

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE _____ PAGE _____ OF _____ PAGES

2. AMENDMENT/MODIFICATION NO. _____ 3. EFFECTIVE DATE _____ 4. REQUISITION/PURCHASE REQ. NO. _____ 5. PROJECT NO. *(If applicable)* _____

6. ISSUED BY _____ CODE _____ 7. ADMINISTERED BY *(If other than Item 6)* _____ CODE _____

8. NAME AND ADDRESS OF CONTRACTOR *(No., street, county, State and ZIP Code)* _____ (X) 9A. AMENDMENT OF SOLICIATION NO. _____
 9B. DATED *(SEE ITEM 11)* _____
 10A. MODIFICATION OF CONTRACT/ORDER NO. _____
 10B. DATED *(SEE ITEM 11)* _____
 CODE _____ FACILITY CODE _____

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers is extended, is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:
 (a) By completing items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment your desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA *(If required)* _____

13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: <i>(Specify authority)</i> THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES <i>(such as changes in paying office, appropriation date, etc.)</i> SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER <i>(Specify type of modification and authority)</i>

E. IMPORTANT: Contractor is not, is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION *(Organized by UCF section headings, including solicitation/contract subject matter where feasible.)*

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER <i>(Type or print)</i>	16A. NAME AND TITLE OF CONTRACTING OFFICER <i>(Type or print)</i>
15B. CONTRACTOR/OFFEROR	16B. UNITED STATES OF AMERICA
15C. DATE SIGNED	16C. DATE SIGNED
<i>(Signature of person authorized to sign)</i>	<i>(Signature of Contracting Officer)</i>

Item 14. Continued.

CHANGES TO BIDDING SCHEDULE

1. Replace the Bidding Schedule, pages 00010-3 through 00010-7, with the accompanying new Bidding Schedule, bearing the notation "ACCOMPANYING AMENDMENT NO. 0001 TO SOLICITATION NO. DACA63-03-B-0003."

CHANGES TO THE SPECIFICATIONS

2. New Sections - Add the following accompanying new section, bearing the notation "ACCOMPANYING AMENDMENT NO. 0001 TO SOLICITATION NO. DACA63-03-B-0003:"

01450 CHEMICAL DATA QUALITY CONTROL

3. Replacement Sections - Replace the following sections with the accompanying new sections of the same number and title, bearing the notation "ACCOMPANYING AMENDMENT NO. 0001 TO SOLICITATION NO. DACA63-03-B-0003:"

01000 CONSTRUCTION SCHEDULE
01770F CONTRACT CLOSEOUT

CHANGES TO THE DRAWINGS

4. The solicitation number on the drawings is incorrect. Change the solicitation number to read: **DACA63-03-B-0003**.

END OF AMENDMENT

ACCOMPANYING AMENDMENT NO. 0001 TO SOLICITATION NO. DACA63-03-B-0003

Addition/Alterations to Darnall Army Community Hospital
Fort Hood, Texas

Solicitation No. DACA63-03-B-0003

BIDDING SCHEDULE
 (To be attached to SF 1442)

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Estimated Amount
BASE BID: All work required by the plans and specifications for the construction Addition and Alterations to Darnall hospital <u>excluding</u> all Options.					
0001	Addition to Hospital Building complete (Including all utilities to the five foot line exclusive of all work listed separately)	Job	Sum	***	\$_____
0002	Alterations to Hospital Building complete (Including all utilities to the five foot line exclusive of all work listed separately)	Job	Sum	***	\$_____
0003	Ambulance Shelter; complete (Including all utilities to the five foot line exclusive of all work listed separately)	Job	Sum	***	\$_____
0004	Drilled Piers				
0004AA	24-Inch Dia. Drilled Piers	280	VLF	\$_____	\$_____
0004AB	24-Inch Dia. Casings	93	VLF	\$_____	\$_____
0004AC	30-Inch Dia. Drilled Piers	40	VLF	\$_____	\$_____
0004AD	30-Inch Dia. Casings	13	VLF	\$_____	\$_____
0004AE	36-Inch Dia Drilled Piers	80	VLF	\$_____	\$_____
0004AF	36-Inch Dia. Casings	27	VLF	\$_____	\$_____
0004AG	42-Inch Dia. Drilled Piers	80	VLF	\$_____	\$_____
0004AH	42-Inch Dia. Casings	27	VLF	\$_____	\$_____
0004AI	48-Inch Dia. Drilled Piers	80	VLF	\$_____	\$_____
0004AJ	48-Inch Dia. Casings	27	VLF	\$_____	\$_____
0005	All Exterior Work outside the building's five foot line (Including all demolition, utilities, earthwork, paving, sidewalk, curb and gutter, turfing, landscaping and all other work not listed separately)	Job	Sum	***	\$_____

ACCOMPANYING AMENDMENT NO. 0001 TO SOLICITATION NO. DACA63-03-B-0003

Solicitation No. DACA63-03-B-0003

BIDDING SCHEDULE (cont)

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Estimated Amount
0006	Contaminated Soil Removal	3000	CY	\$_____	\$_____
0007	12"x 12" Vinyl Asbestos Floor Tile w/Black Mastic, removal/disposal	3,620	SF	\$_____	\$_____
0008	Black mastic on concrete beams and deck, removal/disposal	250	SF	\$_____	\$_____
0009	Black Mastic above ceilings on ceiling pipe hangars, removal/disposal	250	EA	\$_____	\$_____
0010	Recessed Fluorescent Light Fixtures, removal/disposal	154	EA	\$_____	\$_____
0011	Phillips Econ-Watt Fluorescent Light Tubes, removal/disposal	366	EA	\$_____	\$_____
0012	Mark III Advantage Transformer Fluorescent Light Fixture Ballasts Marked "No PCBs", removal/disposal	1154	EA	\$_____	\$_____
0013	Mercury Containing Thermostats removal/disposal	1	EA	\$_____	\$_____
0014	Smoke Detectors, removal/disposal	6	EA	\$_____	\$_____
0015	Emergency Exit Lights, removal/disposal	7	EA	\$_____	\$_____
0016	Water Fountains, Removal/disposal	3	EA	\$_____	\$_____
0017	Fire Extinguishers, removal/disposal	4	EA	\$_____	\$_____
0018	Mobilization and Demobilization	Job	Sum	***	\$_____
0019	Final As-Built Drawings	Job	Sum	***	\$ 50,000.00
0020	Operation & Maintenance Manuals	Job	Sum	***	\$ 28,800.00

[AM #0001]

0021 The monetary value for warranty work is established at 1 percent of the amount awarded for construction. See the Contract Specifications Section 01770F CONTRACT CLOSEOUT, paragraph "Contractor's Response to Construction Warranty Service Requirements."

TOTAL BASE BID \$_____

ACCOMPANYING AMENDMENT NO. 0001 TO SOLICITATION NO. DACA63-03-B-0003

Solicitation No. DACA63-03-B-0003

BIDDING SCHEDULE (cont)

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Estimated Amount
0022	OPTION NO. 1: All work required by the plans and specifications for the construction of the parking lot shown as Option No. 1				
			Job	Sum	*** \$_____
			TOTAL BASE BID PLUS OPTION 1		\$_____

ACCOMPANYING AMENDMENT NO. 0001 TO SOLICITATION NO. DACA63-03-B-0003

Solicitation No. DACA63-03-B-0003

BIDDING SCHEDULE (cont)

NOTES:

1. ARITHMETIC DISCREPANCIES: (1989 JUL)

(a) For the purpose of initial evaluation of bids, the following will be utilized in resolving arithmetic discrepancies found on the face of the bidding schedule as submitted by bidders:

(1) Obviously misplaced decimal points will be corrected;

(2) In case of discrepancy between unit price and extended price, the unit price will govern;

(3) Apparent errors in extension of unit prices will be corrected; and

(4) Apparent errors in addition of lump-sum and extended prices will be corrected.

(b) For the purposes of bid evaluation, the Government will proceed on the assumption that the bidder intends his bid to be evaluated on the basis of the unit prices, extensions, and totals arrived at by resolution of arithmetic discrepancies as provided above and the bid will be so reflected on the abstract of bids. (EFARS 14.406-2)

2. If a modification to a bid based on unit prices is submitted, which provides for a lump sum adjustment to the total estimated cost, the application of the lump sum adjustment to each unit price in the bid schedule must be stated. If it is not stated, the bidder agrees that the lump sum adjustment shall be applied on a pro rata basis to every unit price in the bid schedule.

3. Bidders must bid on all items.

4. Costs attributable to Division 01 - General Requirements are assumed to be prorated among bid items listed.

5. Responders are advised that this requirement may be delayed, canceled or revised at any time during the solicitation, selection, evaluation, negotiation and/or final award process based on decisions related to DOD changes in force structure and disposition of the Armed Services.

6. For the purpose of this solicitation, the word "item" shall be considered to mean "schedule" as used in Provision 52,214-0019, CONTRACT AWARD--SEALED BIDDING--CONSTRUCTION, in Section 00100 INSTRUCTIONS, CONDITIONS, AND NOTICES TO BIDDERS, excluding additives, deductives or options

ACCOMPANYING AMENDMENT NO. 0001 TO SOLICITATION NO. DACA63-03-B-0003

Solicitation No. DACA63-03-B-0003

BIDDING SCHEDULE (cont)

NOTES (cont)

7. EVALUATION OF OPTIONS (JUL 1990) (FAR 52.217-5)

Except when it is determined in accordance with FAR 17.206(b) not to be in the Government's best interests, the Government will evaluate offers for award purposes by adding the total price for all options to the total price for the basic requirement. Evaluation of options will not obligate the Government to exercise the option(s).

8. OPTION FOR INCREASED QUANTITY - SEPARATELY PRICED LINE ITEM (MAR 1998)
(FAR 52.217-7)

The Government may require the completion of the numbered line item, identified in the Bidding Schedule as an option item, in the quantity and at the price stated in the Bidding Schedule. The Contracting Officer may exercise the option by written notice to the Contractor within the period specified in the Bidding Schedule. Completion of added items shall continue at the same schedule as the Base Bid unless otherwise noted in the SPECIAL CONTRACT REQUIREMENTS, paragraph 1 entitled COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK.

9. The Government reserves the right to exercise the option(s) either singularly or in any combination for up to 90 calendar days after award of the Base Bid without an increase in the Offeror's Bid Price.

10. ABBREVIATIONS

For the purposes of this solicitation, the units of measure are represented as follows:

VLF (Vertical Linear Feet)
CY (Cubic Yards)
SF (Square Feet)
EA (Each)

END OF BIDDING SCHEDULE

SECTION 01000

CONSTRUCTION SCHEDULE

AM #0001

PART 1 GENERAL

1.1 SCHEDULE

Commence, prosecute, and complete the work under this contract in accordance with the following schedule and Section 00700 CONTRACT CLAUSES COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK and LIQUIDATED DAMAGES:

Item of Work	Commencement of Work (calendar days)	Completion of Work (calendar days)	Liquidated Damages per calendar day[$\frac{1}{}$]
(1) New Addition & Alterations to Darnall Army Hospital and Associated Site Utilities and Site Work	After Completion of Item of Work (2)	<u>[AM#1]</u> <u>670 days</u>	<u>\$680.00</u>
(2) All Work Associated With Renovated X-ray File Room, New MRI Mammo. Rooms and Ancillary Rooms	Within 10 days after Receipt of Notice to Proceed	<u>[AM#1]</u> <u>166 days</u>	<u>\$320.00</u>
(3) New Parking Lot as Shown on Sequences #014 and #016	Within 10 days After Receipt of Notice to Proceed	<u>[AM#1]</u> <u>110 days</u>	<u>\$130.00</u>
(4) New Parking Lot as Shown on Sequences #018 and #019 - (Bid Option 1)	Within 10 days After Receipt of Notice to Proceed	<u>[AM#1]</u> <u>110 days</u>	<u>\$100.00</u>
(5) All Work not Separately Listed	Within 10 days After Receipt of Notice to Proceed	<u>[AM#1]</u> <u>550 days</u>	<u>\$650.00</u>
(6) Establishment of Turf	*	*	---
(7) Landscaping	**	**	---

*Establishment of Turf

Planting and maintenance for turfing shall be in accordance with Section 02925 ESTABLISHMENT OF TURF. No payment will be made for establishment of turf until all requirements of the section are adequately performed and accepted, as determined by the Contracting Officer.

**Landscaping

Planting and maintenance for landscaping shall be in accordance with Section 02933 PLANTING OF TREES, SHRUBS, AND VINES. No payment will be made for landscaping until all requirements of the section are adequately performed and accepted, as determined by the Contracting Officer.]

1.1.1 Testing of Heating and Air-Conditioning Systems

The times stated for completion of this project includes all required testing specified in appropriate specification sections of heating, air conditioning and ventilation systems including HVAC Commissioning. Exception: boiler combustion efficiency test, boiler full load tests, cooling tower performance tests, and refrigeration equipment full load tests, when specified in the applicable specifications, shall be performed in the appropriate heating/cooling season as determined by the Contracting Officer.

1.2 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER (OCT 1989)
(ER 415-1-15)(52.0001-4038 1/96)

a. This provision specifies the procedure for determination of time extensions for unusually severe weather in accordance with the contract clause entitled "Default: (Fixed Price Construction)." In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

(1) The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.

(2) The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the contractor.

b. The following schedule of monthly anticipated adverse weather delays due to precipitation and temperature is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities. Wind is not considered in the Monthly Anticipated Adverse Weather Calendar Day Schedule.

MONTHLY ANTICIPATED ADVERSE WEATHER DELAY											
WORK DAYS BASED ON (5) DAY WORK WEEK											
KILLEEN, TX AREA (FORT HOOD, BELTON AND STILLHOUSE LAKES AND RESERVE											
CTRS. ALONG HWY 36 FROM HWY 79 TO HWY US67)											
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
4	4	4	4	6	4	3	3	4	4	3	4

c. Upon acknowledgment of the Notice to Proceed (NTP) and continuing throughout the contract, the contractor will record on the daily CQC report, the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the contractor's scheduled work day.

The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in paragraph "b", above, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the contract clause entitled "Default (Fixed Price Construction)."

1.3 CONSTRUCTION PHASING

The Contractor will be renovating rooms in an operating hospital. The Contractor shall take all necessary care to not interfere or detrimentally affect the hospital operations. The Contractor shall comply with all hospital procedures concerning safety. The Contractor must include in his Demolition Plan and Environmental Protection Plan procedures with intensive control measures to minimize dust and noise during construction. The Contractor shall anticipate short periodic delays in construction to participate in hospital safety inspections and drills to insure that he can comply with the hospital safety and operational requirements.

The contractor and his employees shall limit their operations to areas under renovation and construction and shall not enter other areas of the hospital without the approval of the Contracting Officer.

Construction Phasing shall be as shown and indicated on the drawings [AM #0001] Sheets G104 through G108 and in the specifications.

1.4 WORK RESTRICTIONS

1.4.1 Working Hours

Normal working hours are Monday through Friday, 0700 to 1700 hours.

1.4.2 Security Requirements

For the duration of this Contract, access to Fort Hood will be delayed between 5 minutes to 30 minutes or more due to increased security precautions, including the checking of vehicle occupants' IDs, vehicle manifests, and the searching of all vehicles. Any general or specific threat to the safety of those working or living at Fort Hood could result in longer waiting times at the access points to Fort Hood.

The following are requirements for contractor employees entering Fort Hood:

- a. One form of picture ID.
- b. A memo from the construction company on their letterhead stating the reason for entry, contract number, and the location at Fort Hood where the jobsite is located.
- c. All delivery trucks must have a bill of lading and

delivery truck drivers must have a picture ID.

d. Employee Identification Badges: Contractor personnel shall wear visible Contractor-furnished employee identification badges while physically on the Installation. Each badge shall include, as a minimum, the company name, employee name, photograph, Contract Title, Contract Number, and the expiration date of the badge. See Section 01500 TEMPORARY CONSTRUCTION FACILITIES for additional requirements.

1.4.3 Smoking

SMOKING will NOT be allowed on the construction site except in designated areas approved by the Contracting Officer. No tobacco product of any kind will be allowed in the renovated building.

1.5 UTILITIES

1.5.1 Payment for Utility Services

Water, gas, and electricity are available from Government-owned and operated systems and will be charged to the Contractor at rates as provided in Contract Clause 52.236.14 AVAILABILITY AND USE OF UTILITY SERVICES.

1.5.1.1 Meters and Temporary Connections

The Contractor, at its expense and in a manner satisfactory to the Contracting Officer, shall provide and maintain necessary temporary connections, distribution lines, and meter bases required to measure the amount of each utility used for the purpose of determining charges. The Contractor shall notify the Contracting Officer, in writing, 5 working days before utility (gas, water, electricity) connections are desired so that a utilities contract can be established.

1.5.1.2 Final Meter Reading

Before completion of the work and final acceptance of the work by the Government, the Contractor shall notify the Contracting Officer, in writing, 5 working days before termination is desired. The Government will take a final meter reading. The Contractor shall then remove all the temporary distribution lines, meter bases, and associated paraphernalia. The Contractor shall pay all outstanding utility bills before final acceptance of the work by the Government.

1.5.2 Outages

The Contractor shall coordinate all requests for utility outages with the Contracting Officer in writing 14 days prior to date of requested outage:

a. Water and sewer outages shall be held to a maximum duration of 2 hours unless otherwise approved in writing.

b. Gas or Electrical outages are prohibited. Connections to gas and electric lines shall be connected hot without an outage. The Contractor shall submit his work plan for electrical connections 14 days before requested connection.

c. All utility outages shall be scheduled only on Saturdays, Sundays, or holidays unless specific approval is otherwise received.

1.6 STREET CLOSINGS

The Contractor shall coordinate all requests for street closings with the Contracting Officer in writing 14 days prior to date of requested outage:

a. One lane traffic shall be maintained at all times (except that a total closing may be allowed for specific 8-hour periods).

b. The final street repair shall be completed within 14 days after the start of any street crossing. Any part of the street returned to service prior to final repair shall be maintained smooth with hot-mix cold-lay surface course.

c. Open cuts across paved roads and streets for utility crossings will not be allowed. Utility crossings will be accomplished by boring or jacking procedures only.

1.7 PAYMENT FOR MOBILIZATION AND DEMOBILIZATION (DFAR 252.236-7004)(DEC 1991)

(a) The Government will pay all costs for the mobilization and demobilization of all of the Contractor's plant and equipment at the contract lump sum price for this Item.

(1) 60 percent of the lump sum price upon completion of the Contractor's mobilization at the work site.

(2) The remaining 40 percent upon completion of demobilization.

(b) The Contracting Officer may require the Contractor to furnish cost data to justify this portion of the bid if the Contracting Officer believes that the percentages in paragraphs (a)(1) and (2) of this clause do not bear a reasonable relation to the cost of the work in this contract.

(1) Failure to justify such price to the satisfaction of the Contracting Officer will result in payment, as determined by the Contracting Officer, of-

(i) Actual mobilization costs at completion of mobilization;

(ii) Actual demobilization costs at completion of demobilization; and

(iii) The remainder of this item in the final payment under this contract.

(2) The Contracting Officer's determination of the actual costs in paragraph (b)(1) of this clause is not subject to appeal.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

-- End of Section --

SECTION 01450

CHEMICAL DATA QUALITY CONTROL
[AM #0001]

PART 1 GENERAL

1.1 REFERENCES

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

CODE OF FEDERAL REGULATIONS

40 CFR 172	Hazardous Material Table, Special Provisions, Hazardous Material Communications, Emergency Response Information, and Training Requirements
49 CFR 178	Specifications for Packaging
40 CFR 261	Identification and Listing of Hazardous Wastes
40 CFR 268	Land Disposal Restrictions

1.2 ACRONYMS

The definition of acronyms used by the Contractor which pertain to chemical data quality control shall be clearly defined for all contract related products and communications.

1.3 CHEMISTRY REQUIREMENTS

1.3.1 Site History

The existing Darnall Army Community Hospital abandoned underground fuel tanks (one 10,000 gallon steel tank and two 20,000 gallon fiberglass tanks) encroach the Addition footprint. Historical data indicates the tanks have been decommissioned in place. The decommissioning operation included removal of fuel, cleaning and filling with lightweight concrete. Soil and ground water samples indicated contamination levels well below threshold limits. Concern for possible contamination and interference with the building foundation prompted the inclusion of tank removal provisions. The scope of work in this Section 01450 - CHEMICAL DATA QUALITY CONTROL is for testing of the soil in the area of tank removal indicated on the site demolition plans.

Contaminated soil which exceeds allowable threshold limits shall be removed to a disposal site on Government controlled land. The area where contaminated soil was removed shall be backfilled with specified fill material per cubic yard in place. The contractor shall submit a laboratory analysis for Total Petroleum Hydrocarbons (method TX 1005) and for BTEX to

the Contracting Officer prior to depositing contaminated soil. There will be no charge from the Government (Fort Hood DPW) for remediation of the contaminated soil deposited at the Government disposal site.

The contractor shall include in the base bid contract amount an allowance for contaminated soil testing, removal and replacement with suitable fill material based on a 3,000 CY Allowance (3,000 CY removed and 3,000 CY backfilled) at the unit price determined by the Contractor.

1.3.2 Data Quality Objectives (DQOs)

Sample acquisitions, chemical analyses and chemical parameter measurements shall be performed in such a manner that the resulting data meets and supports data use requirements. The chemical data shall be acquired, documented, verified and reported in a manner that assures that the specified precision, accuracy, representativeness, comparability and completeness requirements are achieved. Contract-required development of DQOs shall be in accordance with EPA-540/R-93-071, EPA-450/4-89-015 and EPA-450/4-90-005.

1.3.3 Sample and Measurement Requirements

1.3.3.1 Borrow Material, IDW and Manifesting

Samples shall be required for on or offsite borrow material Investigation Derived Wastes (IDW) and for material shipping manifesting in accordance with 40 CFR 261, 40 CFR 262, 40 CFR 268, 40 CFR 172, and 49 CFR 178.

1.4 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-03 Product Data

Chemical Quality Control Plan; G.

The CQC Plan, no later than 10 days after receipt of Notice to Proceed, and coincident with or included in the CQC Plan required in Section 01440 CONTRACTOR QUALITY CONTROL.

Sampling and Analysis Plan; G.

The SAP, for review, no later than 10 days after acceptance of the CQCP.

Interim Sampling and Analysis Plan; G.

The ISAP shall be provided at the coordination meeting and prior to any SAP.

SD-09 Manufacturer's Field Reports

Daily Chemical Quality Control Reports; FIO.

The DCQCR, as a separate report, within 10 days of the daily activity.

Chemical Quality Control Summary Reports; G.

The CQCSR, within 8 weeks of project completion, prior to final payment.

Chemical Data Interim Report; FIO.

The CDIR shall be provided to the government QA Lab each day of excavation required to remove and backfill soil as required to remove the underground tanks indicated on the drawing to be removed.

1.5 PAYMENT

Separate payment will not be made for providing and maintaining the chemical data quality requirements including the chemical data quality management, chemical data validation, minimum chemical data reporting requirements, and the deliverance of the chemical data quality submittal requirements; these costs shall be included in the applicable unit prices or lump sum prices contained in the bidding schedule.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 GENERAL

The Contractor is responsible for chemical sample acquisition, sample analysis, instrumental measurements of chemical parameters and for chemical data quality control. An effective chemical data quality control system shall be established that meets the requirements for the chemical measurement DQOs applicable to the project. The chemical data quality control system shall consist of a Chemical Quality Management staff responsible for the sampling and measurement plans, analytical procedures, minimum data reporting requirements, and the organization necessary to produce the required chemical data. The system shall cover chemical measurements pertaining to and required for Contractor and subcontractor produced chemical data.

3.2 CHEMICAL QUALITY CONTROL PLAN

3.2.1 General

The CQC Plan shall identify personnel, qualifications and procedures for implementing a chemical data quality control system for Contractor and subcontractor. The plan shall include analytical capability and procedures; SAP responsibility; a corporate verification letter from management committing the assigned personnel to the project; and an organizational chart including DQO and submittal responsibilities and sequence for chemical data quality verification. Chemical measurements including sampling and/or chemical parameter measurement will not be permitted to begin until after acceptance of the CQC Plan and production, and government approval of a Sampling and Analysis Plan (SAP). Chemical measurements for the initial phases of the contract may be allowed by the USACE CO through an Interim Sampling and Analysis Plan (ISAP), following acceptance of the CQC Plan. The measurement of chemical parameter, which is not included in a government approved ISAP and is not included in the contract specification, will not be permitted.

3.2.2 Contents of CQC Plan

The CQC Plan shall include, as a minimum, the following, to cover contract related chemical measurements by the Contractor and all subcontractors.

3.2.2.1 Qualifications

The CQC Plan shall include names, education, experience qualifications, authorities, and decision-making responsibilities of all chemical quality management and support personnel. The CQC Plan shall contain a copy of a letter from the project QC manager designating and authorizing a Chemical Data Quality Manager and the Chemical Data Quality Control Organization Staff.

3.2.2.2 Authority and Responsibility

The CQC Plan shall include a diagram, flow chart, or figure clearly depicting the chemical data quality management and support staff and the authority and responsibility of each for chemical sampling and analysis, procedures for corrective actions, deliverables and submittals, deviations and changes, chemical quality documentation, data validation, minimum data reporting requirements, and DQOs for chemical parameter measurement by the Contractor and subcontractors. The contents of this section of the CQC Plan shall be included in the applicable "Project Organization" elements of the Field Sampling Plan (FSP) and the Quality Assurance Project Plan (QAPP).

3.2.2.3 Minimum Personnel Qualifications

The Contractor's Chemical Quality Control Officer shall have, as a minimum, a degree in Chemistry, and a minimum of 3 years of experience with HTRW Chemical Quality Control including responsibilities for HTRW DQO definitions, HTRW sampling and analysis, HTRW project requirements for data documentation and validation, and final HTRW project reports.

3.2.3 Acceptance of Plan

Acceptance of the CQC Plan is required prior to the submission of the Contractor's SAP or ISAP and prior to the performance of chemical data related activities. Acceptance is conditional and will be predicated on satisfactory performance during the remedial action. The government reserves the right to require the Contractor to make changes in the CQC Plan (including personnel changes as necessary), to achieve the chemical data quality specified.

3.2.4 Notification of Changes

After acceptance of the CQC Plan, the Contracting Officer shall be notified by the Contractor in writing a minimum of 21 calendar days prior to making any proposed change or within 2 days of making any unavoidable changes. Changes that include personnel changes, authoritative changes, responsibility changes, subcontractor changes pertaining to chemical data quality, etc. are subject to acceptance by the Contracting Officer.

3.3 COORDINATION MEETING

After the Preconstruction Conference, before start of construction which involves any chemical parameter measurement, and prior to acceptance by the government of the CQC Plan, a coordination meeting will be held including

the Contractor and the Contracting Officer or authorized representative to discuss the CQC Plan. The coordination meeting, when possible, will be simultaneous to any CQC coordination meeting required in Section 01440 CONSTRUCTION QUALITY CONTROL. A list of definable features which involve chemical measurements shall be agreed upon. At a minimum, each matrix (soil, water, air, containerized wastes, radioactive wastes, instrumental chemical parameter measurement, etc.) is a definable work feature. The meeting will affect the development and management of the chemical data quality system which shall include project DQOs, project submittals, chemical data documentation, chemical data validation, chemical data produced/acquired by subcontracting, required sampling and analysis protocols, total matrix and parameter sampling requirements, and minimum data reporting requirements. The meeting will serve to establish an interrelationship between the Contractor's chemical data quality management and government personnel responsible for Chemical Quality Assurance requirements. Minutes of the meeting will be documented by the government and signed by both the Contractor and the Contracting Officer. The minutes will include any or all unresolved chemical issues along with the conditions for resolution and will become a part of the contract file. Subsequent conferences may be called to address chemical quality issues by either party, to reconvey mutual understandings and resolve issues and/or address deficiencies or changes in the Chemical quality control system or procedures which may require corrective actions or agreements by the Contractor.

3.4 SAMPLING AND ANALYSIS PLAN

3.4.1 General

The Sampling and Analysis Plan (SAP) shall be a single document which contains two distinct elements: Field Sampling Plan (FSP) and Quality Assurance Project Plan (QAPP). Sections of the FSP and QAPP may be cross referenced. The SAP shall confirm the Contractor's understanding of the government's requirements for chemical data quality control for the contract, and shall provide direction to personnel responsible for field sampling and sample submittal for analysis, field chemical parameter measurement, data documentation, data validation and data reporting requirements. As a single interrelated document, the SAP shall be provided to field and laboratory personnel. The SAP shall describe all chemical parameter measurements for all matrices for all phases of the remediation contract. In preparing the SAP, the Contractor may deviate from paragraph CHEMISTRY REQUIREMENTS to propose original/innovative approaches to chemical parameter measurements for cost reduction and remediation efficiency by abbreviated sampling, contingency sampling and/or contingency analysis, indicator or tracer analysis, onsite analytical services, equivalency or screening methods, etc. if the chemical data quality requirements are met, and if there is no conflict with the Government QA policy.

3.4.2 Contents of Field Sampling Plan

The FSP shall contain necessary technical detail and direction for the field personnel to understand sampling and field measurement requirements. The FSP shall contain sufficient direction and detail for onsite personnel to perform all onsite activities required to attain project DQOs, including: collection of samples for onsite and offsite chemical analysis, shipment of samples for offsite analyses, and performance of onsite and offsite instrumental parameter measurements, data documentation and reporting requirements. The FSP shall have a Title Page including the site

specific project name, location and remedial process technology, followed by a Table of Contents and the following:

3.4.2.1 Project Description

The Project Description section of the FSP shall contain, as a minimum, the following:

- a. Site History and Contaminants. This section shall provide a brief site description including history/background which serves to orientate users of the FSP as to what site specific chemical contaminants and parameters are involved in the project.
- b. Summary of Existing Site Data. This section shall summarize any existing chemical data from previous site projects such as Preliminary Assessment/Site Investigation (PA/SI), Remedial Investigation/Feasibility Study (RI/FS), DA, etc., which depicts the media involved in contamination, the class/types of contaminants detected, the relative concentrations of the site specific contaminants and a general summary of the quality of the existing data.
- c. Site Specific Sampling and Analysis Problems. This section shall include established matrix interference, sample acquisition, homogenization, shipment problems, etc. References supporting the site data shall be included in the Reference Section of the FSP.

3.4.2.2 Project Organization and Responsibilities

The Project Organization and Responsibility Section of the FSP shall contain, as a minimum, an organization chart depicting the following:

- a. Summary of Key Personnel. This section shall include a brief summary of Contractor management personnel included in the CQCP along with key project personnel involved with onsite sample acquisition and delivery, onsite chemical parameter measurements, onsite data documentation and reporting, and corrective actions.
- b. Points of Contact. This section shall include, to the extent possible, key government, regulatory, Contractor and subcontractor personnel along with their location, address, phone number and organization affiliation. This section shall identify the contact person for guidance and decision authority regarding chemical measurements and sampling.
- c. Personnel qualification requirements for field personnel responsible for instrumental measurements, and sample acquisition and shipment.

3.4.2.3 Scope and Objectives

The Scope and Objectives Section of the FSP shall contain, as a minimum, a summary of the contaminated media to be remediated, the target contaminants of concern, the remediation technology, the type of matrix and chemical parameters of concern and the DQOs required to support the intended use of the chemical data for the following matrices:

- a. Solid Materials. This section shall include solid materials such as soils, sludges, process solids, treated soils, borrow

materials, and material for offsite transportation and disposal.

- b. Liquid Materials. This section shall include liquid media such as diesel or fuel liquids for offsite transportation and disposal.

3.4.2.4 Field Activities

The Field Activities Section of the FSP shall contain, as a minimum, diagrams, charts, tables, etc., depicting the following:

- a. For non-process solid and liquid samples, a site drawing which depicts sampling locations and assigns a unique identification number (ID) to each sampling point; and a table which includes the location ID, states the DQO for the measurement, and includes duplicates, splits, blanks, rinsates, government QA samples, etc.
- b. For borrow material, Investigation Derived Waste (IDW) and shipping manifesting sample requirements, and charts or tables defining the required samples.
- c. For samples required but for which the sampling locations are not known, a table identifying chemical parameter measurements, such as clean-up confirmation, offsite borrow material, etc., if not included previously.
- d. Copies of Contractor SOPs for the above instrumental chemical measurement and sample acquisition procedures.

3.4.2.5 Sample Chain of Custody/Documentation

The Sample Chain of Custody/Documentation Section of the FSP shall contain, as a minimum, the following:

- a. COC forms to be used on the project. COC forms shall include as a minimum: the unique sample number, time and date acquired, sampler's name, analysis to be performed, matrix type, and any special instructions. The COC shall be signed by the senior onsite Chemist or Contractor Representative designated in the Project Responsibilities section of the FSP.

3.4.2.6 Sample Packaging and Shipping

The Sample Packaging and Shipping section of the FSP shall contain, as a minimum, the following:

- a. Sample labeling, packaging and shipping, including the SOPs for sample labeling (including examples of label), sample packaging, sample cooling, shipping procedures and procedures for corrective actions. The sample integrity shall be established and maintained throughout the custody process.
- b. Shipping Companies, including the shipping companies that will be used to ship the project and government QA samples, including address, phone number, and hours available for sample pick up or delivery.
- c. Shipping Destinations, including the shipping addresses for project chemistry labs, the government QA Lab and other regulatory

labs. This section shall specify points of contact for chemistry labs required for the project and include phone number and address. This section shall include any prenotification time requirements for sample shipment and the receiving hours of the QA Lab.

- d. Sample Identification Table shall identify samples and relate the project samples to the Government QA samples.

3.4.2.7 Chemical Quality Control

The Chemical Quality Control section of the FSP shall contain, as a minimum, necessary details enabling the field personnel to implement the three-phase control procedures required for chemical parameter measurement and sample acquisition and shipment. The details shall define the activities and responsibilities for the preparatory, initial and follow-up phases in accordance with paragraph CONTROL OF CHEMICAL DATA QUALITY.

3.4.2.8 Daily Chemical Quality Control Reports

The DCQCR Section of the FSP shall contain, as a minimum, the elements specified in paragraph Contents of the DCQCR.

3.4.2.9 Corrective Actions

The Corrective Actions section of the FSP shall contain, as a minimum, personnel responsible for project DQO monitoring, and points of contact for corrective actions for such discrepancies as sampling procedures, instrument calibration procedures, performance specification requirements, sample shipping and receiving, data check failures, data reporting, evaluation failures, and verification of corrective action implementation.

3.4.2.10 Project Schedule

The Project Schedule section of the FSP shall contain, as a minimum, schedules for the three-phase quality control process; submittals; and chemical parameter measurements and sampling requirements for the preprocess, process and closure or post remediation phases.

3.4.2.11 Sample Apparatus and Field Instrumentation

The Sample Apparatus and Field Instrumentation section of the FSP shall contain, as a minimum, a list of sampling equipment, apparatus, instruments, containers, supplies, standard forms and labels, and chemical reagents to be taken to the site. When applicable, equipment name, model, serial number, calibration equipment requirements, audit material requirements, and total number of each shall be provided.

3.4.2.12 Appendices

The Appendices section of the FSP shall contain, as a minimum, Contractor standard forms and SOPs which are referenced but not included previously, and standard measurement methods, guidance documents, etc.

3.4.3 Quality Assurance Project Plan

The QAPP shall contain necessary technical detail and direction for laboratory personnel to understand project sample analysis, quality control and data reporting requirements, analytical methods, required detection

limits, QC requirements, and data validation and reporting requirements. The QAPP shall have a Title Page, including the site specific project name, location, and remedial process technology, followed by a Table of Contents and the following:

3.4.3.1 Project Description

The Project Description shall contain, as a minimum, the following:

- a. Site History and Contaminants which shall contain, from paragraph CHEMISTRY REQUIREMENTS, a brief site description including history/background, which serves to orientate users of the QAPP as to what site specific chemical contaminants and their approximate concentrations are in the project.
- b. Existing Site Data Summary which shall contain significant existing chemical data from previous site projects such as PA/SI, RI/FS, etc., as well as a brief summary of the types of samples that will be generated for this project.
- c. Site Specific Analysis Problems which shall contain any previous sample and matrix problems that resulted in laboratory analytical difficulties, as well as any similar analytical problems known to be unique to the remedial process.
- d. Required chemistry which shall identify any data required for removing remediated site from the NPL List, when applicable.

3.4.3.2 Project Organization and Responsibilities.

The Project Organization and Responsibilities section of the QAPP shall contain, as a minimum, an organizational chart depicting the following:

- a. Summary of Personnel including a brief summary of key Contractor management personnel included in the CQCP along with key laboratory personnel involved with sample analysis, project DQOs, documentation, corrective action procedures, data validation and reporting requirements. To the extent possible, key personnel of subcontractor organizations are required.
- b. Key government project management and regulatory personnel as well as Contractor and subcontracted laboratory with their location, address, phone number, and organization. This section shall identify the contact person for sample receipt problems, data reporting problems, guidance, and decision authority, etc.
- c. Personnel qualification requirements which specify minimum requirements for analytical laboratory personnel such as organic and inorganic supervisors, laboratory Quality Assurance (QA) officers, etc.

3.4.3.3 Data Quality Objectives

The DQO Section of the QAPP shall contain, as a minimum, a definition of each chemical sample analysis, and shall define to the analytical laboratories the final uses of the analytical data for all samples submitted. Contractor developed DQOs address the following:

- a. Precision

- b. Accuracy
- c. Representativeness
- d. Comparability
- e. Completeness
- f. Method Sensitivity
- g. Documentation
- h. Data Validation and
- i. Data Reporting.

3.4.3.4 Sample Locations and Procedures

The Sample Location and Procedures section of the QAPP shall identify samples that will be collected from locations where previous analytical problems have been verified, and process collection points which have known analytical problems for a specific remedial technology.

3.4.3.5 Sample Custody and Holding Times

The Sample Custody and Holding Times section of the QAPP shall contain, as a minimum, the following:

- a. A copy of a generic sample receipt form that shall be completed for each shipping container received and shall include as a minimum: the unique sample number, time and date acquired, sampler's name, preservative check, cooler temperature, analysis to be performed, matrix type, method holding time, and any special instructions.
- b. The SOP for intra laboratory chain of custody requirements for samples received and subsequently forwarded to another lab.
- c. Requirements for inter-laboratory sample custody and traceability, including standards, spiking, witness and analyst initialling, etc.

3.4.3.6 Analytical Procedures

The Analytical Procedures section of the QAPP shall contain, as a minimum, a table depicting the project samples; collection point ID; QC samples; analytical method; a description of nonstandard methods including chemical parameter or analyte list, equivalency data, detection limits, precision, accuracy, and the reference method replaced when applicable (Nonstandard methods shall have the analytical laboratory's established and written SOPs); and required detection limits for each analysis of material such as:

- a. Soils, sludges, treated soils, borrow materials, material for offsite transportation and disposal, etc.
- b. Liquid media such as diesel or fuel liquids.

3.4.3.7 Calibration Procedures and Frequency

The Calibration Procedures and Frequency section of the QAPP shall contain, as a minimum, the calibration procedures, calibration schedules, detection limit and retention time window files, performance acceptance criteria, and calibration verifications for each analytical procedure required.

3.4.3.8 Internal QC Checks

The Internal QC Checks section of the QAPP shall contain, as a minimum, batch definition, continuing calibration verifications, blanks, audits, surrogate and spike recovery criteria, internal standards, government and intra-laboratory studies, matrix and duplicate matrix spike results, standard reference material and traceability, monitor or instrument audits, and performance audit sample results.

3.4.3.9 Calculation of Data Quality Indicators

The Calculation of Data Quality Indicators section of the QAPP shall contain, as a minimum; the calculations used to determine detection limits and standard deviation of replicate analysis; accuracy from matrix spikes or standard reference materials; precision from duplicate analysis; standard deviation from triplicate analysis; and completeness based on the number of measurements judged valid and the total number of measurements required.

3.4.3.10 Corrective Actions

The Corrective Actions section of the QAPP shall contain, as a minimum, the following:

- a. The corrective action criteria for sample receipt problems, sample holding times, analytical QC problems, and the contingency plans for each implemented corrective action.
- b. Personnel points of contacts for persons responsible for corrective action reporting, implementation, and documentation consistent with the organizational chart responsibilities.

3.4.3.11 Data Reduction, Validation and Reporting

The Data Reduction, Validation and Reporting section of the QAPP shall contain, as a minimum, the following:

- a. Data Reduction including data reduction procedures, the methods or equations of concentration calculations, reporting units of concentrations, treatment of blank data, significant figures, moisture related data, and the procedure for calculating precision and accuracy.
- b. Data Validation including data validation procedures used for laboratory chemical data, flagging and data qualifying procedures, required levels of validation, and the responsible personnel for each analytical lab and data validation confirmation by successive lines of review as assigned in QAPP organization.
- c. Data Reporting including chemical data flow, analysis and reporting turnaround times, minimum data reporting requirements, destinations and delivery times for each report.

- d. Project specific reporting requirements including CDIRs frequency, the minimum data reporting requirements to the government QA Lab, specific data and time requirements for each lab, and data report destination point.

3.4.3.12 Preventative Maintenance

The Preventative Maintenance section of the QAPP shall contain, as a minimum, the preventative maintenance plan to be implemented by each onsite and offsite laboratory to minimize downtime of laboratory instruments.

3.4.3.13 Performance and System Audits

The Performance and System Audits section of the QAPP shall contain, as a minimum, lab validation audits, method required audits, regulatory required audits, etc. for each onsite and offsite chemical analytical laboratory.

3.4.3.14 QC Reports to Management

The QC Reports to Management section of the QAPP shall contain, as a minimum, the format for reporting an assessment of data accuracy, precision and completeness, personnel responsible for reporting, personnel receiving the reports, and the frequency of the reports.

3.4.3.15 Appendices

The Appendices section of the QAPP shall contain, as a minimum, standard forms, definitions, acronyms, and references pertaining to the project requirements included in the QAPP relating to project DQOs; standard and nonstandard measurement methods; equivalency data; US Government and regional agency guidance and regulatory documents; existing site related documents; other contract related chemical analysis documents, etc. SOPs required in the above elements may be included in the Appendices and referenced in the applicable element.

3.5 DAILY CHEMICAL QUALITY CONTROL REPORTS

3.5.1 General

The DCQCR shall be generated by onsite personnel responsible for chemical parameter measurement and chemical sample acquisition, and signed by the CQC Representative, to assure that chemical data resulting from these activities meets the contract documentation requirements.

3.5.2 Contents of the DCQCR

The DCQCR shall contain, as a minimum, the following:

- a. Job identification and Site numbers.
- b. Weather including temperature, wind speed and direction, barometric reading, significant wind changes, etc.
- c. Chemical Data acquisition work performed, including specific information identifying project and QA samples collected, and calibrations.
- d. Sampling and Sample shipments including shipment and delivery

problems which may affect project DQO requirements.

- e. Chemical parameter measurement problems which may affect project DQO requirements, including instrument malfunction, performance requirement failure, etc.
- f. Any sampling performed as contingency sampling.
- g. Corrective Actions and/or deviations from the approved SAP, including approvals.
- h. Chemical quality control activities, as part of the three-phase control procedures that were implemented, and confirmation that deviations or actions jeopardizing project DQOs have been forwarded to project management. A summary of the feedback procedure for any corrective actions taken.
- i. Signatures of responsible authority and initials of all persons conducting changes/corrective actions.

3.6 CHEMICAL QUALITY CONTROL SUMMARY REPORT

3.6.1 General

A CQCSR shall be produced which includes a summary of all chemical parameter measurement activities after project completion. The summary in its broadest sense shall include an evaluation of the achievement of the required chemical DQOs.

3.6.2 Contents of the CQCSR

The CQCSR shall contain, as a minimum, the following:

- a. Summary of project scope and description.
- b. Summary of DCQCRs.
- c. Summary of deviations from the design chemical parameter measurement specifications.
- d. Summary of chemical parameter measurements performed as contingent measurements.
- e. Summary discussion of resulting data including achieving minimum data reporting requirements.
- f. Summary of achievement of project specific DQOs.
- g. Summary and description of Lessons Learned.
- h. Conclusion and Recommendations.

3.7 CHEMICAL DATA INTERIM REPORT

3.7.1 General

The CDIR shall be produced and provided through USACE management to the USACE Quality Assurance lab assigned to the project. The CDIR serves as part of the follow-up phase of the quality control system mechanism. The

the government QA function will compare QA sample results to corresponding primary sample results and will assess the Contractor's compliance with the SAP and initiate corrective action as necessary.

3.7.2 Contents of the Chemical Data Interim Report

The CDIR shall contain, as a minimum, the following:

- a. A summary of chemical samples acquired during the specified interim period including sample number, collection date, analytical parameter, shipment date, COC forms, laboratory receipt date, sample receipt forms, sample prep date and sample analysis date.
- b. A summary of corresponding QA samples acquired and sent to the lab including the collection dates and sample IDs. The summary shall include a table which relates project and QA samples.
- c. A summary of chemical analyses for the samples including the following laboratory QC procedures and results:
 - (1) Accuracies from surrogate spike recoveries, matrix spikes and spike duplicates and laboratory control samples,
 - (2) Precisions from matrix spikes and spike duplicates, field duplicates and laboratory duplicates,
 - (3) Blank results,
 - (4) Rinsate results and,
 - (5) Holding time discrepancies.
- d. A summary of analytical activities which result in deviations/or affects the PARCC project goals.
- e. Evidence that deviations were provided to management authority responsible for Chemical QC.
- f. Summary of corrective actions taken to correct deficiencies/deviations from contract requirements.

3.8 INTERIM SAMPLING AND ANALYSIS PLAN

When directed to perform a limited amount of chemical parameter measurements by the CO, the ISAP shall be prepared and submitted for acceptance. The ISAP shall contain: well established SOPs for the sampling; EPA standard methods for analysis; the exact number of chemical samples to be acquired and analyzed; the turnaround time for each analytical result; the QA/QC samples and analyses; the data validation process; identification of USACE currently validated analytical laboratories; and reporting requirements including format and submittal time requirements and delivery points. Work performed under an ISAP shall be consistent with project required DQOs, and address only chemical parameters. Each definable work feature of the ISAP shall be conducted under the three-phase control mechanism described in paragraph CONTROL OF CHEMICAL DATA QUALITY.

3.9 CONTROL OF CHEMICAL DATA QUALITY

3.9.1 General

Contractor chemical data quality control shall assure that chemical parameter measurement data complies with the DQOs, ARARs, and the requirements of the SAP. The Contractor shall utilize the three-phase control system which includes a preparatory, initial and follow-up phase for each definable feature of work. The Contractor's three-phase chemical data control process shall assure that minimum data reporting requirements are achieved and shall be implemented according to Section 01440CONTRACTOR QUALITY CONTROL. When possible, the three-phase chemical data control process shall be combined with that under Section 01440CONTRACTOR QUALITY CONTROL.

3.9.2 Three-Phase Process

- a. The preparatory phase shall include a review of the specification, SAP, and all relevant SOPs for the chemical parameter measurement and/or chemical sample acquisition and shipment. A physical examination of required forms, materials and equipment shall be included, to ensure conformance with the SAP and to ensure that all materials are onsite. The preparatory plan shall include a demonstration of sampling procedures by the Contractor's field sampling personnel.
- b. The initial phase shall be performed at the initiation of each definable work feature by the CQC Representative to confirm compliance with the SAP, including: instrument calibration; operation and performance checks; sample acquisition, labelling, and shipment in accordance with required SOPs; sampling equipment decontamination; and completion of required documentation.
- c. The follow-up phase shall require daily inspections to ensure compliance with the SAP, and shall include the DCQCR.

3.10 ANALYTICAL TESTING LABORATORIES

3.10.1 General

The Contractor shall propose the analytical laboratories to be used for the primary samples analyses. Project laboratories performing process, non-process, air and offsite sample analysis shall have a USACE validation.

The Contractor may utilize its own laboratory or utilize subcontract laboratories to achieve the primary required sample analyses.

3.10.2 Laboratory Analytical Requirements

The Contractor shall provide the specified chemical analyses either by the Contractor's and/or by subcontractor's laboratory. The Contractor shall provide chemical analyses for all parameters by methods specified to achieve the project DQOs.

3.10.3 Laboratory Validation Requirements

The Contractor shall propose the minimum number of laboratories that can attain or have attained USACE validation consistent with contract required chemical data quality. The Contractor may propose laboratories which shall subsequently be validated by the USACE, or select currently validated USACE laboratories. The Contractor shall identify all proposed project

laboratories no later than the Coordination Meeting. If a proposed analytical laboratory cannot meet specified analytical requirements or achieve the required validation, the Contractor shall acquire the services of another laboratory that meets the specified analytical requirements and which shall attain the USACE validation. The USACE Laboratory validation process requires a nominal 90 day process. All labs shall be validated in accordance with the following steps:

- a. The nomination by the Contractor of all laboratories to be used for performing source emission sample analysis, ambient air sample analysis and all other solid, liquid and gas phase sample analysis, and the submission by USACE (for each laboratory proposed by the Contractor) of a Laboratory Validation Request Form, as required by USACE, CEMRD/MCX Chemistry Branch, Program Control Coordinator, telephone: 402-221-7494.
- b. The submission by each of the candidate laboratories of their facility specific Laboratory Quality Management Manual (LQMM) which provides key personnel names, education level, experience and responsibility, the laboratory's standard sample receipt form, facility description, equipment list and analytical capabilities in terms of analytical methods offered, method QC, and method detection limits.
- c. Successful analysis, for performance audit samples submitted by USACE, including the analytical results and accompanying minimum data reporting requirements.
- d. Successful laboratory inspection by USACE personnel, including acceptable deficiency resolution and validation award by USACE, HTRW MCX Laboratory Validation Committee.

3.10.4 Laboratory Performance

The Contractor shall provide and/or require continued acceptable analytical performance and shall establish a procedure to address data deficiencies noted by review and/or quality assurance sample results. The Contractor shall provide and implement a mechanism for providing analytical labs with the SAP or QAPP portion of the SAP, for monitoring the lab's performance and for performing corrective action procedures. The Contractor is responsible for acquiring analytical services with additional USACE validated laboratories in the event a project lab loses its USACE validation status during the project.

3.11 DOCUMENTATION

Documentation records shall be provided as factual evidence that required chemical data has been produced and chemical data quality has been achieved. The documentation shall comply with the requirements specified in paragraphs SAMPLING AND ANALYSIS PLAN, DAILY CHEMICAL QUALITY CONTROL REPORTS, CHEMICAL DATA INTERIM REPORT and CHEMICAL QUALITY CONTROL SUMMARY REPORT.

3.12 NOTIFICATION OF NON-COMPLIANCE

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.

-- End of Section --

SECTION 01770F

CONTRACT CLOSEOUT
AM #0001

PART 1 GENERAL

1.1 REFERENCES

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

[AM #0001]

TRI-SERVICE CADD/GIS TECHNOLOGY CENTER (TSC)

TSC-01 A/E/C CADD Standard Manual (Current
Release as of Contract Award date)

U.S. ARMY CORPS OF ENGINEERS (COE)

COE-02 ARCHITECTURAL AND ENGINEERING INSTRUCTIONS
MANUAL (SWD-AEIM), Southwestern Division
(Current issue as of Contract Award date)

1.2 PAYMENT

Contract closeout activities such as, but not limited to, operation and maintenance manuals, record drawings, warranty requirements, equipment warranty identification tags, and inventories, payrolls, and shop drawing submittals, are subsidiary activities of the contract work; separate payment will not be made for any activity unless otherwise specified. Final contract payment will not be made until completion and approval of all contract closeout activities.

1.3 HVAC TESTING

The HVAC Testing that the Contractor schedules after substantial completion pursuant to paragraph entitled "Testing of Heating and Air-Conditioning Systems" of Section 01000 CONSTRUCTION SCHEDULE has a value to the Government of 10 percent of the value of the equipment to be tested. The Contractor shall reserve that amount to be paid on any equipment that will require testing after substantial completion pursuant to the above referenced specification paragraph.

1.4 OPERATION AND MAINTENANCE MANUALS

The Contractor shall be responsible for the preparation, coordination, execution and submittal of all operation and maintenance manuals (O & M Manuals), including spare parts lists, special tools, inventories of equipment manuals, and maintenance instructions, and shall conduct all training for operating and service personnel. Operation and maintenance manuals shall cover all system installations provided in this Contract and shall be in sufficient detail to facilitate normal maintenance and troubleshooting by persons with minimum experience with the installed

equipment.

1.4.1 Submittal Requirements

Six (6) copies of Approved O&M Manuals for each building shall be turned into the Contracting Officer 60 days before completion of the item of work.

The Contractor shall coordinate the content of each instruction period required in the technical specifications with the Contracting Officer's Representative prior to the actual start of the training period.

1.4.1.1 Video taping of Training for Operating and Service Personnel

Each instruction or training period as discussed above, shall be video taped in VHS FORMAT by the Contractor. The taping shall include the entire session(s). The original video tape(s) shall be labeled and turned over to the Contracting Officer. The video camera and tapes utilized by the Contractor, shall be of a quality to enable clear and understandable playbacks of the recorded events.

1.4.1.2 Draft O & M Manuals

On those systems where complete and comprehensive operation and maintenance manuals cannot be fully developed until the system(s) is (are) checked, tested, and/or balanced, and the checking, testing, and/or balancing has not been done when submittals are required, a proposed draft of those system manual(s) shall be submitted. The covers of draft O & M Manuals shall be labeled "DRAFT" in large (not less than font size 24), legible, printed letters. Submit fully developed O & M Manuals for approval after the systems have been checked, tested, and/or balanced but prior to the scheduled final acceptance inspection date. The amount indicated in the Bidding Schedule for "Operation and Maintenance Manuals" with be withheld until submittal and approval of all fully developed O & M Manuals.

1.4.1.3 Commencement of Warranty of Construction

Failure to submit all specified O & M manuals, spare parts listings, spare parts, special tools, inventories of installed property, and training video tapes in a timely manner will be considered as delaying substantial completion of the work. Commencement of warranty under the Contract Clause WARRANTY OF CONSTRUCTION will not occur until all these items are delivered and approved by the Contracting Officer, but not earlier than the date of final acceptance of the work by the Government. When the O & M Manuals with drafts are approved they will not constitute a reason for delaying the start of the warranty period.

1.4.2 Government Possession of Work

The Government may take possession of any completed or partially completed work as provided for under Contract Clause entitled "USE AND POSSESSION PRIOR TO COMPLETION." If the installed equipment and/or systems thereto, have not been accepted by the Government due to the Contractor's failure to submit the above specified items, the Contractor shall operate and maintain such plant or system at no additional cost to the Government until such time that the specified items have been received, approved and any subsequent testing, check-out and/or training has been completed.

1.5 PREPARATION AND SUBMISSION OF OPERATION AND MAINTENANCE MANUALS

This paragraph establishes general requirements for the preparation and

submission of equipment operating, maintenance, and repair manuals as called for in the various sections of the specifications. Specific instruction(s) relating to a particular system or piece of equipment shall be incorporated into the manuals in accordance with the applicable technical specification.

1.5.1 General Requirements

Furnish operations and maintenance manuals on CD-ROM disk along with the number of hard copies specified in the technical sections. When the number of copies are not specified, furnish one single hard copy. Documents on the CD-ROM disk shall be in portable document format (.pdf); all printed and graphic documents, drawings, and illustrations shall be legible and bookmarked. Hard copy requirements are specified below.

1.5.1.1 Hard Cover Binders

The manuals shall be 3-ring binders with a hard cover, from which material may readily be removed and replaced. Binders shall have a separate section for each system or subsystem. Separate the sections with heavy plastic dividers having tabs which identify the material in the section. The following identification shall be inscribed on the cover: the words "EQUIPMENT OPERATING, MAINTENANCE, AND REPAIR MANUAL:" and the name, building number, location, and indication of utility or systems covered. Manuals shall be approximately 8-1/2 by 11 inches with large sheets folded in and capable of being easily pulled out for reference. All manuals for a single facility must be similar in appearance.

1.5.1.2 Warning Page

A warning page shall be provided to warn of potential dangers (if they exist), such as high voltage, toxic chemicals, flammable liquids, explosive materials, carcinogens, or high pressures. The warning page shall be placed inside the front cover, in front of the title page.

1.5.1.3 Title Page

The title page shall show the name of the preparing firm (designer or contractor) and the date of publication.

1.5.1.4 Table of Contents

Provide in accordance with standard commercial practice.

1.5.2 Equipment Operating, Maintenance, and Repair Manuals

1.5.2.1 General

Separate manuals shall be provided for each utility system as defined hereinafter. Manuals shall be provided in the number of copies specified in the applicable technical section. Manuals shall include, in separate sections, the following information for each item of equipment. These requirements may be supplemented by additional requirements specified in the technical sections:

a. Performance sheets and graphs showing capacity data, efficiencies, electrical characteristics, pressure drops, and flow rates. Marked-up catalogs or catalog pages do not satisfy this requirement. Performance information shall be presented as concisely as possible and contain only

data pertaining to equipment actually installed.

- b. Catalog cuts showing application information.
- c. Installation information showing minimum acceptable requirements.
- d. Operation and maintenance requirements. Include adequate illustrative material to identify and locate operating controls, indicating devices and locations of areas or items requiring maintenance.

(1) Describe, in detail, starting and stopping procedures for components, adjustments required to obtain optimum equipment performance, and corrective actions for malfunctions.

(2) Maintenance instructions describing the nature and frequency of routine maintenance and procedures to be followed. Indicate any special tools, materials, and test equipment that may be required.

e. Repair information including diagrams and schematics, guidance for diagnosing problems, and detailed instructions for making repairs. Provide troubleshooting information that includes a statement of the indication or symptom of trouble and the sequential instructions necessary. Include test hookups to determine the cause, special tools and test equipment, and methods for returning the equipment to operating conditions. Information may be in chart form or in tabular format with appropriate headings.

f. Parts lists with names and addresses of closest parts supply agencies, the current unit prices, and the sources of supply. Include spare parts data for each different item of materials and equipment specified.

g. Names and addresses of local manufacturers representatives.

1.5.2.2 Facility Heating Systems

Information shall be provided on the following equipment: Boilers, water treatment, chemical feed pumps and tanks, converters, heat exchangers, pumps, unit heaters, fin-tube radiation, air handling units (both heating only and heating and cooling), and valves (associated with heating systems).

1.5.2.3 Air-Conditioning Systems

Provide information on chillers, packaged air-conditioning equipment, towers, water treatment, chemical feed pumps and tanks, air-cooled condensers, pumps, compressors, air handling units, and valves (associated with air-conditioning systems).

1.5.2.4 Temperature Control and HVAC Distribution Systems

a. Provide the information described for the following equipment:

Valves, fans, air handling units, pumps, boilers, converters, and heat exchangers, chillers, water cooled condensers, cooling towers, and fin-tube radiation.

b. Provide all information described for the following equipment:

Control air compressors, control components (sensors, controllers, adapters, and actuators), and flow measuring equipment.

1.5.2.5 Central Heating Plants

Provide the information described for the following equipment: Boilers, converters, heat exchangers, pumps, fans, steam traps, pollution control equipment, chemical feed equipment, control systems, fuel handling equipment, de-aerators, tanks (flash, expansion, return water, etc.), water softeners, and valves.

1.5.2.6 District Heating Distribution Systems

Provide the information described for the following equipment: Valves, fans, pumps, converters and heat exchangers, steam traps, tanks (expansion, flash, etc.) and piping systems.

1.5.2.7 Exterior Electrical Systems

Information shall be provided on the following equipment: Power transformers, relays, reclosers, breakers, and capacitor bank controls.

1.5.2.8 Interior Electrical Systems

Information shall be provided on the following equipment: Relays, motor control centers, switchgear, solid state circuit breakers, motor controller, and EPS lighting systems, control systems (wire diagrams and troubleshooting flow chart), and special grounding systems.

1.5.2.9 Energy Management and Control System

The maintenance manual shall include descriptions of maintenance for all equipment, including inspection, periodic preventative maintenance, fault diagnosis, and repair or replacement of defective components.

1.5.2.10 Domestic Water Systems

The identified information shall be provided on the following equipment: Tanks, unit process equipment, pumps, motors, control and monitoring instrumentation, laboratory test equipment, chemical feeders, valves, switching gear, and automatic controls.

1.5.2.11 Wastewater Treatment Systems

The identified information shall be provided on the following equipment: Tanks, unit process equipment, pumps, motors, control and monitoring instrumentation, laboratory test equipment, chemical feeders, valves, scrapers, skimmers, comminutors, blowers, switching gear, and automatic controls.

1.5.2.12 Fire Protection Systems

Information shall be provided on the following equipment: Alarm valves, manual valves, regulators, foam and gas storage tanks, piping materials, sprinkler heads, nozzles, pumps, and pump drivers.

1.5.2.13 Fire Detection Systems

The maintenance manual shall include description of maintenance for all equipment, including inspection, periodic preventive maintenance, fault diagnosis, and repair or replacement of defective components.

1.5.2.14 Plumbing Systems

Information shall be provided on the following equipment: Water heaters, valves, pressure regulators, backflow preventors, piping materials, and plumbing fixtures.

1.5.2.15 Liquid Fuels Systems

Information shall be provided on the following equipment: Tanks, automatic valves, manual valves, filter separators, pumps, mechanical loading arms, nozzles, meters, electronic controls, electrical switch gear, and fluidic controls.

1.5.2.16 Cathodic Protection Systems

Information shall be provided on the following material and equipment: Rectifiers, meters, anodes, anode backfill, anode lead wire, insulation material and wire size, automatic controls (if any), rheostats, switches, fuses and circuit breakers, type and size of rectifying elements, type of oil in oil-immersed rectifiers, and rating of shunts.

1.5.2.17 Generator Installations

Information shall be provided on the following equipment: Generator sets, automatic transfer panels, governors, exciters, regulators, starting systems, switchgear, and protective devices.

1.5.2.18 Miscellaneous Systems

Information shall be provided on the following: Communication and ADP systems, security and intrusion alarm, elevators, material handling, active solar, photovoltaic, and other similar type special systems not otherwise specified.

1.6 RECORD DRAWINGS

Record drawings shall be a record of the construction as installed and completed by the Contractor. They are a record of all deviations, modifications, or changes from contract set of drawings, however minor, which were incorporated in the work. They include all the information shown on the contract set of drawings, any Contractor-original drawings, all additional work not appearing on the contract drawings, and all changes which are made after final inspection of the contract work.

1.6.1 Contractor-Original Record Drawings

Contractor-original record drawings are those drawings drawn by the Contractor to further explain the Contract documents such as subcontractor submittals for fire protection/detection, communication, and other systems, and approved Contractor's solutions to problems. Submit these drawings as full-size reproducible sheets and CADD files. CADD files shall conform to the Working CADD file requirements specified in paragraph "Final Record Drawings."

1.6.2 Preliminary Record Drawings

The Contractor shall mark up both a reproducible set and a set of prints to show as-built conditions. These two sets, hereafter called preliminary

record drawings, or singly, reproducibles or prints, shall be kept current and available on the jobsite at all times, except as noted below. A member of the Contractor's Quality Control Organization shall be assigned responsibility for the maintenance and currency of the preliminary record drawings. This assignment and any reassignment of duties concerning the maintenance of the record drawings shall be promptly reported to the Contracting Officer's representative for approval. All changes from the contract drawings which are made in the work or additional information which might be uncovered in the course of construction, including uncharted utilities, shall be accurately and neatly recorded as they occur by means of details and notes. All changes and/or required additions to the preliminary record drawings shall be clearly identified in a contrasting color and which is compatible with reproduction of the preliminary record drawings. Preliminary record drawings shall be updated by Friday of each week. During periods when the reproducibles are being copied and are therefore not available at the jobsite, the Contractor shall continue posting all required data to the prints. The Contractor shall minimize the time that the reproducibles are away from the jobsite and shall update them with all as-built data immediately upon their return. The preliminary record drawings will be jointly inspected for accuracy and completeness by the Contracting Officer's representative and the assigned representative of the Contractor's Quality Control Organization prior to submission of each monthly pay estimate. See paragraph, "Withholding for Preliminary Record Drawings." The record drawings shall show the following information, but not be limited thereto:

a. The location and description of utility lines or other installation of any kind or description known to or found to exist within the construction area. The location of exterior utilities includes actual measured horizontal distances from utilities to permanent facilities/features. These measurements shall be within an accuracy range of 6 inches and shall be shown at sufficient points to permit easy location of utilities for future maintenance purposes. Measurements shall be shown for all change of direction points and all surface or underground components such as valves, manholes, drop inlets, cleanouts, meter, etc. The general depth range of each underground utility line shall be shown (i.e., 3 to 4 feet in depth). The description of exterior utilities includes the actual quantity, size, and material of utility lines.

b. The location and size of all uncharted existing utilities encountered.

c. The location and dimensions of any changes within the building or structure.

d. Correct grade or alinement of roads, structures or utilities if any changes were made from contract drawings.

e. Correct elevations if changes were made in site grading.

f. 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.

g. The topography and grades of all drainage installed or affected as a part of the project construction.

h. Options

Where contract drawings or specifications allow options, only the option selected for construction shall be shown on the record drawings.

1.6.2.1 Blue Line or Black Line Prints

Blue line or black line prints shall be full size. All blue or black line prints shall exhibit good readable print with clear, sharp, dark lines, and shall not be smeared, faded, double imaged, or have torn or ragged edges.

1.6.2.2 Prefinal Inspection For Each Item of Work

As part of the prefinal inspection for each item of work, the preliminary record drawings will be reviewed. They shall comply with this specification prior to scheduling the final inspection, and/or prior to substantial completion of the item of work.

1.6.2.3 Preliminary Record Drawing Final Submittal

Prior to scheduling the final acceptance inspection of the last or only bid schedule item of work, the preliminary record drawings shall be completed and delivered to the Contracting Officer's Representative for review and approval. If upon review, the drawings are found to contain errors and/or omissions, they will be returned to the Contractor for corrections. Failure of the Contractor to make timely delivery of the preliminary record drawings on any or all items of work will be cause for the Government to delay substantial completion and to assess liquidated damages in accordance with the terms and conditions of the contract.

1.6.2.4 Withholding for Preliminary Record Drawings

Failure by the Contractor to maintain current and satisfactory preliminary record drawings in accordance with these requirements will result in withholding from progress payments 10 percent of the progress payment amount until such time as the record drawings are brought into compliance. This withheld amount will be indicated on monthly payment estimates until the Contractor has fulfilled these contract requirements.

1.6.2.5 Final Inspection

For each interim item of work, furnish a copy of the preliminary record drawings for that item, which the Contractor has reproduced from the approved preliminary record drawing reproduces, to the Contracting Officer's representative at the time of final inspection for that item. At the time of final inspection on the last or only item of work, the Contractor shall deliver a copy of the complete set of the approved preliminary record drawings to the Contracting Officer's Representative.

1.6.3 Final Record Drawings

Upon approval of the preliminary record drawings, the Contracting Officer will return the approved preliminary record drawing prints back to the Contractor. The Contractor will then modify the CADD files as may be necessary to correctly show all the features of the project as it was constructed by bringing the contract set into agreement with the preliminary record drawings, including adding additional drawings and CADD files as may be necessary. The Contractor shall furnish the as-built drawings in the same file format as the Working CADD files. The CADD files

are located on the Contract CD-ROM disk in Autodesk's AutoCAD. The Working CADD files are in Autodesk's AutoCAD format. These CADD files are part of the permanent records of this project and the Contractor shall be responsible for the protection and safety thereof until returned to the Contracting Officer. Drawings, tracings, or CADD files damaged or lost by the Contractor shall be satisfactorily replaced by the Contractor at the Contractor's expense. CADD files will be audited by the Contracting Officer and for accuracy and conformance to the above specified drafting and CADD standards.

1.6.3.1 Drafting

Only personnel proficient in the preparation of engineering drawings and CADD shall be employed to modify the original contract drawings, prepare additional new drawings, and modify the CADD files. All modifications and new drawings shall conform to applicable requirements specified in the paragraph "CADD Standards." The Contractor shall ensure that all delivered CADD digital files and data (e.g., sheet files, model files, cell/block libraries) are compatible with the Government's target CADD system and operating system, and adhere to the standards and requirements specified. The term "compatible" means that data is in native digital format i.e., .dgn (MicroStation) or .dwg (AutoCAD). It is the responsibility of the Contractor to ensure this level of compatibility.

1.6.3.2 CADD Standards

CADD drawings shall be prepared in accordance with the applicable general and discipline-specific provisions for drawing formats, level/layer assignments, line colors, line weights, and line types of the TSC-01 (Tri-Service A/E/C Standards) and the COE-02 ("SWD Architectural and Engineering Instruction Manual (AEIM)), Chapter VIII, "Drawings").

The CADD standards, including seed/prototype files containing the Government's preset standard settings and electronic reference files containing the Government's standard border/title block sheets, are located at the following Web site:

<http://tsc.wes.army.mil/products/standards/aec/aecstdweb.asp>.

Mark modifications to Contract drawings in accordance with the Fort Worth District's procedures for drawing modifications, which can be found in the document "CONSTRUCTION SOLICITATION, AMENDMENT, AWARD AND MODIFICATION PROCEDURES FOR DRAWINGS" located at <http://www.swf.usace.army.mil/>, then click on ORGANIZATION, then on Contract Administration Branch, then CADD, "Cadd Amend, Award & As-Built Procedures."

The Contractor shall submit a written request for approval of any deviations from the Government's established CADD standards. Deviations will not be permitted unless prior written approval of such deviations has been received from the Government.

1.6.3.3 Final Revisions

When final revisions have been completed, place the words "REVISED RECORD DRAWING," in letters at least 3/16 inch high, and the date of completion in the revision block above the latest existing revision notation on each drawing CADD file.

1.6.3.4 Border Sheets

The border sheet to be used for any new record drawings shall be the same as used on the original drawings.

1.6.3.5 Copies of the Final Record Drawings

Blue line or black line prints shall be full size. All blue or black line prints shall exhibit good readable print with clear, sharp, dark lines, and shall not be smeared, faded, double imaged, or have torn or ragged edges.

1.6.3.6 Deleted [AM #0001]

1.6.3.7 Submittal Requirements

The Contractor shall submit to the Contracting Officer the final record drawings, consisting of one set of full size blue line or black line prints, one full size vellum reproducible set, and two sets of corrected CADD files on CD-ROM disks; verification that the CADD files have been loaded and work on the designated computer systems and are error- and virus-free; the approved preliminary blue lines; [AM #0001] and all required reproduced items. All paper prints, reproducible drawings, [AM #0001] and CADD files will become the property of the Government.

1.6.4 Post-Record Drawing Work

In event the Contractor accomplishes additional work which changes the as-built conditions of the facility after submission of the record drawings, the Contractor shall furnish revised and/or additional drawings (hard copy and CADD files), as required to depict as-built conditions. The requirements for these additional drawings, including CADD files, will be the same as for the record drawings included in the original submission.

1.6.5 Payment for Final Record Drawings

The amount listed for Final Record Drawings in the Bidding Schedule will be paid to the Contractor upon the Contracting Officer's acceptance of the completed record drawings.

1.7 ADDITIONAL WARRANTY REQUIREMENTS

The warranty requirements specified in this paragraph are in addition to those specified in the Contract Clause WARRANTY OF CONSTRUCTION in Section 00700 CONTRACT CLAUSES.

1.7.1 Performance Bond

It is understood that the Contractor's Performance Bond will remain effective throughout the life of all warranties and warranty extensions. This paragraph is applicable to the Contractor's Warranty of Construction only and does not apply to manufacturers' warranties on equipment, roofing, and other products.

(a) In the event the Contractor or the Contractor's designated representative fails to commence and diligently pursue any work required under the Warranty of Construction Paragraph within a reasonable time after receipt of written notification pursuant to the requirements thereof, the

Contracting Officer shall have a right to demand that said work be performed under the Performance Bond by making written notice on the surety. If the surety fails or refuses to perform the obligation it assumed under the Performance Bond, the Contracting Officer shall have the work performed by others, and after completion of the work, shall make demand for reimbursement of any or all expenses incurred by the Government while performing the work, including, but not limited to administrative expenses.

(b) Warranty repair work which arises to threaten the health or safety of personnel, the physical safety of property or equipment, or which impairs operations, habitability of living spaces, etc., will be handled by the Contractor on an immediate basis as directed verbally by the Contracting Officer or the Contracting Officer's authorized representative.

Written verification will follow verbal instructions. Failure of the Contractor to respond as verbally directed will be cause for the Contracting Officer or the Contracting Officer's authorized representative to have the warranty repair work performed by others and to proceed against the Contractor as outlined in the paragraph (a) above.

1.7.2 Pre-Warranty Conference

Prior to contract completion and at a time designated by the Contracting Officer or Contracting Officer's authorized representative, the Contractor shall meet with the Contracting Officer to develop a mutual understanding with respect to the requirements of Contract Clause WARRANTY OF CONSTRUCTION. Communication procedures for Contractor notification of warranty defects, priorities with respect to the type of defect, reasonable time required for Contractor response, and other details deemed necessary by the Contracting Officer or Contracting Officer's authorized representative 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 will furnish the name, telephone number and address of a licensed and bonded company which is authorized to initiate and pursue warranty work action on behalf of the Contractor. This single point of contact will be located within the local service area of the warrantied construction, will be continuously available, and will be responsive to Government inquiry on warranty work action and status. This requirement does not relieve the Contractor of any of Contractor's responsibilities in connection with Contract Clause WARRANTY OF CONSTRUCTION.

1.7.3 Equipment Warranty Identification Tags

The Contractor shall provide warranty identification tags on all equipment installed under this contract. Tags and installation shall be in accordance with the requirements of Paragraph: EQUIPMENT WARRANTY IDENTIFICATION TAGS.

1.7.4 Contractor's Response to Construction Warranty Service Requirements

The following warranty service requirements are applicable to contracts for Fort Hood and will supplement requirements listed in Paragraph: Warranty of Construction. Following notification by the Contracting Officer or the Contracting Officer's Representative the Contractor shall respond to a warranty service requirement identified by the Contracting Officer's Representative in accordance with the "Warranty Service Priority List" of

this program. This list prioritizes warranty work into the categories. 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.

Payment for this activity will be as follows: 25 percent after six months of the warranty period has passed; the remaining 75 percent will be paid at the end of the warranty period, if there are no outstanding warranty items.:

First Priority 1A Perform on site inspection to evaluate situation, determine course of action, initiate work within 24 hours and work continuously to completion or relief.

Second Priority 1B Perform on site inspection to evaluate situation, determine course of action, initiate work within 48 hours and work continuously to completion or relief.

Third Priority All other work to be initiated within 5 work days and work continuously to completion or relief.

The "Warranty Service Priority List" is as follows:

- 1A Air Traffic Control and Air Navigation Systems and Equipment.
- 1A Air Conditioning System
 - a. Hospital.
 - b. Buildings with computer equipment.
 - c. Commissary and Main PX.
 - d. Clubs.
 - e. Barracks, mess halls, BOQ/BEQ (entire building down).
 - f. Troop medical and dental.
- 1B Air Conditioning Systems
 - a. Recreational support.
 - b. Air conditioning leak in part of building, if causing damage.
 - c. Admin buildings with ADP equipment not on priority list.
- 1A Doors
 - a. Overhead doors not operational.
- 1A Electrical
 - a. Power failure (entire area or any building operational after 1600 hours).
 - b. Traffic control devices.
 - c. Security lights.
- 1B Electrical
 - a. Power failure (no power to a room or part of building).
 - b. Receptacle and lights.
 - c. Fire alarm systems.
- 1A Gas
 - a. Leaks and breaks.
 - b. No gas to family housing unit or cantonment area.

- 1A Heat
 - a. Hospital/Medical facilities.
 - b. Commissary and Main PX.
 - c. Clubs.
 - d. Area power failure affecting heat.
- 1B Heat
 - a. Medical storage.
 - b. Barracks.
- 1A Intrusion Detection Systems
 - Finance, PX and Commissary, and high security areas.
- 1B Intrusion Detection Systems
 - Systems other than priority 1A.
- 1A Kitchen Equipment
 - a. Dishwasher.
 - b. All other equipment hampering preparation of a meal.
- 1B Kitchen Equipment
 - All other equipment not in priority 1A.
- 1B Plumbing
 - a. Flush valves.
 - b. Fixture drain, supply line commode, or water pipe leaking.
 - c. Commode leaking at base.
- 1A Refrigeration
 - a. Commissary.
 - b. Mess hall.
 - c. Cold storage.
 - d. Hospital.
 - e. Medical storage.
- 1B Refrigeration
 - Mess hall - other than walk-in refrigerators and freezers.
- 1A Roof Leaks
 - Temporary repairs will be made where major damage to property is occurring.
- 1B Roof Leaks
 - Check for location of leak during rain to be repaired on priority 2 (major damage to property is not occurring).
- 1A Swimming Pools
 - Chlorine leaks or broken pumps.
- 1A Tank Wash Racks (Bird Baths)
 - All systems which prevent tank wash.
- 1A Water (Exterior)
 - Normal operation of water pump station.
- 1B Water (Exterior)
 - No water to facility.
- 1A Water, Hot (and Steam)

- a. Hospitals.
- b. Mess halls.
- c. BOQ, BEQ, barracks (entire building).
- d. Medical and dental.

1B Water, Hot
No hot water in portion of building listed in priority 1A
(items a through c).

1A Sprinkler System
All sprinkler systems, valves, manholes, deluge systems,
and air systems to sprinklers.

Should parts be required to complete the work and the parts are not immediately available the Contractor shall have a maximum of 12 hours after arrival at the job site to provide the Contracting Officer's Representative with firm written proposals for emergency alternatives and temporary repairs for Government participation with the Contractor to provide emergency relief until the required parts are available on site for the Contractor to perform permanent warranty repair. The Contractor's proposals shall include a firm date and time that the required parts shall be available on site to complete the permanent warranty repair. The Contracting Officer's Representative will evaluate the proposed alternatives and negotiate the alternative considered to be in the best interest of the Government to reduce the impact of the emergency condition. Alternatives considered by the Contracting Officer's Representative will include the alternative for the Contractor to "Do Nothing" while waiting until the required parts are available to perform permanent warranty repair. Negotiating a proposal which will require Government participation and the expenditure of Government funds shall constitute a separate procurement action by the using service.

1.8 EQUIPMENT WARRANTY IDENTIFICATION TAGS

1.8.1 General Requirements

The Contractor shall provide warranty identification tags on all Contractor and Government furnished equipment which he has installed.

1.8.1.1 Tag Description and Installation

The tags shall be similar in format and size to the exhibits provided by this specification, they shall be suitable for interior and exterior locations, resistant to solvents, abrasion, and to fading caused by sunlight, precipitation, etc. These tags shall have a permanent pressure-sensitive adhesive back, and they shall be installed in a position that is easily (or most easily) noticeable. Contractor furnished equipment that has differing warranties on its components will have each component tagged.

1.8.1.2 Sample Tags

Sample tags shall be submitted to the Contracting Officer's Authorized Representative for review and approval. These tags shall be filled out representative of how the Contractor will complete all other tags.

1.8.1.3 Tags for Warranted Equipment

The tag for this equipment shall be similar to the following. Exact format

and size will be as approved by the Contracting Officer's Authorized Representative. The Contractor warranty expires (warranty expiration date) and the final manufacturer's warranty expiration dates will be determined as specified by the Paragraph "WARRANTY OF CONSTRUCTION."

EQUIPMENT WARRANTY CONTRACTOR FURNISHED EQUIPMENT	
MFG _____	MODEL NO. _____
SERIAL NO. _____	
CONTRACT NO. _____	
CONTRACTOR NAME _____	
CONTRACTOR WARRANTY EXPIRES _____	
MFG WARRANTY(IES) EXPIRE _____	
WARRANTY []REPAIRS/[]REPLACEMENT MADE: _____	
WARRANTY []REPAIRS/[]REPLACEMENT MADE: _____	

EQUIPMENT WARRANTY GOVERNMENT FURNISHED EQUIPMENT	
MFG _____	MODEL NO. _____
SERIAL NO. _____	
CONTRACT NO. _____	
DATE EQUIP PLACED IN SERVICE _____	
MFG WARRANTY(IES) EXPIRE _____	
WARRANTY []REPAIRS/[]REPLACEMENT MADE: _____	
WARRANTY []REPAIRS/[]REPLACEMENT MADE: _____	

1.8.1.4 Duplicate Information

If the manufacturer's name (MFG), model number, and serial number are on the manufacturer's equipment data plate and this data plate is easily found and fully legible, this information need not be duplicated on the equipment warranty tag.

1.8.2 Execution

The Contractor will complete the required information on each tag and install these tags on the equipment by the time of and as a condition of final acceptance of the equipment. The Contractor will schedule this activity in the Contractor progress reporting system. The final acceptance inspection is scheduled based upon notice from the Contractor, thus if the Contractor is at fault in this inspection being delayed, the Contractor will, at the Contractor's own expense, update the in-service and warranty expiration dates on these tags.

1.8.3 Payment

The work outlined above is a subsidiary portion of the contract work, and has a value to the Government approximating 5% of the value of the Contractor furnished equipment. The Contractor will assign up to that amount, as approved by the Contracting Officer's Authorized Representative.

1.8.4 Updating Equipment Warranty Tags

Repairing or replacing warranted equipment shall include an updated warranty identification tag on the repaired or replaced equipment. Using a fine point permanent marker pen, update the tag by checking whether the equipment was repaired or replaced, and indicate the date the work was completed. If the equipment was replaced, furnish a new tag, identical to the original tag, except that the MFG., MODEL NO., SERIAL NO., and DATE EQUIP PLACED IN SERVICE items shall be updated. Also, check the box indicating that the equipment has been replaced and indicate the date of replacement.

1.9 INVENTORY OF CONTRACTOR FURNISHED AND INSTALLED EQUIPMENT

A list of equipment or units of equipment that require electrical power or fuel, or may require removal or replacement such as AHUs, fans, air conditioners, compressors, condensers, boiler, thermal exchangers, pumps, cooling towers, tanks, fire hydrants, sinks, water closets, lavatories, urinals, shower stalls, and any other large plumbing fixtures, light fixtures, etc., shall be made and kept up to date as installed. The list shall be reviewed periodically by the Government to insure completeness and accuracy. Partial payment will be withheld for equipment not incorporated in the list. List shall include on each item as applicable: Description, Manufacturer, Model or Catalog No., Serial No., Input (power, voltage, BTU, etc.), Output (power, voltage, BTU, tons, etc.), Size or Capacity (tanks), and net inventory costs; any other data necessary to describe item and shall list all warrantors and warranty periods for each item of equipment. Final list shall be turned over to the Authorized Representative of the Contracting Officer at the time of the Contractor's quality control completion inspection.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

-- End of Section --