

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE J	PAGE OF PAGES 1 3
2. AMENDMENT/MODIFICATION NO. 0002	3. EFFECTIVE DATE 16-Aug-2024	4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO.(If applicable)
6. ISSUED BY CODE US ARMY ENGINEER DISTRICT, FORT WORTH ATTN: CESWF-CT 819 TAYLOR ST, ROOM 2A19 P.O. BOX 17300 FORT WORTH TX 76102-0300	W9126G	7. ADMINISTERED BY (If other than item 6) CODE See Item 6		
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		X	9A. AMENDMENT OF SOLICITATION NO. W9126G24R10BP	
		X	9B. DATED (SEE ITEM 11) 23-Jul-2024	
			10A. MOD. OF CONTRACT/ORDER NO.	
			10B. DATED (SEE ITEM 13)	
CODE	FACILITY CODE			
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS				
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input type="checkbox"/> is extended, <input checked="" type="checkbox"/> is not extended. <p>Offer 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 <u>1</u> 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 you 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.</p>				
12. ACCOUNTING AND APPROPRIATION DATA (If required)				
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.				
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) 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 (such as changes in paying office, appropriation date, etc.) 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 (Specify type of modification and authority)				
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> 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.)				
<p>The Solicitation for Republic of Singapore Air Force (RSAF) Facility Renovations for F-16 and F-35 Ebbing NGB, Fort Smith, AR, is amended as follows.</p> <p>See SF30 Continuation Sheet(s)</p> <p>NOTE: Proposal receipt date remains 6 Sep 2024, at 4:00 pm CT.</p>				
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 (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)		
		TEL:	EMAIL:	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA		16C. DATE SIGNED
_____ (Signature of person authorized to sign)		BY _____ (Signature of Contracting Officer)		

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

CHANGES TO SOLICITATION W9126G24R10BP

CHANGES TO DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

1. The following sections are being replaced and bearing the notation W9126G24R10BP-0002

00 21 16 INSTRUCTIONS, CONDITIONS, AND NOTICES TO OFFERORS

Section 00 21 16 PART II A.1.g. Factor 3, Maximum Pages, CHANGE “~~6~~ 15”

00 21 30 SITE VISITS

Section 00 21 30 PART I 1.1(b), ADD “^{2nd} Site Visit information:

Date: 22 August 2024

Time: 0900 Central time zone

Location: 5300 Airport Blvd, Fort Smith, AR 72903

POC: Richard Bowles

EMAIL: richard.l.bowles@usace.army.mil

Phone: 409-370-8020”

Section 00 21 30 PART I 1.1(c), CHANGE “~~constitute~~ ^{constitute}”

00 22 16 SELECTION PROCEDURES

Section 00 22 16 PART I TAB D 1., CHANGE “~~six~~ 15”

Section 00 22 16 PART I TAB F 2.a., DELETE “~~This duration shall also include all options.~~”

CHANGES TO THE SPECIFICATIONS

2. Replacement Sections: Replace the following section with the accompanying new section of the same number and title bearing the notation W9126G24R10BP-0002.

01 10 00 STATEMENT OF WORK

Section 01 10 00 Part 3 Technical Requirements 3.3.1.3h, DELETE “~~The two large main service doors in the work bay are in good working order and to remain.~~”

Section 01 10 00 Part 3 Technical Requirements 3.3.2.5d, CHANGE “~~Remove~~ Replace ~~damaged~~ curtain wall system glazing ^{in its entirety.} ~~Repair to match the existing assembly.~~”

Section 01 10 00 Part 3 Technical Requirements 3.6.5.1a, CHANGE “~~75-gallon~~ gas-fired water heaters located in Mechanical 116 ^{and on the mezzanine.}”

Section 01 10 00 Part 3 Technical Requirements 3.6.5.1c, ADD “^{where required}”

Section 01 10 00 Part 3 Technical Requirements 3.6.5.2a, CHANGE “~~and p~~ Provide ~~these items~~ a ^{backflow assembly} if none exists, ^{and a pressure reducing valve} if required.”

Section 01 10 00 Part 3 Technical Requirements 3.6.5.3a, ADD “^{if required}”

Section 01 10 00 Part 3 Technical Requirements 3.6.5.3e, ADD “^{Either type K or L piping is acceptable.}”

Section 01 10 00 Part 3 Technical Requirements 3.6.5.4b, ADD “^{if required}”

Section 01 10 00 Part 3 Technical Requirements 3.6.5.5a, ADD “^{if required}”

01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD)
01 35 29.13 HEALTH, SAFETY, AND EMERGENCY RESPONSE PROCEDURES FOR
 CONTAMINATED SITES
01 45 00 QUALITY CONTROL

CHANGES TO THE ATTACHMENTS

3. Replace the following drawing from Attachment B – Concept Design Drawings bearing the notation W9126G24R10BP-0002.

AD101 DEMOLITION PLAN BUILDING 201

End of Summary of Changes

Section 00 21 16 - Instructions, Conditions, and Notices to Offerors

AMENDMENT 0002

PART I – GENERAL INFORMATION

A. INQUIRIES

OFFEROR'S QUESTIONS AND COMMENTS

Questions and/or comments relative to these documents should be submitted via e-mail to:

Contract Specialist – Primary POC

Lindsay Chvilicek

Email: lindsay.m.chvilicek@usace.army.mil

Phone: (817) 408-5319

With a courtesy copy to the Contracting Officer

Nicholas Johnston

Email: nicholas.i.johnston@usace.army.mil

Phone: (817) 866-1006

BIDDER INQUIRY

Technical inquiries and questions relating to proposal procedures or bonds are to be submitted via:

Bidder Inquiry in ProjNet at <http://www.projnet.org/projnet>

To submit and review bid inquiry items, bidders will need to be a current registered user or self-register into system. To self-register go to web page, click BID tab select Bidder Inquiry, select agency USACE, enter Key for this solicitation listed below, and your e-mail address, click login.

Fill in all required information and click create user. Verify that information on next screen is correct and click continue.

From this page you may view all bidder inquiries or add inquiry.

Bidders will receive an acknowledgement of their question via email, followed by an answer to their question after it has been processed by our technical team.

The Solicitation Number is: **W9126G24R10BP**

The Bidder Inquiry Key: **M2UXXU-X44Q2X**

Last day to submit ProjNet questions is seven (7) calendar days prior to proposal due date in order to ensure adequate time is allotted to form an appropriate response and amend the solicitation, if necessary. If the system is not closed in a timely manner, an inquiry posted within seven calendar days of the receipt of proposals will still be regarded as untimely and will not be afforded a substantive response.

Offerors are requested to review the specification in its entirety, review the Bidder Inquiry System for answers to questions prior to submission of a new inquiry. The call center operates weekdays from 8AM to 5PM U.S. Central Time Zone. The telephone number for the Call Center is 800-428-HELP.

Offers will NOT be publicly opened. Information concerning the status of the evaluation and/or award will NOT be available after receipt of proposals.

Oral explanations or instructions are not binding. Any information given to an Offeror which impacts the solicitation and/or offer will be given in the form of a written amendment to the solicitation.

As this is a competitive negotiation acquisition, there is no public bid opening, and no information will be given out as to the number of Offerors or the results of the competition until all awards are made.

B. DIRECTIONS FOR SUBMITTING PROPOSALS

1. Electronic copies of each volume shall be submitted through the Solicitation Module of the Procurement Integrated Enterprise Environment (PIEE) suite at <https://piee.eb.mil/>.

Proposals submitted by mail or hand carried will not be evaluated. Proposals sent through proprietary or third-party File Transfer Protocol (FTP) sites or DoD SAFE will not be retrieved. It is the responsibility of the Offeror to confirm receipt of proposals. All proposals received after the exact time specified for receipt shall be treated as late submissions and will not be considered except under facts and circumstances allowed by the Federal Acquisition Regulation (FAR). There are 10 general steps a vendor must follow in order to use PIEE application modules. A complete list can be viewed at the following site:

<https://piee.eb.mil/xhtml/unauth/web/homepage/vendorGettingStartedHelp.xhtml#step5>

For instructions on how to post an offer, please refer to the Posting Offer demo: https://pieetraining.eb.mil/wbt/sol/Posting_Offer.pdf.

It is the Offeror's responsibility to obtain written confirmation of receipt of all electronic files of the full proposal by the Fort Worth District Contracting office. In the event that the Solicitation Module is down, the alternate method for proposal submission is via email to: lindsay.m.chvilicek@usace.army.mil or the PCO, nicholas.i.johnston@usace.army.mil.

The Offeror must obtain prior approval from the Contracting Officer: nicholas.i.johnston@usace.army.mil to use the alternate submission method. Offerors are responsible for ensuring electronic copies are virus-free and shall run an anti-virus scan before submission.

Electronic copies of each volume shall be compatible with the following software products: Adobe Acrobat Reader 11 and Microsoft Office Suite 2016. Narrative portions of the proposal shall be in Adobe Acrobat portable document file (pdf) searchable text format. The Offeror shall not embed sound or video (e.g., MPEG) files into the proposal files. Electronic files shall be clearly identified for each volume, section, and item.

2. DELIVERY of hard copies and/or CD-ROMs of offers, modifications thereto, or cancellations of offers will NOT be accepted.

3. FACSIMILE OFFERS, modifications thereto, or cancellations of offers will NOT be accepted.

Only the PIEE submitted proposals will be accepted and evaluated by the Government.

C. NIST GUIDANCE: Please NOTE this solicitation requires offerors to enter a National Institute of Standards and Technology (NIST) score in the Supplier Performance Risk System (SPRS) prior to award of this solicitation.

D. PROPOSAL EXPENSES AND PRE-CONTRACT COSTS: This Request for Proposal (RFP) does not commit the Government to pay as a direct charge any costs incurred by the Offeror in the preparation and submission of its proposal or revisions. A stipend is not authorized for unsuccessful offerors.

E. SITE VISIT: Pursuant to Contract Clause "FAR 52.236-3, Site Investigation and Conditions Affecting the Work," prospective offerors will be permitted to inspect the site where services are to be performed and to satisfy themselves as to all general and local conditions that may affect the cost of performance of the Contract to the extent such information is reasonably obtainable. Offerors are urged and expected to inspect the site where the work will be performed. Reference Section 00 21 30 for site visit details.

PART II – PROPOSAL INSTRUCTIONS

A. PROPOSAL SUBMISSION REQUIREMENTS AND INSTRUCTIONS

1. PROPOSAL FORMAT & GENERAL INSTRUCTIONS

a. Submit only the electronic files specifically authorized and/or required elsewhere in this section. Do not submit excess information, to include audio-visual materials, electronic media, etc. All pages shall be numbered.

b. Although hard copies are not accepted, each file shall be clearly indexed, and logically assembled. Font size shall be 12 or larger. An unusual font style, such as script or condensed print, shall not be used for any submission. All page margins shall be at least one (1) inch wide, but may include headers and footers of the solicitation, project title, and company. Pages shall be formatted to print on 8 ½ by 11 inch paper, unless another paper size is specifically authorized elsewhere in this section for a particular submission. Spreadsheets, drawings, and schedule diagrams must fit to 11x17 inch paper size unless specifically authorized in this section for a particular submission. Offerors shall prepare proposals in the English language. Proposals shall be in a narrative format, organized and titled so that each section of the proposal follows the order and format of the factors. Information presented should be organized so as to pertain to only the evaluation factor in the section that the information is presented. Information pertaining to more than one evaluation factor should be repeated in each section for each applicable factor. Electronic files shall be Microsoft Windows compatible. Files shall be submitted in their native format (i.e., doc, xls, ppt, etc.), or if in pdf format, shall be in searchable text. If the electronic files are of a size at which they must be compressed (zipped), they shall be compressed into one zipped folder.

c. Interested parties shall submit responses no later than the date specified on the solicitation document. The time & date of proposal receipt will be the delivery time & date recorded within PIEE. Do not assume that electronic submission will occur instantaneously. Large files may take some time to upload. Offerors should time their upload effort with prudence by not waiting until the last few minutes—this will allow for unexpected delays in the transmittal process and troubleshooting. Proposal submission difficulties should be coordinated with the PIEE Service Desk at 1-866-618-5988. Offerors are encouraged to keep a copy of the upload confirmation for their record. Submissions received after the deadline will be considered late.

d. “Confidential” projects cannot be submitted to demonstrate capability unless all the information required for evaluation as specified herein can be provided to the Government as part of the Offeror’s technical proposal. Offerors that include in their proposals information that they do not want disclosed to the public for any purpose, or used by the Government except for evaluation purposes, must be clearly marked in accordance with the instructions at FAR 52.215-1, Instructions to Offerors—Competitive Acquisition”, paragraph (e), “Restriction on disclosure and use of data”.

e. Proposal revisions shall be submitted as page replacements with revised text readily identifiable, e.g., bold face print or underlining. The source of the revision or amendment, e.g., Error, Omission or Clarification shall be included and be annotated for each revision. Proposal replacement pages shall be numbered and clearly marked "REVISED", with the date of revision.

f. All offerors are required to bookmark their proposal in order to assist with the evaluation of proposals.

g. The following volumes of material shall be submitted:

Volume	Title	Digital Copies	Maximum Pages
I	Technical	1	See below
	Factor 1	1	- 3 projects with one double sided each (total of 3 double sided) - Supplemental Narrative – 1 double sided - TOTAL of 4 double sided as noted above for this factor
	Factor 2	1	- 4 double sided
<AM#0002>	Factor 3	1	- 6 15 double sided </AM#0002>
	Factor 4	1	- 4 double sided
	Factor 5	1	- 8 double sided
	Factor 6	1	- No page limit
II	Offeror's Certifications and Price	1	- No page limit

NOTE: Page limitations, where specified in the RFP, shall be considered a maximum. Pages that exceed the required page limitations will not be evaluated. Additional pages over the maximum allowed will be removed or not read and will not be evaluated by the Government.

h. Proposal Formats/sections

(1) Cover Page. Include the title of the solicitation, solicitation number, offeror name and date of the submittal.

(2) Table of Contents. Each volume of the proposal shall contain a detailed table of contents. If more than one Adobe PDF file is used for a volume, the complete table of contents shall be included in each. Any materials submitted but not required by this solicitation (such as company brochures) shall be relegated to appendices.

(3) All information intended to be evaluated as part of the Technical Proposal must be submitted as part of Volume I. Do not cross-reference similar material in the Technical & Price Proposal, or vice versa. **No dollar amounts from Volume II are to be included in Volume I.**

(4) Offerors are advised to follow the PIEE instructions for uploading files. Additional instructions/guidance can be found at https://pieetraining.eb.mil/wbt/sol/Posting_Offer.pdf

(5) Interested parties shall submit responses no later than the date specified on the solicitation document. **The time & date of proposal receipt will be the delivery time & date recorded within PIEE suite at <https://piee.eb.mil/>.** Do not assume that electronic submission will occur instantaneously. Large files may take some time to upload. Offerors should time their upload effort with prudence by not waiting until the last few minutes—this will allow for unexpected delays in the transmittal process and troubleshooting. It is the offeror's responsibility to obtain written confirmation of receipt of all electronic files of the full proposal by the Fort Worth District Contracting office. In the event that the Solicitation Module is down, the alternate method for proposal submission is via email to: lingsay.m.chvilicek@usace.army.mil ONLY. The Offeror must obtain prior approval from the Contracting Officer: nicholas.i.johnston@usace.army.mil to use the alternate submission method. Offerors are responsible for ensuring electronic copies are virus-free and shall run an anti-virus scan before submission.

i. Joint Venture and LLC Proposal Requirements

(1) A copy of the joint venture agreement shall be submitted with the proposal. Failure to comply with the foregoing requirements may eliminate the proposal from further consideration. If this is an 8(a) or HUBZone joint venture, the Offeror shall ensure that it complies with the applicable requirements of 13 CFR Part 124 and 13 CFR Part 126, respectively.

(2) A small business joint venture offeror must submit, with its offer, the representation required in Section 00 45 00, Representations and Certifications, and paragraph (c) of FAR solicitation provision 52.219-1, Small Business Program Representations, in accordance with 52.204-8(d) for the following categories:

- (a) Small business;
- (b) Service-disabled veteran-owned small business;
- (c) Women-owned small business (WOSB) under the WOSB Program;
- (d) Economically disadvantaged women-owned small business under the WOSB Program; or
- (e) Historically underutilized business zone small business

(3) When proposing as an LLC, the offeror must submit a copy of the operating

agreement which clearly demonstrates the authority to bind the LLC.

j. **Bonds Format:** Offerors shall submit bid bonds (Standard Form 24) in electronic format. Electronic copies of bid bonds shall be included in Volume II: Offerors Certifications and Price under Tab F. Hard copies of bid bonds with the raised seal are no longer required to be mailed in at this time and are not to be sent to the contracting office. Verification of Bid Bonds with sureties will be completed during the evaluation process and before award. Bid bond submissions shall be due by the proposal due date and time. Offerors are responsible for the accurate submission of the Bid Bonds with all signatures and seals applied.

2. PROPOSAL FILES

a. **Format:** The submission shall be clearly indexed and logically assembled. Each volume shall be clearly identified and shall begin at the top of a page. All pages of each volume shall be appropriately numbered and identified by the complete company name, date and Request for Proposal (RFP) number in the header and/or footer.

b. The following additional restrictions apply:

File Packaging: Files submitted to PIEE shall be named as follows:

W9126G24R10BP_ *COMPANY NAME* _VOLUME I

W9126G24R10BP_ *COMPANY NAME* _VOLUME II

c. Content Requirement.

(1) All volumes must be submitted as separate volumes/files as outlined in paragraph 2b above. Do not cross-reference similar material in the Technical and Price Proposals, or vice versa.

(2) Both volumes of the proposal must be received by the closing date and time set for receipt of proposals.

(3) Do not include exceptions to the terms and conditions of the solicitation in either the Technical, or Price Proposals. Should the offer include any standard company terms and conditions that conflict with the terms and conditions of the solicitation, the offer may be determined “unacceptable” and thus ineligible for award. Should the offeror have any questions related to specific terms and conditions, these should be resolved prior to the submission of the offer.

(4) The data criteria specified for each factor identified herein, shall be submitted as part of the proposal.

3. BID GUARANTEE. A Bid Guarantee will be required with this proposal:

52.228-1 BID GUARANTEE (SEP 1996) – See above.

4. DISCUSSIONS. The Government intends to evaluate proposals and award a contract without discussions with Offerors, in accordance with FAR 52.215-1, Instructions to Offerors—Competitive Acquisitions. The Government reserves the right to conduct discussions if the Contracting Officer later determines them to be necessary.

If discussions are held, the Government may engage in a broad give and take with each Offeror in the competitive range, in accordance with FAR 15.306 (d). The Government will provide the Offeror an advance agenda for the discussions. During discussions, the Government may ask the Offeror to further explain its proposal and to answer questions about it.

Upon conclusion of discussion, those Offerors will be afforded an opportunity to submit their proposal revisions for final evaluation and selection.

In addition to the other proposal information, the Contracting Officer shall use this information in making an affirmative responsibility determination for award to the Successful Offerors, in accordance with FAR Part 9. Failure to achieve an affirmative responsibility determination will make the Offeror ineligible for award.

5. COST OR PRICING DATA. Offerors are not required to submit Cost or Pricing Data with their offers.

End of Section 00 21 16

Section 00 21 30 – Site Visits

AMENDMENT 0002

PART 1 GENERAL

1.1 SITE VISITS

(a) Pursuant to Contract Clause "FAR 52.236-3, Site Investigation and Conditions Affecting the Work," and the Site Visit Clause in Section 00 21 00 INSTRUCTIONS, CONDITIONS, AND NOTICES TO OFFERORS prospective offerors will be permitted to inspect the site where services are to be performed and to satisfy themselves as to all general and local conditions that may affect the cost of performance of the Contract to the extent such information is reasonably obtainable. Offerors are urged and expected to inspect the site where the work will be performed. Site visits will be arranged during normal duty hours.

(b) Site visit information. The site visit will be:

Date: 31 July 2024
Time: 0900 Central time zone
Location: 5300 Airport Blvd, Fort Smith, AR 72903
POC: Richard Bowles
EMAIL: richard.l.bowles@usace.army.mil
Phone: 409-370-8020

<AM#0002> 2nd Site Visit information:
Date: 22 August 2024
Time: 0900 Central time zone
Location: 5300 Airport Blvd, Fort Smith, AR 72903
POC: Richard Bowles
EMAIL: richard.l.bowles@usace.army.mil
Phone: 409-370-8020 </AM#0002>

Offerors will provide to the referenced POC, no later than 19August 2024, a complete listing of all attendees and subcontractors to attend the site visit. Include all information requested in the attached Entry Authorization List (EAL) form (para 1 a-d). See Section 00 21 30 Attachment 1.

(c) In no event will a failure to inspect the site <AM#0002> constitute ~~constitute~~ </AM#0002> grounds for withdrawal of a proposal after receipt of proposal or for a claim after award of the contract.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

End of Section 00 21 30

Section 00 22 16 – Selection Procedures

AMENDMENT 0002

PART I. EVALUATION AND RATING SYSTEM

The Government will evaluate the proposals in accordance with the evaluation criteria described herein, using the evaluation rating systems outlined in this section. Price information will be evaluated for fairness, reasonableness, and for material unbalancing, as described herein. This evaluation will be conducted in accordance with FAR Part 15.

Keep in mind that mere promises to comply with contractual requirements are insufficient basis for a favorable rating; evidence is required in support of any statements relating to promised performance.

A. DEFINITIONS

Significant Strength. An aspect of an Offeror's proposal with appreciable merit or will exceed specified performance or capability requirements to the considerable advantage of the Government during contract performance.

Strength. An aspect of an offeror's proposal with merit or will exceed specified performance or capability requirements to the advantage of the Government during contract performance.

Weakness. A flaw in the proposal that increases the risk of unsuccessful contract performance. See FAR 15.001.

Significant Weakness. A flaw in the proposal that appreciably increases the risk of unsuccessful contract performance. See FAR 15.001.

Deficiency. A material failure of a proposal to meet a government requirement or a combination of significant weaknesses in a proposal that increases the risk of unsuccessful contract performance to an unacceptable level. See FAR 15.001.

Uncertainty. Any aspect of a non-cost/price factor proposal for which the intent of the offeror is unclear (e.g., more than one way to interpret the offer or inconsistencies in the proposal indicating that there may have been an error, omission or mistake).

B. BASIS OF AWARD

The Contracting Officer will award a firm fixed-price contract to the responsible Offeror whose proposal the Source Selection Authority determines conforms to the solicitation, is fair and reasonable with regard to pricing, and whose proposal offers the best overall value to the Government, considering the price and non-price factors described herein. All evaluation factors, other than price, when combined, are considered significantly more important than the price; however, the Contract award may not exceed the cost limitation described in the solicitation. The intent of this solicitation is to obtain the best value proposal within the contract cost limitation.

There is no obligation to approach or match the contract cost limitation in the offer. As part of the evaluation, the Government will evaluate proposals relative to the minimum standards in the RFP to determine if they offer additional value to the Government. In addition, innovations in proposals will be evaluated to determine if creative ideas of the Offeror are a better value to the Government compared to the minimum criteria. After the Government evaluates and rates each proposal, the Source Selection Authority (SSA) will compare proposals to determine which proposal represents the best value for award.

The Government reserves the right to accept other than the lowest priced offer or to reject all offers. The Government will not award a contract to an Offeror whose proposal contains a deficiency, as defined in FAR 15.001. If there is a lower priced, conforming offer(s), the SSA must determine that the added value of a more expensive proposal would justify award to that Offeror.

VOLUME I: TECHNICAL PROPOSAL

This volume shall be organized into the following sections:

Location	Factor	Description	Relative Importance
TAB A		COVER PAGE	NOT RATED
TAB B	Factor 1	PAST PERFORMANCE	Most Important Factor, more important than all other factors
TAB C	Factor 2	DESIGN TECHNICAL	2nd Most Important Factor, less important than Factor 1
TAB D	Factor 3	TECHNICAL SOLUTIONS	3rd Most Important Factor, less important than Factors 1 and 2
TAB E	Factor 4	SUSTAINABILITY	4 th Most Important Factor, less important than Factors 1, 2 & 3
TAB F	Factor 5	SUMMARY SCHEDULE	5 th Most Important Factor, less important than Factors 1, 2, 3, & 4
TAB G	Factor 6	SMALL BUSINESS PARTICIPATION	Least Important Factor

TAB A: COVER PAGE

Include the title of the solicitation, solicitation number, offeror name and date of the submittal.

TAB B: FACTOR 1 – PAST PERFORMANCE

1. Submission Requirements:

Narrative: Submit no more than three projects. Each projects Past Performance Worksheet will not exceed one page double sided. Provide a narrative that describes the following past performance requirements:

a. The Offerors shall demonstrate past performance through the submission of similar projects, using the Construction – Past Performance Assessment Worksheet (Attachment 3). Information provided shall demonstrate recent and relevant past performance.

b. If the Offeror is a Joint Venture, Limited Liability Corporation (LLC), Partnership, Teaming Arrangement, or Parent company/subsidiary/affiliate as identified in the offeror's proposal, provide past performance information for construction projects relevant to each of the proposed roles on this project. If any firm has multiple functions or divisions, limit the project examples to those performed by the division or unit submitting the offer.

c. If projects were design-build, identify them as such. Submit no more than three projects completed or substantially completed within five years from the date of this solicitation that best represent the experience similar to the scope of work for this solicitation.

d. One of the three projects submitted for past performance may be a current construction project with at least 70% construction progress completed. However, the remaining projects submitted for past performance must be completed or substantially completed within five years. If Offeror is proposing as a Joint Venture (JV), LLC, Partnership and/or Teaming Arrangement and past performance cannot be provided as such, each partner shall submit past performance information, with no more than three projects each. The page count for each Past Performance Assessment Worksheet shall not exceed two pages.

e. The Past Performance Questionnaire (PPQ) (Attachment 4) is included in the solicitation is provided for the Offeror to submit to the client for each project the Offeror included for Factor 1, Past Performance that does not have an interim or final CPARS evaluation or is a non-Federal Government project. Ensure correct phone numbers and email addresses are provided for the client point of contact. Completed PPQs should be submitted with your proposal. If the Offeror is unable to obtain a completed PPQ from a client for a project(s) before proposal closing date, the Offeror should complete and submit with the proposal the first page of the PPQ, which will provide contract and client information for the respective project(s). Offerors should follow-up with

clients/references to ensure timely submittal of questionnaires. If any negative past performance information is received to which the Offeror has not an opportunity to respond, the contractor will be given an opportunity to provide rebuttal. If the client requests, questionnaires may be submitted directly to the Government's point of contact, Lindsay Chvilicek, via e-mail at lindsay.m.chvilicek@usace.army.mil prior to proposal closing date.

f. Offerors shall not incorporate by reference into their proposals PPQ's previously submitted for other RFPs. However, this does not preclude the Government from utilizing previously submitted PPQ information in the past performance evaluation.

g. Do not request PPQs on projects that have interim or final CPARS evaluations. If an interim or final CPARS evaluation exists and a PPQ is provided for the same project, the CPARS evaluation will be reviewed as the official past performance record for the project, and the PPQ will not be considered by the Source Selection Board or the Source Selection Authority.

h. For USACE or other DoD projects which are underway but do not yet have an interim or final CPARS evaluation, one PPQ per contract may be submitted; to be considered, the PPQ shall be signed by either the Primary Contracting Officer (PCO), Administrative Contracting Officer (ACO) or Contracting Officer Representative (COR) for the contract.

i. Offerors are not required to submit any additional past performance information. The Government will utilize CPARS, and any other information deemed relevant to assess confidence in the Offeror's ability to perform. Offerors may submit information on past performance issues and corrective actions taken to prevent these issues from reoccurring. Discuss whether these corrective actions have been implemented on contracts awarded subsequent to the performance issues, the effectiveness of the corrective actions, and POC information for the subsequent contracts.

j. In addition to the above, the Government may review any other sources of information for evaluation of past performance. Other sources may include, but are not limited to, past performance information retrieved through the Contractor Performance Assessment Reporting System (CPARS), using all CAGE/UEI numbers of team members (Partnership, joint venture, teaming arrangement, or parent company/subsidiary/affiliate) identified in the offeror's proposal, inquires of owner representative(s), Federal Awardees Performance and Integrity Information System (FAPIIS), Electronic Subcontract Reporting System (eSRS), and any other known sources not provided by the offeror. While the Government may elect to consider data from other sources, the burden of providing detailed, current, accurate and complete past performance information rests with the Offeror.

k. Demonstrate the experience of the offeror and/or proposed team on projects same/similar in SIZE, SCOPE, and COMPLEXITY to that described in the solicitation. Offerors shall identify and describe the relevancies for each of the projects submitted compared to the scope of this project. The Government will evaluate the information

provided in making the relevancy determination. Projects demonstrating experience in new or renovation construction projects consisting of a large warehouses, barracks, hangars, large battalion headquarters, office complexes or similar facility type including Design Build will be considered more relevant.

l. The Offeror may provide a supplemental narrative (not project lists), not to exceed two pages, explaining how any corporate past performance that is not directly related to the specific projects above is applicable to this project and how the Government will benefit.

2. Evaluation Criteria:

a. The Government will evaluate the Offeror's record of past performance to ascertain the probability of successfully performing the required efforts of the Solicitation projects to be procured. There are three aspects to the past performance evaluation: recency, relevancy, and confidence.

b. The first aspect of the past performance evaluation is the recency of the past performance. Recent means 70% or more of the contract has been completed and performance occurred within five (5) years of the solicitation issuance date. Based on this criteria, an Offeror's past performance submissions will be determined either "recent" or "not recent." Submissions deemed not recent will not be evaluated further.

c. Once a project is determined to be recent, the second aspect of the past performance evaluation is the relevance of the Offeror's present/past performance information.

d. Past performance submissions deemed recent, but not relevant, will not be evaluated further.

e. The Government will evaluate the Offeror's past performance to determine how relevant the past performance is to the project under consideration. Past performance on the projects identified in the project forms will receive more consideration than past performance provided in the supplemental narrative. The Government will place greater value on projects performed as a prime contractor than as a subcontractor, depending upon overall role and relevancy considerations.

f. More relevant past performance will typically be a stronger predictor of future success and have more influence on the past performance confidence assessment than past performance of lesser relevance.

g. Contracts with lower degrees of relevance will not be as strong of predictors of likely future contract performance success and will typically have less influence on the final past performance confidence rating.

h. Contracts that have little or no relevance typically do not influence the performance confidence rating; however, any contracts with adverse past performance could reflect larger company-wide concerns and may have impact upon the past

performance confidence rating.

i. Past performance submissions with any of the Armed services or other agencies within Department of Defense (DOD) will have more influence on past performance confidence assessment than past performance with other partners and agencies.

j. The burden of providing detailed recent and relevant past performance information rests with the Offeror. However, the Government reserves the right to verify the information on projects submitted for evaluation, and to review CPARS, or other Government project appraisal systems, for information on other projects performed by the Offeror whether submitted as part of a proposal or not. The Government also reserves the right to contact project clients/customers, or other references.

k. For any adverse performance information found and considered for which the Offeror has not had an opportunity to address, the Offeror will be afforded an opportunity to clarify or address.

3. Confidence Evaluation Criteria:

a. After past performance submissions are determined recent and relevant, the quality of the recent and relevant past performance will be rated for the overall confidence assessment. If a CPARS record and PPQ-0 exist for a particular project and the ratings conflict; the CPARS record shall govern.

b. The SSEB will review the past performance information available, to include CPARS and other past performance information deemed relevant, to determine the quality and usefulness as it applies to performance confidence assessment. If any firm has multiple functions or divisions, the Government will only evaluate past performance of the division or unit submitting the offer. If the Government cannot establish the Offeror's relevant past performance, it reserves the right to utilize the Past Performance Questionnaire to conduct telephone interviews on any source it deems relevant to the evaluation. Owners/references may be asked to comment on items such as quality of construction, timeliness, management of the work, subcontractor management, including timely payment to subs or suppliers, safety, level of support for such things as as-built documentation, O&M manuals, training, correcting construction errors, warranty work, etc. If negative information is received regarding past performance, the offeror will be notified and given an opportunity to provide information on the problems encountered and the offeror's corrective actions. The Government's evaluation is not limited to past performance information on the cited example projects.

c. In determining the performance confidence rating for Past Performance, the degree of relevancy of all of the considered efforts; the overall performance record of the offeror on each contract assessed; number and severity of problems and the demonstrated effectiveness of corrective actions taken (not just planned or promised); and trend data will be considered. Contracts with higher degrees of relevance will typically have a greater influence on the final performance confidence rating. Contracts with lower degrees of relevance will typically have less influence on the final

performance confidence rating; however, any contracts with adverse past performance could reflect larger company-wide concerns and may impact the past performance confidence rating. Contracts which are comparatively more recent may be better predictors of likely future success than older contracts. The resulting relevant/recent assessment conclusions will then be combined, along with the assessed quality of performance on prior contracts, to arrive at a single performance confidence rating for the Past Performance Factor.

d. The confidence rating will be established based on the past performance of the firms or that of its predecessor, if applicable. An entity may not establish past performance based on the past performance of its key personnel apart from that of the entity. If the Government does not obtain past performance information and cannot establish a past performance record for the Offeror through other sources, a rating of Unknown (Neutral) confidence will be assigned.

e. In the case of offerors for which there is no information on past contract performance or where past contract performance information is not available, the offeror will not be evaluated favorably or unfavorably on the factor of past contract performance and will be given a "Neutral Confidence" rating.

f. Although the SSEB may not rate an offeror that lacks recent, relevant past performance favorably or unfavorably with regard to past performance, the SSA may determine that a "Substantial Confidence" or "Satisfactory Confidence" past performance rating is worth more than a "Neutral Confidence" past performance rating in a best value tradeoff.

g. If negative past performance information is received on any PPQ, the Offeror will be given an opportunity to provide input as required by FAR part 15. CPARS that are part of the official record will be utilized as if the Offeror has already had an opportunity to respond.

TAB D: FACTOR 2 – DESIGN TECHNICAL

1. Submission Requirements:

Narrative (NTE four double-sided pages): Provide a narrative that describes the following design technical requirements:

Offerors shall submit narratives and drawings to describe the firm's unique technical design solution. These elements must reinforce each other and be self-explanatory in presenting the offeror's technical solution.

The narrative shall cover all features of the proposed design for all disciplines. The Offeror shall make a statement that their design complies with the most current regulations, standards, codes, and Design Requirements (Section 01 10 00). The narrative shall include but not necessarily be limited to the following:

- a. General Approach – Describe the processes, procedures, and/or techniques that

will be utilized to complete the design and construction on schedule. Describe the general phasing approach of design and construction. Indicate any intent to fast-track portions of the work, why this is an advantage to the government, and how this will be accomplished. The Offeror shall also describe how they intend to phase the work to utilize the minimal laydown areas available. At a minimum the offeror shall acknowledge the limited access to laydown space and outline their means and methods for dealing with these constraints.

b. Identify your proposed onsite project staffing by position, to include, as a minimum: Superintendent, Site Safety and Health Officer (SSHO), and Construction Quality Control (CQC) Manager. Refer to the following Specification Sections for requirements: 01 32 01.00 10 Project Schedule; 01 35 26 Governmental Safety Requirements; 01 45 00.00 10 Quality Control. Information may be provided in narrative format, table(s), and/or organizational chart(s). Identification of specific individuals and/or resumes is not required nor desired as part of this submission but shall be submitted after award as required by the specifications.

c. Describe how the Prime Contractor, Superintendent, CQC Manager, Safety Manager, Construction PM, Designer of Record, and key subcontractors interact during both design and construction.

d. Describe how the DB team coordinates amongst each other and the process that will be used for quality control and quality assurance. Describe how the design/build team interacts/coordinates with outside agencies or public entities (The Fort Smith Air Field Manager, utility companies and local jurisdictions, etc.) during design and construction.

e. The Government will evaluate the Offeror's understanding of renovation projects of this scope and nature. To include the unique requirements of this facility as portrayed in your discussion of design, demolition and construction intent, including but not limited to design procedures/processes, proposed method of construction (i.e. utilities, building design), construction operations (i.e. Requests for Information (RFIs) and Submittal requirements), and quality control process for design and construction. Failure to provide the government with a clear process for working through this design, demolition and construction and a failure to acknowledge the unique challenges a renovation of this nature has will be considered a deficiency by the government.

2. Evaluation Criteria:

a. The Government will evaluate how the prime contractor, designers, and key subcontractors plan to interact during design and construction. The Government will also evaluate how the design/build team plans to interact and coordinate with outside agencies or public entities (AFCEC, USACE, local authority's having jurisdiction and utility companies, etc.) during design and construction. The offeror should provide a clear plan that is easily understandable with effective means of communication with all of these parties. Failure to provide a clear understandable communication plan will be evaluated as a deficiency.

b. Demonstrates a clear understanding of all tasks listed in the Statement of Work

that will yield the required results in the required time frame with least impact to continued operation.

c. Demonstrates a clear understanding of existing operations and the ability to continue operations with the least impact.

TAB D: FACTOR 3 – TECHNICAL SOLUTIONS

This factor considers the types of building systems, especially engineered systems, and their basis of design.

1. Submission Requirements:

<AM#0002> Narrative (NTE six 15 double-sided pages): </AM#0002> Provide technical approach narratives, both qualitative and quantitative, defining the elements of the proposal. The proposed building systems shall meet all applicable codes, standards and criteria as prescribed in the Statement of Work. Narrative should focus on maintenance considerations, energy consumption, and suitability of the proposed systems for the expected usage.

a. Wall Sections & Details: Provide typical building sections, wall sections and appropriate details depicting material quality.

b. The minimum acceptable level of quality for finishes suitable for the expected population and usage. This is an aircraft hangar; the hangar space should have durable finishes that are not easily damaged. Office spaces should have finishes appropriate for the intent of the space. Finishes for office space should be esthetically pleasing, but they shall be economically suitable for the spaces.

c. Mechanical Systems: Describe how the mechanical systems selected provide for a highly efficient environmental control system including information about provisions for indoor air quality in the office spaces and maintenance for the entire project.

d. Plumbing Systems: Describe how the plumbing systems selected provide for a highly efficient water system. The Offeror shall also describe how they plan to provide efficient dispersion of hot water as necessary to break rooms, bathrooms and throughout any other building spaces that may require hot water.

e. Electrical Systems: Describe how the electrical power and lighting systems selected provide for a highly efficient electrical system.

f. Electronic and Communications Systems: Describe how the electronic and communications requirements will be addressed and what features will be provided in the proposed project.

g. Site Utilities and Site Systems: Describe how the site utility systems selected provide for an efficient system. Include information regarding coordination with privatized utility providers where applicable.

h. Interoperability: Describe how systems integrated into the new facilities which require connection and interface with existing Installation wide systems will be accommodated in the proposed project. Narrative should address the following systems as minimum: Fire Alarm, Telephone, Cable Television, Utility Monitoring & Control System, Mass Notification and privatized utility companies where applicable.

i. Secure Area: Describe how the Special Access Program Facility (SAPF) will be designed and constructed in accordance with relevant standards and regulation to include the Intelligence Community Directive (ICD) / Intelligence Community Standards (ICS) 705 standards and F-35 Facility Requirements Document (RFD).

j. ATFP Considerations: Describe how the proposed materials, systems, and designs address the mandatory building ATFP requirements included in the UFC.

k. Fire Protection/Life Safety Considerations: Describe how Life Safety will be addressed and what fire protection features will be accommodated in the proposed project. Describe fall protection systems.

2. Evaluation Criteria:

a. Demonstrates that the systems and components provide value to the Government and addresses the requirements of the solicitation.

b. The Government will evaluate the information provided for completeness, coordination, approach, aesthetics, technical problem solving, appropriate use of materials, maintainability, and adherence to this solicitation. The Government will evaluate the Offeror's technical solution and narratives for completeness and compliance with Section 01 10 00 requirements. Failure to submit any of the identified narratives, drawings and or organizational chart included in Technical Approach will be evaluated as a deficiency.

c. The offeror may provide roofing upgrades to include the use of IDPM style roofs for the flat roofs and standing metal seam roofs for any pitches 3:1 or greater would be considered a significant strength.

TAB E: FACTOR 4 – SUSTAINABILITY

Sustainability considers, environmental stewardship, and lowered life cycle expenses.

The Government will evaluate the systems and components proposed in terms of warranties provided, maintenance considerations (frequency, estimated cost, access, equipment locations), operability (ease of use, placement of control features, simplicity), durability (withstand troop usage, ease of cleaning), sustainability, and energy consumption (HVAC, lighting, power).

1. Submission Requirements:

Narrative (NTE four (4) double-sided pages): Provide a narrative that describes the following sustainability requirements:

a. Demonstrates a strategy to fully comply with the Federal High Performance and Sustainable Building (HPSB) Guiding Principles (GPs) as specified in the Unified Facilities Criteria 1-200-02 verified by an approved Third Party Certification. The facility shall comply with the Air Force Sustainable Design and Development (SDD) Implementing Guidance, 2 JUN 2011 and the AFCEC A-GRAM 17-01, dated February 2017.

b. Demonstrates a strategy to meet or exceed the requirements of the Guiding Principles Compliance Verification per UFC 2-200-02 Criteria, as administered by the Green Building Initiative.

c. Demonstrates a strategy to meet or exceed the requirements of Public Law 109-58, Energy Policy Act (EPAAct) 2005, 8 Aug 05.

d. Demonstrates the understanding of the extents to which UFC 3-210-10, Low Impact Development, current edition, apply to the project.

e. Demonstrates the understanding of the extents to Guiding Principles for Sustainable Federal Buildings by the Council on Environmental Quality on February 26, 2016 as they apply to the subject project.

f. Energy Conservation: Describe the strategy to achieve 30% energy savings over the International Energy Conservation Code (IECC) baseline in accordance with UFC 1-200-02 and Energy Policy Act (EPAAct) of 2005 in the proposed project.

2. Evaluation Criteria:

a. Demonstrates an ability to meet the requirements of Green Building Initiative Guiding Principles Compliance Verification per UFC 1-200-02.

b. Demonstrates a strategy and capability to meet a minimum of 30% energy savings from the IECC baseline.

c. Demonstrates an ability to prepare a Life-cycle Cost Analysis (LCCA) in accordance with CFR Title 10 Part 436, Subpart A and MIST Handbook 135.

d. Provides an overall demonstrable approach to resource conservation in the areas of material, energy, and water.

TAB F: FACTOR 5 – SUMMARY SCHEDULE

Proposed Contract Duration - The firm shall propose the contract duration for the project, not to exceed the maximum contract duration specified in the CLIN Schedule.

1. Submission Requirements:

Narrative (NTE eight double-sided pages total for the narrative and schedule,

11x17 inch pages are allowed for the summary level schedule and will be counted as a single page: Provide a narrative that describes the following summary schedule requirements:

a. Proposed Contract Duration: The Offeror shall propose the overall contract duration to include all activities identified in the CLIN Schedule not to exceed the maximum contract duration as identified in Section 01 00 00.00 44. The Offeror may propose a phased turnover for features of work if advantageous to the government. The government is requiring the turnover of Building 216 by 30 June of 2026 though the contractor may propose a phased turnover of other facilities as well and the government would evaluate this to determine if this approach is a benefit the government.

b. Summary Schedule: Offerors shall submit a summary level schedule for construction. This project has no options associated with it. This summary schedule will, after contract award, be replaced with a project schedule as required by Section 01 32 01.00 10: Project Schedule. The summary schedule shall be task oriented, indicating the number of calendar days, after notice to proceed, by which milestones are to be achieved. Offeror may use a critical path or other method of his choice; however, schedules shall be graphically represented and shall include, as a minimum, Activity ID, Activity Description, Original Duration, early start and early finish dates, and total float for each activity. The proposed schedule shall include an activity that shows the proposed overall contract duration in calendar days. Give attention to the following features:

(1) Show activities for each feature of work, this includes all CLINS, in sufficient detail to demonstrate an understanding of the scope of work and to substantiate the reasonableness and realism of the proposed duration.

(2) Show submittal preparation and review/approval activities for long lead items to demonstrate an understanding of the submittal process and minimum review times for Government approved submittals.

(3) Show activities and/or milestones for coordination with privatized utility providers during construction, to demonstrate your understanding of the coordination requirements for the contract.

(4) Show turnover of the project within the overall period of performance with Building 216 being turned over by 30 June 2026. Identify any proposed phased turnovers. The time to complete the project and turnover to the Government must consider the requirement for the Contractor's CQC completion inspection and the subsequent joint Contractor-Government turnover inspection.

(5) Show closeout activities, to include the Red Zone meeting, record drawings, and O&M manuals to demonstrate your understanding of the closeout requirements of the contract.

(6) Critical Path: Indicate the anticipated overall critical path on the schedule. The overall schedule shall include key milestones and tasks in succession and duration

to project completion.

(7) Describe the approach to address risks that may impact completing the project within the required duration. Clearly describe each risk, mitigation strategy, and detail an innovative approach if applicable. At a minimum, the narrative shall address long lead items, supply, labor, and logistical risks in current market conditions.

2. Evaluation Criteria:

a. Proposed Contract Duration: The proposed contract duration will become the contractually binding duration for the project at award. The Government will evaluate the contract duration as proposed by the Offeror herein and on the Price Proposal Schedule, not to exceed the maximum allowed duration listed in Section 01 00 00.00 44. ~~<AM#0002> This duration shall also include all options. </AM#0002>~~ In assessing the reasonableness of the proposed contract duration, the Government may take into account how well the proposed summary schedule supports the proposed duration, as well as use other information, such as, but not limited to, independent judgment concerning logic, constraints, and typical construction durations. A proposed contract duration shorter than the maximum allowed duration, or proposed phasing providing for early turnover of facilities, will receive additional rating consideration, provided the schedule is realistic and deemed to be achievable. The Government will consider an unreasonably condensed contract duration, which places additional cost or schedule risk on the Government, or which may create a risk of contract or performance failure, as a significant weakness or a deficiency, depending upon the evaluators' judgment.

b. Summary Schedule:

(1) The Government will evaluate the schedule to assess the strength of understanding of the project scope for integrated design and construction, restrictions which must be considered in the schedule e.g., sequencing of work, long lead items, Government review periods for construction plan approvals and other Government approved construction submittals, closeout activities, etc. A schedule with Government submittal review periods shorter than the minimum specified review period for Government approved construction plans will be considered deficient and will be rated unacceptable.

(2) The Government will evaluate the strength of understanding of events associated with coordinating design submittals, reviews and incorporating review comments, the Offeror's capability to schedule the complete project within the proposed contract duration and the reasonableness and realism of the schedule.

(3) The Government will evaluate the design packaging plan for logic, reasonableness, how it facilitates meeting the proposed contract duration and how it facilitates the Government's ability to timely perform its design reviews. A schedule with Government design review periods shorter than the minimum specified review periods for design submittals will be considered deficient and will be rated unacceptable. The packaging plan shall minimize risk to the Contractor and to the Government for tear-out and coordination for reviews. A schedule that offers advantage(s) to the Government

over one that merely indicates an adequate understanding of the scope, restrictions, major milestones, and general understanding of the various events that can affect start and completion of construction will receive additional consideration. Failure to provide a schedule that meets the **880 day** Period of Performance (POP) required will be considered a deficiency for this factor. Failure to provide for the turnover of Building 216 by 30 June 2026 will also be considered a deficiency for this factor. (Assume start of POP at NTP issued 30 days after award).

(4) The Government will evaluate the processes, procedures, and/or techniques that will be utilized in order to complete construction on schedule. This may be presented as a flow chart, narrative or by any other means in the proposal the Offeror chooses that allows the governments evaluation team to clearly understand the intent of the Offeror. Failure to provide this will be evaluated as a deficiency. Failure to provide a clear and easily understandable process for this will be evaluated as a weakness.

(5) The Government will evaluate the Offeror's risk mitigation strategies to achieve successful contract performance within the contract period of performance. Narratives failing to identify and address potential long lead items, general market material supply, labor, or logistical risks in current market conditions shall be evaluated as a deficiency. The Government will evaluate whether the risk mitigation strategies are realistic and demonstrates an understanding of how to effectively reduce project risks as it relates to contract performance and schedule.

NOTE: ALL NON-PRICED FACTORS FROM VOLUME 1, WHEN COMBINED, ARE SIGNIFICANTLY MORE IMPORTANT THAN PRICE

TABLE 1 - COMBINED TECHNICAL/RISK RATINGS

Rating	Description
Outstanding	Proposal demonstrates an exceptional approach and understanding of the requirements and contains multiple strengths and/or at least one significant strength, and risk of unsuccessful performance is low.
Good	Proposal indicates a thorough approach and understanding of the requirements and contains at least one strength or significant strength, and risk of unsuccessful performance is low to moderate.
Acceptable	Proposal meets requirements and indicates an adequate approach and understanding of the requirements, and risk of unsuccessful performance is no worse than moderate.
Marginal	Proposal has not demonstrated an adequate approach and understanding of the requirements, and/or risk of unsuccessful performance is high.
Unacceptable	Proposal does not meet requirements of the solicitation and, thus, contains one or more deficiencies and is unawardable, and/or risk of performance is unacceptably high.

TABLE 2 - Technical Risk Ratings	
Adjectival Rating	Description
Low	Proposal may contain weakness(es) which have low potential to cause disruption of schedule, increased cost, or degradation of performance. Normal contractor emphasis and normal Government monitoring will likely be able to overcome any difficulties.
Moderate	Proposal contains a significant weakness or combination of weaknesses which may have a moderate potential to cause disruption of schedule, increased cost, or degradation of performance. Special contractor emphasis and close Government monitoring will likely be able to overcome any difficulties.
High	Proposal contains a significant weakness or combination of weaknesses which is likely to have high potential to cause significant disruption of schedule, increased Cost, or degradation of performance. Special contractor emphasis and close Government monitoring will unlikely be able to overcome any difficulties.
Unacceptable	Proposal contains a deficiency or a combination of significant weaknesses that causes an unacceptable level of risk of unsuccessful performance.

Table 3 - Past Performance Relevancy Ratings	
Rating	Definition
Very Relevant	Present/past performance effort involved essentially the same scope and magnitude of effort and complexities this solicitation requires.
Relevant	Present/past performance effort involved similar scope and magnitude of effort and complexities this solicitation requires.
Somewhat Relevant	Present/past performance effort involved some of the scope and magnitude of effort and complexities this solicitation requires.
Not Relevant	Present/past performance effort involved little or none of the scope and magnitude of effort and complexities this solicitation requires.

TABLE 4 - Performance Confidence Assessments	
Rating	Definition
Substantial Confidence	Based on the offeror's recent/relevant performance record, the Government has a high expectation that the offeror will successfully perform the required effort.
Satisfactory Confidence	Based on the offeror's recent/relevant performance record, the Government has a reasonable expectation that the offeror will successfully perform the required effort.

Neutral Confidence	No recent/relevant performance record is available, or the offeror's performance record is so sparse that no meaningful confidence assessment rating can be reasonably assigned. The Offeror may not be evaluated favorably or unfavorably on the factor of past performance.
Limited Confidence	Based on the offeror's recent/relevant performance record, the Government has a low expectation that the offeror will successfully perform the required effort.
No Confidence	Based on the offeror's recent/relevant performance record, the Government has no expectation that the offeror will be able to successfully perform the required effort.

TAB G: FACTOR 6 – SMALL BUSINESS PARTICIPATION PROPOSAL

All offerors, regardless of size status, are required to complete a Small Business Participation Proposal. In accordance with DFARS 215.304(c)(i), the government will evaluate Small Business Participation in source selections for unrestricted acquisitions that require use of FAR 52.219-9, Small Business Subcontracting Plan and is required for this procurement. Offerors shall articulate within their Small Business Participation Proposal how they intend to meet the Small Business Participation Proposal criteria outlined in the solicitation.

1. Submission Requirements:

Narrative: (No page limit for this Factor): Provide a narrative that describes the following Small Business Participation Proposal requirements and criteria:

All offerors shall complete and submit a Small Business Participation Proposal using the format template, Attachment 1 at the end of this section.

Nothing precludes an offeror from further demonstrating their extent of commitment to using small businesses beyond what has been required by this solicitation.

2. Criteria:

a. The Government requirement will evaluate the level of proposed participation of small businesses in the performance to determine which offeror proposes the best value in terms of the contract relative to the percentages and criteria established herein. Failure to submit a Small Business Participation Proposal will be evaluated as a deficiency.

b. All offerors shall articulate the extent to which Small Businesses (SB), Small, Disadvantaged Businesses (SDB), Women-Owned Small Businesses (WOSB), HZ Small Businesses (HZ), Veteran-Owned Small Businesses (VOSB) and Service-Disabled, Veteran-Owned Small Businesses (SDVOSB) that are specifically identified in the proposal.

c. Extent of participation of Small Business firms in terms of percentages based on the total value of the offeror's proposal of the acquisition and the extent to which the proposal meets or exceeds small business participation percentages detailed in paragraph below.

d. Large businesses may achieve their small business participation commitments through subcontracting to small businesses. Small businesses may achieve their small business participation commitments through their own performance/participation as a prime or through a joint venture, teaming arrangement, and subcontracting to other small businesses.

e. The minimum small business participation percentages are:

- SB: 28% based on total value of proposal
- SDB: 5% based on total value of proposal
- WOSB: 5% based on total value of proposal
- HZ: 3% based on total value of proposal
- VOSB: 5% based on total value of proposal
- SDVOSB: 5% based on total value of proposal

f. Offeror shall describe the extent of commitments to identify firms (if any) in place for this solicitation. Enforceable commitments are weighed more heavily than non-enforceable commitments.

Enforceable commitments must include:

- (1) Firm must be a small business
- (2) Socioeconomic category of the small business
- (3) Services/supplies to be provided by the small business
- (4) Specificity to the subject requirement by indicating the solicitation number on the document
- (5) Legible signature blocks and signatures from BOTH parties authorized to sign on behalf of their respective firm to demonstrate acknowledgement of the business relationship
- (6) Small business firm must be identified on the Small Business Participation Proposal as appropriate

g. The offeror shall describe the use of small business firms providing the following information:

- (1) Name of each small business, include each socio-economic category
- (2) Complexity and variety of work to be performed by small business
- (3) Percentage of work performed by each firm

h. Offerors failing to identify, or severely limit, the supplies/services to be performed may be evaluated as a weakness or deficiency.

i. Past performance of the offerors in complying with the requirements of the clause FAR 52.219-8, Utilization of Small Business Concerns or 52.219-9, Small Business

Subcontracting Plan. The Offeror shall provide a narrative describing compliance to small business. The Government will evaluate based on one and/or a combination of the following:

- (1) Reporting of small business performance in CPARS
- (2) History of prompt payments to small business subcontractors
- (3) Reporting of small business performance in eSRS.
- (4) Documentation from customers demonstrating use/support of small businesses
- (5) Documentation of other information to substantiate the use of small business demonstrating the total small business contract completion by the small business prime and/or subcontracting to other small business.
- (6) Documentation from federal agency customers demonstrating the use/support of small business and/or information substantiating the use of small business subcontractors may be evaluated more favorably.
- (7) Small Business compliance reviews
- (8) DCMA Small Business Subcontracting Program reviews

j. Offerors are encouraged to submit proof of awards, accolades, or similar type documentation received for their current and/or past support of small businesses. The offeror is not limited to the examples provided.

k. The Government reserves the right to review additional information outside of the evaluation criteria below.

l. Material submitted in support of the Small Business Participation Proposal shall be logically assembled and organized to facilitate evaluation. The use of hyperlinks in lieu of incorporating information into the proposal remains prohibited. Do not cross-reference materials as the Government will not look to obtain information in support of an offeror's Small Business Participation Proposal from other volumes or within the Small Business Subcontracting Plan (if applicable).

m. Offerors shall not submit a hybrid plan that includes a combination of elements from a Small Business Participation Proposal (in accordance with DFARS PGI 215.304) and elements of a Small Business Subcontracting Plan (in accordance with FAR 52.219-9) as the two are distinctly different. Doing so will result in a weakness.

3. Evaluation:

a. The submitted Small Business Participation Proposal will utilize the ratings as described in Table 5, Small Business Rating Method based on the following:

- (1) Extent of participation of Small Business firms in terms of percentages and the extent to which the proposal meets or exceeds the small business participation

percentages as detailed in paragraph above as outlined in the solicitation. Offerors providing less than the percentages outlined above may be evaluated as a weakness or deficiency.

(2) The Government will verify the total value of the offeror's proposal to ensure percentages are consistent as identified in the solicitation. If an offeror's value of their total proposal is inconsistent with the percentages outline in the Small Business Participation Proposal, it may result in a weakness or deficiency.

(3) Extent to which Small Business firms, as defined in FAR Part 19 (Small Business (SB), Small, Disadvantaged Business (SDB), Women-Owned Small Business (WOSB), HUBZone Small Business (HZ), Veteran-Owned Small Business (VOSB) and Service-Disabled, Veteran-Owned Small Business (SDVOSB), are specifically identified in the proposal. The Government will evaluate the firms specifically identified by the Offeror in the submitted Small Business Participation Proposal.

(4) Extent of commitment to use the identified firms. The Government will evaluate the types of commitments in place (if any) for this specific acquisition (small business prime, written contract, verbal, enforceable, non-enforceable, joint ventures, mentor-protégé, teaming agreements, partnership letters of commitment(s), etc.). Enforceable commitments as defined in paragraph above, may be evaluated more favorably than non-enforceable commitments.

(5) Extent to identify the complexity and variety of work small business firms are to perform. The Government will evaluate the meaningful elements of the type and complexity of work to be performed by small business. Offerors failing to identify, or severely limit, the supplies/services to be performed may be evaluated as a weakness or deficiency.

(6) Extent of past performance of the offerors in complying with the requirements of the clauses at FAR 52.219-8 *Utilization of Small Business Concerns* or 52.219-9 *Small Business Subcontracting Plan*. The Government will evaluate based on one and/or a combination of the following:

(a) Reporting of small business performance in CPARS

(b) History of prompt payments to small business subcontractors

(c) Reporting of small business performance in eSRS

(d) Documentation from customers demonstrating use/support of small businesses

(e) Documentation of other information to substantiate the use of small business demonstrating the total small business contract completion by the small business prime and/or subcontracting to other small business

(f) Documentation from federal agency customers demonstrating the use/support of small business and/or information substantiating the use of small business subcontractors may be evaluated more favorably

(g) SBA compliance reviews

(h) DCMA Small Business Subcontracting Program reviews

(7) Offerors with no prior contracts containing FAR clause 52.219-8, and whether negative information has been reported concerning the Offeror’s past compliance with FAR 52.219-8 alongside any explanation to address the negative information.

(8) Extent of documentation from federal agency customers demonstrating the use/support of small business and/or information substantiating the use of small business subcontractors may be evaluated more favorably.

b. The government reserves the right to review additional information outside of offer’s proposal.

c. The offeror’s Small Business Participation Proposal will be evaluated based on Table 5, Small Business Rating Method

=====

Table 5. Small Business Rating Method

Adjectival Rating	Description
Outstanding	Proposal indicates an exceptional approach and understanding of the small business objectives.
Good	Proposal indicates a thorough approach and understanding of the small business objectives.
Acceptable	Proposal indicates an adequate approach and understanding of small business objectives.
Marginal	Proposal has not demonstrated an adequate approach and understanding of the small business objectives.
Unacceptable	Proposal does not meet small business objectives.

VOLUME II: CERTIFICATIONS AND PRICE PROPOSAL

Location	Description
TAB A	The Proposal Cover Sheet
<AM#0001> TAB B	Signed Standard Form 1155 & Acknowledgement of Amendments </AM#0001>
TAB C	Price (FACTOR 7)
TAB D	Section 00 45 00 – Representations and Certifications
TAB E	Joint Venture and LLC (If Applicable)
TAB F	Bid Guarantee (Bid Bond)
TAB G	Financial Information and Bonding Capability
TAB H	Subcontracting Plan (other than small businesses only)

General Instructions. In accordance with Federal Acquisition Regulation (FAR) 15.402 and 15.403-1, certified cost or pricing data are not required based on the fact that adequate competition is expected for this procurement. Information other than certified cost or pricing data may be provided in contractor format providing that sufficient information is made available. Information submitted shall be prepared following the instruction in FAR 15.403-5. If after receipt of proposals the Contracting Officer determines that there is insufficient information available to determine price reasonableness and none of the exceptions at FAR 15.403-1 apply, the Offeror may be required to submit cost or pricing data.

Additionally, in the event that adequate competition is not obtained, the Contracting Officer may incorporate FAR 52.215-20 entitled, "Requirements for Cost or Pricing Data or Information Other Than Cost or Pricing Data," into the solicitation and request a Certificate of Current Cost or Pricing Data.

There are no page limitations for this volume. Proposal information included in this volume which is not directly related to Price will be disregarded.

TAB A – The proposal cover sheet (Attachment 2) is required by FAR 52.215-1 (c)(2) and must be submitted by all offerors. The format for the proposal cover sheet is as follows:

1. Solicitation Number

2. The name, mailing address, telephone and e-mail address.
3. A statement specifying the extent of agreement with all terms, conditions, and provisions included in the solicitation and agreement to furnish any or all items upon which prices are offered at the price set opposite each item.
4. Names, titles, telephone and email address of persons authorized to negotiate on the offeror's behalf with the Government in connection with this solicitation; and
5. Name, title, and signature of person authorized to sign the proposal. Proposals signed by an agent shall be accompanied by evidence of that agent's authority unless that evidence has been previously furnished to the issuing office.

Offerors should ensure UEI number and CAGE Code are all included for both the Contractor and Designer. UEI number will be used to access CPARS data. Offerors should also provide any other assigned number that identifies them in the CPARS database. If a separate UEI has been created for a Joint Venture (JV) UEI must also be submitted. Also provide any other UEI that identify individual member firms in the JV.

~~<AM#0001> TAB B Standard Form 1155 and acknowledgement of all amendments (Block 19), completed and signed by authorized individual(s) of the offeror. Offers submitted in the name of a Joint Venture must be signed in accordance with the terms and conditions specified in the joint venture agreement as evidenced in the proposal. Signed statement acknowledging each amendment by number. </AM#0001>~~

TAB C: FACTOR 7 – Price . Proposed price schedule is to be completed in its entirety by all offerors to include the Subtotals and Totals section as found in Section 00 10 00 - Solicitation, Contract Line-Item Number (CLIN) Schedule.

TAB D - Section 00 45 00 – Representations and Certifications. Confirm that the Offeror's representations and certifications have been completed in the Online Representations and Certifications Application (ORCA) in accordance with FAR 52.204-8. Submit the representations and certifications not covered by ORCA that are included in Section 00 45 00 of this solicitation, under this tab.

TAB E - Joint Venture and LLC, if applicable. See Section 00 21 00 paragraph F.1.d. Note to 8(a)—SBA must approve a joint venture agreement prior to the award of an 8(a) contract on behalf of the joint venture.

TAB F - Offerors shall provide a fully executed Bid Bond as required by FAR Clause 52.228-1, Bid Guarantee *electronically in Tab F*. This requirement is to be completed regardless of Bid Bond requirement submission located in other parts of these instructions.

For the purposes of this Request for Proposal, please note that IAW FAR 28.001:

“Bond means a written instrument executed by a bidder or contractor (the “principal”), and a second party (the “surety” or “sureties”) (except as provided in FAR 28.204), to assure fulfillment of the principal's obligations to a third party (the “obligee” or

“Government”), identified in the bond. If the principal’s obligations are not met, the bond assures payment, to the extent stipulated, of any loss sustained by the obligee.”

Bonds shall therefore be executed in the name of the legal entity, whether a joint venture, partnership or the Prime Contractor of an informal teaming arrangement, with whom the Government would enter into a contract for a successful offeror. The entity named on the bond must be able to acquire bonding capacity on its own merits, and not as the result of indemnification from a subcontractor or third party.

TAB G - Financial Information & Bonding Capability (e.g. past three years financial statements, annual reports, Dun & Bradstreet Ratings and/or number, etc.) Provide a list of all current contracts with a value above \$35 Million, total dollar value, award date, anticipated completion, performance and payment bond amount.

TAB H - Subcontracting Plan shall be prepared in accordance with FAR 52.219- Electronic Subcontracting Reporting System (eSRS) located at <http://esrs.gov>. Instructions for completion of requisite forms, as well as guidance on coordinating and preparing for all compliance reviews by Federal agencies can be found at this website. Offerors are to ensure subcontractors agree to submit to ESRS. This will be evaluated for acceptability in accordance with AFARS Appendix DD. Either the contracting officer, the small business representative, or both, shall evaluate and rate the subcontracting plan as “acceptable” or “unacceptable,” in the context of this particular procurement. To receive an “Acceptable” rating, the contractor must satisfy all requirements of 52.219-9 and AFARS Appendix DD. Failure to receive subcontracting plan rating of acceptable could jeopardize the offeror’s selection for contract award.

Compliance. Failure to comply with the RFP requirements for Price information may result in an adverse assessment of an offeror’s proposal and reduce or eliminate its chance of being selected for award. Offerors shall ensure that the information presented in this volume is consistent and correlates with the information contained in the other proposal volumes.

End of Section 00 22 16

Section 00 22 16
Attachments 1 - 4

ATTACHMENT 1
SMALL BUSINESS PARTICIPATION COMMITMENT DOCUMENT

All Offerors (both large and small businesses) are required to complete a Small Business Participation Commitment Document to be evaluated under Small Business Participation Evaluation Factor. The Offeror shall articulate how the Offeror intends to meet the small business objectives described in the Small Business Evaluation Factor.

Small Business Participation Commitment Document (Form)

(a) Check the applicable size and categories for the PRIME offeror only -- Check all applicable boxes:

- Other than Small Business
- Historically Black Colleges or Universities and Minority Institutions (HBCU/MI)
- American Native Corporation (ANC)
- Small Business Prime; also categorized as a
- Small Disadvantaged Business (SDB)
- Woman-Owned Small Business (WOSB)
- Historically Underutilized Zone (HUB Zone) Small Business
- Veteran Owned Small Business (VOSB)
- Service Disabled Veteran Owned Small Business (SDVOSB)

(b) Submit the total combined percentage of work to be performed by both large and small businesses (include the percentage of work to be performed both by Prime and Subcontractors):

Example: If Prime proposes a price of \$1,000,000, and small business (es) will provide \$250,000 in services/supplies as a prime or subcontractor, the percent (%) planned for small businesses is 25%; and 75% for large business equaling 100%.

Total Percentage planned for Large Business(es)	_____ %
Total Percentage planned for Small Business (es)	_____ %
Total	_____ % (Must Equal 100%)

(c) Please indicate the total percentage of participation to be performed by each type of subcategory small business.

The percentage of work performed by Small Businesses that qualify in multiple small business categories may be counted in each category:

Example: ACME Corporation (WOSB and SDVOSB) performing 2%; and Williams Group (SDB, HUBZone Small Business and WOSB) performing 3%. Results equate to: SDB 3%; HUBZone 3%; WOSB 5%; SDVOSB 2%; VOSB 2%;). SDVOSBs are also VOSBs automatically; however, VOSBs are not automatically SDVOSBs.

HBCU/Minority Institutions	_____ %
American Native Corporation And Indian Tribe SB	_____ %
Small Disadvantaged Business	_____ %
Woman Owned Small Business	_____ %
HUBZone Small Business	_____ %
Veteran Owned Small Business	_____ %
Service-Disabled Veteran Owned Small Business	_____ %

(d) List principal supplies/services to be performed by Small Businesses:

Example: If a Small Business qualifies also as a WOSB and a SDVOSB, and the Offeror may add them to each category below in which the SB entity qualifies.

Name of Company	Type of Supply/Service
Small Business	
_____	_____
_____	_____
Alaska Native Corporation	
_____	_____
_____	_____

Small Disadvantaged Business

_____	_____
_____	_____

Woman Owned Small Business

_____	_____
_____	_____

HUBZone

_____	_____
_____	_____

Veteran Owned Small Business

_____	_____
_____	_____

SDVOSB

_____	_____
_____	_____

HBCU/MCI

_____	_____
_____	_____

(e) Describe the extent of commitment to use small businesses (for example, what types of commitments if any, are in place for this specific acquisition either – small business prime, written contract, verbal, enforceable, non- enforceable, joint venturing, mentor- protégé, etc.)

Narrative (Limited to one page):

ATTACHMENT 2 PROPOSAL COVER SHEET

Solicitation Number	
Firm	
Address	
Phone	
Fax	
Email	
UEI Number	
Cage Code	

Also provide any other assigned number that identifies the member firm(s) in the CPARS database. If a separate UEI has been created for a joint venture (J-V) it must also be submitted. Provide a UEI number for each company identified in any proposed Contractor-subcontractor association of firms. If the firm is a joint venture or contractor- subcontractor association of firms, list the individual firms and briefly describe the nature of the association. Provide UEI for each.

Firm 1 _____ Nature of Association _____ UEI _____

Firm 2 _____ Nature of Association _____ UEI _____

Firm 3 _____ Nature of Association _____ UEI _____

Authorized Negotiators IAW FAR 52.215-11 - The Offeror represents that the following persons are authorized to negotiate on its behalf with the Government in connection with this Request for Proposals (RFP).

Name: _____ Title: _____ Email: _____

Statement specifying extent of agreement with all terms as specified in cover sheet instruction

#3 above: _____

—

Attachment 3**PAST PERFORMANCE ASSESSMENT WORKSHEET***(To be completed for each project submitted)*

CONSTRUCTION OR PRIME CONTRACTOR		PROJECT #	
Offeror:			
Project and Location:			
Was this project performed by the division or unit of the company submitting the offer for W9126G24R10BP:			
Owner:			
Owner's Point of Contact for Reference:		Telephone:	
Awarded Construction Cost:		Final Construction Cost:	
Explain Cost Growth, if any:			
Date of Award:	Original Completion Date:	Revised Completion Date:	Percent Complete:
Explain Time Growth, if any:			
General Scope of Construction and Offeror's Role:			
Work Your Company Self-Performed:		Extent and Type of Work You Subcontracted Out:	
Describe extent of relevancy and complexity of the project. <u>RELEVANCY</u> :			
Provide any additional narrative to support relevancy assessment (in terms of scope, magnitude and complexity as compared to the scope of the solicitation).			
Your Performance Evaluation by Owner, if known:			

**Attachment 4
Past Performance Questionnaire**

NAVFAC/USACE PAST PERFORMANCE QUESTIONNAIRE (Form PPQ-0)

CONTRACT INFORMATION (Contractor to complete Blocks 1-4)

1. Contractor Information

Firm Name:

CAGE Code:

Address:w518ea

DUNs Number:

Phone Number:

Email Address:

Point of Contact:

Contact Phone Number:

2. Work Performed as: Prime Contractor Sub Contractor Joint Venture Other
(Explain)

Percent of project work performed:

If subcontractor, who was the prime (Name/Phone #):

3. Contract Information

Contract Number:

Delivery/Task Order Number (if applicable):

Contract Type: Firm Fixed Price Cost Reimbursement Other (Please specify):

Contract Title:

Contract Location:

Award Date (mm/dd/yy):

Contract Completion Date (mm/dd/yy):

Actual Completion Date (mm/dd/yy):

Explain Differences:

Original Contract Price (Award Amount):

Final Contract Price (*to include all modifications, if applicable*):

Explain Differences:

4. Project Description:

Complexity of Work High Med Routine

How is this project relevant to project of submission? (*Please provide details such as similar equipment, requirements, conditions, etc.*)

CLIENT INFORMATION (Client to complete Blocks 5-8)

5. Client Information

Name:

Title:

Phone Number:

Email Address:

6. Describe the client's role in the project:

7. Date Questionnaire was completed (mm/dd/yy):

8. Client's Signature:

NOTE: NAVFAC/USACE REQUESTS THAT THE CLIENT COMPLETES THIS QUESTIONNAIRE AND SUBMITS DIRECTLY BACK TO THE OFFEROR. THE OFFEROR WILL SUBMIT THE COMPLETED QUESTIONNAIRE TO USACE WITH THEIR PROPOSAL AND MAY DUPLICATE THIS QUESTIONNAIRE FOR FUTURE SUBMISSION ON USACE SOLICITATIONS. CLIENTS ARE HIGHLY ENCOURAGED TO SUBMIT QUESTIONNAIRES DIRECTLY TO THE OFFEROR. HOWEVER, QUESTIONNAIRES MAY BE SUBMITTED DIRECTLY TO USACE. PLEASE CONTACT THE OFFEROR FOR USACE POC INFORMATION. THE GOVERNMENT RESERVES THE RIGHT TO VERIFY ANY AND ALL INFORMATION ON THIS FORM.

ADJECTIVE RATINGS AND DEFINITIONS TO BE USED TO BEST REFLECT YOUR EVALUATION OF THE
CONTRACTOR'S PERFORMANCE

RATING	DEFINITION	NOTE
(E) Exceptional	Performance meets contractual requirements and exceeds many to the Government's benefit. The contractual performance of the element or sub-element being evaluated was accomplished with few minor problems for which corrective actions taken by the contractor were highly effective.	To justify an Exceptional rating, identify multiple significant events and state how they were of benefit to the Government. A singular benefit, however, could be of such magnitude that it alone constitutes an Exceptional rating. Also, there should have been NO significant weaknesses identified.
(VG) Very Good	Performance meets contractual requirements and exceeds some to the Government's benefit. The contractual performance of the element or sub-element being evaluated was accomplished with some minor problems for which corrective actions taken by the contractor were effective.	To justify a Very Good rating, identify a significant event and state how it was a benefit to the Government. There should have been no significant weaknesses identified.
(S) Satisfactory	Performance meets contractual requirements. The contractual performance of the element or sub-element contains some minor problems for which corrective actions taken by the contractor appear or were satisfactory.	To justify a Satisfactory rating, there should have been only minor problems, or major problems the contractor recovered from without impact to the contract/order. There should have been NO significant weaknesses identified. A fundamental principle of assigning ratings is that contractors will not be evaluated with a rating lower than Satisfactory solely for not performing beyond the requirements of the contract/order.
(M) Marginal	Performance does not meet some contractual requirements. The contractual performance of the element or sub-element being evaluated reflects a serious problem for which the contractor has not yet identified corrective actions. The contractor's proposed actions appear only marginally effective or were not fully implemented.	To justify Marginal performance, identify a significant event in each category that the contractor had trouble overcoming and state how it impacted the Government. A Marginal rating should be supported by referencing the management tool that notified the contractor of the contractual deficiency (e.g., management, quality, safety, or environmental deficiency report or letter).

(U) Unsatisfactory	Performance does not meet most contractual requirements and recovery is not likely in a timely manner. The contractual performance of the element or sub-element contains a serious problem(s) for which the contractor's corrective actions appear or were ineffective.	To justify an Unsatisfactory rating, identify multiple significant events in each category that the contractor had trouble overcoming and state how it impacted the Government. A singular problem, however, could be of such serious magnitude that it alone constitutes an unsatisfactory rating. An Unsatisfactory rating should be supported by referencing the management tools used to notify the contractor of the contractual deficiencies (e.g., management, quality, safety, or environmental deficiency reports, or letters).
(N) Not Applicable	No information or did not apply to you contract	Rating will be neither positive nor negative

TO BE COMPLETED BY CLIENT

PLEASE CIRCLE THE ADJECTIVE RATING WHICH BEST REFLECTS YOUR EVALUATION OF THE CONTRACTOR'S PERFORMANCE

EEXCELLENT
VGVERY GOOD
SSATISFACTORY
MMARGINAL
UUNSATISFACTORY
NNEUTRAL

1. QUALITY:						
a) Quality of technical data/report preparation efforts	E	VG	S	M	U	N
b) Ability to meet quality standards specified for technical performance	E	VG	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	E	VG	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	E	VG	S	M	U	N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:						

a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. <i>(If liquidated damages were assessed or the schedule was not met, please address below)</i>	E	VG	S	M	U	N
b) Rate the contractor's use of available resources to accomplish tasks identified in the contract	E	VG	S	M	U	N
3. CUSTOMER SATISFACTION:						
a) To what extent were the end-users satisfied with the project?	E	VG	S	M	U	N
b) Contractor was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	E	VG	S	M	U	N
c) To what extent was the contractor cooperative, businesslike, and concerned with the interests of the customer?	E	VG	S	M	U	N
d) Overall customer satisfaction	E	VG	S	M	U	N
4. MANAGEMENT/ PERSONNEL/LABOR						
a) Effectiveness of on-site management, including management of subcontractors, suppliers, materials, and/or labor force?	E	VG	S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce to this effort	E	VG	S	M	U	N
c) Government Property Control	E	VG	S	M	U	N
d) Knowledge/expertise demonstrated by contractor personnel	E	VG	S	M	U	N
e) Utilization of Small Business concerns	E	VG	S	M	U	N
f) Ability to simultaneously manage multiple projects with multiple disciplines	E	VG	S	M	U	N
g) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution, and response to Government changes	E	VG	S	M	U	N
h) Effectiveness of overall management (including the ability to effectively lead, manage and control the program)	E	VG	S	M	U	N
5. COST/FINANCIAL MANAGEMENT						
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	E	VG	S	M	U	N
b) Contractor proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	E	VG	S	M	U	N
c) If this is/was a government cost-type contract, please rate the Contractor's timeliness and accuracy in submitting monthly invoices with appropriate back-up documentation, monthly status reports/budget variance reports, compliance with	E	VG	S	M	U	N

established budgets and avoidance of significant and/or unexplained variances (underruns or overruns)	
d) Is the Contractor's accounting system adequate for management and tracking of costs? <i>If no, please explain in the Remarks section.</i>	Yes No
e) If this is/was a government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? <i>Indicate if show cause or cure notices were issued, or any default action in the comment section below.</i>	Yes No
f) Have there been any indications that the contractor has had any financial problems? <i>If yes, please explain below.</i>	Yes No
6. SAFETY/SECURITY	
a) To what extent was the contractor able to maintain an environment of safety, adhere to its approved safety plan, and respond to safety issues? (Includes: following the user's rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	E VG S M U N
b) The contractor complied with all security requirements for the project and personnel security requirements.	E VG S M U N
7. GENERAL	
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM, or Contracting Officer in a timely manner regarding urgent contractual issues).	E VG S M U N
b) Compliance with contractual terms/provisions (<i>explain if specific issues</i>)	E VG S M U N
c) Would you hire or work with this firm again? (<i>If no, please explain below</i>)	Yes No
d) In summary, provide an overall rating for the work performed by this contractor.	E VG S M U N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk (please attach additional pages if necessary).

SECTION 01 10 00

STATEMENT OF WORK AMENDMENT #0002

PART 1 PROJECT DESIGN CRITERIA

All applicable Federal, State and industry standards, including those not referenced, constitute design criteria for this project. This scope of work presents requirements for various renovations in five facilities located at Ebbing Air National Guard Base (ANGB) in Fort Smith, Arkansas. The five facilities are B201, B202, B214, B216, and B218.

1.1 Design Requirements

Comply with the requirements stated in this Scope of Work document and all applicable codes and regulations. Reference to Attachment A for a list of Industry and Military Criteria and Governing Codes. Comply with versions that are the most current at the time of the solicitation of this design-build contract. In the event of a conflict between requirements, the most stringent applies. The complete library of Unified Facilities Criteria (UFC) and Unified Facilities Guide Specifications (UFGS) is located at: <http://www.wbdg.org>. Also reference the United States Army Corps of Engineers (USACE) Engineering Construction Bulletins (ECBs) at <http://www.wbdg.org/ffc/dod/engineering-and-construction-bulletins-ecb> for recent updates.

1.1.1 Design Criteria

Facility design, materials, equipment, and installation must be in accordance with the requirements of listed codes, design manuals and military criteria (see Attachment A), and in conjunction with industry standard criteria, material and efficient practices. The latest version of building codes may be used as design guides as long as there are no conflicts between standards. In the event of conflicts, the Military and Industry standards take precedence. The building design and the materials selected must meet the specifications set forth in this Request for Proposal (RFP). Contractor is responsible for the code compliance, technical accuracy and coordination of all designs, drawings, specifications, and other documents or publications upon which the design and construction are based.

1.2 Design Submittal

Provide electronic design files for the project as part of design and construction responsibilities. Follow all guidelines, references, and indications in this report when preparing a bid proposal and when designing the five facilities at Ebbing ANGB. Deliver drawings, specifications, calculations, and details as required for a complete construction document package.

Ebbing ANGB
Fort Smith, AR

PART 2 GENERAL

2.1 General Conditions

Provide all supervision, labor, materials, equipment, supplies, and transportation necessary to perform the work specified within this Design Build Request for Proposal (DB RFP). The Contractor must be the architect/engineer and constructor of record on this project. For design and construction, utilize an integrated approach that meets the requirements of this RFP while, at the same time is cost effective and establishes synergy among the systems and spaces applicable to the structures as a whole. The design of all architectural and engineering features must be accomplished, reviewed, and approved by professionals licensed to practice in their respective professional field in the United States. Deliver a complete design and do not assume that the provided design criteria and drawings in this solicitation alleviate responsibility of performing any additional design as required to produce a complete set of construction documents.

Employ all design and construction criteria, including but not limited to industry and military criteria and governing codes, from the most current version of the reference that aligns with the date of issue of the solicitation for the design-build contract. The exception to this is if a Unified Facilities Criteria (UFC) document references a specific date of issue of a code or guide referenced therein.

The magnitude of construction for this project is \$25M - \$100M.

2.2 General Facility Descriptions

Construct the five facilities at Ebbing ANGB in accordance with all current and applicable codes. This includes, but is not limited to, accessibility complying with the Architectural Barriers Act (ABA), life safety, fire separations, energy, OSHA, Unified Facilities Code (UFC), and building codes, etc. A brief description of each building is listed below. A detailed description of the scope of work follows this section and is organized by technical discipline. Reference Attachment C for additional requirements.

Building 201 is an existing fire station being repurposed as a storage warehouse facility in support of the F-16 mission. The existing facility is 9,563 gross square feet. The exterior façade requires minor repairs and modification. The interior requires extensive demolition of non-load bearing walls and finishes. Remove and replace all interior finishes.

Building 202 is an existing three-bay hangar with administrative and support spaces. The hangar was originally designed in 2008 to support the A-10 mission and has since been decommissioned. The goal of this project is to renovate the 30,098 gross square foot facility to support the F-16 mission and to restore the three hangar bays to their original functions (Bay 1: Fuel Cell, Bay 2: General Purpose Maintenance, and Bay 3: Wash Bay). As part of this project, renovate existing support functions for current mission needs. The exterior façade requires minor repair. The existing interior configuration is to remain; however, minor modifications are required to meet current code requirements and specific mission needs. Remove and replace the majority of the interior finishes.

Building 214 will be repurposed to an engine repair shop and requires overall repair and renovations of the entire 12,962 SF facility. On the exterior, replace translucent panels and exterior doors. Replace roof. Repair and repaint the existing canopies located to the west and provide a new metal roof. The interior requires minor reconfiguration and the inclusion of a new conditioned parachute room.

Building 216 was originally designed as shop facility with the interior configured with large shop spaces, classroom, office, and support spaces. Renovate and restore to its original function the 17,500 gross square foot facility in support of the F-16 and F-35 missions. The exterior requires minor repair and modification. Provide an approximately 1,400 gross square foot addition to accommodate a distinguished

D-B RFP Facility Renovations for F-16 and F-35

01 10 00

Ebbing ANGB
Fort Smith, AR

visitor's (DV) meeting area. Add a screen wall on the south side of the sidewalk from the parking lot to the building to screen the view of the service vehicle parking area. This facility will have two secure areas; the first a United States Secret Clearance Access Area in accordance with DoDM 5200.01 V3, and the other to provide Special Access Program Facility (SAPF) space for F-35 secure operations in accordance with the Technical Specifications for Construction and Management of Sensitive Compartmented Information Facilities – IC Tech Spec for ICD/ICS 705 (ICD705) and the F-35 Lightning II Functional Requirements Document (FRD). Refer to Room Data Sheets and Conceptual Drawings. Selective demolition of interior partitions and modification of structural walls are required to create the spatial relationships of the new mission's program.

Building 218 was originally a 3,359 gross square foot low-slope pre-engineered metal building (PEMB). A 4,420 gross square foot addition was constructed circa the early 2000's. The facility will be extensively repaired and renovated. The original facility with a low slope roof is susceptible to water infiltration. Field observations show no air/vapor barrier has been installed in the original facility wall system and the roof system requires replacement. Remove and replace the exterior envelope (roof panels, metal wall panels, doors, and windows) to meet current codes and prevent further water infiltration. Reconfigure partition walls for the new layout. Design a hardened pyro room to meet material explosive classification as defined within Section 3.7.13 of this RFP. The existing addition requires minor repair work and replacement of damaged glazing

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Fort Smith, AR**PART 3 TECHNICAL REQUIREMENTS****3.1 General**

See below for the building locations and Attachment C for the project location. Coordinate construction limits with Base Civil Engineer Squadron to minimize impact on Base operations. Provide fencing and/or barriers to secure the work area from the airfield, apron, and sunshades.

3.1.1 Existing Conditions**3.1.1.1 Site**

This project consists of the renovation of five (5) buildings (B201, B202, B214, B216, and B218) at Ebbing ANGB, Fort Smith, Arkansas.



Figure 3.1.1.1-1 - Building Locations

3.1.1.2 Surface Conditions

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- 3.1.1.2.1 Building 201 is an existing fire station. It is currently bordered by aircraft or vehicular concrete pavement on the south and east sides. The north and west sides are primarily concrete sidewalks, bordered by areas of lawn.
- 3.1.1.2.2 Building 202 is bordered on the north, east, and south sides by aircraft or vehicular concrete pavement, and on the west by concrete sidewalks and vehicular pavement. There is an area of lawn on the west side of Building 202.
- 3.1.1.2.3 Building 214 is bordered on the north, east, and west sides by concrete vehicular pavement. The area to the south is lawn.
- 3.1.1.2.4 Building 216 is bordered on its north side by a rectangular concrete flume that separates it from a parking lot and an area of lawn. The east side is bordered by concrete sidewalk that separates it from the lawn area, The concrete flume continues down the east side of the building, separating it from Building 218. The south side of the building is bordered by concrete pavement, with a section having a landscaped strip adjacent to the building. The southern portion of the west side is adjacent to the service yard parking area. The northern portion of the west side is a landscaped area. The landscaped area is separated from an elevated parking area by a V-shaped concrete channel that connects to the rectangular concrete flume. The primary access to Building 216 is from steps from the elevated parking lot.
- 3.1.1.2.5 Building 218 is bordered on the north side by a landscaped area and parking lot. The northern portion of the east side is landscaped, changing to concrete pavement for the south east area. The south side is concrete pavement and the west side is the landscaped area and drainage flume separating Building 218 from Building 216.

3.1.1.3 Utility Services

All of the buildings currently have utility services. Existing utility service information was provided by Ebbing ANGB GIS data. Only Buildings 202 and 216 have fire water service. There are no known deficiencies in utility services.

3.1.1.4 Drainage

The site currently drains by surface and storm drain. Add splash blocks to all downspouts that discharge to grade. Replace the V-shaped channel at Building 216 with a rectangular flume in the area of the addition to improve drainage. Reroute existing downspouts in the area of the Building 216 addition to the flume.

3.1.1.5 Fire Hydrants

Adequate fire hydrants are available to serve the facilities. All buildings are served by at least two fire hydrants.

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3.2 Civil Design**3.2.1 Demolition**

Demolition activities are needed as a part of the addition to Building 216. In addition to removing two trees and the horseshoe pits, remove and replace approximately 165 linear feet of the existing V-shaped channel.

The proposed addition to Building 218 is in an area of existing concrete aircraft pavement which must be sawcut and removed. Only sawcut at existing joints. Perform concrete pavement demolition in a manner that prevents damage to the existing pavement to remain. Repair any damage to existing pavement at no cost to the Government. Extend the limits of concrete pavement and subgrade removal beyond the addition footprint to an existing pavement joint.

3.2.2 Site Design

Building 201's site work is limited to trenching and restoration for the fire water service connection. There is no site work proposed for Building 202. Building 214's site work is limited to trenching and trench restoration for the fire water service connection. Site design for Building 216 includes adding approximately 165 linear feet of rectangular concrete flume along the west side of the addition, and a brick screen wall separating the building access sidewalk from the service vehicle parking area. Site design for Building 218 is limited to grading and replacement of aircraft paving removed for the new addition.

3.2.2.1 Design Responsibility

Design and construct the site and facilities within the specific site responsibility areas defined.

3.2.2.2 Existing Conditions

Accept the site as-is and be solely responsible for any field survey work required for verification, design, and construction. Do not waste excess soil from within the work area without written approval of the Contracting Officer Representative (COR).

3.2.2.3 Field Office and Laydown Area

Provide a field office and lay down area in accordance with UFGS specification requirements. Use of B201 and B202 for field office and laydown areas is allowed. Stage/phase construction such that new finishes are not damaged.

3.2.2.4 Permanent Utility Connections

Connect all utilities from the buildings to the service lines. All buildings are sub-metered for electricity and natural gas. The Base does not sub-meter for water or sewer.

3.2.2.5 Post-Construction Site Restoration

Upon completion of the project, remove all trailers, materials and equipment. Restore to original or better condition areas used for the storage of equipment or material, or construction use. Remove gravel used to traverse grassed areas and restore the area to its original condition, including top soil, sodding, and seeding as necessary.

3.2.2.6 Temporary Utilities

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All temporary utilities are the responsibility of the Contractor. Provide temporary utility services in accordance with UFGS Specification 01 50 00.

3.2.3 Base Utility Information and Design Requirements

On-site utilities are the responsibility of the Base Civil Engineer Squadron. Water and sanitary sewer services to the Base are provided by Fort Smith Utilities Department (FSUD). FSUD provides water service to the water tower; Ebbing ANGB is the water service provider after the water tower. Ebbing ANGB provides sanitary sewer collection on the Base and connects to a FSUD main. Coordinate and plan utility information with the Installation's Civil Engineer Squadron. Obtain a dig permit prior to construction. Verify utility locations and sizes prior to digging. Bring any discrepancies between the drawings and actual conditions to the COR's attention. Determine if the existing services serving the buildings are adequate for the new distribution within the building. Reference Section 3.8 of this RFP for information on electrical utility scope of work.

3.2.3.1 Specification and Regulation Compliance

Comply with Unified Facilities Criteria and Arkansas Department of Environmental Quality specifications and regulations for utility design and construction. Where utilities are not owned by the Installation, comply with the specifications and regulations of the individual utility owner. Comply with Arkansas Department of Environmental Quality regulations regarding the minimum separation distance between water and sanitary sewer facilities.

3.2.3.2 Water

Water distribution and service is owned and operated by the Base. All of the buildings have water meters. Design and install all water systems in accordance with appropriate Unified Facilities Criteria and state of Arkansas regulations. Water distribution systems must conform to all Federal and State Requirements. Where there is a conflict between specifications, the most stringent applies.

3.2.3.2.1 Water Service: Verify current service and the projected redesign loading of the buildings. If required, provide a new water service connection between the buildings and the water main on the buildings. Domestic service and the fire service must be separate taps from the main. Provide shutoff valves on all new domestic water service lines.

3.2.3.2.2 Fire Service Line: Provide a new fire service line connection between B201, B214 and B218 and the existing water mains. Place a Post Indicator Valve (PIV) on the fire line. Wall-mount the PIV on the building. Install new Fire Department Connections (FDCs) for B201 and B214. Meet the requirements of UFC-3-600-01 for location of the FDC relative to a fire hydrant. Locate all FDCs within 150 feet of a fire hydrant.

3.2.3.2.3 Fire Hydrants: No new fire hydrants are required.

3.2.3.3 Sanitary Sewer:

No issues have been reported with the existing laterals. No site sanitary sewer work is required.

3.2.3.4 Natural Gas

Based on current service and the projected redesign of the buildings, it is anticipated that the existing natural gas service is adequate.

3.2.4 Siting

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Comply with UFC 3-201-01 Civil Engineering and UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings for site design. Verify that the exterior of the building complies with UFC 3-600-01 Paragraph 2-10, Fire Department (Emergency) Vehicle Access. Meet the requirements of ASHRAE 189.1 Section 5.3.2.1 for site hardscaping (sidewalks, courtyards, parking areas, and accesses.)

3.2.5 Site Grading

Verify exterior elevations versus the addition finished floor elevation of Buildings 216 and 218 to provide positive drainage away from the structures. Finish the grade adjacent to the building in accordance with UFCs and geotechnical engineering recommendations and requirements. Slope site grading to drain away from the building and door openings. Convey runoff to existing ditches or piped drainage systems. Slope non-paved drainage away from the building and structures with a minimum of 5 percent slope and a maximum of 10 percent slope at a horizontal distance of 10 feet. Where applicable, provide a drop of 6 to 8 inches at personnel doors without structural stoops. Do not use single riser steps. When steps are required, provide at least three risers and handrails. Meet the requirements of Table 3.1 in UFC 3-201-01, Civil Engineering for all grading. Resolve existing drainage issues at the north end of B218 where the landscape bed adjacent to the building is lower than the sidewalk, trapping water against the building.

3.2.6 Geotechnical

Include on the team a licensed geotechnical engineer to develop earthwork and foundation requirements and design parameters on which to base the proposal. Present foundation type, pavement and earthwork requirements on which the bid is based in the proposal along with the resume of the geotechnical engineer. Subsequent to award, perform and provide a complete geotechnical exploration of the proposed site to develop the final design. Perform the geotechnical exploration under the direction of a licensed professional engineer with at least 10 years of experience specializing in geotechnical engineering. This exploration is the full responsibility of the Contractor and detailed requirements are outlined below.

3.2.6.1 Final Geotechnical Evaluation after Award

Submit a final geotechnical evaluation report prepared by a licensed geotechnical engineer with the first foundation design submittal. This report must summarize the subsurface conditions; provide recommendations for the design of appropriate foundations, floor slabs, retaining walls, embankments, and pavements. In the report, recommend the type of foundation system to be used, lateral load resistance capacities for foundation systems, allowable bearing elevations for footings, grade beams, and slabs. Provide an assessment of post-construction settlement potential including total and differential settlement. Provide recommendations regarding lateral earth pressures (active, at-rest, passive) to be used in the design of retaining walls. Include the Site Class for seismic design along with an evaluation of any seismic hazards and recommendations for mitigation, if required. Include calculations to support the recommendations for bearing capacity, settlement, and pavement sections. Include supporting documentation for all recommended design parameters such as Site Class, shear strength, earth pressure coefficients, friction factors, sub-grade modulus, and California Bearing Ratio (CBR). In addition, provide earthwork recommendations, expected frost penetration, expected groundwater levels, recommendations for dewatering and groundwater control, possible presence of any surface or subsurface features that may affect the construction of the project such as karst geohazards, sinkholes, boulders, mustow rock, old fill, old structures, soft areas, or unusual soil conditions. The geotechnical recommendation report must be sealed by the engineer of record, who must be licensed as a civil engineer and must have at least 10 years continuous experience in the region. Experience must include evaluation for potential shrink-swell movements of the subsurface materials.

3.2.6.2 Dewatering

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In the report, determine project dewatering requirements. If temporary construction dewatering is required due to a high water table, the prepare and present a dewatering plan. Secure all the required information necessary for the design of the system.

3.2.6.3 Additional Borings

Sample any borings with a split spoon sampler in accordance with ASTM D-1586, with samples visually classified at 1.5-foot intervals in accordance with the Unified Soil Classification System (ASTM D 2487). Record the depth to water and Standard Penetration Blow counts. Provide a dated drilling log for each boring drilled. On the contract drawings, present soils information obtained from field logs, laboratory test and geologist's logs in the form of boring plan, final boring logs and explanatory notes.

3.2.6.4 Certification of Compliance with Final Geotechnical Evaluations

Certify in writing that the design of the project has been developed consistent with the geotechnical engineer's final geotechnical report. The certification must be stamped by the consulting professional geotechnical engineer and submitted with the first design submission. If revisions are made to the initial design submission, provide a new certification with the final design submission.

3.2.6.5 Pavements and Parking

Provide in the geotechnical report rigid pavement design(s) including design CBR and modulus of sub-grade reaction and the required compaction effort for sub-grades. Offer information on the types of base course materials available in the area and their design strengths. Include pavement designs in the report. Comply with appropriate Unified Facilities Criteria for the pavement design, including UFC 3-201-01 Civil Engineering and UFC 3-250-01 Pavement Design for Roads and Parking Areas, UFC 3-260-02 Pavement Design for Airfields, and UFGS 32 13 14.14 Concrete Paving For Small Airfield Projects. Conform to one of the following for pavement design: 1) the USACE Pavement Transportation Computer Assisted Structural Engineering (PCASE) program or 2) American Association of State Highway and Transportation Officials (AASHTO) standard pavement design procedures. Base the design thickness on the soils boring data taken for this project. Do not include increased stiffness from subgrade modification in the pavement thickness design. Use a minimum flexural strength of 650psi for concrete pavement design. Submit a complete and detailed pavement analysis for each design pavement section. The link to Corps Guidance Documents is <http://www.usace.army.mil/publications/>. Specific aggregates for aircraft paving may not be available from local sources.

3.2.6.5.1 Section Thicknesses: Conform to the specified requirements for the pavement design section thickness.

3.2.6.5.2 Portland Cement Concrete (PCC): Regardless of the geotechnical report pavement design, a minimum rigid concrete pavement section for areas required to support fire trucks and organizational vehicles and equipment traffic must consist of at least 8 inches of rigid concrete pavement, on 4 inches of aggregate base course, on 4 inches of aggregate subbase. The minimum rigid concrete pavement design for areas required to support passenger automobile traffic must consist of at least 6 inches of rigid concrete pavement, on 4 inches of aggregate base course, on 4 inches of aggregate subbase.

3.2.7 Landscaping Design

Project landscaping is to be limited to soil stabilization with seeding or sod and tree replacement. Replace trees as required in Specification Section 01 35 10.00. Match existing grass species.

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3.2.8 Civil Design Antiterrorism (AT) Measures

Comply with the minimum standards in the AT UFC for the building construction. Eliminate locations of concealment. Design any recessed areas, concealed spaces, and landscape features on the exterior of the buildings with security in mind. Include well-lit alcoves and avoidance of large objects in the landscaped areas. Provide interesting visual features while still providing a safe, accessible and secure environment.

3.2.8.1 Landscape

Do not install landscaping items that could conceal packages within the unobstructed space of the building, per UFC requirements. Provide lockable or screw-type systems for structures, like manholes, located within the unobstructed space of the building to deter opening by unauthorized personnel. Locate trash receptacles and dumpsters outside of the building's unobstructed space per UFC requirements.

3.2.8.2 Flightline Access

Provide Access Control (ACS) and Intrusion Detection (IDS) systems infrastructure in the facilities to control access to the flightline. B201 and B218 require emergency exits that discharge to the flightline. Alarm these doors to deter unauthorized access. The hangar bays of B202 are considered part of the controlled area and do not require additional security measures for egress doors accessing the flightline.

3.2.8.3 Utility Enclosures

Secure electrical transformers and mechanical equipment placed within the building's unobstructed space per UFC 4-010-01 requirements. Although B201 is exempt from the minimum antiterrorism standards, replace the existing utility enclosures with six sided enclosures.

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3.3 Architectural Design

3.3.1 General Description

The proposed design for the five facilities at Ebbing ANGB, and their associated site development is indicated in Attachment B. The drawings included in this RFP are conceptual in nature but have been developed with input from the facility users and the Installation to reflect their preferences and requirements. Consider the functional relationships between all buildings to ensure items such as sidewalks, entryways, and building facades enable and enhance interactions of the facilities supporting the F-16 mission.

3.3.1.1 Building 201 Modifications are as follows:

- a. Convert B201 from a fire station to a storage facility in support of the F-16 mission.
- b. Perform minor repairs and selective demolition.
- c. Remove and replace all exterior control and expansion joint sealants.
- d. Completely replace the SSMR system down to structural decking. The original roof is a low-slope roof with parapet. Structure was previously added to support the current standing seam metal roof (SSMR). Refer to the SSMR requirements provided in the roofing section below.
- e. Remove all windows and infill with CMU block with brick veneer to match adjacent construction. Give special attention to waterproofing and flashing at all infilled sections.
- f. Replace six overhead doors; three located on the east elevation and three on the south elevation. The replacement doors are to be solid insulated sectional panels. Sections with vision panels or glazing will not be accepted. The existing rails and motors are in good working order. Contractor may reuse the existing motors provided that a warranty for the replacement doors is provided.
- g. Remove the existing glazed paired entry doors on the south façade. Infill opening with CMU block and brick veneer to match adjacent construction.
- h. Remove the north existing apparatus bay personnel door. Infill opening with CMU and brick veneer to match adjacent construction.
- i. Remove existing west glazed entrance door system and replace with flush insulated metal doors. Paint new doors and new insulated metal frame.
- j. Remove all wood fencing at the existing utility enclosures. Provide metal wall panels and doors that match the utility enclosures near B202. The brick pilasters are to remain. All utility enclosures are within the 33-foot unobstructed space and require a new chain link top in accordance with the construction requirements in UFC 4-010-01.
- k. Provide an ABA compliant single occupant restroom with an ABA compliant water closet, grab bars, lavatory, mirror, service sink, and plumbing accessories. Renovate the existing sleeping room restroom to provide the minimum plumbing fixtures in accordance with UFC 3-420-01.
- l. Demolish interior partitions as indicated in the attachments. Provide double door widths to accommodate a pallet jack at openings in the existing structural walls that are to remain.
- m. Provide a dedicated telecommunications room (TR). The existing facility does not currently have a dedicated TR. There is a comm rack in the existing conference room. Refer to the Telecommunications section of this RFP for additional information.
- n. The existing electrical room is centrally located. The electrical room is to remain. Refer to the Electrical section of this RFP for additional requirements.
- o. Provide all new finishes inside the facility.

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3.3.1.2 Building 202 Modifications are as follows:

- a. Repair and renovate facility to restore the original function as an aircraft fuel cell, general purpose maintenance, and wash bay hangar facility in support of the F-16 mission.
- b. Minor repairs, modifications, and selective demolition are required.
- c. Add new egress doors in the hangar bays to meet current life safety and UFC requirements.
- d. Add new emergency shower/eyewash stations in the hangar bays, paint booth, and tank bay.
- e. The SSMR system is existing to remain. A roof replacement is not in scope for B202. Repair existing gutter and downspout at the covered personnel entry. Repair water damage seen at brick veneer in this location.
- f. Provide new fall protection system for the F-16 parked in the tail-in configuration for three bays.
- g. Infill existing door connecting the Men's Restroom to Bay 1.
- h. Reconfigure administrative section north of Hangar Bay 1 to provide a support tool crib and supervisors office.
- i. Provide three overhead doors at the support counter.
- j. Repurpose space within the existing fire pump room created by demolishing foam suppression equipment as a new, enclosed storage room. Provide access via the main corridor. Provide fire rated assemblies as required by NFPA.
- k. Convert two existing CMU block storage rooms in Bay 1 to Secret Collateral Vaults (US Vault and RSAF Vault). The perimeter construction of the rooms will serve as the vault enclosure. The existing CMU block walls will remain. Replace the existing metal deck ceiling and associated structure with a cast-in-place concrete ceiling. Infill overhead door openings with CMU block and provide a new GSA vault door for each vault. No caged day gate is required. Refer to the Concept Design Drawings for additional information.
- l. Convert the existing janitor room and laundry room to a single storage/janitor room. The existing service sink is to remain to satisfy minimum plumbing fixture requirements.
- m. Provide two 5-ton bridge cranes with a 22'-0" minimum hook height. Provide one bridge crane in Bay 2 and a second bridge crane in Bay 3. Provide independent structural columns, new footings, and rails for the bridge crane. Coordinate overhead clearances of the bridge crane model selected with other systems, such as fall protection. The bridge crane coverage area is limited by the existing storage rooms and ramps. Provide a coverage area to the maximum extent possible. The user will primarily use the bridge crane over the nose end of the aircraft in the parked position.
- n. Repair and recertify the existing hoist in the tank bay.
- o. Disassemble and remove all existing equipment and materials in the paint booth room. Provide new finishes – refer to the Room Data Sheets for additional information. Replace the existing paint exhaust/ventilation fans in kind. Existing ductwork associated with the paint room exhaust system are to remain. Repair to ductwork that is associated with the replacement of the fans and connection to the new paint booth. Disconnect all infrastructure from the existing paint booth, capping and protecting during construction, and prepare all existing building/infrastructure systems for connection by Government. New paint booth equipment will be Government provided and Government installed (GFGI). Coordinate infrastructure connection and scheduling requirements with the Contracting Officer Representative (COR) for new paint booth equipment.

3.3.1.3 Building 214 modifications are as follows:

- a. Patch and repair areas resulting from demolition work to match adjacent surfaces and finishes.

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- b. Code upgrades are required, including stairs, handrails, fire separations, and a new communications room.
- c. Remove the offices on the mezzanine and replace with a new conditioned structure. Upgrade the mezzanine stairs to meet NFPA 101.
- d. Recondition existing spaces along the plan south of the facility to be storage spaces.
- e. Demolish the restrooms and upgrade to ABA compliant facilities. Provide a new janitor closet adjacent to them. Meet International Plumbing Code requirements for all fixtures.
- f. Install new fuel resistance resinous five coat epoxy hangar flooring in accordance with UFC 4-211-01 for ground floor areas identified in the room data sheets.
- g. Install a new conditioned parachute room with table for rigging and access to storage along the north portion of the facility.
- h. Replace the exterior doors of the facility. They have impeded functionality due to excessive corrosion. ~~<AM#0002>The two large main service doors in the work bay are in good working order and to remain. </AM#0002>~~
- i. Minor upgrades and repairs to the envelope are required. Remove and replace the insulation along the work bay, roof, and walls. Replace the existing translucent panels with new.
- j. Reference demolition section of this RFP for demolition scope. Reference roof and exterior wall requirements section of this RFP for the percentage of the exterior envelope to be replaced.
- k. Existing cranes are to remain. Inspect, service, test, and certify the existing crane. Load capacity is unknown.
- l. Existing clerestory windows are to remain.
- m. Existing canopies located to the west are to remain and require minor repairs including repainting and replacing the metal roof.
- n. Provide a new hydrostatic low slope standing seam metal roof.
- o. Patch and repair areas resulting from demolition work to match adjacent surfaces and finishes.
- p. Remove all existing exterior doors as noted on the concept drawings.

3.3.1.4 Building 216 work includes but is not limited to:

- a. Construct a new addition with a low slope roofing system. See civil site design section of this RFP for site work requirements.
- b. Configure restrooms and showers per ABA.
- c. Provide a United States Secret Clearance Access Area – U.S. Secret Clearance Open Storage Area (Secure Room) in the northwest corner of B216 in accordance with Department of Defense Manual (DoDM) 5200.01 Volume 3, DoD Information Security Program: Protection of Classified Information.
- d. Provide a Special Access Program Facility compliant with F-35 Facility Requirements Document / TEMPEST Area in accordance with UFC 4-010-05 SCIF/SAPF Planning, Design, and Construction and UFC 4-026-01 Design to Resist Forced Entry. Coordinate design, construction, and accreditation with Ebbing ANGB AR Site Security Manager (SSM) and Accrediting Official (AO).
- e. Construct a simulator area and F-35 admin offices.

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- f. Construct a command suite and large conference room.
- g. Provide new interior finishes and repair existing walls and floors to receive new finishes.
- h. Infill exterior wall at overhead doors and louvers.
- i. Replace existing roof.

3.3.1.5 Building 218 modifications are as follows:

- a. Provide new exterior envelope consisting of walls, roof, doors and glazing to align with existing low-slope PEMB structure to meet current codes.
- b. Construct a new 972 square foot facility expansion with a 240 square foot exterior overhang entry to the flight line to meet new program requirements.
- c. Include a new communication room in the building expansion area.
- d. Minor work to the large assembly room is required. Adjust the space to provide new sinks, refrigerators, and counters for microwaves to store personnel food and heat meals.
- e. Provide new ABA-compliant restroom facilities, showers, and an adjacent janitor closet. Provide all plumbing fixtures in accordance with International Plumbing Code requirements.
- f. Reconfigure partition walls in the existing circa 2000's expansion to meet RSAF program needs.
- g. Provide a hardened pyro room to be designed to meet the material explosive classification.
- h. Provide upgrades to fire separation partitions as required.
- i. Patch and repair areas resulting from demolition work to match adjacent surfaces and finishes. Reference demolition section of this RFP for requirements.

3.3.2 Demolition

The plans in Attachment B show the intended demolition extents. Inventory and coordinate with Contracting Officer Representative (COR) turn-over to the Government of any and all removed equipment. Dispose of any equipment not returned to the Government.

3.3.2.1 Building 201

- a. Demolish all equipment associated with the existing fire station as well as many interior partitions. Refer to attachments for additional information.
- b. Retain mechanical spaces and the single occupant restroom in their current locations.
- c. Remove existing concrete locker pad and repair concrete slab as required to provide a smooth finished surface along the west wall of the existing apparatus bay.
- d. Remove all plumbing fixtures in the facility.
- e. Remove all millwork and finishes in the facility.
- f. Remove existing mezzanine and associated structure/stairs in the existing northeast apparatus bay.
- g. Remove existing curb in the north restroom that currently holds the washer and dryer. Remove and cap all associated utilities.
- h. Remove all existing windows, glazed openings, and frames.

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- i. Remove all existing overhead doors. Track and motors are to remain for reuse.
- j. Remove existing south entrance doors and north apparatus bay door and prepare for infill.
- k. Remove and replace existing west entrance door.

3.3.2.2 Building 202

- a. Minor reconfiguration is required. Refer to Attachment B Concept Design Drawings.
- b. Remove all non-loading bearing screen walls that were constructed in the tank bay, bay 1, and bay 2.
- c. Remove and prepare to infill the east personnel door in bay 1.
- d. Remove and prepare to infill the personnel door connecting the men's restroom to bay 1.
- e. Remove all existing utilities, shelving, brackets, etc. in the laundry room. Demolish partitions as shown in Attachment B between the laundry room and the adjoining janitor room.
- f. Remove all existing millwork, fixtures, appliances, and utilities for the kitchenette in the administrative room north of bay 2.
- g. Remove interior overhead doors for the two storage rooms in bay 1 and the overhead door in bay 3. Prepare to infill with CMU block and specified doors.
- h. Remove existing framing and metal decking at the two storage rooms in bay 1 and prepare to replace with concrete vault ceiling.
- i. Remove foam suppression system equipment in fire pump room. Refer to Fire Protection section of this RFP for additional information.
- j. All items in the existing Men's and Women's Restrooms/Locker Rooms are to remain.

3.3.2.3 Building 214

- a. While some selective demolition is required throughout the facility, much of B214 is to remain in its current configuration to operate as an engine shop. Reuse building elements to the maximum extent feasible.
- b. Demolish existing SSMR System.
- c. Demolish existing ground floor sealed finish of concrete slab in areas identified in Room Data Sheets. Grind and prep structural slab to receive new finish.
- d. Remove and replace interior insulation at work bay walls and roof insulation.
- e. Remove and replace translucent upper wall panels.
- f. Demolish wall panels enclosing the office space at the mezzanine.
- g. Modify/demolish the mezzanine stair railing in accordance with NFPA requirements.
- h. Remove and replace all exterior swinging doors and panels.
- i. Demolish existing kitchen space, restrooms, and adjacent wall for new space configuration.
- j. Conduct inspection, service maintenance, and load certification of existing cranes.
- k. Patch and repair masonry wall partitions as required for abandoned openings

3.3.2.4 Building 216

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- a. Secure Areas within Building 216 require the most extensive alteration in accordance with the requirements of UFC 4-010-05 and F-35 FRD. One area is United States Secret Clearance Access Only and an F-35 SAPF/FRD Special Access Area. Selective demolition of interior partitions and modification of structural walls are required to create the spatial relationships of the new mission program. New exterior windows and doors are required in accordance with DoD Minimum Antiterrorism Standards in UFC 4-010-01. Civilian personnel occupy the facility, so it is to be accessible in accordance with ABA Standards.
- b. Demolish existing SSMR System.
- c. Selectively demolish restroom, lockers, and break areas.
- d. Demolish vault and vault door for command suite.
- e. Demolish interior partitions and interior doors.
- f. Demolish interior finishes. Demolish floor finishes to the slab.
- g. Provide new openings in exterior enclosure for egress. The original facility has endured three additions during its life with multiple exterior walls now serving as interior walls.
- h. Patch and repair masonry wall partitions as required for abandoned openings.

3.3.2.5 Building 218

- a. The new addition to the B218 facility requires selective demolition. Much of the facility east of gridline A (as shown in the concept drawings in Attachment B of this RFP) remains in its current configuration. Perform minor demolition for its new purpose. Reuse building elements to the maximum extent feasible.
- b. Remove the exterior envelope to fix moisture and air infiltration issues at the original low-slope PEMB building. Demolish the existing roof, metal wall panels, brick veneer base, and associated swing doors and windows. Reference Attachment B Concept Drawings.
- c. Demolish existing interior partitions, doors, windows, ceiling assembly, and flooring as required for the new space configuration as identified in Attachment B Concept Drawings.
- d. ~~<AM#0002>Remove Replace damaged curtain wall system glazing in its entirety. Repair to match the existing assembly.</AM#0002>~~
- e. Provide any temporary bracing needed for the structural system.

3.3.3 Functional/Operational Requirements

The plans in Attachment B show the intended functional layouts.

3.3.4 Accessibility Requirements

Design the facilities to comply with DoD standards for accessibility for all spaces open to the public or accessed by civilian personnel.

3.3.5 Exterior Requirements

Complement existing buildings when choosing exterior design elements. Design wall types to meet the requirements for energy efficiency, weather protection, air and water infiltration, thermal movement, low maintenance, high durability, and aesthetic appearance. Provide low-maintenance finish materials to the greatest extent possible. Conform to the minimum requirements and allowable options contained within each of the applicable UFGS specification sections.

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Design all work in accordance with UFC 3-101-01, Architecture, and UFC 3-301-01, Structural Engineering. Provide wind load calculations for exterior cladding in accordance with UFC 1-200-01 and UFC 3-301-01 with a comparative analysis of the cladding system. Refer to Concept Design Drawings in Attachment B and Room Data Sheets in Attachment C for more information.

3.3.5.1 Roofing System

- 3.3.5.1.1 Existing Standing Seam Metal Roof (SSMR): The standing seam metal roof system for Buildings 202 shows minimal damage. This system is to remain. Remove existing SSMR systems on B201, B214, B216, and B218.
- 3.3.5.1.2 Replacement: The roofs of all facilities, with the exception of B202, will be replaced in their entirety. No repairs will be undertaken as part of this project.
- 3.3.5.1.3 New SSMR System: For new roof systems, provide hydrostatic (structural) fully seamed standing seam roofing panels conforming to Ebbing ANGB requirements and matching the newest building addition roof system. Provide steel formed at the manufacturing plant and conditioned for flatness. Determine panel thickness by the requirements of UFC 3-110-03 Roofing. The minimum gauge for panels is 20-gauge, (.032-inch) thick or greater. Meet deflection and wind load requirements per ASCE 7-22. Provide continuous roof insulation over the entire roof area. Insulation must meet or exceed the requirements of the International Energy Code, Air Force High Performance Building requirements, and all federal mandates. Provide the following warranties for metal roof system: Manufacturer's 20 year no dollar limit weathertight warranty, manufacturer's 20 year no dollar limit factory applied finish warranty, and 2-year installation warranty
- 3.3.5.1.4 Roof penetrations: Flash all existing and new roof penetrations according to the new roof manufacturer's required details for watertight warranty coverage.
- 3.3.5.1.5 Low-Slope Roof: Provide a single-ply membrane roof assembly in accordance with UFC 3-110-03 for the new addition roof at Building 216. Use 80 mil fully adhered TPO Hydrostatic System. Minimize roof penetrations as much as practicable and must be sealed and waterproofed. Design low-slope roof systems to allow positive drainage toward the facility's exterior. Internal roof drains are not permitted. Provide roof and overflow drains that tie directly into the storm drain. The complete low-slope roof system assembly must be rated and installed to resist wind loads in accordance with ASCE 7-22 and UFC 3-110-03 and validated by uplift resistance testing in accordance with Factory Mutual (FM) test procedures. Do not install non-rated systems except as approved by the Contracting Officer. Submit licensed engineer's wind uplift calculations and substantiating data to validate any non-rated roof system. Furnish the roofing system manufacturer's materials and workmanship warranty for the roofing system. The warranty period must not be less than 20 years from the date the Government accepts the work.
- 3.3.5.1.6 Roof Insulation: Provide roof insulation that is continuous over the entire roof area. Insulation must meet or exceed the requirements of the International Energy Code, and all Federal mandates. Roof insulation must have an R-value determined per ASHRAE Standard 90.1 and per project energy goals. Roof insulation must also be compatible with attachment methods for the specified insulation and roof system. On portions of the roof where the sloping of structure does not allow the minimum slopes, provide a factory tapered roof insulation system to provide positive drainage of roof system, and to include drainage around curbs, penetrations, and projections through the roof plane. For new construction, provide one layer of the tapered roof insulation assembly factory tapered to a slope not less than 1/2-inch per foot. Provide 1/2- inch reinforced gypsum coverboard over rigid insulation per roof manufacturer's instructions.

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- 3.3.5.1.7 Closed-Cell Spray Polyurethane Foam (ccSPF) may be used at the underside of roof construction to form a continuous layer of insulation that provides part of an air barrier. Conform to requirements of IBC for separating foam insulation from interior exposure. Demonstrate air barrier conformance using test procedures per U.S. Army Corps of Engineers Air Leakage Test Protocol for Building Envelopes.

3.3.5.2 Splash Blocks

Provide splash blocks at downspouts emptying at grade. Splash blocks may be precast concrete, and must be 24-inches long, 12-inches wide and 4-inches thick, unless otherwise indicated, with smooth-finished countersunk dishes sloped to drain away from the building.

3.3.5.3 Fascia, Gutters, and Downspouts

Where required, provide new fascia at insulated roof to match standing seam metal roof and downspouts. Install rectangular discharge at the bottom of the downspout. Provide gutter and downspouts at main entry canopy. Install rectangular discharge at the bottom of the downspout. Provide concrete splash blocks where downspouts exit to daylight. Provide scuppers and downspouts matching the original roof design and construction at Buildings 216 and 218. Building 201 has sustained water damage to the brick facade at the support columns of the covered entry. Repair damage and add a downspout to correct drainage. At Building 202, provide a new gutter and downspout at the covered entrance.

3.3.5.4 Downspouts

Prepare calculations to determine the minimum drainage requirement using the calculation method as specified in the Sheet Metal and Air Conditioning Contractors National Association's (SMACNA) Architectural Sheet Metal Manual. Space supports for downspouts according to the manufacturer's recommendation for the substrate. Provide complete installation, including elbows and offsets. Form straps and fasteners of metal compatible with the downspouts. Provide downspouts terminating in splash blocks with elbow-type fittings.

3.3.5.5 Scuppers

Provide new scuppers at the addition to B216. Extend the scupper liner through and project it outside of the wall, penetrating to form a bottom drip edge against the face of the wall. Fold outside edges under 1/2-inch on all sides. Join the top and sides of the roof deck lining to a closed flange by a locked and soldered joint. Join the bottom edge by a locked and soldered joint to the closure flange, where required, form with a ridge to act as a gravel stop around the scupper inlet. Provide surfaces to receive the scupper lining and coat with bituminous plastic cement.

3.3.5.6 Curbs and Gutters

Provide contraction joints spaced every 10-feet maximum unless otherwise indicated. Cut contraction joints 3/4-inch deep with a jointing tool after the surface has been finished. Provide expansion joints 1/2-inch thick and spaced every 100-feet maximum unless otherwise indicated.

3.3.5.7 Exterior Soffits

Include high-performance coatings at exterior soffit systems. Where soffit abuts other materials, provide trim accessories of the same material and finish as the soffit material. Where ventilation is required, provide a soffit/ridge/louver/ventilator ventilation system with air quantities complying

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with the IBC. For unvented spaces, provide sealed soffits to maintain the integrity of the air and insulation barrier systems. Metal soffit panels must be factory-formed and factory-finished. Use factory-applied sealant inside laps.

3.3.5.8 Exterior Walls

Repair exterior walls to match existing as required at all facilities. Repair joint sealants as needed. New exterior wall appearance is to match existing facility and harmoniously tie into the visual character of the adjacent facilities. The metal exterior wall systems for Buildings 201, 202, and 214 show minimal damage. The existing wall system is to remain; patch and repair as required. Assume no more than 10% of the metal wall panels require repair and replacement. Match the existing wall system at the repaired metal wall panel system assembly. Replace Building 214's translucent panel walls with new translucent panels compatible with the existing metal wall panels. Provide a new wall panel system at Building 218's original low-slope PEMB building portion. Provide new metal wall panels conforming to Ebbing ANGB requirements and matching newest B218 building addition wall system.

3.3.5.8.1 Metal Wall Panel Exterior Enclosure: Design all work to comply with UFC 3-101-01, Architecture, and UFC 3-301-01, Structural Engineering, and the following requirements:

Wind Loads: Provide wind load calculations for exterior cladding in accordance with UFC 1-200-01 and UFC 3-301-01 with a comparative analysis of the cladding system to be provided.

Water Penetration: No water penetration must occur at a pressure of 8-psf (39-Kg/m²) of fixed area when tested in accordance with ASTM E 331.

Insulating Value: Comply with UFC 3-101-01 for the ASHRAE requirements defining the minimum insulating value of the complete wall system.

Warranty: Provide 20-year finish warranty directly to the Government, commencing at time of Government's acceptance of the roof work.

Factory Color Finish: Provide panels with a factory-applied, baked coating to the exterior and interior of metal wall panels and metal accessories. Provide exterior finish topcoat of 70 percent polyvinylidene fluoride (PVDF) resin with not less than 0.8 mil dry film thickness (DFT). Provide exterior primer standard with panel manufacturer but not less than 0.8 mil dry film thickness (DFT)

Design the wall system and attachments to resist wind loads as determined by ASCE 7-22, with a safety factor appropriate for the material holding the anchor.

3.3.5.8.2 Exterior Wall System: Anchored Brick Veneer with Structural CMU backing (B216 Addition)

Provide 8-inch by 8-inch by 16-inch nominal standard gray concrete masonry units (CMU) structural wall, fluid-applied air/moisture barrier, continuous board insulation at the exterior face of structural CMU, 2-inch min air space, and modular face brick. The interior face of exterior structural CMU walls must have either a paint finish or metal furring and gypsum board with a paint finish.

Meet or exceed the requirements of ASHRAE 90.1 for energy performance and comply with UFC 3-101-01 requirements for all exterior wall construction assemblies.

3.3.5.8.3 Exterior Wall System: Double Wythe Framed Wall (Building 218 envelope & addition)

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Provide PEMB structure with 24-gauge (minimum) factory-formed wall panels with concealed attachments and high panel corrugations mechanically attached. Use a modular brick dimension and match the existing facility addition at the lower masonry wall. Provide joints in masonry walls to accommodate thermal movement, expansion, and shrinkage of wall materials, and construction to avoid cracks in masonry units and mortar joints. Provide a 2-in. minimum clear dimension from the face of cavity insulation and sheathing material to the back of the exterior wythe of masonry.

Meet or exceed the requirements of ASHRAE 90.1 for energy performance and comply with UFC 3-101-01 requirements for exterior wall construction assemblies.

3.3.5.9 Exterior Painting

Comply with Master Painter Institute (MPI) standards for commercial quality coatings. As a minimum, apply SSPC PA Method 1 to all surfaces. Follow MPI Architectural Painting Specification; recommendations noted are considered to be required. Paint all exposed unfinished surfaces unless otherwise noted. Include as a minimum a prime coat as recommended by the finish coating system manufacturer and two finish coats.

Select paint systems for the project in accordance with the MPI Architectural Painting Decision Tree available in the Whole Building Design Guide. Use this interactive MPI Decision Tree website to identify the project's applicable paint system(s). The MPI Decision Tree identifies paint systems for each interior or exterior coated surface in "Normal" or "Aggressive" environmental conditions and generally lists the applicable paint systems in descending order of performance. The paint system at the top of each substrate list generally indicates the highest-performing acceptable coating system.

Choose paints that provide performance, are environmentally friendly, and conform to EPA or local environmental regulations, whichever requires the lowest VOC content.

3.3.5.10 Exterior Sealant

For joints on vertical surfaces, provide ASTM C920, Type M, Grade NS, Class 25, and use NT. For joints in horizontal surfaces, provide ASTM C920, Type S or M, Grade P, Class 25, Use T. All joints in exterior walls must receive foam backer rod and sealant application. Seal masonry joints at windows, doors, masonry expansion joints, lintel, and sill flashing.

3.3.5.11 Exterior Doors and Frames

Replace rusted, damaged doors or doors not conforming to NFPA requirements where required. B214 exterior doors show excessive deterioration and require replacement through the facility. In B216, replace doors where receiving new building wall system. Assume that no more than 20% of existing doors will be replaced in areas not directly affected by floor plan modifications.

At new exterior doors to the facility, provide insulated steel doors and meet the requirements of UFC 1-200-01, UFC 4-010-01 and antiterrorism requirements.

Test exterior doors, frames, and hardware in accordance with ASTM F 2247. Steel (hollow metal) insulated flush single doors must be a minimum 3-feet by 7-feet and steel (hollow metal), insulated, flush double doors must be 6-feet by 7-feet unless required otherwise.

Meet SDI/DOOR A250.8, Level 3, physical performance Level A, Model 2 at all flush steel exterior doors and frames with insulating core construction. All steel door frames must be welded.

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Exterior doors must have top edge closed flush and sealed to prevent water intrusion and a minimum thickness for doors must be 1 3/4-inches.

Include aluminum thresholds and aluminum-housed weather seals at all doors. Provide paint finish at all exterior doors unless doors and frames are aluminum storefront type. All drips at exterior door head locations must be aluminum.

Refer to door hardware section of this RFP for door hardware requirements.

3.3.5.12 Exterior Overhead Doors

Overhead sectional doors must be installed with aluminum frames, be provided with glazing as required, and be provided with all required operating hardware, tracks, and supports for electrical operators. Comply with ANSI/DASMA 102 - American National Standard Specifications for Sectional Overhead Type Doors. Verify electric requirements available at building location for the selection of motor.

Coiling overhead exterior doors must be insulated, be provided with glazing as required, and be provided with all required operating hardware, tracks, and supports for electrical operators. Comply with ANSI/DASMA 102 - American National Standard Specifications for Coiling Overhead Type Doors. Verify electric requirements available at building location for selection of motor.

3.3.5.13 Exterior Storefront Doors, Windows, and Glazing

Provide prefinished aluminum storefront entrances and window systems at locations identified in this RFP, and at locations and general configurations shown in Attachment B Concept Design Drawings.

Prefinished aluminum storefront entrance doors and glazing assemblies must have a fluoropolymer finish or clear anodized aluminum finish, insulated laminated low-e tinted glazing to meet all code required structural design, wind loads, air infiltration, water penetration, and energy performance (ASHRAE 90.1), and Appendix M Memorandum requirements.

Storefront window frames must be extruded aluminum shapes with removable glass stops and glazing beads for frames accommodating fixed glass. Provide aluminum alloy for doors and frames; ASTM B221M, ASTM B221, Alloy 6063-T5 for extrusions; ASTM B209M, ASTM B209, alloy and temper best suited for aluminum sheets and strips.

3.3.5.14 Exterior Glazing

Window systems, including glazing, framing, connections, and support structures, do not have to be designed, analyzed, or tested for blast resistance; however, exterior glazing and components must be designed to minimize hazardous fragmentation by meeting the prescriptive requirements outlined in Standard 10. This facility complies with Standard 10.

Provide complete systems, including but not limited to framing, mullions, trim, glazing, sealants, insulation, fasteners, anchors, accessories, concealed auxiliary members, and attachment devices for securing the wall to the structure as required.

3.3.5.15 Exterior Wall Louvers

Where required, provide prefinished aluminum, fixed blade 45-degree minimum slope drainable wall louvers with insect screens. Wall louvers must meet wind loads as defined in accordance with ASCE 7-22 and be AMCA certified for expected wind driven rain. Comply with UFC 4-010-01

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standards for intake louvers. Provide a finish color matching the existing facility finishes. Provide sill flashing with sloped drain pan at base of louver to collect moisture that migrates down the interior face of the louver. This sill flashing must drain water to the outside of the building.

3.3.5.16 Handrails/Guardrails

Upgrade existing stair railing and risers to meet NFPA 101 requirements. Where required by the final design solution, provide railing compatible with the existing rail system. Grind and finish all joints. Repaint the railing as required. Color selection is subject to approval by the Contracting Officer's Representative.

3.3.5.17 Door Hardware

Provide exterior and interior door hardware in a satin stainless or chrome finish (BHMA 630 for exterior or 626 for interior), unless noted otherwise. Provide stainless steel exterior hardware. Provide hardware components and keying in accordance with ABA and USAF requirements for accessibility, and NFPA 101 requirements for life safety. All lock hardware must match Ebbing ANGB master lock system. Use concealed-style hardware devices whenever possible. Reinforce all doors and frames as needed to accommodate the hardware. Provide locking hardware at all doors unless noted otherwise. Configure exterior door hardware for doors to swing out in accordance with antiterrorism minimum standards per UFC 4-010-0 and as specified in other sections of this RFP. Provide the services of an Architectural Hardware Consultant (AHC) or equivalent hardware consultant to review and approve the hardware design and construction submittals. Master keying and individual room keying requirements must be in accordance with the instructions provided by the facility users at a required pre-delivery conference.

3.3.5.17.1 Hinges: Provide minimum three per door leaf, BHMA A156.1, 4 1/2-inch by 4 1/2-inch (minimum), stainless steel, BHMA 630 finish, ball bearing hinges, non-removal pins for security doors.

3.3.5.17.2 Locksets: BHMA A156.13, Series 1000, Operational Grade 1, Security Grade 2, escutcheons not less than 7-inch by 2 1/4-inches with a bushing at least 1/4-inch-long, BHMA 630 finish. Provide lever-style handles of design. Provide electromagnetic locks at GSA Vault Doors.

3.3.5.17.3 Card Key System: Provide card key type access units for specialized entries as required by the program. Provide lithium battery powered, magnetic stripe keycard locksets that are ANSI/BHMA A156.13, Series 1000, Grade 1, mortise or ANSI/BHMA A156.2, Series 4000, Grade 1, cylindrical locks, tamper resistant, UL listed with 1-inch (25-mm) throw deadbolt, 3/4-inch (19-mm) throw latch bolt, auxiliary dead-locking latch, and 2 3/4-inch (68.75-mm) backset. The latch and dead bolts must be operated simultaneously by rotating the inside lever. Locks with mechanical override lock cylinders are not acceptable. Locks must be operated only by a correctly encoded keycard. The use of a newly issued keycard automatically re-keys the lock and voids the previous keycard. The lock must re-lock immediately after the outside lever is turned and the latch retracted. Locks must have a memory that can record up to 140 entries into each room, identification of the keycard used to access the room, and the date and time of entry. Entry information of the lock must be retrievable by a data key that can be inserted into the lock and then taken to the front desk printer to display information. Other components that are required for this system at the front desk are a personal or laptop computer, printer, and encoder to program each key.

3.3.5.17.4 Exit Devices: BHMA A156.3, Grade 1, BHMA 630 finish. Provide adjustable strikes for rim type and concealed vertical rod devices. Provide open back strikes for pairs of doors with mortise and vertical rod devices. Provide touch bars in lieu of conventional crossbars and arms. Provide escutcheons, not less than 7-inches by 2 1/4-inches.

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- 3.3.5.17.5 Closers: BHMA A156.4, Series C02000, Grade 1, with PT 4C (unless otherwise noted), BHMA 630 or 689 finish. Provide with brackets, arms, mounting devices, fasteners, full size covers except at storefront mounting, and other features necessary for the particular application. Provide closers on all fire rated, apparatus bay shops/ storage, corridors, or acoustic doors.
- 3.3.5.17.6 Coordinators: Provide for pairs of doors with closers, BHMA 630 or aluminum with 689 finish.
- 3.3.5.17.7 Weather Stripping and Thresholds: Provide adjustable weather stripping (1.25-CFM air leakage rate, maximum) and aluminum thresholds and retainers at all exterior doors.
- 3.3.5.17.8 Rain Drips: For all exterior doors that open to the outside, where the door swing area is not covered by an overhang, provide top and bottom rain drips complying with ANSI R3Y535 as a minimum.
- 3.3.5.17.9 Soundproofing Gasketing: Provide soundproof gasketing at all sound rated door assemblies as tested.
- 3.3.5.17.10 Kick Plates: Provide stainless steel, BHMA 630 at restrooms and janitor closets.
- 3.3.5.17.11 Hardware for storefront doors can be provided by the storefront door manufacturer as required to meet the tested assembly criteria and meet the minimum requirements of this Section.
- 3.3.5.17.12 Stops: Provide stops in accordance with BHMA A156.16. Use a BHMA 630 finish.
- 3.3.5.18 Non-Destruction Emergency Access System

Provide a non-destructive emergency access system with a Rapid Entry System and a 3200 series Knox Box at all facilities without an existing system. Locate one Knox Box within plain sight near the main entrance of all facilities (coordinate location with Fire Department) and place a second Knox Box near the entrance to the mechanical room.

3.3.5.19 Finish Hardware

Provide ANSI/BHMA Grade 1 hardware and Series 1000 mortise locksets. Plastic cores are unacceptable. Provide closers with option PT4C for all exterior doors, all doors opening to corridors, and as required by code. Install exit devices at all building egress doors, and from other areas as required by code, based on occupancy type. Provide weather stripping, thresholds, and door sweeps at all exterior doors. Provide hinges with anti-friction bearings. Provide kickplates at doors located in high traffic areas. Meet the requirements of the base keying system for door hardware finish. Provide 7-pin removable cores.

3.3.5.20 Auxiliary Hardware

Provide wall mounted stops for all doors which have no overhead holder/stops. Provide wall backing as required for wall mounted stops at framed walls. Provide other hardware as necessary for a complete installation.

3.3.5.21 Hardware for Fire Doors

Install hardware for fire doors in accordance with the requirements of applicable codes. Exit devices installed on fire doors must have a visible label bearing the marking "Fire Exit Hardware." Other hardware installed on fire doors, such as locksets, closers, and hinges must have a visible label or stamp indicating the hardware items have been approved by an approved testing agency

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for the installation on fire-rated doors. Install hardware for smoke-control door assemblies in accordance with applicable codes.

3.3.5.22 Exterior Windows

- a. Building 201: Infill all existing glazing.
- b. Building 202: All glazing is existing to remain. The record drawings indicate the storefront system is impact resistant in accordance with antiterrorism minimum standards.
- c. Building 214: All glazing is to remain.
- d. Building 216: Provide new glazing at new facility addition.
- e. Building 218: Repair damaged curtainwall glazing and provide new glazing in new wall assembly.

3.3.5.23 Exterior Signage

Provide exterior signage at the facility conforming to base requirements and in accordance with UFC 3-120-01.

3.3.6 Interior Requirements

Provide durable sustainable materials and furnishings, easily maintained and replaced. Provide interior surfaces which are easy to clean. Finishes must conform to the requirements of the IBC, NFPA and UFC 3-600-01. Where code requirements conflict, the most stringent code requirement must apply. Refer to Concept Design Drawings in Attachment B and Room Data Sheets in Attachment C for more information.

3.3.6.1 Acoustical Requirements

Design new doors, new interior partitions, and ceilings to provide for attenuation of sound transmission and impact noise from internal sources, in accordance with applicable criteria. Comply with the minimums given in UFC 1-200-01 and UFC 3-101-01.

Sound conditions (and levels) for interior spaces, due to the operation of mechanical and electrical systems and devices must not exceed levels as recommended by ASHRAE handbook criteria. Provide acoustical treatment for drain lines and other utilities (HVAC) to prevent noise transmission into the interior of public spaces. Provide STC ratings in compliance with UFC 4-610-01 Administrative Facilities.

3.3.6.2 Interior Systems Access

Design building systems to all access for removal, repair, and maintenance of mechanical equipment, plumbing equipment, and fire dampers. Include removable panels, access doors, and other solutions in the design as required.

3.3.6.3 Housekeeping Pads

Provide concrete housekeeping pads for new mechanical and electrical equipment locations.

3.3.6.4 Interior Walls (Partitions)

- 3.3.6.4.1 Concrete Masonry Units (CMU) Walls: New interior walls must generally be concrete masonry units to match existing conditions. Paint the interior face of the exterior walls with exposed

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CMU block. Finish CMU block surfaces with a uniform texture and free of surface imperfections that would adversely affect the intended finished appearance.

- 3.3.6.4.2 **Metal Stud Interior Partition Walls:** Construct interior metal stud partition walls using galvanized metal studs and mold resistant / anti-microbial glass-mat gypsum panels in unconditioned, semi-conditioned areas or as required. Provide gypsum panels which are 5/8-inch-thick minimum and meet ASTM C1396/C1396M. Provide Type 'X' gypsum panels for fire-resistance-rated assemblies and higher density core for STC acoustical rated assemblies. Provide 5/8-inch-thick abuse-resistant glass mat gypsum panels meeting ASTM C1629/C1629M on walls in corridors and maintenance areas, and walls adjacent to assembly areas. Provide cement backboard for walls with tile and/or walls with plumbing fixtures and shower enclosures with solid surface panels. Provide mold resistant / anti-microbial gypsum wallboard for janitor rooms walls and ceilings of toilet rooms meeting ASTM D3273. Apply gypsum board to framing and furring members in accordance with ASTM C840 or GA 216. Refer to UFC 3-101-01 for required wall STC ratings. Finish all interior metal stud walls with gypsum wall board and apply a painted finish. Finish interior gypsum wall and ceiling surfaces to ASTM C 840 and GA 214 and GA 216. Provide a Level 4 finish unless otherwise noted and a Level 3 finish when overlaid by tile. Metal studs must have a galvanized coating ASTM A653/A653M, G-60; aluminum coating ASTM A463/A463M, T1-25; or a 55-percent aluminum-zinc coating. Provide support systems and attachments per UFC 3-310-04, "Seismic Design for Buildings" in seismic zones. Install metal support framing in accordance with ASTM C754. Provide rubber resilient wall base at areas receiving carpet, resilient flooring, static dissipative, and sealed concrete flooring. Rubber wall base material must be 1/8-inch-thick minimum and must conform to ASTM F 1861. Provide a metal cove base at restroom areas. Do not install interior wall sheathings or finishes prior to construction meeting required interior environmental conditions. This includes glass-mat gypsum wallboard, cementitious backer board, all applied finishes, and materials subject to mold and mildew. Acceptable environmental conditions are as follows: building is completely dried-in, including roofing system, wall vapor barrier, thermal envelope, exterior windows, and exterior doors. Temperature and humidity ranges must comply with the manufacturer's directions and technical specifications for specific products.
- 3.3.6.4.3 **Fire-Rated and Smoke Partitions:** Provide fire-rated partitions per code. Extend fire-rated partitions from the concrete floor slab to the underside of the roof deck above. Seal openings and penetrations through partitions around comm rooms, mechanical rooms, electrical rooms and other locations indicated on the drawings to prevent the passage of smoke.
- 3.3.6.4.4 **Firestopping:** Provide fire stopping using UL-approved systems. Provide details of such systems in the drawings. A Qualified Fire Protection Engineer (QFPE) must review and approve the fire stopping systems. The fire stopping installer must be approved by the manufacturer. The system must include a listed and approved F and T rating for both horizontal and vertical installations. Indicate locations and types of all fire stopping systems on the drawings.
- 3.3.6.4.5 **Retractable Partitions:** Provide retractable partitions and associated work, including tracks and anchoring systems in Building 216 between rooms 109A and 109B. Provide a sound barrier equal to, or greater than, the sound rating of the partition at wall assemblies above retractable partitions. Operable panel partitions must be factory finished, supported from an overhead track without floor guides, and include all hardware, track, and accessories necessary for operation. The suspension system must consist of steel or heavy-duty extruded aluminum track connected to the structural system by threaded rods and trolleys designed to support the partition's weight. Provide steel track of 16 gage minimum, phosphate treated and finished, or zinc or cadmium coated, or provide an extruded aluminum track with a minimum thickness of 1/8-inch (3.2-mm). Tracks must have an integral ceiling guard. Trolleys must have

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at least two ball-bearing nylon or steel-tired wheels spaced according to the manufacturer's design criteria and four at an end post.

3.3.6.5 Casework

Provide casework which is a commercial grade medium density fiberboard (MDF) or medium density particleboard substrate with a plastic laminate finish. Provide, at a minimum, a plastic laminate finish at exposed fronts and ends of cabinets, door, and drawer fronts. Provide door and drawer fronts which are 3/4" thick. Provide 1/2" minimum shelves able to withstand 45 lbs. Provide thermally fused melamine at cabinet tops, wall bottoms, and concealed and semi-concealed surfaces. Rapidly renewable materials are encouraged for casework materials. Provide hardware complying with ANSI/BHMA A156.9.

Conform to and comply with the Custom Grade quality standards as outlined in the AWI AWS section for laminate-clad cabinets for all materials, construction methods, and fabrication. Provide countertops made of solid surface material (SSM) with an integral backsplash and apron. Provide solid surface counter-mounted lavatories and vitreous china wall-mounted lavatories.

3.3.6.6 Building 216 Secure Access Areas

3.3.6.6.1 United States Secret Clearance Access: US Secret Clearance or higher access area in accordance with DoDM 5200.01 Volume 3 for Open Storage Area (Secure Room). Provide interior and exterior wall assemblies, floor assemblies, roof assemblies, ceiling assemblies, and interior and exterior door assemblies in accordance with DoDM 5200.01 Vol 3 and UFC 4-026-01 Design Against Forced Entry. VIPER EM Simulator room is a US Secret Secure space. All interior walls around and within identified areas must be ICD 705 Type A Sound Group 4. Provide STC 50 minimum rating at walls and STC 55 minimum rating at secure doors. No exterior windows are proposed for these areas. Access Control System will utilize Government issued Common Access Card (CAC).

3.3.6.6.2 Special Access Program Facility (SAPF) Construction: Special Access Program Facilities information will be handled and stored in this facility. "Open Storage Area" of classified information will occur within this facility. Comply with UFC 4-010-05 SCIF/SAPF Planning, Design, and Construction, ICD/ICS 705 Technical Specifications for Construction and Management of Sensitive Compartmented Information Facilities (ICD 705), and the F-35 Facility Requirements Document (FRD) with any specific items for the F-35 A and F-35 B. The most restrictive and highest level of protection from any document takes precedence. Equip the SAPF areas with protective construction in accordance with UFC 4-026-01 Design to Resist Forced Entry and devices to guard against information loss. Acoustical And Radio Frequency (RF) shielding protection measures are designed to protect Special Access information against being inadvertently overhead and intercepted. Provide Radio Frequency Shielding on all six sides, including above the concrete slab on grade and under the finish floor material at all SAPF areas. A true RF shielded ceiling above a finish ceiling is acceptable. Fully connect and seal walls, floors, and true ceilings. Comply with ICD 705, Chapter 3, Figure 2, Wall B – Suggested Construction for Expanded Metal and Sound Group 4 at all interior wall assemblies within the SAPF perimeter and Man Trap perimeter (identified on plans). Provide STC 50 minimum rating at walls and STC 55 minimum rating at secure doors.

3.3.6.7 Interior Doors

Fire rate interior doors where required. Provide Level 2 hollow metal frames in accordance with ANSI/SDI A250.8 (SDI 100). Provide face welded frames as defined in ANSI/SDI A250.8-2014, 2.4.1.3. Provide kick plates at doors with heavy visitor traffic. Provide security doors

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and hardware at necessary locations. Paint door frames with an enamel finish. Provide stainless steel interior door hardware. Insulate doors serving unconditioned areas.

- 3.3.6.7.1 Interior Steel Doors: Interior steel doors must be hollow metal steel, unrated, and fire-rated as identified or required by code or other criteria. Provide single or pair doors as indicated on the Concept Design Drawings. Provide 16-gauge minimum interior doors. Meet SDI/DOOR A250.8, Level 3 requirements. Form doors to sizes required. Refer to UFC 3-101-01 for STC ratings. Fabricate interior hollow metal doors from hot dipped zinc coated steel, alloyed type, that comply with ASTM A924/A924M and ASTM A653/A653M. The coating weight must meet or exceed the minimum requirements for coatings having 0.4 ounces per square foot, total of both sides, i.e., A40. Repair damaged zinc-coated surfaces by the application of zinc dust paint. Thoroughly clean and chemically treat to insure maximum paint adhesion. Factory prime as specified in SDI/DOOR A250.8.

Interior Wood Doors: Provide wood doors at administration and office areas. Standard interior doors must be flush solid core wood doors with good or better grade birch veneer. Conform to WDMA 1.S. 1-A. Door frames must be welded 16-gauge steel for SDI/DOOR A250.8 Level 2 doors. Provide fire rated doors and STC-rated doors as required. Metal doors may be used when wood doors do not meet the requirements of the mission. Hardwood veneers must be plain-sliced and book-matched. Doors must be factory-stained, finished, and prepared for door hardware. Where glazed openings are required, use the manufacturer's standard wood moldings. Moldings for doors to receive a natural finish of the same species and color as the face veneer. Unless noted otherwise, provide vertically oriented narrow-view glass panels, approximately 4 inches by 24 inches, in doors to private offices. Doors required to have an STC rating must be a tested assembly that includes door and frame, certified to achieve the STC rating equal to or higher than the partition wall it is installed in unless noted otherwise. At all interior doors, provide solid core hardwood veneer with a clear factory finish. Provide kick plates at doors with heavy traffic. Provide security doors and hardware at necessary locations. Provide hollow metal doors where serving the apparatus bay, restrooms, and janitorial rooms. Provide insulated doors where serving unconditioned areas.

- 3.3.6.7.2 Interior Overhead Doors:

Provide coiling overhead interior doors with all required operating hardware, and supports for electrical operators. Comply with ANSI/DASMA 102 - American National Standard Specifications for Coiling Overhead Type Doors. Verify electric requirements available at building location for selection of motor.

- 3.3.6.7.3 GSA Vault Doors:

Provide GSA labeled, secure vault doors. Doors must conform to FA AA-D-600 Class 5V, Style K, Design S.

- 3.3.6.8 Interior Door Hardware: Refer to Door Hardware section above.

- 3.3.6.9 Specialties

- 3.3.6.9.1 Enclosures: Provide toilet enclosures and entrance screens of solid phenolic material with integral color Type III, Style A, floor supported or wall hung. Specify tamperproof fasteners and recessed accessory items to the greatest extent possible. Provide stainless steel hardware. Provide accessible stalls with grab bars to meet ABA criteria. Provide blocking as required to support partitions.

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- 3.3.6.9.2 Toilet Accessories: Provide new stainless steel satin finish toilet accessories to meet Base standards.
- 3.3.6.9.3 Urinal Screens: Provide urinal screens of solid phenolic material with integral color Type III, Style A, floor supported, or wall hung. Secure wall-hung urinal screens with continuous flanges to the urinal screen and wall. Provide blocking as required to support screens.
- 3.3.6.9.4 Plumbing Accessories: Provide new stainless steel, commercial grade, satin finish plumbing accessories to meet Base standards. Provide ABA compliant plumbing accessories. Provide blocking as required for support.
- 3.3.6.9.5 Fire Extinguishers and Cabinets: Furnish and install fire extinguishers as required by applicable codes and criteria. Provide 10-pound minimum fire extinguishers. Furnish and install new fire extinguishers in existing recessed cabinets where possible. Provide new recessed cabinets, where necessary, sized to contain a minimum 10-pound fire extinguisher cylinder. Cabinets must not diminish or compromise the fire rating of rated walls.
- 3.3.6.9.6 Interior Signage: Provide interior signage throughout the facility in accordance UFC 3-120-01. Meet all ABA requirements and coordinate with facility user for signage design. Follow ABA guidelines for signage background color and text. Coordinate exterior signage finishes with Base standards and interior signage finishes for a cohesive appearance. Signs for permanent spaces (i.e., mechanical and communication rooms) must have permanent room numbers and corresponding names. Provide life safety signage, including but not limited to evacuation plans, in key areas.
- 3.3.6.9.7 Corner Guards: Provide 4' high (minimum) standard metal corner guards at all exterior wall corners of gypsum board walls at main circulation locations. Construct exposed concrete wall outside corners with a chamfered corner.

3.3.7 Interior Finishes

Refer to Concept Design Drawings in Attachment B and Room Data Sheets in Attachment C for more information. Provide a comprehensive interior design (CID) package with each level of design submittal. This includes both a structural interior design (SID) package and a furniture, fixtures, and equipment (FF&E) package.

3.3.7.1 Floor Finish

- 3.3.7.1.1 Sealed Concrete: Provide a sealed concrete floor finish at all mechanical rooms, electrical rooms, SIPR Rooms, janitor closets, and storage rooms. Seal concrete floor slabs that do not receive a finish with a low-VOC water-based clear sealer to prevent dusting and improve general maintainability. Prepare concrete slabs to receive sealer by mechanically grinding them to remove the top 1/8-inch of concrete material and expose slab aggregate. Provide a clean, smooth slab surface for the sealer application.
- 3.3.7.1.2 Luxury Vinyl Tile (LVT): Utilize vinyl tile floor finishes in administrative, vault areas, and high traffic areas to facilitate ease of maintenance. In Building 202, install vinyl sheet flooring to match existing. Provide a product which contains recycled content and is low VOC. Provide vinyl which is minimum .08" thick, conforms to ASTM F 1303, Type II, Grade 1, Class A, and has a fibrous backing. Extend color and pattern through the total thickness of the material.
- 3.3.7.1.3 Epoxy: Provide five-coat epoxy in the hangar bays and adjacent corridors. Provide three-coat epoxy in the paint booth, storage room, pod, and tank bay of Building 202 in accordance with

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UFC 4-211-01. Provide seamless resinous flooring in the Support, Support Storage, and Supply Trade rooms of B202.

- 3.3.7.1.4 Carpeting: Use carpet tile in administrative offices and conference rooms, with the exception of Building 202. Provide carpet which is medium tone, has a multi-color loop pile, and is minimum 28-ounce. Meet Carpet and Rug Institute (CRI) and Indoor Air Quality (IAQ) label requirements for carpet and adhesives. Utilize Nylon 6 or 6,6 designated products on this project.
- 3.3.7.1.5 Tile: Provide an unglazed porcelain floor tile at restrooms, shower rooms, and the lactation room. Provide metal cove base in all restrooms to receive new finishes. Match existing tile in restrooms where required. Provide impact resistant tile for floors and walls in accordance with ASTM C 648. Floor tile must be a minimum of Class III.
- 3.3.7.1.6 Electrostatic Dissipative Flooring: Provide static dissipative vinyl tile composed of polyvinyl chloride resin, plasticizers, fillers, pigments, and antistatic additive with colors and texture dispersed uniformly throughout its thickness in data and comm rooms per room data sheets attached to this RFP. Tile must meet size, thickness, indentation, impact, deflection, dimensional stability, resistance to chemicals, squareness, and resistance to heat requirements of ASTM F 1066 Standard Specification for Vinyl Composition Tile, Class 2, and have a through pattern D antistatic additive with colors and texture dispersed uniformly throughout its thickness.
- 3.3.7.1.7 Striping: Provide striping in Hangar Bays and around emergency shower/eyewash stations in accordance with UFC 4-211-01.
- 3.3.7.2 Wall Base
- 3.3.7.2.1 Rubber Wall Base: Provide rubber wall base at all areas to receive carpet, resilient flooring, and sealed concrete flooring. Rubber material must be 1/8" thick minimum and to conform to ASTM F 1861. In restrooms, provide a coved porcelain tile base where matching existing, and metal cove base where new finishes are being installed.
- 3.3.7.2.2 Coved Metal Base: Provide coved metal base at areas to receive new floor and wall tile finishes. Provide stainless steel cove trim shapes, height to match tile and setting thickness, designed for flooring applications.
- 3.3.7.2.3 Porcelain Tile Base: Provide porcelain tile base when matching existing conditions at areas to receive new floor and wall tile finishes.
- 3.3.7.2.4 Integral Epoxy Wall Base: Provide integral epoxy wall base at all metal stud partitions in rooms to receive new epoxy flooring. Install as to provide a 1/2" radius at the juncture of the floor and wall.
- 3.3.7.3 Wall Finish
- Provide a Level 4 smooth finish at painted gypsum board partitions exposed to view. Paint exposed concrete walls with epoxy paint. Install fiberglass reinforced plastic (FRP) wall panels at all service sinks.
- 3.3.7.3.1 Paint: Paint interior surfaces, except factory pre-finished material or interior surfaces receiving other finishes, a minimum of one prime coat and two finish coats. Paints having a lead content over 0.06 percent by weight of nonvolatile content are unacceptable. Do not use paints containing zinc-chromate, strontium-chromate, mercury or mercury compounds,

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confirmed or suspected human carcinogens. Interior paints and coating products must contain a maximum level of 150 g/l (grams per liter) of volatile organic compounds (VOCs) for non-flat coatings and 50 g/l of VOCs for flat coatings. Provide eggshell finish on gypsum board walls in dry areas and semi-gloss on trim and door frames. Provide commercial-grade paint systems meeting MPI standards. Paint all exposed surfaces unless otherwise indicated. Coordinate painting and stenciling of fire sprinkler water system within the building as shown in guide specifications. At masonry walls use block filler and primer and two finish coats of semi-gloss paint.

- 3.3.7.3.2 **Paint Selection:** Use only paint listed on the “Approved product list” of the Master Painters Institute (MPI). Application criteria must be as recommended by MPI guide specifications for the substrate to be painted and the environmental conditions existing at the project site. Use only paints which provide the minimum required finishes and the highest quality of material, durability and life cycle cost. Paints and coating products must be classified as containing low or zero volatile organic compounds (VOC) in accordance with MPI criteria. Ensure compatibility with existing finishes and maintenance practices during selection of paint colors, textures, and locations.
- 3.3.7.3.3 **Tile:** Provide impervious, unglazed, through-body porcelain wall tile. Provide a minimum 4'-0" wainscot height in restrooms and a full-height installation at shower enclosures. Match existing tile where required. Provide a minimum Class III tile conforming to ASTM C 648 for impact resistance, and Tile Council of North America (TCNA) for standard grade tile. Use epoxy grout.
- 3.3.7.3.4 **Fiberglass Reinforced Plastic (FRP) Panels:** Provide 4'-0" FRP panels at all service sinks. Comply with ASTM D5319 and use only panels which are resistant to rot, corrosion, staining, denting, peeling, and splintering.
- 3.3.7.3.5 **Stainless Steel Panels:** Provide a 4'-0" stainless steel wall protection panel wainscot at all industrial, high traffic circulation areas. Provide type 304 stainless steel conforming to NSF Standard 51.
- 3.3.7.4 **Ceiling Finish**
- 3.3.7.4.1 **Exposed Ceilings –** In rooms without ceilings paint the structure and all exposed elements (including ceiling hung equipment and piping) as specified in this RFP, criteria, or code. Do not field paint factory finish equipment.
- 3.3.7.4.2 **Suspended Gypsum Board Ceiling:** Provide a painted gypsum board ceiling at all restrooms, janitor closets, lactation room, and secure rooms. At gypsum board ceilings, provide metal access panels for access to all valves. Use water resistant gypsum board with an epoxy paint finish at ceilings in restrooms and shower areas.
- 3.3.7.4.3 **Acoustic Ceiling Tile (ACT):** Provide a 24" x 24" ACT ceiling, type III or IV, pattern E, with a tegular edge. Product selected must have a minimum NRC rating of 0.70 and contain recycled content. If applicable, ensure CAC is equal to or greater than the STC rating of enclosing partitions.

3.3.8 Furniture, Fixtures & Equipment (FF&E)

Provide an FF&E package to be coordinated with the user group's requirements. Provide critical dimensions on the floor plan to verify the specified furniture and equipment fit. Complete this FF&E package a minimum of 120 days prior to the completion of construction. Refer to Concept Design Drawings in Attachment B and Room Data Sheets in Attachment C for more information.

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3.4 Structural Design

Design the new construction and modifications to the existing facilities to meet all applicable design codes and criteria, including UFCs. The primary criteria used for structural design is UFC 1-200-01, DoD Building Code (General Building Requirements) and the UFCs and codes referenced therein, including the International Building Code, and UFC 3-301-01 Structural Engineering. These design standards apply to new construction and to the five existing facilities. Reference Attachment A for a complete list of guides and codes.

3.4.1 Design Criteria

Design all structures to support all applied loads including gravity loads, seismic loads, wind loads, lateral loads, and UFC 4-010-01 Antiterrorism (AT) loads, and to meet the serviceability requirements of UFC 3-301-01, Section 2-1.2. Design the supports and bracing for ancillary building items (e.g. overhead architectural features, systems and equipment, mechanical, electrical, and plumbing equipment) for gravity loads, seismic loads, lateral loads, and AT loads. This includes the design of glazing systems, glazing system support structures, and connections of glazing systems to the primary and secondary structural support systems. Utilize the following design criteria:

3.4.1.1 Risk Category

Category II

3.4.1.2 Ground Snow Load

10 PSF

3.4.1.3 Live Loads

As defined in ASCE 7

3.4.1.4 Wind

Wind Speed = 106 MPH,

Wind Exposure Category = C

3.4.1.5 Rain and Ice Loads

Rain: 15 min Precipitation Intensity = 6.1 in/h

Rain: 60 min Precipitation Intensity = 3.21 in/h

Ice thickness = 2 inches

3.4.1.6 Seismic

Seismic Accelerations: $S_s = 0.159g$, $S_1 = 0.087g$

Site Class = D Assumed (unless determined otherwise by geotechnical investigation)

3.4.2 Foundations/Slabs

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Design and construct the foundation system based on a site-specific geotechnical investigation. Base the type of foundation system selected on the geotechnical investigation recommendations, adjacent construction, facility size, structural loads, local availability of materials and labor, and floor plan features. Design the foundation system to limit total settlement to one inch or less and to limit differential settlements to one-half inch or less. Structurally support exterior stoops and slabs adjacent to the structure to prevent differential settlement between the stoop or slab and the primary structure. For the existing buildings, verify the adequacy of the slab on grade where heavy loading, fork lift loading, and rack loading will be present. Check existing foundation for additional loading as required.

For bidding purposes of the new additions to Buildings 216 and 218, assume a drilled pier with grade beam foundation system with slab on grade floor.

3.4.3 Exterior Walls

Exterior walls must be easily maintained, have a high resistance to wear and tear, meet the building envelope insulation requirements, and provide structural support for the architectural finishes selected. This includes, but is not limited to, all exterior components such as walls, doors, windows (glazing systems) and architectural appurtenances. For existing walls, check all new wall penetration and wall infills for the appropriate loading and serviceability criteria. Check existing walls for additional loading.

3.4.4 Interior Partitions

Construct Interior partitions of light gauge metal wall studs or concrete masonry units (CMU) where required for wear resistance. Non-load bearing partitions must be easy to remove for any future floor plan modifications or repurposing of the space. Brace interior partitions laterally at the top and allow for vertical deflection of the structure without transferring loads to the partition.

3.4.5 Vertical Framing

Comply with UFC 4-010-01 for exterior wall and roof design requirements. Coordinate column locations with architectural layout. Conceal columns and vertical braces within interior walls where possible. Check existing framing as required if additional loads are applied.

3.4.6 Roof Structure

Design the roof structure to resist uplift loads as well as gravity loads. Design the steel deck as a diaphragm to provide transfer of lateral loads between vertical elements of the lateral load resisting system. Provide sufficient slope to the roof to prevent ponding or analyze the roof structure for potential ponding and provide adequate strength to resist the additional load. For any existing construction, provide support for any new deck penetrations and check framing for any additional loading if required. If fall protection is required per the UFC's, use permanent davits.

3.4.7 Lateral Load Resisting System

Design the lateral load resisting system to resist all lateral loads and to meet the applicable serviceability requirements referenced in paragraph 3.4.1 above. The lateral load resisting system must provide a complete, continuous load path to transfer lateral loads from the point of application to the earth. Design connections in the lateral load resisting system to meet seismic detailing requirements even if wind loads govern.

3.4.8 Antiterrorism

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Provide structural design for all applicable elements indicated in UFC 4-010-01. These elements include, but are not limited to, wall design, overhangs and breezeways, windows and skylights, building entrance layouts, exterior doors, overhead mounted architectural features, and equipment bracing.

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3.5 Mechanical Design

3.5.1 Code Compliance

Design heating, ventilating, air conditioning (HVAC) and plumbing systems to conform to the publications listed in Attachment A. Utilize the most current codes and standards at the time of the design/build contract solicitation.

3.5.2 Existing Systems

The designs include equipment which varies building-to-building. See Section 3.5.8 for design directives for each building.

3.5.3 Functional Requirements

3.5.3.1 Heating, Ventilating, and Air-Conditioning (HVAC)

Attain the following objectives for the HVAC systems: occupant comfort, indoor air quality, acceptable noise levels, energy efficiency, reliable operation, and ease of maintenance. Provide air-conditioning and heating for all occupied spaces except for maintenance bays, hangar bays, and other areas as noted. Provide air-conditioning only for server/communication rooms. Keep areas that require heating for freeze protection above 40 degrees at all times.

3.5.3.2 Energy Sources

The available energy sources are natural gas and electricity provided by Oklahoma Gas & Electric. Meters for each service exist at each building. In accordance with Executive Order EO14057), new gas-fired mechanical systems are not allowed in any the buildings within the scope of this project (201, 202, 214, 216 & 218). The use/continued use of natural gas is limited to the existing gas-fired infrared heaters in Building 201, and all gas-fired systems in Building 202, which will remain in service as-is.

3.5.4 Prescriptive Requirements – New Equipment

3.5.4.1 Life Cycle Cost Analysis

Perform Life Cycle Cost Analysis (LCCA) to determine heating, cooling, and energy-related decisions of major systems in accordance with UFC 1-200-02 Life Cycle Cost Analysis requirements. Per UFC 1-200-02 (current change), achieve at least 30% energy consumption reduction from ASHRAE 90.1 (current version as directed by UFC) baseline, or achieve an energy consumption level at the highest level possible that is life cycle cost effective. Provide mechanical systems based on achieving the lowest life cycle cost of approved alternatives. Include total ownership costs, operation and maintenance costs, and payback. If life-cycle cost effective, implement Energy Efficiency Measures (EEMs) such as variable speed drives and Electronically Commutated Motors (ECM). Implement renewable energy design strategies such as solar hot water heating where life cycle cost effective. Provide life cycle cost analysis and recommendations to the Government for review and acceptance.

3.5.4.2 Design Criteria

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3.5.4.2.1 Outside Design Criteria

ASHRAE 2021 0.4%:

Summer: 100F DB, 75.9F WB

Winter: 17.9F DB

ASHRAE 2021 1.0%:

Summer: 96.6F DB, 76.3F WB

Winter: 22.3F DB

HR: 8.9

3.5.4.2.2 Inside Design Criteria

Occupied zones conditioned for comfort cooling and heating

Summer: 78 degrees F and a maximum of 55 degrees F dew point. Design must take into account moisture gain in the space.

Winter: 68 degrees F (occupied), 55 degrees F (unoccupied)

Unoccupied zones conditioned to prevent freezing

Winter: 40 degrees F

Server/Communications Rooms:

72 degrees F

50% RH maximum

3.5.4.3 Calculations

For regularly occupied areas, use the 1 percent dry bulb and corresponding mean coincident wet bulb (MCWB) temperature and the 1 percent humidity ratio and corresponding mean coincident dry bulb (MCDB) temperature for design calculations and equipment sizing.

For server/communication rooms, coordinate with end user for specific temperature and humidity requirements. Separate, dedicated air conditioning systems must provide 24/7 cooling to each room. Utilize the 0.4 percent dry bulb temperature and the corresponding MCWB temperature and the 1 percent humidity ratio and corresponding MCDB for design calculations and equipment sizing.

Perform cooling and heating load calculations, building energy simulation models, and EEMs using Carrier HAP, Trane Trace 700, or other DOE-approved simulation software. Size all cooling equipment based on the calculated peak sensible and total loads for the building/zone. Size terminal units, unit heaters, and communication/server room air conditioning units based on the calculated peak sensible and total loads for the spaces served. Consider site elevation, refrigerant line lengths, and other factors that affect deration of equipment capacity. Consider heat/energy recovery where life cycle cost effective.

Utilize temperature setbacks and resets in occupied spaces during unoccupied times to maximize energy conservation, unless noted otherwise. Do not use setbacks for cooling in storage areas of building 201.

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3.5.4.4 Equipment Selection**3.5.4.4.1 Product Procurement**

Basis-of-design equipment must be Energy Star or Federal Energy Management Program of the Department of Energy (FEMP) designated products when available. The term "Energy Star product" means a product that is rated for energy efficiency under an Energy Star program. The term "FEMP designated product" means a product that is designated under the Federal Energy Management Program of the Department of Energy as being among the highest 25 percent of equivalent products for energy efficiency. When selecting integral sized electric motors, choose NEMA PREMIUM type motors that conform to NEMA MG 1, minimum Class F insulation system. Motors with efficiencies lower than the NEMA PREMIUM standard may only be used in unique applications that require a high constant torque speed ratio (e.g., inverter duty or vector duty type motors that conform to NEMA MG 1, Part 30 or Part 31).

3.5.4.4.2 Cooling and Heating Systems

Provide mechanical equipment to maintain space temperature setpoints. The equipment must also include provisions to maintain space humidity levels where specific tolerance requirements are indicated. Possible system types include: split system outdoor heat pumps with indoor fan coils, ground-mounted heat pump packaged rooftop units (RTU), and single-zone minisplit heat pumps with cassette or ducted fan coils. Provide cooling-only, dedicated minisplit systems with low-ambient cooling capability for server/communication rooms. Where required by the UFC or end user for critical server/communication rooms, provide redundant cooling systems. Variable Refrigerant Flow (VRF) systems are prohibited. In accordance with UFC 3-410-01 c9, 3-5.2.5, select condensers/condensing units/heat pumps for service in ambient conditions 5 degrees F above the outdoor dry bulb temperature listed in section 3.5.5.1 above. Select equipment with refrigerants that have ozone depletion potential (ODP) no greater than 0.0. CFC-based refrigerants and refrigerants subject to phaseout must not be utilized.

Where specific humidity control is required for spaces served by an RTU, provide manufacturer's onboard dehumidification system (i.e.: Carrier Humidimizer). For spaces served by split systems, provide commercial standalone dehumidifiers with automatic draining and/or pump sized to accommodate specified levels.

3.5.4.4.3 Unitary Heating Systems

Provide LCCA-effective electric unit heaters in unoccupied spaces such as mechanical rooms, electrical rooms, etc. Do not specify new gas-fired equipment.

3.5.4.4.4 Exhaust and Ventilation Systems:

Provide exhaust systems in all toilet rooms, janitors closets, etc. Provide ventilation in mechanical rooms, electrical rooms, etc. with inline exhaust fans and interlocked, operable louver or transfer air. Schedule ECM motors for exhaust fans whenever available for the application. Include fan speed controller mounted nearby in an accessible location for balancing purposes.

3.5.4.5 Variable Frequency Drives (VFD)

Provide VFD's for all motors and fans greater than 10 hp, excluding exhaust fans.

3.5.4.6 Equipment Locations

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Locate mechanical equipment to maintain the manufacturer's recommended minimum service clearances, code clearances, and the clearances required for removal of the equipment. Provide access doors for concealed equipment that may require maintenance or repair. Place floor and ground-mounted equipment on concrete housekeeping pads. Do not design roof-mounted intakes, exhaust fans, etc., unless absolutely necessary as buildings 201, 214, 216 and 218 do not have dedicated roof access.

3.5.4.7 Air Quality

Maintain ASHRAE 62.1 (current version as accepted by UFC) ventilation throughout the building to satisfy the minimum occupancy ventilation requirements, maintain building pressurization, and provide necessary make-up air for building exhaust. Outside air for ventilation may be introduced through fan coils or RTUs. Show outside air schedules on drawings and consider the maximum potential occupancy load when calculating outside air requirements in all spaces. For systems with outdoor air exceeding 750 cfm, provide a dedicated outdoor air system (DOAS). Where life-cycle cost effective, use energy recovery to preheat/precool incoming outside air.

3.5.4.8 Emergency Power Off (EPO) and Anti-Terrorism and Force Protection (ATPF)

Locate an EPO switch in the Mechanical Room as well as in the local operating console/fire alarm control panel (LOC / FACP), when available, for all air-moving systems serving occupied spaces and centralized ventilation systems such as Dedicated Outside Air systems (DOAS). Provide ATPF switch where required in accordance with UFC 4-010-01.

3.5.4.9 Ductwork

Construct, brace, reinforce, install, support, and seal insulated and galvanized steel ductwork in accordance with the IMC and SMACNA standards. In addition, ducted returns, dampers, air devices, and filters are required. Louvers are required for exhaust systems in lieu of roof-mounted equipment. Fortification (per Air Force and DOD standards) may be required for ducts with 96 square inch cross-sectional areas and larger passing through secure (SAPF & Secret) area perimeters.

3.5.4.10 Noise Abatement

Select air handling units (fan coils, RTUs, etc.), ductwork and diffusers to minimize noise from the units to the space. The selected fans must generate the lowest possible sound power levels and corresponding sound spectra. If attenuation is required, it must be in accordance with UFC requirements. Secure spaces may require specific Sound Transmission Class (STC) ratings (for example: STC50). Employ sound-attenuation devices such as duct silencers, Z-ducts and similar devices to achieve specified STC ratings.

3.5.5 Building Automation System

Provide a Building Automation System consisting of a building control network, and integrate the building control network into the Base's existing Energy Management Control System (EMCS) as follows:

3.5.5.1 Existing Base-wide EMCS

The Base's existing EMCS includes BACNET-based Siemens controls are already established in each building, and report to the central station located in Building 450. Maintain each building's existing controls infrastructure as much as practicable for reuse including control panel(s), supervisory controller(s), etc., for integration of new equipment.

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3.5.5.2 Direct Digital Control (DDC) System

Outfit all new mechanical equipment including split system fan coils, condensing units, heat pumps, RTUs, minisplit systems, etc., with controls compatible with existing controls infrastructure and conforming to Base standards. Coordinate exact requirements with the Base DDC Provider.

3.5.5.3 Base DDC Provider

The Base has an existing service contract with Powers-HVAC based in North Little Rock, AR (877-274-7127). The current point of contact is Mike Fogo (479-275-9733) who is based out of the Springdale, AR office.

3.5.6 Testing, Adjusting and Balancing (TAB)

Test and balance all air systems using a firm certified for TAB by the Associated Air Balance Council (AABC), National Environmental Balancing Bureau (NEBB), or the Testing Adjusting, and Balancing Bureau (TABB) in accordance with UFGS 23 05 93. The TAB firm must be an independent subcontractor and not an employee or subcontractor of any other subcontractor on this project. Perform TAB in accordance with the requirements of the standard under which the TAB Firm's qualifications are approved, i.e., AABC MN-1, NEBB TABES, or SMACNA HVACTAB unless otherwise specified herein. All recommendations and suggested practices contained in the TAB Standard are mandatory. Use the provisions of the TAB Standard, including checklists and report forms, as much as practicable to satisfy the contract requirements. Use the TAB Standard for all aspects of TAB, including qualifications for the TAB Firm and Specialist and calibration of TAB instruments. Where the instrument manufacturer calibration recommendations are more stringent than those listed in the TAB Standard, adhere to the manufacturer's recommendations. All quality assurance provisions of the TAB Standard such as performance guarantees are part of this contract. For systems or system components not covered in the TAB Standard, the TAB Specialist must develop TAB procedures. Where new procedures and requirements applicable to the contract requirements have been published or adopted by the body responsible for the TAB Standard used (AABC, NEBB, or TABB), the requirements and recommendations contained in these procedures and requirements are mandatory.

3.5.7 Commissioning

Commission all HVAC systems and equipment, including controls, and all systems requiring commissioning in accordance with ASHRAE, UFC 1-200-02 and Specification section 01 91 00.15. The Commissioning Agent (CA) must be an independent subcontractor and not an employee or subcontractor of any other subcontractor on this project. The CA must not have business connections with any other party on the project, nor have any other role or responsibilities outside of commissioning activities. The CA must communicate and report directly to the Government in the execution of the commissioning activities.

3.5.8 Building-By-Building Design Directives

Project scope includes existing mechanical systems deemed suitable for reuse due to their age and condition. Remove all gas-fired equipment (split systems with furnaces, boilers, etc.) unless noted otherwise. All gas-fired equipment in building 202 must remain in service as-is. Where directives indicate to remove an existing system, designer of record (DOR) must calculate the capacity of its replacement in accordance with Sections 3.5.4.3 above. Likewise, capacities of new (additional) systems must be calculated by DOR. Not all directives include unit heaters and exhaust systems, which are to be replaced, reused or scheduled as new at the discretion of the DOR.

3.5.8.1 Building 201

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- a. Remove existing Carrier 5-ton split system (DX & gas, dated 2018) located in south Mechanical room 116, including associated ductwork and air devices. Provide new heat pump split system in its place, and new ductwork and air devices to support "Bulk Spares".
- b. Provide new (additional) heat pump split system in Mechanical 116 and distribution ductwork to support "Spares/Transit Area" & "Semi Bulky Racked Storage".
- c. Demolish existing Carrier 4-ton split system (DX & gas, located in current fire alarm panel room) and associated distribution ductwork in its entirety.
- d. Demolish existing Carrier 4-ton split system (DX & gas, located in west Mechanical room 123) and associated distribution ductwork in its entirety. Provide new heat pump split system in its place, and new distribution ductwork and air devices to support "Racked Storage".
- e. Provide new ground-mounted, heat pump, packaged rooftop unit (RTU) on the north side of the building, and mounted on minimum 6" tall concrete housekeeping pad. Provide distribution ductwork to support "Compact Storage" and "Fast Moving Bulk Spares". Where available, provide manufacturer's onboard dehumidifier system (e.g., Carrier Humidimizer) in lieu of a standalone dehumidifier.
- f. Provide standalone, packaged dehumidifier with onboard automatic drain and/or pump suspended in each of the main storage areas (five total) to maintain relative humidity levels of 50% (or less), or to range specified by end user. Standalone unit not required in space(s) served by an RTU with onboard dehumidification system.
- g. Reuse two existing gas-fired infrared (IR) heaters (200 MBH each, date unknown) in "Fast Moving Bulk Spares", and two (2) existing gas-fired IR heaters (60 MBH each, date unknown) in "Bulk Spares". DOR to determine if existing IR heater locations will interfere with new racking equipment or other storage methods, and demolish heaters if necessary. The intent is to provide additional heating in these spaces when their overhead doors are open.
- h. Provide BACNET DDC controls for each new mechanical system as described in Section 3.5.5.

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3.5.8.2 Building 202

- a. Existing systems (makeup air units, air compressors, air dryers, water heater, IR heaters, exhaust fans, etc.) located in northwest Mechanical 138 to remain in-service, as-is.
- b. Existing systems (IR heaters, exhaust/supply fans, etc.) located in the aircraft bays to remain in service, as-is.
- c. Seven (7) existing heat pump split systems serve occupied and unoccupied non-aircraft bay spaces throughout the building. The heat pumps are located in two enclosures on the west side of the building. Corresponding fan coils are located above ceilings throughout the non-hangar areas of the building. The systems must remain in service, as-is, except where ductwork modifications are required to support revised floorplans in the core office areas.
- d. Existing systems serving various unoccupied spaces (Electrical, Comm, Fire Riser, Pod, Storage, Vaults, etc.) to remain in service, as-is.
- e. Modify one of the existing split system's ductwork and air distribution to support the lactation room.
- f. Provide dedicated, cooling-only minisplit system for new Comm room. System must be capable of low-ambient cooling to 0 degrees Fahrenheit.
- g. Existing mechanical systems are currently tied to the Base's EMCS in Building 450. Verify this and provide BACNET DDC controls for existing mechanical systems (if none exists) as described in Section 3.5.5.

3.5.8.3 Building 214

- a. Demolish existing hydronic heating water system in its entirety including boiler & appurtenances, pump, piping and hydronic unit heaters throughout building.
- b. Demolish gas-fired, ground-mounted makeup air unit located outside the northeast corner of the building.
- c. Demolish exhaust system including hoods in the northeast corner of the building.
- d. Demolish three (3) Carrier split systems on the south side of the building, and one (1) on the north side. Demolish ductwork associated with all four systems.
- e. Provide new heat pump split system in Mechanical 008 and distribution ductwork for all spaces on the south side of the building including storage, toilet rooms and AME.
- f. Provide new minisplit heat pump system for Parachute 004 including ceiling-mounted cassette fan coil. Locate heat pump on north side of the building.
- g. Provide new minisplit heat pump system for the mezzanine JEI-EMMS room including ceiling-mounted cassette fan coil. Locate heat pump on the north side of the building.
- h. Provide new minisplit heat pump system for the mezzanine 425FS Trade Learning room including ceiling-mounted cassette fan coil. Locate heat pump on the north side of the building.
- i. Provide new minisplit heat pump system for the mezzanine JEIM Engine office including ceiling-mounted cassette fan coil. Locate heat pump on the west side of the building.
- j. Provide new minisplit heat pump system for Storage room 006 including ceiling-mounted cassette fan coil. Locate heat pump on the west side of the building.
- k. Provide new minisplit cooling-only system for Comm room 005 including wall-mounted fan coil. System must be capable of low-ambient cooling to 0 degrees Fahrenheit. Locate condensing unit on the north or east side of the building.

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- l. Provide minimum four (4) electric downblast unit heaters for the main Work Bay. Locate and suspend units such that they will not interfere with boom cranes and other equipment located in the Work Bay.
- m. Provide one (1) electric unit heater in the Tool Storage area of the single-story north side of the building.
- n. Provide new exhaust system(s) for revised toilet rooms and janitor's closet.
- o. Provide two wall-mounted airfoil propeller fans on the upper east wall of the Work Bay, each sized to collectively provide 15-20 air changes per hour. Provide two operable louvers on the lower west side of the building, interlocked with the fans and sized for maximum 550 feet per minute airflow. Provide line-voltage thermostat(s) with manual override to operate the systems for cross-ventilation/heat removal in the Work Bay.
- p. Provide BACNET DDC controls for each new mechanical system as described in Section 3.5.5.

3.5.8.4 Building 216

- a. Demolish two existing Liebert split systems serving the southwest wing of the building in their entirety.
- b. Remove existing Carrier 4-ton split system (DX & heating water, dated 2018) located in southwest Mechanical room 17. Remove all associated ductwork and air devices. Provide new heat pump split system, ductwork and air devices to support proposed rooms 106, 111 & 112. Fortify main supply and return ducts leaving/entering Mech 17 per Air Force and DOD standards.
- c. Remove existing Carrier 25-ton split system (DX & heating water, dated 2018) located in southwest Mechanical room 17. Remove all associated ductwork and air devices. Provide new heat pump split system, ductwork and air devices to support rooms 107-110. Fortify main supply and return ducts leaving/entering Mech 17 per Air Force and DOD standards.
- d. Demolish existing Fujitsu minisplit system located just north of Mech 17 in its entirety. Location of associated fan coil within building is not known.
- e. Provide new minisplit cooling-only system for Comm room 00 including wall-mounted fan coil. System must be capable of low-ambient cooling to 0 degrees Fahrenheit. Locate condensing unit on the north or east side of the building.
- f. Demolish existing Fujitsu dual minisplit system located just outside Vestibule 30 in its entirety (outdoor and indoor units). Location of associated fan coils within building is not known.
- g. Remove existing 250MBH (capacity and 2018 date, both estimated) Lochinvar boiler, distribution pumps, appurtenances and all associated heating water distribution piping in its entirety. Boiler and appurtenances are located in Mech 17. Extent of heating water distribution piping is not known.
- h. Remove existing Carrier 30-ton split system serving original portion of the building (dated 2018). Remove fan coil and associated gas-fired duct heater located in Mech 16. Provide new heat pump split system and revise ductwork and air distribution devices to support proposed room layouts.
- i. Provide new minisplit heat pump system for new DV MTG Room/Lounge addition on west side of the building. Provide ceiling-mounted cassette fan coil. Locate heat pump on existing slab north of addition.

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- j. Provide new precision-cooling split system(s) for Secure Comm, Vault ALIS/ODIN and/or Vault 1 Server rooms. Coordinate exact rooms requiring 24/7 cooling with end user. System(s) must be capable of maintaining room temperature between 60-84 degrees Fahrenheit and relative humidity levels between 40-70%. System must include onboard humidification and be capable of low-ambient cooling to 0 degrees Fahrenheit. Locate condensing unit(s) on the east side of the building. Reference products: Trane S-Mext (indoor unit) and TRUY (outdoor unit).
- k. Demolish existing York 30-ton ground-mounted RTU (gas & DX, dated 2018) serving the two northmost additions to the building. Provide new ground-mounted heat pump packaged RTU on existing concrete pad. Revise existing ductwork to support proposed room layouts in the northmost additions. Fortify ducts passing through new secure perimeter in accordance with Air Force and DOD standards, and design ductwork to reduce sound transfer to specified STC levels.
- l. Provide dedicated, cooling-only split system for room serving F-16 Unit Training Device (UTD). Data provided for this device (F16SATD) dated August 2015 indicates a heat gain of 52,000 BTUH and a relative humidity range of 30-70% for the space in which it resides. Coordinate exact requirements for this space with end user.
- m. Demolish existing Fujitsu dual minisplit system located on the northeast side of the building in its entirety. Associated fan coils are located just inside the adjacent wall.
- n. Provide BACNET DDC controls for each new mechanical system as described in Section 3.5.5.

3.5.8.5 Building 218

- a. Demolish existing minisplit system that previously served the existing Comm room. System is currently inactive.
- b. Provide new minisplit cooling-only system for Comm 119 including wall-mounted fan coil. System must be capable of low-ambient cooling to 0 degrees Fahrenheit. Locate condensing unit on the east side of the building.
- c. Remove existing Carrier 3-ton ground-mounted RTU (DX & gas, dated 2018) located near the southwest corner of the original building, and associated ductwork and air devices.
- d. Provide new ground-mounted heat pump RTU located near the southwest corner of the original building, and mounted on minimum 6" tall concrete housekeeping pad. Alternatively, provide new heat pump split system in west Mechanical 123 if space allows. Provide distribution ductwork to support new southeast building addition as well as existing adjacent, revised room layouts.
- e. Remove existing Carrier 4-ton split system (DX & gas, dated 2018) located in west Mechanical 123. Provide new heat pump split system. Revise distribution ductwork to support proposed room layouts.
- f. Demolish existing Luxaire 5-ton split system (DX & gas, dated 2018 or newer) located in northwest Mechanical 113. Provide new heat pump split system. Existing duct distribution system currently serves the west and north exposures of the building. Revise distribution ductwork to support proposed room layouts.
- g. Remove existing Carrier 5-ton split system (DX & gas, dated 2018) located in northwest Mechanical 113. Provide new heat pump split system. Existing duct distribution system currently serves the existing central assembly room. Revise distribution ductwork to support proposed room layouts.

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- h. Remove existing Carrier 5-ton split system (DX & gas, dated 2018) located in northwest Mechanical 113. Provide new heat pump split system. Existing duct distribution system currently serves the existing entry lobby and east exposure of the building. Revise distribution ductwork to support proposed room layouts.
- i. Existing mechanical systems are currently tied to the Base's EMCS in Building 450. Provide BACNET DDC controls for each new mechanical system as described in Section 3.5.5

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3.6 Plumbing Design**3.6.1 Existing Systems**

The designs include new and/or existing equipment which varies building-to-building. See Section 3.6.5 for design directives for each building.

3.6.2 Plumbing System**3.6.2.1 Life Cycle Cost Analysis**

Base water efficiency design and energy-related decisions for major systems on Life Cycle Cost Analysis (LCCA) in accordance with UFC 1-200-02 Life Cycle Cost Analysis requirements. If life-cycle cost effective, implement renewable energy design strategies such as solar hot water heating.

3.6.2.2 Cold Water

Provide domestic cold water through a reduced pressure principle backflow preventer located where indicated in section 3.6.5. If shown to be needed by a current water flow test, boost the water pressure by a triplex domestic water booster pump system in a lead/lag configuration with a third pump as a redundant reserve and a hydro-pneumatic tank.

3.6.2.3 Hot Water

Generate domestic hot water at 140°F via a domestic electric storage tank or instantaneous water heater(s). In accordance with Executive Order EO14057, new gas-fired water heaters are not allowed. Install a thermostatic mixing valve at each fixture delivering hot water (except mop sinks) and set to temperatures as defined in the IPC. Insulate all piping in accordance with the IECC, and label with text and color identification. If design includes recirculation pump, tie it into building occupancy programming.

3.6.2.4 Waste and Vent Piping

Provide drainage piping (waste and vent) in accordance with UFGS 22 00 00 Plumbing. Drain waste from plumbing fixtures and floor drains directly to the sanitary sewer system. Vent all sanitary vents to atmosphere through a combined vent system minimizing the number of roof penetrations. Do not use air admittance valves. Install trap primers on all floor drains.

3.6.3 General Plumbing Fixtures

Provide fixtures, accessories and supports in accordance with UFGS 22 00 00. Provide WaterSense-rated products whenever possible. Fixtures and features listed below are for reference only and must be modified as applicable to each building. Refer to Specifications for all required features and appurtenances for each item.

3.6.3.1 Water Closets

Provide wall-mounted, vitreous china fixtures water closets with elongated bowl with open front seat and exposed 1.28 gpf sensor operated flush valves. Floor-mounted 1.6/1.0 gpf dual-flush water closets may also be acceptable.

3.6.3.2 Urinals

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Provide wall-mounted, vitreous china urinals with exposed 0.125 gpf sensor-operated flush valves.

3.6.3.3 Sinks

Provide wall or counter-mounted, vitreous china sinks with sensor-operated faucets. Provide thermostatic mixing valve for each fixture set to provide 110°F hot water maximum. Provide 0.5 gpm aerator.

3.6.3.4 Showers

Stand-alone showers must be floor mounted, constructed of terrazzo or other approved manufactured stone basin. All shower valves must be pressure-balanced with integral thermostatic mixing valves set to provide 110°F and 1.5 gpm, maximum.

3.6.3.5 Miscellaneous Sinks

Provide kitchen/break room sinks with 20-gauge stainless steel double or single bowl and gooseneck faucet with wrist blade handles. Provide 1.0 hp garbage disposal where requested. Coordinate connection to other appliances (i.e. dishwashers, refrigerators, and ice machines) with architect.

3.6.3.6 Mop Sinks

Provide floor-mounted, stainless steel or terrazzo mop sinks with clamp-down floor drain and wall-mounted faucet. Faucet must have a wall bracket supported spout with pail hook, integral atmospheric vacuum breaker, and 3/4" hose thread.

3.6.3.7 Floor Sinks

Provide 12"x12" floor sink at water entry backflow preventer assemblies with 3/4" grate, cast-iron body with porcelain enamel coating, and dome strainer. Provide trap primer.

3.6.3.8 Hose Bibbs

Provide hose bibbs in Mechanical Rooms, fire sprinkler riser rooms and rooms where backflow preventers are located (if separate from the Mechanical Room), if none currently exist.

3.6.4 Piping and Materials**3.6.4.1 Water Supply**

Provide domestic Water piping 1/2" to 8", above and below ground, in accordance with UFGS 22 00 00 Plumbing. Provide piping insulation in accordance with UFGS 23 07 00 and ASHRAE 90.1.

3.6.4.2 Water Hammer Arrestors

Provide water hammer arrestors in accordance with Plumbing and Drainage Institute (PDI) standard PDI-WH 201 "Water Hammer Arrestors".

3.6.4.3 Waste and Vent

Provide domestic Waste and Vent piping in accordance with UFGS 22 00 00 Plumbing.

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3.6.4.4 Floor Drains

Provide floor drains with all-metal bronze body and nickel bronze strainers in all toilet rooms with two or more fixtures, shower rooms, mechanical rooms and janitor's closets.

3.6.4.5 Natural Gas

Natural Gas Piping (existing, where modification is required): Schedule 40 black steel, threaded joints and fittings.

3.6.5 Building-By-Building Design Directives

The scope of the project includes existing plumbing systems deemed suitable for reuse due to their age and condition. The extent and invasiveness of plumbing modifications varies between buildings.

3.6.5.1 Building 201

- a. Demolish existing ~~75-gallon~~ gas-fired water heaters located in Mechanical 116 and on the mezzanine.
- b. Demolish plumbing (domestic and sanitary) throughout building while maintaining infrastructure necessary to support new toilet room 117.
- c. Install new reduced pressure backflow preventer assembly, pressure reducing valve where required, and floor sink in Mechanical 116.
- d. Provide new electric water heater in Mechanical 116.

3.6.5.2 Building 202

- a. Building's water entry is located in Mechanical 138, but was not observed in the field. Verify the existence of a backflow assembly and pressure reducing valve. ~~and provide these items~~ Provide a backflow assembly if none exists, and a pressure reducing valve if required.
- b. Provide counter-mounted sink in the new Lactation Room 132, and new mop sink in Janitor 145.
- c. Provide tempered water and new combination emergency shower/eyewash stations as listed here. Refer to Attachment B – Concept Design Drawings for locations. Bay One: 2 stations, Bay Two: one station, Bay Three: one station, Tank Bay 128: one station, Paint Booth 137: one station.

3.6.5.3 Building 214

- a. Building's water entry is located in the southeast corner of the building (AME 012). Provide new reduced-pressure backflow assembly, pressure reducing valve if required and floor sink. Relocation of the water entry to Compressor/Fire Riser (Mech) 008 is an option.
- b. Demolish existing toilet room plumbing fixtures and associated domestic and sanitary piping as necessary to support proposed fixture layout. Provide new plumbing fixtures, including mop sink, as shown in proposed layout, and domestic and sanitary piping to support these.
- c. Demolish existing gas-fired water heater located in Mechanical 008 and provide new electric water heater.

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- d. Demolish existing air compressor located in Mechanical 008 and associated distribution piping throughout building.
- e. Provide new air compressor in Mechanical 008. Coordinate with end user to determine system requirements including style (horizontal or vertical) and type (single stage, multistage, oiled, oil-free, etc.). Provide new distribution piping to serve a minimum of ten (10) air drops (locations to be determined) at delivery pressures and airflows prescribed by the end user. <AM#0002> Either type K or L piping is acceptable. </AM#0002>

3.6.5.4 Building 216

- a. Entirety of building's domestic water piping was replaced with PEX as recently as 2023, and as-built drawings are available.
- b. Building's water shutoff valve is located just outside Mech 16. It appears from the pre-PEX record drawings that the entry main may be located in the plumbing chase between Mech 16 and the Men's toilet room. Relocate water entry to Mech 16, and provide reduced-pressure backflow assembly, pressure reducing valve <AM#0002> if required </AM#0002>, and floor sink.
- c. Revise domestic and sanitary piping systems to support new kitchen sink and dual-level electric water cooler with bottle filler in new DV MTG/Lounge 113 and counter-mounted sink in the new Lactation room.

3.6.5.5 Building 218

- a. Building's water shutoff valve is located just outside Mech 123. The water main likely enters the plumbing chase in between the two existing toilet rooms. Relocate water entry to Mech 120 and provide reduced pressure backflow assembly, pressure reducing valve <AM#0002> if required </AM#0002>, and floor sink. Reconnect domestic piping to water main in plumbing chase.
- b. Remove existing 40-gallon gas-fired water heater (dated 2016) and replace with new electric water heater.
- c. Existing plumbing fixtures in both toilet rooms to remain in service, as-is.
- d. Provide domestic and sanitary piping to support new break room sink and dual-level electric water cooler with bottle filler in Assembly Room 100 as shown on the proposed room layout.
- e. Provide domestic and sanitary piping to support new break room sink located in LSS Room 120A.

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3.7 Fire Protection, Fire Alarm/Mass Notification (FA/MNS), and Life Safety Design**3.7.1 Qualified Fire Protection Engineer (QFPE)**

A qualified fire protection engineer (QFPE) meeting the qualifications required by UFC 3-600-01, must be responsible for, but not limited to, the design engineering, preparation of the construction documents, construction phase inspection and acceptance testing of all of the fire sprinkler and fire alarm and mass notification systems. QFPE must also be involved with the building code and life safety code analysis. A qualified fire protection engineer is an integral part of the design/build team and must be involved in every aspect of the design as it relates to fire protection and life safety. The project QFPE must review the 100 percent design submission of plans and specifications and certify in writing that the design is in compliance with UFC 3-600-01 and all applicable criteria. This certification letter must be submitted with the 100 percent submission.

At a minimum, during the construction phase the QFPE must be responsible for material submittal review, shop drawing review, and participate in the preparatory inspection meeting, initial inspection at job site, mid-point inspection at job site, pre-final inspection with General Contractor and subcontractors, and final acceptance inspection and testing with General Contractor, subcontractors and the Corps of Engineers.

3.7.2 Design Criteria

The purpose of this narrative is to describe the proposed fire protection and life safety features for the renovations of Buildings 201, 202, 214, 216 and 218 located at Ebbing ANGB, Fort Smith, Arkansas. The following project scope applies to the fire protection and life safety requirements of these buildings.

Building 201 - change of use of entire building to warehouse/storage. Classified in NFPA 101, Chapter 43 as a "change in use." Comply with the "new" requirements in NFPA 101.

Building 202 – renovation and improvements of an existing aircraft hangar. The hangar is classified as Tier 2 in accordance with the USAF Sundown Policy. Classified in NFPA 101, Chapter 43 as a "Reconstruction." Comply with the "new" requirements in NFPA 101.

Building 214 – renovation and improvements of an existing maintenance facility (including mezzanine). Classified in NFPA 101, Chapter 43 as a "Reconstruction." Comply with the "new" requirements in NFPA 101.

Building 216 – renovation and improvements of an existing office building to include mission support spaces and secure spaces. Classified in NFPA 101, Chapter 43 as a "Reconstruction." Comply with the "new" requirements in NFPA 101.

Building 218 – renovation and occupancy change to an existing building to include mission support facilities and squadron assembly area. Classified in NFPA 101, Chapter 43 as a "Reconstruction." Comply with the "new" requirements in NFPA 101.

3.7.3 Automatic Sprinkler Protection

3.7.3.1 Provide, design, and install new or modified automatic wet pipe sprinkler systems in accordance with UFC 3-600-01 and NFPA 13 as indicated below:

- a. Building 201 – new system (per UFC3-600-01 Section 4-48.2.1).
- b. Building 202 – existing system to be replaced.
- c. Building 214 – new system (per UFC3-600-01 Section 4-48.2.1).
- d. Building 216 – existing system to be replaced.

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- e. Building 218 – new sprinkler system required in accordance with UFC 3-600-01 due to the Pyro Room proposed in the building containing explosives.

3.7.3.2 Sprinkler risers must be as follows. Each riser assembly must consist of a new supervised OS&Y control valve, new or existing alarm check valve and a new or existing vane-type waterflow switch. Discharge all drain assemblies associated with the riser to a safe location at the exteriors of the buildings.

- a. Building 201 – Install a new fire sprinkler riser in the Spares/Transit Area Room 115.
- b. Building 202 – Provide new fire sprinkler riser in the current location of the fire water supply line (Fire Riser Room 135). This location is less than 10 feet from the edge of the building slab.
- c. Building 214 – Install a new fire sprinkler riser in the Compressor Room 008.
- d. Building 216 – Provide new riser in the current location of the existing sprinkler riser. Separate the riser from the room with partitions. Provide a 3' clearance for all valves (as required by UFC 3-600-01). This location is less than 10 feet from the edge of the building slab.
- e. Building 218 – A new fire sprinkler riser is proposed in the mechanical room on the north side of the building. This location is less than 10 feet from the edge of the building slab.

3.7.3.3 Additional Sprinkler System Details – Building 202

- a. Demolish all existing foam system equipment including, but not limited to, foam concentrate, concentrate storage tank, proportioner and concentrate piping/valves/fittings. These foam systems were previously decommissioned and it is assumed that the foam concentrate was disposed of at that time.
- b. Demolish all fire sprinkler systems back to the water supply line into the building. Preserve the sprinkler lead-in to the building.
- c. Provide a new fire pump and pump accessories in compliance with UFC 3-600-01, UFC 4-211-01 and NFPA 20.
- d. Provide new piping and valves for new closed-head water-only sprinkler systems in the hangar bays. No deluge type sprinkler system or foam sprinkler system is proposed.
- e. Provide a new wet pipe sprinkler system in the office and support areas.
- f. Provide wet pipe sprinkler protection for the paint booth area in accordance with NFPA 33. A new paint booth (GFGI) will be installed in the location of the existing paint booth.

3.7.3.4 Additional Sprinkler System Details - Building 216

- a. Demolish all portions of the fire sprinkler system back to the water supply line into the building.
- b. Provide a new wet pipe sprinkler system throughout the building.

3.7.3.5 Sprinkler Hazard Design

Sprinkler hazard design details are provided for reference only and it is the responsibility of the designer of record (DOR) to provide the design details and system criteria.

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- 3.7.3.5.1 Hangar Bay 1 is a fuel cell maintenance bay. Design the sprinkler system per UFC 4-211-01, paragraph 5-12.4.1 per the USAF Sundown Policy. Provide a design density of 0.20 gpm/sf over the hydraulically most remote 5,000 square feet. Include an outside hose allowance of 500 gpm in the hydraulic calculations.
- 3.7.3.5.2 Hangar Bay 2 is a general maintenance bay. Design the sprinkler system per Chapter 5 of UFC 4-211-01 per the USAF Sundown Policy. Provide a design density of 0.20 gpm/sf over the hydraulically most remote 5,000 square feet. Include an outside hose allowance of 500 gpm in the hydraulic calculations.
- 3.7.3.5.3 Hangar Bay 3 is a corrosion control bay. Design the sprinkler system per Chapter 5 of UFC 4-211-01 per the USAF Sundown Policy. Provide a design density of 0.20 gpm/sf over the hydraulically most remote 5,000 square feet. Include an outside hose allowance of 500 gpm in the hydraulic calculations.
- 3.7.3.5.4 The shelf and rack storage in Buildings 201 is reported to be up to 8 feet in height, without solid shelves and no plastic commodities. In addition, provide rotating storage units and compact shelving in this building. Classify these areas as miscellaneous storage and protect in accordance with the storage provisions found in NFPA 13. Design the sprinkler system for the maximum possible storage height. Include an outside hose allowance of 500 gpm in the hydraulic calculations.
- 3.7.3.5.5 Classify work bays, equipment, general storage and mechanical rooms as ordinary hazard in accordance with UFC 3-600-01. Include an outside hose allowance of 250 gpm in the hydraulic calculations.
- 3.7.3.5.6 Classify the remainder of the building areas as light hazard in accordance with UFC 3-600-01. Include an outside hose allowance of 250 gpm in the hydraulic calculations.

3.7.3.6 Occupancy Hazard Classification

Sprinkler hazard design details are provided for reference only and it is the responsibility of the designer of record (DOR) to provide the design details and system criteria

- 3.7.3.6.1 In areas classified as ordinary hazard, design the overhead sprinkler system to provide a discharge density of 0.20 gallons per minute over the hydraulically most remote 2,500 square feet of floor area. Sprinklers in these areas must be ordinary temperature (unless ambient conditions require higher temperature rated sprinklers, such as mechanical equipment areas), quick-response type. For areas where ceiling heights do not exceed 30 feet: provide pendent, chrome finish, recessed, K-8 minimum sprinklers in areas with finished ceilings and provide upright, rough brass, K-8 minimum sprinklers in areas without finished ceilings. For areas where ceiling heights are between 30 and 45 feet: provide pendent, chrome finish, recessed, K-11.2 minimum sprinklers in areas with finished ceilings and provide upright, rough brass, K-11.2 minimum sprinklers in areas without finished ceilings. Provide protective cages for sprinklers that are subject to mechanical damage. The maximum protection area per sprinkler must be 130 square feet, with a maximum spacing of 15 feet. Include an outside hose allowance of 250 gpm in the hydraulic calculations.
- 3.7.3.6.2 In areas classified as light hazard with ceiling heights that do not exceed 30 feet, hydraulically design the overhead sprinkler system to provide a discharge density of 0.10 gallons per minute over the hydraulically most remote 1,500 square feet of floor area. Sprinklers in these areas must be ordinary temperature (unless ambient conditions require higher temperature rated sprinklers), quick-response type. Provide pendent, chrome finish, recessed, K-5.6 minimum sprinklers in areas with finished ceilings and provide upright, rough brass, K-5.6

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minimum sprinklers in areas without finished ceilings. In areas classified as light hazard with ceiling heights between 30 and 45 feet, the overhead sprinkler system must be hydraulically designed to provide a discharge density of 0.20 gallons per minute over the hydraulically most remote 2,500 square feet of floor area. Sprinklers in these areas must be ordinary temperature (unless ambient conditions require higher temperature rated sprinklers), quick-response type. Provide pendent, chrome finish, recessed, K-11.2 minimum sprinklers in areas with finished ceilings and provide upright, rough brass, K-11.2 minimum sprinklers in areas without finished ceilings. Provide protective cages for sprinklers that are subject to mechanical damage. The maximum protection area per sprinkler must be 225 square feet with a maximum spacing of 15 feet. Include an outside hose allowance of 250 gpm in the hydraulic calculations.

3.7.3.6.3 Seismic bracing is required as the seismic category for the site is Category C.

3.7.3.6.4 All new sprinkler system control valves must be provided with signage indicating their function and what it controls in accordance with NFPA 13. The sprinkler system design for Building 216 includes minimum pipe penetrations through ICD 705 walls. Make all sprinkler pipe penetrations via dielectric fittings or ground them properly (if dielectric fittings are not available due to size).

3.7.3.6.5 The ceilings do not exceed a slope of 2 in 12.

3.7.3.6.6 Hose stream demand must be in compliance with UFC 3-600-01 Table 9-4.

3.7.4 Special Fire Suppression and Releasing Systems: None proposed.

3.7.5 Water Supply

3.7.5.1 Fire Flow Requirements

3.7.5.1.1 All of the buildings that are part of this project as existing, Type IIB construction. Fire flow is required for each of the buildings, in accordance with UFC 3-600-01 and NFPA 1, as follows:

Building #	Building Area	From Table 18.4.4.2.1	Reduced for Sprinklers (75% reduction, but not less than 1,000 gpm)
201	9,600 sq ft	2,000 gpm @ 20 psi	1,000 gpm @ 20 psi
Building #	Building Area	From Table 18.4.4.2.1	Reduced for Sprinklers (75% reduction, but not less than 1,000 gpm)
214	13,100 sq ft	2,500 gpm @ 20 psi	1,000 gpm @ 20 psi
216	18,050 sq ft	2,750 gpm @ 20 psi	1,000 gpm @ 20 psi
218	7,825 sq ft	1,750 gpm @ 20 psi	1,000 gpm @ 20 psi

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- 3.7.5.1.2 The water supply to the facilities is via existing underground water main systems supplied by the elevated water tank located on the Base property. The water level in this water tank is maintained by a supply line from the City of Fort Smith water department.
- 3.7.5.1.3 Preliminary fire hydrant flow tests were performed at the project site May 22, 2024, at approximately 7:45 am central time. The first test was conducted near Building 201 and indicated a static pressure of 61 pounds per square inch, reduced to 57 pounds per square inch while flowing 1000 gallons per minute. The second test was conducted near Building 214 and indicated a static pressure of 57 pounds per square inch, reduced to 55 pounds per square inch while flowing 1,030 gallons per minute.
- 3.7.5.1.4 Hydrant Flow Test Results. Reference Attachment F of this RFP for these test results.
- 3.7.5.1.5 Based on the results of the fire hydrant flow tests, it does not appear that a fire pump needs to be provided for Buildings 201, 214, 216, or 218 to support the new sprinkler systems. At least one fire pump is required in Building 202 to support the new sprinkler systems.
- 3.7.5.2 Fire Hydrants and Fire Access
- 3.7.5.2.1 No new fire hydrants or fire access roads are proposed.
- 3.7.5.2.2 For the new sprinkler systems in Buildings 201, 214, and 216, provide the fire department connection within 150 feet of an existing fire hydrant, where practical. Provide an exterior PIV on the fire main lead-in piping, located in accordance with the requirements of NFPA 24 and monitored by the building fire alarm system. Provide a new double-check backflow prevention device inside the building at the riser manifold.
- 3.7.5.2.3 For the existing sprinkler systems in Buildings 202 and 216, the distance from the existing fire department connection to the existing fire hydrant is 150 feet or less. An exterior PIV is provided on the fire main lead-in piping, located in accordance with the requirements of NFPA 24. Building 202 and 216 are provided with existing backflow prevention devices which are to remain.
- 3.7.5.2.4 Provide key boxes matching the requirements of the Base at all buildings.

3.7.6 Standpipe

A standpipe system is not required per UFC 3-600-01, Paragraph 9-10.2 in any of the 5 buildings in this project. The buildings are less than 4 stories and all areas of the buildings are within 450 feet of an exterior door.

3.7.7 Portable Fire Extinguishers

Provide general purpose portable fire extinguishers where required by NFPA 101. Size and space them in accordance with UFC 3-600-01 and NFPA 10. Provide new portable fire extinguishers throughout all areas of work. Provide at least one class 4A:80B:C rated dry chemical portable fire extinguisher for every 11,250 square feet of floor area and locate such that an occupant travels no more than 75 feet before reaching a portable fire extinguisher, except in the electrical equipment rooms. One class 4A:80B:C rated portable fire extinguisher must be located within 30 feet of the appropriate hazard, such as the main electrical panel. Provide wall mounted or in recessed cabinets, as specified in the architectural narrative.

3.7.8 Fire Alarm and Mass Notification System

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- 3.7.8.1 Building 201 is classified as a low occupancy building and does not require a mass notification system per UFC 4-010-01. Since this is a sprinklered building it is required to have a fire alarm system in accordance with UFC 3-600-01, Paragraph 9-18.1 and NFPA 101.
- 3.7.8.2 The fire alarm device locations and notification appliance coverage does not comply with current requirements of UFC 3-600-01, UFC 4-021-01 or NFPA 72. A new fire alarm and mass notification system must be provided in Buildings 202, 214, 216, and 218.
- 3.7.8.3 Provide a new combination fire alarm and mass notification system in accordance with NFPA 72, UFC 3-600-01, UFC 4-021-01, and ECB 2018-17. Locate the fire alarm and the mass notification control unit (FMCU), fire alarm control panel (FACP), and remote annunciators in a normally occupied, conditioned area approved by the Contracting Officer, Base Civil Engineer Squadron and the Fire Department.
- 3.7.8.4 Initiating devices must consist of spot-type smoke detection (above the fire alarm and mass notification control unit, above any other fire alarm control units), carbon monoxide detectors (in mechanical rooms containing fuel-fired equipment), sprinkler waterflow switches and manual pull stations at each exit. Provide photoelectric duct detectors in the supply air ducts of air handling units greater than 2,000 cfm. All new sprinkler system tamper switches, including PIVs, must be monitored as supervisory conditions by the fire alarm system. The fire pump must be monitored for Pump Running, Loss of Phase and Phase Reversal. Use Class B wiring in red conduit for all SLC, IDC and NAC wiring. Provide a fire alarm remote annunciator at a location approved by the Fire Department, presumably at the main entrance.
- 3.7.8.5 Transmit alarm, trouble and supervisory signals to the Base Fire Department via a new Monaco BT-XF radio transceiver. Provide transient voltage surge suppression for each new control unit and auxiliary panel.
- 3.7.8.6 Provide all combination speaker/strobes, speakers, and strobes in accordance with NFPA 72. The fire alarm and mass notification system must utilize the same clear-lens strobes, labeled "Alert", for occupant notification. Provide LED signs above each exit from the building. The system must be designed in accordance with UFC 04-021-01 (as amended by ECB 2018-17), including live voice messaging and playback of prerecorded messages. All speaker devices located in secure (ICD-705) areas must be of the self-amplifying type or a remote amplifier panel must be provided inside each secured area to support the speakers and a notification appliance circuit (NAC) panel provided to support visual notification appliances.
- 3.7.8.7 Provide weatherproof exterior speakers at exterior gathering locations, hangar bays, fire pump room, and entrances/exits to the building.
- 3.7.8.8 Connect the remote amplifier and NAC panel(s) to the main FMCU via a fiber optic connection.
- 3.7.8.9 Provide local operator consoles (LOC) at the main entrance and located throughout the building such that an occupant does not have to travel more than 200 feet to get to a LOC. Provide a global emergency HVAC shutdown button adjacent to each LOC. The HVAC shutdown is not required to be part of the MNS.
- 3.7.8.10 Provide an interface with the fire alarm system to silence the fire alarm voice messages during broadcast of mass notification messages.
- 3.7.8.11 Provide all metallic conduit penetrations through security wall assemblies with dielectric unions on the secured side of the wall. Surface mount all system components installed on secure area walls.

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3.7.9 Basic Building Code Summary**3.7.9.1 Occupancy Classification (IBC Chapter 3 and NFPA 101, Chapter 6):**

Building #	IBC Classification	NFPA 101 Classification
201	Group S-1	Storage
202	Group S-1	Industrial
214	Group F-1	Industrial
216	Group B	Business
218	Group A-3	Assembly

3.7.9.2 Construction Type (IBC Table 601): All 5 buildings appear to be Type IIB construction (non-rated, non-combustible).

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3.7.9.3 Allowable Height, nonseparated mixed use (IBC Tables 504.3 and 504.4, Sprinklered per NFPA 13:

Building	Occupancy	Allowable Height/Stories	Provided Height/Stories
201	S-1	75 feet/4 stories	34 feet/1 story
202	S-1	75 feet/4 stories	47 feet/1 story
214	F-1	75 feet/3 stories	34 feet/1 story (+mezz)
216	B	75 feet/4 stories	32.5 feet/1 story
218	A-3/B	75 feet/3 stories	27 feet/1 story

3.7.9.4 Allowable Floor Area, non-separated mixed use (IBC Table 506.2, Sprinklered per NFPA 13:

Building	Occupancy	Allowable Area – Single Story (no open space increase)	Provided Area
201	S-1	70,000 sq ft	9,600 sq ft
202	S-1	70,000 sq ft	31,350 sq ft
214	F-1	62,000 sq ft	13,100 sq ft
216	B	92,000 sq ft	18,050 sq ft
218	A-3/B	28,500 sq ft	7,825 sq ft

3.7.9.5 Required Separations from Hazards (NFPA 101, Section 38.3.2)

3.7.9.5.1 Mechanical Rooms (boiler or furnace): 1-hour fire resistance rating or sprinklers

3.7.9.5.2 Storage Rooms (general): 1-hour fire resistance rating or sprinklers

3.7.9.5.3 Occupancy Separation (IBC Table 508.4): None Required

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3.7.9.6 Required Fire Resistance Requirements (IBC Tables 601 and 705.5)

Exterior Bearing Walls: 0-hour fire resistance rating. Exterior walls are more than 10 feet from the adjacent building; therefore, the exterior walls are not required to be fire rated barriers.

Interior Bearing Walls: 0-hour fire resistance rating

Structural Frame: 0-hour fire resistance rating

Floors and Floor/Ceilings: 0-hour fire resistance rating

Roof and Roof/Ceiling: 0-hour fire resistance rating

Shafts: No shafts provided

3.7.9.7 Fire and/or Smoke Dampers (NFPA 101, Section 9.2 and NFPA 90A, Section 5.3)

Fire Dampers: 1-hour fire resistance rating (required only in air transfer openings in 1-hour fire resistance rated barriers)

Smoke Dampers: 1-hour fire resistance rating (required only in air-transfer openings in smoke partitions)

3.7.10 Basic Life Safety Code Summary

3.7.10.1 Means of Egress: Means of egress must be in accordance with NFPA 101 per UFC 3-600-01.

3.7.10.2 Separation of Means of Egress (NFPA 101, Sections 7.1.3.2 and 38.3.6.1),

Corridor Walls: Not required (automatic sprinkler protection provided)

Corridor Doors: Not required (automatic sprinkler protection provided)

3.7.10.3 Occupant Load (NFPA 101, Table 7.3.1. 2 and UFC 3-600-01, Table 10-1)

Assembly, concentrated	1 person per 15 net sf
Concentrated Business:	1 person per 50 gross sf
Business - other:	1 person per 150 gross sf
Collaboration Rooms >450 sf:	1 person per 15 gross sf
Collaboration Rooms <450 sf:	1 person per 30 gross sf
General/high hazard industrial:	1 person per 100 net sf
Storage:	1 person per 500 gross sf
Mechanical/Electrical:	Maximum anticipated

3.7.10.4 Number of Exits (NFPA 101, Sections 7.4.1.1)

Required (per floor): 2

Provided: >2

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3.7.10.5 Egress Capacity (NFPA 101, Section 7.3)

Level Surfaces:

44 inches required

Stairs:

N/A – No stairs provided

3.7.10.6 Common Path of Travel

Occupancy	NFPA 101 Section	If sprinklered
Assembly > 50 people	12.2.5.2	20 feet
Assembly < 50 people	12.2.5.2	75 feet
Business	38.2.5.2.1 & 38.2.5.3.3	100 feet
Industrial (general)	Table 40.2.5.1	100 feet
Storage (ordinary hazard)	Table 42.2.5	100 feet

3.7.10.7 Dead-End Corridors

Occupancy	NFPA 101 Section	If sprinklered
Assembly > 50 people	12.2.5.3	20 feet
Assembly < 50 people	12.2.5.3	20 feet
Business	38.2.5.3.1	50 feet
Industrial	Table 40.2.5.1	50 feet
Storage	Table 42.2.5	100 feet

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3.7.10.8 Travel Distance

Occupancy	NFPA 101 Section	If sprinklered
Assembly > 50 people	12.2.6.2	250 feet
Assembly < 50 people	12.2.6.2	250 feet
Occupancy	NFPA 101 Section	If sprinklered
Business	38.2.6.3	300 feet
Industrial	Table 40.2.6.1	250 feet
Storage	Table 42.2.6	400 feet

3.7.10.9 Discharge From Exits (NFPA 101, Sections 7.7): Connect all exits to an exit discharge path that terminates at a public way.

3.7.10.10 Interior Finishes (NFPA 101, Section 10.2)

Occupancy	Exit Enclosures	Exit Access Corridors	Rooms & Enclosed Spaces	Floor Finish
Assembly	N/A	Class A or B	Class A, B or C in assembly less than 300 occupants	Class I or II
Business	N/A	Class A or B	Class A, B or C	Class I or II
Industrial	N/A	Class A, B or C	Class A, B or C	Class I or II in exit access corridor, otherwise no requirement
Storage	N/A	Class A, B or C	Class A, B or C	Class I or II in exit access corridor, otherwise no requirement

3.7.11 Emergency Lighting

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Provide emergency lighting via battery backup at all means of egress, including exit access corridors and exit discharges. Provide emergency lighting in the mechanical rooms via battery backup. Emergency lighting must be provided for a minimum of 1½ hours in the event of internal power failure. Provide all emergency lighting in accordance with NFPA 101. Provide new emergency lighting in areas that are being fully remodeled (i.e., walls and ceilings removed).

3.7.12 Marking of Means of Egress

Provide all new exit signs which are LED type with battery backup and have red lettering. Provide exit signs in accordance with NFPA 101. Provide exit signs wherever the location of the exit is not readily apparent. Provide exit sign illumination for a minimum of 1½ hours in the event of internal power failure.

3.7.13 Hazardous Materials

Limited quantities of hazardous materials stored within designated cabinets will be present in Building 202, Building 214, and in the Pyro Room of Building 218. The use and storage of all hazardous materials must be in accordance with UFC 3-600-01, Section 4-20 and NFPA 400. Provide classified electrical equipment complying with NFPA 70 Article 500 where required, including the Fuel Bay of Building 202 and the Pyro Room in Building 216.

The materials to be stored in the Pyro Room in Building 218 have been previously classified as Division 1.4. The quantity of these materials is proposed to be the same as at the user group's current site. The document provided by the user group listing the type and quantity is found in Attachment H. The total amount of explosive materials proposed in this room is shown to be less than the MAQ as defined in UFC 3-600-01, and this space is not required to be classified as a Hazardous Occupancy.

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3.8 Electrical Design**3.8.1 Description of Services**

All five buildings have existing services with Oklahoma Gas & Electric (OG&E) owned primaries, transformers, and meters. Coordinate any load increases with OG&E point of contact Michelle Rodriguez-Pico, rodrigmc@oge.com. Follow all applicable codes listed in Attachment A. For any utility work, coordinate design and installation with Oklahoma Gas and Electric.

3.8.1.1 Existing Service Information

- a. Building 201: 208Y/120V, 200A, 3-Phase, 4W, main service panel PA. Existing 5KW, 120/240V, 1-Phase, 3W generator and panel. Utility transformer 321798, meter OG&E 1060137 52750758G. 400HZ panel existing.
- b. Building 202: 480/277V, 1200A, 3-Phase, 4W, main service panel switchboard. Utility transformer 321855, meter OG&E 1060129 50620918G. 400HZ panel existing.
- c. Building 214: 480/277V, 400A, 3-Phase, 4W, MDP. Utility transformer 321831, meter OG&E 1060129 50620920G.
- d. Building 216: 480/277V, 800A, 3-Phase, 4W, disconnect switch. Utility transformer 500KVA, 322011, meter OG&E 1060129 50620917G. 400HZ existing panel.
- e. Building 218: 480/277V, 800A, 3-Phase, 4W, disconnect switch. Utility transformer 322010, meter OG&E 1060129 53224865G.

3.8.2 Contractor Requirements

Provide all personnel, equipment, tools, materials and other necessary items to perform all work required for fully functional facilities at B201, B202, B214, B216, and B218. Comply with the requirements of the latest editions of NFPA 70 (National Electrical Code), NFPA 70E (Standard for Electrical Safety in the Workplace), ANSI C2 (National Electrical Safety Code), and applicable OSHA requirements. Comply with installation, local, state, and federal environmental/occupational safety laws. Take all necessary actions to preclude any unsafe conditions which may be hazardous to the health and safety of personnel. Upon completion of construction, provide as-builts with red lines of any field notes or changes.

3.8.3 Demolition

Remove the entire existing electrical power distribution panels for Buildings 201, 214, 216, and 218. Include in demolition the panels, transformers, and disconnects. For all five buildings, including B202, completely remove electrical equipment back to the source where walls and spaces are modified. Replace all lighting and controls in areas affected by construction of all five buildings.

3.8.4 Electrical Power Systems New Work

Provide engineering calculations for demand load, voltage drop, short circuit analysis, arc flash, coordination study, and point to point lighting calculations for normal and emergency lighting systems. Meet the new electrical demand, new building functions (including electrical, mechanical, security and communications), and code requirements. Optimize energy savings. For all electrical equipment or devices, such as lighting and motors, meet ASHRAE 90.1 standard. All electrical equipment must have capability to withstand available short circuit currents. The following are scope requirements by building.

3.8.5 New Exterior Power Distribution Systems**3.8.5.1 Primary Duct Bank**

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New service is not anticipated.

3.8.5.2 Primary Feeders

New service is not anticipated.

3.8.5.3 Utility Transformer

New service is not anticipated.

3.8.5.4 Secondary Duct Bank

New service is not anticipated.

3.8.6 Interior Power Distribution Systems**3.8.6.1 Overview – See concept drawings for areas of construction.**

- a. Install new panels and disconnects to replace existing weathered and rusted panels in Buildings 201, 214, 216, and 218. In new or modified areas of all buildings, provide a new electrical system that includes, but is not limited to, secondary service, lighting fixtures, lighting controls, receptacles (including for any security or ACS, TVs and A/V), motors, packaged units, and HVAC circuits.
- b. Replace conduit and conductor for any circuit which is relocated. Inspect any circuit that is existing to remain. If found to be in good condition, reconnect to new panels or disconnects.
- c. B201 - Replace panels, transformers, disconnects. Replace some lighting and receptacles. Install new lighting and receptacles in rooms affected by construction. Plan for 75% new.
- d. B202 - Replace some lighting and receptacles. Install new lighting and receptacles in rooms affected by construction. Install two overhead plug reels. Install two new hoists. Install grounding strips in all bays. Plan for 30% new.
- e. B214 - Replace panels, transformers, and disconnects. Replace some lighting and receptacles. Install new lighting and receptacles in rooms affected by construction. In Parachute room, provide devices with a hazardous rating. Install new 115V 400hz receptacles (from existing system) and 208V 3-phase receptacles. Install retractable extension cords with 120V 3 pin plugs. Plan for 60% new.
- f. B216 - Replace panels, transformers, and disconnects. Replace some lighting and receptacles. Install new lighting and receptacles in rooms affected by construction. Plan for 80% new.
- g. B218 - Replace panels, transformers, and disconnects. Replace some lighting and receptacles. Install new lighting and receptacles in rooms affected by construction. In Pilot Kit Up Room, provide devices with a hazardous rating. In Pyro room, provide devices with a hazardous rating and grounding points for pyro cabinet. Evaluate rooms with hazardous classifications per NFPA and DA PAM 3685-64 Ammunition and Explosive Standards. Plan for 60% new.

3.8.6.2 Power Distribution

Provide new main distribution panels or service entrance panels in the main electrical rooms. Equipment must be service entrance rated to meet the existing or modified demand plus any

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additional loads such as electrification of new mechanical equipment, 480Y/277 volt (208Y/120V for B201), 3-phase, 4-wire distribution panelboards with a surge protection device (SPD). Do not install any surge protective device (SPD) in the switchboard or panelboard enclosure. Provide HACR rated circuit breakers where serving HVAC loads. Provide main service equipment with approximately 15% combination of spare devices and space to accommodate future load per UFC 3-501-01. Any new feeders from these panels to the downstream panel boards must be THWN copper in conduit. Step down, 15KVA or larger, dry type transformers (480V delta to 208Y/120V wye) must be insulation Class 220°C to provide for 115°C temperature rise; this also provides long term transformer reliability. In addition, dry type transformers that serve communications and computer receptacle loads must be K-4 rated to accommodate nonlinear loads. Locate all floor mounted equipment on concrete housekeeping pads. Building 214 has the additional requirement of a 115V 400Hz receptacle and a 208V 3-phase receptacle.

3.8.6.3 Conduit and Conductors

Route feeders and branch circuits in EMT conduit (RGS where exposed to damage). Conceal conduits above ceilings or inside of walls unless in utility spaces. All feeder and branch circuiting conductors must be 600V, THHN or THWN, copper wiring, rated at 75 degrees C for 100A and above, and 60 degrees C for under 100A. Equipment grounding conductors are provided for feeders and branch circuits. In areas where there is a hazardous classification, refer to the NEC Article 500. Do not use conduit as a ground pathway. Provide nonlinear, high harmonic loads with dedicated neutrals. Provide dielectric break for any conduit penetrating the secure or secret room boundaries.

3.8.6.4 Motors

Provide motors of sufficient size for the duty to be performed, and do not exceed the full-loading rating when the driven equipment is operating at specified capacity under the most severe conditions encountered. All motors must have open frames and continuous-duty classification and must be based on a 40 degree C ambient temperature reference. All motors must be derated (as applicable) for the facility's altitude. Thermal overloads must be the bimetallic type that can be reset. Motors above 1 HP must be premium efficiency. All three-phase motors must have phase loss protection. Disconnect switches for motors must be general duty type. Exterior switches must be of the rain-tight (NEMA 3R) type. Provide starters, variable frequency drives, and disconnect switches for packaged HVAC equipment as required by HVAC equipment manufacturer.

3.8.6.5 Faceplates

Provide receptacles and toggle switches that are white with stainless steel faceplates.

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3.8.6.6 Panelboards

Panelboards serving large mechanical and lighting loads must be 480Y/277 volt (208Y/120V for building 201), 3 phase, 4 wire, while panelboards serving fractional horsepower loads and convenience outlets must be 208Y/120 volt, 3 phase, 4 wire. Size all panelboards for a minimum of 20% spare capacity and a minimum of 15% spare circuit breakers, utilizing copper bussing, and with a surge protection device (SPD). Do not install any (SPD) in the panelboard enclosure. Provide spare circuit breakers which are redundant and match the type of circuit breaker in the panelboard. All circuit breakers must be bolt-on type. Provide a panel schedule which is typed and placed in a protective holder located on the front inside of the panelboard door for all panelboards. Panels must have a hinged door with a master keyed flush tumbler latch. Label all panelboards with a plastic identification plaque. Refer to Section 3.9 – Telecommunications Design for telecommunication specific power requirements.

3.8.7 Power Quality and Grounding

Preserve power quality for the facility by using surge protective devices (SPD) at the service distribution equipment, panels, and where sensitive electronic loads exist. SPD's limit the intensity of over voltage transients from external power distribution events and internal power events.

3.8.7.1 Grounding

Ground interior electrical systems in accordance with Article 250 of the current National Electrical Code. Use grounding methods consistent with J-STD-607-C "Commercial Building Grounding and Bonding Requirements for Telecommunications", I3A, and applicable UFCs for all communications systems.

3.8.8 Interior Lighting**3.8.8.1 Lamps**

Meet IESNA and Energy Code requirements for light fixture selection and controls. Comprise general facility lighting of high efficiency recessed LED luminaries. Provide pendant type LED industrial luminaries with wire guards at utility areas having unfinished ceilings (i.e.: electrical, mechanical, janitor.) Utilize direct, recessed, 2x2 luminaries throughout the facility (i.e.: open areas, offices, conference rooms, and hallways). Use LED fixtures which are 3500 degrees K with a minimum color rendering index (CRI) of 80. Use toggle switches which are white with stainless steel covers.

3.8.8.2 Controls

Comply with UFC 3-530-01 and ASHRAE 90.1, Chapter 9 for all facility lighting controls. Utilize dual technology (ultrasonic and infrared) occupancy / vacancy sensors, daylight sensors, multi-level switching, and a central lighting controller. Utilize multi-level switching for multi-occupant spaces such as open offices. Provide conference rooms with dimmable fixtures with preset lighting scenes for maximum illumination control. Provide three-way switching for spaces with multiple exits.

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3.8.8.3 Exit Lighting

Provide emergency egress lighting by using battery backed ballasts. Frog-eye fixtures are not acceptable. Employ red LED lamps on a white field for "EXIT" lights.

3.8.8.4 Spare Parts Compatibility

Design lamp types, ballast types, and fixture types to be uniform so maintenance and stocking of replacement items is minimized.

3.8.8.5 Illumination Levels

Maintain the following illumination levels based upon IESNA recommendations:

Space	Lighting Level (fc)	Workplane (in)
Bathroom	5	0"
Corridors	5	0"
Entrance (Exterior)	1	0"
Exits (At Floor Level)	1	0"
Kitchen	50	36"
Offices	30	30"
Storage	10	0"
Telecomm Closet	50	36"
Utility Rooms	20	36"

3.8.9 Exterior Lighting

At any new or modified entrances or exits, include building mounted exterior lighting which is controlled to power on at dusk, automatically reduce lighting power by a minimum of 30% from 12 midnight or within one hour of normal closing (whichever is later) until 6am or normal opening (whichever is earlier) and during any period when no activity has been detected for a time of no longer than 15 minutes.

Automatically turn off when sufficient daylight is available. Employ full cutoff, LED lamps at all exterior lighting. Illuminate entrances maintaining 1 footcandle. Spread illumination up to 10 feet away and around all personnel doors and roll-up doors.

3.8.10 Electrical Meters

No new meters are anticipated.

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3.9 Telecommunications Design

3.9.1 General Information:

Produce all drawings, calculations, and specifications utilizing a Registered Communications Distribution Designer (RCDD), who will also sign and seal the documents. Review all submittals using only an RCDD or an RCDD certified tech.

3.9.2 Demolition

Remove Building 202, 214, 216, and 218's telecommunications systems in their entirety, with the exception of the outside plant telecommunications cabling. Splice outside plant cabling at current location (PET) and route to the new telecom room. Building 201 communications to remain as is.

Re-use the existing comm rooms in Buildings 201 and 202. In both buildings, remove all cat 6 wiring in modified walls back to the comm panels.

Before demolition begins, and before new installation, contact the Base Communications Squadron to test the existing outside plan (OSP) copper of each building to ensure the fiber and copper are still functioning and in good condition. Test both the copper and fiber 100% and provide test report to the Contracting Officer Representative (COR).

For any existing equipment that is removed and re-installed, contact the Base Communications Squadron for shutdown and disconnect work. Coordinate an onsite location to hold and store equipment in a location safe from the environment until construction is complete. Base Communications Squadron will inspect the equipment for proper operation before installation.

Install any existing cables removed and re-used in a splice case. Copper cables will have the pairs "cleared" to prevent shorts and grounds before placement of a splice case.

For fiber cables ensure there is no light source on the feeder side before installing a splice case. This is a safety issue as the light source can be extremely harmful to one's eye if looking into the fiber ends.

3.9.3 Telecommunications Systems New Work

3.9.3.1 General New Work by Building

- a. B201 – Add phone drop from existing communication. All existing comm to remain as is.
- b. B202 - Utilize existing communications room and add all new racks, patch panels, comm room power panel, cable tray NIPR and phone line drops. See concept drawings and room data sheets for drop locations and quantities. An additional wall mounted cabinet is required on the east side of the building to accommodate distance limitations. Provide backbone cabling consisting of multiple 12 strand 9/125mm single-mode fiber optic (SM FO) OS2 cables. Add Wi-Fi for ES and IDMS. Install SMF between communications room and the areas housing PMA-Server-Module (PSM) and the PMD-Reader.
- c. B214 - Add new communications room per UFC requirements including new racks, patch panels, comm room power panel, cable tray, and add NIPR and phone line drops. See concept drawings and room data sheets for drop locations and quantities. Install SMF between communications room and the areas housing PMA-Server-Module (PSM) and the PMD-Reader.
- d. B216 – The existing communications room is not in full compliance with the UFCs. Because this is a renovation project, reuse of the existing space is allowed without

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modification to the room size. See concept drawings and room data sheets for drop locations and quantities. Install SMF between communications room and the areas housing PMA-Server-Module (PSM) and the PMD-Reader.

- e. B218 - Add new communications room per UFC requirements including new racks, patch panels, comm room power panel, cable tray and add NIPR and phone line drops. See concept drawings and room data sheets for drop locations and quantities. Add Wi-Fi for ES and IDMS. Install SMF between communications room and the areas housing PMA-Server-Module (PSM) and the PMD-Reader.

3.9.3.2 Fiber Testing

For multimode optical fiber, perform optical fiber end-to-end attenuation tests in accordance with TIA-568.3 and TIA-526-14 using Optical Power Meter and Light Source and OTDR for multimode optical fiber. For single-mode optical fiber, perform optical fiber end-to-end attenuation tests in accordance with TIA-568.3 and TIA-526-7 using Optical Power Meter and Light Source, and OTDR.

3.9.3.3 Telecommunications Power

In new communications rooms, provide a dedicated 208/120V, 3-phase, 4 wire panelboard to serve each telecommunications room. Panelboards must serve all receptacles, equipment rack power, and HVAC power in the telecommunications room. Do not circuit the lighting in the telecommunications spaces to the telecommunications panelboards. Provide a minimum of two dedicated duplex receptacles at each equipment rack, located 24" above finished floor (AFF). Provide a dedicated 20A, 120V NEMA 5-20R and 208V 1-phase spare receptacle at each rack, located at 24" AFF, for Government furnished, Government installed (GFGI) uninterruptable power source (UPS) equipment.

3.9.3.4 Grounding

Provide backboards in accordance with TIA-569-C. Provide backboards which are fire-retardant-treated wood, bearing the manufacturer's stamp. If painted, the manufacturer's fire rated stamp must remain visible. Cover a minimum of two adjacent walls with backboards. When renovating an existing telecommunications room that does not have adequate space, size the backboard as large as possible to accommodate wall mounted equipment.

Provide dedicated Telecommunications Grounding Busbar (TGB) grounding bus with a ground conductor tied to the Telecommunications Master Grounding Busbar (TMGB) in the Telecommunication Entrance Facility (TEF.) Bond the TMGB to the facility power system grounding system per J-STD 607-C. Design the communications grounding between any TGB and the TMGB for no more than 100 milliohms resistance. Provide dielectric break for any conduit penetrating the room boundaries in Secure or Secret rooms. Provide a separate red and black ground in accordance with ICD-705 3.14 in the Vault area.

3.9.3.5 Patch Panels

Include a minimum of one LAN rack with RJ-45 jack, TIA 568A configuration patch panels, and 24 port optical fiber patch panels with LC connectors in each communication room.

3.9.3.6 Outside Plant Telecommunications

Leave outside plant (OSP) telecommunication cabling in place at new communications rooms. All existing (and new if required) OSP cables must be protected when not in use, and until they

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are terminated. Disconnect OSP cabling from the existing protective entrance terminals (PET) and fiber optic patch panels. Terminate outside plant single mode fiber optic (SM FO) OS1 cabling on rack mounted 24 port optical fiber entrance patch panels with LC connectors in the Communications Entrance Room (CER). Terminate outside plant copper pair cabling on backboard mounted circuit protector with service entrance overvoltage protectors in a 1:1 arrangement. Install ISP multi-pair cable from the PET to the rack and terminate on a CAT 6 patch panel. (pair per port).

3.9.3.7 Telephone Backbone Cabling

In new communications rooms, provide a new telephone backbone cabling system which consists of patch cords to be used to jumper voice ports for the room's outlets.

3.9.3.8 Data Backbone Cabling

For the new communication cabinet in Building 202, provide data backbone cabling consisting of multiple 12 strand 9/125mm single-mode fiber optic (SM FO) OS2 cables routed from rack mount fiber patch panels in the main communications room to rack mounted FO patch panels in the communication rooms on each floor. Utilize LC style connectors for backbone cabling.

3.9.3.9 Horizontal Cabling

Include jacks with a minimum of one voice jack and one data jack per wall plate for new voice and data telecommunication infrastructure. Provide jacks for offices, workstations, and assembly rooms. For station data wiring use one Cat-6 cable to each RJ-45 jacks and employ TIA 568A wiring topology. Terminate all data jacks on rack mounted patch panels. Locate wall jacks within 18-inches of power receptacles and provide a minimum of two per private office. Route telecom cabling in a combination of conduit and cable tray and terminate at the nearest telecommunications room rack-mounted patch panels.

3.9.3.10 Future Antenna System

Provide a 2.5" hole for two future antennas (GPS, primary link 16). Coordinate hole location with antenna location on roof.

3.9.3.11 SIPRNet

Provide SIPRNet connectivity at select locations indicated on room data sheets. Service these spaces with SIPRNet telecommunication rooms. In areas accredited as Sensitive Compartmented Information Facilities (SCIF), the SIPRNet cables are not required to be located in Protective Distribution Systems (PDS). Outside a SCIF, provide PDS for SIPRNet level telecommunications. Provide SIPRNet rooms in accordance with the "Building SIPRNET Communication Room – New Construction Guidance" and in accordance with the Technical Guide for the Integration of Secret Internet Protocol Router Network Version 5.0. Work with client to determine SIPRNet drop locations.

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3.9.3.12 SIPRNet ICIDS

Provide infrastructure (conduit, power sources, and junction boxes) for the intrusion detection (IDS) at the Arms Vaults and SIPRNET rooms.

3.9.3.13 Protective Distribution System (PDS)

Furnish and install a PDS to provide SIPRNET access points in the offices and conference rooms. Mount PDS components exposed on walls on stand-off spacers such that 360-degree inspection of raceway is possible. Provide two, 2-inch conduits from each SIPRNet room to the adjacent telecommunications closet. Provide two, 4-pair, unshielded, CAT-6, copper cables in one two-inch conduit. Provide 12 strand single mode fiber optic cable in the second two-inch conduit. The following separation must occur between SIPRNet (Red) cabling and equipment from NIPRNet (black) cabling and equipment per NSTISSAM TEMPEST/2-95 requirements: (1) Provide 2 inch (5 cm) between red conductors crossing black conductors; (2) Provide 6 inch (15 cm) between red conductors running parallel with black conductors for over 98.5 feet (30 meters); (3) Provide 39.4-inch separation between encryption devices, jacks and computers.

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3.10 Special Systems Design**3.10.1 Lightning Protection**

Each building has an existing lighting protection system. Where roofing is replaced, remove the existing system and install a new system connected to the existing (where applicable).

Where required, install new lightning protection systems per NFPA 780. Provide systems consisting of Class 1 materials, 24-inch air terminals at maximum 25-foot spacing, main conductors, cross conductors, down conductors, bonding conductors, and connected to the existing system. When located on roofs, utilize cross conductors which are compatible with the roof material. Utilize Schedule 80 PVC conduit to route conductors down from the roof to the counterpoise. Where down conductors are not feasible, building steel may be used as the down conductors. Provide a lightning protection system with a UL Master Label certificate. Ground all electrical and communications systems to a single point to limit voltages due to lightning, line surges, and unintentional contact with higher voltage lines.

3.10.2 Conveying Systems

Two new 5-ton bridge cranes with a 22'-0" minimum hook height are required for Building 202. Refer to Architectural Section for additional information. Support the bridge cranes independently of the existing building structure. Coordinate design and installation of conveying system and fall protection systems.

In Building 214, inspect, test, and repair existing hoists and cranes and recertify for use.

3.10.3 Security Systems**3.10.3.1 Security Cameras**

Provide interior IP addressable security camera infrastructure (conduit, junction boxes, and pull strings) for select areas within the facility. Provide dedicated conduits from camera locations to telecommunications room. Provide space in the rack for GFGI video server recording and control equipment. If cameras exceed 295', utilize fiber with media converters and provide a power feed for the converters.

3.10.3.2 Access Control System (ACS)

Provide provisions for a Government-furnished, Government-installed (GFGI) access control system (ACS) at all exterior entrances except mechanical and electrical rooms, which must be key locked. Use card key and PIN keypad devices for maximum flexibility and security. Configure the ACS to allow for government CAC cards to be used for access. Integrate and control access to SCIF perimeter portals through the ACS.

3.10.3.3 Audio-Visual Equipment

Provide provisions for a GFGI ceiling mounted projector where indicated on concept drawings. Provide a recessed projection screen, with motor, above the ceiling in the room with a projector. Provide infrastructure and wiring for a computer, as well as the supports and wiring for a wall mounted television. Provide a wall switch to control retraction of the screen. Coordinate specific layout and equipment requirements with the Users during the design phase.

3.10.4 Closed Circuit Television (CCTV)

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Provide infrastructure (conduit, pull strings, and junction boxes) for a closed-circuit television (CCTV) system. Route the CCTV system from Building 216 to new cameras (GFGI) mounted on the outside of Building 202. Locate cameras to provide a full clear image of the parking apron. Servers and monitoring equipment will be provided and installed by others.

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3.11 Antiterrorism (AT) and Force Protection (FP) Design**3.11.1 Antiterrorism**

B201 is considered a low occupancy building and is exempt from the minimum antiterrorism standards. B202, B214, B216, and B218 must comply with the latest minimum standards as defined in UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings. The Design Basis Threat for these facilities is low; therefore, only the minimum standards are applicable.

Apply Standard 2 enclosure requirements at B201 for the existing utility yards as a best practice and as preferred by Ebbing ANG Base.

3.11.2 Force Protection

No site modifications are required for antiterrorism. The existing sites have parking within the 33-foot unobstructed space. Standard 2 – Section 3-3.7 of UFC 4-010-01 allows parking within the unobstructed space. Ebbing ANGB has a barrier plan in place to respond operationally to a force protection condition (FPCON) change. In this case, parking may be temporarily eliminated within the unobstructed space at a higher FPCON.

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3.12 Cybersecurity**3.12.1 Control System Cybersecurity**

Determine all facility related/industrial control systems that are required to be designed in accordance with UFC 4-010-06 Cybersecurity of Facility Related Control Systems. These systems may include but are not limited to: Utility Monitoring Control Systems, Fire Alarm Mass Notification, Access Control Systems, EMCS, and Intrusion Detection Systems. Reference the Department of Defense Platform IT Master list. Submit a complete list to the Government as required in the design phases for approval. After determining the facility related system involved, the Contractor is responsible for all design submissions / deliverables / functions as outlined in UFC 4-010-06 Section 5.

3.12.2 Cybersecurity Specifications

Deliver an edited UFGS Specification Section 25 05 11 Cybersecurity for Facility-Related Control Systems for each facility control system identified and planned. All design submittals and deliverables will be reviewed and approved by the Government at all stages of the design. Interface with the Base via the Contracting Officer to define existing system requirements, Confidentiality Integrity Availability Impact Ratings, transport cybersecurity requirements (for example: existing enclave, standalone), existing authorization status, local installation cyber-requirements and other items that may impact the security posture of the system or scope and level of work required. Deliver construction submittals in accordance with the approved UFGS 25 05 11 for each platform.

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PART 4 EXECUTION**4.1 General****4.1.1 Design Criteria**

Facility design, materials, equipment, and installation must be in accordance with the requirements of the listed codes and design manuals in Attachment A.

4.1.2 Specifications

Utilize SpecsIntact to provide specifications for this project. There is no charge for this software. This software can be downloaded by the contractor from http://www.wbdg.org/ccb/browse_cat.php?c=3. Submittal of marked-up guide specifications is required at the 65% and 95% submittal stages of design which illustrate what has been edited from standard guide specifications. Prepare marked-up guides utilizing SpecsIntact software with strike-outs and redlining for this purpose. At the Final submittal stage, submit clean copies of specifications without markups.

4.1.3 Construction Documents

Provide the Government with a copy of the completed specifications, design calculations, and drawings. All design submittals must be electronic only, with the exception of Contract Drawings, As-Built Drawings and Operations and Maintenance (O&M) manuals.

4.1.4 Hazardous Materials

Perform a Regulated Materials Survey of the features to be renovated/demolished. In addition to lead paint, PCBs, asbestos, and mercury surveys, include any other components that may require special handling during the renovations of the buildings. Use only accredited laboratories to analyze samples. Provide a preliminary report prior to the design charrette which includes anticipated costs for abatement. Notify the Contracting Officer as soon as possible if abatement is required. Reference CLIN schedule for an allowance amount included to cover the abatement of all hazardous materials, if found during the renovations required for this project.

4.1.5 Topographic Survey

Furnish a topographic survey of the proposed site areas.

4.1.6 Building 216 Construction Schedule

Building 216 must be ready for occupancy no later than 30 June 2026. Complete construction on all other buildings within the period of performance (PoP).

4.1.7 Availability of Buildings

All buildings will be vacated prior to commencement of construction.

4.1.8 Miscellaneous

Verify all information received and all existing conditions. Obtain all information necessary to properly design and install all work. Coordinate the gathering of information during design through the Contracting Officer. Any further survey required to provide utility locations, manhole inverts, and verification of existing features is the responsibility of the Contractor.

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Contractor may use the existing facilities for construction storage and staging. Do not store items in rooms that have received a new epoxy floor finish.

4.2 Site Construction Information**4.2.1 Site Layout**

Confine proposed development and site modifications to the immediate project area that is disturbed by through construction activities.

4.2.1.1 Haul Route

Coordinate with the Base Civil Engineer Squadron to determine an appropriate haul route to the site and appropriate construction vehicle entrance.

4.2.1.2 Construction Storage Yard

Store all equipment and material within the project limits. Restore this area in accordance with the contract or pre-construction condition based upon the location of the storage area(s). Regardless of the area, fence and screen the yard. Keep the fence well maintained and the site clean. Prior to commencing construction, obtain final approval from the Contracting Officer for establishing the storage yard.

SECTION 01 33 16.00 10

DESIGN DATA (DESIGN AFTER AWARD)

AMENDMENT 0002

PART 1 GENERAL

1.1 SUMMARY

After award, develop the accepted proposal into the completed design, as described herein. Use a collaborative, integrated design process for all stages of project delivery with comprehensive performance goals for site development, energy, water, material selection, indoor environmental quality, and waste diversion. Ensure incorporation of these goals in project delivery. Consider all stages of the building lifecycle, including deconstruction, rehabilitation, re-purposing, or demolition.

Designs shall be based on customer interviews and the Statement of Work (SOW) as referenced in Section 01 10 00. The Contractor shall conduct interviews with the key stakeholders as necessary to finalize functional, spatial, and operational requirements. The purpose of these submittals is primarily to ensure the Contractor is working towards a facility and site layout that is acceptable to the Government. The Contractor shall schedule the number and composition of the design submittal phases and include that information in the progress schedule.

1.2 REFERENCES

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

<AM#0002> ~~EBBING GENERAL PLAN AND~~ CITY OF FORT SMITH

All professional services shall comply with the standards in ~~the Ebbing General Plan, Ebbing infrastructure studies, and~~ The City of Fort Smith Unified Development Ordinance Chapters 5-7. </AM#0002>

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

ISO 19005-4 (2020) Document Management -- Electronic Document File Format for Long-Term Preservation -- Part 4: Use of ISO 32000-2 with Support for Embedded Files (PDF/A-4)

ISO 32000-2 (2020) Document Management -- Portable Document Format -- Part 2: PDF 2.0

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 13 (2022) Standard for the Installation of Sprinkler Systems

NATIONAL INSTITUTE OF BUILDING SCIENCES (NIBS)

NBIMS-US (V4) National BIM Standard - United States

NCS	(V6) United States National CAD Standard
U.S. ARMY CORPS OF ENGINEERS (USACE)	
EM 1110-1-2909	(2012) Engineering and Design -- Geospatial Data and Systems
ERDC/ITL TR-19-6	(2019) A/E/C Graphics Standard, Release 2.1
ERDC/ITL TR-19-7	(2019) A/E/C CAD Standard - Release 6.1
U.S. DEPARTMENT OF DEFENSE (DOD)	
UFC 1-200-02	(2020; Change 2, 2022) High Performance and Sustainable Building Requirements
UFC 1-300-02	(2014; with Change 3, 2021) Unified Facilities Guide Specifications (UFGS) Format Standard
UFC 3-101-01	(2020; with Change 4, 2024) Architecture
UFC 4-010-01	(2018; with Change 3, 2024) DoD Minimum Antiterrorism Standards for Buildings
UFC 4-023-03	(2009; with Change 3, 2016) Design of Buildings to Resist Progressive Collapse

1.3 DEFINITIONS

1.3.1 Integrated Design

The project delivery process shall fully integrate all major trade partners, subcontractors and consultants, from solicitation development to project completion. The Contractor's key personnel (to include trade partners and major subcontractors) shall be actively involved during the design process to effectively integrate the design and construction requirements of this contract. To maximize coordination and proactively manage risk, the Government expects key personnel and Trade Partners, subcontractors/consultants, to participate in all design meetings and weekly progress meetings. The "construction team" shall remain actively engaged during design; and the "design team" shall remain actively engaged during construction. In addition to the typical required construction activities, the Contractor's involvement includes: integrating the design activities into the Master Schedule to maximize the effectiveness of expediting design and construction (within the limits allowed in the contract), ensuring constructability and economy of the design, integrating shop drawing and installation drawing process into the design, executing the material and equipment acquisition programs to meet critical schedules, effectively interfacing the construction and design quality control programs and providing the design team with accurate, up-to-date redline and as-built documentation.

1.3.2 Designer of Record (DOR)

Professional Registered members of the Contractor's Design-Build team that check, approve, sign, date, and certify, prior to submitting the deliverables to the Government, that the D-B design submittals comply with the contract requirements.

The DOR's stamp, sign, and date each design drawing and other design deliverables under their responsible discipline at each design submittal stage. The DOR(s) are responsible for maintaining the integrity of the design and for compliance with the contract requirements through construction and documentation of the as-built condition by coordination, review and approval of extensions of design, material, equipment and other construction submittals, review and approval or disapproval of requested deviations to the accepted design or to the contract, coordination with the Government of the above activities, and by performing other typical professional design responsibilities.

Identify, for approval, the Contractor's "DOR" or "Project Manager" who shall remain the project's "point person" from design through construction and commissioning.

1.3.3 Government Furnished Material (GFM)

Government material that may be incorporated into, or attached to, an end item to be delivered under a contract or which may be consumed in the performance of a contract. It includes, but is not limited to, raw and processed material, parts, components, assemblies, and small tools and supplies.

1.3.4 Advanced Modeling

A subset of geospatial technologies as defined in [EM 1110-1-2909](#) to include BIM, CIM, GIS, and CAD. Advanced Modeling is comprised of models and drawings that form a digital representation of the project, or part thereof, that are comprised of model elements with facility data.

1.3.5 Model Element

A self-contained graphical element with a unique identification that is used to populate a model, and whose behavior and properties are defined by facility/site data and software processes. Model elements can represent a physical entity, such as a pump, a concrete wall, or a utility vault and range from the simple to the complex and can be custom modified.

1.3.6 USACE Minimum Modeling Matrix (M3)

The USACE Minimum Modeling Matrix (M3) describes the minimum modeling and data requirements by defining the level of development (LOD) and element grade.

1.3.7 Facility Data

Non-graphical data attached to surface and subsurface components for both building and site model elements that describe various facility characteristics such as parametric values that drive physical sizes, material definitions (e.g. wood, metal), manufacturer data, industry standards (e.g. AISC steel properties), location, and project identification numbers. Facility data can also define supplementary physical entities that are not shown graphically in the model, such as the system of a duct, hardware on a door, content of conduit, site surface, alignment, levee, channel or transformer properties.

1.3.8 Industry Foundation Class (IFC)

IFC are a standard and file format used for the exchange of model elements and data; see <http://www.iai-tech.org>. In the context of this section, IFC does not mean "Issued For Construction."

1.3.9 Model Uses

A Model Use is a method or strategy of applying modeling during a facility's life cycle to achieve one or more specific objectives. Reference **NBIMS-US** for the definitive list of Model Uses and definitions.

1.3.10 USACE BIM Platform Configuration Standards - Templates, Workspaces, Catalogs, and Environments

1.3.10.1 USACE Revit Templates

The USACE Revit templates are discipline specific and include family content pertinent to that discipline. The templates share standard symbology such as annotation families, line styles, and text styles. The templates include pre-defined shared parameters.

1.3.11 USACE CAD/BIM Technology Center

The USACE CAD/BIM Technology Center hosts all standard content for USACE. This content can be accessed through the CAD/BIM Technology Center website, .

1.4 ORDER OF PRECEDENCE

In case of a conflict, duplication or overlap of design criteria specified in the documents referenced in this RFP, the following order of precedence will be followed:

- a. The Schedule (excluding specifications).
- b. Representations and other instructions:
 - i. Betterments: any portions of the Offeror's proposal, which both meets and exceeds the requirements of the RFP. NOTE: The Offeror must clearly identify all betterments in their proposal for government consideration.
 - ii. Specific requirements as referenced in Section **01 10 00** - Statement of Work.
- c. Contract Clauses.
- d. Other documents, exhibits, and attachments.
- e. The Specifications.
- f. Any design products including, but not limited to, plans, specifications, engineering studies and analyses, shop drawings, and equipment installation drawings. These are "deliverables" under the contract are not part of the contract itself. Design products must conform to all provisions of the contract, in the order of precedence.

1.5 PRECONSTRUCTION ACTIVITIES

1.5.1 Design Quality Control Plan

Submit a Design Quality Control Plan in accordance with Section 01 45 00 QUALITY CONTROL before design may proceed.

1.5.2 Meetings and Conferences

1.5.2.1 Post Award Conference

The Government will conduct a post award conference at the [Ebbing Field] (exact location will be provided by the COR), as soon as possible after Contract award, coordinated with issuance of the notice to proceed (NTP). Participation by the Contractor and major subcontractor representatives is mandatory. All designers need not attend this first meeting. The government will provide an agenda, meeting goals, meeting place, and meeting time to participants prior to the meeting.

As a minimum the following will be addressed during the conference: determination and introduction of contact person and their authorities; contract administration requirements; discussion of expected project progress processes; and coordination of subsequent meeting.

- a. The government will introduce the Government project delivery team members, facility users, facility command representatives, and installation representatives.
- b. Introduce key personal, major subcontractors and other needed staff.
- c. Define expectations and duties of each participant.
- d. Develop a meeting roster with complete contact information including name, office, project role, phone, mailing and physical address, and e-mail address for distribution to all participants. Also, provide minutes of the meeting to all participants.
- e. The Government and Contractor shall develop, establish, and agree to comprehensive design development processes including conduct of conferences, expectation of design development at conferences, fast-tracking, design acceptance, Structural Interior Design (SID)/Furniture, Fixtures & Equipment (FF&E) design approval, project closeout, etc. The government will explain contract requirements and the Contractor shall review their proposed project schedule and suggest ways to streamline processes.

1.5.2.2 Initial Design Conference

After Contract award, conduct the initial design conference, and provide a record of the meeting. All Designers of Record must participate in the conference. The primary purpose of the meeting is to make sure any needs are assigned and due dates established, as well as points of contact identified. The initial design conference may be scheduled and conducted at the project installation after the Post Award Conference and prior to initiation of significant preliminary design development, although it is recommended that the partnering process be initiated at the time of or before the initial design conference. Limit any design work conducted after award and prior to this conference to site work.

1.5.2.3 Advanced Modeling Kick-Off Meeting

Conduct an Advanced Modeling Kick-Off Meeting prior to submission of the Advanced Modeling PxP, within 45 days after Notice to Proceed. Required meeting attendance includes, at a minimum, the DOR, the design drawing and modeling specialist and the Geographic District BIM Manager or delegate.

The intent of this meeting is to coordinate the expectations for the Advanced Modeling PxP.

1.5.2.4 Advanced Modeling PxP Demonstration Meeting

Within 30 days after the acceptance of the Advanced Modeling PxP and M3, conduct a demonstration to review the Plan for clarification, and to verify the functionality of planned Model technology workflow and processes. If modifications are required, complete the modifications and resubmit the Advanced Modeling PxP performing a subsequent demonstration for Government acceptance.

1.5.2.5 Pre-Construction Conference

Before starting any construction activities, jointly conduct an administrative conference with the Government to discuss any outstanding requirements and to review local installation requirements. It is possible there will be multiple Pre-Construction Conferences based on the configuration of the design packages. Provide minutes of the meeting(s) to all participants.

1.6 SUBMITTALS

Each submittal includes an associated approval level designation as defined in the following table:

Approval Level Designation	Definition
G	Government approval
no designation	for information only
D	Designer of Record approval
C	Government Conformance Review of Design
R	Designer of Record Approval and Government Conformance Review
A	Designer of Record Approval and Government Approval
S	inclusion in the Sustainability eNotebook, in conformance to Section 01 33 29 SUSTAINABILITY REQUIREMENTS AND REPORTING

When used, a designation following the approval level designation identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Advanced Modeling Project Execution Plan (PxP); C

Design Quality Control Plan; G

Initial Design Conference

Preconstruction Conference

DCM Procedures; G

Submittal Register; G

SD-05 Design Data

Design and Code Checklists; C

Sustainable Design; C

Interim Design Submittals; R

Building Rendering

Interior And Exterior Building Finishes Scheme; G

Furniture, Fixtures & Equipment; G

Conference Documentation

Final Design Submittals; R

Design Complete Documents; C

Rectified Design Documents

SD-11 Closeout Submittals

DD Form 1354; A

1.7 DESIGN QUALITY CONTROL

1.7.1 Design And Code Checklists

Develop and utilize appropriate discipline-specific checklists during the design and quality control of each submittal. Submit these completed checklists with each design submittal, as applicable, as part of the project documentation. See Section 01 45 00 Contractor Quality Control and paragraph FIRE PROTECTION AND LIFE SAFETY CODE REVIEW for a sample Fire Protection and Life Safety Code Review checklist.

1.7.2 Advanced Modeling Project Execution Plan (PxP)

Develop an Advanced Modeling Project Execution Plan ("Plan" or "PxP") documenting mandatory and Contractor-elected BIM Uses, analysis technologies and workflows. Submit the PxP within 45 days after issuance of Notice to Proceed.

Use the USACE ADVANCED MODELING PROJECT EXECUTION PLAN (PxP) Template located at the USACE CAD/BIM Technology Center website to develop an acceptable Plan and update to include platforms and processes to meet the

requirements of the project.

1.7.2.1 M3 Template

Use the M3 Template located at the USACE CAD/BIM Technology Center website and submit as part of the Advanced Modeling PxP.

1.7.2.2 Model Uses

Mandatory Model Uses are predefined in the Project Execution Plan (PxP) and cannot be modified. Identify additional elected Model Uses in the PxP.

1.8 DELIVERY, STORAGE, AND HANDLING

1.8.1 Electronic Design Submittal

In addition to hard copy submittals, provide identical copies of discs for approval, for each submittal required. Provide submittal files on electronic storage media in compliance with the quality requirements identified in this specification.

1.8.1.1 Malicious Content

Scan all electronic files for malicious viruses using commercially available scanning program that is routinely updated to identify and remove current virus threats.

1.8.1.2 Storage Media

Provide project data on disc-based (DVD±R/RW) media. Provide the full submittal on one single disc whenever possible. When separation of the submittal is required separate deliverables onto separate media. Document any media divisions in the PxP for approval by the Contracting Officer.

- a. Directly print identification of contents onto storage media. Do not provide adhesive labels. Include the name of the submittal, project, project location, Contract number, Designer of Record firm/Prime Contractor company's name, title of submission, and security classification (in accordance with the applicable security classification labeling regulations) on the label. If multiple discs are provided, clearly document the contents of each disc on the label.
- b. Include the name and contact information of the individual who produced the final data disc to ensure that any problems with the data or media can be easily resolved.
- c. When browsed on any computer, the disc displays the following folders and their associated content:
 - (1) Submittal files (containing all submittal data)
 - (2) All supporting documents associated with the submittal
 - (3) Readme containing one TXT, PDF, or HTML file with general use information, organizational instructions, and basic preparer contact information.

1.8.2 Advanced Model File Packaging

Execute the following actions for all design drawing and modeling files:

1.8.2.1 Autodesk Revit, Civil3D, and AutoCAD

- a. Purge unused
- b. Audit
- c. Compress

1.8.3 PDF File Packaging

Utilize PDF file format in accordance with [ISO 32000-2](#) and [ISO 19005-4](#). Provide files from original sources, text-searchable, and saved in "Standard" (uncompressed) resolution whenever possible.

1.8.3.1 Bookmarking

- a. Bookmark drawing submittal PDF sets to include one Parent Bookmark per Discipline and one Child Bookmark per sheet within each Discipline. Format Parent Bookmarks as "Discipline" (e.g. Architectural). Format Child Bookmarks as "Sheet ID Sheet Title" (e.g. A-101 First Floor Plan).
- b. Bookmark specification submittal PDF sets using the SpecsIntact Print Processing PDF Print/Publish feature, combining processed sections into one PDF document. Insert the Submittal Register into the file where specified by Section [01 33 00 SUBMITTAL PROCEDURES](#) and bookmark.
- c. Bookmark design analysis and calculation submittal PDF sets to include one Parent Bookmark per design analysis section and one Child Bookmark per major paragraph per section. Format Parent Bookmarks as "Section" (e.g. Architectural). Format Child Bookmarks as "major paragraph designation Sheet Title" (e.g. 2.1 Primary Facility Functions).

1.8.4 Hardcopy Design Submittal

Print hard copy submittals directly from the electronically packaged PDF files. Provide quantities and sizes as indicated in DISTRIBUTION LIST.

The Designer(s) of Record stamps and signs the original full size hard copy sheets as Released For Construction. Provide distribution from this set.

1.8.5 Distribution List

Recipient	Hard Copy Quantity
USACE Design Branch	Electronic Copies Only
USACE Construction Branch	4
Ebbing Field	6

1.8.5.1 Addresses for Distribution

USACE Design Branch:

USACE CESWF-EC-DG
8196 Taylor St
Fort Worth, TX 76102
Attn: Matt Milliorn

USACE Construction Branch:

For USPS Delivery (to be confirmed at Post Award Conference:

USACE Air Force Base Resident Office
PO Box 1279
Jacksonville, AR 72078

For FedEx, UPS, etc:

USACE Air Force Base Resident Office
Building 432
4th Street
Little Rock Air Force Base, AR 72099

Ebbing ANG - 188th CES
188th Wing Air National Guard Base
Attn: Lt. Col. Riley Donoho, BCE, Bldg 450
4850 Leigh Ave
Fort Smith, AR 72903

Ebbing ANG - PIO
33rd Fighter Wing, Det 1
4850 Leigh Ave
Fort Smith, AR 72903

PART 2 PRODUCTS

2.1 ADVANCED MODELING DOCUMENTS

Provide all of the following documents with each design submittal.

2.1.1 Submitted Files List

Provide list of all submitted electronic files including a description, directory, and file name for each file submitted. Identify which files have been produced from the Model and Facility Data. For all Sheet files, include a list of the sheet titles and sheet numbers.

2.1.2 Advanced Modeling Submittal Checklist

Complete the USACE BIM/CIM Advanced Modeling Submittal Checklist and include with each submittal. Download the Checklist from the USACE CAD/BIM Technology Center website.

2.1.3 Advanced Modeling Electronic Files

Include all Advanced Modeling files associated with the contract scope of work.

2.1.3.1 3D Interactive Review Model

Provide a copy of the BIM Model in an approved interactive review format. Use Autodesk Revit 2022 (or later), Google Earth (KMZ), or other Government Approved format documented in the PxP for the 3D Interactive Review Model format.

2.1.3.2 Industry Foundation Class (IFC) Coordination View

Provide an IFC Coordination View for all deliverables. Provide exported property set data for all IFC supported named building elements. Submit all IFC models in the IFC2x3 Coordination View V2.0 schema.

2.1.3.3 Quality Control (QC) Reports

As a minimum, include the following reports:

2.1.3.3.1 Model Standards Checks and Reports

Provide QC checks demonstrating adherence to the NCS v6.0 BIM Implementation section. Identify and report non-compliant elements and submit a corrective action plan. Provide the Government with detailed justification and request Government acceptance for any non-compliant elements that the Contractor proposes to be allowed to remain in the Model. Verify the following for the Model(s) and Facility Data set:

- a. No undefined, incorrectly defined, or duplicated elements.
- a. No errors when opening.
- c. No broken Links, References, or X-References.
- d. Minimized extraneous information.
- e. Content uses the coordinate system defined in the approved PxP.
- f. Models share a common alignment point.
- g. For a Design Complete or Record Submittal; no unloaded Links, References, or X-References exist.

2.1.3.3.2 Graphics Standards Checks and Report

Provide QC checks on all graphic deliverables demonstrating that the fonts, dimensions, symbology and other construction document formatting are compliant with the requirements of this specification. Identify and report non-compliant content.

2.1.3.3.3 CAD Standards Checks and Report

Provide QC checks on CAD Output demonstrating that filenames, sheet borders, layer/level names, and symbology are compliant with the requirements of this specification. Identify and report non-compliant content.

2.1.3.3.4 Interference Management (3D Coordination) Checks and Report

Execute Interference Management checks and provide a summary of the results noting total hard interferences (e.g., mechanical vs. structural,

or mechanical vs. mechanical, overlaps in the same location) and soft interferences (e.g., conflicts regarding equipment clearance, service access, fireproofing, insulation, code space requirements).

2.1.3.3.5 Additional Parameters

Additional QC parameters as deemed appropriate for the Project may be developed and documented in the Advanced Modeling PxP.

2.1.4 Advanced Modeling Re-Submittals

If components of an Advanced Modeling submittal are rejected, provide the following for each Advanced Modeling Re-Submittal, in addition to re-submittal information required by Section 01 33 00 SUBMITTAL PROCEDURES:

- a. Re-submit all components required under paragraph ADVANCED MODELING PACKAGE, including a new Advanced Modeling Checklist and updated content in response to Government comments.
- b. Provide a copy of all Government review comments.
- c. Provide a response to each Government review comment for back check.

2.2 DESIGN DRAWINGS

From advanced model files, produce design drawings that describe the scope of the Contract for all required submittals including all interim and final deliverables.

2.2.1 Electronic Drawing Files

Provide electronic drawing files in the latest AutoCAD and PDF format for each project drawing in the design set.

2.2.2 Drawing Index

Provide an index of drawings sheet as part of the drawing set, and an electronic table of all drawings submitted. Include the electronic file name, the sheet reference number, the sheet number, and the sheet title containing the data for each drawing.

2.2.3 Shop Drawings Used as Design Drawings

Design drawings may be prepared similar to shop drawings to minimize construction submittals after the Design Complete Submittals. Prepare and submit with the design drawings, appropriate connection, fabrication, layout, and product specific drawings.

2.2.3.1 Drawing Format For Shop Drawings Used as Design Drawings

Use the Contractor-originated drawings as the basis for the record drawings. Conform shop drawings included as design documents with the same drawing requirements such as drawing format, sheet size, layering, lettering, and title block used in design drawings.

2.2.3.2 Identification of Shop Drawings Used as Design Drawings

Indicate which shop drawings are being submitted as design drawings in the transmittal letter.

2.2.4 Seal on Documents

Sign, date and seal all Contractor-originated design drawings by the registered architect or the registered engineer of the respective discipline. This is the seal of the Designer of Record for that drawing. Application of the electronic seal and signature accepts responsibility for the work shown thereon.

2.3 SPECIFICATIONS

Provide a Contractor-originated design specification that, in conjunction with the drawings, demonstrates compliance with materials, equipment, execution, and field quality control requirements of the RFP and accepted proposal.

2.3.1 Specifications Format

Utilize the Unified Facility Guide Specifications (UFGS) current at the time of Contract award. Process the specifications with the SpecsIntact software package.

- a. Edit and expand the appropriate specifications to ensure that all project design requirements, current code requirements, and regulatory requirements are met. Design specifications may be prepared that include manufacturer specific data and catalog cuts in lieu of non-proprietary, descriptive specifications. Clearly identify, where appropriate, specific products chosen to meet the contract requirements (i.e., manufacturers' brand names and model numbers or similar product information).
- b. Note that the UFGS are based on design-bid-build contracting and will require editing to apply to a design-build project. For instance, they assume that the Government will approve most submittals, whereas in design-build, the DOR has that action, unless this solicitation requires Government approval for specific submittals.
- c. Organize project sections not based on UFGS in accordance with CSI MasterFormat and [UFC 1-300-02](#).

2.3.2 Identification of Manufacturer's Product Data Used as Specifications.

Provide complete and legible catalog cut sheets, product data, installation instructions, operation and maintenance instructions, warranty, and certifications for products and equipment for which final material and equipment choices have been made. Indicate, by prominent notation, each product that is being submitted including optional manufacturer's features and indicate where the product data shows compliance with the Contract requirements.

2.3.3 Specifications Packaging

Provide specifications to include the following:

- a. Cover sheet and project table of contents.
- b. Specification sections, each section with a table of contents.
- c. Manufacturer's Product Data. If providing as attachments to the

applicable specification section, incorporate as attachment reference within the section and section table of contents.

2.3.4 Specification Deliverable

Submit a bundled specification package in PDF format for each design package. As a minimum, bookmark each specification section in the bundled package. Also, submit the source files, in the processing system format, used to create the PDF.

2.4 DESIGN ANALYSIS

Prepare, organize, and present a design analysis that will document the general parameters, functional and technical requirements, design objectives, design assumptions, and provides design calculations applicable to a project's design. Organize the design analysis into three parts; Part 1 - General Description; Part 2 - Design Requirements and Provisions; and Part 3 - O&M Provisions.

The design analysis states the purpose, authorization, applicable criteria and the project description for the project, and provides a summary of the factors influencing the choice of the civil, environmental, architectural, structural, mechanical, electrical, communications, fire protection, physical security systems, HTRW, and sustainable design features used in the project along with an indication of how the initial costs and life cycle costs were factored into final selections. In the final design analysis clearly and succinctly include:

- a. An introductory description of the project concepts that addresses the salient points of the design
- b. An orderly and comprehensive documentation of criteria and rationale for system selection, supported by life cycle cost analysis.
- c. The identification of any necessary licenses and permits that are anticipated to be required as a part of the design and/or construction process.
- d. Identify all applicable codes and criteria and highlight specific requirements within these codes and criteria for critical issues in the facility design.
- e. Required calculations as specified and as needed to support the design.
- f. Clearly identify "Sustainable Design" features that address high performance and sustainable building (HPSB) concepts as required by [UFC 1-200-02](#). Sustainable design documentation must support Guiding Principles Validation and Third Party Certification (TPC) requirements in Section [01 33 29 SUSTAINABILITY REQUIREMENTS AND REPORTING](#) to include HPSB and TPC checklists.
- g. Clearly identify "Antiterrorism" requirement and document the antiterrorism and force protection features as required by [UFC 4-010-01](#).

2.4.1 Design Requirements and Provisions

Include subparts for each major design discipline and basic project design requirements for each discipline that justify and validate design decisions to include, but not limited to: life cycle cost effectiveness.

2.4.1.1 Civil

Include soil analysis and survey data, site design, site improvements, planting and landscaping, paving, grading and drainage, water, waste-water and soil treatment, contaminant containment, utilities systems analysis and design, and provisions for airfields, ports and railroads, if required.

2.4.1.2 Environmental

Include an impact assessment checklist covering air, water and noise effects from the project and construction; worker health and safety; HTRW remediation cleanup and action levels; transportation and disposal regulation requirements; quality control for chemical sampling/analysis; wetlands determination (tidal and nontidal); special wildlife, plant, and endangered species considerations; ground water, waterway and floodplain protection assessment; pollution prevention control requirements; and design measures to be implemented (i.e., construction site sediment and erosion control requirements by Federal, state and local governments); and hazardous material management, natural and cultural resources, and environmental permits.

2.4.1.3 Architectural

Include space allowance, functional layout, unique features, interior design, furniture planning, signage, accessibility, security, air barriers, energy conservation and sustainable design to include site analysis focusing on orientation, space-mass composition, materials used and details with respect to image, safety, maintenance and cost effectiveness and historical context.

2.4.1.4 Structural

Include foundation, structural, seismic, hardened structure, nuclear radiation and blast protection systems analysis and design.

2.4.1.5 Mechanical

Include heating, ventilation and air conditioning systems, refrigeration, plumbing, elevators and cranes, energy conservation, pollution control, noise and vibration control, heating and chilled water distribution, gas distribution, fuel storage and dispensing, and process systems design.

2.4.1.6 Electrical

Include power generation, transmission and distribution systems, lighting (interior and exterior), voice and video communications, intrusion detection, utilities monitoring control systems (UMCS), cathodic protection, lightning and static electricity protection systems analysis and design, aviation lighting, and electromagnetic protection

2.4.1.7 Fire Protection and Life Safety

Include building construction, exit requirements, fire extinguishing systems, fire protection water supplies, surge analysis, and alarm and detection systems analysis and design.

2.4.1.8 Physical Security

Include fencing, vaults, protective lighting, security systems, locks, arms rooms, controlled substances, entrances, guard facilities, classified material, patrol roads, clear zones, restricted areas, surveillance and penetration resistance.

2.4.1.9 Cybersecurity

Cybersecurity shall be integrated into the design for any facility control systems per UFC 4-010-06, which include but are not limited to, the interfaces with the Energy Management Control System, building access control system, and fire alarm system.

2.4.2 Operations and Maintenance (O&M) Provisions

Identify design provisions made to enhance and to reduce the cost of operating and maintaining the facility when completed. Identify any special safety considerations or occupational health related considerations that may affect operation and maintenance activities as a result of the final design.

2.4.3 Design Analysis Packaging

2.4.3.1 Assembly and Identification

Assemble design analysis in a single volume with a table of contents if possible. Include a cover page in the basis of design for each discipline indicating the project title and locations, contract number, table of contents, and tabbed separations or bookmarks for quick reference. At a minimum tab or bookmark for each discipline.

2.4.4 Calculations

Place the signature and seal of the designer of record responsible for the work on the cover page of the calculations for the respective design discipline.

PART 3 EXECUTION

3.1 DESIGN SUBMITTALS

Include all deliverable products and associated support documents described in Part 2 of this specification with each design submittal.

3.2 DESIGN SUBMITTALS PHASES

The stages of design submittals described below define requirements with respect to process and content. Determine how to best plan and execute the design and review process for the project, within the parameters listed below. As a minimum, provide at least one interim design submittal, at least one final design submittal before construction of a design package may proceed, and at least one Design Complete submittal that documents the accepted design.

3.2.1 Interim Design Submittals

Submit either a single interim design for review, representing a complete package with all design disciplines, or split the interim design into

smaller, individual design packages as deemed necessary for fast-track construction purposes. This is not necessarily a hold point for the design process; the Contractor may designate the interim design submittal(s) as a snapshot and proceed with design development at its own risk.

3.2.1.1 Interim Design Development Management

Maintain a fully functional configuration management system as described herein to track design revisions, regardless of whether or not there is a need for a formal interim design development review.

3.2.1.2 Fast-Tracking

The Contractor may be allowed to fast-track certain portions of the design and construction prior to completion of the overall design provided that it does not place additional burden on government resources. The site work, utility, and foundation designs may be fast-tracked at the contractor's discretion. To facilitate fast-tracking, the Contractor may elect to divide the design into no more than three (3) design packages for the structure and associated interior work and no more than one (1) design package for site and associated civil work. The government will evaluate whether an early design package will burden the Project Team.

Clearly define how the Contractor will package the design, consistent with its overall schedule for approval and construction of the project. See Sections 01 33 00 SUBMITTAL PROCEDURES and 01 32 01.00 10 PROJECT SCHEDULE for requirements for identifying and scheduling the design packaging plan in the submittal register and project schedule. See also Sections 01 10 00 STATEMENT OF WORK, and 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS for any specified permit requirements.

If early procurement of long-lead items (construction materials or installed equipment) is necessary in order to facilitate the project schedule, identify those long-lead items. Additionally, explain how the early procurement will assure design integrity of the associated design package in meeting the contract requirements. Once the Government has reviewed the information provided, the Contracting Officer may allow the Contractor to procure the items at its own risk.

For any early completion of work required by the SOW, the contractor shall submit all disciplines at the same time for any phase that requires a stand-alone design package. All Design and Preconstruction Submittals shall be approved prior to the start of any phase of construction.

Identify the project elements that will be fast-tracked in the Design Quality Control Plan.

3.2.1.3 Over-the-Shoulder Progress Review

To facilitate a streamlined design-build process, the Government and the Contractor may agree to one-on-one review or small group reviews, on-line, or at the Contractor's design offices or other agreed location, when practicable to the parties. Coordinate such reviews to minimize or eliminate disruptions to the design process. Due to limits on project funding, utilize the maximum virtual teaming methods. Facilitate these reviews with electronic format data transfer and collaboration. Through the partnering process, find ways to facilitate the quality assurance process and to facilitate meeting or bettering the design-build schedule.

3.2.1.4 Interim Design Development Review Waiver

The Government may agree to shorten or waive the formal interim design development review period for design package(s) if an effective, mutually agreeable partnering procedure is established and implemented for regular (e.g., weekly) over-the-shoulder review. During the course of the procedure, keep the Government reviewers fully informed of the progress, contents, design intent, design documentation, and other pertinent factors of the design package.

3.2.2 Final Design Submissions

After acceptance of the interim design package, revise the design package to incorporate the comments generated and resolved, perform and document a back-check review and submit the final design package.

3.2.3 Design Complete Submittals

After the final design submission and review conference for a design package, revise the design package to incorporate the comments generated and resolved in the final review conferences, perform and document a back-check review and submit the final, design complete documents, which represents released for construction documents.

3.2.3.1 Rectified Design Documents

Once all design submissions are complete (fast track, interim, etc), a complete set of design documents shall be provided that combines all of the individual design submissions into a single set of design documents.

3.3 DESIGN PLATFORM AND FILE FORMATS

Design the project using the systems and platforms defined below:

3.3.1 BIM

The BIM submittal format is Autodesk Revit Version 16. Provide the BIM submittals as fully operable, compatible, and editable within the native BIM/CIM tools.

3.3.2 CAD

3.3.2.1 Native CAD Authoring Content

All content produced through CAD authoring software outside of any object/element based BIM platform must be compliant with [ERDC/ITL TR-19-6](#) and [ERDC/ITL TR-19-7](#). Autodesk AutoCAD Template Files. Download from the CAD/BIM Technology Center website as part of the A/E/C Work Structure.

3.3.2.2 CAD Extracted From BIM/CIM Authoring Platforms

Provide editable CAD sheet files extracted from the BIM or CIM files. CAD content exported from a BIM or CIM modeling platform must comply with [ERDC/ITL TR-19-6](#) and [NCS BIM Implementation section, part "2.0 Clarifications."](#)

3.4 ADVANCED MODELING REQUIREMENTS

3.4.1 BIM Modeling Requirements

3.4.1.1 Minimum Modeling Requirements

Model to the requirements of the USACE M3 as identified in the approved Advanced Modeling PxP.

3.4.1.2 Graphics and Layer Standards

- a. All content produced with object/element based BIM authoring software platforms must be compliant with [ERDC/ITL TR-19-6](#).
- b. All content produced with layer-centric BIM authoring software must be compliant with [ERDC/ITL TR-19-7](#) and [ERDC/ITL TR-19-6](#).

3.4.1.3 USACE Platform Configuration Standards

USACE Revit Templates, most recent version at the time of Contract award. Download from the USACE CAD/BIM Technology Center website and, if required, upgrade to the Contract approved software version.

3.4.1.4 Classification

Include Facility Data referencing one or more classification system(s) identified in the M3 for all modeled elements.

3.4.1.5 Space/Room Data

In the model, include spatial data defining actual net square footage and data to develop the room finish schedule, including room names and numbers. Include program information to verify design space against programmed space, using this information to validate area quantities.

3.4.1.6 BIM Coordinate System

- a. Coordinate System: State Plane
- c. Horizontal Units of Measure: [US Survey Feet](#)
- d. Vertical Units of Measure: [Feet](#)
- e. Horizontal Datum: NAD 83/2011
- f. Vertical Datum: NAVD 88

3.4.1.7 Modeling Schedules

Comply with the [NCS](#) BIM Implementation section, part "2.4 Schedules." Produce schedules from, and link to, the Facility/Site Data within the Model. Document any exceptions in the PxP and submit for review.

3.4.1.8 Details and Enlarged Sections

Comply with the [NCS](#) BIM Implementation section, part "3.2 Model Coordination and Delivery." Derive all details and enlarged sections necessary for construction from the Model when possible. For those

details and enlarged sections not derived directly from the Model, verify that geometry and data depicting the details and enlarged sections are consistent with Model elements. Details with significant drafted content such as 'standard' and 'typical' details cannot contradict the model and must utilize the model as an underlay when possible for the purposes of verification and coordination. Three dimensional, isometric, and section isometric details derived from the model are preferred. Create details and enlarged sections that are not derived from the Model using native authoring tools within the Model or be embedded within the Model.

3.4.1.9 Drawing Indices

Comply with the [NCS](#) BIM Implementation section, part "2.3 Sheet Organization." Where BIM authoring platform supports it, derive drawing indices from a model-driven schedule.

3.4.2 CAD

All content produced through layer-centric CAD authoring software outside of any object/element based BIM or CIM platform must be compliant with [ERDC/ITL TR-19-7](#) and [ERDC/ITL TR-19-6](#).

Autodesk AutoCAD Template Files Most recent version at the time of Contract award. Download from the CAD/BIM Technology Center website as part of the A/E/C Work Structure.

3.5 DESIGN CONFIGURATION MANAGEMENT (DCM)

3.5.1 Procedures

Develop and maintain effective, DCM procedures to control and track all revisions to the design documents subsequent to the Interim Design Submission and continuing through submission of the As-Built documents. After the final design is accepted, this process provides control of and documents revisions to the accepted design (See Special Contract Requirement: Deviating From the Accepted Design). Submit the [DCM procedures](#) within the Design Quality Control Plan.

- a. Include authorities and concurrences in the DCM system to authorize revisions, including documentation as to why the revision is required.
- b. The Government's "Dr Checks Design Review and Checking System" shall be used.
- c. Make the DCM data available to the Government reviewers at all times.

3.5.2 Tracking Design Review Comments

The DrChecks Design Review and Checking System to initiate, respond to, resolve and track Government design review comments shall be used.

The Government will set up the project in DrChecks. Throughout the design process parties enter, track, and back-check comments using the DrChecks system. Designers of Record annotate comments timely and specifically to indicate exactly the action to be taken or why the action is not required. After the design review conference and prior to the next design submittal for the package, the DORs annotate those comments that require DOR action or design revision to show how and where it has been addressed in the design documents. These procedures are part of the required design

configuration management plan. Flag comments considered critical by the conference participants.

3.5.2.1 DrChecks Initial Account Set-Up

Identify a contact person within the office to act as the administrator for all Contractor personnel, including subcontractors, that will be accessing the PROJNET Dr Checks system. Through the Contracting Officer, coordinate with the Project Manager and the District PROJNET administrator for system access, system instruction and comment process instructions.

PROJNET contains an introductory file and other tutorial material that can be accessed once user accounts have been established. Upon log in, select Portals/User Documentation.

3.5.2.2 DrChecks Review Comments

Annotate and resolve all comments prior to the next submittal. Include the DrChecks comments and responses in the design analysis for record in the next design submittal for the package.

- a. Upon review of comments prior to the design review conference, the DOR(s) evaluate the comments. Include exactly what action will be taken or why action is not required.
- b. After the review conference, the DOR(s) formally respond to each applicable comment in DrChecks a second time, prior to the next submittal, clearly indicating what action was taken and what drawing/spec/analysis changed. Designers of Record are encouraged to directly contact reviewers to discuss and agree to the formal comment responses rather than relying only on DrChecks and review meetings to discuss comments. With the next design submittal, reviewers will back-check answers to the comments against the new submittal, in addition to reviewing additional design work.
- c. Clearly annotate in DrChecks those comments that require effort outside the requirements of the contract. Do not proceed with work outside the contract until a modification to the contract is properly executed.

3.6 DISCIPLINE DESIGN REQUIREMENTS

Provide interim design deliverables that include drawings, specifications, and design analysis for the part of design that the Contractor considers ready for review.

- a. Drawings: Include comments from any previous design conferences incorporated into the documents to provide an interim design for the feature of work submitted.
- b. Specifications: Provide specifications to ensure that all project design features are addressed, meeting current code requirements, and regulatory requirements. Use the track changes feature (redlines) to facilitate review of additions and deletions.
- c. Design Analysis: Prepare and present design analysis under the authority of the DOR, with calculations necessary to substantiate and support all design documents submitted. Address design substantiation required by the applicable codes and references.

- d. **Building Rendering:** Provide a draft color computer, artist, or hand drawn rendering with the conceptual design submittal of the building exterior. Include a slightly overhead view of the entire building in perspective renderings, to encompass elevations and the roof configuration of the building. After Government review and acceptance, provide a final rendering, including the following:
- (1) Two C size (17 x 22) color prints, framed and matted behind glass with project title underneath the print.
 - (2) One image file in JPG format on optical disk for those in the submittal distribution list.

3.6.1 Geotechnical Investigations and Reports

Submit a final geotechnical evaluation report, prepared by the licensed geotechnical engineer, along with the first foundation design submittal. Make this information available as early as possible during the over-the-shoulder progress review process.

- a. Summarize the subsurface conditions and provide recommendations for the design of appropriate utilities, foundations, floor slabs, retaining walls, embankments, and pavements.
- b. Include compaction requirements for fill and backfill under buildings, sidewalks, other structures and open areas.
- c. Recommend foundation systems to be used, allowable bearing pressures for footings, lateral load resistance capacities for foundation systems, elevations for footings, grade beams, slabs, etc.
- d. Provide an assessment of post-construction settlement potential including total and differential.
- e. Provide recommendations regarding lateral earth pressures (active, at-rest, passive) to be used in the design of retaining walls. Include the recommended spectral accelerations and Site Class for seismic design along with an evaluation of any seismic hazards and recommendations for mitigation, if required.
- f. Include calculations to support the recommendations for bearing capacity, settlement, and pavement sections.
- g. Include supporting documentation for all recommended design parameters such as Site Class, shear strength, earth pressure coefficients, friction factors, subgrade modulus, California Bearing Ratio (CBR).
- h. Provide earthwork recommendations, expected frost penetration, expected groundwater levels, recommendations for dewatering and groundwater control and the possible presence of any surface or subsurface features that may affect the construction of the project such as sinkholes, boulders, shallow rock, old fill, old structures, soft areas, or unusual soil conditions.
- i. Include pH tests, salinity tests, resistivity measurements, etc., required to design corrosion control and grounding systems.
- j. Include the raw field data.

3.6.1.1 Vehicle Pavements

Provide flexible and rigid pavement designs, as applicable for the project, including design CBR and modulus of subgrade reaction and the required compaction effort for subgrades and pavement layers. Also, provide information on the types of base course materials available in the area and design strengths.

3.6.1.2 Certification

With the professional geotechnical engineer consultant, certify in writing that the design of the project has been developed consistent with the Contractor's final geotechnical report. Submit the certification, stamped by the consulting professional geotechnical engineer, with the first design submission. If revisions are made to the initial design submission, provide a new certification with the final design submission.

3.6.2 Civil Site and Utilities Design Contents

Include the following in the interim design for the site and utilities. This list is not intended to limit the contractor from providing different or additional information as needed to support the design presented.

- a. Storm drainage design
- b. Pavement design in coordination with the geotechnical investigation report.
- c. Location and vicinity maps
- d. Removal and/or relocation plan
- e. Layout plan
- f. Grading and drainage plan
- g. Utility Plan: Identify and locate water lines, sanitary sewer lines, force mains, industrial waste lines, and other subsurface utility features
- h. Road and parking area profiles
- i. Utility Profiles: Indicate invert elevations of all drainage structures, manholes, storm drainpipe with size and invert elevations, ground profile, and new or existing structures or utilities crossing the new utilities.
- j. Civil details sheet
- k. Concrete Joint Plan: Provide a joint layout plan for each concrete apron, hardstands, road, pavement, etc
- l. Erosion and Sediment Control Plan
- m. Lawn and landscaping irrigation system
- n. Landscape, planting and turfing

- o. Site specific civil calculations

3.6.3 Structural Systems

3.6.3.1 General

- a. Identify all loads to be used for design.
- b. Describe the method of providing lateral stability for the structural system to meet seismic and wind load requirements. Include sufficient calculations to verify the adequacy of the method.
- c. Calculations for all principal roof, floor, and foundation members and bracing and secondary members.
- d. Drawings showing principal members for roof and floor framing plans as applicable.
- e. Foundation plan showing main foundation elements where applicable.
- f. Typical sections for roof, floor, and foundation conditions.
- g. Complete seismic analyses for all structural, mechanical, electrical, architectural, and building features as dictated by the seismic zone in which the facility is being constructed.
- h. Identify the program name, source, and version used for computer generated calculations. Provide input data, including loads, loading diagrams, node diagrams, and documentation to illustrate the design. On the schematic models used for input, show, as a minimum, nodes/joints, element/members, materials/properties, and all loadings; induced settlements/deflections; and a list of load combinations. Include an output listing for maximum and minimum stresses, forces, and deflections for each element, and the reactions for each loading case and combination.
- i. Fully coordinate and integrate the overall structural design between two different or interfacing construction types, such as modular and stick-built or multistory, stacked modular construction. Provide substantiation of structural, consolidation/settlement analysis, etc., as applicable, through the interfaces.

3.6.3.2 Anti-Terrorism/Force Protection (ATFP)

Provide a design narrative and calculations where applicable, demonstrating compliance with each of the 22 standards in [UFC 4-010-01](#), which includes Design of Buildings to Resist Progressive Collapse (use the most recent version of [UFC 4-023-03](#), regardless of references to any specific version in [UFC 4-010-01](#)).

- a. Where sufficient standoff distance is not being provided, show calculations for blast resistance of the structural system and building envelope. Show complete calculations for members subjected to ATFP loads, e.g., support members of glazed items (jambes, headers, sills) connections of windows to support members and connections of support members to the rest of the structure.
- b. For three story and higher buildings, provide calculations to demonstrate compliance with progressive collapse requirements.

3.6.4 Architectural

Provide a project design that meets the criteria and requirements identified in [UFC 3-101-01](#). Consider architectural compatibility with the local environment, functional requirements, economy of construction, energy conservation, interior and exterior details, and life cycle costs. Optimize special functionality, aesthetics, material quality, and maintainability of operations to meet intended functional requirements in the final design.

Include the following in the basis of design as needed to sufficiently describe the project design

- a. Composite Floor Plans, floor plans, roof plans showing slope, exterior elevations, reflected ceiling plans, building sections and cross sections indicating floor to floor heights and wall sections which clearly delineate materials systems.
- b. Interior building elevations, enlarged details, door details, window details, enlarged toilet plans and details, enlarged stairway plans and details.
- c. Door and window schedules, finish schedules, hardware schedules, special signage and graphic requirements and all required built-in casework and equipment.
- d. Life safety analysis and life safety plans showing the location of all fire rated partitions, fire rated doors, egress pathways and exits.
- e. Air Barrier System: air barrier system plans and details (i.e. window flashing details, penetration in air barrier details, door flashing details, roofing /ceiling barrier interface details).
- f. Composite floor plan showing all pre-wired workstations
- g. Comprehensive Interior Design Package, which includes Structural Interior Design (SID) and Furniture, Fixtures, and Equipment (FF&E) Design packages.

3.6.5 Interior Design

3.6.5.1 Structural Interior Design (SID) Requirements

Structural Interior Design includes all interior and exterior building related elements and components generally part of the building itself, such as wall finishes, ceilings finishes, floor coverings, marker/bulletin boards, blinds, signage, built in casework and all exterior building finishes. Develop the SID in conjunction with the furniture footprint.

3.6.5.1.1 Format and Schedule

- a. Prepare and submit for approval an [interior and exterior building finishes scheme](#) for an interim design submittal. Conduct a meeting between the DOR and the appropriate Government officials to discuss the finish schemes prior to preparation of the schemes to be presented. Present original sets of the schemes to reviewers at an interim design conference.

- b. At the conclusion of the interim phase, after resolutions to the comments have been agreed upon between DOR and Government reviewers, the Contractor may proceed to final design with the interior finishes scheme presented.
- c. Submit the SID information and samples in letter size format using three ring binders with pockets on the inside of the cover. When there are numerous pages with thick samples, use more than one binder. Large D ring binders are preferred to O-ring binders. Use page protectors that are strong enough to keep pages from tearing out. Anchor large or heavy samples with mechanical fasteners, Velcro, or double-faced foam tape rather than rubber cement or glue. Maximum spread for fold out items is 25-1/2 inches. Provide cover and spine inserts sheets identifying the document as "Structural Interior Design" package. Include the project title and location, project number, Contractor/A/E name and phone number(s), submittal stage and date. Provide copies of each design submittal as outlined in the DISTRIBUTION LIST, except, only provide one (1) copy to each of the recipients listed.
- d. Design submittal requirements include, but are not limited to:
- (1) Narrative of the Structural Interior Design Objectives: Include a narrative in the SID that discusses the building related finishes. Include topics that relate to base standards, life safety, sustainable design issues, aesthetics, durability and maintainability, discuss the development and features as they relate to the occupants requirements and the building design.
 - (2) Interior Color Boards
 - (a) Identify and key each item on the color boards to the contract documents to provide a clear indication of how and where each item will be used. Arrange finish samples to the maximum extent possible by room type in order to illustrate room color coordination. Label all samples on the color boards with the manufacturer's name, patterns and colors name and number. Key or code samples to match key code system used on contract drawings.
 - (b) Material and finish samples indicating true pattern, color and texture. Provide photographs or colored photocopies of materials or fabrics to show large overall patterns in conjunction with actual samples to show the actual colors. Provide finish samples large enough to show a complete pattern or design where practical.
 - (c) Color boards include, but are not limited to, original color samples of
 1. All walls finishes and ceiling finishes, including corner guards, acrylic wainscoting and wall guards/chair rail finishes.
 2. All tile information, including tile grout color and tile patterns.
 3. All flooring finishes, including patterns.
 4. All door, door frame finishes and door hardware.
 5. All signage, wall base, toilet partitions, locker finishes and operable/folding partitions and trim.
 6. All millwork materials and finishes (cabinets, counter tops)
 7. All window frame finishes and window treatments (sills,

blinds)

(d) Color board samples reflect all actual finish textures, patterns and colors required as specified. Patterned samples sized to adequately show pattern and its repeat if a repeat occurs.

(3) Exterior Color Boards

(a) Prepare exterior finishes color boards in similar format as the interior finishes color boards, for presentation to the reviewers during an interim design conference. Provide original color samples of all exterior finishes including but not limited to the following:

All Roof Finishes
All Brick and Cast Stone Samples
All Exterior Insulation and Finish Samples
All Glass Color Samples
All Exterior Metals Finishes
All Window & Door Frame Finishes
All Specialty Item Finishes, including trim

(b) Identify each item on the exterior finishes color boards and key to the building elevations to provide a clear indication of how and where each item will be used.

3.6.5.1.2 Structural Interior Design Documents

Indicate the placement of extents of SID material, finishes and colors on related drawings and detail to define all interior work. The following is a list of minimum requirements:

3.6.5.1.2.1 Finish Color Schedule

Provide finish color schedule(s) in the contract documents. Provide a finish code, material type, manufacturer, series, and color designations. Key the finish code to the color board samples and drawings.

3.6.5.1.2.2 Interior Finish Plans

Indicate wall and floor patterns and color placement, material transitions and extents of interior finishes. Include a finish material/color board, presenting a physical representation of material selections

3.6.5.1.2.3 Furniture Footprint Plans

Provide furniture footprint plans showing the outline of all freestanding and systems furniture for coordination of all other disciplines.

3.6.5.1.2.4 Interior Signage

Include interior signage plans or schedules showing location and quantities of all interior signage. Key each interior sign to a quantitative list indicating size, quantity of each type and signage text.

3.6.5.1.2.5 Interior Elevations, Sections and Details

Indicate material, color and finish placement.

3.6.5.2 Furniture, Fixtures and Equipment (FF&E) Requirements

This paragraph provides instructions, requirements, and responsibilities for the design of the Furniture, Fixtures, and Equipment (FF&E) package.

3.6.5.2.1 Scope and Design Requirements

FF&E design is the selection, layout, specification and documentation of furniture. This furniture includes but is not limited to:

Freestanding	seating, tables, file cabinets, desks and workstations, wood casegoods, storage cabinets, bookcases
Furniture Systems	
Non-Mission Unique Equipment	residential refrigerators, industrial shelving, workbenches
Accessories	lamps, artificial plants, trash receptacles, re-cycle containers, artwork

3.6.5.2.1.1 Project Requirements

Interview appropriate Government personnel to discuss and coordinate furniture and equipment requirements prior to development of the FF&E. This information includes the number of personnel to occupy the building, job functions and related furniture/office equipment to support the job function, room functions, rank and grade, and any applicable Army facility standards.

3.6.5.2.1.2 Design Direction

Design the FF&E package concurrently with the facility design. Limit the use of manufacturer representatives or dealers to providing specification and cost information only. Coordinate the FF&E package with the following:

- a. Interior finish selections and generic furniture footprint plans developed as part of the Structural Interior Design (SID).
- b. Building electrical outlets, switches, J-boxes, communication outlets and connections, and lighting as appropriate.
- c. Other building features such as architectural elements, thermostats,

location of TV's, and mission unique equipment (MUE)

- d. Locate furniture in front of windows only if the top of the item falls below the window and unless otherwise noted, do not attach furniture including furniture systems to the building.
- e. If a project has SIPRNET and/or NIPRNET, coordinate furniture layout with SIPRNET and NIPRNET separation requirements. Take special note of any Network Enterprise Center (NEC) requirements regarding the location of secure (SIPRNET) surface mounted conduit or raceways with associated clearances, wall drops, and wall lock boxes in order to coordinate with the location of desks and workstations that are to have SIPRNET accessibility. Verify that access required by NEC for SIPRNET box and conduit is provided. Coordinate with the User if there are any other types of secure cabling (classified networks) requirements for the project such as J-WIC's, and coordinate furniture and building location, separation and accessibility requirements with NEC.
- f. Base executive wood casegoods on the facility type and rank of end user. Typically this is limited to command suites or to those areas specified by the Installation POC and, when applicable, Installation Design Guide for FF&E's.

3.6.5.2.2 Acquisition and Procurement

3.6.5.2.2.1 Mission Unique Equipment

Identify locations on the FF&E drawings of known MUE items for space planning purposes. Clearly identify any FF&E items required by the User that are MUE, on FF&E drawings as Not in Contract (NIC), unless otherwise directed. MUE includes, but is not limited to, items such as:

Most commercial appliances
Fitness equipment
IT equipment (photocopiers, printers, etc.)
AV equipment (projectors, smart boards, flat screen display monitors, AV racks, AV carts)
Floor safes
Shredders
Clocks

3.6.5.2.2.2 Sources

- a. Utilize GSA Schedule manufacturers and products in selection of FF&E for this project. Open market sources can be specified when an item is not available on GSA Schedule, minimize use (\$3,000 per line item/\$25,000 per contract) and do not specify without written justification. Make a concerted effort to exclude items with proprietary features which would prevent competition.

- b. Specify furnishings from within a manufacturer's family wherever possible while ensuring aesthetic, quality and functionality are not compromised. For example: Steelcase, Turnstone, Brayton International, Metro, and Vecta are all Steelcase companies. Each alternate should also be specified from a manufacturer's family of furniture, example: first set of alternates would be specified from Knoll's family of furniture and the second from Herman Miller family of furniture. Select office furniture, including case goods, tables, storage, and seating, that is compatible in style, finish and color.
- c. It is acceptable to make selections from other than a manufacturer's family of furniture where costs are not reasonable for particular items, some items are not available or appropriate for the facility, or the items are not on GSA Schedule. If this occurs, specify product from an open line that is accessible by numerous dealerships.
- d. See paragraph SUBMITTAL COMPONENTS for Product Data Sheet alternate manufacturer requirements.

3.6.5.2.3 Format and Submittal Requirements

Provide the design package in letter size format using three-ring binders with pockets on the inside of the cover. Provide project binder cover and spine inserts sheets identifying the document as "[Furniture, Fixtures & Equipment](#)" package and include the project name and location, Contractor/AE name and phone number(s), submittal phase and date. Include a footer on all text documents that lists the project name, location, date and submittal phase. See paragraph SUBMITTAL COMPONENTS on Color Boards for additional requirements. Use more than one binder when there are numerous pages with thick samples. Large D-ring binders are preferred to O-ring binders. Use color board material that is strong enough to keep pages from tearing out. Anchor large or heavy samples with mechanical fasteners, Velcro, or double-faced foam tape rather than rubber cement or glue. Fold out items may have a maximum spread of [25-1/2 inches](#). Produce drawings in an [11 x 17 inch](#) format size. Provide copies of each design submittal as outlined in the DISTRIBUTION LIST, except, only provide one (1) copy to each of the recipients listed.

3.6.5.2.3.1 Interim Submittal

Include the following:

- a. Design Narrative
- b. Product Data Sheet
- c. Drawings - Composite Furniture, Area Plans and Workstation Typical
- d. Color Boards
- e. Cost Estimate

3.6.5.2.3.2 Final Submittal

Provide a final FF&E that includes any changes made as a result of interim review comments. Include the following:

- a. Design Narrative

- b. Product Data Sheet
- c. Drawings - Composite Furniture, Area Plans and Workstation Typical and Electrical and Communication Plans
- d. Color Boards
- e. Cost Estimate

3.6.5.2.3.3 Design Complete Submittal

Provide a design complete submittal that includes any changes made as a result of final review comments. Provide documents upon completion of the final architectural submittal or ten months prior to the contract completion date (whichever comes first), to ensure adequate time for furniture acquisition.

- a. Design Narrative
- b. Product Data Sheet
- c. Drawings - Composite Furniture, Area Plans and Workstation Typical and Electrical and Communication Plans
- d. Color Boards
- e. Cost Estimate
- f. Include the following for furniture purchase in one of the Installation's copies:
 - (1) Disc 1: CAD drawings in the same format as the facility design. Provide all files, including any reference files, needed to view complete drawings.
 - (2) Disc 2
 - (a) All documents in PDF format including 11 x 17 inch drawings. Color boards are not required.
 - (b) Excel file of the cost estimate.
 - (3) Binder with paper copies of all FF&E components. Include binder cover and spine inserts with project information. Color boards are not required.

3.6.5.2.4 Submittal Components

Individually code all FF&E items. Use this code and cross-reference to all components of the FF&E.

3.6.5.2.4.1 Narrative of Interior Design Objectives

Provide a narrative description of the furniture, to include functional, safety and ergonomic considerations, durability, sustainability, aesthetics, and compatibility with the building design. Include the name and contact information for the DOR.

3.6.5.2.4.2 Product Data Sheet

Prepare one Product Data Sheet for each item specified in the design including typical workstations. This form identifies all information required to order each individual item. Include the following on the order form:

- a. Item Code (example: C1, T1)
- b. Item Name (example: Desk Chair, Training Table)
- c. Manufacturer
- d. Design Series
- e. Model Number
- f. GSA Information (FSC Group, contract number, expiration date)
- g. Overall Dimensions
- h. Finishes:
 - (1) Paint color, wood species and finish, and plastic laminate. In addition to the manufacturer's furniture wood finish information that is provided, provide the manufacturer name, pattern name and manufacturer's identification number of a wood-patterned plastic laminate which can be used as a reference control sample for bidding purposes on all items that require wood components or veneer.
 - (2) Fabric name and number, minimum Wyzenbeek Abrasion Test double rubs. Code to fabric samples on color boards. Use upholstery that is not proprietary to one furniture manufacturer, but accessible by multiple furniture manufacturers. Non-proprietary fabric includes, but is not limited to, textile manufacturer's fabrics that have been graded into furniture manufacturers fabric grades and are available through a manufacturer's GSA Schedule.
- i. Quantity:
 - (1) Item location by room number and room name
 - (2) Quantity per room
 - (3) Total Quantity
- j. Alternate Manufacturers: Provide 2 alternates for the major items that include, but are not limited to, desks and workstations, wood casegoods, furniture systems, seating, and tables. Supply alternates that are available on GSA Schedule and meet the requirements of the product data sheet. Provide manufacturer name, product series and model number for each alternate manufacturer.
- k. Furniture Item Illustration: Provide a high quality illustration for each furnishing item specified in the package. The illustration can be a photograph or a line drawing.
- l. Product Description: Provide non-proprietary, project specific

salient characteristics for the item specified. In general this includes, but is not limited to:

- (1) Functional features
 - (2) Style (aesthetics): narrative description of the item's appearance
 - (3) Sustainable design attributes
 - (4) Construction: construction materials and methods that relate to minimum quality standards required
 - (5) Testing requirements: BIFMA, etc.
 - (6) Ergonomic features and ranges
 - (7) Minimum warranty
 - (8) List any critical dimensions to include any maximum/minimum dimensions
- m. For projects with furniture systems also provide the following minimum requirements information in the Product Description:
- (1) Type of furniture systems (panel, stacking panels, spine wall, desk based system, or a combination)
 - (2) Minimum panel noise reduction coefficient (NRC)
 - (3) Minimum panel sound transfer coefficient (STC)
 - (4) Minimum flame spread and smoke development
 - (5) UL testing for task lighting and electrical system
 - (6) Panel widths and heights and their locations (this may be done on the drawings)
 - (7) Worksurface types and sizes (this may be done on the drawings)
 - (8) Type of storage components (lateral files, pedestals, overhead storage, shelving, tower storage)
 - (9) Worksurface edge type
 - (10) Varying panel/cover finish materials and locations (locations may be shown on the drawings)
 - (11) Keyboard requirements
 - (12) Lock and keying requirements
 - (13) Accessory components (examples: tack boards, marker boards, monitor arms, paper management, task lighting)
 - (14) Electrical and communication raceway requirement; type, capacity and location (base, beltline, below and/or above beltline)
 - (15) Locations of communication cables (base, beltline, below and/or

above beltline, top channel)

(16) Types of electrical outlets required; including dedicated circuits

(17) Types of communication jacks (provided and installed by others)

(18) Locations of electrical outlets and communication jacks (this may be done on the drawings)

(19) Type of cable (examples: Cat. 6 (UTP and STP), fiber optic) system needs to support (provided and installed by others)

n. Special instructions for procurement ordering and/or installation (if applicable)

3.6.5.2.4.3 Drawings

- a. Coordinate all drawings developed as part of the FF&E interior design with the generic furniture floor plans provided and approved as part of the project construction drawings. Reflect any changes in size, quantity, or location of FF&E items during the FF&E design, from that shown on the construction drawing generic furniture plans, in the construction drawings.
- b. Do not provide manufacturer specific information such as product names and numbers on drawings. Provide non-proprietary drawings.
- c. Accurately reflect the proposed space planning and location of all FF&E items. Incorporate all applicable life safety codes and ABA/ADA requirements in space planning based on building type and utilization.
- d. Although not included or specified as part of the FF&E design package, show and identify the location and approximate sizes for all Mission Unique (MUE) furnished equipment that will occupy floor space. This includes but is not limited to such items as photocopiers, printers, vending machines, kitchen equipment, etc. Clearly label MUE on the drawings.
- e. Include, the following as a minimum:
 - (1) Composite Furniture Plans: Scaled drawings indicating location of all furniture and equipment to clearly illustrate overall space planning concept and intent.
 - (2) Area Furniture Plans: Scaled drawings showing detailed placement for each furniture, equipment, or accessory item. Provide a key plan identifying location in the building the area is located.
 - (a) Identify all FF&E items by code on the area plan. Include a legend on each sheet listing all item codes and names.
 - (b) Provide critical dimensions to include open office area aisle widths, and workstation spline wall centerline dimension to building walls.
 - (c) Identify all mission unique equipment by item code and/or name and as not in contract (NIC). In addition, identify construction contractor provided equipment that has a significant footprint that will influence the location and arrangement of the FF&E

furnishings items specified for this project.

- (3) Workstation Typical Plans: Large scaled plans and elevations/isometrics showing workstation typical configurations which clearly identify major workstation components to include but not be limited to panels, storage, worksurfaces, accessories (monitor arms, keyboard trays, etc), and task lighting. Include location of all electrical and communication outlets, indicate height on panel by note or symbol.
- (4) Electrical and Communication Plans: In order to facilitate and coordinate connectivity to the FF&E, also include copies of the building electrical and communications plans from the construction drawing set.

3.6.5.2.4.4 Color Boards

Accurately reflect the furniture fabric and finish patterns, textures and colors selected for the project. Provide samples of all finishes and fabrics indicated on the Product Data Sheet for each FF&E item.

Provide samples of sufficient size to adequately portray the pattern, color, and texture of the material. Photographic reproductions are prohibited. Label and cross-reference all samples to the furniture plans and Product Data Sheet. Arrange and group furniture finishes on the color boards corresponding to rooms or areas. Color boards include, but are not limited to, paint, plastic laminate, fabric, and wood finish (include plastic laminate reference control sample).

3.6.5.2.4.5 Cost Estimate

Base the cost estimate on GSA Schedules and organize by item code and name. Include separate line items for general contingency, installation, freight charges and any other related costs. Use installation and freight quotes from vendors in lieu of a percentage allowance when available. An estimate developed by a furniture dealership may be provided as support information for the estimate, but has to be separate from the DOR developed spreadsheet estimate.

- a. Verification of Quantity: Ensure that quantity counts for each item matches between the product data sheet, plans and cost estimate.
- b. Signature Block: Include a written statement at the bottom of the cost estimate that states all pricing is based on GSA Schedules. Provide a line for a government POC signature.

3.6.5.2.5 Furniture Specifications

Individually code all FF&E items. Use and cross-reference this code to all components of the FF&E.

3.6.5.2.5.1 Construction

- a. Specify modesty or back panels on freestanding desks and workstations located against walls as a fixed 1/2 or 1/3 partial height panel, or a hinged panel. Coordinate fixed panel heights with the electrical and data outlet mounting heights shown on the construction drawings to provide direct access to these outlets.

- b. Unless otherwise noted, provide lockable desks and workstations, filing cabinets and storage. Key all locks within a one person office the same; key all one person offices within a building differently. If an office or open office area has more than one workstation, key all the workstations differently, but key all locks within an individual workstation the same.
- c. Use light-emitting diode (LED)/solid state lighting where task lighting is required in furniture.

3.6.5.2.5.2 Finishes and Upholstery

Keep placement of furniture systems panel fabric accent colors to a minimum.

Specify seating upholstery that meets Wyzenbeek Abrasion Test, 55,000 minimum rubs. Specify upholstery and finish colors and patterns that help hide soiling.

3.6.5.2.5.3 Sustainability

For all designs provided regardless of facility type, make every effort to implement all aspects of sustainability, including sustainable materials and products acquisition, to the greatest extent possible, where life cycle cost effective, for all the selections made in the FF&E package in accordance with [UFC 1-200-02](#) requirements.

3.6.5.2.5.4 Furniture Systems

Minimize the number of workstation typicals including parts and pieces required to assist in future reconfiguration and inventorying.

3.6.5.2.5.5 Seating

- a. Specify appropriate chair casters and glides for the floor finish where the seating is located.
- b. Provide task seating that supports a minimum of **300 pounds**.
- c. Select ergonomic desk chairs with casters, waterfall front, swivel, tilt, variable back lock, adjustable back height or adjustable lumbar support, pneumatic seat height adjustment, seat depth adjustment, **7-11 inch** arm height adjustment above the seat, and padded, contoured upholstered seat and back. Provide desk chairs with an adjustable seat height range of **4 1/2 inches**, range to include **16-1/2 - 20 inches**.
- d. In heavy use lounge, waiting and reception areas provide seating with arms that are non-upholstered or upholstered with wood arm caps.

3.6.5.2.5.6 Training Tables

Provide reconfigurable, moveable and storable training tables. Specify power and data requirements, dollies, flip-top and modesty panels as required.

3.6.5.2.6 Warranties

Specify manufacturer's performance guarantees or warranties that include parts, labor and transportation as follows:

Furniture System, unless otherwise noted	10 year minimum
Furniture System Task Lights	2 year minimum, excluding bulbs
Furniture System Fabric	3 year minimum
Metal Desks and Workstations	12 year minimum
Seating, unless otherwise noted	10 year minimum
Ergonomic Task Seating 24/7	10 year minimum
Seating Mechanisms and Pneumatic Cylinders	10 years
Ergonomic Task Seating Fabric (includes 24/7 seating)	5 years minimum
Tables, unless otherwise noted	10 year minimum
Table Mechanisms	5 year minimum
Table Ganging Device	1 year minimum
Wood Caseworks, Files and Storage	10 year minimum
Wood Framed Seating	10 year minimum
Wood Seating Fabric	3 years minimum
Items not listed above	1 year minimum

3.6.6 Plumbing Systems

- a. List all references used in the design including Government design documents and industry standards.
- b. Provide justification and brief description of the types of plumbing fixtures, piping materials and equipment proposed for use.
- c. Detail calculations for systems such as sizing of domestic hot water heater and piping; natural gas piping; LP gas piping and tanks; fuel oil piping and tanks.
- d. Show locations and general arrangement of plumbing fixtures and major equipment.
- e. Plan and isometric riser diagrams of all areas including hot water, cold water, waste and vent piping. Include natural gas (and meter as required), LP gas, fuel oil and other specialty systems as applicable.
- f. Include equipment and fixture connection schedules with descriptions, capacities, locations, connection sizes and other information as required.
- g. When the geotechnical report indicates expansive soils are present,

indicate in the first piping design submittal how piping systems will be protected against damage or backfall/backflow due to soil heave (from penetration of slab to the 5 foot building line).

3.6.7 HVAC Systems

3.6.7.1 Design Analysis

Provide complete design calculations for mechanical systems. Include computations for sizing equipment, air duct design, and U-factors for ceilings, roofs and exterior walls and floors.

Employ commercially available energy analysis techniques to determine the energy performance of all passive systems and features. Use of hourly energy load computer simulation is required. Based on the results of calculations, provide a complete list of the materials and equipment proposed with the manufacturer's published cataloged product installation specifications and roughing-in data.

3.6.7.2 Mechanical Floor Plans

On the floor plans, show all principle architectural features of the building which affect the mechanical design. Also show the following:

Room designations
Mechanical legend and applicable notes
Location and size of all ductwork and piping
Location and capacity of all terminal units (i.e., registers, diffusers, grilles, hydronic baseboards)
Pre-Fabricated Paint Spray Booth
Paint Preparation Area
Exhaust fans and specialized exhaust systems
Thermostat location
Location of all air handling equipment
Air balancing information
Flue size and location
Piping diagram for forced hot water system (if used)

3.6.7.3 Equipment Schedule

Provide complete equipment schedules. Include the following in the Schedule:

Capacity
Electrical characteristics
Efficiency (if applicable)
Manufacturer's name
Optional features to be provided
Physical sizes
Minimum maintenance clearances

3.6.7.4 Details

Provide construction details, sections, elevations, etc., only where required for clarification of methods and materials of design.

3.6.7.5 Controls

Submit complete HVAC controls equipment schedules, sequences of operation, wiring and logic diagrams, Input/Output Tables, equipment schedules, and all associated information. See the Statement of Work for additional specific requirements.

3.6.8 Fire Protection and Life Safety

Provide plan for each floor of each building that presents a compendium of the total fire protection features being incorporated into the design. Working plans and all other materials submittal must meet [NFPA 13](#) requirements, with respect to required minimum level of detail. Include the following types of information:

- a. The location and rating of any fire-resistive construction such as occupancy separations, area separations, exterior walls, shaft enclosures, corridors, stair enclosures, exit passageways.
- b. The location and coverage of any fire detection systems.
- c. The location and coverage of any fire suppression systems (sprinkler risers, standpipes, etc.).
- d. The location of any other major fire protection equipment.
- e. Indicate any hazardous areas and their classification.
- f. Schedule describing the internal systems with the following information:
 - (1) Fire hazard and occupancy classifications
 - (2) Building construction type
 - (3) [GPM/square foot](#) sprinkler density
 - (4) Area of operation

3.6.8.1 Fire Protection/Suppression Analysis

- a. Include building code analysis and basis of design for sprinkler and other suppression systems.
- b. An FPE must perform all fire protection analyses. Provide the fire protection engineer's qualifications.
- c. List all references used in the design including Government design documents and industry standards used to generate the fire protection analysis
- d. Classification of each building in accordance with fire zone, building floor areas and height and number of stories
- e. Discussion and description of required fire protection requirements including extinguishing equipment, detection equipment, alarm equipment and water supply. Interface alarm and detection equipment to requirements of Electronic Systems.
- f. Plan for each floor of each building that presents a compendium of the total fire protection features being incorporated into the design. Include the following types of information:
 - (1) The location and rating of any fire-resistive construction such as occupancy separations, area separations, exterior walls, shaft enclosures, corridors, stair enclosures, and exit passageways.
 - (2) The location and coverage of any fire detection systems
 - (3) The location and coverage of any fire suppression systems (e.g. sprinkler risers, standpipes)
 - (4) The location of any other major fire protection equipment
 - (5) Indicate any hazardous areas and their classification
- g. Schedule describing the internal systems with the following information: fire hazard and occupancy classifications; building construction type; GPM/square foot sprinkler density; area of operation and other as required.
- h. Provide hydraulic calculations based on water flow test for each sprinkler system to insure that flow and pressure requirements can be met with current water supply. Include copies of water flow testing done to certify the available water source.
- i. Meet **NFPA 13** requirements with respect to required minimum level of detail on working plans and all other submitted materials.

3.6.8.2 Fire Protection and Life Safety Code Review

Use the information outlined in the document associated with this section at

<http://www.wbdg.org/ffc/dod/unified-facilities-guide-specifications-ufgs/forms-graphic> to provide the minimum requirement for development of Fire Protection and Life Safety Code submittals for all building projects. Additional and supplemental information may be used to further develop the code review. Insert N/A after criteria, which may be "not applicable".

3.6.9 Electrical Systems

3.6.9.1 Design Analysis

Include lighting calculations to determine maintained foot-candle levels, electrical load analysis and calculations, electrical short circuit and protective device coordination analysis and calculations and arc fault calculations.

3.6.9.2 Floor Plan

On the floor plans show all principle architectural features of the building which will affect the electrical design. Also show the following on the floor plan:

- (1) Room designations
- (2) Electrical legend and applicable notes
- (3) Lighting fixtures, properly identified
- (4) Switches for control of lighting
- (5) Receptacles
- (6) Location and designation of panelboards. Plans should clearly indicate type of mounting required (flush or surface) and be reflected accordingly in specifications.
- (7) Service entrance (conduit and main disconnect)
- (8) Location, designation and rating of motors and/or equipment which requires electrical service. Show method of termination and/or connection to motors and/or equipment. Show necessary junction boxes, disconnects, controllers (approximate only), conduit stubs, and receptacles required to serve the motor and/or equipment.

3.6.9.3 Building Riser Diagram

From pad-mounted transformer to unit load center panelboard indicate the types and sizes of electrical equipment and wiring. Include grounding and metering requirements.

3.6.9.4 Load Center Panelboard Schedule(s)

Indicate the following information in the schedule(s):

- (1) Panelboard Characteristics (Panel Designation, Voltage, Phase, Wires, Main Breaker Rating and Mounting)
- (2) Branch Circuit Designations
- (3) Load Designations
- (4) Circuit Breaker Characteristics (Number of Poles, Trip Rating, AIC Rating)
- (5) Branch Circuit Connected Loads (AMPS)
- (6) Special Features

3.6.9.5 Lighting Fixture Schedule

Indicate the following information in the schedule:

- (1) Fixture Designation
- (2) General Fixture Description
- (3) Number and Type of Lamp(s)
- (4) Type of Mounting
- (5) Special Features

3.6.9.6 Details

Provide construction details, sections, elevations only where required for clarification of methods and materials of design.

3.6.10 Specialty Equipment

3.6.10.1 Corrosion Control and Prevention Systems

Provide a report clearly describing structures, systems or components in soil or water to be protected. Describe methods proposed for protection of each. The report must be stamped by the licensed corrosion engineer or NACE specialist with the first design submission.

The designer must be qualified to engage in the practice of corrosion control of buried or submerged metallic surfaces. Either accreditation or certification by the National Association of Corrosion Engineers (NACE) as a NACE Accredited Corrosion Specialist or a NACE certified Cathodic Protection Specialist, or a registered professional engineer with a minimum of five years experience in corrosion control and cathodic protection is required.

3.7 INTERIM DESIGN REQUIREMENTS

At least one interim design submittal, review and review conference is required for each design package (except that the Contractor may, upon Government approval, skip the interim design submission and proceed directly to final design of the sitework and utilities package). Additional interim design conferences or over-the-shoulder reviews may be scheduled, as needed, to assure continued Government concurrence with the design work. Include the interim submittal review periods and conferences in the Section 01 32 01.00 10 PROJECT SCHEDULE and indicate in periodic schedule updates what part of the design work is at what percentage of completion. Do not schedule meetings, Government reviews or responses during the last two weeks of December or other designated Government Holidays (including Friday after Thanksgiving). See also paragraph INTERIM DESIGN DEVELOPMENT REVIEW WAIVER for a waiver to the formal interim design review.

If the DB Contractor cannot meet its scheduled submittal date for a design package, it must revise the proposed submittal date and notify the government in writing, at least one (1) week prior to the submittal, in order to accommodate the Government reviewers' other scheduled activities. If a design submittal is over one (1) day late in accordance with the latest revised design schedule, or if notification of a proposed design schedule change is less than (7) days from the anticipated design submission receipt date, the Government review period may be extended up to seven (7) days due to reviewers' schedule conflicts. If the Government is late in meeting its review commitment and the delay purportedly increases the DB Contractor's cost or delays completion of the project, the DB Contractor shall follow the provisions as set forth in the appropriate Contract Clauses.

3.7.1 Submission Review

After receipt of an Interim Design submission, the Government requires 14 calendar days after receipt of the submission to review and comment on the interim design submittal. For smaller design packages, especially those

that involve only one or a few separate design disciplines, the parties may agree on a shorter review period or alternative review methods (e.g., over-the-shoulder or electronic file sharing), through the partnering process.

- a. For each interim design review submittal, the Contracting Officer will furnish a single consolidated, validated set of comments from the various design sections and from other concerned agencies involved in the review process using the DrChecks Design Review and Checking System. The review will be for conformance with the technical requirements of the Contract.
- b. The Government reserves the right to reject design document submittals if comments are deemed significant.
- c. Furnish disposition of all comments, in writing, through DrChecks. If there are technical disagreements with any comments, clearly outline, with justification, the reasons for disagreement and noncompliance within five calendar days after receipt of these comments.
- d. The Contractor is cautioned that if it believes the action required by any comment exceeds the requirements of this contract, that it should take no action and notify the Contracting Officer in writing immediately.

3.7.2 Interim Review Conference

Hold an Interim Review conference for each design submittal at either the installation or as agreed upon as part of the partnering process. Attendees include, at a minimum, the DOR(s) involved in development of the design submittal. Schedule the conference to take place the week after the receipt of the comments. Notify the Contracting Officer of any comments that with concurrence would require further design development.

In order to facilitate and accelerate the Government code and contract conformance reviews, the contractor shall identify, track, and maintain all comments and action items generated during the design process. Provide this information to the designers and reviewers prior to the Interim and subsequent design reviews.

For smaller fast-track packages that involve only a few reviewers, the parties may agree to alternative conferencing methods, such as teleconferencing, or televideo, where available, as determined through Partnering.

3.7.3 Conference Documentation

3.7.3.1 Minutes and Comment Process

Provide meeting minutes within two work days after the conference adjourns, and enter final resolution of all comments into DrChecks. Include copies of comments, annotated with comment action agreed on, with the minutes.

- a. Resolve issues remaining open after the conference adjourns by immediate follow-on action to close the issue within 30 calendar days.
- b. Participants shall determine if any comments are critical enough to require further design development prior to government concurrence.

- b. Incorporate comments as agreed upon during the conference.

3.7.3.2 Availability

In order to facilitate the Government code and contract conformance reviews, identify, track resolution of, and maintain all comments and action items generated during the design review process. Make this available to the designers and reviewers prior to the subsequent design reviews.

3.8 FINAL DESIGN REQUIREMENTS

Provide **final design submittals** that consist of 100 percent complete drawings, specifications, submittal register, design analyses for Government review and acceptance.

- a. Include any permits required by the contract for each package submitted.
- b. In order to expedite the final design review, prior to the conference, ensure that the design configuration management data and all review comment resolutions are up-to-date.
- c. Perform independent technical reviews and back-checks of previous comment resolutions, as required by Section 01 45 00 QUALITY CONTROL.

3.8.1 Design Drawings

Submit drawings complete with all contract requirements incorporated into the documents to provide a 100 percent design for each package submitted. In addition to all native Advanced Modeling files, provide separate electronic files in a PDF format.

3.8.1.1 Geo-Referenced Data

Capture geo-referenced coordinates of all changes that will be made to the existing site (facility footprint, utility line installations and alterations, roads, parking areas, etc) as a result of this contract.

Close-out requirements at the as-built stage, require final geo-referenced GIS Database of the new facility along with all exterior modifications. The Government will incorporate this data set into the Installation's GIS Masterplan or Enterprise GIS System. See also, Section 01 78 00 CLOSEOUT SUBMITTALS.

3.8.2 Design Analysis

Provide a design analysis with calculations necessary to validate and support all design work submitted. Expand and advance calculations and information presented in the interim design stage to the current level of design. The responsible DOR(s) stamp, sign and date the design analysis.

3.8.3 Specifications

Provide specifications 100 percent complete and in final form.

3.8.4 Submittal Register

Provide an updated, cumulative [submittal register](#) with each design package that identifies the design and construction submittals required by that design package.

3.8.5 Final Framed Rendering and Copies

Provide the final original color rendering, one full size photographic reproduction(s) of the original rendering, and the photographic negative. Mount original and reproductions on acid free board, matted with metal frames, and utilizing non-glare glass. Print the project name, location, and Architect/Engineer/Contractor firm's name on the matting.

Ship the rendering, the photographic copies, and the negative in resilient packaging to ensure damage-free delivery. Deliver to the party identified by the Contracting Officer.

3.8.6 Preparation of [DD Form 1354](#) (Transfer of Real Property)

This form itemizes the types, quantities and costs of various equipment and systems that comprise the project, for the purpose of transferring the new construction project from the Corps Construction Division to the Installation's inventory of real property. The Government will furnish the Contractor's design manager a DD Form 1354 checklist to use to produce a draft Form 1354. Submit the completed checklist and prepared draft Form DD 1354 with the 100 percent design. The Government will use these documents to complete interim and final DD 1354s for turnover of a portion or all of the construction project.

3.9 DESIGN COMPLETE CONSTRUCTION DOCUMENT REQUIREMENTS

A final design review and review conference will be held upon completion of final design at the project installation, by video teleconference, or a combination thereof, for any design package to receive Government acceptance to allow release of the design package for construction. For smaller separate design packages, the parties may agree on alternative reviews and conferences (e.g., conference calls and electronic file sharing, etc.) through the Partnering process. Include the final design conference in the project schedule and indicate what part of the design work is at 100% completion. The final design conference will be held after the Government has had ten (14) calendar days after receipt of the submission to review the final design package and supporting data. For smaller packages, especially those involving only one or a few design disciplines the parties may agree on a shorter period.

After the Final Design Submission and Review Conference, revise the design documents for the design package to incorporate the comments generated and resolved in the final review conference. Perform and document a back-check review and submit the final, [design complete documents](#). The deliverable includes all documentation and supporting design analysis in final form, as well as the final review comments, disposition and the back-check. As part of the quality assurance process, the Government may perform a review of the released for construction documentation. Promptly correct any errors or omissions found during the Government review.

3.10 ACCEPTANCE AND RELEASE FOR CONSTRUCTION

At the conclusion of the Final Design Review (after resolutions to the

comments have been agreed upon between DOR and Government reviewers), the Contracting Officer or the ACO may accept the "Design Complete Construction Documents" in writing and allow construction to start for that design package. The Government may withhold acceptance until all major corrections have been made or if the final design submission requires so many corrections, even though minor, that it isn't considered acceptably complete.

Government review and acceptance of design submittals is for contract conformance only and does not relieve the Contractor from responsibility to fully adhere to the requirements of the contract, including the Contractor's accepted proposal, or limit the Contractor's responsibility of design as prescribed under Special Contract Requirement: "Responsibility of the Contractor for Design" or limit the Government's rights under the terms of the contract. The Government reserves the right to rescind inadvertent acceptance of design submittals containing contract deviations not separately and expressly identified in the submittal for Government consideration and approval.

3.11 AS-BUILT DOCUMENTS

Provide as-built drawings and specifications in accordance with Section 01 78 00, CLOSEOUT SUBMITTALS. Update GBI GP Compliance design phase documentation during construction as needed to reflect construction changes and advancing project completion status (example - Commissioning Plan updates during construction phase) and include updated GBI GP Compliance documentation in construction closeout submittal.

-- End of Section --

SECTION 01 35 29.13

HEALTH, SAFETY, AND EMERGENCY RESPONSE PROCEDURES FOR CONTAMINATED SITES
AMENDMENT 0002

PART 1 GENERAL

1.1 REFERENCES

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

AMERICAN PETROLEUM INSTITUTE (API)

API RP 2219 (2016) Safe Operation of Vacuum Trucks Handling Flammable and Combustible Liquids in Petroleum Service

INTERNATIONAL SAFETY EQUIPMENT ASSOCIATION (ISEA)

ANSI/ISEA Z358.1 (2014; R 2020) American National Standard for Emergency Eyewash and Shower Equipment

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH 85-115 (1985) Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2024) Safety and Health Requirements Manual

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

29 CFR 1904 Recording and Reporting Occupational Injuries and Illnesses

29 CFR 1910 Occupational Safety and Health Standards

29 CFR 1910.120 Hazardous Waste Operations and Emergency Response

29 CFR 1926 Safety and Health Regulations for Construction

29 CFR 1926.65 Hazardous Waste Operations and Emergency Response

49 CFR 171 General Information, Regulations, and Definitions

49 CFR 172 Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response

Information, and Training Requirements

1.2 PRECONSTRUCTION SAFETY CONFERENCE

Conduct a preconstruction safety conference prior to the start of site activities and after submission of the Accident Prevention Plan/Site Safety And Health Plan (APP/SSHP). The objective of the meeting is to discuss health and safety concerns related to the impending work, discuss project health and safety organization and expectations, review and answer comments and concerns regarding the APP/SSHP or other health and safety concerns. Ensure that those individuals responsible for health and safety at the project level are available and attend this meeting.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Work Zones; G

SD-03 Product Data

Amendments to the APP/SSHP; G

Exposure Monitoring/Air Sampling Program

Site Control Log

SSHO's Daily Inspection Logs

SD-07 Certificates

Certificate Of Worker/Visitor Acknowledgement

SD-11 Closeout Submittals

Safety And Health Phase-Out Report; G

1.4 ACCIDENT PREVENTION PLAN/SITE SAFETY AND HEALTH PLAN (APP/SSHP)

Develop and implement a Site Safety and Health Plan in accordance with Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS, and attach to the Accident Prevention Plan (APP) as an appendix (APP/SSHP). Address all occupational safety and health hazards (traditional construction as well as contaminant-related hazards) associated with cleanup operations within the APP/SSHP. Cover each SSHP element in Paragraph 36-7.a of EM 385-1-1 and each APP element in Paragraph 2-7.b of EM 385-1-1. There are overlapping elements in Paragraphs 36-7.a and 2-7.b of EM 385-1-1. SSHP appendix elements that overlap with APP elements need not be duplicated in the APP/SSHP provided each safety and occupational health (SOH) issue receives adequate attention and is documented in the APP/SSHP. The APP/SSHP is a dynamic document, subject to change as project operations/execution change. Modify the APP/SSHP to address

changing and previously unidentified health and safety conditions. Ensure that the APP/SSHP is updated accordingly. Submit [amendments to the APP/SSHP](#) to the Contracting Officer as the APP/SSHP is updated. For long duration projects resubmit the APP/SSHP to the Contracting Officer annually for review. The APP/SSHP must contain all updates.

1.4.1 Acceptance and Modifications

Prior to submittal, the APP/SSHP must be signed and dated by the Safety and Health Manager and the Site Superintendent. Submit for review 30 days prior to the Preconstruction Safety Conference. Deficiencies in the APP/SSHP will be discussed at the preconstruction safety conference, and must be revised to correct the deficiencies and resubmitted for acceptance. Onsite work must not begin until the plan has been accepted. Maintain a copy of the written APP/SSHP onsite. Changes and modifications to the APP/SSHP must be made with the knowledge and concurrence of the Safety and Health Manager, the Site Superintendent, and the Contracting Officer. Bring to the attention of the Safety and Health Manager, the Site Superintendent, and the Contracting Officer any unforeseen hazard that becomes evident during the performance of the work, through the Site Safety and Health Officer (SSHO) for resolution as soon as possible. In the interim, take necessary action to re-establish and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public, and the environment. Disregard for the provisions of this specification or the accepted APP/SSHP is cause for stopping work until the matter has been rectified.

1.4.2 Availability

Make available the APP/SSHP in accordance with [29 CFR 1910.120](#), (b)(1)(v) and [29 CFR 1926.65](#), (b)(1)(v).

1.5 STAFF ORGANIZATION, QUALIFICATION AND RESPONSIBILITIES

Provide hazardous waste operations and emergency response organization in accordance with [EM 385-1-1](#), Chapter 33.

1.5.1 Safety and Health Manager

<AM#0002> Safety and Health Manager must be ~~an Industrial Hygienist certified by the American Board of Industrial Hygiene,~~ a safety professional certified by the Board of Certified Safety Professionals, ~~or a health physicist certified by the American Board of Health Physicists.~~ </AM#0002>

Apply the following in conjunction with the required qualifications and responsibilities stated in [EM 385-1-1](#), Paragraph 36-3.

1.5.1.1 Additional Qualifications

The Safety and Health Manager must have the following qualifications:

- a. A minimum of 5 years experience in developing and implementing similar safety and occupational health programs at HTRW sites.
- b. Documented experience in supervising professional and technician level personnel.

- c. Documented experience in developing worker exposure assessment programs and air monitoring programs and techniques.
- d. Documented experience in managing personal protective equipment (PPE) programs and conducting PPE hazard evaluations for the types of activities and hazards likely to be encountered on the project.
- e. Working knowledge of state and Federal occupational safety and health regulations.

1.5.1.2 Responsibilities and Duties

- a. Development, implementation, oversight, and enforcement of the APP/SSHP.
- b. Provide onsite consultation as needed to ensure the APP/SSHP is fully implemented.
- c. Conduct initial site-specific training.
- d. Be present onsite during the first 3 days of remedial activities and at the startup of each new major phase of work.
- e. Visit the site as needed and at least once per month for the duration of activities, to audit the effectiveness of the APP/SSHP.
- f. Be available for emergencies.
- g. Coordinate any modifications to the APP/SSHP with the Site Superintendent, the SSHO, and the Contracting Officer.
- h. Be responsible for evaluating air monitoring data and recommending changes to engineering controls, work practices, and PPE.
- i. Provide continued support for upgrading/downgrading of the level of personal protection.
- j. Serve as a member of the quality control staff.
- k. Review accident reports and results of daily inspections.
- l. Sign and date the APP/SSHP prior to submittal.

1.5.2 Site Safety and Health Officer

Designate an individual and one alternate as the Site Safety and Health Officer (SSHO). Include the name, qualifications (education and training summary and documentation), and work experience of the Site Safety and Health Officer and alternate in the APP/SSHP.

The Apply the following in conjunction with the required qualifications and responsibilities stated in [EM 385-1-1](#), Paragraph 36-3.

1.5.2.1 Qualifications

The following requirements are in addition to those in Section [01 35 26](#) GOVERNMENTAL SAFETY REQUIREMENTS.

- [<AM#0002>](#) a. A minimum of 1 year experience in implementing SOH programs at

HTRW sites where ~~{Level B}~~{Level C} personal protective equipment was required. </AM#0002

- b. Meet 29 CFR 1910.120/29 CFR 1926.65 requirements for 40-hour initial and 8-hour supervisor training and, maintain 8-hour refresher training requirements.
- c. Specific training in personal and respiratory protective equipment, confined space entry and in the proper use of air monitoring instruments and air sampling methods including monitoring for ionizing radiation.
- d. Documented experience in construction techniques and construction safety procedures.
- e. Working knowledge of Federal and state occupational SOH regulations.

1.5.2.2 Responsibilities and Duties

The following requirements are in addition to those in Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS.

- a. Assist and represent the Safety and Health Manager in onsite training and the day to day onsite implementation and enforcement of the accepted APP/SSHP.
- b. Be assigned to the site on a full time basis for the duration of field activities. The SSHO will have no duties other than SOH related duties. If operations are performed during more than 1 work shift per day, a site Safety and Health Officer must be present for each shift and when applicable, act as the radiation safety officer (RSO) on radioactive waste cleanup projects.
- c. Have authority to stop work if unacceptable health or safety conditions exist, and take necessary action to re-establish and maintain safe working conditions.
- d. Have authority to ensure site compliance with specified SOH requirements, Federal, state and OSHA regulations and all aspects of the APP/SSHP including, but not limited to, activity hazard analyses, air monitoring, monitoring for ionizing radiation, use of PPE, decontamination, site control, standard operating procedures used to minimize hazards, safe use of engineering controls, the emergency response plan, confined space entry procedures, spill containment program, and preparation of records by performing a daily SOH inspection and documenting results on the Daily Safety Inspection Log in accordance with 29 CFR 1904.
- e. In coordination with site management and the Safety and Health Manager, recommend corrective actions for identified deficiencies and oversee the corrective actions.
- f. Consult with and coordinate any modifications to the APP/SSHP with the Safety and Health Manager, the Site Superintendent, and the Contracting Officer.
- g. Conduct daily safety inspection and document SOH findings into the Daily Safety Inspection Log. Track noted SOH deficiencies to ensure that they are corrected.

- h. Conduct accident investigations and prepare accident reports.
- i. Serve as a member of the quality control staff on matters relating to SOH.

~~<AM#0002>1.5.3 Additional Certified Health and Safety Support Personnel~~

~~Retain industrial hygiene support from an industrial hygienist certified by the American Board of Industrial Hygiene to develop occupational health practices for the APP/SSHP and, if necessary, visit the site to help implement APP/SSHP requirements.~~

</AM#0002>1.5.3 Occupational Physician

Utilize the services of a licensed physician, who is certified in occupational medicine by the American Board of Preventative Medicine, or who, by necessary training and experience is Board eligible. The physician must be familiar with the site's hazards and the scope of this project. Include the medical consultant's name, qualifications, and knowledge of the site's conditions and proposed activities in the APP/SSHP. The physician is responsible for the determination of medical surveillance protocols and for review of examination/test results performed in compliance with 29 CFR 1910.120, (f) and 29 CFR 1926.65, (f) and paragraph MEDICAL SURVEILLANCE PROGRAM.

1.5.4 Persons Certified in First Aid and CPR

At least two persons who are currently certified in first aid and CPR by the American Red Cross or other approved agency must be onsite at all times during site operations. They must be trained in universal precautions and the use of PPE as described in the Bloodborne Pathogens Standard of 29 CFR 1910, Section .1030. These persons may perform other duties but must be immediately available to render first aid when needed.

1.5.5 Safety and Health Technicians

For each work crew in the exclusion zone, one person, designated as a Safety and Health technician, must perform activities such as air monitoring, decontamination, and safety oversight on behalf of the SSHO. They must have appropriate training equivalent to the SSHO in each specific area for which they have responsibility and report to and be under the supervision of the SSHO.

1.6 EMERGENCY RESPONSE AND CONTINGENCY PROCEDURES

Develop and implement an Emergency Response Plan, that meets the requirements of EM 385-1-1 paragraph 36-7.a(13), 29 CFR 1910.120 (l) and 29 CFR 1926.65 (l), as a section of the APP/SSHP. In the event of any emergency associated with remedial action, without delay, alert all onsite employees and as necessary offsite emergency responders that there is an emergency situation; take action to remove or otherwise minimize the cause of the emergency; alert the Contracting Officer; and institute measures necessary to prevent repetition of the conditions or actions leading to, or resulting in, the emergency. Train employees that are required to respond to hazardous emergency situations to their level of responsibility according to 29 CFR 1910.120 (q) and 29 CFR 1926.65 (q) requirements. Rehearse the plan regularly as part of the overall training program for site operations. Review the plan periodically and revised as necessary to

reflect new or changing site conditions or information. Provide copies of the Emergency Response Portion of the accepted APP/SSHP to the affected local emergency response agencies. Address, as a minimum, the following elements in the plan:

- a. Pre-emergency planning. Coordinate with local emergency response providers during preparation of the Emergency Response Plan. At a minimum, coordinate with local fire, rescue, hazardous materials response teams, police and emergency medical providers to assure all organizations are capable and willing to respond to and provide services for on-site emergencies. Ensure the Emergency Response Plan for the site is compatible and integrated with the local fire, rescue, medical and police security services available from local emergency response planning agencies.
- b. Personnel roles, lines of authority, communications for emergencies.
- c. Emergency recognition and prevention.
- d. Site topography, layout, and prevailing weather conditions.
- e. Criteria and procedures for site evacuation (emergency alerting procedures, employee alarm system, emergency PPE and equipment, safe distances, places of refuge, evacuation routes, site security and control).
- f. Route maps to nearest prenotified medical facility. Site-support vehicles must be equipped with maps. At the beginning of project operations, drivers of the support vehicles must become familiar with the emergency route and the travel time required.
- g. Specific procedures for decontamination and medical treatment of injured personnel.
- h. Emergency alerting and response procedures including posted instructions and a list of names and telephone numbers of emergency contacts (physician, nearby medical facility, fire and police departments, ambulance service, Federal, state, and local environmental agencies; as well as Safety and Health Manager, the Site Superintendent, the Contracting Officer and their alternates).
- i. Criteria for initiating community alert program, contacts, and responsibilities.
- j. Procedures for reporting incidents to appropriate government agencies. In the event that an incident such as an explosion or fire, or a spill or release of toxic materials occurs during the course of the project, the appropriate government agencies must be immediately notified. In addition, verbally notify the Contracting Officer and the local district safety office immediately and submit a written notification within 24 hours. Include within the report the following items:
 - (1) Name, organization, telephone number, and location of the Contractor.
 - (2) Name and title of the person(s) reporting.
 - (3) Date and time of the incident.

- (4) Location of the incident, i.e., site location, facility name.
- (5) Brief summary of the incident giving pertinent details including type of operation ongoing at the time of the incident.
- (6) Cause of the incident, if known.
- (7) Casualties (fatalities, disabling injuries).
- (8) Details of any existing chemical hazard or contamination.
- (9) Estimated property damage, if applicable.
- (10) Nature of damage, effect on contract schedule.
- (11) Action taken to ensure safety and security.
- (12) Other damage or injuries sustained, public or private.

k. Procedures for critique of emergency responses and follow-up.

1.7 CERTIFICATE OF WORKER/VISITOR ACKNOWLEDGEMENT

A copy of a [certificate of worker/visitor acknowledgement](#) must be completed and submitted for each visitor allowed to enter contamination reduction or exclusion zones, and for each employee, following the Example Certificate Of Worker/Visitor Acknowledgement at the end of this section.

1.8 INSPECTIONS

Attach to and submit with the Daily Quality Control reports the [SSHO's Daily Inspection Logs](#). Include with each entry the following: date, work area checked, employees present in work area, PPE and work equipment being used in each area, special SOH issues and notes, and signature of preparer.

1.9 SAFETY AND HEALTH PHASE-OUT REPORT

Submit a [Safety and Health Phase-Out Report](#) in conjunction with the project close out report, prior to final acceptance of the work. Include the following minimum information :

- a. Summary of the overall performance of SOH (e.g., accidents or incidents including near misses, unusual events, lessons learned).
- b. Final decontamination documentation including procedures and techniques used to decontaminate equipment, vehicles, and on site facilities.
- c. Summary of exposure monitoring and air sampling accomplished during the project.
- d. Signatures of Safety and Health Manager and SSHO.

PART 2 PRODUCTS

2.1 REGULATORY REQUIREMENTS

Comply with [EM 385-1-1](#), [29 CFR 1926.65](#), [29 CFR 1910.120](#), OSHA requirements

in 29 CFR 1910 and 29 CFR 1926 with work performed under this contract, and state specific OSHA requirements where applicable. Submit to the Contracting Officer for resolution matters of interpretation of standards before starting work. The most stringent requirements apply where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary.

2.2 PERSONAL PROTECTIVE EQUIPMENT

2.2.1 Site Specific PPE Program

Provide onsite personnel exposed to contaminants with appropriate personal protective equipment. Components of levels of protection (B, C, D and modifications) must be relevant to site-specific conditions, including heat and cold stress potential and safety hazards. Use only respirators approved by NIOSH.

Keep protective equipment and clothing clean and well maintained. Include site-specific procedures to determine PPE program effectiveness and for onsite fit-testing of respirators, cleaning, maintenance, inspection, cartridge change out, and storage of PPE within the PPE section of the APP/SSHP.

2.2.2 Levels of Protection

The Safety and Health Manager must establish and evaluate as the work progresses the levels of protection for each work activity. Also establish action levels for upgrade or downgrade in levels of PPE. Describe in the SSHP the protocols and the communication network for changing the level of protection. Address air monitoring results, potential for exposure, changes in site conditions, work phases, job tasks, weather, temperature extremes, and individual medical considerations within the PPE evaluation protocol.

2.2.3 PPE for Government Personnel

Two clean sets daily of personal protective equipment and clothing (excluding air-purifying negative-pressure respirators and safety shoes, which will be provided by individual visitors), as required for entry into the Exclusion Zone and Contamination Reduction Zone, must be available for use by the Contracting Officer or official visitors.

2.3 EMERGENCY EQUIPMENT AND FIRST AID REQUIREMENTS

Maintain, as a minimum, the following items onsite and available for immediate use:

- a. First aid equipment and supplies required by EM 385-1-1.
- b. Emergency eyewashes that comply with ANSI/ISEA Z358.1.
- c. Provide fire extinguishers of sufficient size and type at site facilities and in all vehicles and at any other site locations where flammable or combustible materials present a fire risk.

PART 3 EXECUTION

3.1 SITE DESCRIPTION AND CONTAMINATION CHARACTERIZATION

3.2 TASK SPECIFIC HAZARDS, INITIAL PPE, HAZWOPER MEDICAL SURVEILLANCE AND TRAINING APPLICABILITY

Task specific occupational hazards, task specific HAZWOPER medical surveillance and training applicability and task specific initial PPE requirements for the project are listed on the Task Hazard and Control Sheets at the end of this section. Reevaluate occupational safety and health hazards as the work progresses and to adjust the PPE and onsite operations, if necessary, so that the work is performed safely and in compliance with occupational safety and health regulations.

3.3 TRAINING

In conjunction with EM 385-1-1, Paragraph 36-3, meet the training program requirements for workers performing cleanup operations and who will be exposed to contaminants.

3.3.1 [General HTRW Operations Training

All Personnel performing duties with potential for exposure to onsite contaminants must meet and maintain the following 29 CFR 1910.120/29 CFR 1926.65 (e) training requirements:

- a. 40 hours of off site HTRW instruction.
- b. 3 days actual on-the-job field experience under the direct supervision of a trained, experienced supervisor.
- c. 8 hours refresher training annually.

Onsite supervisors must have an additional 8 hours management and supervisor training specified in 29 CFR 1910.120/29 CFR 1926.65 (e) (4).]

3.3.2 Pre-Entry Briefing

Prior to commencement of onsite field activities, all site employees, including those assigned only to the Support Zone, must attend a site-specific SOH training session. This session will be conducted by the Safety and Health Manager and the Site Safety and Health Officer to ensure that all personnel are familiar with requirements and responsibilities for maintaining a safe and healthful work environment. Thoroughly discuss procedures and contents of the accepted APP/SSHP and Paragraph 1-3.a(6) of EM 385-1-1. Each employee must sign a training log to acknowledge attendance and understanding of the training. Notify the Contracting Officer at least 5 days prior to the initial site-specific training session so government personnel involved in the project may attend.

3.3.3 Periodic Sessions

Conduct periodic onsite training by the SSHO at least daily for personnel assigned to work at the site during the following day. Address SOH procedures, work practices, any changes in the APP/SSHP, activity hazard analyses, work tasks, or schedule; results of previous week's air monitoring, review of safety discrepancies and accidents. Convene a meeting prior to implementation of the change should an operational change

affecting onsite field work be made, to explain SOH procedures. Conduct a site-specific training sessions for new personnel, visitors, and suppliers by the SSHO using the training curriculum outlines developed by the Safety and Health Manager. Each employee must sign a training log to acknowledge attendance and understanding of the training.

3.3.4 Other Training

a. other training as outlined in specification [spec section Ebbing 01 35 10.00 46]

3.4 MEDICAL SURVEILLANCE PROGRAM

Meet all requirements of 29 CFR 1910.120/29 CFR 1926.65 medical surveillance program and EM 385-1-1, Paragraph 36-3.b, for workers performing cleanup operations and who will be exposed to contaminants. Ensure the Occupational Physician or the physician's designee performs the physical examinations and reviews examination results. Participation in the medical surveillance program is without cost to the employee, without loss of pay and at a reasonable time and place.

3.5 EXPOSURE MONITORING/AIR SAMPLING PROGRAM

Prepare and implement by the Safety and Health Manager an exposure monitoring/air sampling program to identify and quantify SOH hazards and airborne levels of hazardous substances in order to assure proper selection of engineering controls, work practices and personal protective equipment for affected site personnel. Include action levels for upgrading/downgrading PPE in the program. Submit personnel exposure monitoring/sampling results.

3.6 HEAT STRESS MONITORING AND MANAGEMENT

Document in the APP/SSHP and implement the procedures and practices in section. in EM 385-1-1 to monitor and manage heat stress.

3.7 SPILL AND DISCHARGE CONTROL

Develop and implement written spill and discharge containment/control procedures. Describe prevention measures, such as building berms or dikes; spill control measures and material to be used (e.g. booms, vermiculite); location of the spill control material; personal protective equipment required to cleanup spills; disposal of contaminated material; and who is responsible to report the spill. Storage of contaminated material or hazardous materials must be appropriately bermed, diked and contained to prevent any spillage of material on uncontaminated soil. If the spill or discharge is reportable, or human health or the environment are threatened, notify the National Response Center, the state, and the Contracting Officer as soon as possible. Provide control as required by Section 01 57 19 TEMPORARY ENVIRONMENT CONTROLS.

3.8 MATERIALS TRANSFER SAFETY

Remove liquids and residues from the tanks using explosion-proof or air-driven pumps. In accordance with EM 385-1-1, Chapter 9, electrically bond the tank and ground pump motors and suction hoses to prevent electrostatic ignition hazards. Use of a hand pump will be permitted to remove the last of the liquid from the bottom of the tanks. If a vacuum truck is used for removal of liquids or residues, the area of operation

for the vacuum truck must be vapor free. Locate the truck upwind from the tank and outside the path of probable vapor travel. Discharge the vacuum pump exhaust gases through a hose of adequate size and length downwind of the truck and tank area. Vacuum truck operating and safety practices must conform to [API RP 2219](#). Collect tank residues in drums, tanks, or tank trucks labeled according to [49 CFR 171](#) and [49 CFR 172](#) and disposed of as specified. Disconnect and drain fittings and lines of their contents after the materials have been transferred and the tanks have been exposed. Do not spill contents into the environment during cutting or disconnecting of tank fittings. Transfer materials drained into DOT-approved drums for storage and transportation. Use only non-sparking or non-heat producing tools to disconnect and drain or to cut through tank fittings. Electrical equipment (e.g., pumps, portable hand tools) used for tank preparation must be explosion-proof. Following cutting or disconnecting of the fittings, plug openings leading to the tanks.

3.9 SITE CONTROL MEASURES

Coordinate site control measures with Section [01 57 19](#) TEMPORARY ENVIRONMENT CONTROLS.

3.9.1 Work Zones

Initial anticipated work zone boundaries (exclusion zone, contamination reduction zone, support zone, all access points and decontamination areas) are to be clearly delineated on the site drawings. Base delineation of work zone boundaries on the contamination characterization data and the hazard/risk analysis to be performed as described in [EM 385-1-1](#) Paragraph 6-8. As work progresses and field conditions are monitored, work zone boundaries may be modified (and site drawings modified) with approval of the Contracting Officer. Clearly identify work zones and mark in the field (using fences, tape, or signs). Submit and post a site map, showing work zone boundaries and locations of decontamination facilities in the onsite office. Work zones must consist of the following:

3.9.1.1 Exclusion Zone (EZ)

The exclusion zone is the area where hazardous contamination is either known or expected to occur and the greatest potential for exposure exists. Control entry into this area and exit may only be made through the Contamination Reduction Zone (CRZ).

3.9.1.2 Contamination Reduction Zone (CRZ)

The CRZ is the transition area between the Exclusion Zone and the Support Zone. The personnel and equipment decontamination areas must be separate and unique areas located in the CRZ.

3.9.1.3 Support Zone (SZ)

The Support Zone is defined as areas of the site, other than exclusion zones and contamination reduction zones, where workers do not have the potential to be exposed to hazardous substances or dangerous conditions resulting from HTRW operations. Secure the Support Zone against active or passive contamination. Site offices, parking areas, and other support facilities must be located in the Support Zone.

3.9.2 Site Control Log

A log of personnel visiting, entering, or working on the site must be maintained. Include the following: date, name, agency or company, time entering and exiting site, time entering and exiting the exclusion zone (if applicable). Before visitors are allowed to enter the Contamination Reduction Zone or Exclusion Zone, they must show proof of current training, medical surveillance and respirator fit testing (if respirators are required for the tasks to be performed) and fill out a Certificate of Worker or Visitor Acknowledgment. Record this visitor information, including date, in the log.

3.10 PERSONAL HYGIENE AND DECONTAMINATION

Personnel entering the Exclusion or Contamination Reduction Zones or otherwise exposed to hazardous chemical vapors, gases, liquids, or contaminated solids must decontaminate themselves and their equipment prior to exiting the contamination reduction zone (CRZ) and entering the support zone. Consult Chapter 10.0 of [NIOSH 85-115](#) when preparing decontamination procedures. Submit a detailed discussion of personal hygiene and decontamination facilities and procedures to be followed by site workers as part of the APP/SSHP. Train employees in the procedures and enforce the procedures throughout site operations.

-- End of Section --

SECTION 01 45 00

QUALITY CONTROL
AMENDMENT 0002

PART 1 GENERAL

1.1 REFERENCES

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

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2024) Safety and Health Requirements Manual
ER 1110-3-12	(2021) Military Engineering and Design Quality Management

1.2 PAYMENT

Separate payment will not be made for providing and maintaining an effective Quality Control program. Include all associated costs in the applicable Bid Pricing Schedule item.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are [for Contractor Quality Control approval.][for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government.] Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.

SD-01 Preconstruction Submittals

Contractor Quality Control (CQC) Plan; G

Additional Requirements For Design Quality Control (DQC) Plan; G

SD-05 Design Data

Design Quality Control

Discipline-Specific Checklists

SD-06 Test Reports

Verification Statement

SD-07 Certificates

Certificate Of Readiness; G

1.4 GENERAL REQUIREMENTS

Establish and maintain an effective quality control (QC) system that complies with FAR 52.246-12 Inspection of Construction. QC is comprised of plans, procedures, and organization necessary to produce an end product that complies with the Contract requirements. The QC system covers all [design and construction operations](#), both onsite and offsite, and must be keyed to the proposed [design and construction sequence](#). The Quality Control Manager, Superintendent, Site Safety and Health Officer (SSHO), and all on-site supervisors are responsible for the quality of work and are subject to removal by the Contracting Officer for non-compliance with the quality requirements specified in the Contract. The Quality Control Manager must maintain a physical presence at the work site at all times and is the primary individual responsible for all quality control.

1.5 QUALITY CONTROL (QC) PROGRAM REQUIREMENTS

Establish and maintain a QC program as described in this section. [This QC program is a key element in meeting the objectives of the Commissioning Process \(Cx\)](#). The QC program consists of a QC Organization, QC Plan, QC Plan Meeting(s), a Coordination and Mutual Understanding Meeting, QC meetings, three phases of control, submittal review and approval, testing, completion inspections, QC certifications, [independent Special Inspections in accordance with Section 01 45 35 SPECIAL INSPECTIONS](#), and documentation necessary to provide materials, equipment, workmanship, fabrication, construction and operations that comply with the requirements of this Contract. The QC program must cover on-site and off-site work and be keyed to the work sequence. No construction work or testing may be performed unless the QC Manager is on the work site. The QC Manager must report to an officer of the firm and not be subordinate to the Project Superintendent or the Project Manager. The QC Manager, Project Superintendent and Project Manager must work together effectively. Although the QC Manager is the primary individual responsible for quality control, all individuals will be held responsible for the quality of work on the job.

1.5.1 Meetings

1.5.1.1 Quality Control Plan Meeting

Prior to submission of the QC Plan, the Contractor may request a meeting with the Contracting Officer to discuss the QC Plan requirements of this Contract.

The purpose of this meeting is to develop a mutual understanding of the QC Plan requirements prior to plan development and submission and to agree on the Contractor's list of Definable Feature of Work (DFOW).

1.5.1.2 Coordination and Mutual Understanding Meeting

After the [Preconstruction Conference, Post Award Conference](#), before start of [design or construction](#), and prior to acceptance by the Government of the CQC Plan, meet with the Contracting Officer and discuss the Contractor's quality control system. During the meeting, a mutual understanding of the system details must be developed, including the forms for recording the CQC operations, [design activities](#), control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting will be prepared

by the QC Manager and signed by the Contractor, the Architect/Engineer (A/E), and the Government. Provide a copy of the signed minutes to all attendees and include in the QC Plan. At a minimum the Coordination and Mutual Understanding Meeting must be repeated when a new QC Manager is appointed. There can be other occasions when subsequent conferences will be called by either party to reconfirm mutual understandings or address deficiencies in the CQC system or procedures which can require corrective action by the Contractor.

1.5.1.2.1 Purpose

The purpose of this meeting is to develop a mutual understanding of the QC details, including documentation, administration for on-site and off-site work, design intent, Cx in accordance with Section 01 91 00.15 BUILDING COMMISSIONING, environmental requirements and procedures, coordination of activities to be performed, Special Inspections, and the coordination of the Contractor's management, production, and QC personnel. At the meeting, the Contractor must explain in detail how three phases of control will be implemented for each DFOW, as well as how each DFOW will be affected by each management plan or requirement as listed below:

- a. Waste Management Plan.
- b. Procedures for noise and acoustics management.
- c. Environmental Protection Plan.
- d. Environmental regulatory requirements.
- [e]. Cx Plan requirements in accordance with Section 01 91 00.15 BUILDING COMMISSIONING.
- [e][f]. Special Inspections.
- [e][f][g]. Indoor Air Quality (IAQ) Management Plan.

1.5.1.2.2 Coordination of Activities

Coordinate activities included in various sections to assure efficient and orderly installation of each component. Coordinate operations included under different sections that are dependent on each other for proper installation and operation. Schedule construction operations with consideration for indoor air quality as specified in the IAQ Management Plan. Coordinate Special Inspections.

1.5.1.2.3 Attendees

As a minimum, the Contractor's personnel required to attend include an officer of the firm, the Project Manager, Project Superintendent, QC Manager, Alternate QC Manager, Assistant QC Manager, Commissioning Provider (CxC), Environmental Manager, and subcontractor representatives. Each subcontractor who will be assigned QC responsibilities must have a principal of the firm at the meeting.

1.5.1.3 Quality Control (QC) Meetings

After the start of construction, conduct weekly QC meetings led by the QC Manager at the work site with the Project Superintendent, [the QC Specialists,] the Special Inspector, CxC, and the other personnel as necessary. The QC Manager is to prepare the minutes of the meeting and provide a copy to the Contracting Officer within 2 working days after the meeting. The Contracting Officer may attend these meetings. As a minimum, accomplish the following at each meeting:

- a. Review the minutes of the previous meeting.
- b. Review the schedule and the status of work and deficiencies/rework. Review the most current approved schedule (in accordance with schedule specification) and the status of work and deficiencies/rework.
- c. Review the status of submittals and Request For Information (RFIs).
- d. Review the work to be accomplished in the next 3 weeks as defined by the schedule section paragraph WEEKLY PROGRESS MEETINGS in Section 01 32 01.00 10 PROJECT SCHEDULE and all documentation required for that work.
- e. Review Testing Plan and Log including status of tests performed since last QC Meeting.
- f. Resolve QC and production problems. Discuss status of pending change orders.
- g. Address items that may require revising the QC Plan.
- h. Review Accident Prevention Plan (APP) and effectiveness of the safety program.
- i. Review environmental requirements and procedures.
- j. Review Environmental Management Plan.
- k. Review Waste Management Plan.
- l. Review the status of training completion.
- m. Review Cx Plan and progress. Review Issues Log and resolution.
- [m][n]. Review IAQ Management Plan.

1.5.2 Contractor Quality Control (CQC) Plan

Submit no later than 30 days after receipt of notice to proceed, the CQC Plan proposed to implement the requirements FAR 52.246-12 Inspection of Construction. The Government will consider an interim plan for the first 60 days of operation. Design and Construction will be permitted to begin only after acceptance of the CQC Plan and other Contract requirements or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional work. Design work is not permitted to start

prior to approval of a Design Quality Control Plan.

1.5.2.1 Content of Contractor Quality Control (CQC) Plan

Provide a CQC Plan, prior to start of construction that includes a table of contents, with major sections identified, pages numbered sequentially, and that documents the proposed methods and responsibilities for accomplishing quality control during the construction of the project. The CQC Plan must at a minimum include the following sections:

- a. A description of the quality control organization and acknowledgment that the CQC staff will implement the three phase control system for all aspects of the work specified.
- b. An organizational chart showing the quality control organization with individual names and job titles and lines of authority up to an executive of the company at the home office.
- c. NAMES AND QUALIFICATIONS: Names and qualifications, in resume format, (including position titles and durations for qualifying experiences) for each person in the QC organization. Include the Construction Quality Management (CQM) for Contractors course certifications for the QC personnel as required by the paragraph CONSTRUCTION QUALITY MANAGEMENT TRAINING.
- d. DUTIES, RESPONSIBILITY AND AUTHORITY OF QC PERSONNEL: Duties, responsibilities, and authorities of each person in the QC organization.
- e. OUTSIDE ORGANIZATIONS: A listing of outside organizations, such as architectural and consulting engineering firms, that will be employed by the Contractor and a description of the services these firms will provide.
- f. APPOINTMENT LETTERS: Letters signed by an officer of the firm appointing the QC Manager and Alternate QC Manager, *Design Quality Control Manager, CxC*, and stating that they are responsible for implementing and managing the QC program as described in this Contract. Include in this letter the responsibility of the QC Manager and Alternate QC Manager to implement and manage the three phases of control, and their authority to stop work that is not in compliance with the Contract. Letters of direction are to be issued by the QC Manager to[the Assistant QC Manager and] all other QC Specialists or quality control representatives outlining their duties, authorities, and responsibilities. Include copies of the letters in the QC Plan.
- g. SUBMITTAL PROCEDURES AND INITIAL SUBMITTAL REGISTER: Procedures for reviewing, approving, scheduling, and managing submittals, including those of subcontractors, *designers of record, consultants, architect-engineers (AE)*, offsite fabricators, suppliers, and purchasing agents. Provide the name(s) of the person(s) in the QC organization authorized to review and certify submittals prior to approval. Provide the initial submittal of the Submittal Register as specified in Section 01 33 00 SUBMITTAL PROCEDURES.
- h. TESTING LABORATORY INFORMATION: Testing laboratory information required by the paragraph ACCREDITATION REQUIREMENTS, as applicable.
- i. TESTING PLAN AND LOG: A Testing Plan and Log that includes the tests

required, associated feature of work required, referenced by the specification paragraph number requiring the test, the frequency, and the person responsible for each test.

- j. Procedures to complete [design and](#) construction deficiencies from identification through acceptable corrective action. Establish verification procedures that identified deficiencies have been corrected. This phase is performed prior to beginning work on each definable feature of work, after all required plans, documents, materials are approved, and after copies are at the work site.
- k. Reporting procedures, including proposed reporting formats.
- l. Procedures for submitting and reviewing design changes/variations prior to submission to the Contracting Officer.
- m. LIST OF DEFINABLE FEATURES: A Definable Feature of Work (DFOW) is a task that is separate and distinct from other tasks and has control requirements and work crews unique to that task. A DFOW is identified by different trades or disciplines, or it is work by the same trade in a different environment. A DFOW is by definition any item or activity on the construction schedule, and the schedule specification provides direction regarding how the DFOWs are to be structured. Include in the list of DFOWs for all activities on the Construction Schedule. [Provide separate DFOWs in the Network Analysis Schedule for each design development stage and submittal package.](#) Although each section of the specifications can generally be considered as a definable feature of work, there are frequently more than one definable features under a particular section. Identify the specification section number and schedule activity ID for each DFOW listed. The DFOW list will be reviewed in coordination with the construction schedule and agreed upon during the Coordination of Mutual Understanding Meeting.
- n. PROCEDURES FOR PERFORMING AND TRACKING THE THREE PHASES OF CONTROL: Identify procedures used to ensure the three phases of control to manage the quality on this project. For each Definable Feature of Work (DFOW), a Preparatory and Initial phase checklist will be filled out during the Preparatory and Initial phase meetings. Conduct the Preparatory and Initial Phases and meetings with a view towards obtaining quality construction by planning ahead and identifying potential problems for each DFOW.
- o. [Coordinate scheduled work with Special Inspections required by Section 01 45 35 SPECIAL INSPECTIONS, the Statement of Special Inspections and the Special Inspections Project Manual.](#) Where the applicable code issued by the International Code Council (ICC) calls for inspections by the Building Official, the Contractor must include the inspections in the Quality Control Plan and must perform the inspections required by the applicable ICC. The Contractor must perform these inspections using independent qualified inspectors. Include the [Special Inspections Project Manual requirements in the QC Plan.](#)
- p. PROCEDURES FOR COMPLETION INSPECTION: Procedures for identifying and documenting the completion inspection process. Include in these procedures the responsible party for punch out inspection, pre-final inspection, and final acceptance inspection.
- q. TRAINING PROCEDURES AND TRAINING LOG: Procedures for coordinating and documenting the training of personnel required by the Contract.

- r. ORGANIZATION AND PERSONNEL CERTIFICATIONS LOG: Procedures for coordinating, tracking and documenting all certifications required for entities such as subcontractors, testing laboratories, suppliers, and personnel. The QC Manager will ensure that certifications are current, appropriate for the work being performed, and will not lapse during any period of the Contract that the work is being performed.

1.5.2.2 Additional Requirements for Design Quality Control (DQC) Plan

The following additional requirements apply to the DQC Plan:

- a. Submit and maintain a DQC Plan as an effective quality control program which assures that all services required by this Contract are performed and provided in a manner that meets professional architectural and engineering quality standards. As a minimum, all documents must be technically reviewed by competent, independent reviewers identified in the DQC Plan. The same element that produced the product may not perform the Independent Technical Review. Correct errors and deficiencies in the design documents prior to submitting them to the Government.
- b. Include the design schedule in the master project schedule, showing the sequence of events involved in carrying out the project design tasks within the specific Contract period. Schedule must include sufficient detail to identify all major design tasks, including those that control the flow of work. Include review and correction periods associated with each item. Schedule must be a forward planning as well as a project monitoring tool. The schedule reflects calendar days and not dates for each activity. If the schedule is changed, submit a revised schedule reflecting the change within 7 calendar days.
- c. Include in the DQC Plan the **discipline-specific checklists** to be used during the design and quality control of each submittal. Submit at each design phase as part of the project documentation these completed discipline-specific checklists. ER 1110-3-12 provides some useful information in developing checklists.
- d. Implement the DQC Plan by a Design Quality Control Manager who has the responsibility of being cognizant of and assuring that all documents on the project have been coordinated and who coordinates work with and reports to the Contracting Officer via the QC Manager. Notify the Contracting Officer, in writing, of the name of the individual and the name of an alternate person assigned to the position.
- e. Provide Quality Control Documentation procedures such as QC review sets and QC comments to demonstrate that cross checking of all engineering discipline's design drawings and specifications has taken place. The QC review documentation must exhibit a checking process of the design documents for completeness, accuracy, and constructability.

1.5.3 Acceptance of the Quality Control (QC) and Design Quality Control (DQC) Plan

The Contracting Officer's acceptance of the Contractor QC Plan, or interim plan applicable to the particular feature of work to be started, and Design Quality Control Plan is required prior to the start of design and construction. The Government will consider an interim plan for the first

60 days of operation. Work outside of the accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional work. The Contracting Officer reserves the right to require changes in the QC and DQC Plan and operations as necessary, including removal or addition of personnel, to ensure the specified quality of work. The Contracting Officer reserves the right to interview any member of the QC and DQC organization at any time to verify the submitted qualifications. All QC and DQC organization personnel are subject to acceptance by the Contracting Officer. The Contracting Officer may require the removal of any individual for non-compliance with quality requirements specified in the Contract.

1.5.4 Notification of Changes

Notify the Contracting Officer, in writing, of any proposed changes in the QC Plan or changes to the QC organization personnel. Proposed changes are subject to acceptance by the Contracting Officer.

1.5.5 Special Inspections

Perform all required Special Inspections per Section 01 45 35 SPECIAL INSPECTIONS, the statement of Special Inspections and the Schedule of Special Inspections.

1.6 QUALITY CONTROL (QC) ORGANIZATION

1.6.1 Personnel Requirements

The requirements for the CQC organization are a Site Safety and Health Officer (SSHO), QC Manager, a Design Quality Manager, and enough qualified personnel to ensure safety and Contract compliance. The SSHO reports directly to a senior project (or corporate) official independent from the QC Manager. The SSHO will also serve as a member of the CQC Staff Personnel identified in the technical provisions as requiring specialized skills to assure the required work is being performed properly. The CQC staff always maintains a presence at the site during progress of the work and have complete authority and responsibility to take any action necessary to ensure Contract compliance. The CQC staff will be subject to acceptance by the Contracting Officer. Provide adequate office space, filing systems and other resources as necessary to maintain an effective and fully functional CQC organization. Promptly complete and furnish all letters, material submittals, shop drawing submittals, schedules, and all other project documentation to the CQC organization. The CQC organization is responsible for always maintaining these documents and records at the site, except as otherwise acceptable to the Contracting Officer.

1.6.2 Quality Control (QC) Manager

1.6.2.1 Duties

Provide a QC Manager at the work site to implement and manage the QC program. The QC Manager must be employed by the Prime Contractor. The only duties and responsibilities of the QC Manager are to manage and implement the QC program on this Contract. The QC Manager must attend the Coordination and Mutual Understanding Meeting, perform the three phases of control except for those phases of control designated to be performed by QC Specialists, perform submittal review and approval, ensure testing is performed and provide QC certifications and documentation required in this Contract. The QC Manager is responsible for managing and coordinating the

three phases of control and documentation performed by the QC Specialists, testing laboratory personnel and any other inspection and testing personnel required by this Contract. The QC Manager is the manager of all QC activities. The QC manager is responsible for notifying the Special Inspector and Special Inspector of Record of activities which require their review. The QC manager is responsible for coordinating the Special Inspection activities, see paragraph CONTRACTOR'S QUALITY CONTROL (QC) MANAGER, in Section 01 45 35 SPECIAL INSPECTIONS. The QC manager is responsible for the quality control for Secure Spaces, Controlled Areas, Sound Rated, and perimeter construction.

1.6.2.2 Qualifications

The QC Manager must be an individual with a minimum of 10 years combined experience in the following positions: Project Superintendent, QC Manager, Project Manager, Project Engineer or Construction Manager on similar size and type construction Contracts which included the major trades that are part of this Contract. The individual must have at least 2 years experience as a QC Manager. The individual must be familiar with the requirements of EM 385-1-1 and have experience in the areas of hazard identification, safety compliance, and sustainability.

The QC Manager and all members of the QC organization must be capable of reading, writing, and conversing fluently in the English language.

1.6.2.3 Construction Quality Management Training

In addition to the above experience and education requirements, the QC Manager and all members of the QC team must have completed the CQM for Contractors course. If the QC Manager does not have a current certification, obtain the CQM for Contractors course certification within 90 days of award. This course is periodically offered by the Naval Facilities Engineering Systems Command and the Army Corps of Engineers. Contact the Contracting Officer for information on the next scheduled class.

The Construction Quality Management Training certificate expires after 5 years. If the QC Manager's certificate has expired, retake the course to remain current.

1.6.3 Organizational Changes

Maintain the QC staff with personnel as required by the specification section at all times. When it is necessary to make changes to the QC staff, revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

1.6.4 Design Quality Control (DQC) Manager

The DQC Manager must be a member of the QC organization, must coordinate actions with the QC Manager, and must not be subordinate to the Project Superintendent or the Project Manager. The DQC Manager may also act as the CxC if all CxC qualifications are met.

1.6.4.1 Qualifications

- a. Must be a person who has verifiable engineering or architectural design experience and is a registered professional engineer or

architect.

1.6.4.2 Responsibilities

- a. Be responsible for the design integrity, professional design standards, and all design services required.

1.6.5 Alternate Quality Control (QC) Manager Duties and Qualifications

Designate an alternate for the QC Manager at the work site to serve in the event of the designated QC Manager's absence. The qualification requirements for the Alternate QC Manager must be the same as for the QC Manager.

1.6.6 Assistant Quality Control (QC) Manager Duties and Qualifications

Provide a full-time assistant to the QC Manager at the work site to perform the three phases of control, perform submittal review, ensure testing is performed, and prepare QC certifications and documentation required by this Contract. The Assistant QC Manager must be on the work site during supplemental work shifts[beyond the regular shift] and perform the duties of the QC Manager during such supplemental shift work. The individual must be familiar with the requirements of EM 385-1-1 and have experience in the areas of hazard identification and safety compliance.

The Assistant QC Manager must be capable of reading, writing, and conversing fluently in the English language.

1.6.7 Commissioning

Commissioning (Cx) is a systematic, quality-focused process for delivery of a project focusing on verifying and documenting all commissioned systems and assemblies are installed, tested, and operating as they were planned and designed to meet the project requirements. The Quality Control requirements outlined in this specification section are key in supporting the objectives of the Cx process, specifically coordinating testing, documenting, and verifying proper system operation. Properly executed the Quality Control support of Cx ensures timely execution of necessary tasks to deliver the fully commissioned and operating systems in coordination with the overall construction and project schedule.

Provide Cx in addition to the quality control requirements of this section and not as a substitute for quality control requirements. The QC Manager is responsible for carrying out the three phases of control while ensuring the functional performance and integrated systems tests are coordinated with the Cx provider as required for each system to be commissioned.

1.6.7.1 Certificate of Readiness

The QC Manager must issue a Certificate of Readiness for Government approval for each system to be commissioned. Schedule Functional Performance Tests for each system only after the Certificate of Readiness has been approved by the Government for the system. The Certificate of Readiness certifies that all required inspections have been completed and deficiencies that were identified through any prior review, inspection, or test activity have been corrected before the start of Functional Performance Tests. Refer to Cx requirements in Section 01 91 00.15 BUILDING COMMISSIONING for a list of systems to be commissioned and

detailed requirements for the Cx provider.

1.6.8 [Enter Appropriate Subpart Title Here][Enter Appropriate Subpart Title Here][Enter Appropriate Subpart Title Here]Quality Control (QC) Specialists

Provide a separate QC Specialist at the work site for each of the areas as listed in the Matrix listed below, who must assist and report to the QC Manager and who may perform production related duties but must be allowed sufficient time to perform their assigned quality control duties. These individuals or specialized technical companies are directly employed by the Prime Contractor and cannot be employed by a supplier or subcontractor on this project. A single person can cover more than one area provided that the single person is qualified to perform quality control activities in each designated and that workload allows. QC Specialists must be physically present at the work site with frequency as indicated in the Experience Matrix below, to participate in the QC Meetings, perform the three phases of control, including participation in Preparatory and Initial Phase meetings, and to perform and document Follow-up inspections as an extension of the QC Manager for each definable feature of work in their area of responsibility. QC Specialist must assist and be present for training events, and Critical System Acceptance inspections by the Government. Qualification, experience, Area of Responsibility, and frequency of QC surveillance are provided in Matrix listed herein.

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Experience Matrix		
1. Area	2-1. Qualification 2-2. Experience	3-1. Area of Responsibility 3-2. Frequency
{Civil}	{2-1. Graduate Civil Engineer or Construction Manager with [a professional engineer registration [in the state of [____]], and } 2-2. 2 years experience in the type of work being performed on this project or technician with 5 years related experience}	{3-1. Area of Responsibility: [____] } 3-2. Frequency of QC surveillance and inspection will be [____] during installation and including final inspection.}
{Mechanical}	{2-1. Graduate Mechanical Engineer with [a professional engineer registration [in the state of [____]], and } 2-2. 2 years experience or person with 5 years of experience supervising mechanical features of work in the field with a construction company}	{3-1. Area of Responsibility: [____] } 3-2. Frequency of QC surveillance and inspection will be [____] during installation and including final inspection.}

<p>{Electrical}</p>	<p>{2-1. Graduate Electrical Engineer with {a professional engineer registration {in the state of {_____}}, and } 2-2. 2 years related experience or person 5 years of experience supervising electrical features of work in the field with a construction company}</p>	<p>{3-1. Area of Responsibility: {_____} 3-2. Frequency of QC surveillance and inspection will be {_____} during installation and including final inspection.}</p>
<p>{Structural}</p>	<p>{2-1. Graduate Civil Engineer (with Structural Track or Focus) or Construction Manager with {a professional engineer registration {in the state of {_____}}, and } 2-2. 2 years experience or person 5 years of experience supervising structural features of work in the field with a construction company}</p>	<p>{3-1. Area of Responsibility: {_____} 3-2. Frequency of QC surveillance and inspection will be {_____} during installation and including final inspection.}</p>
<p>{Architectural}</p>	<p>{2-1. Graduate Architect with {a registered architect {in the state of {_____}}, and } 2-2. 2 years experience or person with 5 years related experience}</p>	<p>{3-1. Area of Responsibility: {_____} 3-2. Frequency of QC surveillance and inspection will be {_____} during installation and including final inspection.}</p>
<p>{Environmental}</p>	<p>{2-1. Graduate Environmental Engineer with {a professional engineer registration {in the state of {_____}}, and } 2-2. 3 years experience}</p>	<p>{3-1. Area of Responsibility: {_____} 3-2. Frequency of QC surveillance and inspection will be {_____} during installation and including final inspection.}</p>
<p>{Submittals}</p>	<p>{2-1. Submittal Clerk 2-2. 1 year experience}</p>	<p>{3-1. Area of Responsibility: {_____} 3-2. Frequency of QC surveillance and inspection will be {_____} during installation and including final inspection.}</p>

<p>{Occupied Family Housing}</p>	<p>{2-1. Person, customer relations type, 2-2. Coordinator experience}</p>	<p>{3-1. Area of Responsibility: [____]} 3-2. Frequency of QC surveillance and inspection will be [____] during installation and including final inspection.}</p>
<p>{Concrete, Pavements and Soils}</p>	<p>{2-1. Materials Technician 2-2. 2 years experience for the appropriate area}</p>	<p>{3-1. Area of Responsibility: [____]} 3-2. Frequency of QC surveillance and inspection will be [____] during installation and including final inspection.}</p>
<p>{Testing, Adjusting and Balancing (TAB) Personnel}</p>	<p>{2.1. TAB Team Field Leader must be a member of AABC or an experienced technician of the firm certified by the NEBB 2-2. 3 years experience immediately preceding this Contract}</p>	<p>{3-1. Area of Responsibility: [____]} 3-2. Frequency of QC surveillance and inspection will be [____] during installation and including final inspection.}</p>
<p>{Roofing Manufacturer's Technical Representative}</p>	<p>{2-1. Installation and testing of roofing systems, Section 07-53-23-ETHYLENE PROPYLENE DIENE-MONOMER ROOFING 2-2. 5 years experience minimum}</p>	<p>{3-1. Area of Responsibility: [____]} 3-2. Frequency of QC surveillance and inspection will be [Full time] during installation and including final inspection.}</p>
<p>{Mechanical Inspector, International Code Council (ICC) Certified}</p>	<p>{2-1. Installation and testing of boilers, Section 23-52-49-00-20 STEAM BOILERS AND EQUIPMENT (500,000-18,000,000 BTU/HR) 2-2. 5 years experience minimum}</p>	<p>{3-1. Area of Responsibility: [____]} 3-2. Frequency of QC surveillance and inspection will be [Minimum three times a week during installation and full-time during testing] during installation and including final inspection.}</p>
<p>{Geotechnical}</p>	<p>{2-1. [____] 2-2. [____] years of experience}</p>	<p>{3-1. Area of Responsibility: [____]} 3-2. Frequency of QC surveillance and inspection will be [____] during installation and including final inspection.}</p>

{Telecommunications}	{2-1. [_____] 2-2. [_____] years of experience}	{3-1. Area of Responsibility: [_____] 3-2. Frequency of QC surveillance and inspection will be [_____] during installation and including final inspection.}
{Low Voltage Specialties/ESS}	{2-1. [_____] 2-2. [_____] years of experience}	{3-1. Area of Responsibility: [_____] 3-2. Frequency of QC surveillance and inspection will be [_____] during installation and including final inspection.}
{Fire Protection QC Specialist (FPQC)}	{Note: See paragraph FIRE PROTECTION QC SPECIALIST (FPQC)}	{Note: See paragraph FIRE PROTECTION QC SPECIALIST (FPQC)}
{Building Envelope QC Specialist}	{2-1. Roofing Manufacturer's Technical Representative 2-2. 5 years minimum with roofing system used}	{3-1. Area of Responsibility: Installation and testing of roofing. 3-2. Frequency of QC surveillance and inspection will be once a week during installation, once a week during flashing installation and full time during roof testing.}
<u>Registered Roof Observer or Registered Roof Consultant</u> {_____}	<u>Registered PE or RA that derives their principal income from roofing design. See also UFC 3-110-03.</u> {_____}	{_____}

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1.6.8.1 Fire Protection QC Specialist (FPQC)

Provide a Fire Protection Quality Control Specialist (FPQC) within the QC organization to perform quality control related activities as specified herein on fire protection and life safety systems installed under this Contract.

1.6.8.1.1 Qualifications

The FPQC must have the following qualifications:

- a. Be a registered Professional Engineer (P.E.) licensed by a Licensing Board in the United States, the District of Columbia, Guam or Puerto Rico, having passed the National Council of Examiners for Engineering and Surveying (NCEES) examination specifically in the discipline of Fire Protection Engineering.
- b. Have a minimum of 5 years of Fire Protection Engineering experience on projects of similar relevance and complexity to the fire protection

work specified under this Contract.

- c. Other than the contractual obligations with the Prime Contractor, the FPQC must have no other business relationship (i.e., employee, owner, partner, operating officer, distributor, salesman, technical representative, family relationship, or financial investment) with the Prime Contractor or subcontractors.
- d. Be employed by an independent engineering firm or company **or be the Fire Protection Engineer on the Prime Contractor's Design-Build team.** The firm may identify multiple, to a maximum of five, licensed Fire Protection Engineers for the performance of the duties under this Contract but must submit the names and qualifications for Government approval for all individuals identified prior to them performing any work under this Contract. These individuals may not be substituted without prior approval from the Contracting Officer.

1.6.8.1.2 Responsibilities

FPQC duties and responsibilities:

- a. Assist in the development of the QC Plan including the Testing Plan and Log and executing the three phases of control for work involving the installation and testing of fire protection and life safety systems as an extension of the QC Manager.
- b. Participate in project QC Meetings. Participate in Preparatory and Initial Phase meetings and perform and Follow-up inspections for work involving the installation and testing of fire protection and life safety systems.
- c. Review and certify that all submittals pertaining to fire protection and life safety systems are complete and accurate prior to submission to the Government for **surveillance approval. Forward each submittal reviewed by the FPQC to the Government for surveillance within 10 working days of FPQC certification.** The FPQC Specialist is responsible for ensuring submittals are complete and accurate and all corrections have been made prior to submission to the Government. The Government reserves the right to reject any submittal that has not first been reviewed and certified by the FPQC and so marked, in writing, attesting to such review and completeness of the submittal.
- d. The Government reserves the right to reject any submittal or construction that is not in compliance to Contract. Government reviews do not relieve the Contractor responsibility for providing adequate quality control measures and do not constitute or imply acceptance of Contract variation.
- e. Perform construction surveillance in accordance with the Schedule of Fire Protection System Inspections. Construction surveillance includes but is not limited to performing periodic on-site inspections during construction at specified milestones, performing a pre-final inspection of installed systems and witnessing functional testing; and participating and documenting in an on-site final acceptance inspection of fire protection and life safety systems with the Government FPE.
- f. Document inspection results on a FPQC report prepared each day inspections are performed. The report must include a description of

the visual inspection or observation performed, a written summary of findings, a conclusion on compliance with the Contract documents, and signature of the FPQC Specialist. In person inspection and Remote inspections must be documented via video (.mp4) or photo (.jpeg). Video/photographic documentation must include before and after conditions and physical measurements.] Forward the FPQC daily report to the QC Manager who must include the report with the submission of their daily QC Report to the Government each day. Every site visit by the FPQC must be documented on a FPQC daily report.

1.6.8.1.3 Schedule of Fire Protection System Inspections

A schedule, prepared by the Fire Protection DOR, which lists each of the required visual inspections and observations required by the FPQC. The schedule is included at the end of this UFGS section.

1.6.8.2 Quality Control (QC) for Secure Spaces, Controlled Areas, and Sound Rated Perimeter Construction

1.6.8.2.1 Periodic (Follow-Up Phase) Inspections

Once construction begins, perform periodic inspections of [Secure Space][Controlled Area][Sound Rated Area] identified in the Contract drawings at least once every 2 weeks. Increase frequency to weekly inspections within 30 days of planned acceptance testing. Coordinate periodic inspections with the appointed Government Site Security Manager (SSM) responsible for ensuring the assembly meets the requirements for accreditation. Inspections must verify that construction and materials comply with the Contract documents, the description of the assembly in the ASTM E90 Factory Report for acoustical testing, and the approved submittals. Focus inspections on the construction of the sound rated assemblies, perimeter penetrations, perimeter doors, electronic security system, man-bar installation, inspection ports, and TEMPEST countermeasures]. Document periodic inspections in Daily QC Reports.

1.6.8.2.2 Preliminary Inspection

The Government and QC Manager will perform a joint preliminary inspection of the [Secure Space][Controlled Area][Sound Rated Area] after construction of the assembly is complete to verify compliance with the design requirements and other Contract documents. The Contracting Officer [and the appointed Government SSM] will participate in the preliminary inspection. Provide the Contracting Officer a minimum 14 calendar days notification in advance of the preliminary inspection.

As a result of the preliminary inspection, prepare a [Secure Space][Controlled Area][Sound Rated Area] punch list with deficiencies identified. Include with the punch list the estimated date by which the deficiencies will be corrected. Document the preliminary inspection in the Daily QC Report and attach the punch list. Notify the Contracting Officer when deficiencies are corrected. Deficiencies from the Preliminary Inspection must be corrected prior to scheduling the Final Acceptance Inspection.

1.6.8.2.3 Acceptance Testing for Sound Attenuation

Perform acceptance testing for sound transmission loss of sound rated door assemblies as required in Section 08 34 73 SOUND CONTROL DOOR ASSEMBLIES and Section 09 29 00 GYPSUM BOARD for sound rated assemblies. Acceptance

testing must be performed during the preliminary inspection. The Contracting Officer and the appointed Government SSM must witness acceptance testing. Deficiencies identified during acceptance testing must be included in the[Secure Space][Controlled Area][Sound Rated Area] punch list and corrected prior to the final acceptance inspection.

1.6.8.2.4 Acceptance Testing for Electronic Security Systems

Perform acceptance testing for Electronic Security Systems in accordance with Section 28 08 10 ELECTRONIC SECURITY SYSTEM ACCEPTANCE TESTING. Acceptance testing must be performed during the preliminary inspection. The Contracting Officer[and the appointed Government SSM] must witness acceptance testing. Deficiencies identified during acceptance testing must be included in the[Secure Space][Controlled Area][Sound Rated Area] punch list and corrected prior to the Final Inspection.

1.6.8.2.5 Final Inspection

Perform a final inspection of the[Secure Space][Controlled Area][Sound Rated Area] after required testing has been successfully completed as part of the preliminary inspection and all punch list items corrected. Testing is not permitted during the final inspection. QC Manager and Superintendent must attend the final inspection and Government attendees will include the Contracting Officer[and appointed Government SSM]. Request a final inspection by the Contracting Officer a minimum of 14 calendar days in advance.

1.6.9 Special Inspector [and Special Inspector of Record]

The Special Inspector (SI)[and Special Inspector of Record (SIOR)] must be an independent third party hired directly by the Prime Contractor. The SI[and SIOR] must not be a company employee of the Contractor or any subcontractor performing the work to be inspected. The qualifications of the SI and SIOR are defined in Section 01 45 35 SPECIAL INSPECTION.

1.6.10 Submittal Reviewer[s] Duties and Qualifications

Provide[a] Submittal Reviewer[s], other than the QC Manager or CxC, qualified in the discipline[s] being reviewed, to review and certify that the submittals meet the requirements of this Contract prior to certification or approval by the QC Manager.

Each submittal must be reviewed by an individual with 10 years of construction experience.

Each submittal must be reviewed by a registered architect or professional engineer, as applicable.

1.7 SUBMITTAL AND DELIVERABLES REVIEW AND APPROVAL

Procedures for submission, review and approval of submittals are described in Section 01 33 00 SUBMITTAL PROCEDURES. Procedures must include field verification of relevant dimensions and component characteristics by the QC organization prior to submittal being sent to the Contracting Officer. The CQC organization is responsible for certifying that all submittals and deliverables are in compliance with the Contract. When Section 01 91 00.15 BUILDING COMMISSIONING are included in the Contract, the submittals required by those sections have to be coordinated with Section 01 33 00 SUBMITTAL PROCEDURES to ensure adequate time is allowed for each type of

submittal required.

1.8 THREE PHASES OF CONTROL

CQC enables the Contractor to ensure that the construction, including that of subcontractors and suppliers, complies with the requirements of the Contract. At least three phases of control must be conducted by the QC Manager to adequately cover both on-site and off-site work for each definable feature of the construction work as follows:

1.8.1 Preparatory Phase

Document the results of the preparatory phase actions by separate minutes prepared by the QC Manager and attach to the daily CQC report. Instruct applicable workers as to the acceptable level of workmanship required to meet Contract specifications.

Notify the Contracting Officer at least 2 business days in advance of each preparatory phase meeting. The meeting will be conducted by the QC Manager and attended by the QC Specialists, the Project Superintendent, the CxC, the Special Inspector, the Special Inspector of Record, and the foreman responsible for the DFOW. When the DFOW will be accomplished by a subcontractor, that subcontractor's foreman must attend the preparatory phase meeting. This phase is performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. Perform the following prior to beginning work on each DFOW:

- a. Review each paragraph of the applicable specification sections, reference codes, and standards. Make available during the preparatory inspection a copy of those sections of referenced codes and standards applicable to that portion of the work to be accomplished in the field. Maintain and make available in the field for use by Government personnel until final acceptance of the work.
- b. Review the Contract drawings.
- c. Verify that field measurements are as indicated on construction or shop drawings or both before confirming product orders, to minimize waste due to excessive materials.
- d. Verify that appropriate shop drawings and submittals for materials and equipment have been submitted and approved. Verify receipt of approved factory test results, when required.
- e. Review the testing plan and ensure that provisions have been made to provide the required QC testing.
- f. Examine the work area to ensure that the required preliminary work has been completed and complies with the Contract and ensure any deficiencies/rework items in the preliminary work have been corrected and confirmed by the Contracting Officer.
- g. Review coordination of product/material delivery to designated prepared areas to execute the work.
- h. Examine the required materials, equipment and sample work to ensure that they are on hand and conform to the approved shop drawings and submitted data and are properly stored.

- i. Check to assure that all materials and equipment have been tested, submitted, and approved.
- j. Discuss specific controls to be used, construction methods, construction tolerances, workmanship standards, and the approach that will be used to provide quality construction by planning ahead and identifying potential problems for each DFOW. Ensure any portion of the plan requiring separate Contracting Officer acceptance has been approved.
- k. Review the APP and appropriate Activity Hazard Analysis (AHA) to ensure that applicable safety requirements are met, and that required Safety Data Sheets (SDS) are submitted.
- l. Review the Cx requirements in accordance with Section 01 91 00.15 BUILDING COMMISSIONING and ensure all preliminary work items have been completed and documented.

[1][m]. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.

[m][n]. Discuss schedule and execution of the initial control phase and confirmation or construction quality compliance.

[1][m][n][o]. Review Special Inspections required by Section 01 45 35 SPECIAL INSPECTION, the Statement of Special Inspections and the Schedule of Special Inspections.

1.8.2 Initial Phase

Notify the Contracting Officer at least 2 business days in advance of each initial phase. When construction crews are ready to start work on a DFOW, conduct the initial phase with the QC Specialists, the Project Superintendent, the Special Inspector, the Special Inspector of Record, and the foreman responsible for that DFOW. Observe the initial segment of the DFOW to ensure that the work complies with Contract requirements. Document the results of the initial phase in the [daily CQC Report and in the] Initial Phase Checklist. Repeat the initial phase for each new crew to work on-site when acceptable levels of specified quality are not being met. Indicate the exact location of initial phase for definable feature of work for future reference and comparison with follow-up phases. Perform the following for each DFOW:

- a. Check work to ensure that it is in full compliance with Contract requirements. Review minutes of the preparatory meeting.
- b. Verify adequacy of controls to ensure full Contract compliance. Verify required control inspection and testing comply with the Contract.
- c. Establish level of workmanship and verify that it meets the minimum acceptable workmanship standards. Compare with required sample panels as appropriate.

- d. Resolve any workmanship issues.
- e. Ensure that testing is performed by the approved laboratory.
- f. Check work procedures for compliance with the APP and the appropriate AHA to ensure that applicable safety requirements are met.
- g. Review project specific work plans (i.e., Cx, HAZMAT Abatement, Stormwater Management) to ensure all preparatory work items have been completed and documented.
- h. Coordinate scheduled work with Special Inspections required by Section 01 45 35 SPECIAL INSPECTIONS, the Statement of Special Inspections and the Schedule of Special Inspections.

1.8.3 Follow-Up Phase

Perform the following for on-going DFOW daily, or more frequently as necessary, until the completion of each DFOW. The Final Follow-Up for any DFOW will clearly note in the daily report the DFOW is completed, and all deficiencies/rework items have been completed in accordance with the paragraph DEFICIENCY/REWORK ITEMS LIST. Each DFOW that has completed the Initial Phase and has not completed the Final Follow-up must be included on each daily report. If no work was performed on that DFOW for the period of that daily report, it must be so noted. Document all Follow-Up activities for DFOWs in the daily CQC Report:

- a. Ensure the work including control testing complies with Contract requirements until completion of that particular work feature. Record checks in the CQC documentation.
- b. Maintain the quality of workmanship required.
- c. Ensure that testing is performed by the approved laboratory.
- d. Ensure that deficiencies/rework items are being corrected. Conduct final follow-up checks and correct all deficiencies prior to the start of additional features of work which may be affected by the deficient work.
- e. Do not build upon nor conceal non-conforming work.
- f. Assure manufacturers' representatives have performed necessary inspections if required and perform safety inspections.
- g. Review the Cx requirements in accordance with Section 01 91 00.15 BUILDING COMMISSIONING.
- [g][h]. Coordinate scheduled work with Special Inspections required by Section 01 45 35 SPECIAL INSPECTIONS, the Statement of Special Inspections and the Schedule of Special Inspections.

1.8.4 Additional Preparatory and Initial Phases

Conduct additional preparatory and initial phases on the same DFOW if the quality of on-going work is unacceptable, if there are changes in the

applicable QC organization, if there are changes in the on-site production supervision or work crew, if work on a DFOW has not started within 45 days of the initial preparatory meeting or has resumed after 45 days of inactivity, or if other problems develop.

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

Notify the Contracting Officer at least 2 weeks prior to the start of the preparatory and initial phases.

1.8.6 Deficiency/Rework Items List

The QC Manager must maintain a list of work that does not comply with the Contract, identifying what items need to be corrected, the activity ID number associated with the item, the date the item was originally discovered, the date the item will be corrected by, and the date the item was corrected.

The QC Manager reviews the list at each weekly QC Meeting:

- a. There is no requirement to report a deficiency/rework item that is corrected the same day it is discovered.
- b. No successor task may be advanced beyond the preparatory phase meeting until all deficiencies/rework items have been cleared by the QC Manager and concurred with by the Contracting Officer. This must be confirmed as part of the Preparatory Phase activities.
- c. Attach a copy of the "Deficiency/Rework Items List" to the last daily CQC Report of each month.
- d. The Contractor is responsible for including those items identified by the Contracting Officer.
- e. All deficiencies/rework items must be confirmed as corrected by the QC Manager, and concurred by the Contracting Officer, prior to commencement of any completion inspections per paragraph COMPLETION INSPECTIONS unless specifically exempted by the Contracting Officer.
- f. Non-Compliance with these requirements is grounds for removal in accordance with paragraph ACCEPTANCE OF THE QUALITY CONTROL (QC) and DESIGN QUALITY CONTROL (DQC) PLAN.
- g. All delays, concurrent or related to failure to manage, monitor, control, and correct deficiencies/rework items are entirely the responsibility of the Contractor and can not be made the subject, or any component of any request for additional time or compensation.

1.9 TESTING

Perform specified or required tests to verify that control measures are adequate to provide a product which conforms to Contract requirements. Upon request, furnish to the Government duplicate samples of test specimens for possible testing by the Government. Testing includes operation and acceptance tests when specified. Procure the services of an U.S. Army Corps of Engineers approved testing laboratory or establish an approved testing laboratory at the project site or within 10 miles. Perform the following activities and record and provide the following data:

- a. Verify that testing procedures comply with Contract requirements.
- b. Verify that facilities and testing equipment are available and comply with testing standards.
- c. Check test instrument calibration data against certified standards.
- d. Verify that recording forms and test identification control number system, including all test documentation requirements, have been prepared.
- e. Record results of all tests taken, both passing and failing on the CQC report for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test. If approved by the Contracting Officer, actual test reports are submitted later with a reference to the test number and date taken. Provide an information copy of tests performed by an offsite or commercial test facility directly to the Contracting Officer. Failure to submit timely test reports as stated results in nonpayment for related work performed and disapproval of the test facility for this Contract.

1.9.1 Laboratory Accreditation Authorities

All testing laboratories must be validated by the USACE Material Testing Center (MTC) for the tests to be performed. Information on the USACE MTC with web-links to both a list of validated testing laboratories and for the laboratory inspection request for can be found at:
<https://mtc.erdcdren.mil>

1.9.2 Capability Check

The Contracting Officer retains the right to check laboratory equipment in the proposed laboratory and the laboratory technician's testing procedures, techniques, and other items pertinent to testing, for compliance with the standards set forth in this Contract. Laboratories utilized for testing soils, concrete, asphalt, and steel must meet criteria detailed in [ASTM D3740](#) and [ASTM E329](#).

1.9.2.1 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed a charge of \$1,500 to reimburse the Government for each succeeding recheck of the laboratory or the checking of a subsequently selected laboratory. Such costs will be deducted from the Contract amount due the Contractor.

1.9.2.2 Onsite Laboratory

The Government reserves the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests, and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

1.9.3 Test Results

Cite applicable Contract requirements, tests or analytical procedures used. Provide actual results and include a statement that the item tested or analyzed conforms or fails to conform to specified requirements. If

the item fails to conform, notify the Contracting Officer immediately. Conspicuously stamp the cover sheet for each report in large red letters "CONFORMS" or "DOES NOT CONFORM" to the specification requirements, whichever is applicable. Test results must be signed by a testing laboratory representative authorized to sign certified test reports. Furnish the signed reports, certifications, and other documentation to the Contracting Officer via the QC Manager.

1.10 COMPLETION INSPECTIONS

1.10.1 Punch-Out Inspection

Near the completion of all work or any increment thereof, established by a completion time stated in the Contract Clause entitled "Commencement, Prosecution, and Completion of Work," or stated elsewhere in the specifications, the QC Manager must conduct an inspection of the work and develop a "punch list" of items which do not conform to the approved drawings, specifications, and Contract. Include in the punch list any remaining items on the "Deficiency/Rework Items List", that were not corrected prior to the Punch-Out Inspection as approved by the Contracting Officer in accordance with the paragraph DEFICIENCY/REWORK ITEMS LIST. Include within the punch list the estimated date by which the deficiencies will be corrected. Provide a copy of the punch list to the Contracting Officer.

The QC Manager, or staff, must make follow-on inspections to ascertain that all deficiencies have been corrected. All punch list items must be confirmed as corrected by the QC Manager and concurred by the Contracting Officer. Once this is accomplished, notify the Government that the facility is ready for the Government "Pre-Final Inspection".

1.10.2 Pre-Final Inspection

The Government and QC Manager will perform this inspection to verify that the facility is complete and ready to be occupied. A Government "Pre-Final Punch List" will be documented by the QC Manager as a result of this inspection. The QC Manager will ensure that all items on this list are corrected and concurred by the Contracting Officer prior to notifying the Government that a "Final" inspection with the Client can be scheduled. All items noted on the "Pre-Final" inspection must be corrected and concurred by the Contracting Officer in a timely manner and be accomplished before the Contract completion date for the work, or any increment thereof, if the project is divided into increments by separate completion dates unless exceptions are directed by the Contracting Officer.

1.10.3 Final Acceptance Inspection

Notify the Contracting Officer at least 14 calendar days prior to the date a final acceptance inspection can be held. State within the notice that all items previously identified on the pre-final punch list will be corrected and acceptable, along with any other unfinished Contract work, by the date of the final acceptance inspection. The Contractor must be represented by the QC Manager, the Project Superintendent, and others deemed necessary. Attendees for the Government will include the Contracting Officer, other Government QA personnel, and personnel representing the Client. Failure of the Contractor to have all Contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with the Contract Clause entitled

"Inspection of Construction."

1.11 QUALITY CONTROL (QC) CERTIFICATIONS

1.11.1 Contractor Quality Control (CQC) Report Certification

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

1.11.2 Completion Certification

Upon completion of work under this Contract, the QC Manager must furnish a certificate to the Contracting Officer attesting that "the work has been completed, inspected, tested and is in compliance with the Contract." Provide a copy of this final QC Certification for completion to the preparer of the Operation & Maintenance (O&M) documentation.

1.12 DOCUMENTATION AND INFORMATION FOR THE CONTRACTING OFFICER

Maintain current and complete records of on-site and off-site QC program operations and activities.

Contact the Contracting Officer for sample forms or print from RMS-QCS as needed. Prior to commencing work on construction, the Contractor must obtain a copy set of the current report forms. The report forms will consist of the Contractor Quality Control (CQC) Report, CQC Report (Continuation Sheet), Contractor Production Report, Contractor Production Report (Continuation Sheet), Preparatory Phase Checklist, Initial Phase Checklist, Testing Plan and Log, and Rework Items List. Unless otherwise provided by the Contracting Officer, Contractor may use the forms provided as related material located at <https://www.wbdg.org/ffc/dod/unified-facilities-guide-specifications-ufgs/ufgs-01-45-00>.

1.12.1 Construction Documentation

Reports are required for each day that work is performed and must be attached to the Contractor Quality Control Report prepared for the same day. Maintain current and complete records of on-site and off-site QC program operations and activities. Reports are required for each day work is performed. Account for each calendar day throughout the life of the Contract.

The Project Superintendent and the QC Manager must prepare and sign the Contractor Production and CQC Reports, respectively. Every space on the forms must be filled in. Use N/A if nothing can be reported in one of the spaces. The reporting of work must be identified by terminology consistent with the construction schedule. In the "Remarks" sections of the reports, enter pertinent information including directions received, problems encountered during construction, work progress and delays, conflicts or errors in the drawings or specifications, field changes, safety hazards encountered, instructions given and corrective actions taken, delays encountered, a record of visitors to the work site, quality control problem areas, deviations from the QC Plan, construction deficiencies encountered, and meetings held. For each entry in the report(s), identify the Schedule Activity No. that is associated with the entered remark.

1.12.2 Quality Control Activities

CQC and Contractor Production reports will be prepared daily to maintain current records providing factual evidence that required quality control activities and tests have been performed. Include in these records the work of subcontractors and suppliers on an acceptable form that includes, as a minimum, the following information:

- a. The name and area of responsibility of the Contractors and any subcontractors.
- b. Operating plant/equipment with hours worked, idle, or down for repair.
- c. Work performed each day, giving location, description, and by whom. When a Network Analysis Schedule (NAS) is used, identify each item of work performed each day by NAS activity number.
- d. Control phase activities performed. Preparatory, and Initial phase Checklists associated with the DFOW referenced to the construction schedule. Follow-up phase activities identified to the DFOW. If testing or specific QC Specialist activities are associated with the Follow-up phase activities for a specific DFOW note this and include those reports.
- e. Test and control activities performed with results and references to specifications and drawings requirements. Identify the control phase (Preparatory, Initial, Follow-up). List of deficiencies noted, along with corrective action in accordance with the paragraph DEFICIENCY/REWORK ITEMS LIST.
- f. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications and drawings requirements.
- g. Submittals and deliverables reviewed, with Contract reference, by whom, and action taken.
- h. Offsite surveillance activities, including actions taken.
- i. Job safety evaluations stating what was checked, results, and instructions or corrective actions.
- j. Instructions given/received and conflicts in plans and specifications.
- k. Provide documentation of design quality control activities. For independent design reviews, provide, as a minimum, identification of the [Independent Technical Review (ITR)] [Agency Technical Review (ATR)] team and their review comments, responses and the record of resolution of the comments.

1.12.3 Verification Statement

Indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. Cover both conforming and deficient features and include a statement that equipment and materials incorporated in the work and workmanship comply with the Contract.

Furnish the original and one copy of these records in report form to the Government by 10:00 AM the next working day after the date covered by the report. As a minimum, prepare and submit one report for every 7 days of no work and on the last day of a no work period. All calendar days need to be accounted for throughout the life of the Contract. The first report following a day of no work will be for that day only. Reports need to be signed and dated by the QC Manager. Include copies of test reports and copies of reports prepared by all subordinate quality control personnel within the QC Manager Report.

[1.12.4 Reports from the Quality Control (QC) Specialist(s)

Document inspection results on a QC specialist report prepared each day work is performed in their area of responsibility. The report must include a description of the visual inspection or observation performed, a written summary of findings, a conclusion on compliance with the Contract documents, and signature of the QC Specialist. In person inspections must be documented with Video/photographs. Video/photographic documentation of deficiencies must include before and after conditions and physical measurements, as necessary. Forward the QC daily report to the QC Manager who must include the report with the submission of their daily QC Report to the Government each day. Every site visit by the QC Specialist must be documented on a QC Specialist daily report.

]1.12.5 Quality Control Validation

Establish and maintain the following in an electronic folder. Divide folder into a series of tabbed sections as shown below. Ensure folder is updated at each required progress meeting.

- a. CQC Meeting minutes in accordance with paragraph QUALITY CONTROL (QC) MEETINGS.
- b. All completed Preparatory and Initial Phase Checklists, arranged by specification section, further sorted by DFOW referenced to the construction schedule. Submit each individual Phase Checklist the day the phase event occurs as part of the CQC daily report.
- c. All milestone inspections, arranged by Activity Number referenced to the construction schedule.
- d. An up-to-date copy of the Testing Plan and Log with supporting field test reports, arranged by specification section referenced to the DFOW to which individual reports results are associated. Individual field test reports will be submitted within 2 working days after the test is performed in accordance with the paragraph QUALITY CONTROL ACTIVITIES.
- e. Copies of all Contract modifications, arranged in numerical order. Also include documentation that modified work was accomplished.
- f. An up-to-date copy of the paragraph DEFICIENCY/REWORK ITEMS LIST.
- g. Cx documentation in accordance with Section 01 91 00.15 BUILDING COMMISSIONING.

[g][h]. Special Inspection reports.

[g][h][i]. Upon commencement of Completion Inspections of the entire project or any defined portion, maintain up-to-date copies of all punch lists issued by the QC staff to the Contractor and subcontractors and all punch lists issued by the Government in accordance with the paragraph COMPLETION INSPECTIONS.

1.12.6 Testing Plan and Log

As tests are performed, the CxC and the QC Manager will record on the "Testing Plan and Log" the date the test was performed and the date the test results were forwarded to the Contracting Officer. Attach a copy of the updated "Testing Plan and Log" to the last daily CQC Report of each month. Provide a copy of the final "Testing Plan and Log" to the preparer of the Operation & Maintenance (O&M) documentation.

1.12.7 As-Built Drawings

The QC Manager must ensure the as-built drawings, required by Section 01 78 00 CLOSEOUT SUBMITTALS are kept current on a daily basis and marked to show deviations which have been made from the Contract drawings. The as-built drawings document commences with the QC Manager ensuring all amendments, or changes to the Contract prior to Contract award are accurately noted in the initial document set creating the accurate baseline of the Contract prior to any work starting. Ensure each deviation has been identified with the appropriate modifying documentation (e.g., PC No., Modification No., Request for Information No.). The QC Manager [or QC Specialist assigned to an area of responsibility] must initial each revision. Upon completion of work, the QC Manager will furnish a certificate attesting to the accuracy of the as-built drawings prior to submission to the Contracting Officer.

1.13 NOTIFICATION ON NON-COMPLIANCE

The Contracting Officer will notify the Contractor of any detected non-compliance with the Contract. Take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, is deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders will be made the subject of a claim for extension of time for excess costs or damages by the Contractor.

1.14 DELIVERY, STORAGE, AND HANDLING

Designate receiving/storage areas for incoming material to be delivered according to installation schedule and to be placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication. Store and handle materials in a manner as to prevent loss from weather and other damage. Keep materials, products, and accessories covered and off the ground, and store in a dry, secure area. Prevent contact with material that may cause corrosion, discoloration, or staining. Protect all materials and installations from damage by the activities of other trades.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

KEYNOTES

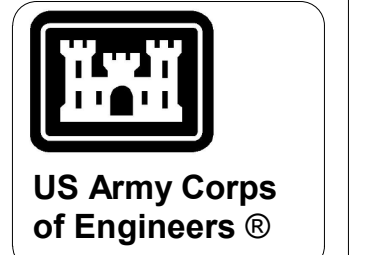
- REMOVE DOOR AND INFILL TO MATCH EXISTING CONSTRUCTION.
- ROLL-UP WINDOW TO BE REMOVED
- EXISTING DOOR LATCH SIDE TO BE REVERSED

DEMOLITION LEGEND

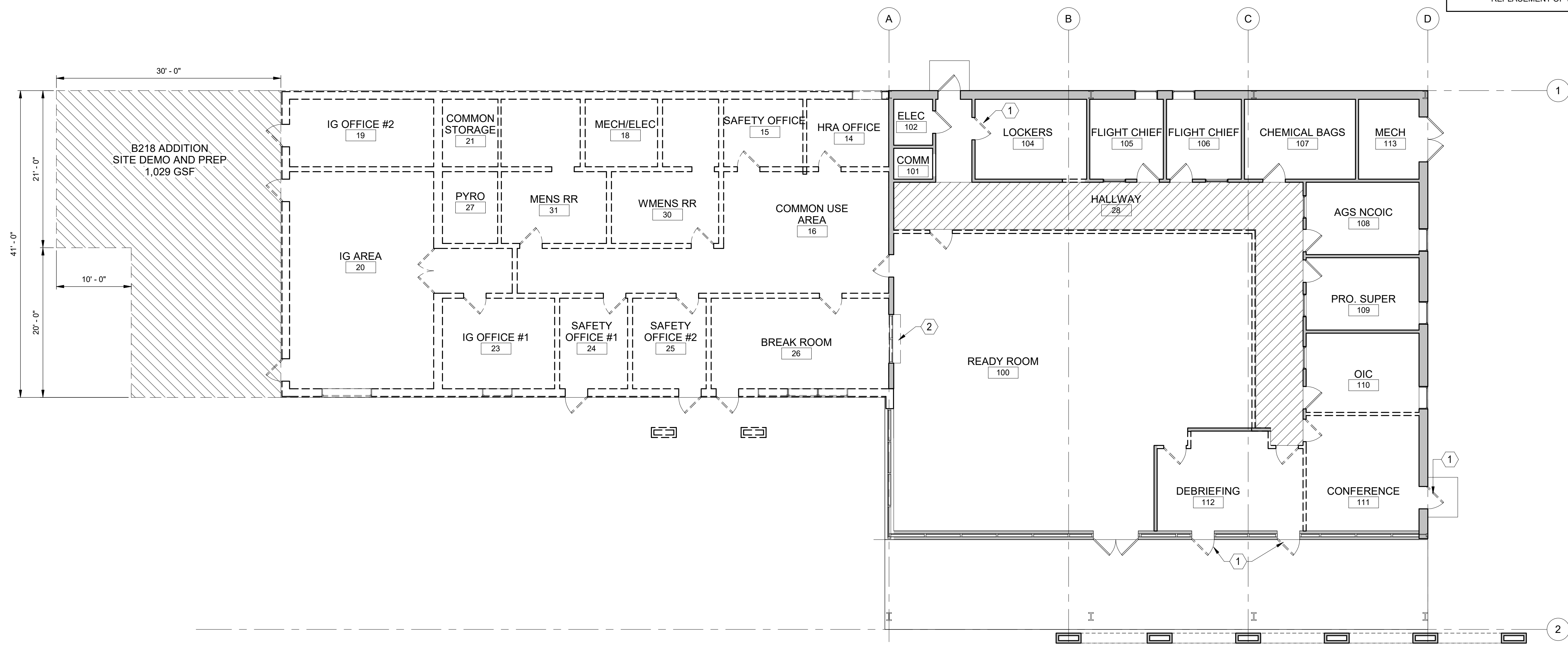
- EXISTING ELEMENTS
- ELEMENTS TO BE DEMOLISHED
- EXISTING DOORS
- DOORS TO BE DEMOLISHED
- REMOVE FRAMING AT INTERIOR METAL ROOF OVER CORRIDOR

DEMOLITION NOTES

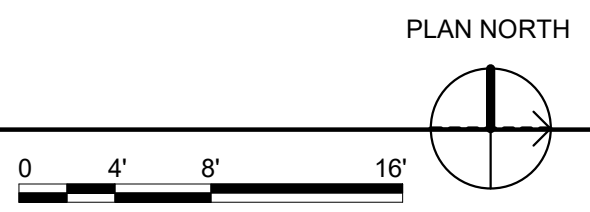
- DRAWINGS OF EXISTING CONDITIONS HAVE BEEN COMPILED FROM EXISTING DATA SUPPLIED TO THE A/E. THE ARCHITECT A/E MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED, FOR THE ACCURACY OR COMPLETENESS OF THE EXISTING INFORMATION RECORDED. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND NOTIFY THE C.O. IMMEDIATELY OF ANY DISCREPANCIES OR CONFLICTS THAT MIGHT ARISE IN THE COURSE OF DEMOLITION WORK.
- VERIFY LOCATIONS OF EXISTING MECHANICAL, PLUMBING AND ELECTRICAL UTILITIES. LOCATE AND PROTECT UTILITIES TO REMAIN. DISCONNECT, REMOVE BACK TO THE NEAREST JUNCTION BOX OR PANEL AS REQUIRED AND CAP DESIGNED UTILITIES WITHIN THE DEMOLITION AREA. REFER TO THE MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFO.
- THE DEMOLITIONS ARE DIAGRAMMATIC AND GENERAL IN NATURE. THE INTENT IS TO ILLUSTRATE DEMOLITION REQUIRED IN THE SPACES UNLESS NOTED OTHERWISE. FIELD VERIFICATION OF EXISTING CONDITIONS AND DETERMINATION OF SPECIFIC QUANTITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- REMOVAL AND DISPOSAL OF DEMOLITION DEBRIS IS THE RESPONSIBILITY OF THE CONTRACTOR. VERIFY THE HAULING ROUTE THROUGH THE BUILDING, DEMOLITION STAGING AREA AND THE LOCATION OF THE DUMPSTER WITH THE C.O. PRIOR TO THE START OF THE DEMOLITION. DISPOSAL OF RUBBISH SHALL BE DONE IN A LEGAL MANNER.
- EXISTING LOWER PORTION OF FACILITY WEST OF GRIDLINE A SHALL HAVE EXTERIOR WALL AND ROOF SYSTEM BE REMOVED AND REPLACED. EXISTING WINDOWS SHALL EVALUATED UPON REMOVAL TO DETERMINE RE-USE OR REPLACEMENT OF WINDOWS FOR NEW EXTERIOR WALL.



NO.	DATE	DESCRIPTION
002	8/13/2024	Amendment 002



B3 DEMOLITION FLOOR PLAN
1/8" = 1'-0"



DESIGNED BY: A. RIVARD	ISSUE DATE: JUNE 2024
DRAWN BY: H. TONG	SOLICITATION NO.:
CHECKED BY: A. RIVARD	CONTRACT NO.:
SUBMITTED BY: C. SEGHI	MARK
SIZE: ANSI D	DESCRIPTION

FT. SMITH, ARKANSAS
EBBING ANGE RENO
100691-00
DEMOLITION FLOOR PLAN

SHEET ID
AD101