given the variety of software systems that support the SDEF.

**4. Recommended Systems:** Several systems have been tested to determine the accuracy of importing and exporting SDEF files. For information on the current list of recommended systems, please contact Mr. Stan Green at HQUSACE, (202) 761-0206. Although the currently listed system have been tested other systems may also be acceptable provided those systems correctly import and export SDEF files.

**5. SDEF Checker Program:** A program that checks whether a file meets the SDEF is available free of charge. A copy of this program may be obtained by written request to: U.S. Army Corps of Engineers, ATTN: Mr. Bill East (CECER-FFA), P.O. Box 9005, Champaign, IL 61826-90005. A description of the SDEF Checker is also available on the Internet and CivilNet.

PART 2- SDEF SPECIFICATION

**6. SDEF Organization:** The SDEF shall consist of the following records provided in the exact sequence shown below:

**ER 1-1-11**

**15 Jun 95**

Paragraph Record

<u>Reference</u>	<u>Description</u>	<u>Remarks</u>
6.a	Volume Record	Mandatory First Line of File
6.b	Project Record	Mandatory Second Line of File
6.c	Calendar Record(s)	Mandatory One Record Minimum
6.d	Holiday Record(s)	Mandatory if Holidays Used
6.e	Activity Record(s)	Mandatory Records
6.f	Precedence Record(s)	Mandatory for Precedence
6.g	Unit Cost Record(s)	Mandatory for Unit Costs
6.h	Progress Record(s)	Mandatory Records
6.i	File End Record	Mandatory Last Line of Disk/File

**6.a. Volume Record:** The Volume Record shall be used to control the transfer of data that may not fit on a single disk. The first line in every file used to store SDEF data shall be the Volume Record. The Volume Record shall sequentially identify the number of the data transfer disk(s). The Volume Record shall have the following format:

<u>Description</u>	<u>Column Position</u>	<u>Max. Len.</u>	<u>Req. Value</u>	<u>Type</u>	<u>Notes</u>
RECORD IDENTIFIER	1 - 4	4	VOLM	Fixed	Filled
DISK NUMBER	6 - 7	2	√	Number	Right Justified

6.a.(1) The RECORD IDENTIFIER is the first four characters of this record. The required value for this field shall be "VOLM". The VOLM record must appear on the first line of the SDEF data file.

6.a.(2) The DISK NUMBER field shall identify the number of the data disk used to store the data exchange information. If all data may be contained on a single disk, this field shall contain the value of "1". If more disks are required, then the second disk shall contain the value "2", the third disk shall be designated with a "3", and so on. Identification of the last data disk is accomplished in the Reject End Record.

**6.b. Project Record:** The Project Identifier Record shall contain general project information. Because more than one SDEF file may be required for data transfer between large projects, the PROJ record shall be the second line of the first SDEF file transferred. The PROJ record shall contain information in the following format:

<u>Description</u>	<u>Column Position</u>	<u>Max. Len.</u>	<u>Req. Value</u>	<u>Type</u>	<u>Notes</u>
RECORD IDENTIFIER	1- 4	4	PROJ	Fixed	Filled
DATA DATE	6- 12	7	√	ddmmmyy	Filled
PROJECT IDENTIFIER	14-17	4	√	Alpha.	Left Justified
PROJECT NAME	19-66	48	√	Alpha.	Left Justified
CONTRACTOR NAME	68-103	36	√	Alpha.	Left Justified
ARROW OR PRECEDENCE	105-105	1	A,P	Fixed	Filled
CONTRACT NUMBER	107-112	6	√	Alpha.	Left Justified
PROJECT START	114-120	7	√	ddmmmyy	Filled
PROJECT END	122-128	7	√	ddmmmyy	Filled

6.b.(1) The RECORD IDENTIFIER is the first four characters of this record. The required value for this field shall be "PROJ". This record shall contain the general project information and indicates which scheduling method shall be used.

6.b.(2) The DATA DATE is the date of the schedule calculation. The abbreviation "ddmmmyy" refers to a date format that shall translate a date into two numbers for the day, three letters for the month, and two numbers for the year. For example, March 1, 1999 shall be translated into O1Mar99. This same convention for date formats shall be used throughout the entire data format. To ensure that dates are translated consistently, the following abbreviations shall be used for the three character month code:

Abbreviation Month

JAN	January
FEB	February
MAR	March
APR	April
MAY	May
JUN	June
JUL	July
AUG	August
SEP	September
OCT	October
NOV	November
DEC	December

**ER 1-1-11**

**15 Jun 95**

6.b.(3) The PROJECT IDENTIFIER is a maximum four character abbreviation for the schedule. These four characters shall be used to uniquely identify the project and specific update as agreed upon by Contractor and Contracting Officer. When utilizing scheduling software these four characters shall be used to select the project. Software manufacturers shall provide information to users to ensure that data importing programs do not automatically overwrite other schedules with the same PROJECT IDENTIFIER.

6.b.(4) The PROJECT NAME field shall contain the name and location of the project edited to fit the space provided. The data appearing here shall appear on scheduling software reports. The abbreviation "Alpha." refers to an "Alphanumeric" field value and shall be used throughout the remainder of this specification.

6.b.(5) The CONTRACTOR NAME field shall contain the Construction Contractor's name, edited to fit the space provided.

6.b.(6) The ARROW OR PRECEDENCE field shall indicate which method shall be used for calculation of the schedule. The value "A" shall signify the Arrow Diagramming Method. The value "P" shall signify the Precedence Diagramming Method. The ACTIVITY ID field of the Activity Record shall be interpreted differently depending on the value of this field. The Precedence Record shall be required if the value of this field is "P". [Usage note: software systems may not support both arrow and precedence diagramming. It is recommended that the selection of the type of network be based on the capabilities of the software used by project partners.]

6.b.(7) The CONTRACT NUMBER field shall contain the contract number for the project. For example, the construction contract number DACA85-89-C-0001 shall be entered into this field as "890001".

6.b.(8) The PROJECT START field shall contain the date that the Contractor acknowledges the Notice to Proceed (NTP). [Usage note: Software systems may use a project start date to constrain the first activity of a network. To ensure consistent scheduling calculations across products, it is recommended that the first activity in the schedule contain an EARLY START constraint and a software system's PROJECT START date only be used to report on the project's start date.]

6.b.(9) The PROJECT END field shall contain the date that the Contractor plans to complete the work as approved by the Contracting Officer. [Usage note: software systems may use a project end date to constrain the last activity of a network. To ensure consistent scheduling calculations across products, it is recommended that the last activity in the schedule contain an EARLY START constraint and a software system's PROJECT END date only be used to report on the project's end date.]

**6.c. Calendar Record:** The Calendar Record(s) shall follow the Project Identifier Record in the first disk of data transferred. A minimum of one Calendar Record shall be required for all data exchange activity files. The format for the Calendar Record shall be as follows:

<u>Description</u>	<u>Column Position</u>	<u>Max. Len.</u>	<u>Req. Value</u>	<u>Type</u>	<u>Notes</u>
RECORD IDENTIFIER	1 - 4	4	CLDR	Fixed	Filled
CALENDAR CODE	6 - 6	1	√	Alpha.	Filled
WORKDAYS	8 - 14	7	SMTWTFS	Fixed	Filled
CALENDAR DESCRIPTION	16-45	30	√	Alpha.	Left Justified

6.c.(1) The RECORD IDENTIFIER shall always begin with "CLDR" to identify it as a Calendar Record. Each Calendar Record used shall have this identification in the first four columns. [Usage note: Systems contain a variety of calendar options. It is recommended that the least common denominator of calendar features between the systems be used as the basis for creating the SDEF file for a given project.]

6.c.(2) The CALENDAR CODE shall be used in the activity records to signify that this calendar is associated with the activity. [Usage note: Some systems do not allow for alphanumeric CALENDAR CODES, but only allow positive integers from 1 to 9. It is recommended that only positive integers be used for the CALENDAR CODE field to support the widest variety of scheduling systems.]

6.c.(3) The WORKDAYS field shall contain the work-week pattern selected with "Y", for Yes, and "N", for No. The first character shall be Sunday and the last character Saturday. An example of a typical five (5) day work-week would be NYYYYYN. A seven (7) day work-week would be YYYYYYY.

6.c.(4) The CALENDAR DESCRIPTION shall be used to briefly describe the calendar used.

**6.d. Holiday Record:** The Holiday Record(s) shall follow the Calendar Record(s) in the first disk of data transferred. There may be calendars without any holidays designated or several Holiday Records for each Calendar Record(s). The format for the Holiday Record shall be as follows:

**ER 1-1-11**  
**15 Jun 95**

<u>Description</u>	<u>Column Position</u>	<u>Max. Len.</u>	<u>Req. Value</u>	<u>Type</u>	<u>Notes</u>
RECORD IDENTIFIER	1 - 4	4	HOLI	Fixed	Filled
CALENDAR CODE	6 - 6	1	√	Alpha.	Filled
HOLIDAY DATE	8 - 14	7	√	ddmmmyy	Filled
HOLIDAY DATE	16-22	7	-	ddmmmyy	May be Filled
HOLIDAY DATE	24-30	7	-	ddmmmyy	May be Filled
HOLIDAY DATE	32-38	7	-	ddmmmyy	May be Filled
HOLIDAY DATE	40-46	7	-	ddmmmyy	May be Filled
HOLIDAY DATE	48-54	7	-	ddmmmyy	May be Filled
HOLIDAY DATE	56-62	7	-	ddmmmyy	May be Filled
HOLIDAY DATE	64-70	7	-	ddmmmyy	May be Filled
HOLIDAY DATE	72-78	7	-	ddmmmyy	May be Filled
HOLIDAY DATE	80-86	7	-	ddmmmyy	May be Filled
HOLIDAY DATE	88-94	7	-	ddmmmyy	May be Filled
HOLIDAY DATE	96-102	7	-	ddmmmyy	May be Filled
HOLIDAY DATE	104-110	7	-	ddmmmyy	May be Filled
HOLIDAY DATE	112-118	7	-	ddmmmyy	May be Filled
HOLIDAY DATE	120-126	7	-	ddmmmyy	May be Filled

6.d.(1) The RECORD IDENTIFIER shall always begin with "HOLI". Each Holiday Record used shall have this identification in the first four columns.

6.d.(2) The CALENDAR CODE indicates which work-week calendar the holidays shall be applied to. More than one HOLI record may be used for a given CALENDAR CODE.

6.d.(3) The HOLIDAY DATE shall contain the date of each individual non-work day.

**6.e. Activity Records:** Activity Records shall follow any Holiday Record(s). If there are no Holiday Record(s), then the Activity Records shall follow the Calendar Record(s). There shall be one Activity Record for every activity in the network. Each activity shall have one record in the following format:

<u>Description</u>	<u>Column Position</u>	<u>Max. Len.</u>	<u>Req. Value</u>	<u>Type</u>	<u>Notes</u>
RECORD IDENTIFIER	1 - 4	4	ACTV	Fixed	Filled
ACTIVITY ID	6 - 15	10	√	Integer	See Comment Below
ACTIVITY DESCR.	17-46	30	√	Alpha.	Left Justified
ACTIVITY DURATION	48-50	3	√	Integer	Right Justified
CONSTRAINT DATE	52-58	7		ddmmmyy	May be Filled
CONSTRAINT TYPE	60-61	2		ES or LF	May be Filled
CALENDAR CODE	63-63	1	√	Alpha.	Filled
HAMMOCK CODE	65-65	1	Y, blank	Fixed	May be Filled
WORKERS PER DAY	67-69	3		Integer	Right Justified
RESPONSIBILITY CODE	71-74	4		Alpha.	Left Justified
WORK AREA CODE	76-79	4		Alpha.	Left Justified
MOD OR CLAIM NO.	81-86	6		Alpha.	Left Justified
BID ITEM	88-93	6		Alpha.	Left Justified
PHASE OF WORK	95-96	2		Alpha.	Left Justified
CATEGORY OF WORK	98-98	1		Alpha.	May be Filled
FEATURE OF WORK	100-128	30		Alpha.	Left Justified

6.e.(1) The RECORD IDENTIFIER for each activity description record must begin with the four character "ACTV" code. This field shall be used for both the Arrow Diagram Method (ADM) and Precedence Diagram Method (PDM),

6.e.(2) The ACTIVITY ID consists of coding that shall differ, depending on whether the ADM or PDM method was selected in the Project Record. If the ADM method was selected then the field shall be interpreted as two right-justified fields of five (5) integers each. If the PDM method was selected the field shall be interpreted as one (1) right-justified field of ten (10) integers each. The maximum activity number allowed under this arrangement is 99999 for ADM and 9999999999 for the PDM method. [Usage note: Many systems allow alphanumeric ACTIVITY IDs. While the SDEF does not strictly, allow the use of alphanumeric values, users may agree to use the ACTIVITY ID field to exchange alphanumeric data. It is recommended that the ACTIVITY ID be restricted to integers when one or more of the systems being used for scheduling allows only integer ACTIVITY ID values.]

6.e.(3) The ACTIVITY DESCRIPTION shall be a maximum of 30 characters. Descriptions must be limited to the space provided.

6.e.(4) The ACTIVITY DURATION contains the estimated original duration for the activity on the schedule. The duration shall be based upon the work-week designated by the activity's related calendar.

6.e.(5) The CONSTRAINT DATE field shall be used to identify a date that the scheduling system may use to modify float calculations. If there is a date in this field, then there must be a valid entry in the CONSTRAINT TYPE field.

**ER1-1-11**

**15 Jun 95**

6.e.(6) The CONSTRAINT TYPE field shall be used to identify the way that the scheduling system shall use the CONSTRAINT DATE to modify schedule float calculations. If there is a value in this field, then there must be a valid entry in the CONSTRAINT DATE field. The valid values for the CONSTRAINT TYPE are as follows:

<u>Code</u>	<u>Definition</u>
ES	The CONSTRAINT DATE shall replace an activity's early start date, if the early start date is prior to the CONSTRAINT DATE.
LF	The CONSTRAINT DATE shall replace an activity's late finish date, if the late finish date is after the CONSTRAINT DATE.

[Usage note: Systems provide a wide variety of constraint types that may not be supported by other systems. It is recommended that constraint types be restricted to the values above regardless of the capabilities of the various systems being used for scheduling.]

6.e.(7) The CALENDAR CODE relates this activity to an appropriate work-week calendar. The ACTIVITY DURATION must be based on the valid work-week referenced by this CALENDAR CODE field.

6.e.(8) The HAMMOCK CODE indicates that a particular activity does not have its own independent duration, but takes its start dates from the start date of the preceding activity (or node) and takes its finish dates from the finish dates of its succeeding activity (or node). If the value of the HAMMOCK CODE field is "Y", then the activity is a hammock activity.

6.e.(9) The WORKERS PER DAY shall contain the average number of workers expected to work on the activity each day the activity is in progress. If this code is required by project scheduling specifications, values for this data will be right justified. Activities without workers per day shall have a value of "0".

6.e.(10) The RESPONSIBILITY CODE shall identify the subcontractors or major trade involved with completing the work for the activity. If this code is required by project scheduling specifications, value for this data will be left justified.

6.e.(11) The WORK AREA CODE shall identify the location of the activity within the project. If this code is required by project scheduling specifications, value for this data will be left justified.

6.e.(12) The MOD OR CLAIM NUMBER shall uniquely identify activities that are added or changed on a construction contract modification, or activities that justify any claimed time extensions. If this code is required by project scheduling specifications, value for this data will be left justified.

ER 1-1-11  
15 Jun 95

6.e.(13) The BID ITEM shall identify the bid item number associated with each activity. If this code is required by project scheduling specifications, value for this data will be left justified.

6.e.(14) The PHASE OF WORK shall identify the timing of a specific activity within the entire project. If this code is required by project scheduling specifications, value for this data will be left justified.

6.e.(15) The CATEGORY OF WORK shall identify the general type of work performed by every activity. If this code is required by project scheduling specifications, value for this data will be placed in the field.

6.e.(16) The FEATURE OF WORK shall identify a very broad designation of the general type of work that is being accomplished by the activity. If this code is required by project scheduling specifications, value for this data will be left justified. [Usage note: Many systems require that FEATURE OF WORK values be placed in several activity code fields. It is recommended that users review SDEF documentation to determine the correct way to use a given software system to produce the FEATURE OF WORK code.]

**6.f. Precedence Record:** The Precedence Record(s) shall follow the Activity Records if a Precedence Diagram Method schedule (PDM) is identified in the ARROW OR PRECEDENCE field of the Project Record. The Precedence Record has the following format:

<u>Description</u>	<u>Column Position</u>	<u>Max. Len.</u>	<u>Req. Value</u>	<u>Type</u>	<u>Notes</u>
RECORD IDENTIFIER	1 - 4	4	PRED	Fixed	Filled
ACTIVITY ID	6-15	10	√	Integer	See Comment Below
PRECEDING ACTIVITY	17 -26	10	√	Integer	See Comment Below
PREDECESSOR TYPE	28-28	1	√	S, F, C	Filled
LAG DURATION	30-33	4	√	Integer	Right Justified

6.f.(1) The RECORD IDENTIFIER shall begin with the four characters "PRED" in the first four columns of the record.

6.f.(2) The ACTIVITY ID identifies the activity whose predecessor shall be specified in this record.

6.f.(3) The PRECEDING ACTIVITY number is the number of an activity that precedes the activity noted in the ACTIVITY ID field.

6.f.(4) The PREDECESSOR TYPE field indicates the type of relation that exists between the chosen pair of activities. Valid PREDECESSOR TYPE fields areas follows:

**ER1-1-11**

**15 Jun 95**

<u>Code</u>	<u>Definition</u>
S	Start-to-Start relation
F	Finish-to-Finish relation
C	Finish-to-Start relation

[Usage note: Some systems provide additional predecessor types that may not be supported by all other systems. It is recommended that predecessor types be restricted to the values above regardless of the capabilities of the various systems being used for scheduling.]

6.f.(5) The LAG DURATION field contains the number of days delay between the preceding and current activity. [Usage note: Some systems allow negative values for the LAG DURATION. Because these values are not supported by all other systems, it is recommended that values be restricted to zero and positive integers.]

**6.g. Unit Cost Record:** The Unit Cost Record shall follow all Precedence Records. If the schedule utilizes the Arrow Diagram Method, then the Unit Cost Record shall follow any Activity records. There shall be one Unit Cost Record for every activity that is not a lump sum activity. [Usage note: (1) It is recommended that users who wish to exchange unit cost data contact SDEF vendor representatives to determine the ability of the software system to import/export unit cost information. (2) If the software being used by each member of the project team supports unit cost data then users may wish to conduct a trial run of the SDEF data exchange with a two or three-activity network to ensure that unit cost data transfers as expected. If problems are found please consult vendor representatives for resolution prior to exchange of full project schedules. (3) Unit cost record data does not, in most systems, result in the correct values being placed in the ACTIVITY COST and COST TO DATE fields of the Progress (PROG) Record. Users must, at this time, manually transfer the data from the Unit Cost Record to the Progress Record.

The fields for this record shall take the following format:

<u>Description</u>	<u>Column Position</u>	<u>Max. Len.</u>	<u>Req. Value</u>	<u>Type</u>	<u>Notes</u>
RECORD IDENTIFIER	1 - 4	4	UNIT	Fixed	Filled
ACTIVITY ID	6-15	10	√	Integer	See Comment Below
TOTAL QTY	17-29	13	√	Format 8.4	Right Justified
COST PER UNIT	31-43	13	√	Format 8.4	Right Justified
QTY TO DATE	45-57	13	√	Format 8.4	Right Justified
UNIT OF MEASURE	59-61	3	√	Alpha.	Left Justified

6.g.(1) The RECORD IDENTIFIER shall be identified with the four characters 'UNIT' placed in the first four columns of the record.

ER1-1-11

15 Jun 95

6.g.(2) The ACTIVITY ID for each activity shall match the format described in the activity record. Each activity may have only one Unit Cost Record.

6.g.(3) The TOTAL QTY is the total amount of material to be used in this activity. This number consists of eight digits, one decimal point and four more digits. An example of a number in this format is "11111111.1111". If decimal places are not needed this field shall still contain a ".0000" in columns 25-29. [Usage note: Many systems support a different format for this value that does not include as many decimal places. It is recommended that users determine their requirements for significant digits based on the lowest common denominator of the software systems being used for a given project.]

6.g.(4) The COST PER UNIT is the cost, in dollars and cents, for each unit to be used in this activity. This number consists of eight digits, one decimal point, and four more digits. An example of a number in this format is "11111111.1111". If decimal places are not needed this field shall still contain a ".0000" in columns 39-43. [Usage note: Many systems support a different format for this value that does not include as many decimal places. It is recommended that users determine their requirements for significant digits based on the lowest common denominator of the software systems being used for a given project.]

6.g.(5) The QTY TO DATE is the quantity of material installed in this activity up to the data date. This number consists of eight digits, one decimal point, and four more digits. An example of a number in this format is "11111111.1111". If decimal places are not needed this field shall still contain a ".0000" in columns 53-57. [Usage note: Many systems support a different format for this value that does not include as many decimal places. It is recommended that users determine their requirements for significant digits based on the lowest common denominator of the software systems being used for a given project.]

6.g.(6) The UNIT OF MEASURE is an abbreviation that may be used to describe the units being measured for this activity. Valid values for this field are any meaningful English or metric unit, except "LS" for Lump Sum. Lump Sum activities are not to have Unit Cost Records.

**6.h. Progress Record:** Progress Record(s) shall follow all Unit Cost Record(s). If there are no Unit Cost Record(s), then the Progress Record(s) shall follow all Precedence Records. If the schedule utilizes the Arrow Diagram Method, then the Progress Record shall follow any Activity Records. One Progress Record is required for every activity in the Activity Record. The fields for this Record shall be provided in the following format:

**ER1-1-11**

**15 Jun 95**

<u>Description</u>	<u>Column Position</u>	<u>Max. Len.</u>	<u>Req. Value</u>	<u>Type</u>	<u>Notes</u>
RECORD IDENTIFIER	1-4	4	PROG	Fixed	Filled
ACTIVITY ID	6-5	10	√	Integer	See Comment Below
ACTUAL START DATE	17-23	7	√	ddmmyy	Filled if Started
ACTUAL FINISH DATE	25-31	7	√	ddmmyy	Filled if Finished
REMAINING DURATION	33-35	3	√	Integer	Right Justified
ACTIVITY COST	37-48	12	√	Format 9.2	Right Justified
COST TO DATE	50-61	12	√	Format 9.2	Right Justified
STORED MATERIAL	63-74	12	√	Format 9.2	Right Justified
EARLY START DATE	76-82	7	√	ddmmyy	Filled if Not Started
EARLY FINISH DATE	84-90	7	√	ddmmyy	Filled if Not Finished
LATE START DATE	92-98	7	√	ddmmyy	Filled if Not Started
LATE FINISH DATE	100-1067		√	ddmmyy	Filled if Not Finished
FLOAT SIGN	108-1081		+, -	Fixed	Filled if Not Finished
TOTAL FLOAT	110-1123		√	Integer	R. Just. if Not Finished

6.h.(1) The RECORD IDENTIFIER shall begin with the four characters "PROG" in the first four columns of the record.

6.h.(2) The ACTIVITY ID for each activity for which progress has been posted shall match the format described in the Activity Record.

6.h.(3) An ACTUAL START DATE is required for all in-progress activities. The ACTUAL START DATE shall be the same as, or later than, the PROJECT START date contained in the Project Record. The ACTUAL START DATE shall also be the same as, or prior to, the DATA DATE contained in the Project Record. If there is an ACTUAL START DATE for an activity that there must also be a REMAINING DURATION, and the values for the EARLY START DATE and LATE START DATE are blank. [Usage note: Some systems allow default values for ACTUAL START DATE if the date is not entered by the user. Because the failure to include a start date for activities may result in different schedule calculations, it is recommended that the ACTUAL START DATE be required for all activities in progress.]

6.h.(4) An ACTUAL FINISH DATE is required for all completed activities. If the REMAINING DURATION of an activity is zero, then there must be an ACTUAL FINISH DATE. If there is an ACTUAL FINISH DATE, then values for the EARLY START DATE, LATE START DATE, EARLY FINISH DATE, LATE FINISH DATE, FLOAT SIGN, and TOTAL FLOAT shall be blank. [Usage note: Some systems allow default values for ACTUAL FINISH DATE if the date is not entered by the user. Because the failure to include a finish date for activities may result in different schedule calculations, it is recommended that the ACTUAL FINISH DATE be required for all activities in progress.]

ER 1-1-11

15 Jun 95

6.h.(5) REMAINING DURATION is required for all activities. Activities that have not started shall have a remaining duration equal to their original duration. Activities completed based on time, shall have a zero (0) REMAINING DURATION. [Usage note: Systems have a variety of "short-cut" methods to determine the REMAINING DURATION value. It is recommended that users actually consider the time required to complete the remaining work on a given task, rather than allow a system to calculate the remaining duration based on the amount of work that has already been accomplished.]

6.h.(6) The ACTIVITY COST contains the estimated earned value of the work to be accomplished in the activity. An example of a number in this format is "1111111 11.11". If decimal places are not needed this field shall still contain a ".00" in the last three columns of this field. [Usage note: Users should inquire of software vendors if the user needs to add a zero in the data field to produce the default value "0.00".]

6.h.(7) The COST TO DATE contains the earned value for the activity. If there is an ACTUAL START DATE, then there must also be some value for COST TO DATE. An example of a number in this format is "11111111.11". If decimal places are not needed, this field shall still contain a ".00" in the last three columns of this field. The COST TO DATE is not tied to REMAINING DURATION. For example, if the REMAINING DURATION is "0", the COST TO DATE may only be 95% of the ACTIVITY COST. This difference may be used to reflect 5% retainage for punch list items. [Usage note: Systems implement cost information in different ways. It is recommended that users carefully review SDEF documentation and test results to determine how to ensure that SDEF data is exported correctly.]

6.h.(8) The STORED MATERIAL field contains the value of the material that the Contractor has paid for and is on site or in secure storage areas that is a portion of the COST TO DATE. An example of a number in this format is "11111111.11". If decimal places are not needed, this field shall still contain a ".00" in the last three columns of this field. [Usage note: Systems implement the stored materials field in a variety of ways. Many systems do not enforce STORED MATERIAL + COST TO DATE < ACTIVITY COST. To avoid potential confusion between systems, it is recommended that new activities be added to a schedule to reflect the cost of large equipment procurement rather than use the STORED MATERIALS field.]

6.h.(9) The EARLY START DATE indicates the earliest date possible that an activity can start as calculated by a CPM scheduling system or other Contracting Officer approved planning method. If the progress record for an activity contains an ACTUAL START DATE, then this field shall be blank.

6.h.(10) The EARLY FINISH DATE indicates the earliest date possible that an activity can finish as calculated by a CPM scheduling system or other Contracting Officer approved planning method. If the progress record for an activity contains an ACTUAL FINISH DATE, then this field shall be blank.

6.h.(11) The LATE START DATE indicates the latest date that an activity can begin as calculated by a CPM scheduling system or other Contracting Officer approved planning method. If the progress record for an activity contains an ACTUAL START DATE, then this field shall be blank.

**ER 1-1-11**

**15 Jun 95**

6.h.(12) The LATE FINISH DATE indicates the latest date that an activity can finish as calculated by a CPM scheduling system or other Contracting Officer approved planning method. If the progress record for an activity contains an ACTUAL FINISH DATE, then this field shall be blank.

6.h.(13) The FLOAT SIGN indicates whether the float time calculated using a CPM scheduling system or other Contracting Officer approved planning method, is positive or negative in nature. If the progress record for an activity contains an ACTUAL FINISH DATE, then this field shall be blank. In the case of zero float this field shall be blank.

6.h.(14) The TOTAL FLOAT indicates the total float time. In the Precedence Diagram Method (PDM), the total float is the difference between the early and late start or finish dates. In the Arrow Diagram Method (ADM), the total float is equal to the late event time at the end of the activity, minus the sum of the early event time at the start of the activity plus the duration of the activity.

**6.i. Project End Record:** The Project End Record shall be used to identify that the data file is completed. If the ASCII End of File character is encountered, then data import programs shall use that character to infer that the data continues on the next disk. The user shall then be prompted for the next disk number, based on the VOLM record data. The Project End Record shall be the last record of the entire data file, and shall have the following format:

<u>Description</u>	<u>Column</u>	<u>Max.</u>	<u>Req.</u>	<u>Type</u>	<u>Notes</u>
	<u>Position</u>	<u>Len.</u>	<u>Value</u>		
RECORD IDENTIFIER	1-3	3	END	Fixed	Filled

6.i.(1) The RECORD IDENTIFIER for the Project End Record shall be "END". Data contained in the data exchange file that occurs after this record shall not be used.

### SDEF Activity Codes

Code	Max Length	Description	Remarks
WRKP	3	Workers per day	Number
RESP	4	Responsibility	GOVT = AED, PRIM = Prime Contractor, any 4 characters for subcontractors
AREA	4	Area	WBS Level 2
MODF	6	MOD or Claim #	
BIDI	6	Bid Item	CLIN or sub-CLIN to conform with cost breakdown in Contract Section 00010
PHAS	2	Phase	WBS Level 1
CATW	1	Category of work	
FOW	30	Feature of work	FOW1 & FOW2 & FOW3 in Primavera P3
<b>USER DEFINED (total of 8 characters are available in P3):</b>			
LVL3	2	WBS Level 3	Mandatory
LVL4	1	WBS Level 4	Mandatory.
<b>End of mandatory activity codes</b>			
LVL5	1	WBS Level 5	
CLIN	2	CLIN	May be used to summarize costs by CLIN if BIDI is sub-CLINs. Last 2 characters of CLIN.

**NOTES:**

Schedules must be organized with a WBS created in the activity code dictionary, not the software WBS. Generally, four levels are sufficient for effective schedule organization. Additional codes may be created if required.

WBS Level	Activity Code
1	PHAS
2	AREA
3	LVL3
4	LVL4

Standard Activity Codes - WBS

PHAS	AREA	LVL3	LVL4	LVL5	
<b>01 Milestones</b>	<b>0101 Contract Milestones</b>				
	<b>0102 Project Milestones</b>				
<b>02 Pre-construction</b>	<b>0201 Pre-construction Meetings</b>				
	<b>0202 Pre-construction Submittals</b>				
	<b>0203 DBA Insurance</b>				
<b>03 Design</b>	0301 10% Design Submittal				
	0302 65% Design Submittal				
	0303 90% Design Submittal				
	0304 100% Design Submittal				
<b>04 Procurement</b>	0401 Civil/Structural				
	0402 Architectural				
	0403 Electrical				
	0404 Mechanical				
	0405 Plumbing				
<b>05 Construction</b>	0501 Mob/Demob	01 Mobilizaton			
		02 Demobilizaton			
	0502 Sitework	03 Site Preparation			
		04 Site Drainage System			
		05 Force Protection			
			1 Perimeter Wall		
			2 ECP #1		
		3 ECP #2			
		4 Guardshack #1			
		5 Guardshack #2			
		6 Guard Tower # 1			
		7 Guard Tower # 2			
		8 Guard Tower # 3			
		9 Guard Tower # 4			
		A Guard Tower # 5			
0503 Utilities	0A Water	B Water Treatment			
		C Water Distribution			
	0B Sewer	D Sewage Collection			
		E Sewage Treatment			
	0C Power	F Power Generation			
			A Generator #1		
			B Generator #2		
	G Power Distribution				
0504 Buildings	0D Building 1	H Foundations		0 Basement	
		I Superstructure & Close-in		1 1st Floor	
		J Architectural - Exterior		2 2nd Floor	
		K Architectural - Interior		3 3rd Floor	
		L Electrical		4 Roof	
		M Mechanical			
		N Plumbing			
		O Fire Protection System			
		P Communications			
		Q Inspections, Punchlists			
		0505 Other Construction			
<b>06 Contract Close-out</b>	<b>0601 Close-out Inspections</b>				
	<b>0602 As-Built Drawings</b>				
	0603 O&M Manuals & Training				
	<b>0604 Demobilization</b>				

**NOTE:**

Activity codes in bold italic are required codes. All other codes are suitable for a typical building project but may be changed to suit the scope of work.

## **SECTION 01335 SUBMITTAL PROCEDURES**

### **1. GENERAL**

#### **1.1 REFERENCE**

The publication listed below forms a part of this specification to the extent referenced. The publication is referenced to in the text by basic designation only.

#### NATIONAL INSTITUTE OF BUILDING SCIENCES (NIBS)

Unified Master Reference List (UMRL)

National Institute of Building Sciences  
1090 Vermont Avenue, NW, Suite 700  
Washington, DC 20005-4905  
Email: [nibs@nibs.org](mailto:nibs@nibs.org)  
FAX: (202) 289-1092  
Tele: (202) 289-7800

#### **1.2 SUBMITTAL DESCRIPTIONS (SD)**

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

##### **1.2.1 SD-01 PRECONSTRUCTION SUBMITTALS**

Submittals which are required prior to start of construction (work) or the start of the next major phase of the construction on a multi-phase contract; includes schedules, 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.

Certificates of Insurance

Surety bonds

List of proposed subcontractors

List of proposed products

Construction Progress Schedule

Network Analysis Schedule (NAS)

Submittal register

Schedule of prices

Health and Safety Plan

Work Plan

Quality Control (QC) Plan

Environmental Protection Plan

##### **1.2.2 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.

**1.2.3 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.

**1.2.4 SD-04 SAMPLES**

Fabricated or unfabricated 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.

**1.2.5 SD-05 DESIGN DATA**

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

Design submittals, design substantiation submittals and extensions of design submittals.

**1.2.6 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.

**1.2.7 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.

**1.2.8 SD-08 MANUFACTURER'S INSTRUCTIONS**

Preprinted material describing installation of a product, system or material, including special notices and (MSDS)concerning impedances, hazards and safety precautions.

**1.2.9 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.

**1.2.10 SD-10 OPERATION AND MAINTENANCE DATA**

Data that is furnished by the manufacturer, or the system provider, to the equipment operating and maintenance personnel, including manufacturer's help and product line documentation necessary to maintain and install equipment. 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.

**1.2.11 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 and as-built drawings. Also, submittal requirements necessary to properly close out a major phase of construction on a multi-phase contract.

Interim "DD Form 1354" with cost breakout for all assets 30 days prior to facility turnover.

**1.3 SUBMITTAL CLASSIFICATION**

Submittals are classified as follows.

**1.3.1 DESIGN SUBMITTALS**

- a. Contractor furnished design submittals are the various design documents which primarily consist of field investigations, calculations, design analysis, drawings and specifications.
- b. For each design submittal, the Contractor shall submit all non-administrative modifications issued for the Contract as part of the Design Submittal package to enable Afghanistan Engineer District (AED) to validate that these modifications have been incorporated into this design submittal.

**NOTE: Design submittals should only address Contract requirements not shown on plans and any specifications already furnished to the Contractor as part of this contract. Plans and specifications furnished to the Contractor shall NOT be included as part of any Design Submittal. The Contractor shall complete all work as shown in these furnished drawings without deviation, unless site conditions mandate changes (larger building foundations per geotechnical investigations, etc.) or specifically directed to make modifications in Section 01010 SCOPE OF WORK.**

- c. The Contractor shall clearly label and date all design submittals to reflect the current design stage and date of submission to the Government to avoid confusion between current and previous submittals. For work shown but incomplete and still under design, the Contractor should clearly indicate on the ENG Form 4025 what is being submitted for review and approval.
- d. The Contractor shall not begin construction work until the Government has issued Clearance for Construction (CFC). Clearance for Construction shall not be construed as meaning "Government approval." Unless otherwise indicated, the risk for the design is the sole responsibility of the Contractor.
- e. It is crucial that each submittal is complete and includes all components identified below as well as any other pertinent information not listed for which the Contractor requires approval to enable construction to begin as soon as possible.
- f. The sole responsibility of ensuring that the design submittals comply with contract documents remains with the Contractor, in accordance with this section of the Contract. The Government retains the right to comment on the design at any stage, and the lack of Government comments at a given review cannot be used as a basis for the Contractor to fail to address the Government's comments on subsequent reviews, regardless of design stage.
- g. Approval of incomplete designs will not relieve the Contractor of the responsibility for any error which may exist, and which may require rework or other appropriate adjustment to the contract terms, as determined at the sole discretion of the Government. It is the sole responsibility of the Contractor to ensure that submittals comply with the contract documents.
- h. Government review, issuance of Clearance for Construction, or approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract.
- i. Government review, issuance of Clearance for Construction, or approval of post-design construction submittals shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory.
- j. As a minimum, design submittals shall be submitted at the following intervals:
  - Preliminary Site Design & Reports – 10%
  - Concept Design – 35%
  - General Design - 65%
  - Final Design - 95%
  - Cleared for Construction - 100%

#### 1.3.1.1 PRELIMINARY SITE DESIGN & REPORTS (10%)

The review of this submittal is primarily to ensure that the Contractor has at a minimum developed the test well and completed the sub-surface investigation.

**NOTE: This work shall be completed not more than 45 – coordinate with submittal schedule in Design Process days from Notice to Proceed (NTP). Failure to do so at the satisfaction of the Government shall constitute grounds for withholding of all progress payments.**

1. Geotechnical Report, indicating appropriate information for various site characteristics, soil parameters as determined by certified lab tests, allowable soil bearing capacities, correlation with foundation design parameters, and any changes in foundation design of structures furnished in the Contract; estimated settlement for building foundation loads; and all other project feature changes due to the Geotechnical Report conclusions.

2. Preliminary site plan to provide a general overall understanding of the project site and surrounding area; demolition plan for existing site features; and a preliminary grading and drainage plan with existing grades, proposed grades and building finished floor elevations based on Contract technical requirements.
3. Remove sections below if there are no Well or WWTP requirements in this contract.
4. Well design at each project site location to include a determination of water demand, water availability evaluation, and water quality analysis produced from a test well. Water demand evaluation shall be determined based on the requirements of Section 01010 SCOPE OF WORK and 01015 TECHNICAL REQUIREMENTS. Water availability evaluation shall include data concerning study of existing water wells in the vicinity, study of hydrological data, and study of geological data. Well hydraulics data shall also be included from the test well or if available from vicinity wells. Water quality analysis shall include physical, chemical, and bacteriological analyses of water from either a test well or an existing well within the same aquifer of the proposed well.
5. Drawing for the well design shall include, at a minimum, material and dimensions of well pipe and casing, type and dimensions of screen, type and range of sizes of gravel surrounding screen and at bottom of well shaft, type of grouting for well seal, well pad, location and connection detail for hand pump. Also required would be a detail of the wellhead with all associated valves, flowmeters, and chlorination system.
6. Percolation test locations and results, and complete leachfield design, which indicate the site will accommodate such a system for the given project requirements, and alternatives proposed if, and only if, the site characteristics will not support such a system.

#### **1.3.1.2 CONCEPT DESIGN (35%)**

[The review of this submittal is primarily to ensure that the Contractor has taken an inventory of the existing conditions at each proposed site, has established the most desirable functional relationships between the various project elements, has provided the technical solution as to how the functional and technical requirements will be met, and to show Contractor compliance (or justify noncompliance) with the design parameters and/or requirements.

As a minimum for each Contract project location, the submittal shall contain:

1. Geotechnical Report, updated as necessary;
2. Updated site plan to provide a detailed overall understanding of the project site and surrounding area; results of the site topographic survey highlighting significant features (wadis, adjacent properties and structures, roads, etc.); final demolition plan for existing site features; complete grading and drainage plan with existing grades, proposed grades, and building finished floor elevations based on Contract technical requirements;
3. Preliminary cross sections of roads and sidewalks, showing all essential dimensions, materials, layers, and proposed fore and back slopes of adjacent drainage features;
4. All preliminary sketches of site storm drainage structures, including calculations in the design analysis for sizing and sloping of pipe runs and ditches. Provide cross sections of drainage structures such as ditches and culverts;
5. Septic Tank drawings and details, showing tank depth and sizing based on expected sanitary load, and all connecting piping, with dimensions.
6. Preliminary drawing and details of any grease interceptors and oil-water separators required. Drawings shall indicate sizing, depth, and all connecting piping. Design analysis shall include calculations for sizing both the interceptor/separator and connecting piping.
7. Any necessary adaptations of the concept and detailed design drawings furnished with this Contract that might be required due to actual site constraints, to include: water supply/storage location and distribution layout plan; wastewater collection or treatment location and tie-in to all

required buildings; electrical generation and distribution plan; connection of existing roads with ECP location(s); and any other changes required due to adjacent property or existing topography.

8. Complete design analysis, plans and specifications for any contract feature(s) that the Contractor would like partial Clearance for Construction on once the submittal has been approved, including project components with long ordering, fabrication and delivery times. Specifications for contract features to begin construction shall clearly identify any construction submittals that require Government Approval (GA).
9. Outline of all Construction Specification Sections to be used and those Specification items requiring Government Approval (GA).
10. Other preliminary drawings, specifications and design analysis of work features that are intended for submittal/approval at a later submittal shall be included such that a thorough and complete understanding of this work can be accomplished as part of the 35% review.]

### **1.3.1.3 GENERAL DESIGN (65%)**

This design submittal presents all information necessary to site-adapt the fully designed and detailed buildings and other project features as applicable. Any modifications to the designs provided should be identified no later than this submittal.

Additionally, the review of this submittal ensures that the Contractor has taken an inventory of the existing conditions at each proposed site, has established the most desirable functional relationships between the various project elements, and has provided a technical solution that complies with (or justifies noncompliance with) the design parameters for design build work identified in Section 01010 SCOPE OF WORK.

The review of this submittal is primarily to insure that the contract documents and design analysis are proceeding in a timely manner and that the Contract requirements and design criteria are being correctly understood and adhered to.

As a minimum for each Contract project location, the submittal shall contain:

1. Geotechnical Report, updated as necessary;
2. Site, Demolition, Grading, Drainage and plans, updated as necessary;
3. Updated site plan to provide a detailed overall understanding of the project site and surrounding area; results of the site topographic survey highlighting significant features (wadis, adjacent properties and structures, roads, etc.); final demolition plan for existing site features; complete grading and drainage plan with existing grades, proposed grades, and building finished floor elevations based on Contract technical requirements;
4. Complete design analysis, plans and specifications for any contract feature(s) that the Contractor would like partial Clearance for Construction on once the submittal has been approved, including project components with long ordering, fabrication and delivery times. Specifications for contract features to begin construction shall clearly identify any construction submittals that require Government Approval (GA).
5. Complete design analysis, plans and specifications necessary to issue Clearance for Construction on Arch Span facilities identified in Section 01010 SCOPE OF WORK. Contractor shall utilize fast track design and construction by providing partial design submittals as necessary to ensure timely occupancy of facilities.
6. Design drawings, specifications that are not provided in this Contract and design analysis of work features that are intended for approval at a later submittal shall be included with previous review comments incorporated. Construction specification sections requiring Government Approval (GA) shall be clearly identified.

#### **1.3.1.4 FINAL DESIGN (95%):**

The review of this submittal is primarily to insure that the contract documents and design analysis are nearing completion and that the Contract requirements and design criteria are being correctly understood and adhered to.

As a minimum for each Contract project location, the submittal shall contain:

1. Design Analysis, complete with all prior comments incorporated;
2. Geotechnical Report, complete;
3. Construction Specifications, complete and edited to include only applicable requirements;
4. Construction Drawings, complete; the Contractor is expected to have completed all of his coordination checks and have the drawings in a design complete condition. The drawings shall be finalized at this time including the incorporation of any design review comments generated by all past design reviews. The drawings shall contain all the details necessary to assure a clear understanding of the work throughout construction.

#### **1.3.1.5 CLEARED FOR CONSTRUCTION (100%)**

The review of this submittal is to insure that the design is in accordance with all Contract requirements and any directions provided the Contractor by the Government during the design process. The only effort remaining between the Final Design submittal and the Cleared for Construction submittal is the incorporation of all Government review comments.

As a minimum for each Contract project location, the submittal shall contain:

1. Design Analysis, only if changes have occurred since 95% Final Design submittal. The Design Analysis shall contain all explanatory material giving the design rationale for any design decisions which would not be obvious to an engineer reviewing the Final Design submittal;
2. Construction Specifications, complete;
3. Construction Drawings, complete;
4. Once the design documents have been cleared for construction by the Contracting Officer, the Contractor shall clearly identify each document by annotating it as "Cleared for Construction."

#### **1.3.2 PARTIAL DESIGN SUBMITTALS**

- a. In the interest of expediting construction, the Contracting Officer may approve partial design submittals, procurement of materials and equipment, as well as issue the Notice to Proceed (NTP) for construction of those elements of the design which have been cleared for construction. Such partial notices to proceed shall be solely at the discretion of the Contracting Officer.
- b. The Contractor must obtain the approval of the Designer of Record (DOR) and the Government's concurrence for any Contractor proposed revision to the professionally stamped and sealed design reviewed and cleared for construction by the Government, before proceeding with the revision.
- c. The Government reserves the right to non-concur with any revision to the design, which may impact furniture, furnishings, equipment selections or operations decisions that were made, based on the reviewed and cleared for construction design. Any revision to the design, which deviates from the contract requirements (i.e., the Request for Proposal and the accepted proposal), will require a modification, pursuant to the Changes Clause, in addition to Government concurrence. The Government reserves the right to disapprove such a revision.
- d. Unless the Government initiates a change to the contract requirements, or the Government determines that the Government furnished design criteria are incorrect and must be revised, any Contractor initiated proposed change to the contract requirements, which results in additional cost, shall strictly be at the Contractor's expense.
- e. The Contractor shall track all approved revisions to the reviewed and cleared for construction design and shall incorporate them into the as-built design documentation, in accordance with Section 01780A CLOSEOUT SUBMITTALS. The Designer of Record shall document its professional

concurrence on the as-built documents for any revisions by affixing its stamp and seal on the drawings and specifications.

### **1.3.3 USE OF DRCHECKS<sub>SM</sub> FOR DESIGN SUBMITTAL COMMENT AND RESPONSE**

#### **1.3.3.1 DRCHECKS<sub>SM</sub> WEB LINK**

All AED Design Submittal review comments will be documented using the standard design review tool for the U.S. Army Corps of Engineers, a web-based application called "DrChecks<sub>SM</sub>". The web link to DrChecks<sub>SM</sub> is:

<https://www.projnet.org/projnet/binKornHome/index.cfm>

#### **1.3.3.2 DRCHECKS<sub>SM</sub> VENDOR IDENTIFICATION AND TUTORIAL**

Upon notification of award, the contractor shall immediately coordinate with the Chief, Engineering Branch, AED to acquire vendor identification and access to a brief tutorial on the use of DrChecks<sub>SM</sub>. The Contractor is responsible for providing their own DrChecks<sub>SM</sub> Administrator within their own design staff personnel to access and accomplish actions within DrChecks<sub>SM</sub>.

#### **1.3.3.3 NOTIFICATION OF DRCHECKS<sub>SM</sub> FILE ACCESS**

AED will complete a review at every design submittal stage for conformance with the technical requirements of the Contract and document all comments in DrChecks<sub>SM</sub>. At completion of the review, a notification will be issued to the Contractor by the Contracting Officer's representative that the particular DrChecks<sub>SM</sub> file will be opened to the Contractor. Until this time, the Contractor is not able to view any AED comments for that particular design submittal.

### **1.3.4 CONSTRUCTION SUBMITTALS**

#### **1.3.4.1 GOVERNMENT APPROVED CONSTRUCTION SUBMITTALS (GA)**

Government Approved (GA) construction submittals are required for the following features of work:

- b. Plans to include but not limited to:
  - 1. Security;
  - 2. Contractor Quality Control (CQC);
  - 3. Accident Prevention;
  - 4. Resident Management System (RMS);
  - 5. Area Use;
- c. Schedules to include but not limited to:
  - 1. Project Schedule;
  - 2. Network Analysis;
- d. Certificates of compliance, reports and records/statements;
- e. Civil Testing Results: Data will include information on the locations and depths of all viable water supply sources at the site(s) involved and a water quantity and water quality analysis for each source from the Ministry of Public Health or other certified testing firm.
- f. Mechanical Equipment Submittals: Manufacturer's standard catalog data, installation, Operation and Maintenance (O&M) manuals and construction details for: water wells; water tanks; control valves; pipe insulation; water pumps; air handling units; condensers; and variable air volume (VAV) boxes;

- g. Mechanical Testing Results: Testing Results: For water tanks, water pumps (including instrumentation), water piping, sprinkler systems, and oxygen systems, submit six (6) copies of each test containing the following information in bound letter-size booklets:
  - 1. The date the tests were performed;
  - 2. A list of equipment used with calibration certifications;
  - 3. A copy of measurements taken;
  - 4. The parameters to be verified;
  - 5. The condition specified for the parameter;
  - 6. The inspection results, signed, dated, and certified by the installer. The certification shall state that required procedures were accomplished, that the procedures were conducted in compliance the plans and specifications;
  - 7. A description of adjustments performed;
- h. Mechanical Reports: Individual reports shall be provided for storage tank tests, piping tests, system performance tests, high level alarm test, and the system leak tests. Drawings shall be folded blue lines, with the title block visible.
- i. Electrical product data and shop drawings: generators (and its auxiliaries); load bank; transformers; substations; panels/switchboards/motor control centers; lightning protection; receptacles; and circuit breakers;
- j. Electrical lightning protection; submit design and test data.
- k. Architectural Features: Provide product data, catalogue cuts, shop drawings and schedules for the following features of work: specialty doors and frames (fire rated, sound rated, bullet resistant, security, overhead rolling); door hardware; windows; metal roofing (including fasteners, flashing, and accessories); building insulation; fire-rated and water-resistant gypsum board; and other specialty products (bullet resistant glazing/panels);
- l. Architectural color board for interior and exterior finishes;
- m. Architectural shop drawings for casework and cabinetry.

**1.3.4.2 FOR INFORMATION ONLY CONSTRUCTION SUBMITTALS (FIO)**

- a. Any submittal not requiring Government Approval will be for information only. These construction submittals shall be checked, stamped, signed and dated by the Contractor's Quality Control Engineer, certifying that such submittal complies with the contract requirements.
- b. FIO submittals are not normally returned to the Contractor. While approval of the Contracting Officer is not required for FIO submittals, all Contractor submittals are subject to review by the Government at any time during the course of the contract. Any Contractor FIO submittal found to contain errors or omissions shall be resubmitted as one requiring Government Approval. No adjustment for time or money will be allowed for corrections required as a result of noncompliance with plans or specifications. The Contracting Officer reserves the right to require removal and replacement of installed work if nonconforming material is found for which FIO submittals were provided.

**1.3.4.3 VARIANCE CONSTRUCTION SUBMITTALS**

- a. Any proposed substitution to approved design documents shall be submitted as a variance for Government Approval in accordance with the criteria herein.
- b. After design submittals have been reviewed and cleared for construction by the Contracting Officer, no resubmittal for the purpose of substituting materials, equipment, systems, and patented processes will be considered unless accompanied by the following:
  - 1. Reason or justification for proposed variation, substitution, or revision;

2. Technical evaluation tabulating any difference between the item(s) originally specified and what is proposed;
  3. Cost comparison to include an acquisition and life cycle cost comparison;
  4. For proprietary materials, products, systems, and patented processes, a certification signed by an official authorized to certify in behalf of the manufacturing company that the proposed substitution meets or exceeds what was originally specified;
  5. For all other actions, a certification signed by a licensed professional engineer or architect certifying that the proposed variation or revision meets or exceeds what was originally specified;
  6. Explanation of advantage to the Government if variance is approved (i.e. Operation and Maintenance considerations, longer product life span, faster installation, etc.);
  7. Ramifications and impact, if not approved.
- c. If the Government review detects any items not in compliance with contract requirements or items requiring further clarification, the Contractor will be so advised. Lack of notification by the Contracting Officer of any non-complying item does not relieve the Contractor of any contractual obligation.
- d. No work for which a variance is required shall commence before Government Approval; to do so will be at the Contractor's own risk and will not alleviate any lost time or monetary impact associated with a disapproval of the variance and removal of work that does not conform to the Contract.

#### **1.3.4.4 ADDITIONAL SHOP DRAWINGS AND SUBMITTALS**

The Government may request the Contractor to provide additional shop drawing and submittal type data as necessary subsequent to completion of the design.

#### **1.3.4.5 INCOMPLETE DESIGN**

The Design-Build Contractor shall not use construction submittals as a means to supplant and/or supplement an incomplete design effort.

### **1.4 SUBMITTAL CERTIFICATION**

The CQC organization shall be responsible for certifying that all submittals and deliverables have been reviewed in detail for completeness, are correct, and are in strict conformance with the contract drawings, specifications, and reference documents.

#### **1.4.1 EFFECTIVE QUALITY CONTROL SYSTEM**

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with Contract Clause 52.236-21 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION - ALTERNATE I, and SECTION 01451 CONTRACTOR QUALITY CONTROL.

##### **1.4.1.1 ORGANIZATIONAL RESPONSIBILITY**

The quality control system shall cover all design, construction, subcontractor, manufacturer, vendor, and supplier operations at any tier, both onsite and offsite.

##### **1.4.1.2 CQC SYSTEM MANAGER REVIEW AND APPROVAL**

Prior to submittal, all items shall be checked and approved by the Contractor's Quality Control (CQC) System Manager. If found to be in strict conformance with the contract requirement, each item shall be stamped, signed, and dated by the CQC System Manager. Copies of the CQC organizations review comments indicating action taken shall be included within each submittal.

### **1.4.1.3 DETERMINATION OF COMPLIANCE**

Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements by the Contracting Officer. The contractor shall submit all required documentation with submittals. The U.S. Army Corps of Engineer (USACE) will not accept partial submittals.

### **1.4.2 RESPONSIBILITY FOR ERRORS OR OMISSIONS**

It is the sole responsibility of the Contractor to ensure that submittals comply with the contract documents. Government review, clearance for construction, or approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract.

### **1.4.3 GOVERNMENT REVIEW**

Government review, clearance for construction, or approval of Design and construction submittals shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any error which may exist, as it is the sole responsibility of the Contractor to certify that each Submittal has been reviewed in detail and is in strict conformance with all the contract documents and design criteria referenced therein.

### **1.4.4 SUBSTITUTIONS**

After design submittals have been reviewed and cleared for construction by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless justified in compliance with this Section.

### **1.4.5 ADDITIONAL SUBMITTALS**

In conjunction with Contract Clause 52.236-5 MATERIAL AND WORKMANSHIP, the Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work.

### **1.4.6 UNTIMELY AND UNACCEPTABLE SUBMITTALS**

If the Contractor fails to submit submittals in a timely fashion, or repetitively submits submittals that are incomplete or not in strict conformance with the contract documents, no part of the time lost due to such actions shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

### **1.4.7 STAMPS**

Stamps shall be used by the Contractor on all design and post-design construction submittals to certify that the submittal meets contract requirements and shall be include the following:

Contractor (Firm Name):

Contract Number:

Contract Name:

I certify that this submittal accurate, is in strict conformance with all contract requirements, has been thoroughly coordinated and cross checked against all other applicable disciplines to prevent the omission of vital information, that all conflicts have been resolved, and that repetition has been avoided and, it is complete and in sufficient detail to allow ready determination of compliance with contract requirements by the Contracting Officer.

Name of CQC System Manager:

Signature of CQC System Manager:

Date:

## **1.5 ENGLISH LANGUAGE**

All specifications, drawings, design analysis, design calculations, shop drawings, catalog data, materials lists, and equipment schedules submitted shall be in the English language.

## **1.6 UNITS OF MEASUREMENT**

Design documents shall be prepared in accordance with the guidance offered in SECTION 01415 METRIC MEASUREMENTS.

The metric units used are the International System of Units (SI) developed and maintained by the General Conference on Weights and Measures (CGPM); the name International System of Units and the international abbreviation SI were adopted by the 11th CGPM in 1960.

### **1.6.1 DRAWINGS**

#### **1.6.1.1 SITE LAYOUT**

All site layout data shall be dimensioned in meters or coordinates, as appropriate. All details and pipe sizes shall be dimensioned in millimeters.

EXAMPLE: Masonry openings shall be a U.S. module to suit a standard U.S. door. The dimensions of the opening shall be given in SI units. Metric dimensions for site plans shall be in meters and fraction thereof. Dimensions for all other drawings shall be in millimeters using hard metric designations (example: 12 meters = 12 000). Hard metric is defined as utilizing standard metric products and the use of measurements in increments of fifty (50) and one hundred (100) millimeters.

#### **1.6.1.2 GEO-REFERENCE**

All site plans shall be geo-referenced using the WGS 1984 coordinate system, specifically the following: WGS 1984 UTM one 42 N. If the designer is not able to use the stated coordinate system the coordinate system used shall be correlated to the stated coordinate system. A table shall be provided within the site drawing set cross referencing the WGS84 system to that utilized. This is required to allow AED to incorporate the plans into GIS for storage, map production, and possible geospatial analysis of the different work sites.

### **1.6.2 DESIGN CALCULATIONS**

Calculations shall be in SI units to meet the requirements of the design. Quantities on the contract drawings stated in SI units shall also be stated in SI units in the design analysis to match the drawings.

### **1.6.3 SPECIFICATIONS**

All equipment and products shall be specified according to U.S. standards and described by appropriate units as required herein.

## **1.7 WITHHOLDING OF PAYMENT FOR SUBMITTALS**

### **1.7.1 DESIGN SUBMITTALS**

Payment for design work will not be made in whole or in part until the Government has reviewed and cleared the design for construction.

### **1.7.2 CONSTRUCTION SUBMITTALS**

Payment for materials incorporated in the work will not be made if required approvals have not been obtained. In event under separate clause of the contract, the Contractor is allowed partial or total invoice payment for materials shipped from the Continental United States (CONUS), and/or stored at the site, the

Contractor shall with his request for such payment, submit copies of approvals (ENG Form 4025) certifying that the materials that are being shipped and/or stored have been approved and are in full compliance with the contract technical specifications.

## **2. PRODUCTS**

The following are contract deliverables which finalize the design requirements outlined within the contract documents. They shall clearly document that the Prime Contractor is responsible to the Government and shall not serve as an internal document between the Prime Contractor and its Subcontractors, Vendors, Suppliers, etc.

### **2.1 PROJECT NARRATIVE**

The Project Narrative shall be a bound set and shall contain the up-to-date version of the contract Request for Proposal (RFP) Sections 01010 SCOPE OF WORK and 01015 TECHNICAL REQUIREMENTS (and any additional RFP sections that are appropriate). Any subsequent changes to the RFP shall be clearly marked and highlighted with explanation for the changes. The Project Narrative shall also contain the general description of the project and a discussion of the design approach and design features for the project.

### **2.2 DESIGN ANALYSIS**

#### **2.2.1 SUBMITTAL REQUIREMENTS**

The design analysis is a written explanation of the project design which is revised as the design progresses. The design analysis shall contain all explanatory material giving the design rationale for any design decisions which would not be obvious to an engineer reviewing the final drawings and specifications. The design analysis contains the requirements for the project design, including criteria furnished by the Government, letters, codes, references, conference minutes, and pertinent research. Design calculations, computerized and manual, are included in the design analysis. Narrative descriptions of design solutions are also included. Written material may be illustrated by diagrams and sketches to convey design concepts. Catalog cuts and manufacturer's data for all equipment items, shall be submitted. Specific requirements for the design analysis, listed by submittal phase, are explained in Part One of this Section.

#### **2.2.2 FORMAT**

Format of design analysis shall match the standard UFGS Organizational Guidance as outlined in UFC 1-300-02.

### **2.3 DESIGN CALCULATIONS**

#### **2.3.1 TECHNICAL REQUIREMENTS**

All design calculations shall be presented such that they are easily understood, correlate with requirements included in Section 01010 SCOPE OF WORK, Section 01015 TECHNICAL REQUIREMENTS, and applicable Appendices, and all final conclusions are clearly documented and summarized.

The design calculations included in each submittal must include complete information (Soil Report, percolation test results, concrete design strengths, steel material properties, electrical loads, heat gain/loss assumptions, etc.) necessary to support all design calculations in order to easily and efficiently verify the accuracy of the information and the resulting project components shown in plans and specifications.

### **2.3.2 SUBMITTAL REQUIREMENTS**

- a. When design calculations are voluminous, they shall be bound separately from the narrative part of the design analysis. Design calculations will include a title page, table of contents, and be indexed (tabbed) to separate distinct parts of the various analysis and design actions being accomplished to support plan drawings submitted. Calculations shall be presented in a clear, consistent and legible format in order to quickly understand the analysis and design accomplished. Presentation shall be such that a person unfamiliar with the project features and associated analysis and design can quickly understand the overall design process and procedures, review the information in conjunction with the given set of plans and specifications, and verify the suitability of all information submitted.
- b. All design calculations shall explain the source of loading conditions with assumptions and conclusions explained. The analysis and design methods shall also be explained, including assumptions, theories and formulae. Include applicable diagrams that are clearly explained and correlated with related computations, whether computer or hand generated. The design calculations shall include a complete and comprehensive list of the criteria (and date or version of the criteria) to which the design/analysis will be compared (codes, USACE Engineering Regulations, Engineering Manuals, AED Design Requirements Documents, etc.). Within the separable elements of design calculations, the engineer shall cite the specific code or reference paragraph or section as appropriate to indicate conformance to requirements.
- c. At the beginning of each project component design section, present a summary of all load conditions and combinations required per applicable code or Corps of Engineers manual or regulation. Then clearly identify the particular load case governing the design and clearly show how the particular analysis, construction materials to be used, and the specific design meet the governing load combination.

### **2.3.3 COMPUTER ANALYSIS**

- a. Provide a clear summary of all computer outputs. Within the outputs, highlight information used in the analysis that was accomplished elsewhere in the calculations.
- b. If a computerized analysis or design program is used (either commercial software packages or unique, designer-written computer analysis/design tools), the computations shall provide clear reference to the software program and version being used and an explanation of the validity of the particular program to the given application (where has the program been used before, what input and output does the program provide, is the program a recognized Corps of Engineers or industry standard). If the program is proprietary to the Contractor (not recognized by the Corps of Engineers or industry), the Contractor shall provide a sample hand calculation to verify the results of one set of data generated by the computer program.
- c. State exactly the computation performed by the computer. Include applicable diagrams, adequately identified. Provide all necessary explanations of the computer printout format, symbols, and abbreviations. Use adequate and consistent notation. Provide sufficient information to permit manual checks of the results.
- d. Each set of computer printouts shall be preceded by an index and by a description of the computation performed. If several sets of computations are submitted, they shall be accompanied by a general table of contents in addition to the individual indices.
- e. When the computer output is large, it shall be divided into volumes at logical division points. All final computer results used in design shall be separated from the total pages of computer output that might be included in the design calculations for ease of review.

### **2.3.4 QUALITY CONTROL**

Calculation sheets shall carry the names or initials of the engineer and the checker and the dates of calculations and checking. No portion of the calculations shall be computed and checked by the same person.

## **2.4 SPECIFICATIONS**

Specifications shall be prepared in accordance with the UFGS (Uniform Facilities Guide Specifications) format, outlined in UFC 1-300-02. The Contractor-prepared specifications shall include as a minimum, all applicable specification sections referenced by the UFGS. Where the UFGS does not reference a specification section for specific work to be performed by this contract, the Design-Build Contractor shall be responsible for creating the required specification in the UFGS format.

### **2.4.1 USE OF UNIFIED FACILITIES GUIDE SPECIFICATIONS (UFGS)**

UFGS (Unified Facilities Guide Specifications) are required for this project. Current UFGS information may be obtained at the following location:

[http://www.wbdg.org/ccb/browse\\_org.php?o=70](http://www.wbdg.org/ccb/browse_org.php?o=70)

### **2.4.2 SPECSINTACT SOFTWARE**

Specifications for UFGS are in SpecsIntact format. SpecsIntact is government sponsored software used to edit specifications for government contracts. The software is available at the following link:

<http://specsintact.ksc.nasa.gov/index.asp>

### **2.4.3 QUALITY CONTROL AND TESTING**

Specifications shall include required quality control and further indicate all testing to be conducted by the Contractor, its subcontractors, vendors and/or suppliers.

### **2.4.4 AMBIGUITIES AND INDEFINITE SPECIFICATIONS**

Ambiguities, indefinite specification requirements (e.g., highest quality, workmanlike manner, as necessary, where appropriate, as directed etc) and language open to interpretation is unacceptable.

### **2.4.5 U.S. INDUSTRY STANDARDS**

a. The Specifications shall be based on internationally accepted U.S. Industry Standards. Customarily accepted publications may be found in the UNIFIED MASTER REFERENCE LIST (UMRL) which may be located at the following URL:

<http://www.hnd.usace.army.mil/techinfo/UFGS/UFGSref.htm>

b. To access the UMRL select the "Unified Facilities Guide Specifications" tab and scroll down to Unified Master Reference List (UMRL) (PDF version). Examples of U.S. standards are:

1. National Fire Protection Association (NFPA);
2. International Building Code (IBC);
3. American Concrete Institute (ACI);
4. American Water Works Association (AWWA).

c. This document lists publications referenced in the Unified Facilities Guide Specifications (UFGS) of the Corps of Engineers (USACE), the Naval Facilities Engineering Command (NAVFAC), the Air Force Civil Engineer Support Agency (AFCEA), and the guide specifications of the National Aeronautics and Space Administration (NASA). This document is maintained by the National Institute of Building Sciences (NIBS) based on information provided by the agencies involved and the standards producing organizations. The listing is current with information available to NIBS on the date of this publication.

d. Standards referenced in specifications and drawings prepared by the Contractor shall be by specific issue; the revision letter, date or other specific identification shall be included.

**2.5 DRAWINGS**

**2.5.1 COMPUTER ASSISTED DESIGN AND DRAFTING (CADD)**

- a. Computer Assisted Design and Drafting (CADD) is required for all AED contracts. Only personnel proficient in the preparation of CADD drawings shall be employed to modify the contract drawings or prepare new drawings.
- b. The CADD deliverables shall meet the requirements of the A/E/C CADD Standards (v4.0 or newer). The A/E/C CADD Standards may be downloaded at the CADD/BIM Technology Center at the following link:

<https://cadbim.usace.army.mil/default.aspx?p=s&t=13&i=4>

A/E/C CADD Standards are also available on the AED-N website, under the “Government Provided CADD Files” link:

<http://www.aed.usace.army.mil/engineeringtop2010.asp>

**2.5.2 SUBMITTAL FORMAT**

- a. The Contractor shall furnish all softcopy design submittals and as-builts using software applications in either DWG format (Auto Desk, AutoCad Release 2009 or newer) or DGN format (Bentley Systems, MicroStation, version 8.0 or newer). Use of unregistered or student-copy of software applications to prepare design drawings is not permitted.
- b. In addition, the Contractor is required to submit the softcopy design submittals in PDF (Adobe Acrobat) format, with the drawings to be oriented in “landscape” and bookmarks provided for each discipline designation and drawing file.
- c. CD media submitted containing the softcopy design submittals shall be organized per the instructions below and the diagram in Section 1335a ATTACHMENTS AED. Include the following:

CD Title;

Project Name and Location;

Project Number;

Submittal Number;

Date;

Contractor Name, Address, Telephone Number and Email;

- d. Format the folders, content and structure in the following manner:

MAIN FOLDER NAME	SUBFOLDERS, FILES AND FILE FORMAT	DESCRIPTION
Administrative <sup>1</sup>	Multiple PDF files	Files shall include the contract, task order, approved modifications, approved BCDs, approved variations and non-administrative modifications (do not provide time extensions, COR appointments, and Requests for Information/responses, etc).
Design Analysis	One pdf file with identical contents as the printed document of the submittal.	All data, discussion, calculations and information presented in the printed Design analysis.
Specifications	One folder specifications in word	All specification sections including

	format. One folder with specifications in pdf format.	table of contents edited as appropriate for the submittal stage of the project <sup>2</sup> .
Geotechnical Report	One file in pdf format	All data, graphs, charts and tables generated during the geotechnical investigation.
PDF Drawings	One Binder of pdf files.	PDF Drawings: Files will be saved in a Binder and organized in the same order as indicated on the sheet index. Drawings shall be oriented in landscape format. Bookmarks will be included in the file for each discipline designation and each drawing file.
CADD Drawings	DGN or DWG files organized in the following folders. Each folder shall contain only drawings pertaining to that discipline: General Cover Sheet Index of Drawings Vicinity Maps Civil Architectural Structural Mechanical Plumbing Electrical Telecommunications	CADD Drawings: All referenced files are to be attached without drive or directories and placed in the same folder it is referencing. Do not save or use paths. Do not use live nesting when attaching reference files.

Notes:

1. The administrative folder shall provide documents submitted by the contractor and received from the COR related to the contract. These documents shall include Requests for Information related to design issues, Variance Requests, and Modifications to the Contract. In addition, the folder shall contain a copy of the signed contract, relevant task orders and change orders.
2. Do not include standard drawings or specifications provided to the contractor as part of the RFP or as part of the contract.

**2.5.3 FINAL DRAWING SUBMITTAL**

All drawings and details of the working drawings shall be labeled and cross-referenced, thoroughly checked and coordinated with other engineering disciplines. At the final design submittal (95%) the Contractor shall have incorporated all design review comments generated by previous design review(s), have completed all of the constructability and coordination comments, and have the drawings in a Ready-to-Build condition. The drawings shall be complete at this time and contain all the details necessary to ensure a clear understanding of the work throughout construction. Prior to the final design submittal, the Contractor shall follow the procedures as described in Section 3 of the AED Design Requirements for CADD Design Guide.

#### **2.5.4 DRAWING BORDER SHEET SIZE**

All drawings shall be prepared in size ANSI D border sheets (610mm x 813mm).

Hardcopy design submissions may be printed on half size drawing sheets (ANSI B, 279.5mm x 431.5mm) for purposes of saving paper and ease of review.

All final contract drawing sets (as-builts) shall be submitted on ANSI D border sheets.

#### **2.5.5 SEQUENCE OF DESIGN DRAWINGS**

The sequence of drawings in the submittal set shall follow the outline provided in the A/E/C CADD standards as shown below:

1. General
2. Hazardous Materials
3. Survey/Mapping
4. Geotechnical
5. Civil
6. Landscape
7. Structural
8. Architectural
9. Interiors
10. Equipment
11. Fire Protection
12. Plumbing
13. Process
14. Mechanical
15. Electrical
16. Telecommunications
17. Resource
18. Other Disciplines
19. Sub-Contractor / Shop Drawings
20. Operations

#### **2.5.6 DRAWING FOLDER STRUCTURE**

CADD files shall be organized in folder names that correlate with the A/E/C CADD Standards sequence as indicated above. For multi-building projects, a folder for each building type shall be created and the applicable discipline folders included therein.

#### **2.5.7 DRAWING SHEET ASSEMBLY**

CADD files will be organized in what is described as "Option 1a" in the A/E/C CADD Standards (page 9, Drawing Sheet Assembly Manual). This is typically referred to as "Model Space and Paper Space" in Autodesk / AutoCAD applications and "Design Model and Sheet Model" in Bentley MicroStation applications. All files will be drawn consistently in the same manner using this option throughout the entire project.

### **2.5.7.1 MODEL FILES**

- a. Model files represent the building's physical layout and components such as floor plans, elevations and details. Model files shall be drawn to full size (1:1) in metric units in the default model view. Floor Plan Model files represent one floor; do not use one model drawing file to draw several floor plan drawings with several border files. Similarly, one paper space layout shall be included per each plotted sheet.
- b. Model files being referenced into another shall have insertion coordinates of: x, y, z = 0, 0, 0 in model space.
- c. The exception for model files with insertion coordinates other than 0, 0, 0 shall be the civil site plans which shall use Georeferencing and real-world coordinates.
- d. Dimensioning shall be in millimeters unless noted otherwise, drawn associatively, and not be "forced."

Example: A 150 mm wall drawn at a scale of 1:1 that shall have a dimensioned number of 150 mm; the dimension shall not be manually adjusted to another measurement.

### **2.5.7.2 BORDER SHEET FILES**

- a. Border sheet files are referenced into drawing file paper space for plotting and viewing purposes. Every border sheet file has a drawing area, title block information and sheet trim border.
- b. The Contractor shall use the AED-N "Title Block" border file. The project border file with data that is sheet independent is referenced into each drawing. When a drawing file is created, sheet dependent data located in the title block (such as the sheet identification and title) is added to the specific drawing file and located in paper space where the Title Block is referenced and viewed.
- c. AED-N Title Block drawings may be downloaded at the following website under the "Government Provided CADD Files" link:

<http://www.aed.usace.army.mil/engineeringtop2010.asp>

### **2.5.8 LAYER / LEVEL NAMES**

Layer or level files names shall follow the guidelines of the A/E/C CADD Standards v4.0. For AutoCAD, [discipline].dwt (drawing template files) shall be used to import the proper layers that will be inclusive of the correct line type, color, and line thickness of the respective layer. Templates to be used are found on the CAD/BIM Technology Center at the following link:

<https://cadbim.usace.army.mil/default.aspx?p=s&t=13&i=4>

The templates are also located at AED-N's website under the "Government Provided CADD files" link:

<http://www.aed.usace.army.mil/engineeringtop2010.asp>

### **2.5.9 DRAWING FILE NAMING CONVENTION**

The sheet identifier will consist of the discipline designator, the sheet type designator and the sheet sequence number as referenced in the A/E/C CADD Standards v4.0.

### **2.5.10 SHEET IDENTIFICATION BLOCK**

The sheet identifier will follow the format of the border sheet file. This will consist of the discipline designator, the sheet type designator and the sheet sequence number as referenced in the A/E/C CADD Standards Manual.

### **2.5.11 DRAWING SCALES**

The scales indicated on the following list shall be the guide in determining the scale for all drawings. Bar scales on drawings are preferred as printed copies may lose their plotted scale through generational

copying. The Contractor may, at its option, make exceptions to the scales indicated, if approved in writing by the Contracting Officer.

TYPICAL DRAWING SCALES	
DRAWING TYPE	METRIC
SITE PLAN	1:200
	1:400
	1:500
	1:600
	1:700
	1:1000
	1:2000
	1:5000
	1:6000
	1:10000
	1:20000
FLOOR PLAN	1:50
	1:100
ROOF PLAN	1:200
EXTERIOR ELEVATIONS	1:100
	1:200
INTERIOR ELEVATIONS	1:50
	1:100
CROSS SECTIONS	1:50
	1:100
	1:200
WALL SECTIONS	1:20
STAIR DETAILS	1:10
DETAILS	1:5

**2.5.12 TEXT, SYMBOLS, LINE STYLES, & PATTERNS**

All text shall be UPPERCASE. For text height, width, line weight ratios use the following as a minimum guideline (with all values given shown as measured from full-size plot of the sheet file):

1. General text: 3mm x 3mm; LW = 2
2. Subtitles: 4.75mm x 4.75mm; LW = 2
3. Titles: 6.35mm x 6.35mm; LW = 3

Approved symbols, line styles, and patterns shall be in accordance with A/E/C CADD Standards v4.0 or newer (reference Appendix D). The approved symbols, line styles, and patterns associated with AutoCAD software maybe downloaded at the following link:

<https://tsc.wes.army.mil/products/standards/aec/aecstdsym.asp>

#### **2.5.13 PLOTTER PREPARED ORIGINAL DRAWINGS AND PDF FILES**

- a. Design files shall be developed in anticipation of plotting on a monochrome, vector plotter. Line density shall be equivalent to that produced by black India ink; half tone plots are only acceptable where the half-tone color setting of RGB (red, green, blue) settings equal a value of 153. Refer to the A/E/C CADD Standards as necessary. Drawings plotted in color are not acceptable. Manual changes to plotted originals are not acceptable.
- b. A separate Adobe PDF file shall be made of each drawing file in landscape orientation. Each PDF drawing file shall then be compiled into one "binder" PDF file for each set of drawings following the order of the Sheet Index. Provide bookmarks for each discipline designation and each drawing file.

#### **2.5.14 REVISIONS**

Drawing revisions shall be prepared only on the original CADD files. A revision history (located in the Title Block) is required on all sheets. Only AED-N Revision Block is allowed and is available at AED-N's website for download under the "Government Provided CAD Files" link:

<http://www.aed.usace.army.mil/engineeringtop2010.asp>

#### **2.5.15 LEGENDS**

For each submittal, legends of symbols and lists of abbreviations shall be placed on the drawings. They shall include all of the symbols and abbreviations used in the drawing set, but shall exclude any symbols and abbreviations not used. Since many symbols are limited to certain design disciplines, there is a definite advantage to the use of separate legends on the initial sheet of each design discipline or in the Standard Details package for each discipline. If legends have not been shown by discipline, a legend shall be placed on the first drawing.

#### **2.5.16 LOCATION / COLUMN GRID**

To facilitate the location of project elements and the coordination of the various disciplines' drawings, all plans shall indicate a column line or planning grid, and all floor plans except structural plans shall show room numbers.

#### **2.5.17 COMPOSITE AND KEY PLANS**

If the plan of a large building or structure must be placed on two or more sheets in order to maintain proper scale, the overall plan (key plan) shall be placed on one sheet at a smaller scale to accommodate entire building / site. Key plans shall be used not only to relate large scale plans to total floor plans but also to relate individual buildings to large complexes of buildings. This key plan with match lines shall be referenced on all segmented drawings and shall be placed in a convenient location to indicate the relative location of the represented plan area by crosshatching.

#### **2.5.18 SPECIFICATIONS PLACED ON THE DRAWINGS**

Details of standard products or items which are adequately covered by specifications shall not be included on the drawings.

#### **2.5.19 BINDING**

All volumes of drawing prints shall be firmly bound and shall have covers of heavier bond than the drawing sheets. If posts are used to fasten sheets together, the drilled holes on the bond edges of the sheets shall be on 8-1/2-inch centers.

### **2.5.20 GOVERNMENT PROVIDED FILES**

All CADD related files provided by the Government to the Contractor (AutoCAD and MicroStation versions, AED-N Title Block, AED-N Cover / Index sheet files, AutoCAD template files, etc.) may be downloaded through the following AED-N website under the “under the “Government Provided CAD Files” link:

<http://www.aed.usace.army.mil/engineeringtop2010.asp>

If the Contractor is unable to access this site, a CD will be provided upon request to the Project Manager.

## **3. EXECUTION**

### **3.1 DESIGN COORDINATION MEETINGS**

Shortly after Notice to Proceed (NTP) the Government or Contractor may suggest meeting(s) to review the design submittal process or discuss various aspects of the Contract to enable prompt and efficient initiation of contract actions.

Meeting(s) will be held to assure attention is focused on key project requirements (necessary Contractor design and Government review that is required to provide Clearance for Construction), to discuss features and items of work that need to be submitted early due to long lead time items, or discuss other concepts/ideas that will help accelerate the contract work.

Other design coordination meetings may be requested throughout the contract period if Government review of various contractor design submittals indicate poor design and plan or specification quality in order to clearly explain the changes and improvements required of the contractor, assure understanding of Government comments, code references and required investigations and calculations, to move forward with acceptable design and satisfactory plans and specifications.

### **3.2 GOVERNMENT DESIGN CHANGES**

Government design changes which do not increase construction costs shall be made at no charge to the Government. The Contracting Officer may request design submittals in addition to those listed when deemed necessary to adequately describe the work covered in the contract documents. Submittals shall be made in the respective number of copies and to the respective addresses set forth in the paragraph entitled SUBMITTAL PROCEDURE. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements.

### **3.3 CONSTRUCTION SUBMITTAL REGISTER (ENG FORM 4288-R)**

Attached to this section is ENG Form 4288-R, the development of which the Contractor is responsible for this contract. All design and construction submittals shall be shown on this register. The submittal register shall be the prevailing document for tracking all submittals and will be used to control all submittals throughout the life of the contract. The Contractor shall maintain and update the register on a monthly basis for the Contracting Officer's approval.

### **3.4 TRANSMITTAL FORM (ENG FORM 4025-R)**

The sample transmittal form (ENG Form 4025-R) attached to this section shall be used for submitting both design and construction submittals in accordance with the instructions on the reverse side of the form. These forms will be furnished to the Contractor. This form shall be properly completed by filling out all the heading blank spaces and identifying each item submitted. Special care will be exercised to ensure proper listing of the specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item.

### **3.5 PROGRESS SCHEDULE**

The Contractor shall prepare and submit a design progress schedule to the Contracting Officer. The Critical Path Method (CPM) of network calculation shall be used to generate the Project Schedule. The

progress schedule shall show, as a percentage of the total design price, the various items included in the contract and the order in which the Contractor proposes to carry on the work, with dates on which he will start the features of the work and the contemplated dates for completing same. Significant milestones such as review submittals shall be annotated. The Contractor shall assign sufficient technical, supervisory and administrative personnel to insure the prosecution of the work in accordance with the progress schedule. The Contractor shall correct the progress schedule at the end of each month and submit as required to the Contracting Officer. The approved Project Schedule shall be used to measure the progress of the work, to aid in evaluating time extensions, and to provide the basis of all progress payments.

### **3.6 SCHEDULING**

#### **3.6.1 SUBMITTAL SCHEDULE**

The Contractor shall submit, as part of his Project Schedule, design submittal milestone dates. The Contractor shall post all actual dates of submittal actions (including Clearance for Construction) as they occur.

#### **3.6.2 DESIGN SUBMITTALS**

A minimum of fourteen (14) full calendar days (exclusive of mailing time) shall be allowed for Government review of design submittals and comment in DrChecks<sub>SM</sub>.

If the Contractor fails to provide design submittals in a timely fashion, or repetitively submits documents for review that are not in strict conformance with the Contract, no part of the time lost due to such actions shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

#### **3.6.3 CONSTRUCTION SUBMITTALS**

Contractor furnished Government Approved Construction Submittals (GA) for items described in this Section, and all others as required by the COR, shall be submitted to the Area or Resident Office, per directions given at the Pre-Construction Meeting described in Section 00160 SPECIAL REQUIREMENTS. A minimum of fourteen (14) full calendar days (exclusive of mailing time) shall be allowed for AED review and comment.

If the Contractor fails to provide construction submittals in a timely fashion, or repetitively submits documents for review that are not in strict conformance with the Contract, no part of the time lost due to such actions shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

#### **3.6.4 POST DESIGN CONSTRUCTION SUBMITTALS**

Submittals covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. Certifications to be submitted with the pertinent drawings shall be so scheduled. A minimum of fourteen (14) full calendar days (exclusive of mailing time) shall be allowed for review and approval.

If the Contractor fails to submit post design construction submittals in a timely fashion, or repetitively submits submittals that are not in strict conformance with the Contract documents, no part of the time lost due to actions shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

### **3.7 SUBMITTAL PROCEDURE**

#### **3.7.1 DESIGN SUBMITTALS**

##### **3.7.1.1 AFGHANISTAN ENGINEER DISTRICT (AED)**

One (1) half-sized, hard copy and two (2) soft copies on CD-ROM (electronic version) of all design submittals (calculations, reports of field tests, design analysis, plans, specifications, etc) shall be transmitted to the Government at the following address, by means of ENG Form 4025-R:

(1) DHL, FEDEX, UPS or any other courier service:

AFGHANISTAN ENGINEER DISTRICT NORTH (AEN)

U.S. Army Corps of Engineers  
Afghanistan Engineer District  
House # 1, St. #1 West  
West Wazir Akbar High School  
Behind Amani High School  
Kabul, Afghanistan  
Attention: Chief, Engineering Branch

The Contractor shall scan the soft copy (electronic version) of each design submittal using most up-to-date version of recognized Industry-standard anti-virus software (Symantec, Norton, etc.) to insure that no viruses are contained in it prior to acceptance by AED. Label the CD to indicate that it has been scanned for viruses and the anti-virus software and version are clearly indicated.

##### **3.7.1.2 RESIDENT / AREA ENGINEER OFFICE**

Complete design submittals shall be provided to the Area and/or Resident Engineer Office such that these are received **at the same time** as the Contractor provides them to the address noted in Paragraph 3.6.1.1. At the Pre-Construction meeting, the Contractor will be furnished the Area and/or Resident Office addresses to which these submittals shall be provided and the specific number of hard copies (full and half sizes) and soft copies (CD-ROM) required by the Area and/or Resident Office as per Paragraph 3.6.1.1, soft copies are to be properly labeled and checked for viruses by the Contractor prior to delivery.

##### **3.7.1.3 EDITABLE CAD FORMAT AS-BUILTS**

As prescribed in Contract Clause 227.7107-1(b) DRAWINGS AND OTHER DATA TO BECOME PROPERTY OF GOVERNMENT, all work developed in the performance of this Contract shall become sole property of the Government and is eligible for use on another Contract. As such, as-built documents furnished to the Government must be in an editable format. Refer to Section 01780A CLOSEOUT SUBMITTALS for all requirements associated with submission of editable CADD format as-builts required as part of this Contract.

#### **3.7.2 POST DESIGN CONSTRUCTION SUBMITTALS**

One (1) copy of all post design construction submittals shall be transmitted to:

(1) DHL, FEDEX, UPS or any other courier service:

AFGHANISTAN ENGINEER DISTRICT NORTH (AEN)

U.S. Army Corps of Engineers  
Afghanistan Engineer District  
House # 1, St. #1 West  
West Wazir Akbar High School  
Behind Amani High School  
Kabul, Afghanistan  
Attention: Chief, Engineering Branch

### **3.7.3 SUBMITTAL NUMBERING SYSTEM**

Instructions on the numbering system to be used for construction submittals follows.

#### **3.7.3.1 SHOP DRAWINGS**

Shop drawings and materials are listed on the Submittal Register (ENG Form 4288-R) as follows:

- a. List is prepared according to contract specifications and drawings, addressing all items involved in the project.
- b. This list is divided into sections as indicated in the specifications. For example:

Section 01015	TECHNICAL REQUIREMENTS
Section 01335	DESIGN SUBMITTALS
Section 02831	CHAIN-LINK FENCE
Section 02710	SUB-DRAINAGE SYSTEM
Section 03300	CONCRETE FOR BUILDING CONSTRUCTION
Section 04200	MASONRY

#### **3.7.3.2 NUMBERING PROCEDURES FOR TRANSMITTAL ON ENG FORM 4025-R**

- a. Each specification section will have various requirements for submittals (design information, product data, test reports, procedures, etc.) to the Government for Approval (GA) or For Information Only (FIO). Items from different Sections cannot be submitted on the same ENG Form 4025-R. When furnishing one or more items from the same section at a given time, a single ENG Form 4025-R can be used to identify and submit these items.
- b. Block "b" of Form 4025-R entitled "Description of Item Submitted" should provide an accurate and unique description of each item being proposed by the Contractor. Block "a" entitled "Item No." will be automatically populated in QCS for each ENG Form 4025-R. QCS will track and automatically generate the item number for all following ENG Forms 4025-R for the same section number.
- c. To illustrate, a transmittal required by Section 01335 SUBMITTAL PROCEDURES might have the following Items:

ITEM NO. 1	Topographic Information
ITEM NO. 2	Geotechnical Report
ITEM NO. 3	Foundation Design
ITEM NO. 4	35% Plans
ITEM NO. 5	Outline of Construction Specifications to be used

If this was the first submittal furnished by the Contractor for Section 01335, then a Transmittal Number of 01335-1 would be generated using QCS. As new transmittals are generated in QCS, the last digit of the transmittal is increased incrementally, as follows:

Transmittal No. 01335-2  
Transmittal No. 01335-3  
Transmittal No. 01335-4  
Etc.

The first transmittal submitted from each Specification Section will be "-1"; in other words, there will never be a "Transmittal No. 01335-0".

- d. The above illustration is true for all other specification sections included in the Request for Proposal or in the Construction Specifications compiled by the Contractor in the prosecution of work under the RFP.

### **3.7.3.3 RESUBMITTALS**

- a. Should the Contractor be required to resubmit any transmittal due to review codes issued by the Government as described herein, QCS will be used to generate the same transmittal number followed by the number "-1" for the first resubmittal, "-2" for the second resubmittal, "-3" for the third resubmittal, etc.
- b. As an example, assume the design submittal is provided to the Government as Transmittal 01335-9. Due to omissions or errors in that submittal which resulted in a resubmittal code being issued, the subsequent Design Resubmittal #1 would be "Transmittal 01335-9.1". Should a resubmittal again be necessary, it would be Design Resubmittal #2 and would be submitted as "Transmittal 01335-9.2".
- c. The purpose of this system is to avoid deviations from the submittal register and to track submittals in both RMS and DrChecks<sub>SM</sub>. It should be noted that a new transmittal number following the above system CANNOT be generated in QCS unless the prior transmittal has been given a Code. If the Contractor is having difficulty generating the correct transmittal number, contact the COR to resolve the matter.

### **3.7.4 TITLE BLOCKS AND COVER SHEETS**

The Contractor shall use the above nomenclature and date of submission to the Government for: plan cover sheets; title blocks for all drawings; all specification cover sheets; all specification pages; all design analysis cover sheets and associated pages; and similar labeling for all other documents included in the submittal.

See Section 1335A ATTACHMENTS-AED (Figures 1-4) for title block required annotations drawing guidance.

### **3.7.5 VARIATIONS**

If design or construction submittals show a variance from the contract parameters and/or requirements, the Contractor shall justify such substitutions in writing, at the time of submission. Additionally, the Contractor shall also annotate block "h" entitled "variation" of ENG FORM 4025-R.

### **3.7.6 NON-COMPLIANCE**

The Contracting Officer will notify the Contractor of any detected noncompliance with the requirements of this specification. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the worksite, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

## **3.8 REVIEW OF CONTRACTOR PREPARED DESIGN DOCUMENTS**

### **3.8.1 GENERAL**

The work under Contract will be subject to continuous review by representatives of the Contracting Officer. Additionally, joint design review conferences with representation by all organizations having a direct interest in the items under review may be held. The Contractor shall furnish copies of all drawings and related documents to be reviewed at the review conference on or before the date indicated by the Government. Additional conferences pertaining to specific problems may be requested by the Contractor or may be directed by the Contracting Officer as necessary to progress the work. The Contractor shall prepare minutes of all conferences and shall furnish two copies to the Contracting Officer within seven (7) days after the conference.

### **3.8.2 CONTRACTOR'S QUALITY CONTROL ORGANIZATION REVIEW**

The Contractor shall thoroughly review each submittal prior to submission to the Contracting Officer to assure it is complete and correct. This review shall be for the purposes of eliminating errors, interferences, and inconsistencies, and of incorporating design criteria, review comments, specifications, and any additional information required.

The Contractor will give evidence of such review of all items in each submittal ENG Form 4025-R, by annotating Column "g" (titled "For Contractor Use Code") of this form with the letter "A." This designation signifies that the Contractor has reviewed the submittal and is certifying it is "Approved as Submitted".

Design documents submitted to the Contracting Officer without evidence of the above requirements or the Contractor's certified approval will be returned for resubmission. No part of the time lost due to such resubmissions shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

### **3.8.3 INDEPENDENT DESIGN REVIEW**

- a. The Contractor shall have someone other than the designer or design team, perform an Independent Technical Review of all specifications, drawings, design analysis, calculations, and other required data prior to submission to the Government. This review shall insure the professional quality, technical accuracy, and the coordination of all design analysis, drawings and specifications, and other services furnished under this Contract have been accomplished.
- b. Work must be organized in a manner that will assure thorough coordination between various details on drawings, between the various sections of the specifications, and between the drawings and specifications. The Contractor shall thoroughly cross-check and coordinate all work until he is professionally satisfied that no conflicts exist, vital information has not been omitted, and that indefinite language open to interpretation has been resolved.
- c. Upon completion of this review, the Contractor shall certify that each design submittal is complete, accurate, is in strict conformance with all contract requirements, that repetition has been avoided, that all conflicts have been resolved, and that the documents have thoroughly coordinated and cross checked against all the applicable disciplines to prevent the omission of vital information.

### **3.8.4 GOVERNMENT REVIEW**

1. Within fourteen (14) days after Notice to Proceed, the Contractor shall submit for approval, a complete design schedule with all submittals and review times indicated in calendar dates. The Contractor shall update this schedule monthly. After receipt, the Government will be allowed fourteen (14) full days to review and comment on all Design Submittals, except as noted below. This time period starts on the next full day after delivery of the Design Submittal to the Government.
2. If a design submittal is deficient per criteria described above, (errors on ENG Form 4025-R, incorrect drawing title block information, missing or incomplete features required in the Submittal, etc.), it will be returned immediately without further review for correction and resubmission. The review time will begin when the corrected submittal is received. The Contractor may be liable for liquidated damages owed to the Government for returned design submittals due to deficiencies.
3. If a design submittal is over one (1) day late in accordance with the latest design schedule, the Government review period may be extended 7 days. Submittal date revisions must be made in writing at least five (5) days prior to the submittal.
4. The Contractor shall not begin construction work until the Government has reviewed the Contractor's design submittal and cleared it for construction. Clearance for Construction does not mean Government approval; Government review shall not be construed as a complete check but will evaluate the general design approach and adherence to contract parameters. The Government Review is often limited in time and scope and therefore the Contractor shall not consider any review performed by the Government as an allowance for incomplete work.

5. Upon completion of the review, the Contractor will be notified by the Contracting Officer Representative that the DrChecks<sub>SM</sub> file is open for viewing and response to AED comments. The Contracting Officer will indicate whether the design submittal, or portions thereof, has or has not been cleared for construction using the following action codes:
  - A – Cleared for Construction
  - B – Cleared for Construction, except as noted in attached comments
  - C – Cleared for Construction, except as noted in attached comments, Re-submission required
  - E – NOT Cleared for Construction, see attached comments, Re-submission required
  - FX – Receipt acknowledged, does not comply as noted with contract requirements.
- e. These codes shall NOT be used by the Contractor.

### **3.8.5 INCORPORATION OF GOVERNMENT REVIEW COMMENTS**

1. The Contractor shall review each comment, furnish a complete response in DrChecks<sub>SM</sub> as to how the comment will be addressed in the design analysis, plans and specifications, or other design submittal stipulations required in this Contract. The Contractor will then incorporate each comment into the design submittal along with other work required at the next design submittal stage.
2. The Contractor shall furnish disposition of all comments in DrChecks<sub>SM</sub>, with the next scheduled submittal. The disposition shall identify action taken with citation of location within the relevant design document. Generalized statements of intention such as "will comply" or "will revise the specification" are not acceptable. During the design review process, comments will be made on the design submittals that will change the drawings and specifications. The Government will make no additional payments to the Contractor for the incorporation of comments. Review comments are considered part of the contract administration process.
3. If the Contractor disagrees technically with any comment(s) and does not intend to comply with the comment, he must clearly outline, with ample justification, the reasons for noncompliance within five (5) days after close of review period in order that the comment can be resolved.
4. The Contractor is cautioned that if he believes the action required by any comment exceeds the requirements of this contract, he should flag the comment in DrChecks<sub>SM</sub> as a scope change, and notify the COR in writing immediately.

### **3.8.6 DESIGN DISCREPANCIES**

The Contractor shall be responsible for the correction of incomplete design data, omissions, and design deficiencies which become apparent during construction. The Contractor shall provide the Contracting Officer with a proposed recommendation for correcting a design error, within three (3) calendar days after notification by the Contracting Officer. The Contracting Officer will notify the Contractor of any detected noncompliance 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 worksite, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor. Should extensions of design, fabrication plans and/or specific manufacturer's details be required as a result of a Government issued Change Order, the Government will make an equitable adjustment in accordance with Contract Clause 52.243-4 entitled CHANGES.

**3.8.7 CONFERENCES**

**3.9 As necessary, conferences will be conducted between the Contractor and the Government to resolve review comments. REVIEW conferences may be held at the completion of EACH AED review and subsequent Contractor response for each design submittal. The review conference will be held at the Corps District Office in Kabul, Afghanistan. The Contractor shall bring the personnel that developed the Design submittal to the review conference. ATTACHMENTS**

The following attachments found in Section 1335A ATTACHMENTS-AED form an integral part of this specification:

ENG FORM 4025-R, Mar 95 - Transmittal of Shop Drawings, Equipment Data, Material Samples, or Manufacturer's Certificate of Compliance (2 pages)

ENG FORM 4288-R, Mar 95 - Submittal Register

Figure 1 – AED Title Block

Figure 2 - AED Management Block

Figure 3 - AED Issue Block & Required Notations

Figure 4 - Border Sheet Size

**-- END OF SECTION --**



## INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.
2. Each transmittal shall be numbered consecutively in the space provided for "Transmittal No.". This number, in addition to the contract number, will form a serial number for identifying each submittal. For new submittals or resubmittals mark the appropriate box; on resubmittals, insert transmittal number of last submission as well as the new submittal number.
3. The "Item No." will be the same "Item No." as indicated on ENG FORM 4288-R for each entry on this form.
4. Submittals requiring expeditious handling will be submitted on a separate form.
5. Separate transmittal form will be used for submittals under separate sections of the specifications.
6. A check shall be placed in the "Variation" column when a submittal is not in accordance with the plans and specifications--also, a written statement to that effect shall be included in the space provided for "Remarks".
7. Form is self-transmittal, letter of transmittal is not required.
8. When a sample of material or Manufacturer's Certificate of Compliance is transmitted, indicate "Sample" or "Certificate" in column c, Section I.
9. U.S. Army Corps of Engineers approving authority will assign action codes as indicated below in space provided in Section I, column i to each item submitted. In addition they will ensure enclosures are indicated and attached to the form prior to return to the contractor. The Contractor will assign action codes as indicated below in Section I, column g, to each item submitted.

### THE FOLLOWING ACTION CODES ARE GIVEN TO ITEMS SUBMITTED

- |   |   |
|---|---|
| A -- Approved as submitted.   | E -- Disapproved (See attached).  |
| B -- Approved, except as noted on drawings.   | F -- Receipt acknowledged.  |
| C -- Approved, except as noted on drawings.<br>Refer to attached sheet resubmission required. | FX -- Receipt acknowledged, does not comply<br>as noted with contract requirements. |
| D -- Will be returned by separate correspondence.   | G -- Other (Specify)  |

10. Approval of items does not relieve the contractor from complying with all the requirements of the contract plans and specifications.

*(Reverse of ENG Form 4025-R)*



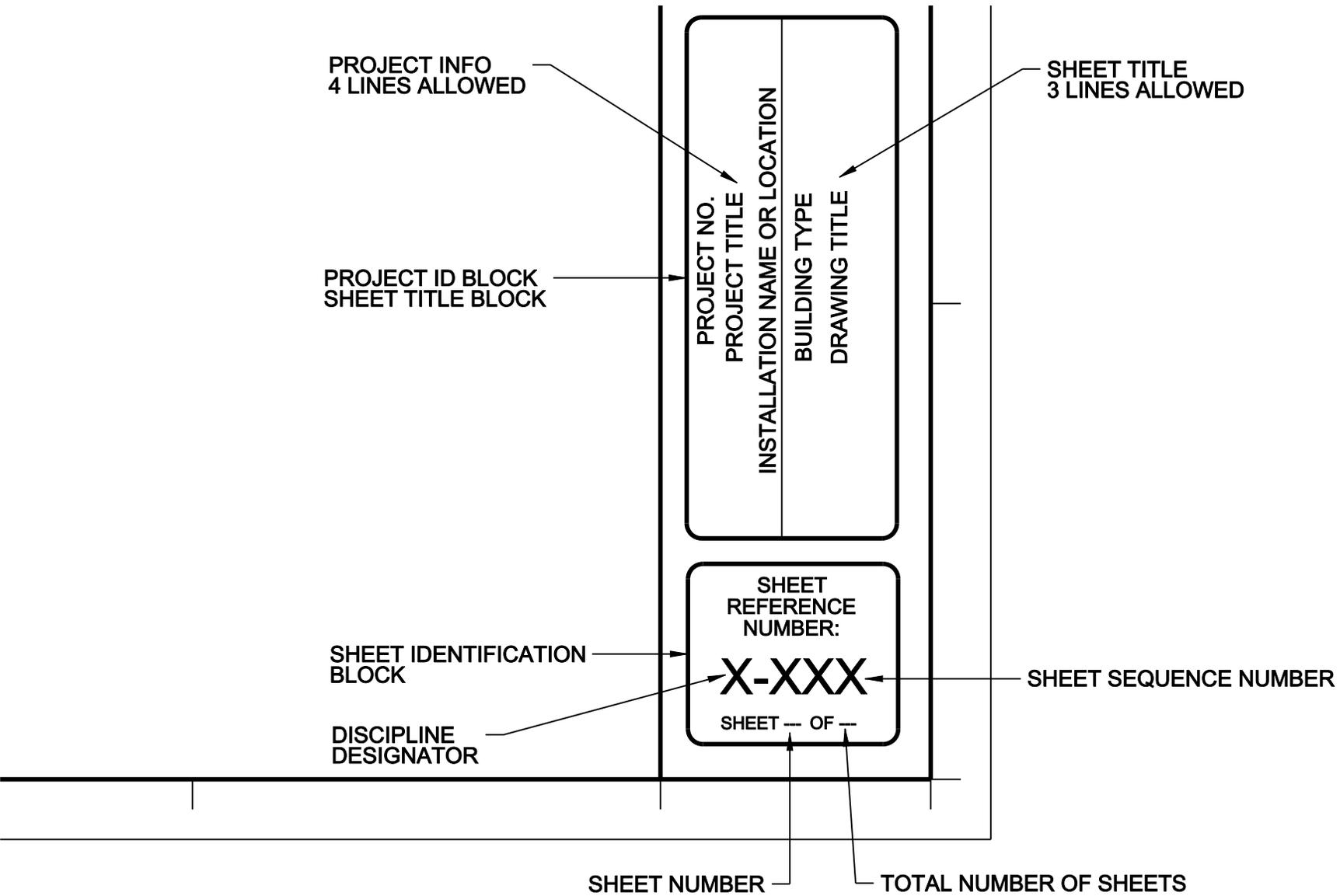


FIGURE 1 - AED TITLE BLOCK

MANAGEMENT BLOCK

U.S. ARMY ENGINEER DISTRICT, AFGHANISTAN CORPS OF ENGINEERS APO AE 96338	DESIGNED BY:		DATE:	REV.
	DWN BY:	CKD BY:	xx-xx-xx	_____
	REVIEWED BY:		DESIGN FILE NO.	
	SUBMITTED BY:		DRAWING CODE:	
			FILE NAME:	_____
			PLOT SCALE:	_____
			PLOT DATE:	xx-xx-xx

AE DESIGN FIRM  
COMPANY LOGO  
COMPANY INFORMATION

FIGURE 2 - AED MANAGEMENT BLOCK

H

DESIGNER IDENTIFICATION  
BLOCK (DO NOT ALTER)



ISSUE BLOCK

SYMBOL	DESCRIPTION	DATE	APPR.	SYMBOL	DESCRIPTION	DATE	APPR.
	AS-BUILT SUBMITTAL	DATE					
	100% DESIGN SUBMITTAL	DATE					
	99% DESIGN RESUBMITTAL	DATE					
	99% DESIGN SUBMITTAL	DATE		△	REVISED AS-BUILT		
	65% DESIGN RESUBMITTAL	DATE		△	MOD P0003		
	65% DESIGN SUBMITTAL	DATE		△	MOD P0002		
	35% DESIGN SUBMITTAL	DATE		△	AMENDMENT P0001		
	DESCRIPTION	1 AUG 07	APPR.	SYMBOL	DESCRIPTION	DATE	APPR.

FIGURE 3 - AED ISSUE BLOCK  
& REQUIRED NOTATIONS

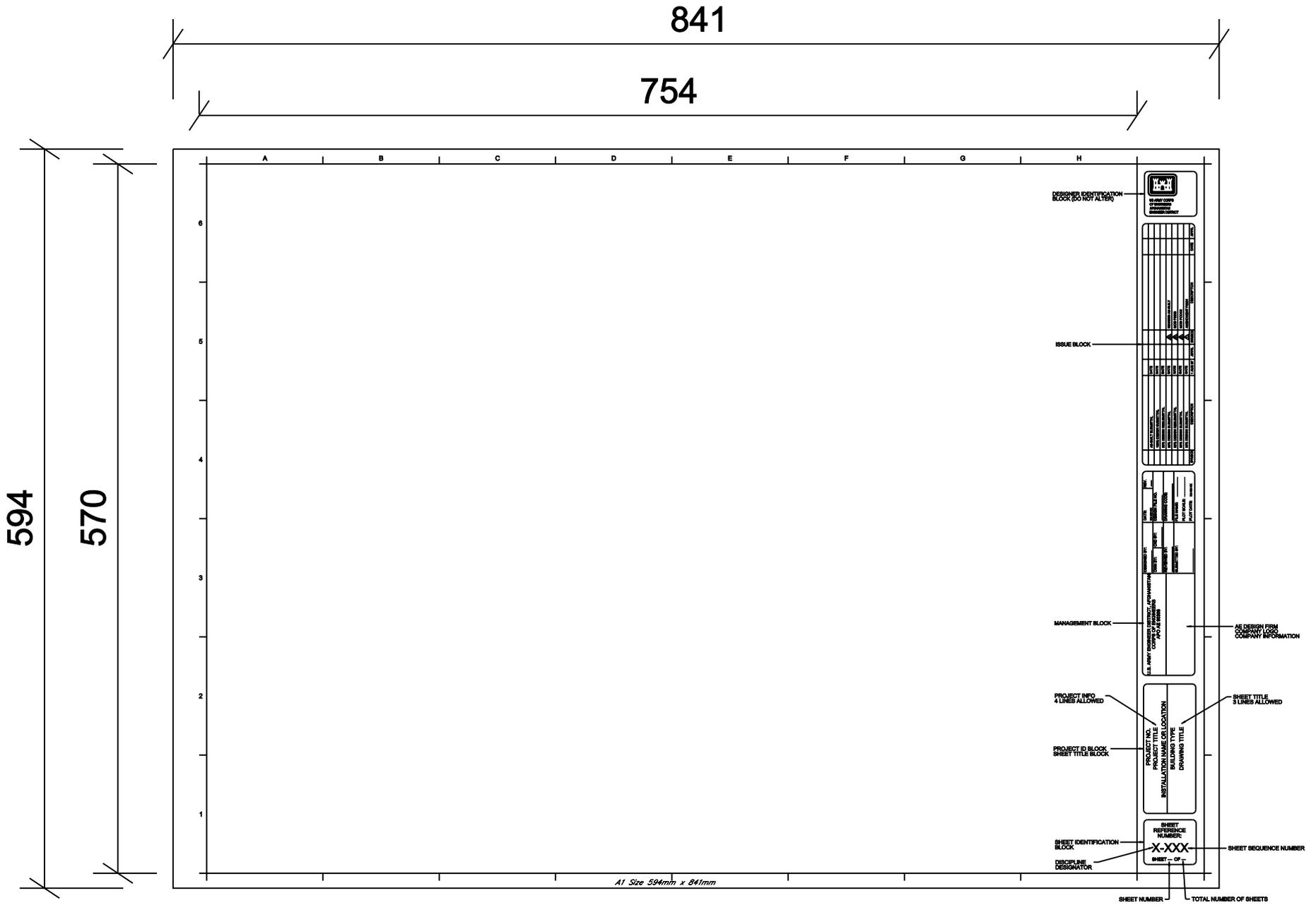
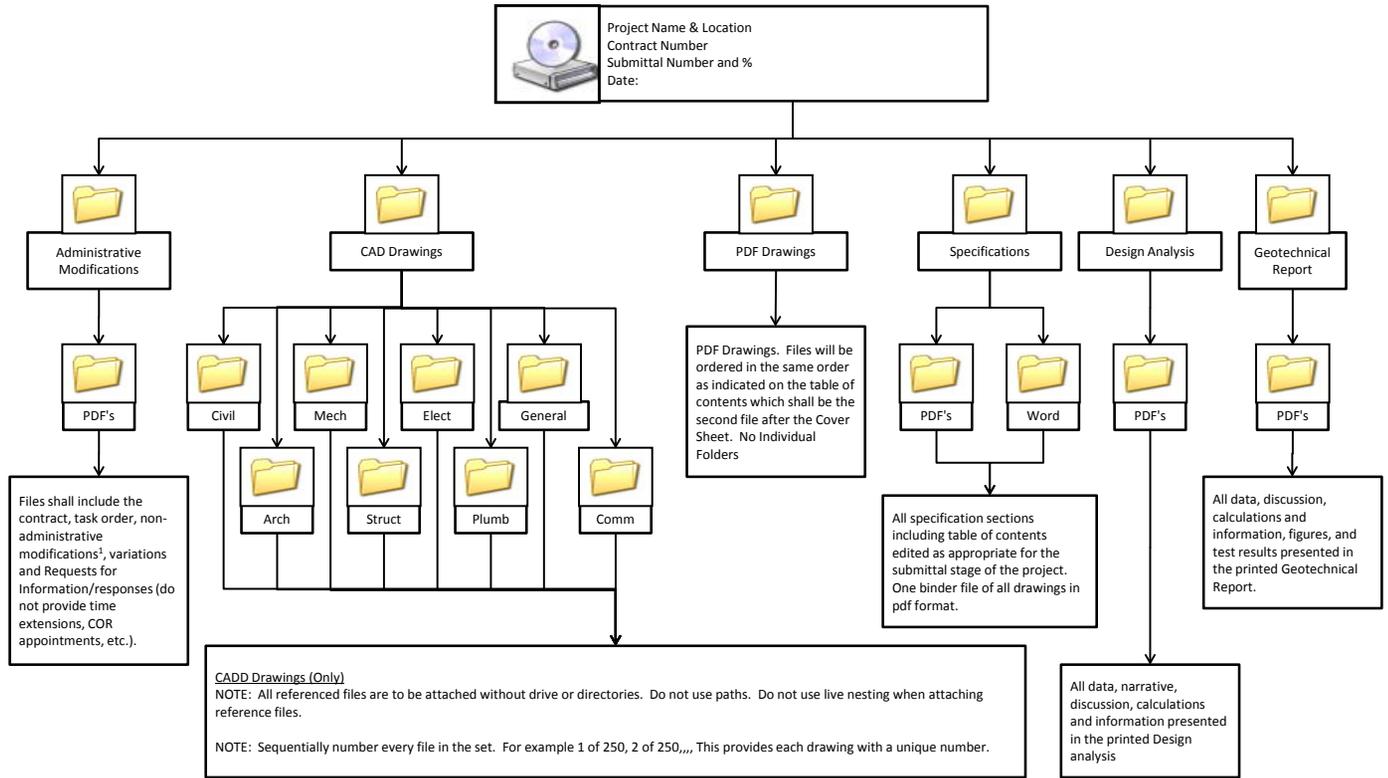


FIGURE 4 - BORDER SHEET SIZE



## SECTION 01355

### ENVIRONMENTAL PROTECTION

#### 1 GENERAL

The Contractor shall minimize environmental pollution and damage that may occur as the result of construction operations. Environmental resources within the project boundaries and those affected outside the limits of permanent work shall be protected during the entire duration of this contract. The Contractor shall comply with all applicable Afghanistan environmental laws and regulations. The Contractor shall be responsible for delays resulting from failure to comply with environmental laws and regulations.

For the purpose of this specification, environmental pollution and damage is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade the utility of the environment for aesthetic, cultural, and/or historical purposes. The control of environmental pollution and damage requires consideration of air, water, land, and includes management of visual esthetics, noise, solid waste, and erosion from stormwater, as well as pollutants.

#### 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 basic designation only.

##### ISLAMIC REPUBLIC OF AFGHANISTAN

Official Gazette No. 912

Environmental Law (2007)

##### U.S. DEPARTMENT OF DEFENSE (DoD)

DoD 4715.05-G

Overseas Environmental Baseline  
Guidance Document (OEBGD) (2007)

##### U.S. ARMY (DA)

AR 200-1

Environmental Protection and  
Enhancement (2007)

##### U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1

Safety and Health Requirements  
Manual (2009)

#### 1.2 DEFINITIONS

##### 1.2.1 ENVIRONMENTAL POLLUTION AND DAMAGE

Environmental pollution and damage is the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade the environment aesthetically, culturally and/or historically.

### **1.2.2 ENVIRONMENTAL PROTECTION**

Environmental protection is the prevention/control of pollution and habitat disruption that may occur to the environment during construction. The control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

### **1.2.3 CONTRACTOR GENERATED HAZARDOUS WASTE**

Contractor generated hazardous waste means materials that, if abandoned or disposed of, may meet the definition of a hazardous waste. These waste streams would typically consist of material brought on site by the Contractor to execute work, but are not fully consumed during the course of construction. Examples include, but are not limited to, excess paint thinners (i.e. methyl ethyl ketone, toluene etc.), waste thinners, excess paints, excess solvents, waste solvents, and fuel/oils/lubricants.

### **1.2.4 LAND APPLICATION FOR DISCHARGE WATER**

The term "Land Application" for discharge water implies that the Contractor shall discharge water at a rate which allows the water to percolate into the soil. No sheeting action, soil erosion, discharge into storm sewers, discharge into defined drainage areas, or discharge into the waters of Afghanistan shall occur.

### **1.2.5 SURFACE DISCHARGE**

The term "Surface Discharge" implies that the water is discharged with possible sheeting action and subsequent soil erosion may occur. Waters that are surface discharged may terminate in drainage ditches, storm sewers, creeks, and/or waters of Afghanistan would require a permit to discharge water from the project.

### **1.2.6 HAZARDOUS MATERIAL (HM)**

The term "Hazardous Material" is used to define a useful product that requires special management because it has hazardous characteristics (ignitability, corrosivity, reactivity, or toxicity) that could pose dangers to human health or the environment. A HM becomes a Hazardous Waste when it can no longer be used for its intended purpose.

### **1.2.7 HAZARDOUS WASTE (HW)**

The term "Hazardous Waste" is used to define a discarded material with properties that could pose dangers to human health or the environment. A HW either exhibits a hazardous characteristic or is specifically listed as a HW by the EPA or by the State.

### **1.2.8 ABBREVIATIONS AND ACRONYMS**

BACT	Best Available Control Technology
BMP	Best Management Practice
COR	Contracting Officer's Representative
ECO	Environmental Compliance Officer
HM	Hazardous Material HW Hazardous Waste
HW	Hazardous Waste
HWT	Hazardous Waste Technician
KO	Contracting Officer
PPE	Personal Protective Equipment
USACE	US Army Corps of Engineers

### **1.3 SUBMITTALS**

#### SD-01 Preconstruction Submittals

Environmental Protection Plan; G, RO

Joint Condition Survey & Report; G, RO

### **1.4 QUALITY ASSURANCE**

#### **1.4.1 SUBCONTRACTORS**

The Contractor shall ensure compliance with this section by all subcontractors, suppliers, and vendors.

#### **1.4.2 LAWS AND REGULATIONS**

The Contractor shall comply with all applicable Afghanistan environmental, natural and cultural resources, and historic preservation laws and regulations.

## **2 PRODUCTS**

### **2.1 ENVIRONMENTAL PROTECTION PLAN**

Prior to commencing construction activities or delivery of materials to the site, the Contractor shall submit an Environmental Protection Plan for review and approval by the Contracting Officer. The purpose of the Environmental Protection Plan is to present a comprehensive overview of known or potential environmental, natural and cultural resources, and historic preservation issues which the Contractor must address during construction. Issues of concern shall be defined within the Environmental Protection Plan as outlined in this section. The Contractor shall address each topic at a level of detail commensurate with the environmental issue and required construction task(s). Topics or issues which are not identified in this section, but which the Contractor considers necessary, shall be identified and discussed after those items formally identified in this section. The Environmental Protection Plan shall be current and maintained onsite by the Contractor.

#### **2.1.1 COMPLIANCE**

No requirement in this Section shall be construed as relieving the Contractor of any applicable Afghanistan environmental, natural and cultural resources, and historic preservation protection laws and regulations. During Construction, the Contractor shall be responsible for identifying, implementing, and submitting, for approval, any additional requirements to be included in the Environmental Protection Plan.

#### **2.1.2 CONTENTS**

The environmental protection plan shall include, but shall not be limited to, the following:

- a. Name(s) of the on-site Environmental Manager who is responsible for ensuring adherence to the Environmental Protection Plan and monitoring and documenting environmental procedures.
- b. An erosion and sediment control plan which identifies the type and location of the erosion and sediment controls to be provided. The plan shall include monitoring and reporting requirements to assure that the control measures are effective.
- c. Drawings showing locations of proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials including methods to control runoff and to contain materials on the site.
- d. Work area plan showing the proposed activity in each portion of the area and identifying the areas of limited use or nonuse. Plan should include measures for marking the limits of use areas including methods for protection of features to be preserved within authorized work areas.

- e. Spill Control plan shall include the procedures, instructions, and reports to be used in the event of an unforeseen spill of a hazardous material. The Spill Control Plan supplements the requirements of EM 385-1-1. This plan shall include as a minimum:
  - 1. The name of the individual who will report any spills or hazardous substance releases and who will follow up with complete documentation. This individual shall immediately notify the Contracting Officer if a reportable quantity is released to the environment. The plan shall contain a list of the required reporting channels and telephone numbers.
  - 2. A list of materials and equipment to be immediately available at the job site, tailored to cleanup work of the potential hazard(s) identified.
  - 3. The names and locations of suppliers of containment materials and locations of additional fuel oil recovery, cleanup, restoration, and material-placement equipment available in case of an unforeseen spill emergency.
  - 4. The methods and procedures to be used for expeditious contaminant cleanup.
- f. An air pollution control plan detailing provisions to assure that dust, debris, materials, trash, etc., do not become air borne and travel off the project site.
- g. A non-hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris.
- h. A contaminant prevention plan that identifies potentially hazardous substances to be used on the job site and identifies the intended actions to prevent introduction of such materials into the air, water, or ground. As new hazardous materials are brought on site or removed from the site, the plan shall be updated.
- i. A hazardous waste plan that identifies potentially hazardous waste that may be generated by the project.
- j. A waste water management plan that identifies the methods and procedures for management and/or discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of ground water, decontamination water, hydrostatic test water, and water used in flushing of lines.
- k. A historical, archaeological, cultural resources, and biological resources plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, and biological resources known to be on the project site: and/or identifies procedures to be followed if historical archaeological, cultural resources, and biological resources not previously known to be onsite or in the area are discovered during construction. The plan shall include methods to assure the protection of known or discovered resources and shall identify lines of communication between Contractor personnel and the Contracting Officer.

## **2.2 PROTECTION FEATURES**

Prior to start of any onsite construction activities, the Contractor and the Contracting Officer shall make a joint condition survey. Immediately following the survey, the Contractor shall prepare a brief report including a plan describing the features requiring protection under the provisions of the Contract Clauses along with the condition of trees, shrubs and grassed areas immediately adjacent to the site of work and adjacent to the Contractor's assigned storage area and access route(s), as applicable. This survey report shall be signed by both the Contractor and the Contracting Officer upon mutual agreement as to its accuracy and completeness. The Contractor shall protect those environmental features included in the survey report and any indicated on the drawings, regardless of interference which their preservation may cause to the Contractor's work under the contract.

### **3 EXECUTION**

#### **3.1 ENVIRONMENTAL PERMITS AND COMMITMENTS**

The Contractor shall be responsible for obtaining and complying with all environmental, natural and cultural resources, and historic preservation permits and commitments required by Afghanistan environmental, natural and cultural resources, and historic preservation laws and regulations.

#### **3.2 LAND RESOURCES**

The Contractor shall confine all activities to areas defined by the drawings and specifications. Prior to the beginning of any construction, the Contractor shall identify any land resources to be preserved within the work area. Except in areas indicated on the drawings or specified to be cleared, the Contractor shall not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and land forms without approval. No ropes, cables, or guys shall be fastened to or attached to any trees for anchorage unless specifically authorized. The Contractor shall provide effective protection for land and vegetation resources at all times as defined in the following subparagraphs. Stone, soil, or other materials displaced into un-cleared areas shall be removed by the Contractor.

##### **3.2.1 WORK AREA LIMITS**

Prior to commencing construction activities, the Contractor shall mark the areas that need not be disturbed under this contract. Isolated areas within the general work area which are not to be disturbed shall be marked or fenced. Monuments and markers shall be protected before construction operations commence. Where construction operations are to be conducted during darkness, any markers shall be visible in the dark. The Contractor's personnel shall be knowledgeable of the purpose for marking and/or protecting particular objects.

##### **3.2.2 LANDSCAPE**

Trees, shrubs, vines, grasses, land forms and other landscape features indicated to be preserved shall be clearly identified by marking, fencing, or wrapping with boards, or any other approved techniques. The Contractor shall restore landscape features damaged or destroyed during construction operations outside the limits of the approved work area.

##### **3.2.3 EROSION AND SEDIMENT CONTROLS**

The Contractor shall be responsible for providing erosion and sediment control measures. The erosion and sediment controls selected and maintained by the Contractor shall be such that water quality is not degraded as a result of the Contractor's construction activities. The Contractor shall construct or install temporary and permanent erosion and sediment control best management practices (BMPs) as indicated on the drawings. BMPs may include, but not be limited to, vegetation cover, stream bank stabilization, slope stabilization, silt fences, construction of terraces, interceptor channels, sediment traps, inlet and outfall protection, diversion channels, and sedimentation basins. Any temporary measures shall be removed after the area has been stabilized.

##### **3.2.4 CONTRACTOR FACILITIES AND WORK AREAS**

The Contractor's field offices, staging areas, stockpile storage, and temporary buildings shall be placed in areas designated on the drawings or as directed by the Contracting Officer. Temporary movement or relocation of Contractor facilities shall be made only when approved. Erosion and sediment controls shall be provided for on-site borrow and spoil areas to prevent sediment from entering nearby waters. Temporary excavation and embankments for plant and/or work areas shall be controlled to protect adjacent areas.

### **3.2.5 TREE PROTECTION**

All costs associated with tree protection requirements required by specifications and drawings are the full responsibility of the Contractor. The Contractor shall exercise care when excavating trenches in the vicinity of trees.

### **3.3 WATER RESOURCES**

The Contractor shall monitor construction activities to prevent pollution of surface and ground waters. Toxic or hazardous chemicals shall not be applied to soil or vegetation unless otherwise indicated. All water areas affected by construction activities shall be monitored by the Contractor.

#### **3.3.1 COFFERDAMS, DIVERSIONS, AND DEWATERING OPERATIONS**

Construction operations for dewatering, removal of cofferdams, and tailrace excavation shall be controlled at all times to maintain compliance designated uses of the surface water body.

#### **3.3.2 STREAM CROSSINGS**

Stream crossings (wet or dry) shall allow movement of materials or equipment without blocking the natural flow of water, if water became present.

### **3.4 AIR RESOURCES**

#### **3.4.1 PARTICULATES**

Dust particles; aerosols and gaseous by-products from construction activities; and processing and preparation of materials shall be controlled at all times, including weekends, holidays and hours when work is not in progress. The Contractor shall maintain excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, spoil areas, borrow areas, and other work areas within or outside the project boundaries free from particulates which would cause a hazard or a nuisance. Sprinkling, chemical treatment of an approved type, baghouse, scrubbers, electrostatic precipitators or other methods will be permitted to control particulates in the work area. Sprinkling, to be efficient, must be repeated to keep the disturbed area damp at all times. The Contractor must have sufficient, competent equipment available to accomplish these tasks. Particulate control shall be performed as the work proceeds and whenever a particulate nuisance or hazard occurs.

#### **3.4.2 ODORS**

Odors from construction activities shall be controlled at all times. The odors shall not cause a health hazard.

#### **3.4.3 SOUND INTRUSIONS**

The Contractor shall keep construction activities under surveillance and control to minimize environment damage by noise.

#### **3.4.4 BURNING**

All areas within facility perimeter fence line are designated as no burn areas.

### **3.5 CHEMICAL MATERIALS MANAGEMENT AND WASTE DISPOSAL**

#### **3.5.1 CHEMICALS AND CHEMICAL WASTES**

Chemicals shall be dispensed ensuring no spillage to the ground or water. Periodic inspections of dispensing areas to identify leakage and initiate corrective action shall be performed and documented. This documentation will be periodically reviewed by the Government. Chemical waste shall be collected in corrosion resistant, compatible containers. Collection drums shall be monitored and removed to a staging

or storage area when contents are within 6 inches of the top. Wastes shall be classified, managed, stored, and disposed at an appropriate disposal site.

### **3.5.2 CONTRACTOR HAZARDOUS MATERIAL / GENERATED HAZARDOUS WASTES / EXCESS HAZARDOUS MATERIALS**

The Contractor shall, at a minimum, manage and store hazardous material and waste in an area designed and operated to provide appropriate segregation for different waste streams, including those that are chemically incompatible. Each area will have warning signs appropriate for the waste being accumulated at that site. Facilities or areas shall provide adequate ventilation, containment, and protection from the elements. Provide warning signs, limit access to the facility, and lock it when it is unattended. Contractor vehicles are not considered a proper storage facility. No HM or HW shall be stored in vehicles overnight or for any length of time. The Contractor shall take sufficient measures to prevent spillage or leakage of hazardous and toxic materials during dispensing or storage. The Contractor shall protect HM and HW from the weather by placing it in a safe covered location. The Contractor shall be responsible for storage, describing, packaging, labeling, and marking hazardous waste and hazardous material. Spills of hazardous or toxic materials shall be immediately reported to the Contracting Officer. Cleanup and cleanup costs due to spills shall be the Contractor's responsibility.

### **3.5.3 FUEL AND LUBRICANTS**

Storage, fueling and lubrication of equipment and motor vehicles shall be conducted in a manner that affords the maximum protection against spill and evaporation.

### **3.5.4 WASTE WATER**

Disposal of waste water shall be as specified below:

- a. Waste water from construction activities shall not be allowed to enter water ways or to be discharged prior to being treated to remove pollutants. The Contractor shall dispose of the construction related waste water off site, unless on-site disposal is approved by the Contracting Officers Representative.
- b. Water generated from the flushing of lines after decontamination or decontamination in conjunction with hydrostatic testing or only hydrostatic testing shall be discharged into the sanitary sewer with prior approval and/or notification to the Waste Water Treatment Plant's Operator.

### **3.6 HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES**

If during excavation or other construction activities any previously unidentified or unanticipated historical, archaeological, and cultural resources are discovered or found, all activities that may damage or alter such resources shall be temporarily suspended. Resources include but are not limited to: any human skeletal remains or burials; artifacts; shell, midden, bone, charcoal, or other deposits; rock or coral alignments, pavings, wall, or other constructed features; and any indication of agricultural or other human activities. Upon such discovery or find, the Contractor shall immediately notify the Contracting Officer so that the appropriate authorities may be notified and a determination made as to their significance and what, if any, special disposition of the finds should be made. The Contractor shall cease all activities that may result in impact to or the destruction of these resources. The Contractor shall secure the area and prevent employees or other persons from trespassing on, removing, or otherwise disturbing such resources.

### **3.7 BIOLOGICAL RESOURCES**

The Contractor shall minimize interference with, disturbance to, and damage to fish, wildlife, and plants including their habitat. The Contractor shall be responsible for the protection of threatened and endangered animal and plant species including their habitat in accordance with Afghanistan regulations.

**3.8 MAINTENANCE OF POLLUTION CONTROL**

The Contractor shall maintain permanent and temporary pollution control facilities and devices for the duration of the contract or for that length of time construction activities create the particular pollutant.

**3.9 POST CONSTRUCTION CLEANUP**

The Contractor shall clean up all areas used for construction in accordance with Contract Clause: "Cleaning Up". The Contractor shall, unless otherwise instructed in writing by the Contracting Officer, obliterate all signs of temporary construction facilities such as haul roads, work area, structures, foundations of temporary structures, stockpiles of excess or waste materials, and other vestiges of construction prior to final acceptance of the work. The disturbed area shall be graded, filled and the entire area restored to its original condition.

**3.10 ENVIRONMENTAL ASSESSMENT OF CONTRACT DEVIATIONS**

Any deviations, requested by the Contractor, from the drawings, plans and specifications which may have an environmental impact will be subject to approval by the Contracting Officer and may require an extended review, processing, and approval time. The Contracting Officer reserves the right to disapprove alternate methods, even if they are more cost effective, if the Contracting Officer determines that the proposed alternate method will have an adverse environmental impact.

**3.11 NOTIFICATION**

The Contracting Officer will notify the Contractor in writing of any observed noncompliance with environmental, natural and cultural resources, and historic preservation laws or regulations, permits, and other elements of the Contractor's Environmental Protection plan. The Contractor shall, after receipt of such notice, inform the Contracting Officer of the proposed corrective action and take such action when approved by the Contracting Officer. The Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No time extensions shall be granted or equitable adjustments allowed to the Contractor for any such suspensions.

**-- END OF SECTION --**

## **SECTION 01415**

### **METRIC MEASUREMENT**

#### **1. GENERAL**

This project includes metric units of measurements. The metric units used are the International System of Units (SI) developed and maintained by the General Conference on Weights and Measures (CGPM); the name International System of Units and the international abbreviation SI were adopted by the 11th CGPM in 1960. A number of circumstances require that both metric SI units and English inch-pound (I-P) units be included in a section of the specifications. When both metric and I-P measurements are included, the section may contain measurements for products that are manufactured to I-P dimensions and then expressed in mathematically converted metric value (soft metric) or, it may contain measurements for products that are manufactured to an industry recognized rounded metric (hard metric) dimensions but are allowed to be substituted by I-P products to comply with the law. Dual measurements are also included to indicate industry and/or Government standards, test values or other controlling factors, such as the code requirements where I-P values are needed for clarity or to trace back to the referenced standards, test values or codes.

#### **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 621	(1994; R 1999e1) Use of Metric (SI) Units in Building Design and Construction (Committee E-6 Supplement to E380)
ASTM SI 10	(2002) American National Standard for Use of the International System of Units (SI): The Modern Metric System

#### **2. PRODUCTS (NOT USED)**

#### **3. EXECUTION**

##### **3.1 USE OF MEASUREMENTS IN SPECIFICATIONS**

Measurements in specifications shall be either in SI or I-P units as indicated, except for soft metric measurements or as otherwise authorized. When only SI or I-P measurements are specified for a product, the product shall be procured in the specified units (SI or I-P) unless otherwise authorized by the Contracting Officer. The Contractor shall be responsible for all associated labor and materials when authorized to substitute one system of units for another and for the final assembly and performance of the specified work and/or products.

### **3.2 HARD METRIC**

A hard metric measurement is indicated by an SI value with no expressed correlation to an I-P value. Hard metric measurements are often used for field data such as distance from one point to another or distance above the floor. Products are considered to be hard metric when they are manufactured to metric dimensions or have an industry recognized metric designation.

### **3.3 SOFT METRIC**

- a. A soft metric measurement is indicated by an SI Value which is a mathematical conversion of the I-P Value shown in parentheses:

e.g. 38.1 mm (1-1/2 inches)

Soft metric measurements are used for measurements pertaining to products, test values, and other situations where the I-P units are the standard for manufacture, verification, or other controlling factor. The I-P Value shall govern while the metric measurement is provided for information.

- b. A soft metric measurement is also indicated for products that are manufactured in industry designated metric dimensions but are required by law to allow substitute I-P products. These measurements are indicated by a manufacturing hard metric product dimension followed by the substitute I-P equivalent value in parentheses:

e.g. 190 x 190 x 390 mm (7-5/8 x 7-5/8 x 15-5/8 inches)

### **3.4 NEUTRAL**

A neutral measurement is indicated by an identifier which has no expressed relation to either an SI or an I-P value:

e.g. American Wire Gage (AWG) which indicates thickness but in itself is neither SI nor I-P

### **3.5 COORDINATION**

Discrepancies, such as mismatches or product unavailability, arising from use of both metric and non-metric measurements and discrepancies between the measurements in the specifications and the measurements in the drawings shall be brought to the attention of the Contracting Officer for resolution.

### **3.6 RELATIONSHIP TO SUBMITTALS**

Submittals for Government approval or For Information Only shall cover the SI or I-P products actually being furnished for the project. The Contractor shall submit the required drawings and calculations in the same units used in the contract documents describing the product or requirement unless otherwise instructed or approved. The Contractor shall use ASTM SI 10 and ASTM E 621 as the basis for establishing metric measurements required to be used in submittals.

**-- END OF SECTION --**

## **SECTION 01451 CONTRACTOR QUALITY CONTROL**

### **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)

ER 1110-1-12 (1993)	Quality Management
EM 385-1-1	Safety and Health Requirements Manual

#### **1.2 PAYMENT**

Separate payment will not be made for providing and maintaining an effective Quality Control program. All associated costs are included in the applicable unit prices or lump-sum prices contained in the Bidding Schedule.

#### **1.3 GENERAL REQUIREMENTS**

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with the Contract and this specification section. The Quality Control System shall consist of plans, procedures, and organization necessary to produce an end product which complies with the contract requirements. The system shall cover all construction operations, both onsite and offsite, and shall be keyed to the proposed construction sequence.

The site project superintendent will be held responsible for the quality of work on the job and is subject to removal by the Contracting Officer for non-compliance with the quality requirements specified in the contract. The site project superintendent in this context shall be the highest level manager responsible for the overall construction activities at the site, including quality and production. The site project superintendent shall maintain a physical presence at the site at all times, except as otherwise acceptable to the Contracting Officer, and shall be responsible for all construction and construction related activities at the site.

#### **1.4 SUBMITTALS**

SD-01 Preconstruction Submittals

[Design Quality Control Plan; G, RO]

Contractor Quality Control Plan; G, RO

#### **1.5 QUALITY ASSURANCE**

##### **1.5.1 CQM TRAINING REQUIREMENTS**

Before construction begins, the Contractor's Quality Control Manager is required to have completed the U.S. Army Corps of Engineers (USACE) Construction Quality Management (CQM) course, or equivalent. The Champion Technical Training Center (CTTC) in Jalalabad and Kabul, Afghanistan provides a course that satisfies the requirement. Courses are offered at regular intervals. For enrollment and course information contact [WWW.CTTC-AF.ORG](http://WWW.CTTC-AF.ORG). Alternative CQM courses, other than those mentioned above, must be approved by the Quality Assurance Branch.

The Contractor's quality control plan, as defined in USACE Guide Specification 01451 (or 01 45 04.00 10), entitled "Contractor Quality Control", must include "The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function." For the QC Manager, qualifications must include a certificate demonstrating completion of an approved CQM course.

### **1.5.2 COORDINATION MEETING**

After the Pre-construction Conference, before start of construction, and prior to acceptance by the Government of the Quality Control Plan, the Contractor shall meet with the Contracting Officer or Authorized Representative and discuss the Contractor's quality control system. The CQC Plan shall be submitted for review a minimum of 5 calendar days prior to the Coordination Meeting. During the meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC operations, control activities, testing, administration of the system for both on-site and off-site work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting shall be prepared by the Government and signed by both the Contractor and the Contracting Officer. The minutes shall become a part of the contract file. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures, which may require corrective action by the Contractor.

## **2. PRODUCTS**

[Edit paragraphs below if design is/is not a part of the Contract.]

### **2.1 [DESIGN QUALITY CONTROL (DQC) PLAN]**

[The Contractor shall furnish for review by the Government, not later than five (5) days after receipt of Notice-to-Proceed (NTP) the proposed Design Quality Control (CQC) Plan. The plan shall identify personnel, procedures, control, instructions, records, and forms to be used. ]

### **2.2 CONTRACTOR QUALITY CONTROL (CQC) PLAN**

The Contractor shall furnish for review by the Government, not later than five (5) days after receipt of Notice-to-Proceed (NTP) the proposed Contractor Quality Control (CQC) Plan. The plan shall identify personnel, procedures, control, instructions, records, and forms to be used.

## **3. EXECUTION**

### **3.1 [REQUIREMENTS FOR DQC PLAN]**

- a. [The Contractor shall provide and maintain a Design Quality Control (DQC) Plan as an effective quality control program which will assure that all services required by this design contract are performed and provided in a manner that meets professional architectural and engineering quality standards. As a minimum, all documents shall be technically reviewed by competent, independent reviewers identified in the DQC Plan. The same element that produced the product shall not perform the independent technical review (ITR). The Contractor shall correct errors and deficiencies in the design documents prior to submitting them to the Government.
- b. The Contractor shall include the design schedule in the master project schedule, showing the sequence of events involved in carrying out the project design tasks within the specific contract period. This should be at a detailed level of scheduling sufficient to identify all major design tasks, including those that control the flow of work. The schedule shall include review and correction periods associated with each item. This should be a forward planning as well as a project monitoring tool. The schedule reflects calendar days and not dates for each activity. If the schedule is changed, the Contractor shall submit a revised schedule reflecting the change within 7 calendar days. The Contractor shall include in the DQC Plan the discipline-specific checklists to be used during the design and quality control of each submittal. These completed checklists shall be submitted at each

design phase as part of the project documentation. Example checklists can be found in ER 1110-1-12.

- c. The DQC Plan shall be implemented by a Design Quality Control Manager who has the responsibility of being cognizant of and assuring that all documents on the project have been coordinated. This individual shall be a person who has verifiable engineering or architectural design experience and is a registered professional engineer or architect. The Contractor shall notify the Contracting Officer, in writing, of the name of the individual, and the name of an alternate person assigned to the position.]

### **3.1.1 [ACCEPTANCE OF PLAN]**

[Acceptance of the Contractor's plan is required prior to the start of design. Acceptance is conditional and will be predicated on satisfactory performance during the design. The Government reserves the right to require the Contractor to make changes in the DQC plan and operations including removal of personnel, as necessary, to obtain the quality specified.

The Contracting Officer will notify the Contractor in writing of the acceptance of the DQC Plan. After acceptance, any changes proposed by the Contractor are subject to the acceptance of the Contracting Officer.]

### **3.2 REQUIREMENTS FOR CQC PLAN**

The CQC Plan shall include, as a minimum, the following to cover all construction operations, both on-site and off-site, including work by subcontractors, fabricators, suppliers and purchasing agents:

- a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff shall implement the three phase control system for all aspects of the work specified. The staff shall include a CQC System Manager who shall report to the project superintendent.
- b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.
- c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the contract. The CQC System Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities. Copies of these letters shall also be furnished to the Government.
- d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers, consultants, and purchasing agents. These procedures shall be in accordance with Section 01335 SUBMITTAL PROCEDURES.
- e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test.
- f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.
- g. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures shall establish verification that identified deficiencies have been corrected.
- h. Reporting procedures, including proposed reporting formats.
- i. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks, has separate control requirements, and may be identified by different trades or disciplines, or it may be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently more than one definable feature under a particular section. This list will be agreed upon during the coordination meeting.

### **3.2.1 ACCEPTANCE OF PLAN**

Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in the CQC plan and operations including removal of personnel, as necessary, to obtain the quality specified.

The Contracting Officer will notify the Contractor in writing of the acceptance of the CQC Plan. After acceptance, any changes proposed by the Contractor are subject to the acceptance of the Contracting Officer.

### **3.3 NOTIFICATION OF CHANGES**

After acceptance of the Quality Control plan(s), the Contractor shall notify the Contracting Officer in writing a minimum of seven calendar days prior to any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

### **3.4 QUALITY CONTROL ORGANIZATION**

#### **3.4.1 SITE PRESENCE**

The Contractor's CQC staff shall maintain a presence at the site at all times during progress of the work and have complete authority and responsibility to take any action necessary to ensure contract compliance.

#### **3.4.2 PERSONNEL REQUIREMENTS**

The Contractor shall provide a CQC System Manager and sufficient number of additional qualified personnel to ensure safety and contract compliance. Personnel identified in the technical provisions as requiring specialized skills to assure the required work is being performed properly is included as part of the CQC requirements. The CQC staff shall be subject to acceptance by the Contracting Officer.

The Contractor shall provide adequate office space, filing systems and other resources as necessary to maintain an effective and fully functional CQC organization. Complete records of all letters, material submittals, shop drawing submittals, schedules and all other project documentation shall be promptly furnished to the CQC organization by the Contractor. The CQC organization shall be responsible to maintain these documents and records at the site at all times, except as otherwise acceptable to the Contracting Officer.

#### **3.4.3 CQC SYSTEM MANAGER**

The Contractor shall identify an individual within his organization at the site of the work who shall be responsible for overall management of the CQC and have the authority to act in all CQC matters for the Contractor. The CQC system manager shall be a graduate engineer, graduate architect, or a graduate construction manager, with experience on construction projects similar in type to this contract OR a construction person with a minimum of ten (10) years in related work. The CQC System Manager shall be on the site at all times during construction and shall be employed by the Contractor. The CQC System Manager shall be assigned no other duties. An alternate for the CQC System Manager will be identified in the plan to serve in the event of the CQC system manager's absence. The requirements for the alternate will be the same as for the designated CQC manager.

#### **3.4.4 ADDITIONAL REQUIREMENT**

In addition to the above experience and/or education requirements, the CQC System Manager shall have completed the course entitled "Construction Quality Management For Contractors". This course is periodically offered by the government, and inquiries as to the next course offering may be directed to the local construction field office.

### **3.4.5 ORGANIZATIONAL CHANGES**

The Contractor shall maintain the CQC staff at full strength at all times. When it is necessary to make changes to the CQC staff, the Contractor shall revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

### **3.5 SUBMITTALS AND DELIVERABLES**

Submittals, if needed, shall be made as specified in Section 01335 SUBMITTAL PROCEDURES. The CQC organization shall be responsible for certifying that all submittals and deliverables are in compliance with the contract requirements.

### **3.6 THREE-PHASE CONTROL**

Contractor Quality Control is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least three phases of control shall be conducted by the CQC System Manager for each definable feature of the construction work as follows:

#### **3.6.1 PREPARATORY PHASE**

This phase shall be performed prior to beginning work on each definable feature of work, after all required documents and materials are approved/accepted, and after copies are at the work site. This phase shall include:

- a. A review of each paragraph of applicable specifications, reference codes, and standards. A copy of those sections of referenced codes and standards, in the English language unless specifically approved otherwise by the Contracting Officer, applicable to that portion of the work to be accomplished in the field shall be made available by the Contractor at the preparatory inspection. These copies shall be maintained in the field and available for use by Government personnel until final acceptance of the work.
- b. A review of the contract drawings.
- c. A check to assure that all materials and/or equipment have been tested, submitted, and approved.
- d. A check to assure that provisions have been made to provide required control inspection and testing.
- e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.
- f. A physical examination of required materials, equipment, and sample work to verify that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.
- g. Reviews of the appropriate activity hazard analysis to ensure safety requirements are met.
- h. Discussion of procedures for constructing the work including repetitive deficiencies, construction tolerances and workmanship standards for that feature of work.
- i. A check to ensure that the Contracting Officer has accepted the portion of the plan for the work to be performed.
- j. Discussion of the initial control phase.
- k. The Government shall be notified at least 24 hours in advance of beginning any of the required action of the preparatory phase. This phase shall include a meeting conducted by the CQC system manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. The results of the preparatory phase actions shall be documented by separate minutes prepared by the CQC system manager and attached to the daily QC report. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

### **3.6.2 INITIAL PHASE**

This phase shall be accomplished at the beginning of a definable feature of work. The following shall be accomplished:

- a. A check of preliminary work to ensure that it is in compliance with contract requirements. Review minutes of the preparatory meeting.
- b. Verification of full contract compliance. Verify required control inspection and testing.
- c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with sample panels as appropriate.
- d. Resolve all differences.
- e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.
- f. The Government shall be notified at least 24 hours in advance of beginning the initial phase. Separate minutes of this phase shall be prepared by the CQC system manager and attached to the daily QC report. Exact location of initial phase shall be indicated for future reference and comparison with follow-up phases.
- g. The initial phase should be repeated for each new crew to work on-site, or any time acceptable specified quality standards are not being met.

### **3.6.3 FOLLOW-UP PHASE**

Daily checks shall be performed to assure continuing compliance with contract requirements, including control testing, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted, and all noted deficiencies corrected, prior to the start of additional features of work that may be affected by the deficient work. The Contractor shall not build upon nor conceal non-conforming work.

### **3.6.4 ADDITIONAL PREPARATORY AND INITIAL PHASES**

Additional preparatory and initial phases may be required by the Contracting Officer on the same definable features of work if the quality of on-going work is unacceptable; if there are changes in the applicable QC staff or in the on-site production supervision or work crew; if work on a definable feature is resumed after a substantial period of inactivity; or if other problems develop.

## **3.7 TESTS**

### **3.7.1 TESTING PROCEDURE**

The Contractor shall perform tests specified or required to verify that control measures are adequate to provide a product that conforms to contract requirements. Upon request, the Contractor shall furnish to the Government duplicate samples of test specimens for possible testing by the Government. Costs incidental to the transportation of samples or materials shall be borne by the Contractor.

Testing includes operation and/or acceptance tests when specified. A list of tests to be performed shall be furnished as a part of the CQC plan. The list shall give the test name, frequency, specification paragraph containing the test requirements, the personnel and laboratory responsible for each type of test, and an estimate of the number of tests required. The Contractor shall perform the following activities and record and provide the following data:

- a. Verify that testing procedures comply with contract requirements.
- b. Verify that facilities and testing equipment are available and comply with testing standards.
- c. Check test instrument calibration data against certified standards.

- d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.
- e. Results of all tests taken, both passing and failing tests, shall be recorded on the Quality Control report for the date taken. Specification paragraph/item reference, location where tests were taken, and the sequential control number identifying the test will be given. Actual test reports may be submitted later, if approved by the Contracting Officer, with a reference to the test number and date taken. An information copy of tests performed by an off-site or commercial test facility will be provided directly to the Contracting Officer. Failure to submit timely test reports, as stated, may result in nonpayment for related work performed and disapproval of the test facility for this contract.

### **3.8 COMPLETION INSPECTION**

#### **3.8.1 PUNCH-OUT INSPECTION**

Near the end of the work, or any increment of the work established by a time stated in Section 01060 SPECIAL REQUIREMENTS or by the specifications, the CQC Manager shall conduct an inspection of the work. A punch list of items which do not conform to the approved drawings and specifications shall be prepared and included in the CQC documentation, as required by paragraph DOCUMENTATION. The list of deficiencies shall include the estimated date by which the deficiencies will be corrected. The CQC System Manager or staff shall make a second inspection 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.

#### **3.8.2 PRE-FINAL INSPECTION**

The Government will perform the pre-final 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 Contractor's CQC System Manager shall ensure that all items on this list have been corrected before notifying the Government, so 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. These inspections and any deficiency corrections required by this paragraph shall be accomplished within the time slated for completion of the entire work or any particular increment of the work if the project is divided into increments by separate completion dates.

#### **3.8.3 FINAL ACCEPTANCE INSPECTION**

The Contractor's Quality Control Inspection personnel, plus the superintendent or other primary management person, and the Contracting Officer's Representative shall be in attendance at the final acceptance inspection. Additional Government personnel including, but not limited to, those from Base/Post Civil Facility Engineer user groups, and major commands may also be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the Pre-Final inspection. Notice shall be given to the Contracting Officer at least 14 days prior to the final acceptance inspection and shall include the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the contract, will be complete and acceptable 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 Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with the contract clause titled "Inspection of Construction".

### **3.9 DOCUMENTATION**

The Contractor shall maintain current records providing factual evidence that required quality control activities and/or tests have been performed. These records shall include the work of subcontractors and suppliers and shall be on an acceptable form that includes, as a minimum, the following information:

- a. Contractor/subcontractor and their area of responsibility.
- b. Operating plant/equipment with hours worked, idle, or down for repair.

- c. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.
- d. Test and/or control activities performed with results and references to specifications/drawings requirements. The control phase shall be identified (Preparatory, Initial, Follow-up). List of deficiencies noted, along with corrective action.
- e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.
- f. Submittals and deliverables reviewed, with contract reference, by whom, and action taken.
- g. Offsite surveillance activities, including actions taken.
- h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.
- i. Instructions given/received and conflicts in plans and/or specifications.
- j. Contractor's verification statement.

These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one copy of these records in report form shall be furnished to the Government daily within forty-eight (48) hours after the date covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, one report shall be prepared and submitted for every 7 days of no work and on the last day of a no work period. All calendar days shall be accounted for throughout the life of the contract. The first report following a day of no work shall be for that day only. Reports shall be signed and dated by the CQC System Manager. The report from the CQC System Manager shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

### **3.10 SAMPLE FORMS**

In accordance with Section 01312 QUALITY CONTROL SYSTEM, the contractor shall use the forms produced by and printed from QCS. Samples of any forms required to meet the requirements of this section which are not produced by that system shall be included in the contractors Quality Control Plan.

### **3.11 NOTIFICATION OF NONCOMPLIANCE**

The Contracting Officer will notify the Contractor of any detected noncompliance 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 Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

**-- END OF SECTION --**

## SECTION 01525

### SAFETY AND OCCUPATIONAL HEALTH REQUIREMENTS

#### 1. GENERAL

For contractor safety on projects associated with this program, compliance with EM 385-1-1 safety requirements will be the long-term goal reached by growing a safety culture. This compliance will, by necessity, be achieved through a phased-in process. In the Commander's letter at the preface of the EM 385-1-1, he acknowledges that in OCONUS locations, strict compliance with the manual may not be possible – and through the hazard analysis process, safety measures can be developed to attain the same degree of safety.

#### 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 NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI A10.32	Personal Fall Protection - Safety Requirements for Construction and Demolition Operations
ANSI Z359.1 (1992; R 1999)	Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components
ASME B30.3 (1996)	Construction Tower Cranes

##### ASME INTERNATIONAL (ASME)

ASME B30.22 (2000)	Articulating Boom Cranes
ASME B30.5 (2004)	Mobile and Locomotive Cranes

##### NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 10 (2002)	Portable Fire Extinguishers
NFPA 241 (2000)	Safeguarding Construction, Alteration, and Demolition Operations
NFPA 51B (2003)	Fire Prevention During Welding, Cutting, and Other Hot Work
NFPA 70 (2005)	National Electrical Code
NFPA 70E (2004)	Electrical Safety in the Workplace

##### U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2008) Safety	Safety and Health Requirements
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U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910	Occupational Safety and Health Standards (OSHA)
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

**1.2 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.

**1.3 SUBMITTALS**

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. 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 01335 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Accident Prevention Plan (APP); G, District Safety Office

Activity Hazard Analysis (AHA); G, District Safety Office

Crane Critical Lift Plan; G, District Safety Office

Proof of qualification for Crane Operators; G, District Safety Office

UXO/Demining Safety Work Plan; G, District Safety Office

Demolition Plan; G, RO

SD-06 Test Reports

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

Accident Reports

Monthly Exposure Reports

Crane Reports

Regulatory Citations and Violations

SD-07 Certificates

Confined Space Entry Permit

Hot Work Permit

Contractor Safety Self-Evaluation Checklist; G, District Safety Office

UXO/Demining Clearance Certificate; G, District Safety Office

Certification of UXO clearance; where excavations are to be performed in areas known or suspected to contain explosives, unexploded munitions, or military ordnance, surface and subsurface clearance by qualified explosive ordnance disposal (EOD) personnel shall be accomplished prior to excavation work.

Clearance certificates must be forwarded to the AED-N UXO QA Safety specialist, prior to the start of construction. If the site does not have an associated clearance certificate, the site will require an UXO/mine clearance conducted to meet the certification of UXO clearance requirements EM 385-1-1 section 25.A.01.m.

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

### **1.3.1 SAFETY PLANS**

Before initiation of work at the job site, all Accident Prevention Plans, Demining plans, and any other safety related plans shall be reviewed by the AED-N Safety Office.

### **1.4 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. High Visibility Accident: Any mishap which may generate publicity and/or high visibility.
- c. 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.
- d. Qualified Person for Fall Protection: A person with a recognized degree or professional certificate, 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.
- e. 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.
- f. "USACE" property and equipment specified in USACE EM 385-1-1 should be interpreted as Government property and equipment.

## **1.5 QUALITY ASSURANCE**

### **1.5.1 PERSONNEL QUALIFICATIONS**

#### **1.5.1.1 SITE SAFETY AND HEALTH OFFICER (SSHO)**

Site Safety and Health Officer (SSHO) shall be provided at the work site at all times to perform safety and occupational health management, surveillance, inspections, and safety enforcement for the Contractor. The Contractor Quality Control (QC) person can only be the SSHO on this project if approved by the Contracting Officer. The SSHO shall meet the following requirements: A minimum of 1 year safety work on similar projects; 30-hour OSHA construction safety class or equivalent within the last 3 years. SSHO must be fluent in English and the local language for communication with the GDA. Competent person training as needed.

#### **1.5.1.2 COMPETENT PERSON FOR CONFINED SPACE ENTRY**

Provide a competent person meeting the requirements of EM 385-1-1 who is assigned in writing by the Government Designated Authority (GDA) to assess confined spaces and who possesses demonstrated knowledge, skill and ability to:

- a. Identify the structure, location, and designation of confined and permit-required confined spaces where work is done;
- b. Calibrate and use testing equipment including but not limited to, oxygen indicators, combustible gas indicators, carbon monoxide indicators, and carbon dioxide indicators, and to interpret accurately the test results of that equipment;
- c. Assess hazardous conditions including atmospheric hazards in confined space and adjacent spaces and specify the necessary protection and precautions to be taken;
- d. Determine ventilation requirements for confined space entries and operations;
- e. Assess hazards associated with hot work in confined and adjacent space and determine fire watch requirements; and
- f. Maintain records required.

#### **1.5.1.3 CRANE OPERATORS**

Crane operators shall meet the requirements in USACE EM 385-1-1, Section 16.B.

### **1.5.2 MEETINGS**

#### **1.5.2.1 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.

### **1.5.2.2 SAFETY MEETINGS**

Shall be conducted and documented as required by EM 385-1-1. Minutes showing contract title, signatures of attendees and a list of topics discussed shall be attached to the Contractors' daily quality control report.

## **2. PRODUCTS**

### **2.1 ACCIDENT PREVENTION PLAN (APP)**

- a. The Contractor shall use a qualified person to prepare the written site-specific APP in both English and in the host nation language. Prepare the APP in accordance with the format and requirements of USACE EM 385-1-1 and as supplemented herein. An AED Minimum Basic Outline for Contractor APP Template is provided at the end of this section. Cover all paragraph and subparagraph elements in USACE EM 385-1-1, Appendix A, "Minimum Basic Outline for Accident Prevention Plan."
- b. Specific requirements for some of the APP elements are described below. The APP shall be job-specific and shall 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. Any portions of the Contractor's overall safety and health program referenced in the APP shall be included in the applicable APP element and made site-specific.
- c. 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.
- d. In addition to following the requirements defined by EM 385-1-1, the Contractor shall submit for approval as part of the APP a DBA Insurance Plan describing how the requirements in Technical Specification Section 01060 Special Contract Requirements paragraph 2.11 will be met including:
  - 1. Properly and promptly submit an injury claim within seven days of the incident;
  - 2. Provide Resident/Area Engineer with copies of submitted claim;
  - 3. Gather contact information of workers and their family;
  - 4. Follow-up on the claim's status;
  - 5. Provide weekly claims report status to the Resident/Area Engineer;
  - 6. Provide prompt payment to an injured worker, or the family of a deceased worker; and
  - 7. Provide Resident / Area Engineer confirmation that payment has been provided from DBA Insurance provider.
- e. Submit the APP to the Contracting Officer 15 calendar days prior to the date of the preconstruction conference for acceptance. Work cannot proceed without an accepted APP.
- f. 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.
- g. 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. 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, and the environment.

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

## **2.2 EM 385-1-1 CONTENTS**

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

- a. Names and qualifications (resumes including education, training, experience and certifications) of all site safety and health personnel designated to perform work on this project to include the designated site safety and health officer and other competent and qualified personnel to be. The duties of each position shall be specified.
- 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, Section 34, 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. (If there is no confined space work, include a statement that no confined space work exists and none will be created.)
- 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; 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 EM 385-1-1, Section 16.T.
  - 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.
- 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. It shall 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. The plan shall 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. Fall Protection and Prevention Plan shall be revised every six months for lengthy projects, reflecting any changes during the course of construction due to changes in personnel, equipment, systems or work habits. The accepted Fall Protection and Prevention Plan shall be kept and maintained at the job site for the duration of the project. The Fall Protection and Prevention Plan shall be included in the Accident Prevention Plan (APP).

## **2.3 ACTIVITY HAZARD ANALYSIS (AHA)**

- a. The Activity Hazard Analysis (AHA) format shall be in accordance with USACE EM 385-1-1, and shall be written in both English and the host nation language. Submit the AHA for review at least 15 calendar days prior to the start of each phase and 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.

- b. 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.
- c. The activity hazard analyses shall be developed using the project schedule as the basis for the activities performed. Any activities 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.

## **2.4 REPORTS**

### **2.4.1 ACCIDENT REPORTS**

For recordable injuries and illnesses, and property damage accidents resulting in at least \$2,000 in damages, the Prime Contractor shall conduct an accident investigation to establish the root cause(s) of the accident, complete the USACE Accident Report Form 3394, and provide the report to the Contracting Officer within 5 calendar day(s) of the accident. The Contracting Officer will provide copies of any required or special forms.

### **2.4.2 ACCIDENT NOTIFICATION**

Notify the Contracting Officer as soon as practical, but not later than eight 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. Information shall 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.). For all Fatal accidents the contractor will preserve the conditions and evidence on the accident site until the Government investigation team arrives on-site and Government investigation is conducted. Notification to DBA insurance provider per Section 01060 is required also within 8 hours. Copies of these reports shall be furnished to the Contracting Officer.

### **2.4.3 MONTHLY EXPOSURE REPORTS**

Monthly exposure reporting to the Contracting Officer is required to be attached to the monthly billing request. This report is a compilation of employee-hours worked each month for all site workers, both prime and subcontractor. The Contracting Officer will provide copies of any special forms.

### **2.4.4 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.

## **2.5 HOT WORK**

Prior to performing "Hot Work" (welding, cutting, etc.) or operating other flame-producing/spark producing devices, a written permit shall be requested from the Installation. **CONTRACTORS ARE REQUIRED TO MEET ALL CRITERIA BEFORE A PERMIT IS ISSUED.** The Contractor will provide at least two (2) six kilogram ABC 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 fire fighting techniques and remain on-site for a minimum of 120 minutes after completion of the task or as specified on the hot work permit.

When starting work in the facility, Contractors shall require their personnel to familiarize themselves with the location of the nearest fire alarm boxes and place in memory the emergency phone numbers.

**ANY FIRE, NO MATTER HOW SMALL, SHALL BE REPORTED TO THE RESPONSIBLE FIRE DIVISION/DEPARTMENT IMMEDIATELY.**

### **3. EXECUTION**

#### **3.1 PERSONNEL DUTIES**

- a. The Site Safety and Health Officer (SSHO) and / or Superintendent shall perform the following duties as described herein:
  1. 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. Safety inspection logs shall be attached to the Contractors' daily quality control report.
  2. Conduct mishap investigations and complete required reports. Maintain an accident/injury log such as the OSHA Form 300 or host nation equivalent, and Daily Production reports for prime and sub-contractors.
  3. Be on site at all times while work is being performed.
  4. Attend the pre-construction conference, pre-work meetings including preparatory inspection meeting, and periodic in-progress meetings.
  5. Implement and enforce accepted APPS and AHAs.
  6. Maintain a safety and health deficiency tracking system that monitors outstanding deficiencies until resolution. A list of unresolved safety and health deficiencies shall be posted on the safety bulletin board.
  7. Ensure sub-contractor compliance with safety and health requirements.
- b. 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.

#### **3.2 TRAINING**

##### **3.2.1 NEW EMPLOYEE INDOCTRINATION**

New employees (prime and sub-contractor) will be informed of specific site hazards before they begin work. Documentation of this orientation shall be kept on file at the project site.

##### **3.2.2 PERIODIC TRAINING**

Provide Safety and Health Training in accordance with USACE EM 385-1-1 and the accepted APP. Ensure all required training has been accomplished for all onsite employees.

##### **3.2.3 TRAINING ON ACTIVITY HAZARD ANALYSIS (AHA)**

Prior to beginning a new phase, training will be provided to all affected

#### **3.3 DRUG PREVENTION PROGRAM**

Conduct a proactive drug and alcohol use prevention program for all workers, prime and subcontractor, on the site. Ensure that no employee uses illegal drugs or consumes alcohol during work hours. Ensure there are no employees under the influence of drugs or alcohol during work hours. After accidents, collect blood, urine, or saliva specimens and test the injured and involved employees for the influence of drugs and alcohol. A copy of the test shall be made available to the Contracting Officer upon request.

#### **3.4 DISPLAY OF SAFETY INFORMATION**

Within 1 calendar day after commencement of work, erect a safety bulletin board at the job site. The safety bulletin board shall include information and be maintained as required by EM 385-1-1, section 01.A.06.

### **3.5 SITE SAFETY REFERENCE MATERIALS**

Maintain safety-related references applicable to the project. Maintain applicable equipment manufacturer's manuals.

### **3.6 EMERGENCY MEDICAL TREATMENT**

Contractors will arrange for their own emergency medical treatment. The Government has no responsibility to provide emergency medical treatment. Military medical clinics may provide emergency treatment for serious injuries; the contractor is responsible for coordination with the local military medical clinic prior to mobilization.

### **3.7 CONSTRUCTION AND/OR OTHER WORK**

- a. Before initiation of work at the job site, an accident prevention plan, written by the Contractor for the specific work and hazards of the contract and implementing in detail the pertinent requirements of EM 385-1-1, will be reviewed and found acceptable by designated Government personnel. Specific requirements for development of the accident prevention plan are found in sections 01.A and Appendix A of EM 385-1-1.
- b. Before beginning each activity involving a type of work presenting hazards not experienced in previous project operations or where a new work crew or subcontractor is to perform the work, activity hazard analysis (AHA) shall be prepared by the Contractor performing the work activity. See paragraph 01.A.13 of EM 385-1-1.
- c. The Contractor shall require subcontractors to submit their plan of operations showing methods they propose to use in accomplishing major phases of work.
- d. The Contractor shall be prepared to discuss the plans in conferences convened by the Contracting Officer prior to starting work on each major phase of operation. Plans shall include all pertinent information such as layout of haul roads, access roads, storage areas, electrical distribution lines, methods of providing minimum exposure to overhead loads, and methods of access to work areas. The plan for accomplishing the initial work phase shall be submitted within 15 calendar days after award of the contract. Plans for subsequent major phases of work shall be submitted not later than 15 calendar days prior to initiation of work on each major phase.
- e. All areas where construction, demolition, alteration, building, or similarly related activities take place, all workers shall have the following minimum personal protective clothing and equipment:
  1. Short sleeve shirt;
  2. Long trousers;
  3. Steel-toed safety boots; and
  4. Hard hat.

#### **3.7.1 FALLING OBJECT PROTECTION**

All areas must be barricaded to safeguard employees. When working overhead, barricade the area below to prevent entry by unauthorized employees. Construction warning tape and signs shall be posted so they are clearly visible from all possible access points. When employees are working overhead all tools and equipment shall be secured so that they will not fall. When using guardrail as falling object protection, all openings shall be small enough to prevent passage of potential falling objects.

#### **3.7.2 HAZARDOUS MATERIAL USE**

Each hazardous material must receive approval 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. Any work or storage involving hazardous chemicals or materials must be done in a manner that will not expose Government or Contractor employees to any unsafe or unhealthful conditions. Adequate protective measures must be taken to prevent Government or Contractor employees from being exposed to any hazardous condition that could result from the work or storage. The Prime Contractor shall keep a complete inventory of hazardous materials brought onto the

work-site. Approval by the Contracting Officer of protective measures and storage area is required prior to the start of the work.

### **3.7.3 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-isocyanates, 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.

### **3.7.4 UNFORESEEN HAZARDOUS MATERIAL**

The design should have identified materials such as PCB, lead paint, and friable and non-friable asbestos. If 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 14 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."

### **3.8 FALL HAZARD PROTECTION AND PREVENTION PROGRAM**

The Contractor shall establish a fall protection and prevention program, for the protection of all employees exposed to fall hazards. The program shall 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.

#### **3.8.1 TRAINING**

The Contractor shall institute a fall protection training program. As part of the Fall Hazard Protection and Prevention Program, the Contractor shall provide training for each employee who might be exposed to fall hazards. A competent person for fall protection shall provide the training. Training requirements shall be in accordance with USACE EM 385-1-1, section 21.B.

#### **3.8.2 FALL PROTECTION EQUIPMENT**

The Contractor shall enforce use of the fall protection equipment designated for each specific work activity in the Fall Protection and Prevention Plan and/or AHA at all times when an employee is on a surface 1.8 m (6 feet) or more above lower levels. Fall protection systems such as guardrails, personnel fall arrest system, safety nets, etc., are required when working within 1.8m (6 feet) of any leading edge. Personal fall arrest systems are required when working from an articulating or extendible boom, swing stages, or suspended platform. In addition, Elevating Work Platforms/Scissors Lifts: Scissors lifts shall be equipped with standard guardrails. In addition to the guardrail provided, if the scissor lift is equipped with a manufactured anchorage, a restraint system shall be used in addition to guardrails. Lanyards used with the restraint system shall be sufficiently short to prohibit workers from climbing out of, or being ejected from, the platform.

##### **3.8.2.1 PERSONAL FALL ARREST EQUIPMENT**

Personal fall arrest equipment, systems, subsystems, and components shall meet ANSI Z359.1 or European Union equivalent. 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 carabiners 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.

### **3.8.3 FALL PROTECTION FOR ROOFING WORK**

Fall protection controls shall be implemented based on the type of roof being constructed and work being performed. The roof area to be accessed shall be evaluated for its structural integrity including weight-bearing capabilities for the projected loading.

#### **a. Low Sloped Roofs:**

1. For work within 1.8 m of an edge, on low-slope roofs, personnel shall be protected from falling by use of personal fall arrest systems, guardrails, or safety nets. A safety monitoring system is not adequate fall protection and is not authorized.
2. For work greater than 1.8 m from an edge, warning lines shall be erected and installed in accordance with USACE EM 385-1-1.

#### **b. Steep Sloped Roofs:** Work on steep-sloped roofs requires a personal fall arrest system, guardrails with toe-boards, or safety nets. This requirement also includes residential or housing type construction.

### **3.8.4 EXISTING ANCHORAGE**

Existing anchorages, to be used for attachment of personal fall arrest equipment, shall be certified (or re-certified) by a qualified person for fall protection in accordance with ANSI Z359.1 or European Union equivalent. Existing horizontal lifeline anchorages shall be certified (or re-certified) by a registered professional engineer with experience in designing horizontal lifeline systems.

### **3.8.5 HORIZONTAL LIFELINES**

Horizontal lifelines shall be designed, installed, certified and used under the supervision of a qualified person for fall protection as part of a complete fall arrest system which maintains a safety factor of 2.

### **3.8.6 GUARDRAILS AND SAFETY NETS**

Guardrails and safety nets shall be designed, installed and used in accordance with EM 385-1-1 or Host Nation requirements, whichever is more stringent.

### **3.8.7 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. A Rescue and Evacuation Plan shall be prepared by the contractor 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. The Rescue and Evacuation Plan shall be included in 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).

### **3.9 SCAFFOLDING**

Employees shall be provided 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 to scaffold platforms greater than 6 m in height shall be accessed by use of a scaffold stair system. Vertical ladders commonly provided by scaffold system manufacturers shall not be used for accessing scaffold platforms greater than 6 m in height. The use of an adequate gate is required. Contractor shall 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. Special care shall be given to ensure scaffold systems are not overloaded. Side brackets used to extend scaffold platforms on self-supported scaffold systems for the storage of material are prohibited. The first tie-in shall be at the height equal to 4 times the width of the smallest dimension of the scaffold base. Work

platforms shall be placed 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.

### **3.10 EQUIPMENT**

#### **3.10.1 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.
- c. Operators of forklifts or power industrial trucks shall be trained / licensed in accordance with Host Nation requirements.

#### **3.10.2 WEIGHT HANDLING EQUIPMENT**

- a. Cranes and derricks shall be equipped as specified in EM-385-1-1 section 16.
- b. The Contractor shall 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 Contractor shall comply with the crane manufacturer's specifications and limitations for erection and operation of cranes and hoists used in support of the work. Erection shall be performed under the supervision of a designated person. All testing shall be performed in accordance with the manufacturer's recommended procedures.
- d. Under no circumstance shall a Contractor make a lift at or above 90% of the cranes rated capacity in any configuration.
- e. When operating in the vicinity of overhead transmission lines, operators and riggers shall be alert to this special hazard and shall follow the requirements of USACE EM 385-1-1 section 11.
- f. Crane suspended personnel work platforms (baskets) shall not be used unless the Contractor proves to the satisfaction of the Contracting Officer that using any other access to the work location would provide a greater hazard to the workers or is impossible. Personnel shall not be lifted with a line hoist or friction crane.
- g. Portable fire extinguishers shall be inspected, maintained, and recharged.
- h. All employees shall be kept clear of loads about to be lifted and of suspended loads.
- i. The Contractor shall use cribbing when performing lifts on outriggers.
- j. The crane hook/block must be positioned directly over the load. Side loading of the crane is prohibited.
- k. A physical barricade must be positioned to prevent personnel from entering the counterweight swing (tail swing) area of the crane.
- l. 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.
- m. 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.
- n. Certify that all crane operators have been trained in proper use of all safety devices (e.g. anti-two block devices).

- o. 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 the contractor shall 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.

### **3.11 EXCAVATIONS**

The competent person for excavations performed as a result of contract work shall be on-site when excavation work is being performed, and shall inspect, and document the excavations daily prior to entry by workers. The competent person must evaluate all hazards, including atmospheric, that may be associated with the work, and shall have the resources necessary to correct hazards promptly. All excavations shall conform with the requirements of Section 25 of EM 385-1-1.

#### **3.11.1 UTILITY LOCATIONS**

Prior to any excavation, all underground utilities in the work area must be positively identified by the contractor utilizing a) a private utility locating service in addition to any station locating service, and/or b) a metal and/or cable-detecting device along the route of the excavation. All underground utilities discovered will be flagged a distance of one-half (1/2) meter on each side of the location, and any markings made during the utility investigation must be maintained throughout the contract.

Damage occurring to existing utilities, when the above procedures are not followed, will be repaired at the Contractor's expense.

#### **3.11.2 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 0.61 m (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 the utility shall be exposed by hand digging every 30.5 m (100 feet) if parallel within 1.5 m (5 feet) of the excavation.

#### **3.11.3 SHORING SYSTEMS**

Trench and shoring systems must be identified in the accepted safety plan and AHA. Manufacturer 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 shall have the registered professional engineer stamp, specifications, and tabulated data. Extreme care must be used when excavating near direct burial electric underground cables.

#### **3.11.4 TRENCHING MACHINERY**

Trenching machines with digging chain drives shall be operated only when the spotters/laborers are in plain view of the operator. Operator and spotters/laborers shall be provided 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. Documentation of the training shall be kept on file at the project site.

### **3.12 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 shall 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.

### **3.13 ELECTRICAL**

#### **3.13.1 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. Energized work may never be performed without prior authorization. An energized work permit shall be submitted to GDA for acceptance in accordance with 385-1-1, Section 11.A02.c. 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 shall 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.

#### **3.13.2 PORTABLE EXTENSION CORDS**

Portable extension cords shall be sized in accordance with manufacturer ratings for the tool to be powered and protected from damage. All damaged extension cords shall be immediately removed from service. Portable extension cords shall meet the requirements of NFPA 70 or European Union equivalent.

### **3.14 WORK IN CONFINED SPACES**

The Contractor shall comply with the requirements in Section 34 of USACE EM 385-1-1. 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. 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. Ventilation shall conform with the requirements of Section 06.G of 385-1-1.
- c. Ensure the use of rescue and retrieval devices in confined spaces greater than 1.5 m (5 feet) in depth. Conform to Section 34 of USACE EM 385-1-1.
- d. Sewer wet wells require continuous atmosphere monitoring with audible alarm for toxic gas detection.
- e. Include training information for employees who will be involved as entrants and attendants for the work. Conform to Section 34 of USACE EM 385-1-1.
- f. Daily Entry Permit. Post the permit in a conspicuous place close to the confined space entrance.

### **3.15 CRYSTALLINE SILICA**

Grinding, abrasive blasting, and foundry operations of construction materials containing crystalline silica, shall comply with USACE EM 385-1-1, Appendix 06.H. The Contractor shall develop and implement effective exposure control and elimination procedures to include dust control systems, engineering

controls, and establishment of work area boundaries, as well as medical surveillance, training, air monitoring, and personal protective equipment.

### **3.16 DEMOLITION**

#### **3.16.1 DEMOLITION PLAN**

The Contractor shall submit a written demolition plan for all demolition work to be carried on the site. In addition, the demolition plan shall be signed by a Professional Registered Engineer and meet the requirements of the Corps of Engineers Safety and Health Manual, EM 385-1-1, section 23. The demolition plan shall be submitted to the COR at least 1 week before the beginning of the work, including structural calculations for the demolition, if necessary. The demolition work shall not begin before the Contractor has received a written approval from the COR.

#### **3.16.2 PROTECTION OF PERSONNEL**

During 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 demolition 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 workers remove debris or perform other work in the immediate area.

#### **3.16.3 PROTECTION OF STRUCTURES**

Floors, roofs, walls, columns, pilasters, and other structural components that are designed 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 COR. The Contractor shall ensure that no elements determined to be unstable are left unsupported and shall be responsible for placing and securing bracing, shoring, or lateral supports as may be required as a result of any cutting, removal, or demolition work performed under this contract.

Interior concrete or masonry walls shall be demolished from the top down unless a Registered Engineer can demonstrate that an alternate method poses no additional safety hazards

### **3.17 CLEANING**

The Contractor shall be responsible for cleaning up. The Contractor shall require his personnel to keep the immediate work site clean of all dirt and debris resulting from work under this contract. Accumulated dirt and debris shall be hauled off and disposed of in accordance with local law and at least once a week by the Contractor. Additionally, all debris in work areas shall be cleaned up daily or more frequently if necessary. Construction debris may be temporarily located in an approved location; however garbage accumulation must be removed each day.

Stairwells used by the Contractor during execution of work shall be cleaned daily. Cloths, mops, and brushes containing combustible materials shall be disposed of or stored outside of the buildings in tight covered metal containers. Paints and thinners shall not be poured into inlets of the interior or exterior sewage system. Paint, stains, and other residues on adjacent surfaces or fixtures caused by the Contractor shall be carefully removed and cleaned to original finish. Upon completion of the work, the Contractor shall remove all construction equipment, materials and debris resulting from the work. The entire work site and the area used by Contractor personnel shall be left clean.

**-- END OF SECTION --**

**ATTACHMENT 01525a**

**AED NORTH ACCIDENT PREVENTION PLAN  
MINIMUM BASIC OUTLINE**

## AED NORTH ACCIDENT PREVENTION PLAN MINIMUM BASIC OUTLINE

### Instructions

A. The prime contractor will type-in the information called for or put a checkmark in the appropriate box or boxes. A checkmark will signify a) Prime’s selection from a list of items, b) Prime agrees with the corresponding information, c) Prime agrees to follow the requirement(s) listed herein and those contained in EM 385-1-1 dated 15 September 2008, and d) Prime agrees to develop written plans based on the requirements listed herein when required by this accident prevention plan.

B. The plan must consist of the following 10 sections:

<ol style="list-style-type: none"> <li>1. Signature Sheet</li> <li>2. Background Information</li> <li>3. Statement of Safety and Health Policy</li> <li>4. Responsibilities and Lines of Authority</li> <li>5. Subcontractors and Suppliers</li> </ol>	<ol style="list-style-type: none"> <li>6. Training</li> <li>7. Safety and Health Inspections</li> <li>8. Accident Reporting</li> <li>9. Plans (Programs, Procedures)</li> <li>10. Risk Management Processes (AHA – Activity Hazard Analysis)</li> </ol>
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C. In addition to completing each section listed above several sections require certain supporting documents (resumes, certificates of training, organization chart, specific plans (crane lift plan medical support plan, etc.). The supporting documents and plans must be attached / inserted in the appendices listed below.

Appendix	Title	Required Contents
A	Background Information	Area Map
B	Statement of Health Policy	Copy of signed company Safety Policy
C	Responsibilities and Lines of Authority	Resumes and Certificates of 30 hour Construction Safety Course for SSHO/Safety Manager
D	Responsibilities and Lines of Authority	1. Names / proof of competency / qualification (Resumes and certificates) for persons listed in Section 4.c.; 2. Organization Chart (with names) for Key Corporate and Project personnel; 3. Incentive Program.
E	Training	Trained Personnel Listing
F	Plans	Layout Plan
G	Plans	Emergency Response Plan
H	Plans	As Applicable
I	AHAs	AHA form for each feature of work

# 1. SIGNATURE SHEET

**a. Plan preparer** (Safety manager, site safety and health officer (SSHO), or quality control representative will fill this role).

<b>Name:</b>	<b>Title:</b>
<b>Phone no.:</b>	<b>Date:</b>
<b>Signature:</b>	

**b. Plan approval** (Company owner or Company / corporate officer authorized to obligate the company).

<b>Name:</b>	<b>Title:</b>
<b>Phone no.:</b>	<b>Date:</b>
<b>Signature:</b>	

**c. Plan concurrence** (e.g., Chief of Operations, Corporate Chief of Safety, Corporate Industrial Hygienist, project manager or superintendent, project safety professional, project QC).

<b>Name:</b>	<b>Title:</b>
<b>Phone no.:</b>	<b>Date:</b>
<b>Signature:</b>	

## 2. BACKGROUND INFORMATION

<b>Prime Contractor:</b>
<b>Project name:</b>
<b>Contractor:</b>
<b>Contract no.:</b>

**a. Project description and location.** Prime contractor will provide a brief description of the project to include its location.

**b.  A map of the project site general location and site plan – Insert in Appendix A.**

**c. Phases of work / Definable Features of Work.** (Examples: Grading, excavation, formwork & shoring, steel erection, etc). NOTE: Section 10 requires an AHA for each of these phases

### 3. STATEMENT OF SAFETY AND HEALTH POLICY

3.  **STATEMENT OF SAFETY AND HEALTH POLICY.** Provide a copy of the current corporate/company Safety and Health Policy Statement. The policy should include a detailed commitment to providing a safe and healthful workplace for all employees. The Contractor's written safety program goals, objectives, and accident experience goals for this contract shall also be incorporated. The prime contractor and his subcontractor(s) and supplier(s), and visitor(s), will comply with the policies set forth in EM 385-1-1 'Safety and Health Requirements Manual' dated 15 September 2008. Attach a copy of Company's Safety Policy at Appendix B.

a.  **Company goal.** Prime contractor will provide a safe and healthful worksite that is free from recognized or anticipated hazards that could cause serious injury or death. We will strive for a zero accident rate and demand zero tolerance for unsafe acts, the workers who perpetrate them, and persons in positions of leadership who condone such actions.

## 4. RESPONSIBILITIES AND LINES OF AUTHORITY

a.  **Resumes.** Prime contractor will provide resumes and training certificates for all safety personnel at Appendix C. At a minimum, the SSHO will have completed the OSHA 30 hour training and have one year experience.

b.  **Accountability for personnel responsible for safety.**

**Company owner will:**

- Accept responsibility and accountability for the safety program.
- Provide leadership and guidance to supervisory personnel for the acceptance, maintenance, and enforcement of the safety program.
- Provide the necessary resources to maintain a safe and healthful project site.
- Conduct or attend monthly supervisory safety meetings.

**Company owner name/phone no.**

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**Project manager (superintendent) will:**

- Implement the safety and health program at the project site.
- Conduct periodic project site inspections to verify accident prevention plan (APP) and EM 385-1-1 compliance.
- Review and act upon site safety and health inspection reports.
- Prepare man-hour reports, if applicable.
- Have authority to make spot corrections or stop work for safety purposes.
- Conduct or attend monthly supervisory safety meetings.
- Generate and/or sign ENG Form 3394 when required.

**Project manager name/phone no.**

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**Safety manager will:**

- Accept administrative and oversight responsibility for the project site safety program.
- Provide technical guidance and support to the project manager, SSHO, supervisors, and foremen on safety and health issues.
- Conduct periodic worksite visits to verify APP and EM 385-1-1 compliance.
- Prepare and/or approve Activity Hazard Analysis.
- Report observations and findings to the company owner.
- Purchase personal protective equipment (PPE) and safety supplies as necessary.
- Have authority to make spot corrections or stop work for safety purposes.
- Conduct or attend monthly supervisory safety meetings.
- Generate and/or sign ENG Form 3394 when required.

**Safety manager name/phone no.**

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**Site safety and health officer will:**

- Be on site at all times when work is performed.
- Conduct frequent worksite inspections to verify APP and EM 385-1-1 compliance.
- Maintain deficiency tracking system.
- Conduct or supervise on-site safety training.
- Investigate accidents and incidents as necessary.
- Purchase PPE and safety supplies as necessary.
- Have authority to make spot corrections or stop work for safety purposes.
- Conduct weekly employee safety meetings and attend monthly supervisory safety meetings.
- Generate and/or sign ENG Form 3394 when required.

**Site safety and health officer name/phone no.**

--

**Supervisors (foremen) will:**

- Cover appropriate activity hazard analysis before work begins.
- Conduct periodic project site inspections to verify APP and EM 385-1-1 compliance.
- Assist SSHO with accident and incident investigations.
- Have authority to make spot corrections or stop work for safety purposes.
- Conduct daily safety meetings with specific work crews.
- Conduct weekly employee safety meetings and attend monthly supervisory safety meetings.
- Generate and/or sign ENG Form 3394.

**Workers will:**

- Wear required PPE for each task.
- Inspect electrical cords daily before use.
- Inspect in-use hand and power tools daily before work begins. Guards will NOT be removed from tools equipped with guards.
- Inspect in-use machinery and mechanized equipment daily before work begins.
- Maintain good housekeeping at the worksite.
- Report accidents and incidents immediately to supervisor.
- Have authority to make spot corrections or stop work for safety purposes.
- Attend employee safety meetings.

**c.  Competent/Qualified Persons.**

- Provide the names and proof of competency/qualification of Competent/Qualified personnel. The District SOHO will review the qualifications for acceptance. Provide information at Appendix D.
- No work shall be performed unless the designated competent/qualified person is present on the job site.
- The Competent/Qualified person shall assist with the preparation of AHAs for their areas of expertise.

**d.  Lines of authority.** Provide Prime contractor lines of authority chart at Appendix D.

e.  **Incentive program.** Prime contractor will provide their incentive program, if any, at Appendix D.

f.  **Check the box if prime contractor will provide his own non-compliance program. If not, prime will put a check mark in paragraph's g and h.**

g.  **Worker non-compliance with safety requirements.** The commission of unsafe acts will not be tolerated at the project site. In the event this type behavior occurs the following disciplinary actions will be taken:

- **First offense.** The offending party will be verbally warned and asked to correct the unsafe act (mentoring will take place if necessary - action will be noted in the daily report).
- **Second offense.** The offending party will be issued a written reprimand (action will be noted in the daily report).
- **Third offense.** The offending party will be removed from the worksite (action will be noted in the daily report).

h.  **Supervisor non-compliance with safety requirements.** The condoning of unsafe acts at the worksite will not be tolerated. In the event this type behavior occurs the prime contractor will ensure disciplinary actions commensurate with the violation are taken.

## 5. SUBCONTRACTORS AND SUPPLIERS

a.  Check the box if there aren't any subcontractors or suppliers working the site.

b. **Identification of subcontractors and suppliers.** Prime contractor will list subcontractors and suppliers, if known, and their phone numbers.

Co:	Ph:

c.  **Means for controlling subcontractors and suppliers.** Prime contractor will meet with subcontractors and suppliers before work begins, and periodically thereafter, to coordinate activities and schedules, and to resolve any safety issues that may arise.

d.  **Subcontractor and supplier safety responsibilities.** Subcontractors and suppliers will adhere to the requirements of the prime contractor's APP. Prime contractor will have subcontractors and suppliers sign the accident prevention plan signifying their understanding of, and compliance with, its provisions.

### SUBCONTRACTOR AND SUPPLIER ACCEPTANCE OF ACCIDENT PREVENTION PLAN

Name:	Date:
Signature:	

Name:	Date:
Signature:	

Name:	Date:
Signature:	

Name:	Date:
Signature:	

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<b>Name:</b>	<b>Date:</b>
<b>Signature:</b>	

## 6. TRAINING

a.  **Safety indoctrination subjects.** Employees shall be provided with safety and health indoctrination training prior to the start of work as well as continuous safety and health training to enable them to perform their work in a safe manner. **All training, meetings, and indoctrinations shall be documented in writing by date, attendee signature/name, content, and trainer.**

- Personal protective equipment requirements for project site.
- Job hazards and the means to control/eliminate those hazards, including activity hazard analyses.
- Weekly (employees) and monthly (supervisors) safety meetings.
- Location of portable fire extinguishers.
- Location of first-aid kits.
- Identification of first-aid/CPR qualified personnel (if applicable).
- Location of emergency phone numbers.
- Location of the nearest on-site/off-site medical facility.
- Emergency plans for fires/spills.
- Accident notification and reporting procedures.
- Procedures for reporting and correcting unsafe conditions or practices.
- Current project site safety issues.

**Other safety indoctrination subjects:**

b. **Additional training applicable to the project.** The prime contractor will provide employee names working the job along with their years of ‘on-the-job’ experience in **Appendix E**.

- |   |   |
|---|---|
| <input type="checkbox"/> Abrasive blasting.                 | <input type="checkbox"/> Motor/all-terrain vehicles.          |
| <input type="checkbox"/> Blasting.                          | <input type="checkbox"/> Pneumatic tools.                     |
| <input type="checkbox"/> Compressed gas cylinders.          | <input type="checkbox"/> Portable fire extinguishers          |
| <input type="checkbox"/> Concrete/masonry.                  | <input type="checkbox"/> Powered industrial trucks            |
| <input type="checkbox"/> Crane hand signals                 | <input type="checkbox"/> Pressurized equipment/systems        |
| <input type="checkbox"/> Elevating work platforms.          | <input type="checkbox"/> Rotating work platform               |
| <input type="checkbox"/> Emergency response (fires/spills). | <input type="checkbox"/> Safe lifting techniques              |
| <input type="checkbox"/> Formwork/shoring.                  | <input type="checkbox"/> Steel erection                       |
| <input type="checkbox"/> Hand/power tools.                  | <input type="checkbox"/> Vehicle-mounted elevating platforms. |
| <input type="checkbox"/> Hazard communication.              | <input type="checkbox"/> Wearing/maintaining PPE.             |
| <input type="checkbox"/> Lockout/Tagout                     | <input type="checkbox"/> Welding/cutting.                     |

**Other training and certifications.**

--

**c. Weekly employee safety meetings.**

Project manager, safety manager, site safety and health officer, or supervisor will conduct employee safety meetings.

Prime contractor and subcontractor workers will attend employee safety meetings.

Day and time of employee safety meetings is listed below:

<b>Day:</b>	<b>Time:</b>
<b>Day:</b>	<b>Time:</b>

Meetings will be documented with facilitator and attendee names, date, and subjects discussed.

**d. Monthly supervisory safety meetings.**

Company owner, safety manager; or project manager will conduct supervisory safety meetings.

Prime contractor and subcontractor supervisors will attend supervisory safety meetings.

Day and time of supervisory safety meeting is listed below:

<b>Day:</b>	<b>Time:</b>
<b>Day:</b>	<b>Time:</b>

Meetings will be documented with facilitator and attendee names, date, and subjects discussed.

## 7. SAFETY AND HEALTH INSPECTION

a.  **Project site safety inspections.**

- Company safety manager (periodically).
- Project manager (periodically).
- Supervisors and foremen (periodically).
- Site safety and health officer (SSHO) (frequently).
- Quality control representative (daily).
- Employees will conduct project site inspections of electrical cords, in-use hand and power tools, and in-use machinery/mechanized equipment (daily).

b.  **Inspector qualifications.** Prime contractor will provide inspector qualifications for safety manager, SSHO, and quality control representative.

c.  **Deficiency log.** A deficiency log will be generated after inspections using the criteria listed below. Follow-up inspections will be performed to ensure identified deficiencies have been corrected.

- Date deficiency identified.
- Description of deficiency.
- Name of person responsible for correcting deficiency.
- Projected resolution date.
- Date actually resolved.

d. **External inspections.** Are external inspections or certifications required?  Yes  No

**If yes please explain.**

## 8. ACCIDENT REPORTING

a.  **Exposure data.** Man-hours worked will be reported input into the QCS system by the 25<sup>th</sup> of every month. If QCS is not used, an approved form may be used and submitted.

b.  **Accident notification.** Prime contractor will report accidents and incidents as soon as they happen to the contracting officer's representative (COR). The COR, in turn, will notify the AED Safety Office according to the notification information below. **For accidents and incidents that require immediate notification the prime contractor will seal-off the site and await for the AED board of investigation team.**

### **Immediate notification (telephonically).**

- Fatality.
- Permanent total disability.
- Permanent partial disability.
- Three or more persons admitted to a hospital.
- Property damage of \$200,000 damage or more.

**For all other accidents below, report as soon as possible but not more than 24-hours following the accident (telephonically and/or email).**

- Lost time (**Note:** Lost time is defined as any loss of time away from work beyond the day or shift on which it occurred).
- Property damage not less than \$2,000 but no greater than \$200,000.
- Treatment of medical injuries not resulting in lost time.

c.  **Accident recording.** Prime contractor will coordinate with the COR on forwarding the appropriate documents to the AED Safety Office.

**Reportable accident and incident requirements.** All accidents and incidents to include occupational injuries and illnesses that result in medical treatment with no lost time, and property damage of less than \$2,000, will be documented in an email and sent to the AED Safety Office within 24 hours.

**Recordable accident and incident requirements.** All accidents and incidents to include occupational injuries and illnesses that result in lost time (measured in days) or property damage of \$2,000 or more will be documented on ENG Form 3394 'U.S. Army Corps of Engineers Accident Investigation Report' dated March 1999 and submitted to the AED Safety Office within five (5) days of the occurrence.

## 9. PLANS (PROGRAMS, PROCEDURES)

**A. LAYOUT PLAN** – MUST INSERT IN APPENDIX F.

**B. EMERGENCY RESPONSE PLAN** – SEE APPENDIX G.

**C. MEDICAL SUPPORT.**

**a. General requirements.**

An effective means of communication (hard-wired, cellular, or two-way radio and tested in the area of use for functionality) with emergency response source access will be provided along with transportation for injured workers.

Telephone numbers of medical facilities, physicians, and ambulances will be conspicuously posted (at a minimum these numbers will be posted near project-office telephones).

A map showing the best route to the nearest medical facility will be conspicuously posted.

**Medical Facility Name:**

**Address:**

**Phone Number(s):**

**Distance to the nearest Medical Facility:**

**b. Type of medical support.** Mark one box to indicate the number of employees anticipated on site (less than 100; 99 to 300; or more than 300).

**Less than 100 persons employed on any one shift.** On sites with less than 100 workers, and where neither a first-aid station nor infirmary is available, prime contractor will provided a first-aid kit for every 25 persons. These kits will have latex gloves and a CPR shield.

**Location of first-aid kits.**

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**Trained first-aid/CPR employees.** Prime contractor will have at least two employees on each shift trained to administer first-aid/CPR when a medical facility or physician is not accessible within five minutes of an injury to a group of two or more employees. Provide training certificates or copy of certification card.

Employee Name:

Certification expiration date:

Employee Name:

Certification expiration date:

**More than 99 but less than 300 persons employed on any one shift.** On sites with more than 99 but less than 300 workers the prime contractor will establish and equip, as directed by a licensed physician, a first-aid station. Identification signs and directional markers will be used to denote the station's location. Emergency lighting will be provided and a first-aid attendant will be on duty at all hours when work is in progress.

**300 or more persons employed on any one shift.** On sites with 300 or more workers the prime contractor will establish and equip, as directed by a licensed physician, an infirmary. Identification signs and directional markers will be used to denote the infirmary's location and emergency lighting will be provided.

Infirmaries will provide reasonably quiet conditions with some privacy, lighting, climate control, adequate toilet facilities, hot and cold water, drainage, and electrical outlets. Walls and ceilings will be finished with two coats of white paint, windows and doors screened, and the floors made of impervious construction.

A properly-equipped emergency vehicle, helicopter, or mobile first-aid unit will be provided during work hours (the emergency vehicle will not be used for any other purpose). A registered nurse, licensed physician's assistant, certified emergency medical technician, or a licensed practical nurse (approval by a licensed physician) will be assigned on a full-time basis to each work site.

**D. PERSONAL PROTECTIVE EQUIPMENT (PPE).**

**a. General Requirements.**

Prime contractor will conduct hazard assessments to find out the type(s) of PPE required.

Prime contractor will ensure workers know how to put on, adjust, wear, remove, and use PPE. PPE will be inspected before each use, maintained in a serviceable and sanitary condition, and stored so the integrity of the equipment is protected. This training will be documented with the name of the facilitator/attendees, date, and subjects taught.

Damaged and defective equipment will not be used but rather marked 'out-of-service' and removed from the project site.

**b. PPE used on the project site.**

- Minimum required clothing.
- Hard hat.
- Safety glasses/goggles.
- Face shield.
- Ear plugs/muffs.
- Work gloves.
- Welding gloves.
- Steel-toed/hard-soled shoes.
- Welding helmet.

- Welding goggles.
- Welding hand-held shields.
- Full-body harness w/lanyard(s).
- Reflective vest.
- Dust mask.
- Half-face/full-face respirator.
- Life ring.
- 
-

**Other PPE used on the project site.**

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**E. OTHER PLANS: Must check if “YES” or NA (not applicable) for all listed plans. If you check “YES” then you must mark the box in section E.1 and insert your company plan at Appendix H when a written plan is required.**

PLAN NAME	YES	NA	PLAN NAME	YES	NA
Plan for prevention of alcohol and drug abuse (01.C.02)			Contingency plan for severe weather (19.A.03);		
Site sanitation plan (Section 02)			Float Plan (19.F.04);		
Access and haul road plan (4.B)			Site-Specific Fall Protection & Prevention Plan (21.C);		
Respiratory protection plan (05.G)			Demolition plan (to include engineering survey) (23.A.01);		
Health hazard control program (06.A)			Excavation/trenching plan (25.A.01);		
Hazard communication program (06.B.01)			Emergency rescue (tunneling) (26.A.);		
Lead abatement plan (06.B.05 & specifications);			Underground construction fire prevention and protection plan (26.D.01);		
Asbestos abatement plan (06.B.05 & specifications);			Compressed air plan (26.I.01);		
Safety Program (06.E.03.a);			Formwork and shoring erection and removal plans (27.C);		
Abrasive blasting (06.H.01);			PreCast Concrete Plan (27.D);		
Heat/Cold Stress Monitoring Plan (06.I.02)			Lift slab plans (27.E);		
Crystalline Silica Monitoring Plan (Assessment) (06.M) ;			Steel erection plan (27.F.01);		
Night operations lighting plan (07.A.08);			Site Safety and Health Plan for HTRW work (28.B);		
Fire Prevention Plan (09.A);			Blasting Safety Plan (29.A.01);		
Wild Land Fire Management Plan (09.K);			Diving plan (30.A.13);		
Hazardous energy control plan (12.A.01);			Confined space Program (34.A).		
Critical lift Plan (16.H);					

**Temporary facilities/layout plan (Section 4.A.01).**

**NA.**

**\*\*\*Written Company plan required**

**Emergency response plans for fires/spills (Section 01.E.01).**

**NA.**

**\*\*\*Written Company plan required.**

- Discuss escape procedures and routes.
- Designate critical project site operations and discuss how the operations will be protected.
- Discuss employee accountability procedures following an evacuation.
- Discuss employee roles in emergencies to include responsibilities and equipment used.
- Discuss the location of emergency contact information to include reporting procedures.

**Plan for Prevention of Alcohol and Drug Abuse (Section 01.C.02).**

**NA.**

**\*\*\*Written Company plan required**

**Site sanitation plan (Section 02.A).**

**NA.**

**No written plan required.**

- An adequate supply of drinking water (cool water during hot weather) will be provided.
- Portable drinking-water dispensers will have a tap – water will not be dipped. Dispensers will be clearly marked as “Drinking Water” and will be capable of being closed. Use of a common cup will be prohibited unless sanitized between uses.
- When sanitary sewers are not available porta-johns will be provided.
- Washing facilities will have running water, soap, and an individual means of drying (hand sanitizer will be used when running water is not practical).
- No food or beverage will be stored or consumed in a toilet room or in any area that is exposed to a toxic material.
- An adequate number of waste receptacles will be provided. Receptacles will have covers that fit tightly, be emptied at least daily, and be maintained in a sanitary condition.

**Access and haul roads plan (Section 04.B).**

**NA.**

**\*\*\*Written Company plan required.**

- Discuss equipment to be used on the road, traffic density, and the hours of operation.
- Discuss road layout and widths, horizontal and vertical curve data, and sight distances.
- Discuss sign and signalperson requirements, road markings, and traffic-control devices.
- Discuss how drainage will be controlled.

- Outline contact between vehicles and the public to include implementing safety controls at each one of these places.
- Discuss the maintenance needed to keep the roads hard, smooth, and as dust-free as possible.

**Respiratory protection plan (Section 05.G).**

**NA.**

**\*\*\*Written Company plan required.**

- Discuss the use of dust masks to protect workers from large particulate matter.
- Discuss the use of half-faced respirators to protect workers from small particulate matter to include fumes, mists, and aerosols.
- Discuss sealing a half-face respirator properly.
- Discuss cleaning a half-faced respirator properly
- Discuss inspecting and storing a half-face respirator properly.

**Health hazard and control plan (Section 06.A).**

**NA.**

**\*\*\*An activity hazard analysis (AHA) will be completed for each applicable area.**

- Discuss hazardous substances.
- Discuss hot substances (heating devices and melting kettles).
- Discuss harmful plants, animals, and insects.
- Discuss ionizing radiation.
- Discuss the use of lasers.
- Discuss ventilation and exhaust systems.

**Hazard communication plan (Section 06.B.01).**

**NA.**

**\*\*\*Written Company plan required.**

- A current inventory of project site hazardous chemicals will be prepared.
- Material safety data sheets for hazardous substances will be kept at the project site.
- Containers will be labeled with the type of hazardous substance they contain.
- Workers will be notified about new substances that are brought onto the worksite to include the hazards associated with them.

**Lead Abatement Plan (Section 06.B.05).**

**NA.**

**\*\*\*Written Company plan required.**

**Asbestos Abatement Plan (Section 06.B.05).**

**NA.**

**\*\*\*Written Company plan required.**

**Confined space plan (Section 34.A.).**

**NA.**

**\*\*\*Written Company plan required.**

- Discuss responsibilities of attendants, entrants, and entry supervisors.
- Train workers how testing and monitoring equipment is used.
- Discuss the type of ventilating equipment needed to obtain acceptable entry conditions.
- Discuss the type of communication equipment to be used.
- Discuss the PPE to be used when engineering and/or administrative controls fail to protect workers adequately.
- Discuss the lighting equipment to be used.
- Discuss the equipment to be used for entrant ingress and egress.
- Discuss rescue procedures to include required equipment and emergency phone numbers.

**Hazardous energy control plan (Section 12.A.12).**

**NA.**

**\*\*\*Written Company plan required.**

- Discuss why the lock out/tag out procedure is being used.
- Communicate and coordinate the lockout/tagout procedure with the workers being affected by the procedure and the government's designated authority.
- Discuss the procedural steps in place for shutting down, isolating, blocking, and securing systems to control the release of hazardous energy to include the person(s) responsible for performing this task.
- Discuss the procedural steps in place for placing, removing, and transferring lockout/tagout devices to include the person(s) responsible for performing this task.
- Discuss the procedural steps in place for placing and removing locks and/or tags to include the person(s) responsible for performing this task.
- Discuss the procedures for testing the effectiveness of isolating hazardous energy to include lockout/tagout.
- Discuss emergency scenarios that could arise during the lockout/tagout procedure to include the actions to be taken for safely responding to an emergency.
- Discuss the procedure for transferring removal authority from one person to another.

**Critical lift plan (Section 16.H.02).**

**NA.**

**\*\*\*Written Company plan required.**

- Designate a crane operator, lift supervisor, and rigger (and state their qualifications).
- Describe ground conditions and outrigger and crawler track requirements.
- Discuss crane position, height of the lift, load radius, and boom angle and length for the entire range of the lift.

- Discuss the size and weight of the load to include any crane and rigging components that add to the weight.
- Discuss the rigging plan to include lift points, hardware requirements, and procedures.
- Discuss coordination of the lift and how individual players will communicate with each other.
- Discuss tandem and tailing-crane lift procedures, if applicable.
- Describe environmental conditions which, when in effect, will stop the lift.

**Demolition plan (Section 23.A.01).**

**NA.**

**\*\*\*Written Company plan required.**

- A demolition plan based on engineering, lead, and asbestos surveys will be prepared.
- Utilities and other service lines will be shut-off, capped, or otherwise controlled outside the building line.
- Service lines will be temporarily relocated and protected if utilities are maintained.
- If hazardous building materials and chemicals, flammable materials, explosives, gases, or other dangerous substances have been used in building construction, pipes, tanks, or other equipment on the property they will be controlled or eliminated before demolition begins.
- Glass fragmentation will be controlled.
- Mechanical equipment will not be used on floors or other working surfaces unless the floors and surfaces are of sufficient strength to support the loads.
- Chute openings will be protected by a guardrail 42” in height. When debris is dropped through floor openings without chutes, the openings and the area onto which the material is dropped will be enclosed with barricades not less than 42” in height and not less than 6’ back from the protected edge of the opening above. Signs warning of the fall-material hazard will be posted at each side of the debris opening at each floor.
- No wall section more than 6’ in height will stand without lateral bracing unless the wall was designed and constructed to stand without this support and its condition is determined safe enough to be self-supporting.
- Workers will not be allowed in the area directly underneath floor arches when they’re being removed. The area will be barricaded to prevent access and signed to warn of the hazard.
- Steel construction will be dismantled column-by-column and tier-by-tier (columns may be in two-story lengths).

**Compressed air and gas systems plan (Section 20.B).**

**NA.**

**No written plan required.**

- Compressors and related equipment will be located so safe access is provided to all parts of the equipment for operation, maintenance, and repairs.
- Air hose, pipes, valves, filters, and other fittings will be pressure-rated by the manufacturer and not exceeded. Defective hose will be removed from service.
- Hose will not be laid over walkways, steps, ladders, and scaffolds to create a tripping hazard.
- Compressed air will not be used to blow dirt from the hands, face, or clothing.
- A speed governor independent of the unloaders will be installed on air compressors except those driven electrical induction or electrical synchronized motors.
- Piping will be equipped with traps or other means for removing liquid from the lines.
- Air receivers will be installed so that all drains, hand holes, and manholes are accessible.

**Formwork/shoring (Section 27.C.02.b).**

**NA.**

**\*\*\*Written Company plan required.**

- Formwork, shoring, and bracing will be erected and maintained to safety support all vertical and lateral loads that might be applied until such loads can be supported by the structure.
- Sills will be sound, rigid, and capable of carrying the maximum intended load.
- Base plates, shore heads, extension devices, or adjustment screws will be in firm contact with the sill and form material and, as applicable, will be snug against the posts.
- Diagonal bracing will be provided in vertical and horizontal planes to provide stiffness and to prevent buckling of the individual members.
- Forms and shores (except those on slab or grade and slip forms) will not be removed until the concrete has gained sufficient strength to support its weight and all superimposed loads.

**Lift-Slab Operations (Jacking plan) (Section 27.E).**

**NA.**

**\*\*\*Written Company plan required.**

- Manufacturer's rated capacity will be legibly marked on all jacks and not exceeded.
- Jacks will be designed and installed so they won't continue to lift when overloaded.
- Jacks will have a positive stop to prevent over-travel.
- Base of the jack will be blocked or cribbed. If there's a possibility of slippage a wood block will be placed between the jack's metal cap and the load.
- Maximum number of manually-controlled jacks on one slab will be limited to 14.
- During lifting all point of the slab support will be kept within ½" of that needed to maintain the slab in a level position.
- No one will be permitted under the slab during jacking operations.

**Personal Fall Protection Program (Section 21.C.01).**

**NA.**

**\*\*\*Written plan required.**

- Workers will be protected by guardrail, personal fall protection, safety nets, catch platforms, or temporary floors in the following situations: Worker can fall 6' or more; on access ways or work platforms over water, machinery, or dangerous operations; on runways where workers can fall 4' or more; and on all exposed sides of stairways and ladder-floor openings.
- Top rails, mid rails, and toe boards will be able to withstand outward and downward forces of 200, 150, and 50 lbs., respectively.
- Wire rope can be used as a top or mid rail under the following conditions: When the posts are spaced no farther than 8"; deflection of the rope under 200 lbs. of force is less than 3"; and the rope is flagged for visibility. Synthetic and natural-fiber rope will not be used.
- Paneling and screening will be in place from the mid rail to the toe board when material is piled higher than the toe board.
- Personal fall protection will consist of a full-body harness (not chest-wait units or body belts), lifeline, and anchorage point.

- Two lanyards will be used when vertical movement is required and when a horizontal lifeline is inappropriate.
- Anchorages capable of supporting 5,000 lbs. per worker will be independent of anchorages used to support or suspend platforms. Lifelines will not be attached to guardrails or hoists but rather to the structure.
- Floor holes will be covered completely and securely. If the cover to an open hole is missing the hole will be barricaded with a guardrail. Workers laboring by wall openings 6' or more above a lower level will be protected by a guardrail or personal fall protection.
- Roofers will be protected by the following forms of fall protection: Guardrails; personal fall protection; a warning line 6' from the roof's edge, or a safety-monitoring system.
- Excavations will be guarded when they are 6' or more in depth and not readily seen because of plant growth or other visual barriers.

**Steel Erection Plan (Section 27.F).**

**NA.**

**\*\*\*Written Company plan required.**

**Night operations lighting plan (Section 7.A.08).**

**NA.**

**\*\*\*Written Company plan required.**

**Fire Prevention Plan (Section 09.A).**

**NA.**

**\*\*\*Written Company plan required.**

- Discuss the major worksite fire hazards to include potential ignition sources.
- Describe the types of fire-suppression systems to be used (portable fire extinguishers, ect.).
- Discuss employee responsibilities for maintaining the fire-prevention equipment and systems.
- Discuss employee responsibilities for controlling fuel-source hazards.
- Discuss housekeeping procedures to include the removal of waste materials.

**Excavations (Section 25.A ).**

**NA.**

**\*\*\*Written Company plan and AHA required for excavations or trenches greater than 5 ft (1.5 m) in depth. For excavations or trenches less than 5 ft (1.5 m) in depth, An AHA is required but plan is optional.**

- Workers will not labor in excavations in which there is accumulated water or where water is accumulating until the water hazard is controlled.
- Shoring will be used for unstable soil or depths greater than 5' unless benching, lay-back, or another acceptable plan can be implemented.
- In excavations less than 20' in depth the maximum slope will be 34 degrees measured from horizontal (1 1/2' horizontal to 1' vertical).
- Excavations will not go below adjacent structures unless they are underpinned or determined safe by a registered professional engineer.
- Excavated material will be placed a minimum of 2' from the excavation's edge.

- Stairs, ramps, or ladders will be provided to workers who are required to enter excavations greater than 4' in depth. This equipment will be located so no more than 25' of lateral travel is required to escape the excavation.
- Ladders will extend 3' past the excavation's edge.
- Personal access ramps will be 4' wide with guardrails while equipment ramps will be 12' wide with curbs of 8" X 8" timbers or equivalent.
- Protection for excavations exposed to the public will meet guardrail requirements while protection against vehicles will be able to withstand the impact forces with traffic.
- Excavations 6' or more in depth, or where workers are routinely exposed to a hazard (impalement or hazardous material), will have a barricade no closer to the edge than 6' with a warning (tape, flags, act.) located 3-4' above the ground.
- Excavations less than 6' in depth will have a barricade no closer than 6"/no farther than 6'.

**Scaffolds (Section 21.J.01, 21.J.02 on page 509 and 22.A and 22.B).**

**NA.**

**No written plan required (included as part of the Fall Protection Plan).**

- Scaffolds will be level and plumb and erected with base plates upon mudsills or other adequate foundation. Rolling scaffolds will have wheels locked and/or outriggers secured in place.
- Work near overhead power lines will not commence until a survey is made to ascertain a safe clearance distance from the lines. Scaffolds will not be erected or used near power lines until the lines are insulated, de-energized, or rendered safe.
- Scaffolds and their components will be capable of supporting four times the maximum anticipated load. If a scaffold's height is more than four times the minimum base dimension (to include the width added by outriggers) it will be secured to the wall or structure.
- Guardrails will be installed on open sides and ends.
- Platforms will be a minimum of 18" in width and extend over their end supports by at least 6" but no more than 12" unless cleated or restrained by hooks or equivalent means. Platforms will overlap over supports by a minimum of 12" unless nailed together or restrained from movement.
- Platform area will be fully-planked with no greater than 1" gaps between adjacent platforms, and platforms and uprights.
- Scaffold access will be from ladders (bottom rung no greater than 24" in height), stair towers, ramps, and walkways but not from cross-braces.
- If a worker can fall 6' or more to a lower level they will be protected by a guardrail or a full-body harness with lifeline and anchorage point.

**Machinery/mechanized equipment (Section 18.G).**

**NA.**

**No written plan required.**

- Before machinery and mechanized equipment is placed into service it will be inspected and certified as safe by a competent person.
- Front-end loaders, bulldozers, backhoes, cranes, and similar equipment will have at least one dry chemical or CO2 portable fire extinguisher on-board with a minimum rating of 5-B:C.
- Self-propelled construction equipment will have a reverse signal alarm.

- Belts, gears, chains, shafts, pulleys, drums, and other rotating and moving equipment parts will be guarded when exposed to contact by persons or when they otherwise create a hazard.
- Crane will operate at least 10' away from overhead power lines.
- An operating manual, log book, load chart, and document detailing operating limits in windy or cold weather conditions will be in the cab when the crane is operating.
- Crane will be within one degree of level and outriggers fully-extended when in use. Wheels will be off the ground at every setting.
- Crane outrigger floats will be securely attached. Float blocking will be of sufficient size and stability to support the total area. Blocking will not be performed under the outrigger beams.
- Crane's rear swing radius will be barricaded.
- Riding on or standing under loads is prohibited.

**Electrical (Section 11).**

**NA.**

**\*\*\*A sketch of proposed temporary power distribution system shall be submitted. No written plan required.**

- Electrical work shall be performed by Qualified Personnel with verifiable credentials.
- An AHA and written work procedures must be prepared for unusual or complicated work activities or any activity identified by the Qualified Person.
- Work activity adjacent to energized overhead power lines will not be initiated until a survey has been made to ascertain the safe clearance distance from the lines.
- Whenever possible, all circuits and equipment will be de-energized before work is started and personnel protected by lockout/tagout and clearance procedures, and grounding.
- Live parts of wiring or equipment will be guarded.
- Transformer banks and high-voltage equipment will be protected against unauthorized access and those entrances not under constant observation will be kept locked. Metallic enclosures will be grounded and signs warning of high voltage and prohibiting unauthorized entrance posted.
- Flexible cords will be inspected by the user daily. Cord sets used on construction sites or in damp locations will contain an equipment ground wire and have a plug attached.
- Flexible cords will be protected from damage caused by vehicles, foot traffic, sharp corners, and pinching. Cords passing through holes will be protected by suitable means.
- Flexible cords will only be used in continuous lengths. Cords No. 12 or larger may be used with a splice if the splice is made by a qualified electrician, the insulation is equal to the cord being spliced, and the wire connections are soldered. No wire nuts will be used.
- Flexible cords and cables will not be secured by staples or hung from nails or bare wire.
- Enclosures containing over-current protective devices will be provided with lockable, close-fitting doors. Circuit-breakers, switches, fuse panels, and motor controllers located out-of-doors or in wet locations will be contained in weatherproof enclosures or cabinets. When receptacles are used in wet locations they will be contained in a weatherproof enclosure the integrity of which is not affected when a plug is inserted.
- All electrical circuits will be grounded.
- Portable and semi-portable electrical tools and equipment will be grounded by a multi-conductor cord having a polarized plug with a grounding conductor. Double-insulated tools do not have to be grounded.
- Grounding rods with pipe electrodes will be used in 8' lengths and driven to full depth.
- Temporary lights will not be suspended by their electric wire unless designed for suspension.

- Bulbs attached to temporary lighting strings and extension cords will be protected by guards. Empty light sockets (broken bulbs, ect.) will be immediately filled.
- All receptacle outlets that provide temporary electrical power during construction or demolition shall have GFCI protection.

## **10. RISK MANAGEMENT PROCESS (AHA – ACTIVITY HAZARD ANALYSIS)**

**For each major phase/activity of work an Activity Hazard Analysis shall be provided detailing project-specific work sequences, the specific anticipated hazards, control measures to be implemented to eliminate or reduce each hazard, the equipment to be used, inspection requirements, and required training.**

**Work shall not begin until the AHA for the work activity has been accepted by the COR or Safety Office and discussed with all engaged in the activity including the contractor and subcontractor(s) .**

**The names of the Competent/Qualified Person(s) required for a particular activity shall be identified and included in the AHA.**

**The AHA shall be reviewed and modified as necessary to address changing site conditions, operations, or change of competent/qualified personnel.**

**Attach AHAs for the first three features of work to Appendix I.**

<b>ACTIVITY HAZARD ANALYSIS</b>		
<b>ID No.</b>	<b>FEATURE OF WORK:</b>	
<b>Contract No.</b>	<b>Project:</b>	<b>Location:</b>
<b>Date:</b>	<b>Activity:</b>	<b>Estimated Start Date:</b>
PRINCIPAL STEPS	POTENTIAL SAFETY/HEALTH HAZARDS	RECOMMENDED CONTROLS
<i>Identify the principal steps involved and the sequence of work activities.</i>	<i>Analyze each principal step for potential hazards.</i>	<i>Develop specific controls to eliminate or reduce each hazard to an acceptable level of risk.</i>
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
<i>List equipment to be used in the work activity.</i>	<i>List inspection requirements for the work activity.</i>	<i>List training requirements, include hazard communication.</i>
<b>Prepared by: Contractor's competent/qualified person(s) (Signature &amp; Date)</b>		
<input type="checkbox"/> - AHA Accepted as Part of project Accident Prevention Plan; or  <input type="checkbox"/> - This AHA has been reviewed by the designated AED COR and is acceptable for use on this project. This acceptance is predicated on satisfactory implementation in the field by the contractor and will be rescinded if the contractor fails to enforce the controls identified in this document and/or the requirements identified in EM385-1-1. This AHA will be reviewed and modified as necessary to address changing site conditions, operations, or change of competent/qualified person(s).		<b>Name, COR (Signature &amp; Date)</b>

# **APPENDIX A**

## **SITE MAP**

## **APPENDIX B.**

# **STATEMENT OF SAFETY AND HEALTH POLICY**

**APPENDIX C.**

**RESPONSIBILITIES AND LINES OF  
AUTHORITY**

**Resumes and Training Certificates  
Of Safety Personnel**

## **APPENDIX D.**

### **RESPONSIBILITIES AND LINES OF AUTHORITY**

**1. Proof of competency / qualification (Resumes and certificates) for Competent/Qualified persons listed below.**

**2. Organization Chart (with names) for Key Corporate and Project personnel.**

**3. Corporate/Company Incentive Program and/or Worker Non-Compliance Program (if not using generic option).**

Confined space.

<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>

Cranes/derricks.

<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>

**Electrical.**

<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>

**Excavations.**

<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>

**Explosive-actuated tools.**

<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>

**Fall Protection.**

<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>

**Machinery/mechanized equipment.**

<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>

**Respiratory Protection**

<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>

**Rigging**

<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>

**Scaffolding.**

<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>
<b>Name:</b>	<b>Training:</b>

# APPENDIX E.

## TRAINING

### SPECIFIC WORKER TRAINING

#### Abrasive blasting.

<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>

#### Blasting.

<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>

#### Compressed gas cylinders.

<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>

#### Concrete/Masonry

<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>

**Crane Hand Signals**

<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>

**Elevating Work Platforms**

<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>

**Emergency Response**

<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>

**Formwork/Shoring**

<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>

**Hand/Power Tools**

<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>

**Hazard Communication**

<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>

**Hazardous Waste**

<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>

**Lockout/tagout.**

<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>

**Motor/all-terrain vehicles**

<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>

**Pneumatic tools**

<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>

**Portable Fire Extinguishers**

<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>

**Powered Industrial Trucks**

<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>

**Pressurized Equipment/systems**

<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>

**Rotating Work Platform**

<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>

**Safe Lifting Techniques**

<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>

**Steel Erection**

<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>

**Vehicle-Mounted Elevating Platforms**

<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>

**Wearing/Maintaining PPE**

<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>

**Welding/cutting**

<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>
<b>Name:</b>	<b>Years of Experience:</b>

**APPENDIX F.**  
**LAYOUT PLAN**

**APPENDIX G.**

**EMERGENCY RESPONSE PLAN**

# **APPENDIX H.**

## **REQUIRED WRITTEN PLANS**

# **APPENDIX I.**

## **RISK MANAGEMENT PROCESSES (AHA – ACTIVITY HAZARD ANALYSIS)**

### ACTIVITY HAZARD ANALYSIS

<b>ID No.</b>	<b>FEATURE OF WORK:</b>	
<b>Contract No.</b>	<b>Project:</b>	<b>Location:</b>
<b>Date:</b>	<b>Activity:</b>	<b>Estimated Start Date:</b>
<b>PRINCIPAL STEPS</b>	<b>POTENTIAL SAFETY/HEALTH HAZARDS</b>	<b>RECOMMENDED CONTROLS</b>
<i>Identify the principal steps involved and the sequence of work activities.</i>	<i>Analyze each principal step for potential hazards.</i>	<i>Develop specific controls to eliminate or reduce each hazard to an acceptable level of risk.</i>
<b>EQUIPMENT TO BE USED</b>	<b>INSPECTION REQUIREMENTS</b>	<b>TRAINING REQUIREMENTS</b>
<i>List equipment to be used in the work activity.</i>	<i>List inspection requirements for the work activity.</i>	<i>List training requirements, include hazard communication.</i>
<b>Prepared by: Contractor's competent/qualified person(s) (Signature &amp; Date)</b>		
<input type="checkbox"/> - AHA Accepted as Part of project Accident Prevention Plan; or  <input type="checkbox"/> - This AHA has been reviewed by the designated AED COR and is acceptable for use on this project. This acceptance is predicated on satisfactory implementation in the field by the contractor and will be rescinded if the contractor fails to enforce the controls identified in this document and/or the requirements identified in EM385-1-1. This AHA will be reviewed and modified as necessary to address changing site conditions, operations, or change of competent/qualified person(s).		<b>Name, COR (Signature &amp; Date)</b>

SPECIFICATION SECTION 01770

CLOSEOUT PROCEDURES

1. GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. 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 01335 SUBMITTAL PROCEDURES:

SD-10 Operation and Maintenance Data

Equipment/Product Warranty List; G

Submit Data Package 1 in accordance with Section 01781 OPERATION AND MAINTENANCE DATA.

SD-11 Closeout Submittals

As-Built Drawings; G

Record Of Materials; G

Equipment/Product Warranty Tag; G

1.2 PROJECT RECORD DOCUMENTS

1.2.1 AS-BUILT DRAWINGS

As built drawings shall be submitted in accordance with Section 01780A CLOSEOUT SUBMITTALS

1.2.2 AS-BUILT RECORD OF MATERIALS

Furnish a record of materials.

Where several manufacturers' brands, types, or classes of the item listed have been used in the project, designate specific areas where each item was used. Designations shall be keyed to the areas and spaces depicted on the contract drawing. Furnish the record of materials used in the following format:

MATERIALS DESIGNATION	SPECIFICATION	MANUFACTURER	MATERIALS USED (MANUFACTURER'S DESIGNATION)	WHERE USED

1.3 EQUIPMENT/PRODUCT WARRANTIES

1.3.1 EQUIPMENT/PRODUCT WARRANTY LIST

The Contractor shall develop a warranty management plan which shall contain information relevant to the clause Warranty of Construction. At least 30 days before the planned pre-warranty conference, the Contractor shall submit the warranty management plan for Government approval. The warranty management plan shall include all required actions and documents to assure that the Government receives all warranties to which it is entitled. The plan shall be in narrative form and contain sufficient detail to render it suitable for use by future maintenance and repair personnel, whether tradesmen, or of engineering background, not necessarily familiar with this contract. The term "status" as indicated below shall include due date and whether item has been submitted or was accomplished. Warranty information made available during the construction phase shall be submitted to the Contracting Officer for approval prior to each monthly pay estimate. Approved information shall be assembled in a binder and shall be turned over to the Government upon acceptance of the work. The construction warranty period shall begin on the date of project acceptance and shall continue for the full product warranty period. A joint 4 month and 9 month warranty inspection shall be conducted, measured from time of acceptance, by the Contractor, Contracting Officer and the Customer Representative. Information contained in the warranty management plan shall include, but shall not be limited to, the following:

a. Roles and responsibilities of all personnel associated with the warranty process, including points of contact and telephone numbers within the organizations of the Contractors, subcontractors, manufacturers or suppliers involved.

b. Listing and status of delivery of all Certificates of Warranty for extended warranty items, to include roofs, HVAC balancing, pumps, motors, transformers, and for all commissioned systems such as fire protection and alarm systems, sprinkler systems, lightning protection systems, etc.

c. A list for each warranted equipment, item, feature of construction or system indicating:

1. Name of item.
2. Model and serial numbers.
3. Location where installed.
4. Name and phone numbers of manufacturers or suppliers.
5. Warranties and terms of warranty. This shall include one-year overall warranty of construction. Items which have extended warranties shall be indicated with separate warranty expiration dates.
6. Cross-reference to warranty certificates as applicable.
7. Starting point and duration of warranty period.
8. Summary of maintenance procedures required to continue the warranty in force.
9. Cross-reference to specific pertinent Operation and Maintenance manuals.

10. Organization, names and phone numbers of persons to call for warranty service.
11. Typical response time and repair time expected for various warranted equipment.

d. The Contractor's plans for attendance at the 4 and 9 month post-construction warranty inspections conducted by the Government.

e. Procedure and status of tagging of all equipment covered by extended warranties.

f. Copies of instructions to be posted near selected pieces of equipment where operation is critical for warranty and/or safety reasons.

#### 1.3.2 PERFORMANCE OF WARRANTY WORK

In the event the Contractor fails to commence and diligently pursue any construction warranty work required, the Contracting Officer will have the work performed by others, and after completion of the work, will charge the remaining construction warranty funds of expenses incurred by the Government while performing the work, including, but not limited to administrative expenses.

Following oral or written notification of required construction warranty repair work, the Contractor shall respond in a timely manner. Written verification will follow oral instructions. Failure of the Contractor to respond will be cause for the Contracting Officer to proceed against the Contractor.

#### 1.3.3 PRE-WARRANTY CONFERENCE

Prior to contract completion, and at a time designated by the Contracting Officer, the Contractor shall meet with the Contracting Officer to develop a mutual understanding with respect to the requirements of this section. Communication procedures for Contractor notification of construction warranty defects, priorities with respect to the type of defect, reasonable time required for Contractor response, and other details deemed necessary by the Contracting Officer for the execution of the construction warranty shall be established/reviewed at this meeting. In connection with these requirements and at the time of the Contractor's quality control completion inspection, the Contractor shall furnish the name, telephone number and address of a licensed and bonded company which is authorized to initiate and pursue construction warranty work action on behalf of the Contractor. This point of contact will be located within the local service area of the warranted construction, shall be continuously available, and shall be responsive to Government inquiry on warranty work action and status. This requirement does not relieve the Contractor of any of its responsibilities in connection with other portions of this provision.

#### 1.3.4 WARRANTY TAGS

At the time of installation, each warranted item shall be tagged with a durable, oil and water resistant tag approved by the Contracting Officer. Each tag shall be attached with a copper wire and shall be sprayed with a silicone waterproof coating. The date of acceptance and the QC signature

shall remain blank until project is accepted for beneficial occupancy. The tag shall show the following information.

- a. Type of product/material\_\_\_\_\_
- b. Model number\_\_\_\_\_
- c. Serial number\_\_\_\_\_
- d. Contract number\_\_\_\_\_
- e. Warranty period \_\_\_\_\_ from \_\_\_\_\_ to\_\_\_\_\_
- f. Inspector's signature\_\_\_\_\_
- g. Construction Contractor\_\_\_\_\_
- Address\_\_\_\_\_
- Telephone number\_\_\_\_\_
- h. Warranty contact\_\_\_\_\_
- Address\_\_\_\_\_
- Telephone number\_\_\_\_\_
- i. Warranty response time priority code\_\_\_\_\_
- j. WARNING - PROJECT PERSONNEL TO PERFORM ONLY OPERATIONAL MAINTENANCE DURING THE WARRANTY PERIOD.

1.4 MECHANICAL TESTING AND BALANCING

All contract requirements for testing/adjusting/balancing shall be fully completed, including all testing, prior to contract completion date. The time required to complete all testing/adjusting/balancing is included in the allotted calendar days for completion.

1.5 FINAL CLEANING

The premises shall be left broom clean. Stains, foreign substances, and temporary labels shall be removed from surfaces. Carpet and soft surfaces shall be vacuumed. Equipment and fixtures shall be cleaned to a sanitary condition. Filters of operating equipment shall be replaced. Debris shall be removed from roofs, drainage systems, gutters, and downspouts. Paved areas shall be swept and landscaped areas shall be raked clean. The site shall have waste, surplus materials, and rubbish removed. The project area shall have temporary structures, barricades, project signs, and construction facilities removed. A list of completed clean-up items shall be submitted on the day of final inspection.

-- END OF SECTION --

SECTION 01780A

CLOSEOUT SUBMITTALS

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. 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 01335 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

As-Built Drawings

Drawings showing final as-built conditions of the project. The final CAD as-built drawings shall consist of **two sets** of electronic CAD drawing files in the specified format (see the AED CAD Design Requirements: CAD Design Guide), and **two half-size and two full-size paper copies** of the approved as-built drawings..

SD-03 Product Data

As-Built Record of Equipment and Materials

Two copies of the record listing the as-built materials and equipment incorporated into the construction of the project.

Warranty Management Plan

One set of the warranty management plan containing information relevant to the warranty of materials and equipment incorporated into the construction project, including the starting date of warranty of construction. The Contractor shall furnish with each warranty the name, address, and telephone number of each of the guarantor's representatives nearest to the project location.

Warranty Tags

Two record copies of the warranty tags showing the layout and design.

Final Cleaning

Two copies of the listing of completed final clean-up items.

1.2 PROJECT RECORD DOCUMENTS

1.2.1 AS-BUILT DRAWINGS

This paragraph covers as-built drawings complete, as a requirement of the contract. The terms "drawings," "contract drawings," "drawing files," "working

as-built drawings" and "final as-built drawings" refer to contract drawings which are revised to be used for final as-built drawings.

1.2.1.1 GOVERNMENT FURNISHED MATERIALS

One set of electronic CAD files in the specified software and format revised to reflect all bid amendments will be provided by the Government at the preconstruction conference for projects requiring CAD file as-built drawings.

1.2.1.2 WORKING AS-BUILT AND FINAL AS-BUILT DRAWINGS

a. The Contractor shall revise 2 sets of paper drawings by red-line process to show the as-built conditions during the prosecution of the project. These working as-built marked drawings shall be kept current on a weekly basis and at least one set shall be available on the jobsite at all times. Changes from the contract plans which are made in the work or additional information which might be uncovered in the course of construction shall be accurately and neatly recorded as they occur by means of details and notes. Final as-built drawings shall be prepared after the completion of each definable feature of work as listed in the Contractor Quality Control Plan (Foundations, Utilities, Structural Steel, etc., as appropriate for the project). The working as-built marked prints and final as-built drawings will be jointly reviewed for accuracy and completeness by the Contracting Officer and the Contractor prior to submission of each monthly pay estimate. If the Contractor fails to maintain the working and final as-built drawings as specified herein, the Contracting Officer will deduct from the monthly progress payment an amount representing the estimated cost of maintaining the as-built drawings. This monthly deduction will continue until an agreement can be reached between the Contracting Officer and the Contractor regarding the accuracy and completeness of updated drawings. In addition, if the Contractor fails to provide the final as-built drawings within thirty (30) calendar days after contract completion, the Contracting Officer will deduct from the final contract payment an amount representing the lesser of 1% of the total contract cost or \$50,000. The working and final as-built drawings shall show, but shall not be limited to, the following information:

b. The actual location, kinds and sizes of all sub-surface utility lines. In order that the location of these lines and appurtenances may be determined in the event the surface openings or indicators become covered over or obscured, the as-built drawings shall show, by offset dimensions to two permanently fixed surface features, the end of each run including each change in direction. Valves, splice boxes and similar appurtenances shall be located by dimensioning along the utility run from a reference point. The average depth below the surface of each run shall also be recorded.

c. The location and dimensions of any changes within the building structure.

- d. Correct grade, elevations, cross section, or alignment of roads, earthwork, structures or utilities if any changes were made from contract plans.
- e. Changes in details of design or additional information obtained from working drawings specified to be prepared and/or furnished by the Contractor; including but not limited to fabrication, erection, installation plans and placing details, pipe sizes, insulation material, dimensions of equipment foundations, etc.
- f. The topography, invert elevations and grades of drainage installed or affected as part of the project construction.
- g. Changes or modifications which result from the final inspection.
- h. Where contract drawings or specifications present options, only the option selected for construction shall be shown on the final as-built prints.
- i. If borrow material for this project is from sources on Government property, or if Government property is used as a spoil area, the Contractor shall furnish a contour map of the final borrow pit/spoil area elevations.
- j. Systems designed or enhanced by the Contractor, such as HVAC controls, fire alarm, fire sprinkler, and irrigation systems.
- k. Modifications (change order price shall include the Contractor's cost to change working and final as-built drawings to reflect modifications) and compliance with the following procedures.
  - 1. Directions in the modification for posting descriptive changes shall be followed.
  - 2. A Modification Circle shall be placed at the location of each deletion.
  - 3. For new details or sections which are added to a drawing, a Modification Circle shall be placed by the detail or section title.
  - 4. For minor changes, a Modification Circle shall be placed by the area changed on the drawing (each location).
  - 5. For major changes to a drawing, a Modification Circle shall be placed by the title of the affected plan, section, or detail at each location.
  - 6. For changes to schedules or drawings, a Modification Circle shall be placed either by the schedule heading or by the change in the schedule.
  - 7. The Modification Circle size shall be 12.7 mm 1/2 inch diameter unless the area where the circle is to be placed is crowded. Smaller size circle shall be used for crowded areas.

1.2.1.3 DRAWING PREPARATION

The as-built drawings shall be modified as may be necessary to correctly show the features of the project as it has been constructed by bringing the

contract set into agreement with approved working as-built prints, and adding such additional drawings as may be necessary. These working as-built marked prints shall be neat, legible and accurate. These drawings are part of the permanent records of this project and shall be returned to the Contracting Officer after approval by the Government. Any drawings damaged or lost by the Contractor shall be satisfactorily replaced by the Contractor at no expense to the Government.

1.2.1.4 COMPUTER AIDED DESIGN AND DRAFTING (CAD) DRAWINGS

a. Only personnel proficient in the preparation of CAD drawings shall be employed to modify the contract drawings or prepare additional new drawings. Additions and corrections to the contract drawings shall be equal in quality and detail to that of the originals. Line colors, line weights, lettering, layering conventions, and symbols shall be the same as the original line colors, line weights, lettering, layering conventions, and symbols. If additional drawings are required, they shall be prepared using the specified electronic file format applying the same graphic standards specified for original drawings. The title block and drawing border to be used for any new final as-built drawings shall be identical to that used on the contract drawings. Additions and corrections to the contract drawings shall be accomplished using CAD files. The Contractor will be furnished "as-designed" drawings in AutoCAD Release 2007 or Microstation V8 format compatible with a Windows XP operating system. The electronic files will be supplied on compact disc, read-only memory (CD-ROM). The Contractor shall be responsible for providing all program files and hardware necessary to prepare final as-built drawings.

b. Prior to submittal of the first design submittal involving CAD drawings, the Contractor shall prepare one typical CAD drawing for the project and furnish, via ENG Form 4025, the electronic CAD drawing file for review and approval by the Contracting Officer. All Government comments involving changes to this single drawing shall be accomplished and resubmittal(s) made until the Government is satisfied that all CAD Standards are being followed and all subsequent drawings will also be in compliance with these Standards.

c. CAD colors shall be the "base" colors of red, green, and blue. Color code for changes shall be as follows:

1. Deletions (red) - Deleted graphic items (lines) shall be colored red with red lettering in notes and leaders.
2. Additions (Green) - Added items shall be drawn in green with green lettering in notes and leaders.
3. Special (Blue) - Items requiring special information, coordination, or special detailing or detailing notes shall be in blue.

d. The Contract Drawing files shall be renamed in a manner related to the contract number (i.e., 98-C-10.DGN) as instructed in the Pre-Construction conference. Marked-up changes shall be made only to those renamed files. All changes shall be made on the layer/level as the original item. There shall be no deletions of existing lines; existing lines shall be over struck in red. Additions shall be in green with line

weights the same as the drawing. Special notes shall be in blue on layer#63.

e. When final revisions have been completed, the cover sheet drawing shall show the wording "RECORD DRAWING AS-BUILT" followed by the name of the Contractor in letters at least 5 mm 3/16 inch high. All other contract drawings shall be marked either "As-Built" drawing denoting no revisions on the sheet or "Revised As-Built" denoting one or more revisions. Original contract drawings shall be dated in the revision block.

f. After Government approval of all of the working as-built drawings for a phase of work, the Contractor shall prepare the final CAD as-built drawings for that phase of work and submit two sets of full size paper copy prints of these drawings for Government review, comparison with approved red-line marked up drawings, and approval. The Government will promptly return one set of prints annotated with any necessary corrections to the CAD file(s) if corrections are required prior to approval. Within 20 days of substantial completion of all phases of work, the Contractor shall submit the final as-built drawing package for the entire project. The submittal shall consist of one set of electronic files on compact disc, read-only memory (CD-ROM), one set of full size paper prints and one set of the approved working as-built drawings. They shall be complete in all details and identical in form and function to the contract drawing files supplied by the Government. Any transactions or adjustments necessary to accomplish this is the responsibility of the Contractor. The Government reserves the right to reject any drawing files it deems incompatible with the CAD system. Upon approval by the Government of the final as-built drawing package for the entire project, the Contractor shall provide the number of as-built copies noted in Paragraph 1.1 of this Section.

g. Paper prints, drawing files and storage media submitted will become the property of the Government upon final approval. Failure to submit final as-built drawing files and marked prints as specified shall be cause for withholding any payment due the Contractor under this contract. Approval and acceptance of final as-built drawings shall be accomplished before final payment is made to the Contractor.

#### 1.2.1.5 PAYMENT

No separate payment will be made for as-built drawings required under this contract, and all costs accrued in connection with such drawings shall be considered a subsidiary obligation of the Contractor.

#### 1.2.2 AS-BUILT RECORD OF EQUIPMENT AND MATERIALS

The Contractor shall furnish one copy of preliminary record of equipment and materials used on the project 15 days prior to final inspection. This preliminary submittal will be reviewed and returned 2 days after final inspection with Government comments. Two sets of final record of equipment and materials shall be submitted 10 days after final inspection. The designations

shall be keyed to the related area depicted on the contract drawings. The record shall list the following data:

RECORD OF DESIGNATED EQUIPMENT AND MATERIALS DATA

Description	Specification Section	Manufacturer and Catalog, Model, and Serial Number	Composition and Size	Where Used
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1.2.3 FINAL APPROVED SHOP DRAWINGS

The Contractor shall furnish final approved project shop drawings 30 days after transfer of the completed facility.

1.2.4 CONSTRUCTION CONTRACT SPECIFICATIONS

The Contractor shall furnish final as-built construction contract specifications, including modifications thereto, 30 days after transfer of the completed facility.

1.2.5 REAL PROPERTY EQUIPMENT

The Contractor shall furnish a list of installed equipment furnished under this contract. The list shall include all information usually listed on manufacturer's name plate. The "EQUIPMENT-IN-PLACE LIST" shall include, as applicable, the following for each piece of equipment installed: description of item, location (by room number), model number, serial number, capacity, name and address of manufacturer, name and address of equipment supplier, condition, manufacturer's catalog, and warranty. A draft list shall be furnished at time of transfer. The final list shall be furnished 30 days after transfer of the completed facility.

1.3 WARRANTY MANAGEMENT

1.3.1 WARRANTY MANAGEMENT PLAN

The Contractor shall develop a warranty management plan which shall contain information relevant to the clause Warranty of Construction. At least 30 days before the planned pre-warranty conference, the Contractor shall submit the warranty management plan for Government approval. The warranty management plan shall include all required actions and documents to assure that the Government receives all warranties to which it is entitled. The plan shall be in narrative form and contain sufficient detail to render it suitable for use by future maintenance and repair personnel, whether tradesmen, or of engineering background, not necessarily familiar with this contract. The term "status" as indicated below shall include due date and whether item has been submitted or was accomplished. Warranty information made available during the construction phase shall be submitted to the Contracting Officer for approval prior to each monthly pay estimate. Approved information shall be assembled in a binder and shall be turned over to the Government upon acceptance of the work. The construction warranty period shall begin on the date of project acceptance and shall continue for the full product warranty period. A joint 4 month and 9 month warranty inspection shall be conducted, measured from time of

acceptance, by the Contractor, Contracting Officer and the Customer Representative. Information contained in the warranty management plan shall include, but shall not be limited to, the following:

- a. Roles and responsibilities of all personnel associated with the warranty process, including points of contact and telephone numbers within the organizations of the Contractors, subcontractors, manufacturers or suppliers involved.
- b. Listing and status of delivery of all Certificates of Warranty for extended warranty items, to include roofs, HVAC balancing, pumps, motors, transformers, and for all commissioned systems such as fire protection and alarm systems, sprinkler systems, lightning protection systems, etc.
- c. A list for each warranted equipment, item, feature of construction or system indicating:
  1. Name of item.
  2. Model and serial numbers.
  3. Location where installed.
  4. Name and phone numbers of manufacturers or suppliers.
  5. Warranties and terms of warranty. This shall include one-year overall warranty of construction. Items which have extended warranties shall be indicated with separate warranty expiration dates.
  6. Cross-reference to warranty certificates as applicable.
  7. Starting point and duration of warranty period.
  8. Summary of maintenance procedures required to continue the warranty in force.
  9. Cross-reference to specific pertinent Operation and Maintenance manuals.
  10. Organization, names and phone numbers of persons to call for warranty service.
  11. Typical response time and repair time expected for various warranted equipment.
- d. The Contractor's plans for attendance at the 4 and 9 month post-construction warranty inspections conducted by the Government.
- e. Procedure and status of tagging of all equipment covered by extended warranties.
- f. Copies of instructions to be posted near selected pieces of equipment where operation is critical for warranty and/or safety reasons.

#### 1.3.2 PRE-WARRANTY CONFERENCE

Prior to contract completion, and at a time designated by the Contracting Officer, the Contractor shall meet with the Contracting Officer to develop a mutual understanding with respect to the requirements of this section. Communication procedures for Contractor notification of construction warranty defects, priorities with respect to the type of defect, reasonable time required for Contractor response, and other details deemed necessary by the Contracting Officer for the execution of the construction warranty shall be

established/reviewed at this meeting. In connection with these requirements and at the time of the Contractor's quality control completion inspection, the Contractor shall furnish the name, telephone number and address of a licensed and bonded company which is authorized to initiate and pursue construction warranty work action on behalf of the Contractor. This point of contact will be located within the local service area of the warranted construction, shall be continuously available, and shall be responsive to Government inquiry on warranty work action and status. This requirement does not relieve the Contractor of any of its responsibilities in connection with other portions of this provision.

### 1.3.3 CONTRACTOR'S RESPONSE TO CONSTRUCTION WARRANTY SERVICE REQUIREMENTS

Following oral or written notification by the Contracting Officer, the Contractor shall respond to construction warranty service requirements in accordance with the "Construction Warranty Service Priority List" and the three categories of priorities listed below. The Contractor shall submit a report on any warranty item that has been repaired during the warranty period. The report shall include the cause of the problem, date reported, corrective action taken, and when the repair was completed. If the Contractor does not perform the construction warranty within the timeframes specified, the Government will perform the work and backcharge the construction warranty payment item established.

- a. First Priority Code 1. Perform onsite inspection to evaluate situation, and determine course of action within 4 hours, initiate work within 6 hours and work continuously to completion or relief.
- b. Second Priority Code 2. Perform onsite inspection to evaluate situation, and determine course of action within 8 hours, initiate work within 24 hours and work continuously to completion or relief.
- c. Third Priority Code 3. All other work to be initiated within 3 work days and work continuously to completion or relief.
- d. The "Construction Warranty Service Priority List" is as follows:

#### Code 1-Air Conditioning Systems

- 1) Recreational support.
- 2) Air conditioning leak in part of building, if causing damage.
- 3) Air conditioning system not cooling properly.

#### Code 1-Doors

- 1) Overhead doors not operational, causing a security, fire, or safety problem.
- 2) Interior, exterior personnel doors or hardware, not functioning properly, causing a security, fire, or safety problem.

#### Code 3-Doors

- 1) Overhead doors not operational.
- 2) Interior/exterior personnel doors or hardware not functioning properly.

#### Code 1-Electrical

- 1) Power failure (entire area or any building operational after

1600 hours).

- 2) Security lights
- 3) Smoke detectors

Code 2-Electrical

- 1) Power failure (no power to a room or part of building).
- 2) Receptacle and lights (in a room or part of building).

Code 3-  
Electrical  
Street  
lights.

Code 1-Gas

- 1) Leaks and breaks.
- 2) No gas to family housing unit or cantonment area.

Code 1-Heat

- 1) Area power failure affecting heat.
- 2) Heater in unit not working.

Code 2-Kitchen Equipment

- 1) Dishwasher not operating properly.
- 2) All other equipment hampering preparation of a meal.

Code 1-Plumbing

- 1) Hot water heater failure.
- 2) Leaking water supply pipes.

Code 2-Plumbing

- 1) Flush valves not operating properly.
- 2) Fixture drain, supply line to commode, or any water pipe leaking.
- 3) Commode leaking at base.

Code 3 -Plumbing

Leaky faucets.

Code 3-Interior

- 1) Floors damaged.
- 2) Paint chipping or peeling.
- 3) Casework.

Code 1-Roof Leaks

Temporary repairs will be made where major damage to property is occurring.

Code 2-Roof Leaks

Where major damage to property is not occurring, check for location of leak during rain and complete repairs on a Code 2 basis.

Code 2-Water (Exterior)

No water to facility.

Code 2-Water (Hot)

No hot water in portion of building listed.

Code 3-All other work not listed above.

#### 1.3.4 WARRANTY TAGS

At the time of installation, each warranted item shall be tagged with a durable, oil and water resistant tag approved by the Contracting Officer. Each tag shall be attached with a copper wire and shall be sprayed with a silicone waterproof coating. The date of acceptance and the QC signature shall remain blank until project is accepted for beneficial occupancy. The tag shall show the following information.

- a. Type of product/material\_\_\_\_\_.
- b. Model number\_\_\_\_\_.
- c. Serial number\_\_\_\_\_.
- d. Contract number\_\_\_\_\_.
- e. Warranty period\_\_\_\_\_from\_\_\_\_\_to\_\_\_\_\_.
- f. Inspector's signature\_\_\_\_\_.
- g. Construction Contractor\_\_\_\_\_.
- Address\_\_\_\_\_ . Telephone  
number\_\_\_\_\_.
- h. Warranty contact\_\_\_\_\_.
- Address\_\_\_\_\_ . Telephone  
number\_\_\_\_\_.
- i. Warranty response time priority  
code\_\_\_\_\_.
- j. WARNING - PROJECT PERSONNEL TO PERFORM ONLY OPERATIONAL  
MAINTENANCE DURING THE WARRANTY PERIOD.

#### 1.4 MECHANICAL TESTING, ADJUSTING, BALANCING, AND COMMISSIONING

Prior to final inspection and transfer of the completed facility; all reports, statements, certificates, and completed checklists for testing, adjusting, balancing, and commissioning of mechanical systems shall be submitted to and approved by the Contracting Officer as specified in applicable technical specification sections.

#### 1.5 OPERATION AND MAINTENANCE MANUALS

Three (3) copies of all Operation and Maintenance (O&M) manuals shall be submitted as follows:

AFGHANISTAN ENGINEER DISTRICT

(1) DHL, FEDEX, UPS or any other courier service:

U.S. Army Corps of Engineers  
Afghanistan Engineer District  
House # 1, St. #1 West  
West Wazir Akbar High School  
Behind Amani High School  
Kabul, Afghanistan  
Attn: Chief, Engineering Branch

Operation manuals and maintenance manuals shall be provided in a common volume, complete, clearly differentiated and separately indexed.

1.6 FINAL CLEANING

The premises shall be left broom clean. Stains, foreign substances, and temporary labels shall be removed from surfaces. Carpet and soft surfaces shall be vacuumed. Equipment and fixtures shall be cleaned to a sanitary condition. Filters of operating equipment shall be replaced. Debris shall be removed from roofs, drainage systems, gutters, and downspouts. Paved areas shall be swept and landscaped areas shall be raked clean. The site shall have waste, surplus materials, and rubbish removed. The project area shall have temporary structures, barricades, project signs, and construction facilities removed. A list of completed clean-up items shall be submitted on the day of final inspection.

-- END OF SECTION -

## **SECTION 01781 OPERATION AND MAINTENANCE DATA**

### **1. GENERAL**

#### **1.1 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. 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 01335 SUBMITTAL PROCEDURES.

##### **1.1.1 PACKAGE QUALITY**

Documents must be fully legible. Poor quality copies and material with hole punches obliterating the text or drawings will not be accepted.

##### **1.1.2 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.

##### **1.1.3 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 TYPES OF INFORMATION REQUIRED IN O&M DATA PACKAGES**

##### **1.2.1 OPERATING INSTRUCTIONS**

Include specific instructions, procedures, and illustrations for the following phases of operation:

###### **1.2.1.1 SAFETY PRECAUTIONS**

List personnel hazards and equipment or product safety precautions for all operating conditions.

###### **1.2.1.2 OPERATOR PRESTART**

Include procedures required to set up and prepare each system for use.

###### **1.2.1.3 STARTUP, SHUTDOWN, AND POST-SHUTDOWN PROCEDURES**

Provide narrative description for Startup, Shutdown and Post-shutdown operating procedures including the control sequence for each procedure.

###### **1.2.1.4 NORMAL OPERATIONS**

Provide narrative description of Normal Operating Procedures. Include Control Diagrams with data to explain operation and control of systems and specific equipment.

### **1.2.1.5 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.

### **1.2.1.6 OPERATOR SERVICE REQUIREMENTS**

Include instructions for services to be performed by the operator such as lubrication, adjustment, inspection, and recording gage readings.

### **1.2.1.7 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.

## **1.2.2 PREVENTIVE MAINTENANCE**

Include the following information for preventive and scheduled maintenance to minimize corrective maintenance and repair.

### **1.2.2.1 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.

### **1.2.2.2 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.

## **1.2.3 CORRECTIVE MAINTENANCE (REPAIR)**

Include manufacturer's recommended procedures and instructions for correcting problems and making repairs.

### **1.2.3.1 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.

### **1.2.3.2 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.

### **1.2.3.3 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.

### **1.2.3.4 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.

### **1.2.4 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.

### **1.2.5 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:

#### **1.2.6 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

##### **1.2.6.1 WARRANTY INFORMATION**

List and explain the various warranties and include 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.

##### **1.2.6.2 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.

### **1.2.6.3 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.

### **1.2.6.4 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 most convenient to the project site. Provide the name, address, and telephone number of the product, equipment, and system manufacturers.

## **2. EXECUTION**

### **2.1 TRAINING**

Unless provided for elsewhere, the Contractor shall provide operational and maintenance training for all systems furnished under this contract in accordance with this section. The training shall not take place until the operation and maintenance manuals are submitted and approved.

Training will be given to personnel responsible for the operation and maintenance of the system at the installation. Orient training to the specific system being installed under this contract. Use operation and maintenance manual as the primary instructional aid in contractor provided activity personnel training. Manuals shall be delivered for each trainee with two additional sets delivered for archiving at the project site. Submit a training course schedule, syllabus, and training materials 14 days prior to the start of training. Obtain approval of the training course before beginning that phase of training. Furnish a qualified instructor approved by the system manufacturer to conduct training for the specific system.

Training manuals shall include an agenda, defined objectives and a detailed description of the subject matter for each lesson. Furnish audio-visual equipment and all other training materials and supplies. A training day is defined as 8 hours of classroom or lab instruction, including two 15 minute breaks and excluding lunch time, Monday through Friday, during the daytime shift in effect at the training facility. For guidance, the Contractor should assume the attendees will have a high school education.

The Contractor shall videotape the training session on VHS tapes and provide the tapes to the Government.

**-- END OF SECTION --**