US Army
Corps
of Engineers
Fort Worth District

Design-Build Request For Proposal

Building 4295 Renovation
Fort Polk, Louisiana

W9126G20U3782
MATOC: W9126G17D0058, W9126G17D0059, W9126G17D0060, W9126G17D0061, W9126G17D0062
August 2020

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DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF

August 17, 2020

Contracting Division

CCI Energy and Const Serv, LLC
W9126G17D0058
19315 FM 2252
Garden Ridge, TX 78266-2516

A&H – Ambica JV, LLC
W9126G17D0059
27489 Six Mile Rd
Livonia, MI 48152-3834

DOT Construction, Inc.
W9126G17D0060
4801 E. Independence Blvd STE 506
Charlotte, NC 28212-5492

Mowa Barlovento JV-2
W9126G17D0061
2700 Old Spanish Trail
Gautier, MS 39553-6066

Pacific Tech Construction, Inc.
W9126G17D0062
1302 Walnut St.
Kelso, WA 98626-2719

Team Partners:

Reference is made to your contracts under small business set-aside $45M MATOC for Vertical Construction Services (DB, DBB), Indefinite Quantity (IDIQ) Multiple Award Task Order Contracts (MATOCs), U.S. Army Corps of Engineers, for Construction.

Enclosed are the plans, specifications, appropriate contract sections and applicable wage rates for Task Order RFP W9126G20U3782, B4295 Hangar Renovation, Fort Polk, LA.

Proposals are due on 18 September 2020, by 2:00 p.m. CDT.

Offerors providing less than 120 calendar days for Government acceptance after the date offers are due will not be considered and will be rejected.

Proposal Submission - Proposals shall be submitted in accordance with Section 00 22 11.

Site Visit - See Section 00 21 30 for the Site Visit Information.

Bonding Requirements – A bid guarantee is required in the amount of 20% percent of the bid or $3,000,000.00 whatever is less. The task order is required to be bonded for Performance and Payment within 10 days of task order award. The Government needs the original bid bonds which can either be mailed or hand carried and should be received by the Government prior to the posted closing date/time. The mailing address is:

U.S. Army Corps of Engineers, Fort Worth District
ATTN: Elmer Howard, Contract Specialist
819 Taylor Street (Room 2A17)
Fort Worth, TX, 76102-0300

Bid Guarantee – The amount of the bid guarantee shall be 20% percent of the bid or $3,000,000.00, whatever is less.

Wage Determination - Davis Bacon Act Wage decisions are applicable to this requirement. Wage Determinations are available in the RFP.

Bidder Inquiry – All bidder questions shall be posted via Bidder Inquiry in ProjNet at http://www.projnet.org/projnet The Bidder Inquiry Key is: (see Section 00 21 00). All questions must be entered into the Bidder Inquiry system no later than **close of business seven (7) days before proposal due date.**

Liquidated Damages - Liquidated Damages are applicable to this requirement and are included in the RFP.

Estimated Construction Cost - The estimated cost of the proposed construction is between $5,000,000.00 and $10,000,000.00.

Unsuccessful Offerors – Unsuccessful Offerors will be notified with a memorandum via email within 3 business days after the date of contract award.
.

Division 1 General Requirements – The Division 1 requirements that are not specified in the task order but are specified in the contract documents are applicable to this work.

Buy American Act – Construction Materials – Contract Clause FAR 52.225-9 is applicable to this task order.

Contract Note – Work under this contract must begin before January 1, 2021. This is a material term of the contract. Failure to meet this requirement may result in termination.

After award, the following items will be required of the successful offeror, in accordance with the task order schedule:

[X] Bonding Protection (Performance and Payment to support the bid amount, less the amount currently available on the contract) – Within 10 days of Notice of Award

[X] Safety and Health Plan
[X] Quality Control Program
[X] Site Survey
[X] Pre-Construction Conference
[X] Work Schedule
[X] Weekly Progress Report
[X] Equipment and Construction Warranties

[X] As-Built/In-Progress Drawings
[X] As-Built Final Drawings
[X] Task Order Specific Requirements as identified in the task order Specifications/Drawings/Plans

Award of the task order will not constitute Notice to Proceed.

Funding:
[ ] Current FY Funding
[X] Subject to Availability of Funds (SAF)
[ ] Unfunded

Please sign and date the original copy of your proposal and submit as stated above. Please direct inquiries to Elmer Howard, Contract Specialist at (817) 886-1492, Elmer.Howard@usace.army.mil.

Sincerely,

RODGERS.JOHN.H.1010020901

Digitally signed by RODGERS.JOHN.H.1010020901
Date: 2020.08.17 15:10:57 -05'00'

John H. Rodgers
Contracting Officer

Enclosures:

RFP Task Order Plans / Specifications & Drawings

Building 4295 Renovation
Fort Polk, Louisiana

CONTRACT LINE ITEM SCHEDULE

Item No.	Description	Quantity	Unit		Unit Price	Line Item Amount
BASE OFFER: All work required by the plans and specification Contract exclusive of work required by the Option Items.						
0001	All design work for renovating building 4295, exclusive of all work listed separately	1	JOB	$	***	$ _____
0002	All construction work for renovating building 4295, exclusive of all work listed separately	1	JOB	$	***	$ _____
	TOTAL BASE OFFER					$ _____
OPTIONS						
	OPTION 01: This option will meet the following requirements and is inclusive of all work in CLINs 0003-0004, which are not to be executed separately. The Contractor shall furnish and provide additional design, materials, labor, and equipment necessary for the Roof replacement on Bldg. 4295. Including new gutter and downspout system, roof hatch curb, and roof walking pads.					
0003	Option 01 - Design - All work required for the Roof replacement on Bldg. 4295. Including new gutter and downspout system, roof hatch curb, and roof walking pads.	1	JOB	$	***	$ _____
0004	Option 01 - Construction - All work required for the Roof replacement on Bldg. 4295. Including new gutter and downspout system, roof hatch curb, and roof walking pads.	1	JOB	$	***	$ _____
	TOTAL OPTION 01					$ _____
0005	OPTION 2: All work for CMU crack repair on Bldg. 4295	1	JOB	$	***	$ _____
0006	OPTION 3: All work to paint exterior CMU on Bldg. 4295	1	JOB	$	***	$ _____

Building 4295 Renovation
Fort Polk, Louisiana

CONTRACT LINE ITEM SCHEDULE

Item No.	Description	Quantity	Unit		Unit Price		Line Item Amount
	OPTION 04: This option will meet the following requirements and is inclusive of all work in CLINs 0007-0008, which are not to be executed separately. The Contractor shall furnish and provide additional design, materials, labor, and equipment necessary to replace the exterior metal siding (including structural repairs).						
0007	Option 04 - Design - All work required to replace the exterior metal siding (including structural repairs).	1	JOB	$	***	$	_____
0008	Option 04 - Construction - All work required to replace the exterior metal siding (including structural repairs).	1	JOB	$	***	$	_____
		TOTAL OPTION 04				$	_____
0009	OPTION 5: All work to paint existing roof access ladder	1	JOB	$	***	$	_____
0010	OPTION 6: All work to paint exterior side of existing hangar sliding door	1	JOB	$	***	$	_____
	OPTION 07: This option will meet the following requirements and is inclusive of all work in CLINs 0011-0012, which are not to be executed separately. The Contractor shall furnish and provide additional design, materials, labor, and equipment necessary to replace the 2nd floor exterior aluminum windows, trims, & flashing.						
0011	Option 07 - Design - All work required to replace the 2nd floor exterior aluminum windows, trims, & flashing.	1	JOB	$	***	$	_____
0012	Option 07 - Construction - All work required to replace the 2nd floor exterior aluminum windows, trims, & flashing.	1	JOB	$	***	$	_____
		TOTAL OPTION 07				$	_____
	OPTION 08: This option will meet the following requirements and is inclusive of all work in CLINs 0007-0008, which are not to be executed separately. The Contractor shall furnish and provide additional design, materials, labor, and equipment necessary toprovide a backup generator.						
0013	Option 08 - Design - All work required to provide a backup generator.	1	JOB	$	***	$	_____

Building 4295 Renovation
Fort Polk, Louisiana

CONTRACT LINE ITEM SCHEDULE

Item No.	Description	Quantity	Unit		Unit Price		Line Item Amount
0014	Option 08 - Construction - All work required toprovide a backup generator.	1	JOB	$	***	$	_____
	TOTAL OPTION 08					$	_____
	TOTAL ALL OPTIONS					$	_____
	TOTAL OFFER (BASE + OPTIONS)					$	_____

Contract Duration in Calendar Days
After the Notice to Proceed is received.*

_____ DAYS

*Note: Contract duration for all work shall NOT exceed the duration specified in Section01 00 50.00 44 GENERAL REQUIREMENTS. See Note No. 6.

Building 4295 Renovation
Fort Polk, Louisiana

CONTRACT LINE ITEM SCHEDULE

NOTES:

NOTE NO. 1. To better facilitate the receipt and proposal process, all modifications to proposals are to be submitted on copies of the latest Contract Line Item (CLIN) schedules as published in the solicitation or the latest amendment thereto. In lieu of indicating additions/deductions to line items, all Offerors should state their revised prices for each item.

NOTE NO. 2. Offerors must insert a price on all numbered items of the CLIN Schedule. Failure to do so may result in the offer being unacceptable

NOTE NO. 3. CONDITIONS GOVERNING EVALUATION OF OFFERS AND AWARD OF CONTRACTS: The Government may require the delivery of the numbered line items, identified in the schedule as option items, in the quantity and at the price stated in the schedule. Subject to the availability of funds, the Contracting Officer may exercise the option by written notice to the Contractor within the time indicated below from the Task Order Notice to Proceed:

NOTE NO. 4. CLIN 0001, 0003, 0007, 0011, 0013 design includes costs for efforts related to the design of the complex, as well as any related costs for the contractor's coordination during design (see UAI 5152.236-9011 Design Build Construction Contracts). In general, include engineering and designer costs for efforts after the Design Complete or Issued for Construction documents in the construction CLIN's.

NOTE NO. 5. Include all costs for coordination and accommodation of Government-Furnished, Government-Installed Equipment as described in Section 01 11 00 SUMMARY OF WORK in the Contract Line Items for construction of the associated facilities.

NOTE NO. 6. The Offeror shall propose a total integrated contract duration in number of calendar days after the Notice to Proceed (NTP) is received by the Contractor, whether via electronic means or hard copy, whichever is the earliest method of delivery. The total number of proposed calendar days for design and construction through completion, ready for turnover shall not exceed the number of calendar days specified in Section 01 00 50.00 44 GENERAL REQUIREMENTS The proposed duration shall become the required contract duration. The Government may issue the NTP via e-mail or Facsimile (FAX) or by other means. Day number 1 is the day after the date of receipt of the NTP. See also Sections ***00 73 00 SPECIAL CONTRACT REQUIREMENTS***, clause ***Commencement***.

NOTE NO. 7. At the option of the Government, the Government may require the Contractor to perform the work identified as Optional line item(s) at the price(s) stated in the CLIN Schedule. The Contracting Officer may exercise one or more of the Option(s) by written notice to the Contractor within 120 calendar days after the date of the acknowledgment of the Notice to Proceed by the Contractor. There is no separate completion period for these option(s) and the work included therein shall be completed within the contract duration as proposed above. Exercise of the Option(s) shall be evidenced on Standard Form 30, citing FAR 52.217-7, as the authority for exercising the Option. The Option shall be deemed exercised at the time the Government deposits the SF30 in the mail or, if earlier, at the time it is delivered to the Contractor.

NOTE NO. 8. 52.217-5 EVALUATION OF OPTIONS (JUL 1990)

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

Building 4295 Renovation
Fort Polk, Louisiana

CONTRACT LINE ITEM SCHEDULE

(b) The Government may reject an offer as nonresponsive if it is materially unbalanced as to prices for the basic requirement and the option quantities. An offer is unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated for other work.

NOTE NO. 9. The Army will procure this facility through a design and cost competition in accordance with the provisions set forth in this Request for Proposals (RFP). When awarded, it will be a "Firm Fixed Price Contract."

NOTE NO. 10. Any proposal that is materially unbalanced as to prices for the Base Schedule may be rejected. An unbalanced proposal is one that is based on prices significantly less than the cost for some work and prices that are significantly overstated for other work and can also exist where only overpricing or underpricing exists.

NOTE NO. 11. The Government does not pay profit on bonds.

END OF CLIN SCHEDULE

SECTION 00 21 00
INSTRUCTIONS, CONDITIONS AND NOTICES TO OFFERORS

1.0 GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF WORK

1.2 GOVERNMENT REQUIREMENTS FOR INCOMING MAIL AND PACKAGES

1.3 COPIES OF SOLICITATION DOCUMENTS AND AMENDMENTS

1.4 OFFEROR'S QUESTION AND COMMENTS

1.5 PROPOSAL FORMAT AND GENERAL INSTRUCTIONS

1.6 BID GUARANTEE

1.7 CONTRACT PRICES-BIDDING SCHEDULE

1.8 ESTIMATED CONSTRUCTION COST

1.0 GENERAL INFORMATION

1.1. GENERAL DESCRIPTION OF WORK

This Request for Proposal (RFP) solicits for the design and repair of a failing existing Aviation Maintenance Hangar Building 4295 to such a condition that it may be effectively used for its designated functional purposes at Fort Polk, located in Leesville, Louisiana. The work shall be in accordance with the Request for Proposal documents. This is a small business set-aside MATOC (Multiple Award Task Order Contract) pool competitive acquisition for the award of a firm-fixed price contract procured in accordance with FAR Part 6.203 and FAR Part 15.101-1, Negotiated Procurement using the "Tradeoff Process".

1.2. GOVERNMENT REQUIREMENTS FOR INCOMING MAIL AND PACKAGES

The Offeror(s) must ensure that ALL mail inquiries are sent to the Fort Worth District, U.S. Army Corps of Engineers, relating to either pre-contract or post-contract award. A return mailing address is required on the outside of the envelope, package, box, etc. All mail must be addressed to the Contracting office as specified below **(no exceptions)**:

U.S. Army Corps of Engineers, Fort Worth District
ATTN: Elmer Howard, Contract Specialist
819 Taylor Street (Room 2A17)
Fort Worth, TX, 76102-0300

1.3. COPIES OF SOLICITATION DOCUMENTS AND AMENDMENTS

Copies of the solicitation and all amendments are available by EMAIL and FILE EXCHANGE ONLY. All solicitation documents and amendments will be sent via email and or file exchange to the small business set-aside MATOC pool.

The Offeror(s) shall submit in its proposal all requested information as specified in this solicitation. There will be no public opening of the proposals received as a result of this solicitation. The Offeror(s) must be registered with the System for Award Management Database (SAM) to receive a Government contract award.

1.4. OFFEROR'S QUESTIONS AND COMMENTS

a. 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 .

The RFP Number is: **W9126G20U3782**

The Bidder Inquiry Key is: **EKSS9P – F7GHW2**

b. To submit and review bidder inquiries, bidders will need to be a current registered user or self-register into the ProjNet system. To self-register go to web page at http://www.projnet.org/projnet, click the BID tab, select Bidder Inquiry, select agency USACE, enter the Key for this RFP (listed above) and your e-mail address, and click login. Fill in all required information and click create user. Verify that the information on the next screen is correct and click to continue.

c. From this page you may view all bidder inquiries or add an inquiry. Offerors to review the specification in its entirety, and review the Bidder Inquiry

System for answers to questions prior to submission of a new inquiry. Only one question will be allowed per inquiry. If multiple questions are included in a single inquiry, only the first question will be answered. All others will remain unanswered until entered in as a single inquiry.

d. 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.

e. The Bidder Inquiry System will be unavailable for new inquires **7 calendar days** prior to proposal submission in order to ensure adequate time is allotted to form an appropriate response and amend the RFP, if necessary.

f. The call center operates weekdays from 8AM to 5PM U.S. Central Time Zone (Chicago). The telephone number for the Call Center is 800-428-HELP.

1.5. PROPOSAL SUBMITTALS AND PROPOSAL FORMAT & GENERAL INSTRUCTIONS

In an effort to reduce paperwork and reduce cost, **all proposals shall be submitted electronically**. All submissions should be in Adobe PDF format. The Price Proposal and Technical Proposal shall be submitted as "*separate*" single files.

Submit the proposals electronically via the DoD SAFE website at https://safe.apps.mil/.

In order for an outside user (the contractor) to submit a proposal for the solicitation, they must receive a drop-off request from an inside user (the government). When the inside user generates a drop-off request for you, you will receive an email with a link to submit your drop-off. Optionally, the Government may provide you with a request code. In that case, click the Drop-off button on the SAFE home page and enter the Request code.

To request and receive a drop-off request for this solicitation, email the Contract Specialist and Contracting Officer two (2) working days before the proposal due date. The Contracting Officer for this project is: Mr. John H. Rodgers. Email address is john.h.rodgers@usace.army.mil. The Contract Specialist for this project is: Mr. Elmer Howard. Email address is elmer.howard@usace.army.mil. Include the solicitation number in your Email Subject Line: W9126G20U3782.

a. File Names. To ensure your submission is received and processed appropriately, it is important that interested parties CAREFULLY ensure their electronic files adhere to the following naming convention: Each filename shall begin with the solicitation number, followed by the word "RESPONSE", followed by your firm's name,

and finally a brief file description. EXAMPLES:

(1) "W9126G20U3782 RESPONSE Firmname Volume I.pdf"
(2) "W9126G20U3782 RESPONSE Firmname Volume I Part 1.pdf"

Offers, modifications thereto, or cancellations of offers received by telegraph, facsimile or by e mail will not be accepted.

Submit only the electronic documents. Submit only the electronic files that are specifically requested in Section 00 22 11. All files submitted shall be in PDF format. Do not submit excess information, to include audio-visual materials, electronic media, etc. *All pages shall be numbered.*

Searchable PDF 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 and presentation drawings must fit to 11" x 14" or 11" x 17" paper size unless specifically authorized in this section for a particular submission. Do not use a font size smaller than 10, an unusual font style such as script, or condensed print for any submission. All page margins must be at least 1 inch wide, but may include headers and footers of the solicitation, project title and company.

Hard copies shall not be submitted, with the exception of the bid guarantee. Refer to this section, 1.8 Bid Guarantee, for bid guarantee submission requirements.

"Confidential" projects cannot be submitted to demonstrate capability unless all of 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 Clause (P) 52.215-1, Instructions to Offerors -- Competitive Acquisition, paragraph (e), Restriction on disclosure and use of data.

In the case of an Offeror that is part of a large, multi-segmented business concern, provide information directly pertaining to the specific segment of the business concern (i.e., the division, group, unit, etc.) that will perform work under the prospective contract.

For submissions with page limitations, the corresponding PDF pages will be counted.

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.

1.6. BID GUARANTEE

A Bid Guarantee will be required for this RFP. The penal sum of the bond for the task order will be required as in FAR Clause (P) 52.228-1 -- Bid Guarantee. The task order is required to be bonded for Performance and Payment within 10 days of task order award. Facsimile Bonds are not acceptable. Hard copy submission of the bid bond is required. The mailing address is:

U.S. Army Corps of Engineers, Fort Worth District
ATTN: Elmer Howard, Contract Specialist
819 Taylor Street (Room 2A17)
Fort Worth, TX, 76102-0300

1.7. CONTRACT PRICES - BIDDING SCHEDULE

Payment for the items listed in the Bidding Schedule shall constitute full compensation for furnishing all plant, labor, equipment, appliances, materials and bonds (performance and payment), and for performing all operations required to complete the work in conformity with the drawings and specifications. All costs for work not specifically mentioned in the Bidding Schedule shall be included in the contract prices for the items listed.

1.8. ESTIMATED CONSTRUCTION COST

The estimated cost of the proposed construction is between $5,000,000.00 and $10,000,000.00.
The CCL for this project $6,000,000.00.

CLAUSES INCORPORATED BY REFERENCE

52.217-4	Evaluation of Options Exercised at the Time of Contract Award	JUN 1988
52.217-5	Evaluation of Options	JUL 1990

-END OF SECTION-

SECTION 00 21 30

SITE VISITS

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 BIDDERS, prospective bidders 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. Bidders are urged and expected to inspect the site where the work will be performed. Site visits will be arranged during normal duty hours.

(a) Site visit information: The site visit will be:

Date: 26 Aug 2020
Time: 9:00 AM CDT
Location: 2315 Service Command Circle, Fort Polk, LA, 71459
POC: Joshua Edwards
Email: Joshua.Edwards@usace.army.mil
Office Phone: (817)886-1647
Cell Phone: (817)682-1174

(b) Site visit information: See Section 00 21 00 INSTRUCTIONS, CONDITIONS, AND NOTICES TO OFFERORS.

Offerors and subcontractors wishing to participate must submit a complete listing of all personnel to attend the pre-proposal site visit, via email, to email address: DLL-CESWF-EAO-POLK@usace.army.mil a minimum of two (2) work days prior to the pre-proposal site visit. The number of visitors per contractor may be limited depending on the current installation and job site restrictions. Coordination shall be made with the Area Office at least five (5) working days prior to the site visit to verify the current restrictions. Restrictions to number of visitors will be subject to change at any time, however the Government will make every effort to confirm the current restrictions and allowed attendees two (2) work days prior to scheduled site visit. Include the following information for all attendees and subcontractors. The first name on the list will indicate: TEAM CHIEF (POC), and this individual will be responsible for all other personnel:

Offeror's and offeror's subcontractor personnel full names
Driver's License, including the State Issued
Firm

Depending on the installation restrictions at the time of the site visit, personnel may be required to wear masks during site visits, and maintain a distance of six (6) feet between

individuals, where able. Contractors must provide their own masks.

NOTE: The U.S. Government will conduct a check of every individual submitted; this will include checking all law enforcement databases. Persons with questionable criminal records or outstanding warrants will be denied access to the installation.

(c) In no event will a failure to inspect the site constitute grounds for withdrawal of a bid after bid opening or for a claim after award of the contract.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

-- End of Document --

SECTION 00 22 11
DESIGN BUILD SELECTION PROCEDURES
Proposal Preparation

W9126G20U3782
Competed among the SB MATOC Pool Contractors
Building 4295 (Hangar) Renovation
Fort Polk, Louisiana 71459

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ATTACHMENT 2- PAST PERFORMANCE ASSESSMENT WORKSHEET- CONSTRUCTION

ATTACHMENT 3- PAST PERFORMANCE ASSESSMENT WORKSHEET- DESIGNER

ATTACHMENT 4- PAST PERFORMANCE QUESTIONNAIRE

ATTACHMENT 5- CERTIFICATION REGARDING RESPONSIBILITY MATTERS (APR 2010)

1.0 OVERVIEW

This Request for Proposal (RFP) solicits for the design and renovation of Building 4295 (Aviation Hangar). The work shall be in accordance with the Request for Proposal documents. This is an SBSA MATOC (Multiple Award Task Order Contract) pool competitive acquisition for the award of a firm-fixed price contract procured in accordance with FAR Part 6.204 and FAR Part 15.101-1, Negotiated Procurement using the "Tradeoff Process".

The Tradeoff Process permits the tradeoffs among cost, price and/or non-cost factors and allows the Government to accept other than the lowest priced proposal. Offerors submit their performance and capability information for review and consideration by the Government. Relative weights among technical factors are provided in Section 4: Evaluation Factors & Weighting. The Source Selection Evaluation Board (SSEB) reviews, evaluates, and rates the proposals against the source selection criteria in the RFP. A competitive range consisting of the most highly qualified technical offerors will be established prior to discussions (if held). Concurrently, the Government analyzes price proposals of Offerors utilizing the project cost proposal. Price will not be rated, but will be a factor in making the final best value determination for award. The Source Selection Authority (SSA) compares proposals and determines the best value for the government. The perceived benefits of the higher priced proposal must merit the additional cost, and the rationale for tradeoffs must be documented.

2.0 BASIS OF AWARD

The Contracting Officer (CO) will award a firm fixed-price contract to that responsible Offeror whose proposal the Source Selection Authority (SSA) determines offers the best overall value to the Government. Best Value means the expected outcome of an acquisition that, in the Government's estimation, provides the greatest overall benefit in response to the requirement. In using the best value approach, the Government seeks to award a contract to the Offeror who gives the Government the greatest confidence that it will best meet our requirements. This process may result in an award being made to a firm with a higher-priced offer where the decision is consistent with the evaluation criteria/factors and the SSA determines that the technical or service superiority and/or overall business approach and/or superior past performance of the higher-priced offer outweighs the cost difference.

The SSA, using sound business judgment, bases the award decision on an integrated assessment of the evaluation criteria in the factors described below. While the entire evaluation team strives for maximum objectivity, the selection process is subjective by nature and professional judgment is implicit throughout the best value process. Ultimately, the contract shall be awarded to the Offeror whose proposal, based upon the evaluation criteria, represents the best value to the Government.

Proposals must meet the criteria stated in the RFP in order to be eligible for award, to include responsiveness, technical acceptability and responsibility.

In order to determine which proposal(s) represent the best value, the Government will evaluate proposals against all source selection criteria in this RFP.

As technical ratings and relative advantages and disadvantages become less distinct, differences in price between proposals are of increased importance in determining the most advantageous proposal.

Conversely, as differences in price become less distinct, differences in technical ratings and relative advantages and disadvantages between proposals are of increased importance to the determination. All evaluation factors when combined are significantly more important than price.

The Government reserves the right to accept other than the lowest priced offer(s). The right is also reserved to reject any and all offers.

Offerors are reminded to include their best technical and price terms in their initial offer and not to automatically assume that they will have an opportunity to participate in discussions or be asked to submit a revised offer.

3.0 GENERAL INSTRUCTIONS

3.1 PROPOSAL FORMAT:

(1) Submit only the electronic documents. Submit only the electronic files specifically requested. All files submitted shall be in PDF format. Do not submit excess information, to include audio-visual materials, electronic media, etc. All pages shall be numbered.

(2) PDF pages shall be formatted to print on 8 ½ by 11 inch paper, unless another paper size is specifically authorized for a particular submission. Do not use a font size smaller than 10, an unusual font style such as script, or condensed print for any submission. All page margins must be at least 1 inch wide, but may include headers and footers of the solicitation, project title and company. PDF drawings and summary schedule diagrams shall be sized to print on 11x17 inch paper.

(3) Hard copies shall not be submitted, with the exception of the bid guarantee. Refer to Section 00 21 00, 1.6 Bid Guarantee for bid guarantee submission requirements.

(4) "Confidential" projects cannot be submitted to demonstrate capability unless all of 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".

(5) In the case of an Offeror that is part of a large, multi-segmented business concern, provide information directly pertaining to the specific segment of the business concern (i.e., the division, group, unit, etc.) that will perform work under the prospective contract.

(6) For submissions with page limitations, the corresponding PDF pages will be counted.

(7) 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.

(8) Within three (3) days of contract award, the contractor receiving the award shall electronically submit their conformed proposal.

4.0 EVALUATION FACTORS AND WEIGHTING, VOLUME 1, TECHNICAL

4.1 GENERAL:

Offerors are invited to submit a proposal, as indicated below. The Government will evaluate the proposals in accordance with the evaluation criteria described herein, using the evaluation rating systems outlined in the Design-Build selection procedures. Price information will be evaluated for fairness, reasonableness, and for material unbalancing, as described herein. The evaluation will be conducted in accordance with FAR Part 15.

4.2. PROPOSAL CONTENTS AND RELATED EVALUATION FACTORS

VOLUME 1 – Technical

Table 1 - Volume 1 – PROPOSAL CONTENTS AND RELATED EVALUATION FACTORS

Location	Factor Number	Description	Relative Importance
TAB A	Factor 1	PAST PERFORMANCE	Most Important Factor.
TAB B	Factor 2	DESIGN TECHNICAL	2nd most import factor, less Important than Factor 1, but more important than Factor 3.
TAB C	Factor 3	SUMMARY SCHEDULE	Least important Factor.

5.0 TAB A – FACTOR 1 - PAST PERFORMANCE

5.1 SUBMISSION REQUIREMENTS:

5.1.1 The Offeror's construction and design entities shall each demonstrate past performance through the submission of similar projects, using the Construction – Past Performance Assessment Worksheet – (Attachment 2), and Designer – Past Performance Assessment Worksheet – (Attachment 3). If the Offeror is a joint venture, limited liability corporation, or

integrated design-build firm, provide past performance information for design and 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. Design firms may list prime contractors they have worked for or Government, private or commercial customers. If projects were design-build, identify them as such. Both the prime contractor and the design firm(s) shall each submit no more than three (3) projects completed or substantially completed within 6 years from the date of this solicitation that best represent their experience similar to the scope of work for this solicitation. One (1) of the three (3) projects submitted for construction past performance may be a current construction project with completed designs and at least 50% construction progress completed. All other projects submitted must be 100% construction complete. All projects submitted for design must be completed designs; designers may submit design/build projects if the design portion of the project is complete, and construction at least 50% complete. If Offeror is proposing as a Joint Venture (JV) and past performance cannot be provided as a JV, each partner shall submit past performance information, with no more than three (3) projects each.

5.1.2 The Past Performance Questionnaire (PPQ) included in the solicitation (Attachment 4) is provided for the Offeror or its team members to submit to the client for each project the Offeror included in its proposal 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 PPQ 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 previously had 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, Elmer Howard, the Contract Specialist, via e-mail at: Elmer.Howard@usace.army.mil prior to proposal closing date. 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.

5.1.3. Do not request past performance questionnaires (PPQ) 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.

5.1.4 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 the Administrative Contracting Officer (ACO) for the contract.

5.1.5 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,

5.1.5.1 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.

5.1.6 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 Past Performance Information Retrieval System (PPIRS), including Contractor Performance Assessment Reporting System (CPARS), using all CAGE/DUNS number 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.

5.1.7 Projects will be considered relevant to this procurement if they are similar in complexity, in type, scope, or magnitude. Relevancy is defined as:

(a) Renovation of an Aviation Maintenance Hangar building with associated administrative and living spaces or similar commercial or institutional type facility; and
(b) Typical project size should reflect at least 40,000 square feet; and

(c) Construction value of at least $5.5 Million;
(d) If the project meets all three relevancy criteria listed above, additional consideration will be given to projects with any of the following features in terms of complexity:
(i) Design-build construction

5.2 RELEVANCY DETERMINATION:

5.2.1 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. Federal Government project past performance will not be rated inherently more important than non-Federal Government project past performance.

5.2.2 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.

5.2.3 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.

5.2.4 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.

5.2.5 Based on the relevancy of the projects submitted for design and for construction, an overall relevancy determination will be assessed as an interim step prior to establishing a confidence rating. For an overall relevancy determination of "relevant" or higher, both the construction entity and the design entity (ies) must demonstrate past performance that meets all defined aspects of relevancy relative to their role on this project.

5.2.5.1 If a project meets all three of the relevancy criteria above it will be considered relevant.

5.2.5.2 If a project meets two out of the three relevancy criteria above it will be considered somewhat relevant.

5.3 CONFIDENCE EVALUATION CRITERIA:

5.3.1 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. The Government will not release the information gathered to the Offeror at any time, in order for the Government to solicit candid, unbiased interview comments. The Government's evaluation is not limited to past performance information on the cited example projects.

5.3.2 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, 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 upon 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.

5.3.3 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.

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

6.0 TAB B – FACTOR 2 – DESIGN TECHNICAL

GENERAL: The design-technical factor consists of technical approach narratives, conceptual level presentation drawings, and information regarding material and system quality, and sustainability. The proposal must clearly define the proposed scope and quality levels that the design-build team is offering to the Government in enough detail for the Government and the Offeror to mutually understand whether or not the proposal meets or exceeds the minimum Solicitation requirements. Fully developed drawings, details, or specifications are not desired or required.

6.1. SUBMISSION REQUIREMENTS:

(a) Design Technical Narratives:

(1) Discuss, by discipline, the design, and construction of renovations for a typical Aviation Maintenance Hangar Building with associated administrative and living quarters. For each item, discussions shall address maintenance considerations, operability, durability, and energy consumption, as applicable.

(a) Abatement, demolition and protection of existing items to remain.

(b) Architectural and Structural Systems: Building exterior, to include roof, stairwell, doors, windows, walls, building additions, and the building envelope. For all roof portions include discussion of what is to be demolished and replaced and/or repaired. Describe how the proposed materials, systems, and designs address the mandatory building ATFP requirements included in the Statement of Work.

(c) Office spaces within the building.

(d) The hangar maintenance area(s).

(e) Fire Protection Systems: Fire Protection Systems, Auto Sprinkler Protection, Fire Alarm & Mass Notification, and Alarm Indicators and Control Systems.

(f) Mechanical Systems: Central Heating/Cooling, Boilers, Chillers, Pumps, AHU, HVAC, Building System Control Equipment, Water Treatment Systems, Energy Conservations Features, and Dedicated Outside Air Systems. Discuss the utilization of the existing mechanical room space.

(g) Electrical System. Include discussion regarding both exterior and interior distribution systems. Main Switchgear and Panels, Lightning Protection System, and Emergency Power Systems. Also provide information regarding the interior electrical distribution system found within the building.

(h) Low Voltage Systems/Communications/Resource Protection: Intrusion Detection, Door Access, Data, Telephone, Cable TV, Intercom, CCTV, Security Systems, Audio Visual System, Premise Distribution System, Public Address, Duress. The discussion shall start at the entrance of the building and continued on to the outlets in the various spaces and rooms.

(i) Interior finishes in offices, restrooms and conference rooms.

6.1.2. Presentation Drawings

As a minimum, provide the following conceptual level drawings:

6.1.2.1. At least one (1) Exterior Perspective Rendering (may be CADD rendering) for an Aviation Maintenance Hangar building with enough detail to aid in the evaluation of the exterior building aesthetics. Renderings should be at least 11" x 17" in order to show a detailed perspective view of the buildings.

6.1.2.2. Typical building sections with appropriate details depicting full building height.

6.1.2.3. Conceptual floor plans for the hangar building showing proposed use for each space (i.e., utilization of existing storage rooms, tool rooms, mechanical and electrical rooms).

6.2. EVALUATION CRITERIA:

6.2.1. General: It is the Army's objective with this renovation project that these buildings will have a 20-year useful design life before an additional reuse/repurpose or renovation requirement, to include normal sustainment, restoration, and modernization activities. Within that overriding theme the Government will evaluate the Offeror's selected systems and components proposed in terms of 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). The minimum acceptable level of quality for exterior finish materials for these buildings are those materials suitable for the expected population and usage. Residential or similar exterior grade finishes and materials are not acceptable for inclusion in these buildings.

6.2.2. The Government will evaluate the Offeror's proposed mechanical and electrical systems and equipment to determine the most efficient system used for the conditions for Ft. Polk. More emphasis will be placed on those Offerors who propose equipment that is easy to access and maintain and has a history of being durable and reliable.

7.0 TAB C – FACTOR 3 – CONSTRUCTION SCHEDULE

7.1. SUBMISSION REQUIREMENTS:

7.1.1. Proposed Contract Duration: The Offeror shall propose the overall contract duration in the appropriate Contract Line Item Number in the CLIN Schedule, not to exceed the maximum contract duration specified in Section 01 00 00.00 44.

7.1.2. Summary Schedule: Submit a summary level schedule for integrated design and construction. 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:

(a) Show the design phase, including events associated with coordinating the interim, final design, and design complete (backcheck) submittals for each package and the proper handling of the review comments for each design package (See section 01 33 16.00 10).

(b) Show the overall construction phases for the building renovations. It isn't necessary to show the detailed breakdown of the renovation (e.g., by trades) of the building, site work and utilities.

(c) Show turnover of building. The time to complete the building and turnover to the Government must consider the requirement for the Contractor's CQC completion inspection and the subsequent joint Contractor-Government turnover inspection.

(d) Show activities for the building renovations in sufficient detail to demonstrate an understanding of the scope of work and to substantiate the reasonableness and realism of the proposed duration.

(e) 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. (See Section 01 33 00 Submittal Procedures.)

(f) Show closeout activities, to include the Red Zone meeting, record drawings, O&M manuals, to demonstrate your understanding of the closeout requirements for the contract. (See section 01 78 00 Closeout Submittals).

(g) Indicate the anticipated overall critical path on the schedule.

(h) Show activities and/or milestones for coordination with other entities during construction, to demonstrate your understanding of the coordination requirements for the contract.

(i) Constraints: Offeror must demonstrate the capability and flexibility to plan and schedule the complete project to meet the proposed contract completion period. Clearly identify any constraints on the schedules presented (e.g., labor or material availability, permits, weather, etc.). Indicate the anticipated overall critical path on the schedule.

7.2. EVALUATION CRITERIA:

7.2.1 Proposed Contract Duration: The proposed duration will become the contractually binding schedule. The Government will evaluate the contract duration, as proposed by the Offeror herein, not to exceed the maximum allowed duration listed in Section 01 00 00.00 44. This duration shall also include all bid options. 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 order duration shorter than the duration will receive additional rating consideration, provided the schedule is realistic and deemed to be achievable. The Government will not 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.

7.2.2 Summary Schedule: The Government will evaluate the schedule to assess the strength of understanding of the project scope, coordination and restrictions which must be considered in the schedule, long lead items, closeout process. The Government will evaluate the Offeror's capability to schedule the complete project within the proposed contract duration and the realism of the schedule. 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 contract requirements will receive additional consideration.

8.0 PRICE AND OTHER REQUIRED INFORMATION, VOLUME 2, PRICE

8.1 TABLE 2 - Volume 2 – PRICE AND OTHER REQUIRED INFORMATION

Factor	Location	Description	Relative Importance
FACTOR 4	Vol. 2, TAB A	PRICE and Other Required Information	Not rated. All evaluation factors when combined are significantly more important than price
	Vol. 2, TAB B	BID GUARANTEE	Acceptable/Unacceptable
	Vol. 2, TAB C	REQUIRED PRE-AWARD INFORMATION	Acceptable/Unacceptable
	Vol. 2, TAB D	REPRESENTATION AND CERTIFICATIONS	Acceptable/Unacceptable

8.2 GENERAL

Submit the other required information in a separate envelope labeled: "Volume 2 – Price and Other Required Information."

9.0 TAB A – FACTOR 4 PRICE (BID SCHEDULE)

9.1 SUBMISSION REQUIREMENTS:

Submit the properly filled out Bid Schedule, containing proposed line item and total pricing, as well as the proposed contract duration. See instructions in Section 00 21 00, *"Instructions to Offerors"*.

Supplemental Price Breakdown. If deemed necessary to evaluate the price proposals, the Government will request a price breakdown of the contract line items in a sealed envelope marked "Price Breakdown Information", in Excel format. The Government will provide details on where and how to send the breakdown. This information will not be needed sooner than

three working days after the proposal submission due date. This information is not an opportunity for an Offeror to revise its non-price or price proposal.

9.2 EVALUATION CRITERIA:

Price will not be rated or scored, but will be evaluated for fairness and reasonableness through the use of a price analysis. The price evaluators will also check for appearance of unbalanced line item prices. Offerors are cautioned to distribute direct costs, such as material, labor, equipment, subcontracts, etc. and to evenly distribute indirect costs, such as job overhead, home office overhead, bond, etc., to the appropriate contract line items. Both parties shall presume that field overhead costs through the proposed contract duration are inclusive in the offered price for the contract.

If deemed necessary, the supplemental price breakdown information will be used to assist the Government in performing the price evaluations described above.

Award may not be made for an Offeror's proposal for construction that exceeds the cost limitations described herein.

10.0 TAB B – BID GUARANTEE

10.1 SUBMISSION REQUIREMENTS:

Submit the Bid Guarantee in accordance with the Instructions in Section 00 21 00, Provision 52.228-1 Bid Guarantee.

10.2 EVALUATION CRITERIA:

This item is not rated. The Government will review the Bid Guarantee for legal sufficiency. The Bid Guarantee must be legally sufficient. *Failure to submit a bid guarantee may make the Offeror's proposal ineligible for award.*

11.0 TAB C – REQUIRED PRE-AWARD INFORMATION

11.1 SUBMISSION REQUIREMENTS:

Submit this information for the Contracting Officer's determination of Offeror responsibility, which includes, but not limited to the following:

11.1.1 A list of present commitments, including the dollar value thereof, and name of the organization under which the work is being performed. Include names and telephone numbers of personnel within each organization who are familiar with the prospective contractor's performance.

11.1.2 A certified statement listing; (1) each contract award within the preceding three month period exceeding $1,000,000.00 in value with a brief description of the contract; and (2) each contract award within the preceding three year period not already physically completed and exceeding $5,000,000.00 in value with a brief description of the contract.
If the prospective contractor is a Joint Venture, each Joint Venture member will be required to submit the above defined certification.

11.1.3 ATTACHMENT 5 - Certification Regarding Responsibility Matters (Apr 2010).

11.2 EVALUATION CRITERIA:

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

12.0 TAB D – REPRESENTATIONS AND CERTIFICATIONS

12.1 SUBMISSION REQUIREMENTS:

Confirm that the Offeror's representations and certifications have been completed in the Online Representations and Certifications Application (ORCA) within the System for Award Management (SAM) website. in accordance with FAR 52.204-8.

The representations and certifications submitted under this tab and online will be reviewed to ensure the Offeror's representations are consistent, accurate and in accordance with regulation. It will not be rated.

13.0 EVALUATION CRITERIA

13.1 GENERAL:

The Source Selection Evaluation Board will evaluate the proposals and assign a consensus rating for each technical evaluation factor, utilizing the evaluation and rating system described in Section 00 22 11.

Factor 4, Vol 2, Tabs B, C, D, and E, will be reviewed and determined "Acceptable" or "Unacceptable". The following definitions apply to Volume 2 only:

"Acceptable": Proposal clearly meets the minimum requirements of the solicitation. "Unacceptable": Proposal does not clearly meet the minimum requirements of the solicitation.

13.2. Discussions (If necessary)

The Government intends to award without discussions. A "Competitive Range" is a subjective determination of the most highly rated proposals in the event that discussions with Offerors are required. In such an event, the SSA will approve a competitive range of all the most highly rated proposals.

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 discussions, those Offerors still considered the most highly rated, will be afforded an opportunity to submit their proposal revisions for final evaluation and selection.

14.0 EVALUATION AND RATING SYSTEM

14.1 GENERAL:

The Government will review the proposals and rate the quality of each evaluation factor. The SSEB will rate each proposal against the specified evaluation criteria in the Solicitation requirements. They will not compare proposals. After all proposals are rated, the Source Selection Authority will compare the ratings and relative advantages and disadvantages of proposals against each other in order to determine which Offerors are the most highly qualified.

14.2 Review Write-up:

The Government will support each rating with a narrative, separately listing all strengths or advantages, weaknesses or disadvantages, deficiencies, and required clarifications.

14.3 Rating System:

After listing proposal strengths, weaknesses, and deficiencies, the SSEB will assign adjectival rating of "Outstanding", "Good", "Acceptable", "Marginal", or "Unacceptable", except for Past Performance Factor. Past Performance will have a Confidence Rating of "Substantial", "Satisfactory", "Neutral", 'Limited" or "No Confidence" and a Relevancy Rating of "Very Relevant", "Relevant", "Somewhat Relevant" or "Not Relevant". Reference Section 15 for Definition of the adjectival ratings for the Technical factors, Section 16 for the Past Performance Rating.

15.0 DEFINITIONS

Deficiency. A deficiency is 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.

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.

Strength. Any aspect of an Offeror's proposal that has merit or exceeds specified performance or capability requirements in a way that will be advantageous to the Government during contract performance.

Outstanding. Proposal indicates an exceptional approach and understanding of the requirements and contains multiple strengths, and risk of unsuccessful performance is low.

Good. Proposal indicates a thorough approach and understanding of the requirements and contains at least one 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/or risk of unsuccessful performance is unacceptable. Proposal is un-awardable.

16.0 PAST PERFORMANCE RATINGS.

A single confidence rating shall be assigned to Past Performance.

The relevancy determination will assess the Offeror's past performance to determine how relevant a recent effort accomplished by the Offeror is to the effort to be acquired under this solicitation.

Offeror must have at least two (2) projects that are similar in size, scope, and complexity to the scope of work for this solicitation to be considered relevant. Relevancy shall be similar to construction of an aviation maintenance hangar building and with the construction value ranging from $5 million to $10 million. One (1) of the three (3) projects submitted for past performance may be a current construction project with at least 50% construction progress completed and the other two (2) must be 100% complete within the last six (6) years.

The confidence rating assess the risks associated with each Offeror's likelihood of success in performing the requirements stated in the RFP based on the Offeror's demonstrated performance on recent contracts. SSEB members and the SSA may use personal knowledge or information from other sources in its evaluation of an Offeror's past performance, provided such information is consistent with the established evaluation criteria of the RFP. Offerors that have no relevant performance record will be given a neutral/unknown confidence rating.

Relevancy Determination Definitions

- **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.

Confidence Rating System

- **Unknown Confidence (Neutral).** 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.

- **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.

- **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.

17.0ATTACHMENTS

ATTACHMENT 1- PROPOSAL DATA SHEETS

ATTACHMENT 2- PAST PERFORMANCE ASSESSMENT WORKSHEET- CONSTRUCTION

ATTACHMENT 3- PAST PERFORMANCE ASSESSMENT WORKSHEET - DESIGNER

ATTACHMENT 4- PAST PERFORMANCE QUESTIONNAIRE

ATTACHMENT 5- CERTIFICATION REGARDING RESPONSIBILITY MATTERS (APR 2010)

ATTACHMENT 1
W9126G20U3782: PROPOSAL DATA SHEET

Solicitation Number	
Firm	
Address	
Phone	
Fax	
Email	
Tax ID Number	
DUNS Number	

Also provide any other assigned number that identifies the member firm(s) in the CPARS databases. If a separate DUNS has been created for a joint venture (J-V) it must also be submitted. Provide a DUNS 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 DUNS for each.

Firm 1 _____ Nature of Association _____ DUNS Number _____

Firm 2 _____ Nature of Association _____ DUNS Number _____

Firm 3 _____ Nature of Association _____ DUNS Number _____

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 _____

Address _____

Telephone _____

Email _____

PAST PERFORMANCE ASSESSMENT WORKSHEET

(To be completed for each project submitted)

CONSTRUCTION OR PRIME CONTRACTOR			***PROJECT #***
Offeror:			
Project and Location:			
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 by checking all applicable boxes below.

RELEVANCY:

☐ Renovation of an Aviation Maintenance Hangar building with associated administrative and living spaces or similar commercial or institutional type; and

☐ Minimum 40,000 square feet and

☐ Construction value of at least $5.5 Million.

ADDITIONAL FEATURES OF COMPLEXITY:

☐ Design/Build construction

Provide any additional narrative to support relevancy assessment (in terms of scope, magnitude and complexity as compared to the scope of the RFP).

Your Performance Evaluation by Owner, if known :

SECTION 00 22 11 - ATTACHMENT 3

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

DESIGN FIRM OR IN-HOUSE DESIGN		***PROJECT #_____***
Offeror:		
Project and Location:		
Owner:		
Owner's Point of Contact for Reference:	Telephone:	
Estimated Construction Cost:	Actual Construction Cost (if known):	
Date of Award:	Original Design Completion Date:	Revised Design Completion Date:
Explain Time Growth, if any:		
General Scope of Construction and Offeror's Role in Design:		
Offeror's Role in Design (Self-Performed Work):	Extent and Type of Work You Subcontracted Out:	

Describe extent of relevancy and complexity of the project by checking all applicable boxes below.

RELEVANCY:

- ☐ Renovation of an Aviation Maintenance Hangar building with associated administrative and living spaces or similar commercial or institutional type; and
- ☐ Minimum 40,000 square feet and
- ☐ Construction value of at least $5.5 Million.

ADDITIONAL FEATURES OF COMPLEXITY:

- ☐ Design/Build construction

Provide any additional narrative to support relevancy assessment (in terms of scope, magnitude and complexity as compared to the scope of the RFP).

Your Performance Evaluation by Owner, if known:

PAST PERFORMANCE QUESTIONNAIRE
SECTION 00 22 11 – ATTACHMENT 4

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

CONTRACT INFORMATION (Contractor to complete Blocks 1-4)

1. Contractor Information

Firm Name: CAGE Code: Address:
DUNs Number: Phone
Number:

Email Address:

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

(Explain)

Percent of project work performed:

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:

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/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with few minor problems for which corrective actions taken by the contractor was highly effective.	An Exceptional rating is appropriate when the Contractor successfully performed multiple significant events that were of benefit to the Government/Owner. 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/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with some minor problems for which corrective actions taken by the contractor were effective.	A Very Good rating is appropriate when the Contractor successfully performed a significant event that was a benefit to the Government/Owner. There should have been no significant weaknesses identified.
(S) Satisfactory	Performance meets minimum 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.	A Satisfactory rating is appropriate when there were only minor problems, or major problems that the contractor recovered from without impact to the contract. There should have been NO significant weaknesses identified. Per DOD policy, a fundamental principle of assigning ratings is that contractors will not be assessed a rating lower than Satisfactory solely for not performing beyond the requirements of the contract.
(M) Marginal	Performance does not meet some contractual requirements. The contractual performance of the element or sub-element being assessed 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.	A Marginal is appropriate when a significant event occurred that the contractor had trouble overcoming which impacted the Government/Owner.
(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 serious problem(s) for which the contractor's corrective actions appear or were ineffective.	An Unsatisfactory rating is appropriate when multiple significant events occurred that the contractor had trouble overcoming and which impacted the Government/Owner. A singular problem, however, could be of such serious magnitude that it alone constitutes an unsatisfactory rating.
(N) Not Applicable	No information or did not apply to your 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.	
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. *(If liquidated damages were assessed or the schedule was not met, please address below)*	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 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 established budgets and avoidance of significant and/or unexplained variances (under runs or overruns)	E VG S M U N
d) Is the Contractor's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*	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? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*	Yes No
f) Have there been any indications that the contractor has had any financial problems? *If yes, please explain below.*	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 users rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	E VG S M U N
b) 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 (explain if specific issues)	E VG S M U N
c) 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)*

ATTACHMENT 5

FAR Provision 52.209-5, Certification Regarding Responsibility Matters (Apr 2010)

(a)

(1) The Offeror certifies, to the best of its knowledge and belief, that --

(i) The Offeror and/or any of its Principals --

(A) Are [_] are not [_] presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;

(B) Have [_] have not [_], within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) contract or subcontract; violation of Federal or State antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating Federal criminal tax laws, or receiving stolen property (if offeror checks "have", the offeror shall also see 52.209-7, if included in this solicitation); and

(C) Are [_] are not [_] presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in paragraph (a)(1)(i)(B) of this provision; and

(D) Have [_], have not [_], within a three-year period preceding this offer, been notified of any delinquent Federal taxes in an amount that exceeds $3,500 for which the liability remains unsatisfied.

(1) Federal taxes are considered delinquent if both of the following criteria apply:

(i) The tax liability is finally determined. The liability is finally determined if it has been assessed. A liability is not finally determined if there is a pending administrative or judicial challenge. In the case of a judicial challenge to the liability, the liability is not finally determined until all judicial appeal rights have been exhausted.

(ii) The taxpayer is delinquent in making payment. A taxpayer is delinquent if the taxpayer has failed to pay the tax liability when full payment was due and required. A taxpayer is not delinquent in cases where enforced collection action is precluded.

(2) Examples.

(i) The taxpayer has received a statutory notice of deficiency, under I.R.C. §6212, which entitles the taxpayer to seek Tax Court review of a proposed tax deficiency. This is not a delinquent tax because it is not a final tax liability. Should the taxpayer seek Tax Court review, this will not be a final tax liability until the taxpayer has exercised all judicial appeal rights.

(ii) The IRS has filed a notice of Federal tax lien with respect to an assessed tax liability, and the taxpayer has been issued a notice under I.R.C. §6320 entitling the taxpayer to request a hearing with the IRS Office of Appeals contesting the lien filing, and to further appeal to the Tax Court if the IRS determines to sustain the lien filing. In the course of the hearing, the taxpayer is entitled to contest the underlying tax liability because the taxpayer has had no prior opportunity to contest the liability. This is not a delinquent tax because it is not a final tax liability. Should the taxpayer seek tax court review, this will not be a final tax liability until the taxpayer has exercised all judicial appeal rights.

(iii) The taxpayer has entered into an installment agreement pursuant to I.R.C. §6159. The taxpayer is making timely payments and is in full compliance with the agreement terms. The taxpayer is not delinquent because the taxpayer is not currently required to make full payment.

(iv) The taxpayer has filed for bankruptcy protection. The taxpayer is not delinquent because enforced collection action is stayed under 11 U.S.C. 362 (the Bankruptcy Code).

(ii) The Offeror has [_] has not [_], within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.

(2) "Principal," for the purposes of this certification, means an officer; director; owner; partner; or a person having primary management or supervisory responsibilities within a business entity (*e.g.*, general manager; plant manager; head of a division or business segment; and similar positions).

This Certification Concerns a Matter Within the Jurisdiction of an Agency of the United States and the Making of a False, Fictitious, or Fraudulent Certification May Render the Maker Subject to Prosecution Under Section 1001, Title 18, United States Code.

(b) The Offeror shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a determination of the Offeror's responsibility. Failure of the Offeror to furnish a certification or provide such additional information as requested by the Contracting Officer may render the Offeror non-responsible.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of an Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly rendered an erroneous certification, in addition to other remedies available to the Government, the Contracting Officer may terminate the contract resulting from this solicitation for default.

End Section

SECTION 00 73 00
SPECIAL CONTRACT REQUIREMENTS

52.211-10 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984)

The Contractor shall be required to (a) commence work under this contract within **10 (ten)** calendar days after the date the Contractor receives the notice to proceed, (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than (**refer to section 01 00 50.00 44)** after Notice to Proceed. The time stated for completion shall include final cleanup of the premises.

(End of clause)

52.211-12 LIQUIDATED DAMAGES--CONSTRUCTION (SEP 2000)

(a) If the Contractor fails to complete the work within the time specified in the contract, the Contractor shall pay liquidated damages to the Government in the amount of (**refer to Section 01 00 50.00 44)** for each calendar day of delay until the work is completed or accepted.

(b) If the Government terminates the Contractor's right to proceed, liquidated damages will continue to accrue until the work is completed. These liquidated damages are in addition to excess costs of repurchase under the Termination clause.

(End of clause)

52.217-7 OPTION FOR INCREASED QUANTITY-SEPARATELY PRICED LINE ITEM (MAR 1989)

The Government may require the delivery of the numbered line item, identified in the Schedule as an option item, in the quantity and at the price stated in the Schedule. The Contracting Officer may exercise the option by written notice to the Contractor within 120 days after notice to proceed.

(End of Clause)

-- End of Section --

Section 00 73 46 - Wage Determination Schedule

DOL issues DBA WDs reflecting prevailing wages and benefits paid by the construction industry within specific localities. The DBA WDs are further classified by the nature of the construction projects performed, specifically listed as "schedules": residential, building, highway, and heavy construction. A brief outline of the definitions for each schedule is listed below. Further details and examples may be found in DOL's "All Agency Memorandum No. 130 and 131" issued in 1978 (reference the WDOL Library Page).

Building Construction. Includes construction of sheltered enclosures with walk-in access for the purpose of housing persons, machinery, equipment or supplies; all construction of such structures; the installation of utilities and of equipment, both above and below grade levels; as well as incidental grading, utilities and paving. Such structures need not be "habitable" to be building construction. Also, the installation of heavy machinery and/or equipment does not generally change the project's character as a building.

Heavy Construction. Includes those projects that are not properly classified as either "building," "highway," or "residential." Unlike these classifications, heavy construction is not a homogenous classification. Because of this catch-all nature, projects within the heavy classification may sometimes be distinguished on the basis of their particular project characteristics, and separate schedules may be issued for dredging projects, water and sewer line projects, dams, major bridges, and flood control projects.

Highway Construction. Includes construction, alteration or repair of roads, streets, highways, runways, taxiways, alleys, trails, paths, parking areas, and other similar projects not incidental to building or heavy construction.

Some contracts or projects may require more than one general schedule to be included depending on the nature and extent of the work. This is described in more detail in DOL's All Agency Memo No. 131. The contracting agency should provide designate the work to which each wage determination **o**r part thereof applies per FAR 22.404-2.

APPLICATION OF WAGE DECISIONS

Solicitation Number: W9126G-20-U-3782

Project: B4295 Hangar Renovation
Location: Fort Polk, LA
Vernon Parish Louisiana

NOTE:

(1) PAYROLL RECORDS ARE REQUIRED, UNDER THE DAVIS-BACON ACT, TO BE SUBMITTED TO THE U.S. ARMY CORPS OF ENGINEERS FOR ALL CONSTRUCTION ACTIVITIES PERFORMED.

(2) THE WAGE DECISION NUMBER(S) APPLICABLE TO THE WORK PERFORMED DURING THE WEEKLY PAY PERIOD IS TO BE SHOWN ON ALL CERTIFIED PAYROLL RECORDS SUBMITTED. FAILURE TO SO ANNOTATE THE APPLICABLE WAGE DECISION UTILIZED MAY RESULT IN POTENTIAL UNDERPAYMENT OF WAGES VIOLATIONS.

"General Decision Number: LA20200023 01/03/2020

Superseded General Decision Number: LA20190023

State: Louisiana

Construction Type: Building

County: Vernon County in Louisiana.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.80 for calendar year 2020 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.80 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2020. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/03/2020

* ASBE0053-001 09/01/2019

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR	$ 28.69	9.28

ELEC0576-010 09/01/2019

	Rates	Fringes
ELECTRICIAN (Excluding Low		

Voltage Wiring).....$ 25.30 4.25%+8.10

ELEC0861-008 09/01/2018

	Rates	Fringes
ELECTRICIAN (Low Voltage Wiring Only).....	$ 27.78	13.25

PLUM0247-005 05/01/2019

	Rates	Fringes
PLUMBER (Including HVAC Pipe Installation).....	$ 26.10	12.89

ROOF0317-001 12/01/2019

	Rates	Fringes
ROOFER.....	$ 21.79	8.69

SULA2012-008 09/22/2014

	Rates	Fringes
BRICKLAYER.....	$ 20.00	0.00
CARPENTER, Excludes Form Work....	$ 16.30	0.00
FORM WORKER.....	$ 14.25	0.00
LABORER: Common or General.....	$ 11.17	0.00
OPERATOR: Backhoe/Excavator/Trackhoe.....	$ 18.50	3.40
SHEET METAL WORKER (HVAC Duct Installation Only).....	$ 24.89	9.81
SPRINKLER FITTER (Fire Sprinklers).....	$ 27.00	6.91
TRUCK DRIVER: Dump Truck.....	$ 14.50	2.68

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours

they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all

rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

SECTION 01 00 50.00 44

GENERAL REQUIREMENTS

PART 1 GENERAL

1.1 PROJECT TITLE AND LOCATION

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

U.S. ARMY CORPS OF ENGINEERS (USACE)

EP 310-1-6a	(2006) Sign Standards Manual, VOL 1
EP 310-1-6b	(2006) Sign Standards Manual, VOL 2, Appendices

1.2 BASE IDIQ CONTRACT

The requirements of the Base IDIQ Contract Division 00 PROCUREMENT AND CONTRACTING REQUIREMENTS sections and documents and Division 01 GENERAL REQUIREMENTS sections apply to this task order except as otherwise specified in the task order documents.

1.3 DESCRIPTION OF WORK

Provide all plant, labor, and materials to perform the work described in the STATEMENT OF WORK.

1.4 SCHEDULE

Commence, prosecute, and complete the work under this contract in accordance with the following schedule and Section 00 73 00 SPECIAL CONTRACT REQUIREMENTS, PROSECUTION AND COMPLETION OF WORK and LIQUIDATED DAMAGES:

	Item of Work	Commencement of Work (Calendar days)	Completion of Work (Calendar days)	Liquidated Damages per calendar days
(1)	All work, including O&M Manuals and Final Record Drawings ,	Upon Contractor Acknowledgment of NTP.	365	$ 920.55
(2)	All executed options			198.96

NOTE: All work on this project shall be completed within the number of calender days stated in Items of Work (1,2) above, inclusive of all review periods and Government phasing requirements specified. If the Government accepts a proposal for a completion period of lesser duration, and such proposal alters the time periods for review and phasing, the Contract shall be read to include the original periods for review and phasing. If a completion period of lesser duration is proposed and accepted by the Government, the accepted completion period will replace the original construction schedule listed above in the Schedule. If an alternate completion period is proposed, the Bid Schedule must reflect pricing information for the alternate proposed completion period. The liquidated damages stated above will be applied for each calendar day the Contractor exceeds the Contract scheduled duration.

b. See Section 01 33 16.00 10 DESIGN DATA (Design after Award), paragraph "SUBMISSION OF CONSTRUCTION DRAWINGS, SPECIFICATIONS, AND DESIGN ANALYSES," concerning submission of construction documents and paragraph, 01 00 50.00 44 "SEQUENCE OF DESIGN/CONSTRUCTION," concerning start of construction.

c. Liquidated damages for individual items of work will be combined. If any or all options are executed the liquidated damages will increase by $198.96 and be $1,119.51. No additional time will be added.

d. Liquidated damages are not accumulative for multiple phases of work.

** Operation and Maintenance Manuals: See Section 01 78 00 CLOSEOUT SUBMITTALS, paragraph OPERATION AND MAINTENANCE MANUALS for requirements and withholding amount to ensure completion of O&M Manuals.

*** Record Drawings: See Section 01 78 00 CLOSEOUT SUBMITTALS, paragraph titled RECORD DRAWINGS for requirements and withholding amount to ensure completion of record drawings.

1.5 CONTRACTOR REQUIREMENTS

1.5.1 Prior To Delivery Order Award

( ) SITE SURVEY
(x) PRICE PROPOSAL

1.5.2 After Construction Completion, Prior To Final Payment

(x) EQUIPMENT AND CONSTRUCTION WARRANTIES
(x) AS-BUILT/FINAL DRAWINGS

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

a. This provision specifies the procedure for determination of time extensions for unusually severe weather in accordance with the contract clause FAR 52.249-10 entitled "DEFAULT: (FIXED PRICE CONSTRUCTION)." In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

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

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

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

MONTHLY ANTICIPATED ADVERSE WEATHER DELAY
WORK DAYS BASED ON (5) DAY WORK WEEK

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
5	5	4	4	5	6	5	4	4	4	4	6

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

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

weather work days, and issue a modification in accordance with the contract clause entitled "Default (Fixed Price Construction)."

1.7 PHASING REQUIREMENTS AND WORK RESTRICTIONS

a. Working hours for this project shall be between 0700 and 1700, Monday through Friday. Requests to work at times other than the stated working hours, including scheduled utility outages discussed below, shall be submitted to the Contracting Officer for approval. Contractor shall not work outside of the above stated working hours without prior written approval of the Contracting Officer.

. Access to project site is subject to base closures for security and military mission execution. Contract time extension without addition cost shall be granted on a day for day basis for periods when the contractor is denied access to the project site due to base closures. See Section 01 00 00.00 44 DESIGN AND CONSTRUCTION SCHEDULE .

c. The Contractor shall coordinate any required utility outages with the Contracting Officer. See Section 01 00 00.00 44 DESIGN AND CONSTRUCTION SCHEDULE.

1.8 IDENTIFICATION OF CONTRACTOR EMPLOYEES IN THE FEDERAL WORKPLACE (Sep 2008)

(a) The Contractor shall provide each of its employees who will be involved in the performance of the contract, on a Government facility, with an identification (ID) badge. The ID badge shall clearly display the contractor's name and the employee's name and color photograph. The Contracting Officer or his/her designee shall approve the ID badge before the commencement of contract performance. It is the Contractor's responsibility to ensure that all contractor personnel wear the ID badge at all times when performing work under this contract at a Government facility. Unless otherwise specified in the contract, each contractor employee shall wear the ID badge in a conspicuous place on the front of their clothing and above their waist, except when safety or health reasons prohibit such placement. This requirement is in addition to any Government facility security provisions that require that a Government-issued security badge also be worn.

(b) Contractor personnel shall clearly identify themselves to all attendees as a contractor employee before the commencement of meetings with Government or other contractor personnel. Contractor personnel shall clearly and immediately identify themselves as a contractor employee when placing, answering or participating in telephone/VTC conversations with Government or other contractor personnel.

(c) When contractor personnel send e-mail messages from or to a Government-owned computer, they shall include a signature block that includes their employer's name and the employee's full name and e-mail address.

(d) Each of the requirements set forth in paragraphs a-c above, must be included in all subcontracts at any tier.

1.9 CONTRACTOR PERFORMANCE EVALUATIONS

In accordance with the provisions of Subpart 36.201 (Evaluation of Contractor Performance) of the Federal Acquisition Regulation (FAR),

construction contractor’s performance shall be evaluated throughout the performance of the contract. The United States Army Corps of Engineers (USACE) follows the procedures outlined in Engineering Regulation 415-1-17 to fulfill this FAR requirement. For construction contracts awarded at or above $700,000.00, the USACE will evaluate contractor’s performance and prepare a performance report using the Contractor Performance Assessment Reporting System (CPARS), which is now a web-based system. After an evaluation (interim or final) is written up by the USACE, the contractor will have the ability to access, review and comment on the evaluation for a period of 60 days. Accessing and using CPARS requires specific software, called PKI certification, which is installed on the user’s computer. The certification is a Department of Defense requirement and was implemented to provide security in electronic transactions. The certification software could cost approximately $110 - $125 per certificate per year and is purchased from an External Certificate Authorities (ECA) vendor. Current information about the PKI certification process and for contacting vendors can be found on the web site: http://www.cpars.csd.disa.mil/. If the Contractor wishes to participate in the performance evaluation process, access to CPARS and PKI certification is the sole responsibility of the Contractor.

1.10 CONTRACTOR PAYROLL RECORD

Contractor shall be required to log payrolls for all their own employees and subcontractors utilizing ENG Form 3180. Each subcontractor requires a separate ENG 3180 for their payrolls. The Contractor shall maintain the ENG 3180, along with the payrolls, on site and available for review by the Contracting Officer's Representative. The ENG 3180's shall be updated weekly as payrolls are submitted. After making copies for their files, the Contractor is required to submit the originals of each week’s payrolls to the Resident Office. Before final payment, the Contractor shall provide the completed ENG 3180’s to the Contracting Officer's Representatives.

1.11 PAPERLESS CONTRACT SUBMISSION

a. GENERAL INFORMATION ON PAPERLESS CONTRACT SUBMISSION

The goal is to reduce waste, decrease time, decrease associated costs, and to streamline most file transmission procedures.

b. METHODS OF DIGITAL SUBMISSION

This contract shall use digital submission methods to the greatest extent practicable. Acceptable methods are as follows, in order of precedence:

1. RMS CM - will be used to the greatest extent practicable. Some items may not be submittable via RMS CM due to program constraints. Those items shall use an alternate method. All ENGR 4025’s shall be generated and submitted in RMS CM.

2. Secure, Password Protected Web-Based System Access must be allowed and approved by the Government Representative. Access must be allowed and approved by the Government Representative. This method shall not be used for security sensitive documents.

3. E-mail – Items not submitted via RMS CM, as discussed above, shall be submitted via e-mail, if possible. E-mail limitations for file size must be considered prior to submission. Under current

conditions, 5 megabytes is the limitation for any single file/e-mail.

4. CD/DVD – Will be accepted if no other method is possible and upon prior approval.

c. ITEMS TO BE SUBMITTED VIA HARDCOPY

Product samples, color boards, and any other item not feasible to submit digitally, shall be submitted hard copy. ENGR 4025 shall be submitted digitally always. The Government reserves the right to request hard copy submission on any item, if deemed necessary. Contractor shall be prepared to provide requested hard copy at any time.

1.12 CONTRACTOR SUPPLY and USE OF ELECTRONIC SOFTWARE FOR PROCESSING WAGE RATE REQUIREMENTS CERTIFIED LABOR PAYROLLS

(a) The contractor is required to use a commercially-available electronic system to process and submit certified payrolls electronically to the Government. The requirements for preparing, processing and providing certified labor payrolls are established by the Wage Rate Requirements statute.

(b) The contractor shall be responsible for obtaining and providing for all access, licenses, and other services required to provide for receipt, processing, certifying, electronically transmitting to the Government, and storing weekly payrolls and other data required for the contractor to comply with the Wage Rate Requirements statute. When the contractor uses an electronic payroll system, the electronic payroll service shall be used by the contractor to prepare, process, and maintain the relevant payrolls and basic records during all work under this construction contract and the electronic payroll service shall be capable of preserving these payrolls and related basic records for the required 3 years after contract completion. The contractor shall obtain and provide electronic system access to the Government, as required to comply with the Wage Rate Requirements over the duration of this construction contract. The access shall include electronic review access by the Government contract administration office to the electronic payroll processing system used by the contractor.

(c) The contractor's provision and use of an electronic payroll processing system shall meet the following basic functional criteria:

(1) commercially available;

(2) compliant with appropriate Wage Rate Requirements statute payroll provisions in the Federal Acquisition Regulation (FAR);

(3) able to accommodate the required numbers of employees and subcontractors planned to be employed under the contract

(4) capable of producing an Excel spreadsheet-compatible electronic output of weekly payroll records for export in an Excel spreadsheet to be imported into the contractor's Quality Control System (QCS) version of Resident Management System (RMS), that in turn shall export payroll data to the Government's RMS;

(5) demonstrated security of data and data entry rights;

(6) ability to produce contractor-certified electronic versions of weekly payroll data;

(7) ability to identify erroneous entries and track the date/time of all versions of the certified Wage Rate Requirements statute payrolls submitted to the government over the life of the contract;

(8) capable of generating a durable record copy, that is, a CD or DVD and PDF file record of data from the system database at end of the contract closeout. This durable record copy of data from the electronic payroll processing system shall be provided to the Government during contract closeout.

(d) All contractor-incurred costs related to the contractor's provision and use of an electronic payroll processing service shall be included in the contractor's price for the overall work under the contract. The costs for compliance with the Wage Rate Requirements statute by using electronic payroll processing services shall not be a separately bid or reimbursed item under this contract.

1.13 ADDITIONAL CONTRACTOR PAYROLL RECORD

(1) The Fort Worth District requires the contractor and all sub-contractors to use an electronic payroll system meeting the above refernced requirements and the following requirements.

(a) The Certified Labor Payrolls must be tracked electronically via WEB-based software and all data must be submitted via WEB. Payroll guidelines,"Instructions to Contractors on Contract Labor Requirements, published as "Appendix A, SWFP 1185-1-1" (also known as the Green book), will be provided to advise/inform contractors how these labor provisions will be administered and enforced.

(b) The WEB-based software must be capable of downloading data directly from existing electronic payrolls, track workers to ensure that overtime is being paid when overtime status is reached on Government contracts whether on one or multiple contracts or different sub-contractors. The software must track apprentices and journeyman ratios, create and track SF-1444 "Request for Authorization of Additional Classification and Rate", track workers by name/address/with or without Social Security Numbers, allow automated redaction of information appearing on payroll statements for agency response to Freedom of Information Act (FOIA requests), and provide free online training by the software provider to any user of the software.

(c) The software must allow fringe benefit statement to track fringe benefits "whether cash or into an approved plan, fund, or program. If the fringe benefits are paid into a plan, fund, or program the company's name (receiving benefits), phone number, and address shall be listed on the Statement of Compliance Form (DD Form 879 or WH-347).

(c) Software must provide a method of tracking standard and non-standard deductions such as restitution, alimony, child support, and allow for custom entries. Method of tracking must list the deductions on the statement of compliance or be listed as an attachment.

(d) The Contractor is required to provide the updated 3080's and notify the Contracting Officer's Representatives weekly by email when the current payrolls are complete and ready for inspection/review on the WEB. Before final payment, the Contractor shall provide the completed ENG For 3180's and 3 disks (CD/DVD) which include complete copies of the Contractor and sub-contractor's payrolls/attachments, to the Contracting Officer's Representatives.

(2) Electronic copies of electronically/manually signed forms/memos/letters such as SF 1413 Statement of Acknowledgement (sub-contractor agreement), SF-1444 "Request for Authorization of Additional Classification and Rate", employee deduction authorization, certification of apprentices and trainees shall be provided to the Contracting Officer's Representative as required by FAR.

1.14 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Transmittal forms (ENG Form 4025) are included in the QCS software that the Contractor is required to use for this contract.

SD-01 Preconstruction Submittals

Accident Prevention (Safety) Plan; G
Environmental Protection Plan; G
Work Plan
Project Schedule; G
Contractor Quality Control (CQC) Plan; G
CQC System Manager
Safety and Health Manager

SD-03 Product Data

Materials and Products

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

SD-11 Closeout Submittals

Documentation to record compliance with technical or administrative requirements or to establish an administrative mechanism, such as:

Record (e.g. As-built) drawings
Warranties
Operation And Maintenance Manuals
Posted operating instructions
Training plan
Safety Data Sheets (SDS)
Asbestos Free Construction Material Certification

1.15 SAFETY REQUIREMENTS

The Contractor shall comply with the Contract FAR clause 52.236-13, Accident Prevention, and with all pertinent provisions of the latest version of U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, in effect on the date of the solicitation. the Contractor's Accident Prevention Plan shall follow the format shown in COE EM 385-1-1, Appendix A - Minimum Basic Outline for Accident Prevention Plan.

a. Language

For each work group that has employees who do not speak English, the Contractor will provide a bilingual foreman who is fluent in English and in the language of the workers. The Contractor will implement the requirements of COE EM 385-1-1, paragraphs 01.B.01, 01.B.02, and 01.C.02 through these foremen.

b. Doctor's Report

The Contractor shall provide, in the event of any Contractor/subcontractor employee lost time injury accident, a doctor's report of examination which states the number of days that the physician recommends the employee recuperate before returning for work. This requirement shall be in addition to other reporting requirements and may, in specific instances, be waived by the Contracting Officer.

c. Self-Propelled Elevating Work Platforms

All self-propelled elevating work platforms will be designed, constructed, maintained, used, and operated in accordance with the guidance provided in American National Standard for Self-Propelled Elevating Work Platforms (ANSI A92.6-1979) together with any amendments which may be in force at time contract is awarded.

d. Supporting Systems

To COE EM 385-1-1, add "Supporting systems, i.e., piling, cribbing, shoring, etc., shall be designed by a qualified person to meet accepted engineering requirements. Submit supporting systems construction details and design calculations, which bear the seal of a licensed professional engineer, for Contracting Officer review.

1.16 U.S. ARMY CORPS OF ENGINEERS SAFETY AND HEALTH REQUIREMENTS MANUAL, EM 385-l-l

Reference Federal Acquisition Regulation (FAR) Clause 52.236-13, Accident Prevention. Engineer Manual (EM) 385-l-l and its changes are no longer available as part of this solicitation/contract but rather is available at http://www.swf.usace.army.mil/About/Organization/SafetyandOccupationalHealth.aspx. Consequently, the Contractor shall be responsible for complying with the current edition and all changes posted on the web as of the effective date of this solicitation.

1.17 HAZARDOUS MATERIALS

Construction material shall be free of lead, mercury, chromate, and other hazardous and toxic material. Prior to the final inspection of the

project, or with the appropriate submittals, furnish Safety Data Sheets (SDS) for caulking, sealant, surfacing material (i.e. glazing material and drywall texture), wallboard, drywall texture, paint, roofing and sealant materials, floor tiles, mastic, and other materials indicating that the materials are non-asbestos containing materials. Also furnish an Asbestos Free Construction Material Certification certifying that the project is asbestos-free.

1.18 SEQUENCE OF DESIGN/CONSTRUCTION

(a) After receipt of the Contract Notice to Proceed (NTP) the Contractor shall initiate design, comply with all design submission requirements as covered under Division 01 General Requirements, and obtain Government review of each submission. No construction may be started, with the exception of clearing, etc, until the Government reviews the Final Design submission and determines it satisfactory for purposes of beginning construction. The Contracting Officer will notify the Contractor when the design is cleared for construction. The Government will not grant any time extension for any design resubmittal required when, in the opinion of the Contracting Officer, the initial submission failed to meet the minimum quality requirements as set forth in the Contract.

(b) If the Government allows the Contractor to proceed with limited construction based on pending minor revisions to the reviewed Final Design submission, no payment will be made for any in-place construction related to the pending revisions until they are completed, resubmitted and are satisfactory to the Government.

(c) No payment will be made for any in-place construction until all required submitttals have been made, reviewed and are satisfactory to the Government.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

-- End of Section --

SECTION 01 01 10.00 44

SPECIAL PROJECT REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

This Section covers project requirements applicable to Antiterrorism and Operations Security.

1.2 Antiterrorism/Operations Security

1. AT Level I Training. All contractor employees, to include subcontractor employees, requiring access to Army installations, facilities,controlled access areas, or require network access, shall complete AT Level I awareness training within 30 calendar days after contract start date or effective date of incorporation of this requirement into the contract, whichever is applicable. Upon request, the contractor shall submit certificates of completion for each affected contractor employee and subcontractor employee, to the COR or to the contracting officer (if a COR is not assigned), within 5 calendar days after completion of training by all employees and subcontractor personnel. AT Level I awareness training is available at the following website: http://jko.jten.mil/courses/atl1/launch.html; or it can be provided by the RA ATO in presentation form which will be documented via memorandum.

2. Access and General Protection/Security Policy and Procedures. All contractor and all associated sub-contractors employees shall comply with applicable installation, facility and area commander installation/facility access and local security policies and procedures (provided by government representative). The contractor shall also provide all information required for background checks to meet installation/facility access requirements to be accomplished by installation Provost Marshal Office, Director of Emergency Services or Security Office. Contractor workforce must comply with all personal identity verification requirements (FAR clause 52.204-9, Personal Identity Verification of Contractor Personnel) as directed by
DOD, HQDA and/or local policy. In addition to the changes otherwise authorized by the changes clause of this contract, should the Force Protection Condition (FPCON) at any installation or facility change, the Government may require changes in contractor security matters or processes.

2a. Not Used.

2b. For contractors who do not require CAC, but require access to a DoD facility or installation. Contractor and all associated sub-contractors employees shall comply with adjudication standards and procedures using the National Crime Information Center Interstate Identification Index (NCIC-III) and Terrorist Screening Database (TSDB) (Army Directive 2014-05 / AR 190-13), applicable installation, facility and area commander installation/facility access and local security policies and procedures (provided by government representative, as NCIC and TSDB are available), or, at OCONUS locations, in accordance with status of forces agreements and other theater regulations.

3. Not Used.

4. Suspicious Activity Reporting Training (e.g. iWATCH, CorpsWatch, or See Something, Say Something). The contractor and all associated sub-contractors shall receive a brief/training (provided by the RA) on the local suspicious activity reporting program. This locally developed training will be used to inform employees of the types of behavior to watch for and instruct employees to report suspicious activity to the project manager, security representative or law enforcement entity. This training shall be completed within 30 calendar days of contract award and within 30 calendar days of new employees commencing performance with the results reported to the COR NLT 5 calendar days after the completion of the training.

5. Not Used.

6. For Contracts that Require an OPSEC Standing Operating Procedure/Plan. The Contractor shall develop an OPSEC SOP/Plan within 90 days of contract award. The OPSEC SOP/Plan must be reviewed and approved by the RA OPSEC Officer. The SOP/Plan will include the government's critical information, why it needs to be protected, where it is located, who is responsible for it and how to protect it. In addition, the contractor shall identify an individual who will be an OPSEC Coordinator.

7. For Contracts that Require OPSEC Training. All new contractor employees will complete Level I OPSEC Training within 30 calendar days of their reporting for duty. Additionally, all contractor employees must complete annual OPSEC awareness training. The contractor shall submit certificates of completion for each affected contractor and subcontractor employee, to the COR or to the contracting officer (if a COR is not assigned), within 5 calendar days after completion of training. OPSEC awareness training is available at the following websites: https://www.iad.gov/ioss/ or http://www.cdse.edu/catalog/operations-security.html; or it can be provided by the RA OPSEC Officer in presentation form which will be documented via memorandum.

8. Not Used.

9. Not Used.

10. Not Used.

11. Not Used.

12. Not Used.

13. Not Used.

14. Not Used

15. Pre-screen candidates using E-Verify Program. The Contractor must pre-screen Candidates using the E-verify Program (http://www.uscis.gov/e-verify) website to meet the established employment eligibility requirements. The Vendor must ensure that the Candidate has two valid forms of Government issued identification prior to enrollment to ensure the correct information is entered into the E-verify system. An initial list of verified/eligible Candidates must be provided to the COR no later than 3 business days after the initial contract award.

16. Not Used.

17. Threat Awareness Reporting Program. All new contractor employees will complete annual Threat Awareness and Reporting Program (TARP) Training provided by a Counterintelligence Agent, IAW AR 381-12 . The contractor shall submit certificates of completion for each affected contractor and subcontractor employee(s) or a memorandum for the record, to the COR or to the contracting officer (if a COR is not assigned), within 5 calendar days after completion of training. Authorized webbased TARP training for CAC card holders is available at the following website: https://www.us.army.mil/suite/page/655474

-- End of Section --

STATEMENT OF WORK

1. PROJECT NAME

Building 4295 – Hangar Renovation, Fort Polk, LA

2. PURPOSE

Provide all labor and materials to complete the renovation of Hangar Building 4295 at Fort Polk, Louisiana in accordance with the below scope and attached sketches.

3. GENERAL

The Contractor shall provide all site investigation, design services, design specifications and drawings, construction documentation, labor, materials, equipment, supervision, testing, shop and manufacturing drawings, submittals, construction, and transportation necessary to perform the requirements of this project in accordance with the scope of work and contract documents to ensure delivery of complete and usable systems.

Contractor shall use UFC 1-200-01 General Building Requirements and the Fort Polk Installation Design Guide for guidance and current building codes for the design and renovation of Building 4295.

ATFP requirements shall be implemented per UFC 4-010-01. These building renovations should not trigger the 50% replacement value guideline indicated in this UFC.

The Unified Facility Criteria library is located at: http://www.wbdg.org. Facility design, materials, equipment, and installation shall be in accordance with the requirements of listed codes, design manuals and military criteria 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 industrial standards take precedence.

The building design and the materials selected shall be high quality, durable, easily maintained and meet the specifications. The building components for the altered and remodeled areas shall be of noncombustible construction. Contractor shall be responsible for the professional quality code compliance, technical accuracy and coordination of all designs, drawings, specifications, and other documents or publications upon which the design and construction are based. The Contractor shall be responsible for performing all tasks described in this RFP.

4. STATEMENT OF WORK

4.1 GENERAL

All disposals shall be off government-controlled property and at the Contractor's expense. Obtain required demolition permits and disposal permits from the COR and DPW. Submit all haul tickets to the COR. A construction and demolition waste diversion rate of 60% minimum is required unless there is a valid reason for deviation. Items that can be used to help decrease diversion rates include salvaged items (may be reused as part of the contract by others), scrap metal, masonry products, gravel, asphalt, concrete, rock, topsoil (earth fill is specifically excluded).

The building will be unoccupied during construction. A list of furniture and equipment that is required to be relocated by the Contractor to a storage facility at Fort Polk is included in Appendix E. Furniture and

Equipment within this list shall be moved from B4295 to the storage facility prior to the start of construction and moved back to B4295 once construction is complete. Contractor is not responsible for any storage facility costs.

The scope of work, as described in detail within this document, is summarized below:

Base Bid Items:

- Interior work associated with new work / ready area
- Cleaning of existing roof drains
- Tinting of existing windows
- Replacement of exterior personnel doors
- Replacement of exterior overhead doors with three-fold doors
- Add three-fold doors between hangar bay and corridors
- Replacement of HVAC system and associated work
- Exterior Stair refinishing and railing replacement
- Fire Alarm and Mass Notification System and associated work
- Replacement of plumbing fixtures, water heater, and selective above floor piping.
- Installation of new LED fixtures and lighting controls
- Replacement of malfunctioning 60A receptacles
- Installation of cybersecurity control systems
- Relocation of existing data rack and installation of new wire mesh partition and gate

Bid Options:

- Roof replacement as indicated on drawings (including new gutter and downspout system, roof hatch curb, and roof walking pads)
- Exterior CMU crack repair
- Paint exterior CMU
- Exterior metal siding replacement (including structural repairs)
- Paint existing roof access ladder
- Paint exterior side of existing sliding hangar doors
- Replace 2nd floor exterior aluminum windows, trims, & flashing
- Backup Generator

4.2 PHYSICAL SECURITY

The UFC institutes minimum Antiterrorism (AT) requirements and represents DoD's significant commitment to effectively minimize loss of life from a terrorist attack. Occupancy and function are correlated with a necessary level of protection to minimize the attractiveness of a facility as a target for terrorist threats and to mitigate the likelihood that an attack will result in catastrophic structural damage and loss of life. At the most basic level, the UFC criteria strive to protect critical assets through the

incorporation of standoff distances to create a buffer zone between unsecured perimeter areas and the facility where possible. If the required standoff cannot be achieved, the UFC stipulates that conventional construction practices will not sufficiently protect a facility and instead imposes minimum AT design standards that govern the site and structure design.

4.2.1 PROJECT & SITE DESCRIPTION

The project consists of an existing single aircraft hangar facility. It is designated as an inhabited facility within a secure perimeter.

4.2.2 UFC 4-010-01 MINIMUM STANDARDS COMPLIANCE

The primary objective for the AT design is to minimize the possibility of mass casualties and protect DoD personnel occupying the new project, located within Fort Polk. To meet this objective, physical security protective design is being developed in accordance with all applicable standards of UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings as defined in Appendix B of the criteria document.

4.2.2.1 SITE PLANNING

a. Standoff Distances (Standard 1) – Existing buildings within an installation perimeter are exempt

b. Unobstructed Space (Standard 2) – Existing building with no additional obstructions or building features being constructed. Mechanical pad to comply with minimum distances to building or provide measures as required by UFC for AT criteria

c. Drive-Up/Drop-Off Areas (Standard 3) – Not Applicable

d. Access Roads (Standard 4) – Existing access road to building provided with security fencing and restricted area signage

e. Parking Beneath Buildings or on Rooftops (Standard 5) – Not Applicable.

4.2.2.2 STRUCTURAL DESIGN

a. The existing structural system consists of structural steel framing with a metal deck roof supported by steel bar joists and steel beams. The perimeter skin consists of metal panels supported by steel girts and a perimeter masonry wall.

b. Progressive Collapse Resistance (Standard 6) – Not Applicable

c. Structural Isolation (Standard 7) – Not Applicable

d. Building Overhangs and Breezeways (Standard 8) – Not Applicable

e. Exterior Masonry Walls (Standard 9)

f. Existing facility where conventional construction standoff distances are provided.

4.2.2.3 ARCHITECTURAL DESIGN

a. Mechanical Equipment Enclosure (Standard 2)

When trash containers, fuel tanks or electrical or mechanical equipment within the unobstructed space provide the opportunity for concealment, they must be enclosed. Enclosures must have four sides and a top. Openings in screening materials and gaps between the ground and screens or walls making up an enclosure will not be 6 in. (150 mm)

or greater. Secure any surfaces of the enclosures that can be opened so that unauthorized personnel cannot gain access. Where opaque top enclosures are provided, they will have a pitch of at least 1 vertical to 2 horizontal to increase visibility of objects thrown onto them and to increase the likelihood that the objects will slide off. Alternatively, if the vertical surfaces of the enclosures are transparent and at least 7 ft. (2.1 m) high, a top enclosure is not required.

b. Windows & Skylights (Standard 10) – Not Applicable

c. Building Entrance Layout (Standard 11) – Not Applicable

d. Exterior Doors (Standard 12)
All exterior non-glazed and glazed doors will swing outward and seat within their frames in response to blast loading. In addition, those that open into occupied space must be either tested or designed to provide blast resistance in accordance with Standard 12. Since corridors, mechanical spaces, and storage spaces are considered Low Occupancy, exterior doors entering them are not required to meet a blast rating.

e. Mail Rooms and Loading Docks (Standards 13 & 17) – Not Applicable

f. Roof Access (Standard 14) – Not Applicable

g. Overhead Mounted Architectural Features (Standard 15)

h. Bracing of overhead architectural features will be designed to meet bracing requirements of Standard 15.

4.2.2.4 MECHANICAL & ELECTRICAL DESIGN

Electrical and mechanical design address limiting damage to critical infrastructure, protecting building occupants against chemical, biological, and radiological threats, and notifying building occupants of these threats or hazards. The following items will be incorporated into the facility design.

a. Air Intakes (Standard 16)
Building occupants are to be protected from a chemical, biological and radiological (CBR) attack by locating air intakes for heating, ventilation, and air conditioning (HVAC) at a minimum of 3 meters (10 feet) above exterior grade. Additionally, all air-intakes and exhaust vents are to be equipped with dampers, which are to be tied to manual emergency HVAC system shutoff switches, in order to regulate the flow of incoming air in the event of a CBR attack.

b. Emergency Air Distribution Shutoff (Standard 18)
The occupied portions of the facility are to be equipped with a manual emergency shutoff switch for the HVAC systems adjacent to the fire alarm control panel. Providing this capability will allow the facility manager or building security manager to limit the distribution of airborne contaminants that may be introduced into the building via a CBR threat. Coordination with the mechanical engineer is required.

c. Equipment Bracing (Standard 19)
Bracing of electrical and mechanical equipment will be designed to meet bracing requirements of Standard 19.

d. Under Building Access (Standard 20)
In accordance with Standard 20, no crawl space below the building is provided in order to limit opportunities for aggressors placing explosives underneath buildings.

e. Mass Notification (Standard 21)
A combined fire alarm/mass notification system will be provided in accordance with UFC 4-021-011.

4.2.3 PHYSICAL SECURITY

A summary of the physical security requirements for the facility are as follows:

a. Contractor must provide an access roster to Directorate of Emergency Services (DES), Physical Security Office of all employees monthly or when any personnel change occurs for access to Fort Polk. An access roster will also be furnished to the Security and Intelligence Division (S&ID), DPTMS quarterly or upon request. Access rosters must be forwarded by the COR to the visitors control center using a specific format electronically from a government computer. All personnel employed under this contract will adhere to all Fort Polk access control policies which include, weapons registration, transportation of weapons on the installation, access control policies, use of installation passes and ID cards and the operation of motor vehicles.

b. A check of records through the National Crime Information Center (NCIC) Interstate Identification Index (III) is the Army minimum baseline background check for entrance onto Army installations for non-Common Access Card (CAC) holders to include entrance of visitors. Contractors will identity-proof all employees using e-Verify and ensure that no illegal immigrants are employed under the umbrella of this contract. Access to the installation will be IAW the current and/or future governing Command Access Control Policy Memorandums.

c. The Contractor shall provide employees with company identification (ID) cards prior to their commencement of work. The ID format is subject to approval by the government. IDs shall be laminated and include the company's name, ID number, issue and expiration dates, employee name, job title and color photograph. Employees shall wear ID cards on front exterior clothing, above the waist, when performing under the Performance of Work Statement (PWS)/SOW unless otherwise specified herein or approved by the government.

d. Physical Security Plan. The Contractor shall address the physical security aspects associated with contract performance in government furnished facilities. The plan shall describe how the Security Plan shall prevent unauthorized access, vandalism, pilferage, larceny, sabotage, and arson directed toward Contractor controlled facilities. A list of installation buildings for which the Contractor shall be responsible shall be included in the plan. The Contractor shall maintain an active security checklist for each facility under the Contractor's control. The plan shall comply with the provisions of AR 190-11, AR 190-13, AR 190-51, DoDM 5100.76, DoDM 5220.22 and the Fort Polk, LA Installation Physical Security Plan. This security plan will be reviewed annually by the DES to ensure regulatory requirements.

e. Information Systems Security Plan. The information systems security plan shall establish security procedures for all computer systems and communications utilized in the performance of this PWS/SOW/SOO. The plan shall conform to AR 25-2, AR 25-1 AR 380-5 and AR 380-67.

f. Key Control Plan. The Contractor's key control plan shall provide for government access, 24 hours a day, seven days a week, to all government-furnished facilities. The plan shall comply with AR 190-13, the Army Physical Security Program, and AR 190-51.

g. The Contractor shall ensure that its employees, performing under this contract that has access to government information systems receive annual DoD Cyber Awareness security

training. This training can be acquired at:
https://iatraining.disa.mil/eta/disa_cac2018/launchPage.htm

h. The Contractor shall immediately notify the contracting officer when an employee terminates employment that has access to government information systems or data. The Contractor shall ensure all common access cards issued to employees are returned to the government upon termination of employment and released employee names are to be stricken from the roster maintained by DES & S&ID immediately upon release

4.2.4 AIRFIELD SECURITY

A summary of the vehicle and pedestrian operations requirements for the facility are as follows:

a. Individuals identified by the Contractor to work within the AOA shall undergo training to comply with the Fort Polk's rules for ground vehicle operations and will be responsible for maintaining compliance.

b. Entry gates shall be manned or locked at all times.

c. Contractor shall provide an escort trained by the airport for all vehicles requiring access to the AOA.

d. Contractor's personnel and equipment shall stay within the indicated staging area, haul route(s), and phase as indicated for each phase.

e. Contractor shall maintain control of all personnel and equipment to prevent unauthorized entry of persons or vehicles from entering the AOA.

A summary of the Foreign Object Debris (FOD) management requirements for the facility are as follows:

a. Perimeter of the construction site and all haul routes shall be continuously monitored by the Contractor to ensure the temporary barricades are per plan and to ensure no FOD hazard is present.

b. FOD check shall be performed on all vehicles entering active airfield pavements. Drivers will be responsible for a visual inspection of all tires and for removing mud and other debris prior to proceeding on active pavement.

c. Contractor must sweep for FOD at the end of each work day, and as needed during construction activities.

d. Contractor shall install and maintain appropriate FOD control fences to prevent blowing dust and debris onto runway, taxiway and ramps.

e. Contractor shall be responsible for maintaining appropriate buffer distances from operating runway, taxiway and ramps. keep all personnel and equipment away from this buffer zone. buffer zone is defined by the low-profile barriers.

Contractor shall reference and complete FAA Form 7460-1 2017 Notice of Construction of Alteration, which is included as Appendix O.

4.3 CIVIL SITE

4.3.1 SITE PLANNING AND DESIGN

4.3.1.1 GENERAL.

The Contractor shall design and construct the site and facilities within the specific areas defined. Specific work shall include, but not be limited to the following:

a. Locations of site features are shown on the as-built drawings located in Appendix B and on the photos in Appendix D. The Contractor shall accept the site as is and be solely responsible for any additional geotechnical investigations required to accommodate the Contractor's design. Excess soil shall be taken to the installation yard on Exchange Road.

b. The Contractor will be allotted an area for the placement of a construction trailer complex and storage for the Contractor and respective Sub-Contractors. Only temporary trailers will be permitted. Trailers within the work area may be required to be relocated up to two times at no additional cost to the Government to accommodate site activities. The Contractor shall be responsible for the site preparation, fencing, access drives, and maintenance of the compound at all times. The Contractor is responsible for protecting their equipment and materials, airfield and adjacent facilities.

c. All temporary utilities are the responsibility of the Contractor. See SECTION 01 35 12.00 44 SPECIAL PROJECT PROCEDURES FOR FORT POLK for additional requirements.

d. The Contractor shall provide electronic design files (CADD/GIS) for the site as part of their design and construction responsibilities. The Contractor's site design shall include separate drawings to include, but not limited to Layout Plan and Storm Water Quality Plan. No site demolition, storm drainage or utilities are part of this project; therefore, the drawings are limited and no calculations for site work required. The electronic files shall follow the State Plane coordinate system and must be included as an as-built condition. See Section 01 33 16.00 44 DESIGN AFTER AWARD for additional requirements.

4.3.1.2 SITE LOCATION

The site is located on the west side of California Ave, east of the Helo pad.

A haul route including the site location is included in Appendix A DRAWINGS and existing utility drawings are included in Appendix B AS-BUILT DRAWINGS. A dig permit and utility locate will be required by the Contractor to locate all utilities prior to construction.

4.3.1.3 DEMOLITION

The Contractor shall conduct a site visit prior to bids. Any and all demolition shall be the responsibility of the Contractor.

4.3.2 CIVIL SITE ENGINEERING

4.3.2.1 BASE UTILITY INFORMATION

Existing utility information is available on the as-built drawings in Appendix B.

a. Storm Drainage System:

- There are no proposed changes to the existing storm drain systems on the site.
- Condensate drain lines shall be directed away from pedestrian paths to drainage structures or daylight to landscape areas in a manner to promote positive flow.

b. Natural Gas:

- There are no proposed changes to the existing natural gas systems on the site.

c. Sanitary Sewer:

- There are no proposed changes to the existing sanitary sewer systems on the site.

d. Water:

- There are no proposed changes to the existing water systems on the site.

4.3.2.2 GRADING

There is no proposed grading with this project. The new concrete mechanical slabs shall provide positive drainage away from the pads in the direction of existing drainage across the site. Any disturbed areas shall comply with SWPPP standards to prevent the discharge of silt from the disturbed area. Two (2) Environmental Compliance Officers (ECOs) will be required to be onsite during construction. Permanent vegetation or hardscape shall be established to secure soils on the site.

4.3.2.3 HAUL ROUTES:

The Contractor shall coordinate the location of haul routes with the COR. Two potential haul routes are identified on the drawings in Appendix A.

4.3.2.4 SITE STRUCTURES AND AMENITIES:

There are no proposed site structures or amenities with this project.

4.3.2.5 PAVEMENTS:

There are no proposed pavements as a part of this project. Existing pavements disturbed by the Contractor shall be restored to existing or better conditions.

4.4 STRUCTURAL

The structural scope for this project is limited. This hangar is in fair structural condition for its age. Lack of maintenance has deteriorated few structural components that may need to be repaired. A detailed structural analysis for the evaluation or rehabilitation of any structural component or the overall structural framing is not in the scope. Structural upgrades due to wind or seismic loads are not in the scope.

Any structural modification or repair performed shall comply with the requirements of UFC, latest edition, and the Army Design Criteria.

4.4.1 Bid Options

The most noticeable repair needed is for the exterior and interior masonry (CMU) walls. Visible cracks may be due to possible minor soil movement. Approximately 100 feet of cracks shall be repaired by injecting an epoxy sealant. Contractor to follow repair standard procedures by the latest Masonry code. Contractor to submit repair procedure and materials to the contracting officer for review and approval before commencing any repair.

A bid option within the architectural scope of work is the removal and replacement of the exterior wall panels (refer to the architectural section for additional information). Should this bid option be exercised, the Contractor shall perform a condition assessment of the support girt. It is anticipated that approximately 150 linear feet of the bottom support girt show advances states of corrosion and will need to be replaced. Additionally, approximately 150 ft of the bottom support girt indicate signs of corrosion and will need to be repaired. At girts to be repaired, the rust at the girt shall be removed and the surface prepared to receive a rust inhibitor paint and then finished with paint that matches the rest of the area. If any portions of the bottom girt are found to not require repair or replacement, the Contractor shall apply a credit to the project. The Contractor shall submit a clean/paint procedure to the contracting officer for review and approval.

The mechanical and electrical work includes new HVAC equipment and potential installation of a new generator (bid option). If this equipment is installed outside the building, the equipment shall be supported on a new shallow foundation pad. If this equipment is installed inside the building, a housekeeping pad doweled into the existing slab-on-grade shall be provided to support the equipment. Equipment pad dimensions shall be based on equipment vendor recommendations.

4.5 ARCHITECTURAL

4.5.1 GENERAL

This project will repair failing existing Aviation Maintenance Hangar Building 4295 to such a condition that it may be effectively used for its designated functional purposes. Repair includes repair of existing interior walls, repair and relocation of interior doors, insulation, Abatement of Hazardous Materials, floors, and ceilings; repair by replacement of the failing plumbing, Heating, Ventilation, & Air Condition (HVAC) in selected areas, fire protection and fire alarm/MNS, and the electrical systems including updated lighting. Further, design a new “Ready Area” for MEDVAC unit. New work includes a kitchen, day room, sleeping rooms, game room, and support areas. All work shall conform to the UFC and Army design criteria.

4.5.2 DESIGN CRITERIA

Refer to Section 5 for applicable standards.

4.5.3 BUILDING EXTERIOR

The scope of work for the exterior will include repair, refurbishment, and or replacement of the roof, exterior CMU walls, exterior metal siding, personnel doors, windows, and overhead coiling doors.

4.5.3.1 ROOFING

a. Existing Modified Bitumen Roofing System

- The existing roof on Hangar 4295 is a modified bitumen roof system over insulation board; the roof system is original to the building but has been repaired to address leaks

and other deterioration issues. The general appearance and wear appear to not point to any widespread issues with the existing roof therefore, total replacement of the roof is not required. The existing roof main and overflow drains to be cleaned and drain seals proper drainage verified.

- Bid Option: The existing roof shall be removed and replaced between column lines E & G, and 1 & 13; the existing underlayment, protection board, and insulation to remain. Provide new modified bitumen roof system to match the adjacent modified bitumen roof system. The existing lower roof gutter and downspouts shall be removed. Prepare edges of the existing roof to receive new flashing as required for installation of new insulated metal panel siding.

b. Bid Option: Design and provide a new prefinished metal gutter and downspout systems to match for the lower roof to match the new insulated metal panel finish. Utilize the existing connections to the stormwater collection system. Existing Roof Access Systems

- Bid Option: The existing roof hatch and access ladders of Hangar 4295 are existing to remain. The roof hatch shall be cleaned. The existing exterior access ladders shall be cleaned, prepared to receive new paint finishes and painted to match the adjacent new insulated metal siding system.
- Bid Option: Provide new flashing at the existing roof hatch curb. Patch and repair the existing modified bitumen roof system as required for the removal and installation of the new curb flashing.
- Bid Option: Provide new 32” x 32” walking pads between the existing roof hatch and the access ladder to the upper roof (approximately 52’-0” linear feet). Walking pads to be compatible with a modified bitumen roof system.

4.5.3.2 EXTERIOR WALL

a. Exterior CMU Walls

- The lower portion of the existing exterior wall of Hangar4295 is comprised of nominal 8”x 8”x16” CMU to a height of 8’-0”. The condition of the existing CMU is generally acceptable.
- Any existing door, window or other penetration in the existing wall being infilled shall have new CMU tooth-in to match the existing, to provide a continuous uninterrupted exterior appearance.
- The interior face of the CMU, excluding the hangar bay, shall be cleaned, and repaired where required, and prepared to receive an interior grade paint. Any existing door, window, or other penetrations in the existing wall being infilled shall have new CMU tooth-in with the existing to provide a continuous uninterrupted interior appearance.
- Bid Option: The exterior face of the CMU shall be cleaned and repaired. CMU to receive new exterior grade paint finish

b. Bid Option: Exterior Metal Siding

- The upper portion of the existing exterior wall of Hangar 4295 is comprised of corrugated metal siding over a rigid insulation board attached to a steel channel structural girt system. The condition of the existing metal siding show signs of water damage along the lower portion of the siding above the flashing transition to the CMU below. Water damage is also visible at the mechanical fasteners, and around some of

the wall penetrations. Due to the visible deterioration of the exterior finish face from water infiltration, the cavity elements of the existing siding system have presumably experienced a similar level of deterioration. However, there are no signs of water infiltration or damage on the interior of the building.

- The proposed metal siding system for Hangar B4295 shall be a new vertically orientated insulated metal panel system over the existing structural channel girts. The insulated metal panel shall be a minimum of 2" (R-14, U-0.072) and meet the air barrier and vapor barrier requirements. Provide new trims, flashing, sealants, and accessories required for the proper installation of the new siding system with the existing exterior construction and structural systems. Refer to structural for additional design criteria and structural requirements.

c. Exterior Windows

- The existing exterior glazing units of Hangar B4295 are operable aluminum sliding windows with double pane glazing; it is not known whether the existing glazing is tinted or insulated. The general condition of the windows is acceptable with no notable issues. However; because the existing glazing units may not be tinted or insulated, provide a new window tinting film to increase the thermal efficiency of the existing units.
- The existing glazing units shall be cleaned and prepared to receive a new tinted window film to increase their thermal efficiency. The tinting film shall be applied to interior face of the inner glazing unit, shall have a SHGC of 0.27, and a U-Value of U-0.40.
- Bid Options: Replacement of existing 2nd floor glazing units, trims, and flashings. Provide new aluminum framed window system with tinted, double pane, low-e glazing meeting a SHGC of 0.27, and a U-Value of U-0.40.

d. Exterior Personnel Doors

- The existing exterior personnel doors of Hangar 4295 are a combination of single and double hollow metal doors and 2" profile hollow metal frames. All the existing exterior personnel doors and frames shall be removed.
- New exterior grade, heavy duty, insulated hollow metal doors and frames shall be provided in the existing openings. The minimum insulation value for the doors shall be R-2 (U-0.70). The hollow metal frames shall be welded type door frames with the appropriate anchoring system for the existing openings. The doors shall be galvanized coated and shop primed for field paint finish. Refer to structural for additional design criteria and structural requirements.

e. Exterior Overhead Coiling Doors

- The existing interior and exterior overhead coiling doors of Hangar 4295 are galvanized steel and manually operated. The existing overhead coiling doors shall be reused. The existing doors shall be removed in their entirety.
- New exterior grade, insulated, three-fold door system shall be provided in the existing openings. The minimum insulation value for the doors shall be R-2 (U-0.70). The doors shall be shop primed for field paint finish.
- New exterior grade, insulated, three-fold door system with integral man door shall be provided in the existing interior openings between the hangar and corridor. The minimum insulation value for the doors shall be R-2 (U-0.70). The doors shall be shop primed for field paint finish.

f. Hangar Doors

- The existing sliding hangar doors for Hangar 4295 are existing to remain.
- Bid Option: The exterior face of the hangar door shall be cleaned, repaired, and receive new paint finish.

g. Door Hardware

a. The new exterior doors shall receive new door hardware, weather stripping, and accessories. New interior doors shall receive new door hardware, weather stripping (where required) and accessories. Provide new door hardware for 36 of the remaining existing interior doors. Hardware to include latchsets, strikes, hinges, stops, and closers.

b. Finish Hardware: Mortise locksets or latchsets are required on all doors. Cylindrical or bored locksets or latchsets are not allowed. Locksets for mechanical, electrical and communications rooms only shall be keyed to the existing Installation Master Keying System. Plastic cores are unacceptable. Provide closers for all exterior doors, all doors opening to corridors and as required by codes. Push pad rim exit devices shall be installed all building egress doors. All hardware shall be stainless steel Grade 1.

c. Auxiliary Hardware: Provide wall or floor stops for all doors that do not have overhead holder/stops. Wall stops at drywall partitions are not allowed. Provide other hardware as necessary for a complete installation. All hardware shall be Grade 1.

d. Hardware for Fire Doors: Hardware for fire doors shall be installed in accordance with the requirements of applicable codes. Exit devices installed on fire doors shall have a visible label bearing the marking "Fire Exit Hardware". Other hardware installed on fire doors, such as locksets, closers, and hinges shall have a visible label or stamp indicating that the hardware items have been approved by an approved testing agency for installation on fire-rated doors. Hardware for smoke-control door assemblies shall be installed in accordance with applicable codes. All hardware shall be stainless steel Grade 1.

h. Exterior Louvers

- The existing exterior louvers of Hangar 4295 shall be removed and replaced as required for the new mechanical systems requirements. The new louvers shall be installed in both the existing CMU, the existing metal siding, and the new insulated metal siding system. If existing louvers are no longer required, the louver shall be removed, and the existing opening shall be infilled to match the adjacent metal panel and the adjacent construction. Refer to structural for additional design criteria and structural requirements.

4.5.3.3 EXTERIOR STAIRS

a. Stair Structure

- The two existing exterior stairs for Hangar 4295 are self-supporting steel construction with metal treads and risers. The two stairs serve as a primary means of egress from the 2nd floor of Hangar 4295. The existing width and dimensions appear to meet the code requirements for an exterior egress stair. The condition of the existing stairs is generally acceptable, with minor repair required. The stairs shall be cleaned and prepared to receive new field paint finish.

b. Railings

- The existing railings on the two existing exterior egress stairs for Hangar 4295 are steel pipe railing attached to the top of the existing stair stringers. The current hand railing heights, balustrade spacing, and the absence of a guardrail, indicates the existing railings do not meet the requirements for primary egress stairs and shall be removed in their entirety.
- New code compliant exterior grade steel pipe guardrail and handrails shall be provided for both stairs. The guardrail and handrails shall meet the IBC code requirements and be construction to be compatible with the existing stair design. The guardrail and handrails shall be finished the match the existing stairs paint finish.

4.5.3.4 INTERIOR STAIRS

c. Stair Structure

- The existing interior stair for Hangar 4295 are self-supporting steel construction with concrete filled metal pan treads and metal risers. The condition of the existing stairs is generally acceptable, with minor repair required. The stairs shall be cleaned and prepared to receive railings.

d. Railings

- The existing railings on the existing interior stair for Hangar 4295 are steel pipe railing attached to the top of the existing stair stringers. The current hand railing heights, balustrade spacing, and the absence of a guardrail, indicates the existing railings do not meet the requirements for a stair and shall be removed in their entirety.
- New code compliant interior grade steel pipe guardrail and handrails shall be provided. The guardrail and handrails shall meet the IBC code requirements and be construction to be compatible with the existing stair design. The guardrail and handrails shall be finished the match the existing stairs paint finish.

4.5.4 BUILDING INTERIOR

Scope of work will include new or refurbished finishes throughout the building. The goal of the Interior Design is to provide a functional, durable, visually appealing facility to enhance the User's working environment, increase morale, and instill a sense of pride. The primary criteria for finish selections is based on specifying durable new finishes that are compatible with existing facility. The Interior Design shall include all built-in casework, interior building finishes and Furniture, Fixtures & Equipment (FF&E). Casework shall be solid wood with no particle board or laminate allowed. The work will include, but is not limited to the following: clean and re-seal existing concrete floors; install new carpet tile and new resilient flooring; replace wall base where flooring is replaced; patch/ repair and paint existing CMU and gypsum board walls; replace ceiling grid and tiles, clean and paint open structure above in areas without a ceiling.

Only the built-in cabinetry, counters, room finishes, and range hood will be a part of the construction cost. Full FF&E specifications will be developed by DB Contractor, though the FF&E will be procured by others and is not a part of the construction cost. FF&E data sheets are provided within Appendix K to provide a basis of design for determining sizing and utility requirement only. The manufacturers listed as "Basis of Design" are for reference only.

4.5.4.1 CODE AND ACCESSIBILITY COMPLIANCE

a. Accessibility Compliance

- The existing facility has been classified as Able-bodied by both the Base Command and the Fort Worth District. The scope of this project does not include any accessibility upgrades to the existing to remain facility elements. All new work shall be designed to meet all ABA accessibility standards.

b. Code Compliance

- The existing facility shall be fully assessed for compliance with the applicable life safety requirements and fire resistance requirements.

4.5.5 INTERIOR DESIGN

Ready Areas including Sleeping rooms, Kitchen, Dayroom, and Game Room will receive new finishes and new FF&E. These areas will be reconfigured to achieve a better flow and function of the spaces.

Sleeping rooms will accommodate 10 with private rooms that provide more privacy and better acoustics. Each sleeping room will be separated by a STC45 or higher rated partition. Refer to Architectural partition schedule. Sleeping rooms will have room for a twin bed, storage and night stand. Finishes in the Sleeping rooms and the Passage will be painted gypsum board walls, commercial grade carpet tile with resilient base, and acoustical ceiling tile.

The Kitchen will be refurbished and expanded with new cabinetry, finishes, flooring and appliances. Countertops to be solid surface. Flooring to be commercial grade luxury vinyl tile (LVT) with resilient base. The walls will be painted gypsum board and the ceilings will be kitchen grade acoustical ceiling tile. Appliances to be specified will be durable to withstand crews using the facility 24/7 and cooking two to three meals daily. Install a large 30” single basin sink with disposal. Appliances will be considered Government Furnished, Government Installed (G.F.G.I) and will be a part of a separate contract. Provide utility connections and casework to accommodate two 36” refrigerator/ freezers, countertop or undercounter ice maker /water filter, two 1000W microwaves, 24” undercounter dishwasher, 30” slide in range with 5 burner smooth cooktop and oven, a range hood and space for commercial grade coffee maker with water hook ups and adequate electrical outlets. A solid surface counter area for dining will be provided. The flooring in the Kitchen and Dining areas will be commercial grade LVT flooring with resilient base. New wood kitchen casework will have solid surface countertops with full height backsplash.

The Dayroom lounge area flooring will be commercial grade carpet tile with resilient base, painted gypsum board walls, and acoustical ceiling tile. Existing CMU dayroom walls will be furred out with gypsum board and painted. The existing refrigerator and “for purchase” snack area will be moved from the Dayroom to a dedicated space outside of the new dayroom.

The dedicated snack alcove will have commercial grade LVT with resilient base, painted walls and acoustical ceiling tile. A built-in storage cabinet will be provided with solid surface top.

Corridors in the renovated Ready Area will have new painted CMU or gypsum board walls, Vinyl Composition tile (VCT) with resilient base on the floors and new acoustical ceiling tile.

Laundry room will be located in close proximity to the sleeping rooms and will accommodate two electric washer/ dryers. Finishes in this area include ceramic tile flooring and base, epoxy painted walls, and humidity resistant acoustical ceiling tile.

Hangar Bay finishes are not required.

Corridors on the first level will have the existing concrete floors cleaned and re-sealed and new resilient base installed.

Restrooms on the first level will have epoxy anti-slip floors with resilient base. CMU walls will receive new paint. Existing solid core phenolic toilet partitions will remain.

Flight Planning Office will receive new VCT flooring and resilient base, painted walls and acoustical ceiling tile. New FF&E will accommodate three 60" x 30" desks for computers, a 90"x42" conference table, seven task chairs, two 72" files and two printers.

The Equipment Room will be refurbished and will include a dedicated Comm area. The room will receive new paint and the concrete floors will be cleaned and re-sealed. Due to the heat load of the comm equipment, this room will receive new acoustical ceiling tile.

The Medevac Flight Ops room is separated into 2 spaces. This space is occupied 24/7. There is an attached storage space for flight ops equipment that will be secure. A new check-in counter will be built-in and have a solid surface countertop and solid wood cabinetry. The CMU / gypsum board walls will be painted, flooring will be VCT with resilient base and new acoustical tile ceiling installed.

The Maintenance Test Pilot, Crew Chief Office and Platoon office will receive painted CMU walls. The concrete floor will be cleaned and resealed with new resilient base. The Offices on the second level will receive new paint on the walls and new acoustical ceiling tile. The existing carpet will be cleaned, and the existing vinyl tile cleaned and resealed.

Corridors on the second level will receive new paint for walls, corner guards, commercial grade Vinyl Composition Tile (VCT) with resilient base and painted gypsum board ceiling.

The Medic Training Classroom upstairs is currently used for two functions. The room will receive new paint for walls, the existing VCT will be cleaned and resealed and the ceilings will receive new acoustical ceiling tile. The current accordion room divider has failed and is to be removed. This room will be divided with a new gypsum board wall to create two separate spaces. The Education side has an overhead ceiling mounted projector that will remain.

Shower rooms and Latrines will retain existing floor tile and tiled shower enclosures which will be cleaned, including restoring grout to "like new" condition. Walls will be repainted with epoxy paint. This area will receive new gypsum board ceiling and epoxy paint.

In general, the plan is to replace finishes with like finishes. Paint existing walls, clean and seal exiting concrete flooring, replace acoustic ceiling tile, replace VCT, replace carpet where specified, and paint existing gypsum board or OTS ceiling. See finish schedule in Appendix A for a full description of finishes and notes for any rooms not specifically listed.

4.6 FIRE PROTECTION

For the purposes of this scope of work the following understandings and assumptions were made to allow the completion of this document. The fire sprinkler scope of work is to revamp the existing wet pipe fire sprinkler system within the building which does not require fire sprinkler plans and calculations. No work is planned to revamp the existing deluge systems in the hangar bay. For this project the water storage tanks, fire pumps in B4264 and underground water/fire lines are outside the scope.

Fire protection water storage tanks are present and serve existing diesel engine fire pumps in building 4264. These tanks are assumed to be large enough to supply the code required water supply duration and storage amount. Means of automatic refill or a plan to refill the existing tanks are assumed in effect. These tanks are assumed to have no deficiencies. No evidence has been provided that indicates these tanks need any repair or replacement. Also assumed is the foundations for the water storage tanks are in good repair and require no work. Existing diesel engine fire pumps and associated equipment are in B4264 and supply, at a minimum, the deluge fire sprinkler systems in B4295. The pressure and flow created by these fire pumps are assumed to be acceptable by code and they satisfy the design criteria of the systems they serve. These fire pumps are assumed to have no deficiencies. No evidence has been provided that indicate these pumps need repair or replacement. The existing wet pipe fire sprinkler system is present and appears to be in good repair. It is assumed the water supply for the wet pipe fire sprinkler system is provided by either the existing diesel engine fire pumps in building 4264 or the underground water main. There is no evidence the underground water and fire lines have any deficiencies.

4.6.1 EXISTING CONDITIONS

4.6.1.1 GENERAL

Presently the existing Hangar 4295 does not meet the demands of the Army's operational needs for the Medevac crew currently occupying the building.

This project is classified as a Major Project according to UFC 3-600-01. Therefore, a Life Safety Code analysis and Building Code analysis are required to be performed by a Qualified Fire Protection Engineer (QFPE) meeting the requirements of UFC 3-600-01 to evaluate any outstanding fire protection or life safety deficiencies of the existing building and incorporate these deficiencies into the work being planned.

Two Existing water storage tanks of unknown volume provide a water supply to existing fire pumps in Building 4264.

Existing diesel driven fire pumps of unknown capacity and pressure supply the deluge valves protecting the hangar area in Building 4295. It is presently unknown if the existing fire pumps serve as the water supply for the wet pipe fire sprinkler system in the existing building.

An existing pipe schedule fire sprinkler system protects the first and second floor areas of the building having offices, mechanical, sleeping, kitchen and other associated areas. No remodel work is anticipated for the deluge systems protecting the hangar.

A new floor, wall, and ceiling layout will be proposed to provide additional sleeping rooms for crew. The existing fire sprinkler system must be revamped or sprinklers added to accommodate this changed layout. From the available information it does not appear more than 20 fire sprinklers will need to be added for the additional sleeping rooms.

The existing fire alarm system has only strobes and pull stations. The existing wiring class is unknown. The existing sleeping rooms have no smoke detection. A new fire alarm and mass notification systems are required for the building. The new fire alarm and mass notification systems must be connected to the base-wide fire alarm system. In addition, any electronic detection, releasing, notification or supervision of the existing deluge fire sprinkler systems must be connected to the new fire alarm panel. The existing fire alarm system must be demolished.

4.6.1.2 DEMOLITION

The existing fire alarm system must be demolished back to the point of electrical connection of the existing panel. No demolition is anticipated for the existing fire sprinkler systems.

4.6.2 ASSESSMENT OF EXISTING SYSTEMS

The water supply for the existing fire sprinkler systems is provided by two water storage tanks.

Fire pumps presently serve as the water supply for the deluge system protecting the helicopter hangar bay and possibly the existing wet pipe fire sprinkler system protecting the helicopter hangar bay.

In the Business/Residential occupancy portion of the hangar structure not dedicated to the storage of aircraft is an existing wet pipe fire sprinkler system. A fire hydrant flow test must be conducted by the QFPE; the results of which will be used to determine if the available fire flow is sufficient for the building.

An existing fire alarm system is in the building. It has only a few devices totaling strobes and pull stations. New fire alarm and mass notification systems must be designed and installed as part of this project. The fire alarm system must interface with the HVAC system to enable shutdown of the air handling unit. HVLS [High Volume Low Speed] fans are anticipated to be installed in the hangar bay. Upon activation of alarm from the fire alarm panel the HVLS fans must shut down. The design of the fire alarm system must include Class A wiring, non-proprietary fire alarm panels and include surge suppression for all signaling line circuits, including device circuits or notification appliance circuits that leave or enter the facility's exterior. The fire alarm system must be designed and installed according to UFC and Fort Polk standards. The existing fire alarm/fire sprinkler deluge releasing system in the existing helicopter hanger must be assessed and releasing and monitoring devices incorporated into the new fire alarm system.

A life safety code analysis and building code analysis must be conducted for the existing building. Egress components must be assessed. Some variances in the egress will be allowed from the AHJ as the building has been deemed to be occupied by able-bodied persons only. Existing fire barriers and rated construction must be confirmed. Where a partition is indicated to be rated, provide a through penetration fire stopping system construction in strict compliance with the applicable UFGS specifications.

For any and all work related to the fire protection for this project, a Qualified Fire Protection Engineer in accordance with UFC 3-600-01 Section 1-7.1 must be involved with all aspects of the design, construction and testing/commissioning as it related to fire protection and life safety. This includes but is not limited to, building code analysis, life safety code analysis, design automatic fire alarm, detection and suppression systems, water supply analysis, a multi-discipline review of the entire project, construction inspections and witnessing of fire protection acceptance testing and commissioning.

4.6.3 DESIGN ANALYSIS

Below identifies the Design Analysis scope of work:

a) Identify all fire protection and life safety related codes and standards applicable to the project.

b) Perform building code analysis. Include types of construction, building height, area limitations, separations, exposure protection, etc.

c) Classification of occupancy according to IBC and NFPA 101

d) Requirements for fire walls, fire partitions, smoke barriers and smoke partitions, compartmentation and special hazard protection. Include associated fire resistance rating.

e) Requirements for protection of horizontal and vertical penetrations and openings as well as the associated fir resistance rating.

f) Separations of hazards per NFPA 101

g) Interior finish ratings

h) Means of egress provisions and components (occupant load, exit capacity, exit width, travel distance, common path of travel, dead-end corridors, use of suites, etc.).

i) Water supply fire hydrant flow test, fire flow calculation, fire hydrant locations and underground piping arrangement.

j) Fire department connections on or near the building

k) Any isolation or control valves for the fire protection

l) Hydraulic calculations to establish minimum fire sprinkler system performance requirements are met.

m) Location and types of portable fire extinguishers

n) All fire detectors for the fire alarm system. Specify type of detectors.

o) Type of fire alarm system, location of devices and equipment including mass notification.

p) Any smoke management systems with control methods.

q) Connection to Fort Polk base fire alarm system.

r) Coordination with security and antiterrorism requirements including base-wide mass notification system.

s) Fire department access

4.6.4 LIFE SAFETY

Below describes the Life Safety scope of work to be shown:

a) All minimum fire protection provisions on a separate code summary sheet.

b) Occupancy capacity for each major means of egress component.

c) Maximum travel distance from dead-end corridor, common paths of travel means of egress and exit components for each floor and occupancy.

d) IBC and NFPA occupancy classification for each room. Occupant load of each room must be included. Similar occupancies can be grouped together for calculations.

e) All fire walls, fire barriers, fire partitions and smoke barrier locations with ratings. Barriers needing fire resistance rated supporting construction must be specifically identified for coordination with existing structure.

f) Locations of hazardous materials storage or handling including any use that exceed maximum allowed amounts.

g) Structural fireproofing types and ratings.

h) The QFPE must sign and seal the life safety plan

4.6.5 CODE COMPLIANCE

A building code, life safety code analyses, and code compliance site plan must be included in the fire protection design analysis. Any approved criteria exemptions must be noted.

The following minimum fire protection provisions must be included on the Code Compliance Site Plan:

a) Line of encroachment identifying assumed property lines and minimum separation distances from adjacent buildings.

b) Building perimeter used for frontage increases

c) Fire department access

d) Fire land width, marking and locations, approach roads and turn radius and location.

e) Type and quantity of antiterrorism secure access.

f) Intended fire department main entrance to facility.

g) Location of fire department connections.

h) Fire hydrants, post indicator valve or valves and their connected water distribution mains serving facility.

i) Fire pump room.

j) Water storage tanks

k) Hazardous material spill containment tanks.

l) Backflow prevention assembly or assemblies serving water-based fire protection systems (if located outside the building)

4.6.6 FIRE SPRINKLER SYSTEM

An existing wet pipe fire sprinkler system is installed on the first and second floors of the hangar building. Four existing deluge fire sprinkler systems protect the hangar bays. The wet pipe fire sprinkler system pipe and fire sprinklers in the areas receiving new ceilings and walls must be revamped to protect the new space per the requirements of NFPA 13 and UFC 3-600-01. This includes areas outside the new sleeping rooms and kitchen. Where new ceilings are installed in spaces currently exposed to structure, new pendent fire sprinklers must be installed in the lower ceilings per UFC 3-600-01 and NFPA 13. Any outages to the existing fire sprinkler system must be coordinated with Fort Polk Fire Department.

4.6.7 FIRE ALARM AND MASS NOTIFICATION SYSTEMS

B4295 is presently protected by a fire alarm system that does not meet the needs of the facility and will be replaced with new fire alarm and mass notification systems. For the new fire alarm system to be installed, incorporate any detection, releasing, notification or monitoring of the existing four deluge fire sprinkler systems in the hangar bays.

Contractor must provide all materials, labor, and equipment programming and testing for a complete and usable fire alarm and mass notification system throughout building. This integrated system must be complete, electrically supervised, addressable intelligent, manual and automatic, annunciated and capable of notifying building occupants by means of tones, strobes, textual messaging, and pre-recorded and live voice announcements. The fire reporting portion of the system must be compatible with the existing base fire reporting system, which uses Digital Alarm Communicator Transmitters (DACT).

For this project, install a new non-proprietary panel that can network with and become a part of the base-wide radio Monaco network. Presently, the existing fire alarm panel is Honeywell. Provide a new fire alarm panel compatible with the existing fire alarm system. The fire alarm system must transmit the building number and area specific information suitable to notify the fire department of the specific tenant and the location of the active event. Specific tenant identification must be approved by the fire department and USACE. Key all fire alarm equipment in accordance with Fort Polk installation requirements.

Provide battery calculations, voltage drop calculations, riser diagrams, and point-to-point connection diagrams for any new or modified circuits or connections. Provide updated NFPA 72 System Record of Completion. The fire alarm system must be completely functional and free of troubles at the time of final acceptance testing. 100% of the new devices and circuits must be functionally tested at the final acceptance test. Coordinate with the Fort Polk Fire Department for scheduling and tracking of fire protection testing and acceptance. The QFPE must affix their professional engineering stamp with signature to the shop drawings, calculations and material data sheets indicating approval prior to submitting the fire alarm system shop drawings to the DFPE.

Provide all materials and labor necessary to interface the building fire alarm/mass notification system with the existing wide area mass notification system. Provide a Mass Notification System Transceiver and connect to the fire alarm/mass notification system. Provide a NEMA 1 rated enclosure for the transceiver panel, adjacent to the fire alarm/MNS control panel.

Provide cable, conduit, and antenna from the transceiver to a high point on the roof. Provide dedicated power for the transceiver. Provide battery backup for the transceiver.

Provide a local operating console (LOC) with microphone, individual push buttons for activation of pre-recorded MNS messages, fire alarm acknowledge, alarm silence, and reset functions. The LOC must be located as directed by the Contracting Officer in conjunction with the Federal Fire Department and USACE. LOC(s) must be installed such that occupants of the building can reach an LOC within 200 feet horizontally and travel to another floor is not required. Provide small, wall-mounted enclosures for LOC(s). LOC must have capabilities to shut down HVAC system.

The fire alarm/mass notification control panel and supplemental control panels must be located in environmentally suitable locations conforming to the equipment manufacturer’s listing requirements. The fire alarm system must be able to shut-down the HVAC system.

Primary power supply for fire protection and mass notification systems must be in accordance with UFC 3-520-01, Interior Electrical Systems. Provide lock-on breaker and dedicated emergency panel at the service entrance equipment for all fire protection systems in accordance with UFC 3-520-01.

If only one fire alarm control panel is served by the service entrance equipment, then a dedicated emergency panel is not required as long as the fire alarm control panel is served by a lock-on breaker at the service equipment panel.

The fire alarm system will include double-action manual pull stations, detection devices where required by code, and new ceiling mounted audio/visual notification appliances. Carbon monoxide (CO) detectors and smoke detectors are required in all sleeping rooms, outside of each separate sleeping area in the immediate vicinity of the sleeping rooms and any room where fuel-fired equipment is present. Provide 520 Hz signal temporal four (T4) for carbon monoxide in accordance with NFPA 72. Manual pull stations must be surface mounted. Solid conductors only must be used for strobe appliance circuits. Stranded conductors are permitted for speaker circuits only and must have ends tinned prior to connection at the terminal screws. Crimp-type connectors (forks, etc.) must not be used on any type of conductors. Provide Class A Circuits for all circuits per the USACE scope of work. All supervision signals must be non-latching (self-restoring).

ECB 2018-17 is applied to this project. Amber strobes must no longer be used in new mass notification systems. In lieu of amber strobes, clear or white strobes marked with the word “ALERT” must be used for new mass notification systems. Clear or white strobes must be provided for shared use by the facility’s combination mass notification system and fire alarm system. The clear or white strobes are activated in conjunction with voice messages over the mass notification or fire alarm systems. Light-emitting diode (LED)-type text signs must be installed for the new mass notification system, and fire alarm system. These text signs are activated in conjunction with voice messages over the mass notification or fire alarm system.

Factory trained personnel are to perform the system design, installation, testing, training, and maintenance. Provide a record copy of the site-specific software at the time of final acceptance testing in accordance with NFPA 72. Provide security password/code to Fort Polk to allow authorized technicians to modify the software database. A factory default password/code is acceptable.

Password must be provided inside the fire alarm control panel. All cabinet lock key types must be commonly used by the installation and must be approved by the DFPE and Fort Polk Fire Department.

Provide a separate cabinet or other approved container to store the fire alarm system shop drawings adjacent to the fire alarm control panel. An electronic copy of the as-built documents (drawings, product data sheets, operating manual, and software database) must be provided to the Fire Department.

Provide alarm zones for each type of initiating device, supervisory, and trouble. Account and zone identification must be approved by Fort Polk fire department.

Follow all standard operating procedures for creating, testing, and activating fire alarm accounts as required per Fort Polk Fire Department. Provide the Subscriber Detail Report and Signal History Report of 100% pre-final test to Fort Polk Fire Department in the request to schedule final acceptance testing.

The QFPE must provide a test plan in accordance with NFPA 72 Sec. 14.2.10 with the request for final acceptance testing. Include what will and will not be tested, how it will be tested, and any interruption to building occupants in any spaces of B4295.

The construction (shop) drawings and calculations must be prepared by, or prepared under the immediate supervision of, the QFPE. The QFPE must affix their professional engineering stamp and signature to the shop drawings, calculations and material data sheets, indicating approval prior to submitting the fire alarm system shop drawings to the DFPE. The QFPE must monitor the installation of the fire alarm system and certify in writing that that fire alarm system has been constructed and operates as intended in the design plans and specifications.

Fire alarm shop drawings and calculations must be prepared by an individual that has obtained National Institute for Certification in Engineering Technologies, Fire Alarm Systems, Level III certification at a minimum. The QFPE must review the shop drawings, calculations and material submittals. The shop drawings must bear the Review Stamp of the QFPE prior to submitting the fire alarm system shop drawings to the DFPE.

A public address (PA) system with coverage to all areas of the facility must be installed. The public address (PA) system must not be integrated with any other system.

Systems must comply with UFC 4-010-06 for Cybersecurity.

Fire alarm system must be designed per UFC 3-600-01, UFC 4-211-01, NFPA 72, and Fort Polk Installation Design Guide at a minimum.

MNS must comply with UFC 4-010-01 for Antiterrorism. The new MNS must include any Fort Polk specific messages.

Outages and replacement fire alarm and mass notification system must be coordinated with Fort Polk Fire Department.

4.6.8 FIRE EXTINGUISHERS

General purpose fire extinguishers will be provided. Fire extinguishers must be provided in accordance with NFPA 10.

A type K fire extinguisher must be provided within 30’ of the new kitchen range. A hood suppression system is not required for the new kitchen range.

4.6.9 FIRE DEPARTMENT ACCESS

Provide a UL Listed keyed fire department rapid entry system compatible with the Knox-Box rapid entry system in accordance with Fort Polk installation requirements. System must consist of a surface mounted box. System must also have alarm tamper alert. The Knox-Box must have tamper switch installed, be connected to a transmitter and transmit a separate signal upon opening of the Knox-Box.

4.6.10 WATER SUPPLY ANALYSIS

A fire hydrant flow test must be performed by the QFPE in accordance with NFPA 291 and the results used to determine the available fire flow. Modifying the deluge systems in the hangar are not in the scope of work.

A fire hydrant flow test was conducted at 8:30 am on 23 April 2020. The test was coordinated between S&S sprinkler company, American Water and Fort Polk personnel. A static pressure reading was recorded on the fire hydrant located nearest the southwest corner of the building. The static pressure was recorded as 80 psi. A fire hydrant nearest the northwest corner of the building was flowed out of a single 2-1/2" butt and the pitot pressure recorded. The pitot pressure was recorded at 60 psi. This pitot pressure combined with the hydrant discharge coefficient results in a flow of approximately 1,300 gpm. The residual pressure measured under flow conditions was observed at 70 psi.

The projected available fire flow for this location exceeds 3,400 gpm. The required fire flow for the building does not exceed 1,500 gpm. The fire sprinkler system is projected to require approximately 430 gpm and 68 psi. This projection is based on maximum fire sprinkler spacing allowed per NFPA 13, the existing fire sprinkler system having pipe walls in good repair and no internal pipe obstructions or deterioration, a 12 psi loss for any existing backflow preventer, friction losses and elevation losses. This yields a safety factor of approximately 10 psi for the fire sprinkler system. This water supply appears sufficient for the wet pipe fire sprinkler system. If this water supply is further increased by the fire pumps to supply this fire sprinkler system, the factor of safety is larger. The existing deluge systems have not been assessed and are outside this project.

4.7 MECHANICAL

4.7.1 GENERAL

The mechanical scope of work for the facility includes demolition of the entire HVAC system including ductwork, piping, air devices, window air conditioning units, exhaust fans, heating and ventilation units, boilers, air cooled chiller and all appurtenances. Refer to as-built drawings for extent of demolition. The HVAC system shall be replaced with high efficient equipment and shall be located in such a manner to allow for maintenance and removal. A life cycle cost analysis has been performed to compare different system types to ensure that the most efficient and economical system has been selected. The systems defined within this statement of work were determined to be the most life cycle cost effective systems. Proposed changes from these systems require approval by the contracting officer based on life cycle cost analysis and proposed system approval by base personnel. The current mechanical room will not be large enough to house the new mechanical equipment. Paint room 133 will be converted to an additional mechanical room to provide sufficient space for all mechanical equipment.

4.7.2 DESIGN CRITERIA

Refer to Section 5 for applicable standards.

4.7.3 BUILDING HVAC LOAD CALCULATIONS

Heat gain and loss calculations shall be in accordance with the current edition of the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) Handbook of Fundamentals, Non-Residential Cooling and Heating Load Calculations. A computer load/energy simulation program such as the Trane Company, Trace 700 Building Load and Energy Analysis Software program (Version 6.2, latest release), shall be utilized to generate the building heating and cooling load requirements.

4.7.3.1 OUTDOOR DESIGN CONDITIONS (UFC 3-400-02)

Parameter	Value
Location	Fort Polk, Louisiana – Weather Station 722390
Latitude	31.05º North
Longitude	93.20º West
Elevation	328 Feet
Heating Degree Days (HDD65)	1726
Cooling Degree Days (CDD65)	2200
Climate Zone	3a
Outside Design (Cooling 1.0%)	94°F db/77°F mcwb
Outside Design (Heating 99.0%)	30°F db/28°F mcwb
Outside Design for DOAU (humidity ratio 1%)	137 gr/lb Humidity Ratio / 82°F mcdb
Outside Design for Condensers (10°F above 0.4%)	104°F db

4.7.3.2 INDOOR DESIGN TEMPERATURES

Space	Summer	Winter
Occupied Spaces (Offices, Conference, etc.)	78°F db, 55°F dp	68°F db
Communications Rooms	72°Fdb, 50% RH	68°Fdb
Electrical Rooms	85°Fdb, 50% RH	55°Fdb
Hangar Bay	Ventilation provided to maintain 10°F above ambient.	55°F db
Mechanical, Plumbing, Fire Protection Equipment Rooms and Unoccupied Storage Rooms	Ventilation provided to maintain 10°F above ambient.	55°F db

All temperature set points are ± 2°F. All relative humidity setpoints are ±5% RH.

4.7.4 HEATING AND COOLING GENERATION

Hot water heating coils shall be used in the Air handling units serving the support area and the heat and vent units serving the hangar. Natural gas fired condensing boilers provide shall provide hydronic heating. Chilled water shall be provided through a single air-cooled chiller with hail guards to the units serving the support area. A new equipment pad shall be provided for the chiller, refer to the structural section for requirements. Chilled water is not required to the units serving the hangar. Chilled water pumps shall be integral to the chiller skid to simplify installation and minimize the mechanical room square footage.

Freeze protection shall be provided by automatically running the pumps during low ambient temperatures.

4.7.5 HVAC SPACE PRESSURIZATION

Heating, ventilation, and air conditioning systems shall be designed to provide positive pressure in the building spaces. The design submittal packages shall include air balance diagrams showing these pressure and air flow relationships. Ventilation (fresh) air requirements shall be in accordance with ASHRAE 62.1. Pressure classifications of ductwork shall be shown on the drawings, using the convention described in the SMACNA HVAC Systems Duct Design Manual.

4.7.6 ZONING REQUIREMENTS FOR OFFICES AND SUPPORT AREAS

Office areas, sleeping rooms, and support areas (toilets, storage rooms, break rooms, hallways, etc.) shall be served by the air-handling systems prescribed. Maximum zones sizes shall be 2000 sq ft. Sleeping rooms should be individual zones. Air handling system and controls shall be provided as indicated and shall maintain each zone temperature to within 2°F of set point.

4.7.7 AIR HANDLING SYSTEMS

4.7.7.1 SUPPORT AREA

VAV air handling units shall be chilled water with hot water heating. The air handling system shall be mounted on a 6" thick, reinforced concrete pad within the existing mechanical room. Provide the manufacturer's recommended service clearance or a minimum of 24" clearance around the sides requiring no access and 60" clearance around sides that require access, whichever is greater. All components of the air handling units shall be factory installed products of the same manufacturer. As minimum, units shall be equipped with a supply fan, chilled water cooling coil, hot water heating coil, mixing box, MERV 8 pre-filter and MERV 13 final filter sections, controls, access sections, outside air/ventilation airflow measuring station, and variable frequency drives (vfd) with premium efficiency, inverter rated motors. Air handling units shall be constructed with solid galvanized steel double-wall panels that are factory insulated with a minimum of 2 inch thick insulation. Insulation shall be 1-1/2 lb./ft3 density. An insulated double wall condensate drain pan shall be supplied with each unit. Condensate shall be coordinated with sanitary sewer. The supply fan in the air handling unit shall be supplied with a variable frequency drive to control supply airflow to the system air distribution devices and return air to the air handling unit. A differential pressure switch shall be supplied to signal the fan or fans to speed up or slowdown in response to system pressure changes.

A chilled water dedicated outdoor air system (DOAS) shall be used for preconditioning of the outdoor air before being introduced into the facility. As minimum, the unit shall be equipped

with a supply fan, exhaust fan, dual wheel energy recovery, cooling coil, heating coil, MERV 8 pre-filter and MERV 13 final filter sections, controls, access sections, outside air/ventilation airflow measuring station, and variable frequency drives (vfd) with premium efficiency, inverter rated motors. Refer to Appendix M section 10 for Fort Polk DOAS requirements.

Electrical rooms shall be conditioned spaces.

4.7.7.2 HANGAR

The hangar shall be provided with new exhaust fans to provide a total exhaust rate of 0.5 cfm/sq.ft. in accordance with UFC 4-211-01. Heating and ventilation units shall be provided to provide make-up air to the hangar. As minimum, units shall be equipped with a supply fan, heating coil, MERV 8 pre-filter and MERV 13 final filter sections, controls, access sections, outside air/ventilation airflow measuring station, and variable frequency drives (vfd) with premium efficiency, inverter rated motors.

4.7.8 VENTILATION SYSTEM DESIGN

The building shall be provided ventilation in accordance with ASHRAE 62.1 based on occupancy and/or type of space. Air distribution systems shall be designed to ensure that minimum outside air requirements are constantly provided to the building during heating and cooling seasons. Infiltration shall not be considered as supplementing the ventilation requirement. Ventilation for the hangar support area will be provided through the DOAS and ducted directly to the spaces.

4.7.8.1 EXHAUST SYSTEMS

Exhaust vents shall not be located near outdoor air intakes to prevent short circuiting of exhaust air. Exhaust vents through the roof are prohibited. The toilet rooms shall have ventilation sized for 75 cfm per water closet and urinal. Janitor's closets shall have a minimum of 1 cfm/sq.ft. exhaust. Use of small ceiling or cabinet type fans are prohibited. Roof mounted exhaust fans are prohibited. Hangar support area shall be exhausted through the DOAS for energy recovery and shall be in compliance with ASHRAE 62.1. Shop spaces shall be exhausted per UFC 4-211-01.

The kitchen shall be provided with cabinet mounted exhaust hood and ducted to the exterior of the building. The exhaust hood shall be capable of withstanding crews making 2 to 3 meals a day 24/7. The fan shall be integral to the hood and the baffle filters and grease drip rail shall be easily cleanable. Refer to Appendix K for additional information. The ductwork shall comply with all requirements of UFC 3-410-01 and IMC.

4.7.9 DUCT SYSTEM DESIGN

All ductwork located upstream of VAV terminal units shall be sized using the static regain design method as specified in SMACNA. All other supply and return ductwork shall be sized using the equal friction design method. A ducted return air system shall be provided. Ductwork locations shall be coordinated with all disciplines. All supply, return, intake, and exhaust ductwork shall be constructed of galvanized sheet metal. All duct fittings (including elbows, tees, and offsets) shall be constructed of rigid sheet metal. Non-metallic flexible duct run outs to air distribution devices shall be insulated and shall be limited to 5 ft. in total length. Flexible duct shall only be used on straight runs of ducts (horizontal or vertical) and shall not be installed with elbows or with offsets greater than 1/2 duct diameter. Flexible duct shall not be used for connection to air terminal units. The ductwork shall be

insulated. Duct and air distribution devices shall meet the velocity requirements indicated in the latest ASHRAE Fundamental Handbook.

4.7.9.1 DUCT LAYOUT

Duct distribution system shall be designed to be efficient, easily balanced, and accessible. Maximum air velocities in the medium pressure ducts (1.5 inches w.c. or greater) shall not exceed 2000 feet per minute (fpm). Maximum air velocities in the low pressure ducts less than 1.5 inches w.c. shall not exceed 1000 fpm. Duct layout shall be designed to include a minimum of 6 duct diameters of straight rigid sheet metal duct ahead of the inlet connections to VAV terminal units. Installation height of all ductwork shall be indicated on the plans.

4.7.10 HVAC PIPING SYSTEMS

Refrigerant piping from mini-split units shall be sized per split system manufacturers' requirements. The hydronic pipes shall be sized based on a maximum of 6 feet per second velocity and according to ASHRAE 90.1. The piping shall be insulated per ASHRAE 90.1.

4.7.11 NOISE ANALYSIS

Follow ASHRAE minimum requirements for spaces applicable to this project.

4.7.12 AIR FILTER SYSTEM

Filter system for all spaces in the facility shall be located in the air handling equipment. Placement of filters within ceilings, ducts or factory/field assembled filter banks is prohibited. Construction/Temporary filters shall be provided at all air handling equipment being installed. Final filters shall not be installed until all testing, balancing, commissioning, cleaning and flush out of the facility and the HVAC equipment has been completed in accordance with the requirements in the specifications. In addition, a one (1) year supply of replacement filters for all air handling systems within the facility shall be provided and turned over to the Contracting Officers Representative prior to the beneficial occupancy date. A one-year supply shall consist of a minimum of 3 changes of all MERV 8 pre-filters and 2 changes of all MERV 13 final filters.

4.7.12.1 PRE-FILTERS (MERV 8)

Pre-filters shall be provided for all VAV air handling units, single zone air handling units, and make-up air handling units provided for the facility. 1" or 2" thick (minimum) pleated throwaway type filters shall be provided for air handling equipment and shall have a minimum MERV rating of 8 in accordance with ASHRAE 52.2.

4.7.12.2 FINAL FILTERS (MERV 13)

Final filters shall be provided for all air handling units (central station, single zone, fan coil and make-up air handling units) installed in the facility. High efficiency filters shall be provided for the air handling equipment and shall have a minimum MERV rating of 13 in accordance with ASHRAE 52.2.

4.7.13 DIFFUSERS, GRILLES AND REGISTERS

Air distribution devices shall be factory fabricated of steel, corrosion resistant steel, or aluminum and shall distribute to comply with ASHRAE 55 comfort guidelines. Inlets and outlets shall be sound rated and certified according to ASHRAE 70. Diffusers and registers shall be color coordinated with the Architectural design.

4.7.14 INSULATION

All refrigerant piping, ductwork, air handlers, pumps, storage tanks and other applicable HVAC equipment shall be insulated. The use of flexible cellular insulation conforming to ASTM C 534, ASTM C 1427, or ASTM D 1056 is allowed for use with refrigerant piping systems only provided all insulation utilized is seamless. Insulation applied to piping located outside of the facility shall be installed with the manufacturer's recommended factory applied jacket.

4.7.15 ACCESS PANELS

Access panels/doors shall be provided as required for valves and appurtenances of the HVAC system.

4.7.16 HEATING, VENTILATING, AND AIR CONDITIONING CONTROL SYSTEM

4.7.16.1 CONTROL SYSTEM

The Contractor shall be responsible for correct operation of the control system including, but not limited to, software, control relays, sensors, and control wiring. Contractor shall provide all applicable controls required below. The control system must be fully compatible with the Fort Polk Bacnet Niagra framework UMCS. Coordinate location of UMCS with installation. Refer to Appendix L for UMCS approved components.

a. Temperature Controls: Temperature controls shall be digital type controls and be designed per industry standards. Control drawings, schematics and I/O tables shall be provided during the design stages for review.

b. Controls: Control drawings shall include schematics, ladder diagrams and sequence of operation for all HVAC equipment. All wiring shall be labeled and terminated as required in the specifications. Duct smoke detectors shall be provided for units supplying over 2000 cfm and shall automatically shutdown the respective unit upon detection of smoke. Duct smoke detectors shall be integrated with the fire alarm system and shall provide alarm at the Fire Alarm Control Panel. Control interaction with fire alarm system shall be coordinated with the fire alarm system and the requirements of the Fort Polk Installation Design Guide.

4.7.16.2 THERMOSTATS AND SENSORS

Provide digital space thermostats/sensors at all locations. Units shall fully interface with the equipment. Units shall be provided with digital display (LCD), keypad and occupant override function. Units shall have the following display functions (as minimum): Time, Zone Temperature, Heating Setpoint, Cooling Setpoint, Zone Airflow.

4.7.16.3 EMERGENCY AIR DISTRIBUTION SHUTOFF

When applicable, an Emergency Air Distribution System Shutoff shall be provided for the facility in accordance with UFC 4-010-01.

4.7.17 COMMISSIONING OF HVAC SYSTEMS AND CONTROLS

Commissioning of HVAC systems and controls shall be in accordance with ASHRA Guideline 0.

4.8 PLUMBING

4.8.1 GENERAL

The plumbing scope of work includes demolition of all existing plumbing fixtures, water heater, and selective above floor piping. The existing compressed air system will remain in place.

4.8.2 DESIGN CRITERIA

Refer to Section 5 for applicable standards

4.8.3 FUNCTIONAL AND TECHNICAL REQUIREMENTS

4.8.3.1 EQUIPMENT AND MATERIALS

All materials and equipment shall be the standard cataloged product of manufacturers regularly engaged in production of such materials and equipment and shall be the manufacturer's latest standard design. Equipment shall comply with the requirements of Underwriters Laboratories, Inc. (UL), American Gas Association (AGA), Air Conditioning and Refrigeration Institute (ARI), American Society for Testing and Materials (ASTM), National Electric Manufacturers Association (NEMA), American National Standards Institute (ANSI), National Fire Protection Association (NFPA) or other national trade associations as applicable. Equipment selection and layout shall make provision to observe the manufacturers recommended clearances and code clearances.

4.8.3.2 ACCESS PANELS

Access panels/doors shall be provided as required for valves and appurtenances of the plumbing system. Coordinate with the Architectural discipline to ensure panel location and sizes are indicated on the contract drawings.

4.8.3.3 PLUMBING FIXTURES AND FIXTURE ALLOWANCES

The building shall be provided with new plumbing fixtures. This facility is able bodied only and is exempt from ADA/ABA requirements. New fixtures shall be installed in the same location as the existing fixtures that will be demolished. New pipe will be provided to existing hose bibbs and wall hydrants. The plumbing fixtures shall be as follows:

a. Service (Mop) sinks - Terrazo or enameled cast iron, ASME A112.19.1. 28" square. Trap standard. Wall mounted. Provide low flow (1.75 gpm maximum), wall mounted faucets with wall support bracket, bucket hanger, and 3/4" hose threads.

b. Break Room sink - 10" deep, single bowl minimum 30” wide, stainless steel undermount type. Provide center type low flow kitchen faucet with manual control (1.5 gpm maximum) with gooseneck swivel type spout (8" spout reach, minimum). Sink shall be provided with a disposal.

c. Electric Water Coolers (EWC's) - Self-contained. Exposed surfaces shall be stainless steel. EWC's shall use one of the halogenated hydrocarbons with an ozone depletion potential of less than or equal to 0.00. Provide an integral stainless steel, wall mounted bottle filling

station mounted above the electric water cooler. Bottle filling station shall be provided with compatible filters certified to NSF/ANSI 42 and 53 and rated to 3000 gallon capacity.

d. Water closets – 1.28 gallons per flush manual flush valve floor mounted units.

e. Urinals – 0.125 gallons per flush manual flush valve wall mounted units.

f. Lavatories – 0.5 gpm manual faucet undermount type.

g. Showers – 1.5 gpm restrictors for all showers.

h. Emergency Eyewash Showers in the hangar shall be replaced with new fixtures in the same location. The new eyewash showers shall be connected into the new tepid water loop.

4.8.3.4 VALVES

All plumbing fixture valves shall be UL or FM approved and shall be provided in accordance with the International Plumbing Code. Valves shall be provided on supplies to equipment and fixtures and on risers between floors. Valves 2 1/2" and smaller shall be chrome-plated bronze with threaded bodies for pipe and solder type connections for tubing. Valves 3" and larger shall have flanged iron bodies and bronze trim. Pressure ratings shall be based upon the application.

4.8.3.5 DOMESTIC WATER SUPPLY

The existing backflow preventer (BFP) is in good working condition and does not need to be replaced. New piping shall be provided if required for the installation of new fixtures. Provide pressure reducing valve station with pressure gauges and bypass line down-stream of the BFP assembly. The meter is expected to be upstream of the BFP and shall remain in place.

4.8.3.6 DOMESTIC WATER PIPING SYSTEM REQUIREMENTS

The domestic cold and hot water piping systems shall be designed for a maximum system piping loss of 10 psig at full system flow. Maximum fluid flow rates in the hot or cold piping system shall not exceed 4 feet per second (fps). Provide calculations indicating the all piping system losses. The calculations shall clearly indicate piping friction losses, flow rate (fixture units and equivalent gpm), and fluid velocities in each section of pipe. The piping shall be extended to fixtures, outlets, and equipment. The domestic hot water and cold water piping system shall be arranged and installed to permit draining. The supply line to each item of equipment or fixture, except faucets, flush valves, or other control valves that are supplied with integral stops, shall be equipped with a shutoff valve to enable isolation of the item for repair and maintenance without interfering with operation of other equipment or fixtures. Supply piping to fixtures, faucets, hydrants, shower heads, and flushing devices shall be anchored to prevent movement. Domestic hot water return piping shall be routed as close to fixtures as possible to minimize wait times for hot water at the fixtures. A thermostatic mixing valve shall be provided from the domestic hot water distribution to temper the water in accordance with ANSI Z358.1 to supply tepid water to emergency fixtures.

4.8.3.7 DOMESTIC WATER HEATER

Domestic water heater shall be a high efficiency, natural gas fired, storage type, ten-year warranted unit(s) with storage temperature of 140 degrees F. A thermostatic mixing valve shall be provided to supply domestic hot water to the fixtures at 110 degrees F. Water heaters shall exceed ASHRAE 90.1 standards and have a minimum thermal efficiency of 95 percent. The size of the hot water heater shall be in accordance with the ASHRAE Applications Handbook and

ASPE Handbook volume 2 for determining sizing with emergency fixtures. Water heaters shall be provided to service each hot water fixture within building and shall be located in the mechanical room. Water heaters shall be provided with fully automatic controls with safety shut-off. A circulation pump shall be provided to minimize wait times for hot water at the fixtures.

4.8.3.8 SANITARY SEWER

The sanitary sewer system is existing and shall remain in place. Provide all necessary accessories for fixture installation to the existing sanitary system.

4.8.3.9 FLOOR SINKS/DRAINS

No new floor sinks or floor drains shall be provided.

4.8.4 NATURAL GAS SYSTEM

4.8.4.1 EXTERIOR NATURAL GAS

The natural gas line shall be sized in accordance with NFPA 54.

4.8.4.2 METER AND REGULATOR

Requirements for the natural gas meter and regulator shall be coordinated with the Fort Polk COR.

4.8.5 DESIGN OBJECTIVES AND PROVISIONS

4.8.5.1 SUPPLY, DRAIN, WASTE, AND VENT PIPING SYSTEMS

If new piping is required for installation of new fixtures and equipment, supply, waste, and vent piping materials shall be as follows:

Service	Above Ground
Supply	Copper Type L
Waste	PVC
Gas	Black Steel
Condensate Drain	Copper Type L

4.8.5.2 VIBRATION/NOISE ISOLATION

Water hammer arresters shall be used to minimize water system noise in accordance with PDI-WH 201. Velocities in domestic water piping shall be a maximum of 4 ft/s.

4.8.5.3 INSULATION

All cold water, hot water, and other applicable domestic water equipment shall be insulated. The use of flexible cellular insulation conforming to ASTM C 534 or ASTM D 1056 is allowed

provided all tubing provided is seamless. Use of flexible cellular insulation with seams is prohibited.

4.9 ELECTRICAL & TELECOMMUNICATIONS

4.9.1 GENERAL

The electrical scope of work for the facility includes demolition and installation of new LED fixtures and lighting controls. The HVAC system is being completely replaced and all existing branch circuits serving the equipment shall be removed completely and the breakers marked as spare. The new HVAC system shall be fed from the existing infrastructure utilizing existing breakers where appropriate. Provide new breakers for loads as necessary. To support system modifications, a new short circuit, breaker coordination and arc flash study will be required to validate the system.

Electrical work is being affected by other remodel activities being noted in the architectural, interiors and fire alarm portions of work. A complete recap will not be included within this section but made reference to review other sections for impacts to include demolition from architectural and interior remodeling. Some notable items included in the remodel work:

a. A new fire alarm/mass notification and public address system which will require dedicated circuits. Per UFC requirements, provide a dedicated panel and circuits to support these system requirements.

b. A new kitchen area with ice makers, refrigerators, countertop equipment and associated dayroom space. Provide dedicated receptacles and circuits for loads as required.

c. A laundry area with dual washers and dryers will require new receptacles to serve the load.

d. Provide receptacles, telecom CAT6 cabling and outlets, conduit, wiring, and supports for new remodeled spaces. Provide and utilize new wire basket for routing telecom cabling back to equipment rack location.

The existing telecom rack shall be relocated to support the new work for architectural remodeling. Equipment to be relocated to the room directly behind existing rack mounting location within the room labeled as equipment room. A lockable cage shall be placed around the relocated equipment. Reroute, train and secure existing cabling to the new rack location. If the existing cabling is to short when rack is relocated, provide a new CAT6 cable to replace the affected cables along with termination and testing of cables. Provide a new dedicated quad outlet to support the relocated rack

Along with the remodeling of the interior spaces, there are new areas that will be opening into the hangar bay area. Include an overall classification drawing for the building. Provide classified devices if mounting heights and conduit seals or routing is not properly implemented for the installation.

There is a bid option that might be pursued if the funds are available and the government selects to implement it to support the mission for the facility. There isn't an existing generator serving the facility but a need for one has been identified. Refer to section 4.9.5 for the bid option.

4.9.2 APPLICABLE CODES AND CRITERIA

Refer to section 5 for applicable codes and standards.

4.9.3 INTERIOR ELECTRICAL & TELECOMMUNICATIONS

The demolition for the site includes the removal of conduit, wire and all supports for branch circuits serving the existing HVAC equipment and light fixtures within the interior of the building. Malfunctioning 60A receptacles located in the hangar bay will need to be removed. Remove receptacles and wiring completely and replace with new to match the existing. If some of the receptacles, conduit and wiring are found to be in working condition, then provide a credit for the work not performed.

New Work

Lighting for the building will be provided using light-emitting diode (LED) fixtures controlled in accordance with American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) 90.1 requirements, with light levels in accordance with UFC 3-530-01. LED lighting and replacement parts shall meet buy American Act. The lighting controls shall include the following, but this is not all inclusive:

a. Automatic daylight responsive controls for the hangar bays for when the doors are opened.

b. Review spaces requiring 24/7 operation and do not provide lighting control.

c. Special application for guestrooms which require all lighting and switched receptacles to be turned off within 20 minutes of occupant leaving the space.

d. Restrooms, stockrooms, break rooms utilize manual ON occupant sensors.

e. Electrical and Mechanical spaces just use manual controls.

f. Office spaces shall use occupancy sensors for 50% on and dimmer switch to control overall lighting level with switch to turn on/off lighting.

g. Lighting control panel for the exterior fixtures requiring control per timeclock or schedule basis. Interior spaces without motion sensors or 24 hour operation shall be connected to the time clock as well.

h. Remote power packs or room controllers for interfacing with occupant sensors, photocells, switches or any equipment requiring low voltage power or communication interface requirements. These could also be used for controlling receptacles.

The new HVAC system shall be served from the existing electrical infrastructure. Provide new branch circuits for equipment per code requirements and utilize existing breakers where possible. Provide new breakers for loads, if necessary, with KAIC ratings to match the existing breakers within the panel. Provide updated nameplates, directories and panel schedules for all equipment and junction boxes. Automatic receptacle control shall be provided per ASHRAE requirements.

General power and telecom for the remodeled areas will need to be included to support architectural and interior functional requirements. The cable paths from the cable basket to the work area outlets must consist of conduit with a minimum diameter of 1-inch. Conduit size must increase dependent upon the quantity and size of the cables to be installed in the conduit. All pathways in finished areas must be concealed. The maximum fill ratio for conduit must be 40-percent. The Contractor must provide all conduits with pull strings that are secured on both sides. The Contractor must provide protective bushings on all conduits.

The Contractor must provide double gang boxes, minimum standard size 4-11/16-inches square and 2-1/8-inches deep with plaster ring for connection of single gang faceplate for telecom outlets. The

design must include outlet boxes for recess mounting with the faceplate flush with the wall surface, at the same height as the electrical outlets.

4.9.4 EXTERIOR ELECTRICAL, LIGHTING FIXTURES

The exterior stair from the second floor requires additional emergency fixture coverage. Final quantity and size to be determined during design phase. At a minimum, an additional fixture shall be provided to cover the landing and stairs.

4.9.5 BID OPTIONS

Provide a standby generator sized to handle the telecom, flight operations and any additional loads deemed necessary for the operational readiness of the facility. The final system configuration and size of the generator along with structural equipment foundation and pad and fuel runtime will be determined during detailed design. (To provide a basis for a bid, assume a 50kva 208/120V, 3ph, 4w standby diesel generator with acoustical housing and silencer and EPA Tier 3 certified. Sound level to meet code boundary requirements or 70db at 7 meters whichever is more stringent. Provide with UL142 belly tank for minimum 24 hour run time. Provide NEMA 3R 225A, 208/120V, 3Ph, 4W distribution panel. (1) 60A breaker and panel to serve emergency loads, (1) 150A breaker will serve as generator disconnect, (1) 150A breaker will serve as the load bank/roll-up portable generator connection and (1) 100A breaker and panel to serve mechanical, telecom and miscellaneous loads. Provide a camlock box for connection to load bank and portable generator. Provide automatic transfer switches (ATS) with maintenance wraparound bypass for each output breaker serving loads. Provide Kirk-key interlock between generator breaker and load bank/portable generator breaker.) The new 60A panel for emergency loads, the new 100A panel for mechanical and miscellaneous loads plus the two associated ATS units will be located within the building. Final location of the new equipment will be determined during detailed design. Remote annunciator for generator shall be located in 24 hour manned operation center. Final location of annunciator to be field coordinated

4.10 FACILITY-RELATED CONTROL SYSTEMS CYBERSECURITY

4.10.1 GENERAL

The cybersecurity scope of work for this effort requires securing of identified FRCS, per standards outlined in United Facilities Criteria (UFC) 4-010-06 and related policies. The Contractor will provide labor to securely configure said FRCS and shall deliver all required construction submittals for each FRCS platform; the Contractor, however, is not responsible for obtaining an Authority to Operate (ATO). The Contractor's primary function is to configure a system that is secure, hardened and compliant with the requirements set forth by UFC 4-010-06 and other current polices.

4.10.2 FACILITY-RELATED CONTROL SYSTEMS CYBERSECURITY INSTALLATION

There are two facility-related control systems that must be secured as part of this scope; Utility Monitoring Control System (UMCS) which includes DDCs and any associated HMI workstations and network components and a Fire Mass Notification System that will need to be securely configured. Additionally, if a laptop computer will be used by the contractor during configuration, the laptop must be secured by the government Information Systems Security Manager (ISSM) at the installation. The UMCS has an existing Authority To Operate (ATO) and the government System Owners must provide the configuration information for Contractor to use to securely configure the UMCS. The Contractor will provide labor to securely configure both the UMCS and Fire Mass Notification System based on configuration information provided by the COR. The Contractor will not connect the UMCS or the Fire

Mass Notification System to the base-wide system; This will be done by government System Owners. Additionally, the Fire Alarm and Mass Notification System shall be addressable, non-proprietary UL listed; the Fire Alarm/Mass notification System and all correlated devices shall have Fort Polk Fire Department approval.

5. APPLICABLE STANDARDS

The Contractor shall adhere to the following documents if applicable, including all recommended practices documented in these standards. The design shall be by current references and standards as of date of solicitation. All work accomplished by the Contractor shall comply with this criterion unless a wavier is obtained from the Contracting Officer when conditions warrant such consideration.

The project shall be designed and constructed in accordance with the military criteria in conjunction with industry standard criteria, materials and efficient practices. The Contractor shall be responsible for the professional quality, code compliance, technical accuracy and coordination of all designs, drawings, specifications and other documents or publications upon which the design and construction are based.

5.1 INDUSTRY CRITERIA

Applicable design and construction criteria references are listed in Table 1 and shall be taken from the most current references as of the date of solicitation. This list is not intended to include all criteria that may apply or to restrict design and construction to only those references listed. See also Paragraph 7.3 for additional facility-specific applicable criteria.

Table 1: Industry Criteria

Air Conditioning and Refrigeration Institute (ARI)	
ARI 310/380	Packaged Terminal Air-Conditioners and Heat Pumps
ARI 440	Room Fan-Coil and Unit Ventilator
ANSI/ARI 430-99	Central Station Air Handling Units
ARI 445 550/590	Room Air-Induction Units Water chilling packages using the vapor compression cycle
ARI 880 890	Air Terminals Air diffusers
ARI 1060	Air to Air Heat Exchangers for Energy Recovery Ventilation Heat Equipment.
Air Movement and Control Association (AMCA)	
AMCA 210	Laboratory Methods of Testing Fans for Rating
American Architectural Manufacturers Association (AAMA)	
AAMA 605	Voluntary Specification Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels
AAMA 607.1	Voluntary Guide Specifications and Inspection Methods for Clear Anodic Finishes for Architectural Aluminum
AAMA 1503	Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors, and Glazed Wall Sections

American Bearing Manufacturers Association (AFBMA)	
AFBMA Std. 9	Load Ratings and Fatigue Life for Ball Bearings
AFBMA Std. 11	Load Ratings and Fatigue Life for Roller Bearings
American Boiler Manufacturers Association (ABMA)	
ABMA ISEI	Industry Standards and Engineering Information
American Concrete Institute	
ACI 318	Building Code Requirements for Structural Concrete
ACI 315	Details and Detailing of Concrete Reinforcement
ACI 530	Building Code Requirements for Masonry Structures
ABA Standards for Accessible Design	
	Architectural Barriers Act
American Institute of Steel Construction (AISC)	
	Manual of Steel Construction – 13th Edition (or latest version)
American National Standards Institute 11 (ANSI)	
ANSI Z21.45	Flexible Connectors of Other Than All-Metal Construction for Gas Appliances
ANSI/IEEE C2-2017	National Electrical Safety Code
ANSI/AF&PA NDS-2001	National Design Specification for Wood Construction
American Society of Civil Engineers (ASCE)	
ASCE 7	Minimum Design Loads for Buildings and Other Structures
ASCE 37	Design and Construction of Sanitary and Storm Sewers, Manuals and Reports on Engineering Practice [sanitary sewer and storm drain design criteria]
ASCE 41	Seismic Rehabilitation of Existing Buildings
ASCE / SEI 31-03	Seismic Evaluation of Existing Buildings
American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE)	
ASHRAE 90.1	Energy Standard for Buildings Except Low-Rise Residential Buildings
ASHRAE Guideline 0	The HVAC Commissioning Process
ASHRAE Guidelines 1.1	The HVAC Commissioning Process
ASHRAE Hdbk-IP Handbook	Fundamentals I-P Edition

ASHRAE Hdbk-IP Handbook	HVAC Applications Handbook
ASHRAE Hdbk-IP Handbook	HVAC Systems and Equipment Handbook
ASHRAE Standard 15	Safety Standard for Refrigeration Systems
ASHRAE Standard 55	Thermal Environmental Conditions for Human Occupancy
ASHRAE Standard 62.1	Ventilation for Acceptable Indoor Air Quality
ASHRAE Standard 189.1	Standard for the Design of High-Performance, Green Buildings Except Low-Rise Residential Buildings
American Society of Mechanical Engineers International (ASME)	
ASME BPVC SEC VII	Boiler and Pressure Vessel Code: Section VII Recommended Guidelines for the Care of Power Boilers
American Society of Plumbing Engineers (ASPE)	
Plumbing Engineering Design Hdbk	Volume 1: Fundamentals of Plumbing Engineering
Plumbing Engineering Design Hdbk	Volume 2: Plumbing Systems
Plumbing Engineering Design Hdbk	Volume 3: Special Plumbing Systems
Plumbing Engineering Design Hdbk	Volume 4: Plumbing Components and Equipment
American Water Works Association (AWWA)	
	Standards [standards for water line materials and construction]
American Welding Society	
	Welding Handbook
Architectural Woodwork Institute (AWI)	
Version 1.2	AWI Quality Standards 7th Edition
Associated Air Balance Council (AABC)	
AABC MN-1	National Standards for Testing and Balancing Heating, Ventilating, and Air Conditioning Systems
	AABC Associated Air Balance Council Testing and Balance Procedures
ASTM International	

ASTM C1060-90(1997)	Standard Practice for Thermo graphic Inspection of Insulation Installations in Envelope Cavities of Frame Buildings
ASTM E 779 (2003)	Standard Test Method for Determining Air Leakage Rate by Fan Pressurization
ASTM E 2178	Air Barrier Material Standard
ASTM E 2357	Air Barrier Assembly Testing
ASTM C 1382	Evaluation of Sealant performance with EIF system
ASTM E1827-96(2002)	Standard Test Methods for Determining Airtightness of Buildings Using an Orifice Blower Door
Builders Hardware Manufacturers Association (BHMA)	
ANSI/BHMA A156.4	American National Standards for Door Controls – Closers
Building Industry Consulting Service International	
	Telecommunications Distribution Methods Manual (TDMM)
	Customer-Owned Outside Plant Design Manual (CO-OSP)
Committee on National Security Systems Instructions (CNSSI)	
1253	Security Categorization and Control Selection for National Security Systems
Code of Federal Regulations (CFR)	
10 CFR 430	Energy Conservation Program for Consumer Products
Consumer Electronics Association	
CEA 709.1B	Control Network Protocol Specification
CEA 709.3	Free-Topology Twisted-Pair Channel Specification
CEA 852	Tunneling Component Network Protocols Over Internet Protocol Channels
Telecommunication Industries Association (TIA)	
TIA 568.1	Commercial Building Telecommunications Infrastructure Standards
TIA 569-E	Telecommunications Pathways and Spaces
TIA 607-D	Generic Telecommunications Bonding & Grounding (Earthing) for Customer Premises
Federal Highway Administration (FHWA)	
FHWA-NHI-01-021	Hydraulic Engineering Circular No. 22, Second Edition, URBAN DRAINAGE DESIGN MANUAL and U.S. Weather Bureau Technical Paper No. 40, dated May 1961
Illuminating Engineering Society of North America (IESNA)	
IESNA Lighting Handbook	Reference and Application

Institute of Electrical and Electronics Engineers Inc. (IEEE)	
	Standard for Use of the International System of Units (SI): the Modern Metric System
International Code Council (ICC)	
IBC	International Building Code Note: All references in the International Building Code to the International Electrical Code shall be considered to be references to NFPA 70. All references in the International Building Code to the International Fuel Gas Code shall be considered to be references to NFPA 54 and NFPA 58. All references in the International Building Code to the International Fire Code shall be considered to be references to Unified Facilities Criteria (UFC) 3-600-01.
IMC	International Mechanical Code
IRC	International Residential Code
IPC	International Plumbing Code
IGC	International Gas Code - not applicable. Follow NFPA 54, National Fuel Gas Code and NFPA 58, Liquified Petroleum Gas Code.
International Organization for Standardization (ISO)	
ISO 6781:1983	Qualitative detection of thermal irregularities in building envelopes – infrared method
LonMark International (LonMark)	
LonMark Interoperability Guidelines	(available at www.lonmark.org), including: Application Layer Guidelines, Layer 1-6 Guidelines, and External Interface File (XIF) Reference Guide
LonMark Resource Files	(available at www.lonmark.org), including Standard Network Variable Type (SNVT) definitions
Midwest Insulation Contractors Association (MICA)	
	National Commercial and Industrial Insulation Standards Manual
National Association of Corrosion Engineers International (NACE)	
NACE RP0169	Control of External Corrosion on Underground or Submerged Metallic Piping Systems
NACE RP0185	Extruded, Polyolefin Resin Coating Systems with Adhesives for Underground or Submerged Pipe
NACE RP0285	Corrosion Control of Underground Storage Tank Systems by Cathodic Protection
NACE RP0286	Electrical Isolation of Cathodically Protected Pipelines
National Electrical Manufacturers Association (NEMA)	
National Environmental Balancing Bureau (NEBB)	

	Procedural Standards Procedural Standards for Testing Adjusting Balancing of Environmental Systems
National Fire Protection Association (NFPA)	
NFPA 1	Fire Code
NFPA 10	Standard for Portable Fire Extinguishers
NFPA 13	Standard for the Installation of Sprinkler Systems
NFPA 13R	Residential Occupancies up to and Including Four Stories in Height Sprinkler Systems
NFPA 30	Flammable and Combustible Liquids Code
NFPA 20	Standard for the Installation of Stationary Fire Pumps for Fire Protection
NFPA 22	Standard for Water Tanks for Private Fire Protection
NFPA 24	Standard for the Installation of Private Fire Service Mains and Their Appurtenances [underground fire protection system design]
NFPA 54	National Fuel Gas Code
NFPA 70	National Electrical Code
NFPA 72	National Fire Alarm and Signaling Code
NFPA 80	Standard for Fire Doors and Fire Windows
NFPA 90a	Installation of Air Conditioning and Ventilating Systems
NFPA 101	Life Safety Code
NFPA 110	Standard for Emergency and Standby Power Systems
NFPA 291	Recommended Practice for Fire Flow Testing and Marking of Hydrants
NFPA 780	Standard for the Installation of Lightning Protection Systems
National Institute of Standards and Technology (NIST)	
NIST (SP) 800-37	Risk Management Framework for Information Systems and Organizations: A System Life Cycle Approach for Security and Privacy
NIST (SP) 800-53	Risk Management Framework for Information Systems and Organizations
NIST (SP) 800-82	Guide to Industrial Control Systems (ICS)
NIST (SP) 800-115	Technical Guide to Information Security Testing and Assessment
National Roofing Contractors Association (NRCA)	
	Roofing and Waterproofing Manual
Occupational Safety and Health Administration (OSHA)	
Title 29, Part 1926	OSHA Construction Industry Standards, Title 29, Code of Federal Regulations, Part 1926, Safety and Health Regulations for Construction

Plumbing and Drainage Institute (PDI)	
PDI WH201	Water Hammer Arrestors
Sheet Metal and Air Conditioning Contractor's National Association (SMACNA)	
SMACNA HVAC Duct Construction Standards	HVAC Duct Construction Standards - Metal and Flexible
SMACNA Architectural Manual	Architectural Sheet Metal Manual
SMACNA HVAC TAB	HVAC Systems - Testing, Adjusting and Balancing
State/Local Regulations	
	Sedimentation and Erosion Control Design Requirements
	Environmental Control Requirements
	Storm Water Management Requirements
Steel Door Institute (SDI)	
ANSI A250.8/SDI 100	Standard Steel Doors and Frames
Uniform Federal Accessibility Guidelines (UFAS)	
Rainfall Frequency Atlas	
US Atlas	Rainfall frequency Atlas of the United States for Durations from 30 minutes to 24 hours, and return periods from 1 to 100 years.

5.2 MILITARY CRITERIA

The project shall conform to the following criteria. Certain design impacts and features due to these criteria are noted for the benefit of the Offeror. However, all requirements of the referenced criteria will be applicable, whether noted or not, unless otherwise specified herein.

Committee on National Security Systems Instructions (CNSSI) 1253, Security Categorization and Control Selection for National Security Systems
Department of Defense Advanced Cyber Industrial Control System Tactics, Techniques and Procedures (DoD-ACI TTP) for Department of Defense Industrial Control Systems (ICS) Revision 2
Department of Defense Directive (DoDD) 8140.01 Cyberspace Workforce Management

Department of Defense Instruction (DoDI) 8500.01, Cybersecurity
Department of Defense Instruction (DoDI) 8510.01, Risk Management Framework (RMF) for DoD Information Technology (IT),
Department of Defense Instruction (DoDI) 8530.01 Cybersecurity Activities Support for DoD Information Network Operations
Department of Defense Directive (DoDD) 8570.01, Information Assurance Workforce Improvement Program
Department of Defense (DoD) Handbook for Self-Assessing Security Vulnerabilities & Risks of Industrial Control Systems on DoD Installations
Engineering Construction Bulletin (USACE ECB)
Energy Policy Act of 2005 (Public Law 109-58)
Energy Independence and Security Act (EISA), including EISA Section 438
Federal Information Processing Standard (FIPS) 200, Minimum Security Requirements for Federal Information and Information Systems
Federal Information Processing Standard (FIPS) 201-2, Personal Identity Verification (PIV) of Federal Employees and Contractors
Fort Polk Installation Design Guides.
Fort Polk CADD Standards
I3A Installation Information Infrastructure
MIL-HDBK-1190; "Military Handbook Facility Planning and Design Guide – Technical Guidance
Southwestern Division Architectural and Engineering Instructions Manual (AEIM)
UFC 1-200-01 General Building Requirements
UFC 1-200-02 High Performance and Sustainable Building Requirements
UFC 1-300-02 Unified Facilities Guide Specifications (UFGS) Format Standard
UFC 3-101-01 Architecture
UFC 3-110-03 Roofing
UFC 3-120-01 Design: Sign Standards
UFC 3-120-10 Interior Design
UFC 3-201-01 Civil Engineering
UFC 3-210-01 Low Impact Development
UFC 3-400-02 Design: Engineering Weather Data
UFC 3-401-01 Mechanical Engineering
UFC 3-410-01 Heating, Ventilation, and Air Conditioning Systems

UFC 3-410-02 Direct Digital Control for HVAC and Other Building Control Systems
UFC 3-420-01 Plumbing Systems
UFC 3-450-01 Noise and Vibration Control
UFC 3-470-01 Utility Monitoring and Control System (UMCS) Front End and Integration
UFC 3-501-01 Electrical Engineering
UFC 3-520-01 Interior Electrical Systems
UFC 3-520-05 Stationary and Mission Batteries
UFC 3-530-01 Interior and Exterior Lighting Systems and Controls
UFC 3-540-01 Engine-Driven Generator Systems for Prime and Standby Power Applications
UFC 3-540-07 Operation and Maintenance (O&M): Generators
UFC 3-550-01 Exterior Electrical Power Distribution
UFC 3-555-01N 400 Hertz Medium Voltage Conversion/Distribution and Low Voltage Utilization Systems
UFC 3-560-01 Operation and Maintenance: Electrical Safety
UFC 3-575-01 Lightning and Static Electricity Protection Systems
UFC 3-580-01 Telecommunications Interior Infrastructure Planning and Design
UFC 3-600-01 Fire Protection Engineering for Facilities
UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings (Applicable for scope items only)
UFC 4-010-02 DoD Minimum Antiterrorism Standoff Distances for Buildings (Applicable for scope items only)
UFC 4-010-06 DoD Cybersecurity of Facility-Related Control Systems
UFC 4-021-01 Design and O&M: Mass Notification Systems
UFC 4-211-01 Aircraft Maintenance Hangars
Hydraulic Engineering Circular No. 22, Second Edition
Technical Guide for Installation Information Infrastructure Architecture (I3A)
(a) Email: DetrickISECI3Aguide@conus.army.mil.
USACE Air Leakage Testing Protocol for Measuring Air Leakage in Buildings
USACE General Support Aviation Battalion (GSAB) Aircraft Maintenance Hangar Design Standards

6. SPECIAL REQUIREMENTS

N/A

7. APPENDICES

- Appendix A – DRAWINGS
- Appendix B – AS-BUILT DRAWINGS
- Appendix C – ROOM DATA SHEETS
- Appendix D – PHOTOS
- Appendix E – FURNITURE AND EQUIPMENT TO BE MOVED DURING CONSTRUCTION
- Appendix F – RECORD OF ENVIRONMENTAL CONSIDERATION
- Appendix G – USACE ECB CHECKLIST
- Appendix H – LIFE CYLCE COST ANALYSIS
- Appendix I – FIRE INSPECTION REPORT
- Appendix J – HYDRANT FLOW TEST
- Appendix K – FF&E DATA SHEETS
- Appendix L – UMCS APPROVED COMPONENTS
- Appendix M – DOAS REQUIREMENTS
- Appendix N – FORT POLK ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTS
- Appendix O - FAA FORM 7460-1 2017 NOTICE OF CONSTRUCTION OR ALTERATION

- END OF DOCUMENT –

SECTION 01 30 00

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submittals with an "S" are for inclusion in the Sustainability Notebook, in conformance with Section 01 33 29 SUSTAINABILITY REPORTING. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

View Location Map; G

Progress and Completion Pictures; G

1.2 VIEW LOCATION MAP

Submit, prior to or with the first digital photograph submittals, a sketch or drawing indicating the required photographic locations. Update as required if the locations are moved.

1.3 PROGRESS AND COMPLETION PICTURES

Photographically document site conditions prior to start of construction operations. Include aerial photographs. Provide monthly, and within one month of the completion of work, digital photographs, 1600x1200x24 bit true color minimum resolution in JPEG file format showing the sequence and progress of work. Take a minimum of 20 digital photographs each week throughout the entire project from a minimum of ten views from points located by the Contracting Officer. Submit with the monthly invoice two sets of digital photographs, each set on a separate compact disc (CD) or data versatile disc (DVD), cumulative of all photos to date. Indicate photographs demonstrating environmental procedures. Provide photographs for each month in a separate monthly directory and name each file to indicate its location on the view location sketch. Also provide the view location sketch on the CD or DVD as a digital file. Include a date designator in file names. Cross reference submittals in the appropriate daily report. Photographs provided are for unrestricted use by the Government.

1.4 MINIMUM INSURANCE REQUIREMENTS

Provide the minimum insurance coverage required by FAR 28.307-2 LIABILITY, during the entire period of performance under this contract. Provide other insurance coverage as required by State law.

1.5 FIRST TIER CONTRACTOR REQUIREMENTS FOR ASBESTOS CONTAINING MATERIALS

Accomplish all contract requirements of Section 02 82 13.00 10 ASBESTOS ABATEMENT, assigned to the Designated Competent Person, directly with a

first tier subcontractor.

1.6 SUPERVISION

1.6.1 Minimum Communication Requirements

Have at least one qualified superintendent, or competent alternate, capable of reading, writing, and conversing fluently in the English language, on the job-site at all times during the performance of contract work. In addition, if a Quality Control (QC) representative is required on the contract, then that individual must also have fluent English communication skills.

1.6.2 Non-Compliance Actions

The Project Superintendent is subject to removal by the Contracting Officer for non-compliance with requirements specified in the contract and for failure to manage the project to insure timely completion. Furthermore, 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 is acceptable as the subject of claim for extension of time for excess costs or damages by the Contractor.

1.7 Field Office Overhead

Notice to Offerors: You must declare below the accounting practice that you apply to contracts to calculate field office overhead for all change orders, modifications, and requests for equitable adjustment. Pursuant to Federal Acquisition Regulation (FAR) Parts 31.105(d)(3) and 31.203(d)(1), an accounting practice that varies from modification to modification is not allowable. Select one of the following:

a. If you use Time Distribution Base for Per Diem Rate practice, see "Field Office Overhead - Per Diem Rate" listed below.

b. If you use Direct Cost Distribution Base for a Percentage Mark-up practice, see "Field Office Overhead - Percentage Markup", listed below.

c. If you choose Other Accounting Practice That is Allowed Under the FAR and That Uses a Single Distribution Base, you must describe the accounting practice in sufficient detail below to allow the Contracting Officer to determine what accounting practice is being utilized by your company and that it complies with the criteria for acceptable accounting practices as set out in FAR Parts 31.105(d)(3) and 31.203(d)(1).

d. Contractor must declare the Accounting Practice to apply to this contract, in writing, within 10 days after Notice to Proceed is acknowledged.

1.7.1 Field Office Overhead - Per Diem Rate

The Contracting Officer shall make an equitable adjustment and modify the contract in writing for any change to the contract, issued pursuant to the Changes clause or otherwise, for which the Government is responsible, and which causes either an increase or decrease in the Contractor's costs as to time or performance under the contract. Under such an equitable

adjustment, the Contractor's field office overhead shall be an allowable cost, in accordance with the Contractor's accounting practice as identified by the Contractor.

The Contractor shall declare which standard form of accounting practice it applies to field overhead costs: if a contractor indicates that it follows a per diem basis, no overhead percentage markup rate for office overhead costs shall be allowed.

Under such an equitable adjustment, the Contractor shall be reimbursed for field office overhead on a per diem basis when the completion of the contract is extended by reason of the change issued under any clause, except the Default clause, subject to the Contractor substantiating the variable expense by providing a detailed breakdown of its proposed increase or decrease of costs as required by the Contract Clause DFARS 252.236-7001 MODIFICATION OF PROPOSALS - PRICE BREAKDOWN. No payment of field office overhead on a per diem basis shall be allowed for any change when the completion of the contract is not extended by reason of the change.

1.7.2 Field Office Overhead - Percentage Markup

The Contracting Officer shall make an equitable adjustment and modify the contract in writing for any change to the contract, issued pursuant to the Changes clause or otherwise, for which the Government is responsible, and which causes either an increase or decrease in the Contractor's costs as to time or performance under the contract. Under such an equitable adjustment, the Contractor's field office overhead shall be an allowable cost, in accordance with the Contractor's accounting practice as identified by the Contractor.

The Contractor shall declare which standard form of accounting practice it applies to field overhead costs: if a contractor indicates that it follows a percentage basis, no per diem rate for office overhead costs shall be allowed.

Under such an equitable adjustment, payment of office overhead costs shall be allowed for any change on a percentage markup basis regardless of whether the completion of the contract is, or, is not, extended by reason of the change, except for modifications issued pursuant to the Default Clause. The Contractor shall provide a detailed breakdown of its proposed increase or decrease of costs as required by Contract Clause DFARS 252.236 - 7001 MODIFICATION OF PROPOSALS - PRICE BREAKDOWN.

1.8 PRECONSTRUCTION CONFERENCE

After award of the contract but prior to commencement of any work at the site, meet with the Contracting Officer to discuss and develop a mutual understanding relative to the administration of the value engineering and safety program, preparation of the schedule of prices or earned value report, shop drawings, and other submittals, scheduling programming, prosecution of the work, and clear expectations of the "Interim DD Form 1354" Submittal. Major subcontractors who will engage in the work must also attend.

1.9 PARTNERING

To most effectively accomplish this contract, the Government requires the formation of a cohesive partnership within the Project Team whose members are from the Government, the Contractor and their Subcontractors. Key

personnel from the Supported Command, the End User (who will occupy the facility), the Government Design and Construction team and Subject Matter Experts, the Installation, the Contractor and Subcontractors, and the Designer of Record will be invited to participate in the Partnering process. The Partnership will draw on the strength of each organization in an effort to achieve a project that is without any safety mishaps, conforms to the Contract, and stays within budget and on schedule.

The Contracting Officer will provide Information on the Partnering Process and a list of key and optional personnel who should attend the Partnering meeting.

1.9.1 Informal Partnering

The Contracting Officer will organize the Partnering Sessions with key personnel of the project team, including Contractor personnel and Government personnel.

The Initial Partnering session should be a part of the Pre-Construction Meeting. Partnering sessions will be held at a location agreed to by the Contracting Officer and the Contractor (typically a conference room provided by the Resident Engineer office or the Contractor). The Initial Informal Partnering Session will be conducted and facilitated using electronic media (a video and accompanying forms) provided by the Contracting Officer. The Partners will determine the frequency of the follow-on sessions, at no more than 3 to six month intervals.

1.10 ELECTRONIC MAIL (E-MAIL) ADDRESS

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

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

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

SECTION 01 31 19.00 44

PROJECT MEETINGS

PART 1 GENERAL

1.1 DESIGN CONFERENCES

1.1.1 Post-Award Conference

As part of the Post-Award Conference conducted after contract award and prior to the start of any design work, key representatives of the Government and the Contractor will review the design submission and review procedures specified herein, discuss the preliminary design schedule and provisions for phase completion of the Design/Build documents with construction activities (fast tracking), as appropriate, meet with Corps of Engineers Design Review personnel and key Using Agency points of contact, and any other appropriate pre-design discussion items. The Contractor's Project Manager, Designers, and Design and Construction Quality Control Managers will attend this meeting. The Contractor is encouraged to have an officer of the company at this conference. This conference will be held at the location specified by the Contracting Officer's authorized representative.Minutes of the meeting will be prepared by the Government and signed by both the Contractor and the Contracting Officer. The minutes shall become a part of the contract file.
The preconstruction conference can be held concurrently with the post-award conference if construction is anticipated to start soon (see paragraph PRECONSTRUCTION CONFERENCE below).

1.1.2 Scope Confirmation Meeting

After award of the contract and the Post-Award Conference, the Contractor shall visit the site and conduct extensive interviews and problem solving discussions with the individual users, base personnel, and Corps of Engineers personnel to acquire all necessary site information, review user options, and discuss user needs. The Contractor shall document all discussions. The design shall be finalized as direct result of these meetings. Site visits and discussions shall be coordinated with the Contracting Officer's authorized representative.

1.1.3 Design Review Conferences

Review conferences will be held at the Fort Polk Resident Office for each design submittal. The Contractor will bring the personnel that developed the design submittal to the review conferences. The conferences will take place the week after the review is complete. See Section 01 33 16.00 10 DESIGN AFTER AWARD for additional requirements.

1.2 PRECONSTRUCTION CONFERENCE

The Contractor's Project Manager, Superintendent, and Quality Control Manager will attend this meeting. The Contractor is encouraged to have an officer of his company and representation from his sub-contractors at this conference. This conference will be held at the location specified by the Contracting Officer's authorized representative. Minutes of the meeting

will be prepared by the Government and signed by both the Contractor and the Contracting Officer. The minutes shall become a part of the contract file.

1.2.1 Start of Construction Work

If the Contractor has submitted the Accident Prevention (Safety) Plan, Quality Control Plan, Environmental Protection Plan, and the Storm Water Pollution Prevention Plan for review prior to this meeting, these may be accepted in to or accepted with comments at the conference. Construction work will not proceed until after this meeting has been held, the plans noted above have been accepted, and the Notice to Proceed has been received and acknowledged by the Contractor.

1.3 OTHER MEETINGS

Construction Quality Control meetings and conferences are specified in Section 01 45 00.00 10 QUALITY CONTROL. Other meetings are specified in various Division 1 and technical sections.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

-- End of Section --

SECTION 01 32 01.00 10

PROJECT SCHEDULE

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.

AACE INTERNATIONAL (AACE)

AACE 29R-03	(2011) Forensic Schedule Analysis
AACE 52R-06	(2006) Time Impact Analysis - As Applied in Construction

U.S. ARMY CORPS OF ENGINEERS (USACE)

ER 1-1-11	(1995) Administration -- Progress, Schedules, and Network Analysis Systems

1.2 SUBMITTALS

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

SD-01 Preconstruction Submittals

Project Scheduler Qualifications; G
Preliminary Project Schedule; G
Initial Project Schedule; G
Periodic Schedule Update; G

1.3 PROJECT SCHEDULER QUALIFICATIONS

Designate an authorized representative to be responsible for the preparation of the schedule and all required updating and production of reports. The authorized representative must have a minimum of 2-years experience scheduling construction projects similar in size and nature to this project with scheduling software that meets the requirements of this specification. Representative must have a comprehensive knowledge of CPM scheduling principles and application.

PART 2 PRODUCTS

2.1 SOFTWARE

The scheduling software utilized to produce and update the schedules required herein must be capable of meeting all requirements of this specification.

2.1.1 Government Default Software

The Government intends to use Primavera P6.

2.1.2 Contractor Software

Scheduling software used by the contractor must be commercially available from the software vendor for purchase with vendor software support agreements available. The software routine used to create the required sdef file must be created and supported by the software manufacturer.

2.1.2.1 Primavera

If Primavera P6 is selected for use, provide the "xer" export file in a version of P6 importable by the Government system.

2.1.2.2 Other Than Primavera

If the contractor chooses software other than Primavera P6, that is compliant with this specification, provide for the Government's use two licenses, two computers, and training for two Government employees in the use of the software. These computers will be stand-alone and not connected to Government network. Computers and licenses will be returned at project completion.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Prepare for approval a Project Schedule, as specified herein, pursuant to FAR Clause 52.236-15, SCHEDULE FOR CONSTRUCTION CONTRACTS. Show in the schedule the proposed sequence to perform the work and dates contemplated for starting and completing all schedule activities. The scheduling of the entire project is required. The scheduling of design and construction is the responsibility of the Contractor. Contractor management personnel must actively participate in its development. Designers, Subcontractors and suppliers working on the project must also contribute in developing and maintaining an accurate Project Schedule. Provide a schedule that is a forward planning as well as a project monitoring tool. Use the Critical Path Method (CPM) of network calculation to generate all Project Schedules. Prepare each Project Schedule using the Precedence Diagram Method (PDM).

3.2 BASIS FOR PAYMENT AND COST LOADING

The schedule is the basis for determining contract earnings during each update period and therefore the amount of each progress payment. The aggregate value of all activities coded to a contract CLIN must equal the value of the CLIN.

3.2.1 Activity Cost Loading

Activity cost loading must be reasonable and without front-end loading. Provide additional documentation to demonstrate reasonableness if requested by the Contracting Officer.

3.2.2 Withholdings / Payment Rejection

Failure to meet the requirements of this specification may result in the disapproval of the preliminary, initial or periodic schedule updates and subsequent rejection of payment requests until compliance is met.

In the event that the Contracting Officer directs schedule revisions and those revisions have not been included in subsequent Project Schedule revisions or updates, the Contracting Officer may withhold 10 percent of pay request amount from each payment period until such revisions to the project schedule have been made.

3.3 PROJECT SCHEDULE DETAILED REQUIREMENTS

3.3.1 Level of Detail Required

Develop the Project Schedule to the appropriate level of detail to address major milestones and to allow for satisfactory project planning and execution. Failure to develop the Project Schedule to an appropriate level of detail will result in its disapproval. The Contracting Officer will consider, but is not limited to, the following characteristics and requirements to determine appropriate level of detail:

3.3.2 Activity Durations

Reasonable activity durations are those that allow the progress of ongoing activities to be accurately determined between update periods. Less than 2 percent of all non-procurement activities may have Original Durations (OD) greater than 20 work days or 30 calendar days.

3.3.3 Design and Permit Activities

Include design and permit activities with the necessary conferences and follow-up actions and design package submission dates. Include the design schedule in the project schedule, showing the sequence of events involved in carrying out the project design tasks within the specific contract period. Provide at a detailed level of scheduling sufficient to identify all major design tasks, including those that control the flow of work. Also include review and correction periods associated with each item.

3.3.4 Procurement Activities

Include activities associated with the critical submittals and their approvals, procurement, fabrication, and delivery of long lead materials, equipment, fabricated assemblies, and supplies. Long lead procurement activities are those with an anticipated procurement sequence of over 90 calendar days.

3.3.5 Mandatory Tasks

Include the following activities/tasks in the initial project schedule and all updates.

a. Submission, review and acceptance of SD-01 Preconstruction Submittals (individual activity for each).

b. Submission, review and acceptance of design packages.

c. Submission of mechanical/electrical/information systems layout

drawings.

d. Long procurement activities

e. Submission and approval of O & M manuals.

f. Submission and approval of as-built drawings.

g. Submission and approval of DD1354 data and installed equipment lists.

h. Submission and approval of testing and air balance (TAB).

i. Submission of TAB specialist design review report.

j. Submission and approval of fire protection specialist.

k. Submission and approval of Building Commissioning Plan, test data, and reports: Develop the schedule logic associated with testing and commissioning of mechanical systems to a level of detail consistent with the contract commissioning requirements. All tasks associated with all building testing and commissioning will be completed prior to submission of building commissioning report and subsequent contract completion.

l. Air and water balancing.

m. Building commissioning - Functional Performance Testing.

n. Controls testing plan submission.

o. Controls testing.

p. Performance Verification testing.

q. Other systems testing, if required.

r. Contractor's pre-final inspection.

s. Correction of punch list from Contractor's pre-final inspection.

t. Government's pre-final inspection.

u. Correction of punch list from Government's pre-final inspection.

v. Final inspection.

3.3.6 Government Activities

Show Government and other agency activities that could impact progress. These activities include, but are not limited to: acceptance, design reviews, environmental permit approvals by State regulators, inspections, utility tie-in, Government Furnished Equipment (GFE) and Notice to Proceed (NTP) for phasing requirements.

3.3.7 Standard Activity Coding Dictionary

Use the activity coding structure defined in the Standard Data Exchange Format (SDEF) in ER 1-1-11. This exact structure is mandatory. Develop and assign all Activity Codes to activities as detailed herein. A

template SDEF compatible schedule backup file is available on the RMS web site: http://rms.usace.army.mil.

The SDEF format is as follows:

Field	Activity Code	Length	Description
1	WRKP	3	Workers per day
2	RESP	4	Responsible party
3	AREA	4	Area of work
4	MODF	6	Modification Number
5	BIDI	6	Bid Item (CLIN)
6	PHAS	2	Phase of work
7	CATW	1	Category of work
8	FOW	20	Feature of work*
*Some systems require that FEATURE OF WORK values be placed in several activity code fields. The notation shown is for Primavera P6. Refer to the specific software guidelines with respect to the FEATURE OF WORK field requirements.			

3.3.7.1 Workers Per Day (WRKP)

Assign Workers per Day for all field construction or direct work activities, if directed by the Contracting Officer. Workers per day is based on the average number of workers expected each day to perform a task for the duration of that activity.

3.3.7.2 Responsible Party Coding (RESP)

Assign responsibility code for all activities to the Prime Contractor, Subcontractor(s) or Government agency(ies) responsible for performing the activity.

a. Activities coded with a Government Responsibility code include, but are not limited to: Government approvals, Government design reviews, environmental permit approvals by State regulators, Government Furnished Property/Equipment (GFP) and Notice to Proceed (NTP) for phasing requirements.

b. Activities cannot have more than one Responsibility Code. Examples of acceptable activity code values are: DOR (for the designer of record); ELEC (for the electrical subcontractor); MECH (for the mechanical subcontractor); and GOVT (for USACE).

3.3.7.3 Area of Work Coding (AREA)

Assign Work Area code to activities based upon the work area in which the activity occurs. Define work areas based on resource constraints or space constraints that would preclude a resource, such as a particular trade or craft work crew from working in more than one work area at a time due to restraints on resources or space. Examples of Work Area Coding include different areas within a floor of a building, different floors within a building, and different buildings within a complex of buildings. Activities cannot have more than one Work Area Code.

Not all activities are required to be Work Area coded. A lack of Work Area coding indicates the activity is not resource or space constrained.

3.3.7.4 Modification Number (MODF)

Assign a Modification Number Code to any activity or sequence of activities added to the schedule as a result of a Contract Modification, when approved by Contracting Officer. Key all Code values to the Government's modification numbering system. An activity can have only one Modification Number Code.

3.3.7.5 Bid Item Coding (BIDI)

Assign a Bid Item Code to all activities using the Contract Line Item Schedule (CLIN) to which the activity belongs, even when an activity is not cost loaded. An activity can have only one BIDI Code.

3.3.7.6 Phase of Work Coding (PHAS)

Assign Phase of Work Code to all activities. Examples of phase of work are design phase, procurement phase, and construction phase. Each activity can have only one Phase of Work code.

a. Code proposed fast track design and construction phases proposed to allow filtering and organizing the schedule by fast track design and construction packages.

b. If the contract specifies phasing with separately defined performance periods, identify a Phase Code to allow filtering and organizing the schedule accordingly.

3.3.7.7 Category of Work Coding (CATW)

Assign a Category of Work Code to all activities. Category of Work Codes include, but are not limited to design, design submittal, design reviews, review conferences, permits, construction submittals, procurement, fabrication, weather sensitive installation, non-weather sensitive installation, start-up, and testing activities. Each activity can have no more than one Category of Work Code.

3.3.7.8 Feature of Work Coding (FOW)

Assign a Feature of Work Code to appropriate activities based on the Definable Feature of Work to which the activity belongs based on the approved QC plan.

Definable Feature of Work is defined in Section 01 45 00.00 10 QUALITY CONTROL. An activity can have only one Feature of Work Code.

3.3.8 Contract Milestones and Constraints

Milestone activities are to be used for significant project events including, but not limited to, project phasing, project start and end activities, or interim completion dates. The use of artificial float constraints such as "zero free float" or "zero total float" are prohibited.

Mandatory constraints that ignore or effect network logic are prohibited. No constrained dates are allowed in the schedule other than those specified herein. Submit additional constraints to the Contracting Officer for approval on a case by case basis.

3.3.8.1 Project Start Date Milestone and Constraint

The first activity in the project schedule must be a start milestone titled "NTP Acknowledged," which must have a "Start On" constraint date equal to the date that the NTP is acknowledged.

3.3.8.2 End Project Finish Milestone and Constraint

The last activity in the schedule must be a finish milestone titled "End Project."

Constrain the project schedule to the Contract Completion Date in such a way that if the schedule calculates an early finish, then the float calculation for "End Project" milestone reflects positive float on the longest path. If the project schedule calculates a late finish, then the "End Project" milestone float calculation reflects negative float on the longest path. The Government is under no obligation to accelerate Government activities to support a Contractor's early completion.

3.3.8.3 Interim Completion Dates and Constraints

Constrain contractually specified interim completion dates to show negative float when the calculated late finish date of the last activity in that phase is later than the specified interim completion date.

3.3.8.3.1 Start Phase

Use a start milestone as the first activity for a project phase. Call the start milestone "Start Phase X" where "X" refers to the phase of work.

3.3.8.3.2 End Phase

Use a finish milestone as the last activity for a project phase. Call the finish milestone "End Phase X" where "X" refers to the phase of work.

3.3.9 Calendars

Schedule activities on a Calendar to which the activity logically belongs. Develop calendars to accommodate any contract defined work period such as a 7-day calendar for Government Acceptance activities, concrete cure times, etc. Develop the default Calendar to match the physical work plan with non-work periods identified including weekends and holidays. Develop sSeasonal Calendar(s) and assign to seasonally affected activities as applicable.

If an activity is weather sensitive it should be assigned to a calendar showing non-work days on a monthly basis, with the non-work days selected at random across the weeks of the calendar, using the anticipated days provided in the contract clause TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER. Assign non-work days over a seven-day week as weather records are compiled on seven-day weeks, which may cause some of the weather related non-work days to fall on weekends.

3.3.10 Open Ended Logic

Only two open ended activities are allowed: the first activity "NTP Acknowledged" may have no predecessor logic, and the last activity -"End Project" may have no successor logic.

Predecessor open ended logic may be allowed in a time impact analyses upon the Contracting Officer's approval.

3.3.11 Default Progress Data Disallowed

Actual Start and Finish dates must not automatically update with default mechanisms included in the scheduling software. Updating of the percent complete and the remaining duration of any activity must be independent functions. Disable program features that calculate one of these parameters from the other. Activity Actual Start (AS) and Actual Finish (AF) dates assigned during the updating process must match those dates provided in the Contractor Quality Control Reports. Failure to document the AS and AF dates in the Daily Quality Control report will result in disapproval of the Contractor's schedule.

3.3.12 Out-of-Sequence Progress

Activities that have progressed before all preceding logic has been satisfied (Out-of-Sequence Progress) will be allowed only on a case-by-case basis subject to approval by the Contracting Officer. If Out-of-Sequence Progress is approved, implement logic corrections to eliminate all out of sequence progress. For example, a relationship between an activity and it's successor having Out-Of-Sequence progress can be changed from a Finish-to-Start to a Start-to-Start relationship. When Start-to-Start logic is used, ensure that the finish logic is represented appropriately, typically by adding an additional Finish-to-Finish relationship.

3.3.13 Added and Deleted Activities

Do not delete activities from the project schedule or add new activities to the schedule without approval from the Contracting Officer. Activity ID and description changes are considered new activities and cannot be changed without Contracting Officer approval.

3.3.14 Original Durations

Activity Original Durations (OD) must be reasonable to perform the work item. OD changes are prohibited unless justification is provided and approved by the Contracting Officer.

3.3.15 Leads, Lags, and Start to Finish Relationships

Lags must be reasonable as determined by the Government and not used in place of realistic original durations, must not be in place to

artificially absorb float, or to replace proper schedule logic.

a. Leads (negative lags) are prohibited.

b. Start to Finish (SF) relationships are prohibited.

3.3.16 Retained Logic

Schedule calculations must retain the logic between predecessors and successors ("retained logic" mode) even when the successor activity(s) starts and the predecessor activity(s) has not finished (out-of-sequence progress). Software features that in effect sever the tie between predecessor and successor activities when the successor has started and the predecessor logic is not satisfied ("progress override") are not be allowed.

3.3.17 Percent Complete

Update the percent complete for each activity started, based on the realistic assessment of earned value. Activities which are complete but for remaining minor punch list work and which do not restrain the initiation of successor activities may be declared 100 percent complete to allow for proper schedule management.

3.3.18 Remaining Duration

Update the remaining duration for each activity based on the number of estimated work days it will take to complete the activity. Remaining duration may not mathematically correlate with percentage found under paragraph entitled Percent Complete.

3.3.19 Cost Loading of Closeout Activities

Cost load the "Correction of punch list from Government pre-final inspection" activity(ies) not less than 1 percent of the present contract value. Activity(ies) may be declared 100 percent complete upon the Government's verification of completion and correction of all punch list work identified during Government pre-final inspection(s).

3.3.19.1 As-Built Drawings

If there is no separate contract line item (CLIN) for as-built drawings, cost load the "Submission and approval of as-built drawings" activity not less than $35,000 or 1 percent of the present contract value, which ever is greater, up to $200,000. Activity will be declared 100 percent complete upon the Government's approval.

3.3.19.2 O & M Manuals

Cost load the "Submission and approval of O & M manuals" activity not less than $20,000 or 1% whichever is greater.. Activity will be declared 100 percent complete upon the Government's approval of all O & M manuals.

3.3.20 Anticipated Adverse Weather

Paragraph applicable to contracts with clause entitled TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER. Reflect the number of anticipated adverse weather delays allocated to a weather sensitive activity in the activity's calendar.

3.3.21 Early Completion Schedule and the Right to Finish Early

An Early Completion Schedule is an Initial Project Schedule (IPS) that indicates all scope of the required contract work will be completed before the contractually required completion date.

a. No IPS indicating an Early Completion will be accepted without being fully resource-loaded (including crew sizes and manhours) and the Government agreeing that the schedule is reasonable and achievable.

b. The Government is under no obligation to accelerate work items it is responsible for to ensure that the early completion is met nor is it responsible to modify incremental funding (if applicable) for the project to meet the contractor's accelerated work.

3.4 3.3.10 USE OF PRIMAVERA P6

If P6 is being used, the following are Mandatory Requirements:

The following settings are mandatory and required in the Preliminary Project Schedule, Initial Project Schedule and all schedule submissions to the Government.

1) Activity Codes shall be Project Level not Global or EPS level.
2) Calendars shall be Project Level not Global or Resource level.
3) Activity Duration Types must be set to "Fixed Duration & Units".
4) Percent Complete Types must be set to "Physical".
5) Time Period Admin Preferences must remain the default "8.0 hr/day, 40 hr/week, 172 hr/month, 2000 hr/year". Calendar Work Hours/Day must be set to 8.0 Hour days.
6) Schedule Option for defining Critical Activities shall be set to "Longest Path".
7) Schedule Option for defining progressed activities shall be set to "Retained Logic".
8) Cost loading shall be set up using a single lump sum Resource. The Price/Unit shall be $1/hr, Default Units/Time shall be "8h/d", and settings "Auto Compute Actuals" and "Calculate costs from units" selected.
9) Activity ID's shall not exceed 10 characters.
10) Activity Names shall have the most defining and detailed description within the first 30 characters.

Note: USACE P6 Mandatory Requirements are located in the Contract Adminstration Manual, and can be obtained from the Field Office.

3.5 PROJECT SCHEDULE SUBMISSIONS

Provide the submissions as described below. The data CD/DVD, reports, and network diagrams required for each submission are contained in paragraph SUBMISSION REQUIREMENTS. If the Contractor fails or refuses to furnish the information and schedule updates as set forth herein, then the Contractor will be deemed not to have provided an estimate upon which a progress payment can be made.

Review comments made by the Government on the schedule(s) do not relieve the Contractor from compliance with requirements of the Contract Documents.

3.5.1 Preliminary Project Schedule Submission

Within 15 calendar days after the NTP is acknowledged submit the Preliminary Project Schedule defining the planned operations detailed for the first 90 calendar days for approval. The approved Preliminary Project Schedule will be used for payment purposes not to exceed 90 calendar days after NTP. Completely cost load the Preliminary Project Schedule to balance the contract award CLINS shown on the Price Schedule. The Preliminary Project Schedule may be summary in nature for the remaining performance period. It must be early start and late finish constrained and logically tied as specified. The Preliminary Project Schedule forms the basis for the Initial Project Schedule specified herein and must include all of the required plan and program preparations, submissions and approvals identified in the contract (for example, Quality Control Plan, Safety Plan, and Environmental Protection Plan) as well as design activities, planned submissions of all early design packages, permitting activities, design review conference activities, and other non-construction activities intended to occur within the first 90 calendar days. Government acceptance of the associated design package(s) and all other specified Program and Plan approvals must occur prior to any planned construction activities. Activity code any activities that are summary in nature after the first 90 calendar days with Bid Item (CLIN) code (BIDI), Responsibility Code (RESP) and Feature of Work code (FOW).

3.5.2 Initial Project Schedule Submission

Submit the Initial Project Schedule for approval within 42 calendar days after notice to proceed is issued. The schedule must demonstrate a reasonable and realistic sequence of activities which represent all work through the entire contract performance period. Include in the design-build schedule detailed design and permitting activities, including but not limited to identification of individual design packages, design submission, reviews and conferences; permit submissions and any required Government actions; and long lead item acquisition prior to design completion. Also cover in the preliminary design-build schedule the entire construction effort with as much detail as is known at the time but, as a minimum, include all construction start and completion milestones, and detailed construction activities through the dry-in milestone,including all activity coding and cost loading. Include the remaining construction, including cost loading, but it may be scheduled summary in nature. As the design proceeds and design packages are developed, fully detail the remaining construction activities concurrent with the monthly schedule updating process. Constrain construction activities by Government acceptance of associated designs. When the design is complete, incorporate into the then approved schedule update all remaining detailed construction activities that are planned to occur after the dry-in milestone. If applicable, include in the design-build schedule detailed design and permitting activities, including but not limited to identification of individual design packages, design submission, reviews and conferences, permit submissions and any required Government actions, and long lead item acquisition prior to design completion. Also cover in the preliminary design-build schedule the entire construction effort with as much detail as is known at the time but, as a minimum, include all construction start and completion milestones, and detailed construction activities through the dry-in milestone, including all activity coding and cost loading. Include the remaining construction, including cost loading, but it may be scheduled summary in nature. As the design proceeds and design packages are developed, fully detail the remaining construction activities. No payment will be made for work items not fully detailed in

the Project Schedule.

3.5.2.1 Design Package Schedule Submission

With each design package submitted to the Government, submit a fragnet schedule extracted from the then current Preliminary, Initial or Updated schedule which covers the activities associated with that Design Package including construction, procurement and permitting activities.

3.5.3 Periodic Schedule Updates

Update the Project Schedule on a regular basis, monthly at a minimum. Provide a draft Periodic Schedule Update for review at the schedule update meetings as prescribed in the paragraph PERIODIC SCHEDULE UPDATE MEETINGS. These updates will enable the Government to assess Contractor's progress. Update the schedule to include detailed construction activities as the design progresses, but not later than the submission of the final un-reviewed design submission for each separate design package. The Contracting Officer may require submission of detailed schedule activities for any distinct construction that is started prior to submission of a final design submission if such activity is authorized.

a. Update information including Actual Start Dates (AS), Actual Finish Dates (AF), Remaining Durations (RD), and Percent Complete is subject to the approval of the Government at the meeting.

b. AS and AF dates must match the date(s) reported on the Contractor's Quality Control Report for an activity start or finish.

3.6 SUBMISSION REQUIREMENTS

Submit the following items for the Preliminary Schedule, Initial Schedule, and every Periodic Schedule Update throughout the life of the project:

3.6.1 Data CD/DVDs

Provide two sets of data CD/DVDs containing the current project schedule and all previously submitted schedules in the format of the scheduling software (e.g. .xer). Also include on the data CD/DVDs the Narrative Report and all required Schedule Reports. Label each CD/DVD indicating the type of schedule (Preliminary, Initial, Update), full contract number, Data Date and file name. Each schedule must have a unique file name and use project specific settings. The contractor shall name each schedule file with a unique name following the format described in section 3.12 "USACE P6 SCHEDULE NAMING CONVENTION (FORT WORTH DISTRICT)". The contractor shall name each schedule backup file with the name of the schedule from which it was created.

3.6.2 Narrative Report

Provide a Narrative Report with each schedule submission. The Narrative Report is expected to communicate to the Government the thorough analysis of the schedule output and the plans to compensate for any problems, either current or potential, which are revealed through that analysis. Include the following information as minimum in the Narrative Report:

a. Identify and discuss the work scheduled to start in the next update period.

b. A description of activities along the two most critical paths where the total float is less than or equal to 20 work days.

c. A description of current and anticipated problem areas or delaying factors and their impact and an explanation of corrective actions taken or required to be taken.

d. Identify and explain why activities based on their calculated late dates should have either started or finished during the update period but did not.

e. Identify and discuss all schedule changes by activity ID and activity name including what specifically was changed and why the change was needed. Include at a minimum new and deleted activities, logic changes, duration changes, calendar changes, lag changes, resource changes, and actual start and finish date changes.

f. Identify and discuss out-of-sequence work.

3.6.3 Schedule Reports

The format, filtering, organizing and sorting for each schedule report will be as directed by the Contracting Officer. Typically, reports contain Activity Numbers, Activity Description, Original Duration, Remaining Duration, Early Start Date, Early Finish Date, Late Start Date, Late Finish Date, Total Float, Actual Start Date, Actual Finish Date, and Percent Complete. Provide the reports electronically in .pdf format. Provide one set(s) of hardcopy reports. The following lists typical reports that will be requested:

3.6.3.1 Activity Report

List of all activities sorted according to activity number.

3.6.3.2 Logic Report

List of detailed predecessor and successor activities for every activity in ascending order by activity number.

3.6.3.3 Total Float Report

A list of all incomplete activities sorted in ascending order of total float. List activities which have the same amount of total float in ascending order of Early Start Dates. Do not show completed activities on this report.

3.6.3.4 Earnings Report by CLIN

A compilation of the Total Earnings on the project from the NTP to the data date, which reflects the earnings of activities based on the agreements made in the schedule update meeting defined herein. Provided a complete schedule update has been furnished, this report serves as the basis of determining progress payments. Group activities by CLIN number and sort by activity number. Provide a total CLIN percent earned value, CLIN percent complete, and project percent complete. The printed report must contain the following for each activity: the Activity Number, Activity Description, Original Budgeted Amount, Earnings to Date, Earnings this period, Total Quantity, Quantity to Date, and Percent Complete (based on cost).

3.6.3.5 Schedule Log

Provide a Scheduling/Leveling Report generated from the current project schedule being submitted.

3.6.4 Network Diagram

The Network Diagram is required for the Preliminary, Initial and Periodic Updates. Depict and display the order and interdependence of activities and the sequence in which the work is to be accomplished. The Contracting Officer will use, but is not limited to, the following conditions to review compliance with this paragraph:

3.6.4.1 Continuous Flow

Show a continuous flow from left to right with no arrows from right to left. Show the activity number, description, duration, and estimated earned value on the diagram.

3.6.4.2 Project Milestone Dates

Show dates on the diagram for start of project, any contract required interim completion dates, and contract completion dates.

3.6.4.3 Critical Path

Show all activities on the critical path. The critical path is defined as the longest path.

3.6.4.4 Banding

Organize activities using the WBS or as otherwise directed to assist in the understanding of the activity sequence. Typically, this flow will group activities by major elements of work, category of work, work area and/or responsibility.

3.6.4.5 Cash Flow / Schedule Variance Control (SVC) Diagram

With each schedule submission, provide a SVC diagram showing 1) Cash Flow S-Curves indicating planned project cost based on projected early and late activity finish dates, and 2) Earned Value to-date.

3.7 PERIODIC SCHEDULE UPDATE

3.7.1 Periodic Schedule Update Meetings

Conduct periodic schedule update meetings for the purpose of reviewing the proposed Periodic Schedule Update, Narrative Report, Schedule Reports, and progress payment. Conduct meetings at least monthly within five days of the proposed schedule data date. Provide a computer with the scheduling software loaded and a projector which allows all meeting participants to view the proposed schedule during the meeting. The Contractor's authorized scheduler must organize, group, sort, filter, perform schedule revisions as needed and review functions as requested by the Contractor and/or Government. The meeting is a working interactive exchange which allows the Government and Contractor the opportunity to review the updated schedule on a real time and interactive basis. The meeting will last no longer than 8 hours. Provide a draft of the proposed narrative report and

schedule data file to the Government a minimum of two workdays in advance of the meeting. The Contractor's Project Manager and scheduler must attend the meeting with the authorized representative of the Contracting Officer. Superintendents, foremen and major subcontractors must attend the meeting as required to discuss the project schedule and work. Following the periodic schedule update meeting, make corrections to the draft submission. Include only those changes approved by the Government in the submission and invoice for payment.

3.7.2 Update Submission Following Progress Meeting

Submit the complete Periodic Schedule Update of the Project Schedule containing all approved progress, revisions, and adjustments, pursuant to paragraph SUBMISSION REQUIREMENTS not later than 4 work days after the periodic schedule update meeting.

3.8 WEEKLY PROGRESS MEETINGS

Conduct a weekly meeting with the Government (or as otherwise mutually agreed to) between the meetings described in paragraph entitled PERIODIC SCHEDULE UPDATE MEETINGS for the purpose of jointly reviewing the actual progress of the project as compared to the as planned progress and to review planned activities for the upcoming two weeks. Use the current approved schedule update for the purposes of this meeting and for the production and review of reports. At the weekly progress meeting, address the status of RFIs, RFPs and Submittals.

3.9 REQUESTS FOR TIME EXTENSIONS

Provide a justification of delay to the Contracting Officer in accordance with the contract provisions and clauses for approval within 10 days of a delay occurring. Also prepare a time impact analysis for each Government request for proposal (RFP) to justify time extensions.

3.9.1 Justification of Delay

Provide a description of the event(s) that caused the delay and/or impact to the work. As part of the description, identify all schedule activities impacted. Show that the event that caused the delay/impact was the responsibility of the Government. Provide a time impact analysis that demonstrates the effects of the delay or impact on the project completion date or interim completion date(s). Evaluate multiple impacts chronologically; each with its own justification of delay. With multiple impacts consider any concurrency of delay. A time extension and the schedule fragnet becomes part of the project schedule and all future schedule updates upon approval by the Contracting Officer.

3.9.2 Time Impact Analysis (Prospective Analysis)

Prepare a time impact analysis for approval by the Contracting Officer based on industry standard AACE 52R-06. Utilize a copy of the last approved schedule prior to the first day of the impact or delay for the time impact analysis. If Contracting Officer determines the time frame between the last approved schedule and the first day of impact is too great, prepare an interim updated schedule to perform the time impact analysis. Unless approved by the Contracting Officer, no other changes may be incorporated into the schedule being used to justify the time impact.

3.9.3 Forensic Schedule Analysis (Retrospective Analysis)

Prepare an analysis for approval by the Contracting Officer based on industry standard AACE 29R-03.

3.9.4 Fragmentary Network (Fragnet)

Prepare a proposed fragnet for time impact analysis consisting of a sequence of new activities that are proposed to be added to the project schedule to demonstrate the influence of the delay or impact to the project's contractual dates. Clearly show how the proposed fragnet is to be tied into the project schedule including all predecessors and successors to the fragnet activities. The proposed fragnet must be approved by the Contracting Officer prior to incorporation into the project schedule.

3.9.5 Time Extension

The Contracting Officer must approve the Justification of Delay including the time impact analysis before a time extension will be granted. No time extension will be granted unless the delay consumes all available Project Float and extends the projected finish date ("End Project" milestone) beyond the Contract Completion Date. The time extension will be in calendar days.

Actual delays that are found to be caused by the Contractor's own actions, which result in a calculated schedule delay will not be a cause for an extension to the performance period, completion date, or any interim milestone date.

3.9.6 Impact to Early Completion Schedule

No extended overhead will be paid for delay prior to the original Contract Completion Date for an Early Completion IPS unless the Contractor actually performed work in accordance with that Early Completion Schedule. The Contractor must show that an early completion was achievable had it not been for the impact.

3.10 FAILURE TO ACHIEVE PROGRESS

Should the progress fall behind the approved project schedule for reasons other than those that are excusable within the terms of the contract, the Contracting Officer may require provision of a written recovery plan for approval. The plan must detail how progress will be made-up to include which activities will be accelerated by adding additional crews, longer work hours, extra work days, etc.

3.10.1 Artificially Improving Progress

Artificially improving progress by means such as, but not limited to, revising the schedule logic, modifying or adding constraints, shortening activity durations, or changing calendars in the project schedule is prohibited. Indicate assumptions made and the basis for any logic, constraint, duration and calendar changes used in the creation of the recovery plan. Any additional resources, manpower, or daily and weekly work hour changes proposed in the recovery plan must be evident at the work site and documented in the daily report along with the Schedule Narrative Report.

3.10.2 Failure to Perform

Failure to perform work and maintain progress in accordance with the supplemental recovery plan may result in an interim and final unsatisfactory performance rating and/or may result in corrective action directed by the Contracting Officer pursuant to FAR 52.236-15 Schedules for Construction Contracts, FAR 52.249-10 Default (Fixed-Price Construction), and other contract provisions.

3.10.3 Recovery Schedule

Should the Contracting Officer find it necessary, submit a recovery schedule pursuant to FAR 52.236-15 Schedules for Construction Contracts.

3.11 OWNERSHIP OF FLOAT

Except for the provision given in the paragraph IMPACT TO EARLY COMPLETION SCHEDULE, float available in the schedule, at any time, may not be considered for the exclusive use of either the Government or the Contractor including activity and/or project float. Activity float is the number of work days that an activity can be delayed without causing a delay to the "End Project" finish milestone. Project float (if applicable) is the number of work days between the projected early finish and the contract completion date milestone.

3.12 TRANSFER OF SCHEDULE DATA INTO RMS

Import the schedule data into the Resident Managment System (RMS) and export the RMS data to the Government. This data is considered to be additional supporting data in a form and detail required by the Contracting Officer pursuant to FAR 52.232-5 - Payments under Fixed-Price Construction Contracts. The receipt of a proper payment request pursuant to FAR 52.232-27 - Prompt Payment for Construction Contracts is contingent upon the Government receiving both acceptable and approvable hard copies and matching electronic export from RMS of the application for progress payment.

3.13 3.12 **USACE P6 SCHEDULE NAMING CONVENTION (FORT WORTH DISTRICT)**

Summary

Please ensure that all schedule submittals comply with the following:

1) Sample Schedule NAME, (P6 Project ID): "M2004727-2INIT-V03". Use the RMS 8-digit "CONTRACT ID", a "-", a 5-digit schedule type identifier, another "-", and a 3-digit version identifier.
2) Sample Schedule DESCRIPTION, (P6 Project Name): "W9126G-14-D-0050-0002, SAMMC-N Fire Station". Use the RMS 16-digit "Contract Number", (matching the format as awarded), a "-", the RMS "Task Order Number", another "-", and the "RMS Contract Description". (Omit the "-" and the Task Order number if none is used.)
3) Sample P6 Export File Name: "M2004727-2INIT-V03.xer". Use the Schedule Name, (P6 Project ID), for the name of the export file.

Details

To ensure compatibility with the USACE Primavera database, the contractor's schedule submissions must follow the guidance for schedule IDs, Schedule Names and Schedule File Submittals, as shown below:

A. Schedule Name (P6 Project ID)

To ensure that all construction schedules can be distinguished in the

USACE database, contactors must use the following P6 naming convention:

1) Software Settings: The "Project ID" must be set to the maximum of 20 characters. (The normal default.)

2) Schedule Name

a. The first eight characters of the Schedule Name, (P6 Project ID), must use the RMS "Contract ID". For the Fort Worth District, the Contract ID starts with "M200".

b. For legibility, use a "-" for the 9th character

c. Define the type of schedule with the next 5 characters (the leading number of this section lists the type of schedule in approximate chronological order of use)

i. "1PREL" for Preliminary
ii. "2INIT" for Initial
iii. "3MPCT" for Impact Schedules
iv. "4RBAS" for Re-Baselined schedules
v. "5UP##" for monthly update, i.e. "UP01" for the first monthly update

d. For legibility, use a "-" for the next character

e. Define the version with the next 3 characters. Use "V01" for the 1st version of the schedule, "V02" for the 2nd version of the schedule, etc. Note that the "0" is the number zero, not the letter "O")

f. Do not add additional characters or numbers to the name

3) Examples:

a. M2003368-1PREL-V01 - The 1st version of the Preliminary schedule for project M2003368

b. M2002479-2INIT-V03 - The 3rd version of the Initial schedule for project M2002479

c. M2003451-3MPCT-V02 - The 2nd Impact for project M2003451

d. M2001123-4RBAS-V01 - The 1st Re-Baselined/Recovery schedule for project M2001123

e. M2001835-5UP11-V01 - The 1st version of the 11th update for project M2001835

B. Schedule Description (P6 Project Name)

To ensure that schedule descriptions are meaningful and consistent, contractors should use the following conventions for the P6 Project Name:

1) Use the RMS 16-digit "Contract Number", (matching the format as awarded), a "-", the RMS "Task Order Number", a ", " and the "RMS Contract Long Description". (Omit the "-" and Task Order number if none is used.)

2) Examples:

a. For contract M2004358: W9126G-14-C-0006, THAAD Battery - COF
b. For contract M2002231: W9126G-08-C-0036, Construct SAMMC North
c. For contract M2002487: W91238-06-D-0032-0003, HQ Bldg BCT-3

C. Schedule File

To ensure that there is a direct correlation between contractor's submitted schedule file and their respective schedules in our database, the contractor must:

1) Use the P6 schedule name (Project ID) for the exported file name for each schedule file submitted to the Corps. This will ensure that the schedule backup name matches the imported schedule name in our database.

2) Examples:

a. The file export for a schedule named M2001244-5UP01-V01 should be named "M2001244-5UP01-V01.xer".

b. The file export for a schedule named M2003451-3MPCT-V02 should be named "M2003451-3MPCT-V02.xer"

D. Creating the Schedule Exports:

Each schedule submittal will be saved in our database as a separate schedule for future reference. This means that a single project will have many schedules, one matching each of the contractor's submittals. These schedules will include all of the "Preliminary", "Initial", "Update", "Impact" and "Re-Baselined" schedules. To be able to keep track of these, the schedules must be uniquely-named using the following strategy:

1) Starting with the Preliminary or Initial schedule, create a schedule that represents the contractor's execution plan before any work is performed. For example, the first version of the Initial schedule will be named "M200####-2INIT-V01 (substituting the RMS Contract ID for the #'s).

2) Ensure that the "Project Name" is set correctly

3) When ready to submit the schedule, create a backup named exactly the same as the schedule. The easiest way to accomplish this is to:

a. go to the P6 Project screen

b. highlight the appropriate schedule in the Project Details window (Project ID)

c. simultaneously press the CTRL key and "C" to copy the name into the copy buffer

d. go to the P6 Activity screen

e. execute a schedule backup (File, Export, etc.)

f. when prompted for a file name, simultaneously press the CTRL and "V" key, pasting the P^ Project ID as the backup name

g. execute the backup

4) When the Initial schedule is accepted by the Government, base your first update off of it by making a copy, renaming the schedule to the appropriate M200###-5UP01-V01, adding status, backing up to same name, submission.

5) Create a Government Approved "G" Submittal and Transmittal for each and every schedule submission:

a. Indicate that the submittal is a schedule by starting the "Item Description" with word "Schedule"

b. Indicate the specific schedule, by name, in the "Item Description"

c. For MPCT, RBAS and schedule updates, add the time period using "- yyyy-MM"

d. **Example, Submittal Item Description:** "Schedule "M2003666-5UP06-V01, 2013-06".

-- End of Section --

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections.

Units of weights and measures used on all submittals are to be the same as those used in the contract drawings.

Each submittal is to be complete and in sufficient detail to allow ready determination of compliance with contract requirements.

Contractor's Quality Control (CQC) System Manager and the Designer of Record, if applicable, to check and approve all items prior to submittal and stamp, sign, and date indicating action taken. Proposed deviations from the contract requirements are to be clearly identified. Include within submittals items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals.

Submittals requiring Government approval are to be scheduled and made prior to the acquisition of the material or equipment covered thereby. Pick up and dispose of samples not incorporated into the work in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

A submittal register showing items of equipment and materials for when submittals are required by the specifications is provided as "Appendix A - Submittal Register".

1.2 DEFINITIONS

1.2.1 Submittal Descriptions (SD)

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

SD-01 Preconstruction Submittals

Submittals which are required prior to start of construction (work).or the start of the next major phase of the construction on a multi-phase contract, includes schedules, tabular list of data, or tabular list including location, features, or other pertinent information regarding products, materials, equipment, or components to be used in the work.

Certificates of insurance

Surety bonds

List of proposed Subcontractors

List of proposed products

Construction progress schedule

Network Analysis Schedule (NAS)

Submittal register

Schedule of prices or Earned Value Report

Health and safety plan

Work plan

Quality Control(QC) plan

Environmental protection plan

SD-02 Shop Drawings

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

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

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

SD-03 Product Data

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

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

SD-04 Samples

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

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

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

SD-05 Design Data

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

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

SD-06 Test Reports

Report signed by authorized official of testing laboratory that a material, product or system identical to the material, product or system to be provided has been tested in accord with specified requirements. Unless specified in another section, testing must have been within three years of date of contract award for the project.

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

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

Investigation reports.

Daily logs and checklists.

Final acceptance test and operational test procedure.

SD-07 Certificates

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

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

Confined space entry permits.

Text of posted operating instructions.

SD-10 Operation and Maintenance Data

Data that is furnished by the manufacturer, or the system provider, to the equipment operating and maintenance personnel, including manufacturer's help and product line documentation necessary to maintain and install equipment. This data is needed by operating and maintenance personnel for the safe and efficient operation, maintenance and repair of the item.

This data is intended to be incorporated in an operations and maintenance manual or control system.

SD-11 Closeout Submittals

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

Submittals required for Guiding Principle Validation (GPV) or Third Party Certification (TPC).

Special requirements necessary to properly close out a construction contract. For example, Record Drawings and as-built drawings. Also, submittal requirements necessary to properly close out a major phase of construction on a multi-phase contract.

1.2.2 Approving Authority

Office or designated person authorized to approve submittal.

1.2.3 Work

As used in this section, on- and off-site construction required by contract documents, including labor necessary to produce submittals, except those SD-01 Pre-Construction Submittals noted above, construction, materials, products, equipment, and systems incorporated or to be incorporated in such construction.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submit the following in accordance with this section.

SD-01 Preconstruction Submittals

Submittal Register

1.4 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.4.1 Designer of Record Approved (DA)

Designer of Record (DOR) approval is required for extensions of design, critical materials, any deviations from the solicitation, the accepted proposal, or the completed design, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Within the terms of the Contract Clause SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, they are considered to be "shop drawings." Contractor to provide the Government with the number of copies designated hereinafter of all DOR approved submittals. The Government may review any or all Designer of Record approved submittals for conformance to the Solicitation, Accepted Proposal and the completed design. The Government will review all submittals designated as deviating from the Solicitation or Accepted Proposal, as described below. Design submittals to be in accordance with Section 01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD). Generally, design submittals should be identified as SD-05 Design Data submittals.

1.4.2 Government Approved (G)

Government approval is required for any deviations from the Solicitation or Accepted Proposal and other items as designated by the Contracting Officer. Within the terms of the Contract Clause SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, they are considered to be "shop drawings."

1.4.3 Government Conformance Review of Design (CR)

The Government will review all intermediate and final design submittals for conformance with the technical requirements of the solicitation. Section 01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD) covers the design submittal and review process in detail. Review will be only for conformance with the applicable codes, standards and contract requirements. Design data includes the design documents described in Section 01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD). Generally, design submittals should be identified as SD-05 Design Data submittals.

1.4.4 Designer of Record Approved/Government Conformance Review (DA/CR)

1.4.4.1 Deviations to the Accepted Design

Designer of Record approval and the Government's concurrence are required for any proposed deviation from the accepted design which still complies with the contract before the Contractor is authorized to proceed with material acquisition or installation. Within the terms of the Contract Clause SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, they are considered to be "shop drawings." If necessary to facilitate the project schedule, the Contractor and the DOR may discuss a submittal proposing a deviation with the Contracting Officer's Representative prior to officially submitting it to the Government. However, the Government reserves the right to review the submittal before providing an opinion, if deemed necessary. In any case, the Government will not formally agree to or provide a preliminary opinion on any deviation without the DOR's approval or recommended approval. The Government reserves the right to non-concur with any deviation from the design, which may impact furniture, furnishings, equipment selections or operations decisions that were made, based on the reviewed and concurred design.

1.4.4.2 Substitutions

Unless prohibited or provided for otherwise elsewhere in the Contract, where the accepted contract proposal named products, systems, materials or equipment by manufacturer, brand name and/or by model number or other specific identification, and the Contractor desires to substitute manufacturer or model after award, submit a requested substitution for Government concurrence. Include substantiation, identifying information and the DOR's approval, as meeting the contract requirements and that it is equal in function, performance, quality and salient features to that in the accepted contract proposal. If the Contract otherwise prohibits substitutions of equal named products, systems, materials or equipment by manufacturer, brand name and/or by model number or other specific identification, the request is considered a "variation" to the contract. Variations are discussed below in paragraphs: "Designer of Record Approved/Government Approved" and "VARIATIONS."

1.4.5 Designer of Record Approved/Government Approved (DA/GA)

In addition to the above stated requirements for proposed deviations to the accepted design, both Designer of Record and Government Approval and, where applicable, a contract modification are required before the Contractor is authorized to proceed with material acquisition or installation for any proposed variation to the contract (the solicitation and/or the accepted proposal), which constitutes a change to the contract terms. Within the terms of the Contract Clause SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, they are considered to be "shop drawings." The Government reserves the right to accept or reject any such proposed deviation at its discretion.

1.4.6 For Information Only

For Design-build construction all submittals not requiring Designer of Record or Government approval will be for information only. They are not considered to be "shop drawings" within the terms of the Contract Clause referred to above.

1.5 PREPARATION

1.5.1 Transmittal Form

Use the attached sample transmittal form in Appendix B ENG Form 4025-R for submitting both Government approved and information only submittals in accordance with the instructions on the reverse side of the form. These forms are included in the RMS software that the Contractor is required to use for this contract. Properly complete this form by filling out all the heading blank spaces and identifying each item submitted. Exercise special care to ensure proper listing of the specification paragraph and sheet number of the contract drawings pertinent to the data submitted for each item.

1.5.2 Electronic File Format

Provide submittals in electronic format, with the exception of material samples required for SD-04 Samples items. In addition to the electronic submittal, provide three hard copies of the submittals. Compile the submittal file as a single, complete document, to include the Transmittal Form described within. Name the electronic submittal file specifically according to its contents, coordinate the file naming convention with the Contracting Officer. Electronic files must be of sufficient quality that all information is legible. Use PDF as the electronic format, unless otherwise specified or directed by the Contracting Officer. Generate PDF files from original documents with bookmarks so that the text included in the PDF file is both searchable and can be copied. If documents are scanned, Optical Character Resolution (OCR) routines are required. Index and bookmark files exceeding 30 pages to allow efficient navigation of the file. When required, the electronic file must include a valid electronic signature, or scan of a signature.

Provide hard copies of submittals when requested by the Contracting Officer. Up to one additional hard copies of any submittal may be requested at the discretion of the Contracting Officer, at no additional cost to the Government.

Hardcopies and electronic copies shall be submitted to the USACE Resident Office. Electronic copies only shall be submitted to the USACE District

Office.

1.6 QUANTITY OF SUBMITTALS

1.6.1 Number of Copies of SD-02 Shop Drawings

Submit six copies of submittals of shop drawings requiring review and approval only by QC organization and seven copies of shop drawings requiring review and approval by Contracting Officer.

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

Submit in compliance with quantity requirements specified for shop drawings.

1.6.3 Number of Samples SD-04 Samples

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

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

c. Submit one sample installation, where directed.

d. Submit one sample of non-solid materials.

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

Submit in compliance with quantity requirements specified for shop drawings.

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

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

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

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

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

Unless otherwise specified, submit two sets of administrative submittals.

1.7 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Approval of the Contracting Officer is not required on information only submittals. The Government reserves the right to require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming

to the plans and specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe. For design-build construction the Government will retain two copies of information only submittals.

1.8 SUBMITTAL REGISTER

Prepare and maintain submittal register, as the work progresses. Do not change data which is output in columns (c), (d), (e), and (f) as delivered by Government; retain data which is output in columns (a), (g), (h), and (i) as approved. A submittal register showing items of equipment and materials for which submittals are required by the specifications is provided as an attachment. This list may not be all inclusive and additional submittals may be required. Maintain a submittal register for the project in accordance with Section 01 45 00.15 10 RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE (RMS CM)). The Government will provide the initial submittal register

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

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

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

Thereafter, the Contractor is to track all submittals by maintaining a complete list, including completion of all data columns, including dates on which submittals are received and returned by the Government.

The Designer of Record develops a complete list of submittals during design and identify required submittals in the specifications, and use the list to prepare the Submittal Register. The list may not be all inclusive and additional submittals may be required by other parts of the contract. Complete the submittal register and submit it to the Contracting Officer for approval within 30 calendar days after Notice to Proceed. The approved submittal register will serve as a scheduling document for submittals and will be used to control submittal actions throughout the contract period. Coordinate the submit dates and need dates with dates in the Contractor prepared progress schedule. Submit monthly or until all submittals have been satisfactorily completed, updates to the submittal register showing the Contractor action codes and actual dates with Government action codes. Revise the submittal register when the progress schedule is revised and submit both for approval.

1.8.1 Use of Submittal Register

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

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

schedule.

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

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

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

1.8.2 Contractor Use of Submittal Register

Update the following fields in the Government-furnished submittal register program or equivalent fields in program utilized by Contractor with each submittal throughout contract.

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

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

Column (l) List date of submittal transmission.

Column (q) List date approval received.

1.8.3 Approving Authority Use of Submittal Register

Update the following fields in the Government-furnished submittal register program or equivalent fields in program utilized by Contractor.

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

Column (l) List date of submittal receipt.

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

Column (q) List date returned to Contractor.

1.8.4 Contractor Action Codes

NR - Not Received

AN - Approved as noted

A - Approved

RR - Disapproved, Revise, and Resubmit

1.8.5 Copies Delivered to the Government

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

1.9 VARIATIONS

Variations from contract requirements require both Designer of Record (DOR) and Government approval pursuant to contract Clause FAR 52.236-21 and will be considered where advantageous to Government.

1.9.1 Considering Variations

Discussion with Contracting Officer prior to submission, after consulting with the DOR, will help ensure functional and quality requirements are met and minimize rejections and re-submittals. When contemplating a variation which results in lower cost, consider submission of the variation as a Value Engineering Change Proposal (VECP).

Specifically point out variations from contract requirements in transmittal letters. Failure to point out deviations may result in the Government requiring rejection and removal of such work at no additional cost to the Government.

1.9.2 Proposing Variations

When proposing variation, deliver written request to the Contracting Officer, with documentation of the nature and features of the variation and why the variation is desirable and beneficial to Government, including the DOR's written analysis and approval. If lower cost is a benefit, also include an estimate of the cost savings. In addition to documentation required for variation, include the submittals required for the item. Clearly mark the proposed variation in all documentation.

Check the column "variation" of ENG Form 4025 for submittals which include proposed deviations requested by the Contractor. Set forth in writing the reason for any deviations and annotate such deviations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.

1.9.3 Warranting that Variations are Compatible

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

1.9.4 Review Schedule Extension

In addition to normal submittal review period, a period of 10 working days will be allowed for consideration by the Government of submittals with variations.

1.10 SCHEDULING

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

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

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

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

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

1.10.1 Government Reviewed Design

The Government will review design submittals for conformance with the technical requirements of the solicitation. Section 01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD) covers the design submittal and review process in detail. Government review is required for deviation from the completed design. Review will be only for conformance with the contract requirements. Included are only those construction submittals for which the Designer of Record design documents do not include enough detail to ascertain contract compliance. The Government may, but is not required, to review extensions of design such as structural steel or reinforcement shop drawings.

1.11 GOVERNMENT APPROVING AUTHORITY

When approving authority is Contracting Officer, the Government will:

a. Note date on which submittal was received.

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

c. Identify returned submittals with one of the actions defined in paragraph REVIEW NOTATIONS and with markings appropriate for action indicated.

Upon completion of review of submittals requiring Government approval, stamp and date submittals. two copies of the submittal will be retained by the Contracting Officer and two copies of the submittal will be returned to the Contractor. If the Government performs a conformance review of other Designer of Record approved submittals, the submittals will be so identified and returned, as described above.

1.11.1 Review Notations

Contracting Officer review will be completed within 21 calendar days after date of submission. Submittals will be returned to the Contractor with the following notations:

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

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

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

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

1.12 DISAPPROVED OR REJECTED SUBMITTALS

Make corrections required by the Contracting Officer. If the Contractor considers any correction or notation on the returned submittals to constitute a change to the contract drawings or specifications; notice as required under the FAR clause entitled CHANGES, is to be given to the Contracting Officer. Contractor is responsible for the dimensions and design of connection details and construction of work. Failure to point out deviations may result in the Government requiring rejection and removal of such work at the Contractor's expense.

If changes are necessary to submittals, make such revisions and submission of the submittals in accordance with the procedures above. No item of work requiring a submittal change is to be accomplished until the changed submittals are approved.

1.13 APPROVED/ACCEPTED SUBMITTALS

The Contracting Officer's approval or acceptance of submittals is not to be construed as a complete check, and indicates only that design, general method of construction, materials, detailing and other information appear to meet the Solicitation and Accepted Proposal.

Approval or acceptance will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the Contractor Quality Control (CQC) requirements of this contract is responsible for design, dimensions, all design extensions, such as the design of adequate connections and details, etc., and the satisfactory construction of all work.

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

1.14 APPROVED SAMPLES

Approval of a sample is only for the characteristics or use named in such approval and is not be construed to change or modify any contract requirements. Before submitting samples, the Contractor to assure that the materials or equipment will be available in quantities required in the project. No change or substitution will be permitted after a sample has been approved.

Match the approved samples for materials and equipment incorporated in the work. If requested, approved samples, including those which may be damaged in testing, will be returned to the Contractor, at his expense, upon completion of the contract. Samples not approved will also be returned to the Contractor at its expense, if so requested.

Failure of any materials to pass the specified tests will be sufficient cause for refusal to consider, under this contract, any further samples of the same brand or make of that material. Government reserves the right to disapprove any material or equipment which previously has proved unsatisfactory in service.

Samples of various materials or equipment delivered on the site or in place may be taken by the Contracting Officer for testing. Samples failing to meet contract requirements will automatically void previous approvals. Contractor to replace such materials or equipment to meet contract requirements.

Approval of the Contractor's samples by the Contracting Officer does not relieve the Contractor of his responsibilities under the contract.

1.15 WITHHOLDING OF PAYMENT

No payment for materials incorporated in the work will be made if all required Designer of Record or required Government approvals have not been obtained. No payment will be made for any materials incorporated into the work for any conformance review submittals or information only submittals found to contain errors or deviations from the Solicitation or Accepted Proposal.

1.16 STAMPS

Stamps used by the Contractor on the submittal data to certify that the submittal meets contract requirements is to be similar to the following:

CONTRACTOR (Firm Name)   _____ Approved   _____ Approved with corrections as noted on submittal data and/or attached sheets(s)   SIGNATURE: _____ TITLE: _____ DATE: _____

For design-build construction, both the Contractor Quality Control System Manager and the Designer of Record are to stamp and sign to certify that the submittal meets contract requirements.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE

For use of this form, see ER 415-1-10; the proponent agency is CECW-CE.

DATE	TRANSMITTAL NO.

SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS (*This section will be initiated by the contractor*)

TO:	FROM:	CONTRACT NO.	CHECK ONE: ☐ THIS IS A NEW TRANSMITTAL ☐ THIS IS A RESUBMITTAL OF TRANSMITTAL _____

SPECIFICATION SEC. NO. (*Cover only one section with each transmittal*)	PROJECT TITLE AND LOCATION	THIS TRANSMITTAL IS FOR: (*Check one*) ☐ FIO ☐ GA ☐ DA ☐ CR ☐ DA/CR ☐ DA/GA

ITEM NO. (*See Note 3*) a.	DESCRIPTION OF SUBMITTAL ITEM (*Type size, model number/etc.*) b.	SUBMITTAL TYPE CODE (*See Note 8*) c.	NO. OF COPIES d.	CONTRACT DOCUMENT REFERENCE		CONTRACTOR REVIEW CODE g.	VARIATION Enter "Y" if requesting a variation (*See Note 6*) h.	USACE ACTION CODE (*Note 9*) i.
				SPEC. PARA. NO. e.	DRAWING SHEET NO. f.			

REMARKS

I certify that the above submitted items had been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated.

NAME OF CONTRACTOR	SIGNATURE OF CONTRACTOR

SECTION II - APPROVAL ACTION

ENCLOSURES RETURNED (*List by item No.*)	NAME AND TITLE OF APPROVING AUTHORITY	SIGNATURE OF APPROVING AUTHORITY	DATE

INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.

2. Each Transmittal shall be numbered consecutively. The Transmittal Number typically includes two parts separated by a dash (-). The first part is the specification section number. The second part is a sequential number for the submittals under that spec section. If the Transmittal is a resubmittal, then add a decimal point to the end of the original Transmittal Number and begin numbering the resubmittal packages sequentially after the decimal.

3. The "Item No." for each entry on this form will be the same "Item No." as indicated on ENG FORM 4288-R.

4. Submittals requiring expeditious handling will be submitted on a separate ENG Form 4025-R.

5. Items transmitted on each transmittal form will be from the same specification section. Do not combine submittal information from different specification sections in a single transmittal.

6. If the data submitted are intentionally in variance with the contract requirements, indicate a variation in column h, and enter a statement in the Remarks block describing he detailed reason for the variation.

7. ENG Form 4025-R is self-transmitting - a letter of transmittal is not required.

8. When submittal items are transmitted, indicate the "Submittal Type" (*SD-01 through SD-11*) in column c of Section I.
   Submittal types are the following:
   SD-01 - Preconstruction SD-02 - Shop Drawings SD-03 - Product Data SD-04 - Samples SD-05 - Design Data SD-06 - Test Reports
   SD-07 - Certificates SD-08 - Manufacturer's Instructions SD-09 - Manufacturer's Field Reports SD-10 - O&M Data SD-11 - Closeout

9. For each submittal item, the Contractor will assign Submittal Action Codes in column g of Section I. The U.S. Army Corps of Engineers approving authority will assign Submittal Action Codes in column i of Section I. The Submittal Action Codes are:

   A – Approved as submitted.
   B -- Approved, except as noted on drawings. Resubmission not required.
   C -- Approved, except as noted on drawings. Refer to attached comments. Resubmission required.
   D -- Will be returned by separate correspondence.
   E -- Disapproved. Refer to attached comments.
   F -- Receipt acknowledged.
   X -- Receipt acknowledged, does not comply with contract requirements, as noted.
   G -- Other action required *(Specify)*
   K -- Government concurs with intermediate design. (*For D-B contracts*)
   R -- Design submittal is acceptable for release for construction. (*For D-B contracts*)

10. Approval of items does not relieve the contractor from complying with all the requirements of the contract.

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Building4295 Renovation

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 00 50.00 44	SD-01 Preconstruction Submittals															
			Accident Prevention (Safety) Plan		G													
			Environmental Protection Plan		G													
			Work Plan															
			Project Schedule		G													
			Contractor Quality Control (CQC)		G													
			Plan															
			CQC System Manager															
			Safety and Health Manager															
			SD-03 Product Data															
			Materials and Products															
			SD-11 Closeout Submittals															
			Record (e.g. As-built) drawings															
			Warranties															
			Operation And Maintenance															
			Manuals															
			Posted operating instructions															
			Training plan															
			Safety Data Sheets (SDS)	1.17														
			Asbestos Free Construction	1.17														
			Material Certification															
		01 30 00	SD-01 Preconstruction Submittals															
			View Location Map	1.2	G													
			Progress and Completion	1.3	G													
			Pictures															
		01 32 01.00 10	SD-01 Preconstruction Submittals															

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Building4295 Renovation

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 32 01.00 10	Project Scheduler Qualifications	1.3	G													
			Preliminary Project Schedule	3.5.1	G													
			Initial Project Schedule	3.5.2	G													
			Periodic Schedule Update	3.7.2	G													
		01 33 00	SD-01 Preconstruction Submittals															
			Submittal Register	1.8														
		01 33 16.00 10	SD-01 Preconstruction Submittals															
			Advanced Modeling Project	1.7.2	C													
			Execution Plan (PxP)															
			Design Quality Control Plan	1.5.1	G													
			Initial Design Conference	1.5.2.2														
			Preconstruction Conference	1.5.2.5														
			DCM Procedures	3.4.1	G													
			Submittal Register	3.7.4	G													
			SD-05 Design Data															
			Design and Code Checklists	1.7.1	C													
			Sustainable Design	2.3	C													
			Interim Design Submittals	3.2.1	R													
			Building Rendering															
			Interior And Exterior Building	3.5.5.1.1	G													
			Finishes Scheme															
			Furniture, Fixtures & Equipment	3.5.5.2.3	G													
			Conference Documentation	3.6.3														
			Final Design Submittals	3.7	R													
			Design Complete Documents	3.8	C													
			SD-11 Closeout Submittals															

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Building4295 Renovation

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAG # RAPH	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY					MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)		(q)	(r)
		01 33 16.00 10	DD Form 1354	3.7.6	A														
		01 35 12.00 44	SD-01 Preconstruction Submittals																
			Excavation And Trenching	1.6															
			SD-07 Certificates																
			Hazardous Material Content	1.10															
			Solid Waste Disposition	1.12															
			Termite Control	1.13															
			SD-11 Closeout Submittals																
			Asbestos Certification Letter	1.11															
			CADD And GIS Deliverables	1.14															
		01 35 26	SD-01 Preconstruction Submittals																
			Accident Prevention Plan (APP)	1.7	G														
			SD-06 Test Reports																
			Monthly Exposure Reports	1.4															
			Notifications and Reports	1.12															
			Accident Reports	1.12.2	G														
			LHE Inspection Reports	1.12.3															
			SD-07 Certificates																
			Crane Operators/Riggers	1.6.1.5															
			Standard Lift Plan	1.7.2.2	G														
			Critical Lift Plan	1.7.2.3	G														
			Activity Hazard Analysis (AHA)	1.8															
			Confined Space Entry Permit	1.9.1															
			Hot Work Permit	1.9.1															
			Certificate of Compliance	1.12.4															
			License Certificates	1.14															

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Building4295 Renovation

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAG # RAPH	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 35 26	Radiography Operation Planning	1.14.1	G													
			Work Sheet															
			Portable Gauge Operations	1.14.1	G													
			Planning Worksheet															
		01 45 00.00 10	SD-01 Preconstruction Submittals															
			Contractor Quality Control (CQC)	3.2	G													
			Plan															
			Additional Requirements for	3.2.2	G DO													
			Design Quality Control (DQC) Plan															
			SD-05 Design Data															
			Discipline-Specific Checklists	3.2.2														
			SD-06 Test Reports															
			Verification Statement	3.9														
		01 50 00	SD-01 Preconstruction Submittals															
			Construction Site Plan	1.3	G													
			Traffic Control Plan	3.4.1	G													
			SD-06 Test Reports															
			Backflow Preventer Tests															
		01 56 00.00 44	SD-01 Preconstruction Submittals															
			Dust Control	3.1	G													
			Products and Procedures	2.1	G													
			Material Safety Data Sheets	2.1	G													
			Sandblasting	3.3.2	G													
			SD-02 Shop Drawings															
			Recordkeeping	1.7														
		01 57 20.00 10	SD-01 Preconstruction Submittals															

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Building4295 Renovation

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY					MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)		(q)	(r)
		01 57 20.00 10	Environmental Protection Plan	1.7															
			Storm Water Pollution Prevention	3.2.5	G														
			Plan																
			SD-02 Shop Drawings																
			Hazardous Substance Reporting	3.17															
		01 58 00	SD-02 Shop Drawings																
			Preliminary one line	1.3.1.1															
			preliminary drawing indicating																
			layout and text content																
			Sign Legend Orders	1.4.1															
			SD-04 Samples																
			Final rendering	1.3.1.2															
			Final framed rendering	1.3.1.3															
		01 62 35	SD-11 Closeout Submittals																
			List of Recycled/Recovered	3.1															
			Materials																
		01 71 23.00 44	SD-01 Preconstruction Submittals																
			Survey Data	3.1															
			Construction Photographs																
		01 74 19	SD-01 Preconstruction Submittals																
			Construction Waste Management	1.7	G														
			Plan																
			SD-06 Test Reports																
			Quarterly Reports	1.9.2															
			Annual Report	1.9.3															
			SD-11 Closeout Submittals																

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Building4295 Renovation

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY					MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)		(q)	(r)
		01 74 19	Final Construction Waste	1.10	S														
			Diversion Report																
		01 78 23	SD-10 Operation and Maintenance																
			Data																
			O&M Database	1.3	G														
			Training Plan	3.1.1	G														
			Training Outline	3.1.3	G														
			Training Content	3.1.2	G														
			SD-11 Closeout Submittals																
			Training Video Recording	3.1.4	G														
			Validation of Training Completion	3.1.6	G														
		01 78 24.00 10	SD-01 Preconstruction Submittals																
			Facility Data Project Execution	1.5.1															
			Plan																
			SD-10 Operation and Maintenance																
			Data																
			Facility Data Workbook,	3.1	G														
			Construction Progress																
			Facility Document Set,	3.1	G														
			Construction Progress																
			SD-11 Closeout Submittals																
			Facility Data Workbook,		G														
			Construction Final																
			Facility Document Set,	1.5.3	G														
			Construction Final																

SECTION 01 33 16.00 10

DESIGN DATA (DESIGN AFTER AWARD)

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.

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.

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

ISO 19005-3	(2012) Document Management -- Electronic Document File Format for Long-Term Preservation -- Part 3: Use of ISO 32000-1 with Support for Embedded Files (PDF/A-3)
ISO 32000-1	(2008) Document Management -- Portable Document Format -- Part 1: PDF 1.7

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 13	(2016) Standard for the Installation of Sprinkler Systems

U.S. DEPARTMENT OF DEFENSE (DOD)

UFC 1-200-02	(2013, with Change 3) High Performance and Sustainable Building Requirements
UFC 1-300-02	(2014) Unified Facilities Guide Specifications (UFGS) Format Standard
UFC 3-101-01	(2011; with Change 1) Architecture
UFC 4-010-01	(2012; with Change 1) DoD Minimum Antiterrorism Standards for Buildings
UFC 4-023-03	(2009; with Change 2) Design of Buildings to Resist Progressive Collapse

1.3 DEFINITIONS

1.3.1 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.

1.3.2 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.

1.3.3 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, https://cadbimcenter.erdc.dren.mil/.

1.4 ORDER OF PRECEDENCE

In the event of a conflict or inconsistency between any of the requirements within the Contract, precedence is applied:

a. Any portions of the accepted proposal which both conform to and exceed the requirements of the solicitation.

b. The provisions of the solicitation.

c. All other provisions of the accepted proposal.

d. 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 00.00 10 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 project site , 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.

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

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

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 00.00 10 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

Provide identical copies of discs for approval, for each submittal required. Provide quantities and sizes indicated in paragraph 3.1.4.1. .

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 adhesived 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 Bentley

Compress files with all options.

1.8.2.2 Autodesk

a. Purge unused

b. Audit

c. Compress

1.8.3 PDF File Packaging

Utilize PDF file format in accordance with ISO 32000-1 and ISO 19005-3. 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).

1.8.3.2 Hyperlinking

Hyperlink all reference annotation symbology (e.g. section cut symbology, detail callout symbology, elevation callout symbology) to the sheet referenced by the annotation.

1.8.4 Encryption

Encrypt deliverable data as directed by Area Office Engineer. Document the encryption in the PxP.

PART 2 PRODUCTS

2.1 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.

2.1.1 Electronic Drawing Files

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

2.1.2 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.

2.1.3 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.

2.1.3.1 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.

2.1.3.2 Identification of Shop Drawings Used as Design Drawings

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

2.1.4 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.

2.2 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.

2.2.1 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. Provide non-proprietary, descriptive project specifications in compliance with the requirements in UFC 1-300-02. Do not provide proprietary information in the project specifications unless approved by the Contracting Officer.

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.

2.2.2 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.

2.2.3 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.

2.2.4 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.

2.3 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 and current Army SDD Policy Update.

g. Clearly identify "Antiterrorism" requirement and document the antiterrorism and force protection features as required by UFC 4-010-0.

2.3.1 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,

2.3.1.1 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.

2.3.1.2 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.

2.3.1.3 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.

2.3.1.4 Structural

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

2.3.1.5 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.

2.3.1.6 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

2.3.1.7 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.

2.3.1.8 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.

2.3.2 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.

2.3.3 Design Analysis Packaging

2.3.3.1 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.

2.3.4 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.

3.1.1 Submission Review

After receipt of a Design submission, including and ENG FORM 4025, the Government requires 21 calendar days after receipt of the submission to review and comment on the 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 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.

3.1.2 Holiday Periods for Government Review or Actions

The Contractor shall not schedule meetings, Government reviews or responses during the last two weeks of December or other designated Government Holidays (including Friday after Thanksgiving) and shall exclude such
dates and periods from any durations specified herein for Government actions.

3.1.3 Late Submittals and Reviews

If the 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 seven (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 increases the Contractor's cost or delays completion of the project, the Suspension of Work and Defaults clauses provide the respective remedy or relief for the delay.

3.1.4 SUBMITTAL DISTRIBUTION, MEDIA AND QUANTITIES

3.1.4.1 Submittal Distribution and Quantities

General: The documents which the Contractor shall submit to the Government for each submittal are listed and generally described in this Section. Provide copies of each design submittal as follows (NOTE: If this is a Single Award or Multiple Award, Indefinite Delivery/Indefinite Quantity Contract, this information will be provided for each task order):

Name and Address	Full size drawings	Design Anaysis and specs	Half size drawings	Digital Submittals (CD or DVD)	Furniture Submittal	Structural Interior Design Submittal	BIM Data DVD
Project manager: Joshua Edwards RM 3A28 819 Taylor St.	0	0	0	1	0	0	0

Name and Address	Full size drawings	Design Anaysis and specs	Half size drawings	Digital Submittals (CD or DVD)	Furniture Submittal	Structural Interior Design Submittal	BIM Data DVD
Account Manager: Andy Tarver 2315 Service Command Cir Fort Polk, LA 71459	0	1	1	1	1	1	1
Fort Polk Eastern Resident Ofc ATTN: Steve Sherrill 2315 Service Command Cir Fort Polk, LA 71459	1	4	4	4	2	2	2
Construction Manager Tiffaney Abbatello CESWF-ECC RM 4A17 819 Taylor St. Fort Worth, TX 76102	0	0	0	1	0	0	1
Fort Polk DPW ATTN: Sidney Martin 6661 Warrior Trail Bldg. 350, Suite 229 Fort Polk, LA 71459-5339	1	3	3	3	3	3	3

Name and Address	Full size drawings	Design Anaysis and specs	Half size drawings	Digital Submittals (CD or DVD)	Furniture Submittal	Structural Interior Design Submittal	BIM Data DVD
Area Engineer Gary Westby 280 Miller Rd. Bossier City, LA 71112-2505	0	1	1	0	0	0	0
Totals	8	9	10	0	9	9	10

3.1.4.2 Mailing of Design Submittals

Mail all design submittals to the Government during design and construction, using an overnight mailing service. The Government will furnish the Contractor addresses where each copy shall be mailed to after award of the contract (or individual task order if this is an indefinite delivery/indefinite quantity, task order contract). Mail the submittals to different addresses. Assemble drawing sheets, specs, design analyses, etc. into individual sets; do not combine duplicate pages from individual sets so that the government has to assemble a set.

a. Each design submittal shall have an Eng 4025 and a transmittal letter accompanying it indicating the date, design percentage, type of submittal, list of items submitted, transmittal number and point of contact with telephone number.

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 a single interim design for review, representing a complete package with all design disciplines. 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.

3.2.2 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.

3.3 DESIGN PLATFORM AND FILE FORMATS

Design the project using the systems and platforms defined below:

3.4 DESIGN CONFIGURATION MANAGEMENT (DCM)

3.4.1 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 Document 00 73 00 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. An internal system may be used with interactive Government concurrences or the Government's "Dr Checks Design Review and Checking System" may be used.

c. Make the DCM data available to the Government reviewers at all times.

3.4.2 Tracking Design Review Comments

Although an internal system for overall design configuration management is allowed, use the DrChecks Design Review and Checking System to initiate, respond to, resolve and track Government design review comments.

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.

3.4.2.1 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.

3.4.2.2 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.

3.5 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.

3.5.1 Geotechnical Investigations and Reports

Perform additional geotechnical investigations, as necessary, to determine the conditions for the actual locations of footings, other foundations and site paving features and other site features.

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.

3.5.1.1 Inconsistency with the Preliminary Soils Information

Arrange a meeting with the Government subsequent to completion and evaluation of the site specific geotechnical exploration to outline any differences encountered that are inconsistent with the Government provided preliminary soils information. Clearly outline differences which require changes in the foundation type, or pavement and earthwork requirements from that possible and contemplated using the Government furnished preliminary soils investigation, which result in a change to the design or construction.

3.5.1.2 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.

3.5.1.3 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.

3.5.2 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

3.5.3 Structural Systems

3.5.3.1 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,t 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.

3.5.3.2 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 (jambs, 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.

3.5.4 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. DesiComposite 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.

3.5.5 Interior Design

3.5.5.1 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.

3.5.5.1.1 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.

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 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.

3.5.5.1.2 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:

3.5.5.1.2.1 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.

3.5.5.1.2.2 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

3.5.5.1.2.3 Furniture Footprint Plans

Provide furniture footprint plans showing the outline of all freestanding and systems furniture for coordination of all other disciplines.

3.5.5.1.2.4 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.

3.5.5.1.2.5 Interior Elevations, Sections and Details

Indicate material, color and finish placement.

3.5.5.2 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.

3.5.5.2.1 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

3.5.5.2.1.1 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.

3.5.5.2.1.2 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.

3.5.5.2.2 Acquisition and Procurement

3.5.5.2.2.1 Quality Standards

Huntsville Center (HNC) has developed the minimum acceptable quality standards with regard to construction materials, fabrication methods, and ergonomic features and ranges, for many of the typical FF&E items specified for an administrative facility or area within a building. These standards are listed as part of the HNC Request for Quote (RFQ) scope of work. The document is titled: Furniture Item Description (FID), Section 2.0 Product Descriptions and Quality Requirements. A copy of this document will be provided to the DOR as part of this Scope of Work as an attachment to this section. Utilize the FID in developing the FF&E design package. It is the DOR's responsibility to insure that all items submitted in the FF&E design package meet any and all requirements listed in the Section 2.0 of the FID document for the type of item being specified to include all ANSI/BIFMA testing.

3.5.5.2.2.2 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 cannot be procured by HNC and are; therefore 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

3.5.5.2.2.3 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.

3.5.5.2.3 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. See paragraph DESIGN SUBMITTAL PROCEDURE for the number of copies required. Provide copies of each design submittal as outlined in the attached SUBMITTAL DISTRIBUTION QUANTITIES schedule.

3.5.5.2.3.1 Interim Submittal

Include the following:

a. Design Narrative

b. Product Data Sheet

c. Drawings - Composite Furniture, Area Plans and Workstation Typicals

d. Color Boards

e. Cost Estimate

3.5.5.2.3.2 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 Typicals and Electrical and Communication Plans

d. Color Boards

e. Cost Estimate

3.5.5.2.3.3 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 Typicals and Electrical and Communication Plans

d. Color Boards

e. Cost Estimate

f. Include the following for HNC 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.

3.5.5.2.4 Submittal Components

Individually code all FF&E items. Use this code and cross-reference to all components of the FF&E.

3.5.5.2.4.1 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.

3.5.5.2.4.2 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)

3.5.5.2.4.3 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, drawings shall be non-proprietary.

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.

3.5.5.2.4.4 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).

3.5.5.2.4.5 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.

3.5.5.2.5 Furniture Specifications

Individually code all FF&E items. Use and cross-reference this code to all components of the FF&E.

3.5.5.2.5.1 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.

3.5.5.2.5.2 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.

3.5.5.2.5.3 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.

3.5.5.2.5.4 Furniture Systems

Minimize the number of workstation typicals including parts and pieces required to assist in future reconfiguration and inventorying.

3.5.5.2.5.5 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.

3.5.5.2.5.6 Training Tables

Provide reconfigurable, moveable and storable training tables. Specify power and data requirements, dollies, flip-top and modesty panels as required.

3.5.5.2.6 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 Casegoods, 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

3.5.6 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).

3.5.7 HVAC Systems

3.5.7.1 Design Analysis

Provide complete design calculations for mechanical systems. Include computations for sizing equipment, compressed air systems, 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.

3.5.7.2 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)

3.5.7.3 Equipment Schedule

Providee 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

3.5.7.4 Details

Provide construction details, sections, elevations, etc., only where required for clarification of methods and materials of design.

3.5.7.5 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.

3.5.8 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

3.5.8.1 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.

3.5.8.2 Fire Protection and Life Safety Code Review

Use the information outlined in the document associated with this section at http://www.wbdg.org/ccb/NAVGRAPH/graphtoc.pdf 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".

3.5.9 Electrical Systems

3.5.9.1 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.

3.5.9.2 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.

3.5.9.3 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.

3.5.9.4 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

3.5.9.5 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

3.5.9.6 Details

Provide construction details, sections, elevations only where required for clarification of methods and materials of design.

3.5.10 Specialty Equipment

3.6 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.

3.6.1 Submission Review

After receipt of an Interim Design submission, the Government requires 21 calendar days after receipt of the submission to review and comment on the interim design submittal. .

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.

3.6.2 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.

3.6.3 Conference Documentation

3.6.3.1 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. Incorporate comments as agreed upon during the conference.

3.6.3.2 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.

3.7 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 00.00 10 QUALITY CONTROL.

3.7.1 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.

3.7.1.1 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.

3.7.2 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.

3.7.3 Specifications

Provide specifications 100 percent complete and in final form.

3.7.4 Submittal Register

Provide an updated, cumulative submittal register with each design package that identifies the design and construction submittals required by that design package.

3.7.5 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.

3.7.6 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.

3.8 DESIGN COMPLETE CONSTRUCTION DOCUMENT REQUIREMENTS

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.

3.9 ACCEPTANCE AND RELEASE FOR CONSTRUCTION

After acceptance of the Design Complete Construction Document(s) the Contracting Officer will allow construction to start for that design package.

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.

-- End of Section --

SECTION 01 35 12.00 44

SPECIAL PROJECT PROCEDURES FOR FORT POLK

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.

BUILDERS HARDWARE MANUFACTURERS ASSOCIATION (BHMA)

ANSI/BHMA A156.2	(2003) Bored and Preassembled Locks and Latches
ANSI/BHMA A156.3	(2008) Exit Devices

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA)

TIA/EIA-568-C.1	(2008) Commercial Building Telecommunications Cabling Standard

1.2 SUBMITTALS

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

SD-01 Preconstruction Submittals

Excavation And Trenching.

Secure required permits prior to performing any excavation or trenching on the installation.

SD-07 Certifications.

Hazardous Material Content.

For applicable materials, furnish manufacturer's certifications that materials installed on this project do not contain asbestos or the lead content does not exceed 0.06 percent (600 ppm).

Solid Waste Disposition

Termite Control

SD-11 Closeout Submittals

Asbestos Certification Letter.

CADD And GIS Deliverables.

1.3 DIRECTIONS TO FORT POLK AND LOCAL MOTELS

a. The Eastern Area Office is located at 2315 Service Command Loop, Bldg. 4740, Fort Polk, LA 71459. The office telephone no. is (337) 531-2933. See local area maps.

Driving directions from Hwy 171: East on Entrance Road (Name changes to Louisiana Avenue after entering Fort Polk), stay on Louisiana Avenue; turn right on to Texas Avenue (at 7th Traffic Light). 1st left will be Service Command Circle. 1st parking lot on left will be Building 4740.

b. For base access, proceed to the Fort Polk Visitors Center located 2 miles from Highway 171 (on Entrance Road). Valid insurance, registration, and driver's license are required for a one day visitors pass. For more information, contact the Fort Polk Visitors Center at (337) 531-4978.

c. Web Sites:

Ft. Worth District Website: http://www.swf.usace.army.mil/
Joint Readiness Training Center and Fort Polk, LA: http://www.jrtc-polk.army.mil/
Newcomers: www.militaryonesource.com

d. Hotels located in Leesville, LA

La Quinta Inn & Suites - 337-537-8200
Quality Inn - 337-653-6200
Comfort Suites - 337-404-3890
Best Western Stagecoach Inn - 337-392-1672
Holiday Inn Express - 337-239-2122
Hampton Inn - 337-239-9292
Motel 6 - 337-239-9970
Super 8 - 337-238-7860
Days Inn-337-239-2612

e. Hotels located in DeRidder, LA

Quality Inn - 337-462-0022
Country Inns of DeRidder - 337-462-3665
America's Best Value Inn - 337-460-7747
Best Western - 337-460-2066

f. Hotels located in Alexandria, LA

Holiday Inn - 318-487-9898
LaQuinta Inn and Suites - 318-442-3700
Comfort Inn - 318-484-9155
Quality Inn - 318-445-6757

1.4 INSTALLATION ACCESS - CONTRACTOR PERSONNEL (Mar 2011)

All access rosters, as well as updates will now be submitted on the attached form electronically.
Construction Contractors under contract to the Corps of Engineers must submit access control rosters to the Corps of Engineers. (Primes will be responsible for submitting their subcontractors.) Rosters will be submitted by e-mail to the following addresses:

DLL-CESWF-EAO-Polk@usace.army.mil
PLEASE INCLUDE IN THE SUBJECT LINE OF YOUR EMAIL THE WORDS: ACCESS ROSTER

In order for a submitted access control roster to be accepted all data must be filled in on the attached roster. Adjustments or changes to the supplied access roster and or omission will result in the access roster being rejected.

A complete roster should be submitted by the 5th working day of each month, AND each time there is a change in personnel.

**Start Date: - use the date the form is being prepared. (This date will change upon each submission).
**End Date: 6 months from start date is the maximum. This date will be used to determine the length of paper pass issued - therefore it is important that it be updated upon each submission.

Entries should be sorted alphabetically by company name, and personnel last name. For example: company A (and all their personnel) would be entered above company B (and all their personnel). The Prime contractor personnel do not need to be at the top of the list. Each company's personnel will be sorted alphabetically by last name. Middle initials are also required.

Any organizations submitting electronic access control rosters are required to provide personnel listed on the roster with a copy of the privacy act (attached).

Rosters should be submitted 3 days in advance of access to allow time to consolidate the new information in the data base and validate each roster.

Personnel that have been successfully added to the Access roster will go to the Visitor's Welcome Center located on Entrance Road at Gate#1-Building #5903(337-531-0380) to register. Information required will be Drivers License, Vehicle Registration, and Proof of Insurance. For those not driving, a valid photo ID will be necessary. Upon registration completion, a pass will be issued. The pass may be used at any of the Access Control Gates. Registration hours are 0600 to 1700 Monday through Friday.

Everyone (above the age of 16) riding in a vehicle must have Military ID, Visitors Pass, or Rapid Gate passes to be allowed on Post.

One day passes may be obtained by providing above referenced documentation at the Welcome Visitors Center.

Personnel that have Rapid Gate badges do not have to be listed on the access roster. More information concerning the Rapid Gate Program may be obtained by calling 1-877-727-4342.

To receive an electronic copy of the Access Roster form, send an emailed request to DLL-CESWF-EAO-Polk@usace.army.mil

The level of FPCON (Force Protection Condition) at Fort Polk reflects local, national and international security threats. FPCON Alpha is the lowest security level, FPCON Bravo is the next higher security level and FPCON Charlie the next higher. Normally all contractor employees receiving a picture ID badge shall be allowed entry onto the base during FPCON Alpha,

Bravo and Charlie. During FPCON Bravo and Charlie, only internal base security is heightened. At FPCON Delta, the highest security level, all access to the base shall be escorted and only allowed under special circumstances.

1.5 CONTRACTOR LOTS (March 2011)

Contractor lots are available for use during the period of performance on a space available basis. The contractor will have to enter into a lease agreement with the local governing agency, and follow the requirements set forth in such agreement. Coordination with the local governing agency shall be facilitated through the Contacting Officer. Additionally all requirements of contractor temporary facilities located in other portions of this contract shall apply to these lots as well.

1.5.1 CONSTRUCTION STORAGE AND PARKING

Contractor shall limit the storage of materials, equipment, and incidentals to the immediate construction site, the identified equipment lay-down/storage area and as directed by the Corps of Engineers. It is recommended that the contractor make arrangements for storage of equipment and materials between its delivery and its installation, as security during non-working hours cannot be guaranteed by the government.

The contractor shall ensure the laydown area is enclosed by a temporary chain link fence during construction. The contractor shall ensure that any holes or damage to the laydown area as well as the parking area resulting from the construction of this project are repaired to match existing conditions at start of construction. The contractor shall ensure that the fence tension is maintained, screening is not required.

The contractor shall mow the construction area to maintain a kept appearance of the project site.

The contractor shall keep all storage areas free of debris, refuse, spills, leaks, stains, splashes and excessive materials. All storage areas shall be maintained in a neat, clean and safe condition. The contractor at no additional expense to the government shall clean up any areas that incur contamination by any hazardous material or substances immediately. Remediation may include subsequent soil analysis if directed by the government. The contractor shall store all hazardous materials in a contractor supplied trailer or storage unit, which shall be leak proof or contain secondary containment devices. The storage unit shall be secured when contract personnel are not present.

The contractor's parking shall be near the job site, as designated by the COR.

Limit use of premises to work in areas necessary to complete the work. Do not disturb portions of the project site beyond areas in which the work is indicated. The Contractor shall obtain approval from the ACO or COR for locating temporary office spaces and material storage yards. The contractor shall ensure that driveways, loading areas, and entrances serving premises are clear and available at all times for ordinary / emergency vehicles. Do not use these areas for parking or storage of materials. Schedule
deliveries to minimize the use of driveways and entrances, time requirements, and storage of materials / equipment on site.

1.6 EXCAVATION AND TRENCHING

Excavation and/or trenching operations to be performed outside the (designated) limits of construction, for utility tie-ins, correction of drainage problems, or for other reasons as may be required under the terms of the contract, shall not be performed without a permit; and such work shall only be performed during normal duty hours unless otherwise approved by the Contracting Officer. Permit requests must be submitted to the Contracting Officer a minimum of 14 calendar days prior to commencement of excavation or trenching operations beyond construction limits.

1.6.1 DIGGING AND UTILITIES

Do not interrupt utilities serving occupied facilities unless permitted under the following conditions and then only after arranging to provide temporary utility services according to the requirements indicated. Utility interruptions of occupied facilities shall be allowed only during non-duty hours and, if work is required, the Contractor shall arrange for security with the Government during the off hours of work. The Contractor shall: (1) notify the Government not less than 21 working days in advance of proposed utility interruptions; and (2) not proceed with utility interruptions without the Government's written permission. All requests for outages shall be submitted to the Quality Assurance Representative, cc Project Engineer for approval and shall be scheduled through the U.S. Army Corps of Engineers. The Point of Contact (POC) for these requests shall be provided at the Post-Award/Pre-construction meeting.

All facility outages in excess of 1 hour shall be conducted after 1400 hours, on weekends and or holidays unless coordinated with COE and facility users.

If digging, excavating, or drilling is required, the Contractor shall apply and obtain a dig permit/utility outage request. To initiate a dig permit, the Contractor shall proceed to Building 3307, DPW Work Reception, where
the receptionist will initiate two service orders (exterior electric and natural gas). The Contractor will then take the initiated dig permit with site drawings to Building 1700. This will begin the marking of the two utilities mentioned above. The Contractor will still be responsible for contacting the remainder of the utility companies listed on the dig permit such as GC&E, Louisiana One Call, etc. Outages for power and natural gas must be coordinated through the Operations and Maintenance Division located at Building 3304 fourteen (14) days prior to the proposed work date or outage. All outages affecting domestic water shall require the submission and approval of the "American Water Application for Outage Form."

The Contractor shall provide a copy of the permits and outage requests to the USACE Area Office for review and acknowledgement prior to the processing. Upon receiving all necessary approvals, the approved permits and requests shall be submitted to USACE Area Office. In addition to obtaining a signed permit, the Contractor shall verify verbally with the USACE Area Office that the outage has been properly staffed to ensure all work is completed in a timely manner. Lastly, once utility location marks are placed, it is the Contractor's responsibility to maintain and upkeep all markings, including markings from all utility services.
All utilities and any items damaged by construction operations shall be restored to its original condition by workers skilled in trades involved

at no additional cost to the government.

1.7 PROTECTION OF THE RED-COCKADED WOODPECKER (RCW)

1.7.1 General

Construction activity shall be conducted in a manner which minimizes impacts to the RCW. The boundaries of RCW clusters are located as indicated in the contract drawings. Vehicle parking areas, material stockpiles, and portable toilets are prohibited within RCW clusters.

1.7.2 RCW Clusters

No construction activity shall occur within an RCW cluster unless indicated in the contract drawings. When work is indicated within an RCW cluster, no tree shall be removed from the cluster without first contacting the Contracting Officer and receiving approval from the Fort Polk Environmental and Natural Resources Management Division (ENRMD). When working within an RCW cluster, no earth-disturbing activities shall occur within 15 meters (50 feet) of a cavity tree. All cavity trees are marked by a white paint band. During the nesting season of 1 April through 30 June, no construction activity shall occur within an RCW cluster until ENRMD marks the nesting trees and the Contracting Officer gives approval, after which no activity shall occur within 60 meters (200 feet) of the marked nesting trees. Activity within the 60 meters (200 feet) limit shall not resume after nesting season until ENRMD determines that the fledglings have left the nests and the Contracting Officer approves resumption of the work. At all times, construction activity within RCW clusters shall start no earlier than 30 minutes after sunrise and shall halt at a minimum of 30 minutes prior to sunset. Any construction equipment which must operate within a cluster shall be moved outside of the cluster at the end of each day.

1.7.2.1 ENVIRONMENTAL REQUIREMENTS

The prime contractor shall designate an Environmental Compliance Officer (ECO) and Alternate ECO. Per requirements included JRTC Reg. 200-1, the ECO is required to attend the 40 hour ECO course. The course is offered at the installation monthly. Registration information can be obtained by contacting Penelope.Z.Smith@usace.army.mil

1.8 Record of Environmental Consideration (REC)

If a Record of Environmental Consideration (REC), or other pertinent environmental documentation has been provided as a part of this solicitation, upon completion of any required environmental testing the contractor shall provide a written narrative comparison of the results of subject testing in relation to the REC to the Contracting Officer. This narrative comparison shall acknowledge all corresponding results as well as identify any discrepancies, and shall be provided and approved prior to the commencement of any abatement work. It shall be noted that while these discrepancies, if any, shall be evaluated at that time, it shall be the Contractor's responsibility to adhere to the more stringent of the two documents unless otherwise instructed by the Contracting Officer.

1.9 DISPOSAL OF DEMOLITION AND CONSTRUCTION DEBRIS

Unless otherwise indicated, demolition and construction debris shall be

disposed of outside the limits of Government controlled land and the Contractor shall comply with all local and state regulatory requirements in his disposal operations.

1.10 HAZARDOUS MATERIAL CONTENT

Materials installed on this project shall conform with the Consumer Product Safety Commission's safety standards, especially materials used primarily for roofing, building and roofing insulation, joint sealants, elastomeric joint sealants and calking, gypsum board, plaster, paint and coatings (interior and exterior), fireproofing, acoustical ceiling systems, acoustical wall systems, mechanical and electrical equipment insulation or pipe wrappings. Submit certifications from material manufacturers attesting that their materials that are installed on this project, as applicable, do not contain asbestos and that the lead content does not exceed 0.06 percent (600 ppm) by (dry) weight of the material's non-volatile content.

1.11 ASBESTOS CERTIFICATION LETTER

Prior to the final acceptance inspection, furnish a letter certifying that no asbestos-containing materials were installed in the project. The letter format is attached at the end of this Section.

1.12 SOLID WASTE DISPOSITION

The Army requires that the installation track all solid waste generated (disposed and recycled) at Fort Polk (AR REG 200-1 Chapter 10), which includes construction and demolition debris. As a result, contractors are required to report to DPW-ENRMD the quantities of solid waste taken off the installation. The requirement to report to DPW-ENRMD is found in JRTC and Fort Polk Regulation 200-1 Chapter 9 Section 1. and the Contractor's Environmental Guide. Submit the report(s) to the Contracting Officer by the 5th working day of each month; the Corps will forward the report(s) to the Installation environmental office. See the Solid Waste Disposition form attached at the end of this Section.

1.13 TERMITE CONTROL

The Fort Polk Installation Pest Management Plan (IPMP) approves the use of the following three termicides for use on Fort Polk:

Termidor 80 WG (EPA 7969-209) (BASF Corp.)
Termidor SC (EPA 7969-210) (BASF Corp.)
Taurus SC (EPA 53883-279) (Control Solutions, Inc)

1.14 FORT POLK CADD AND GIS DELIVERABLES

1.14.1 Data Standards

Spatial Data Standard for Facilities, Infrastructure and Environment (SDSFIE) current release shall be followed for Geospatial database structure and attributes to allow for data integration. CADD data shall be documented according to the current release of the Architecture, Engineering and Construction (AEC)/CADD standards. All GIS and CADD data will be documented in accordance with the Federal Geographic Data

Committee (FGDC) Content Standards for Digital Geospatial Metadata.

1.14.2 Coordinate System Projection and Datum

All GIS data shall use the Universal Transverse Mercator Zone 15 North projection, World Geodetic System of 1984 (WGS84) datum, and the North American Vertical Datum of 1988 (NAVD88) using Metric as the working units to ensure data alignment and accuracy.

CADD data shall be geo-referenced in the State Plane Coordinate System 1983, using the North American 1983 Geodetic Datum with Survey Feet as the working units. The projection, datum and coordinate system must be defined and then documented in the metadata for both CADD and GIS and provided whenever the data is distributed.

1.14.3 CADD & GIS Deliverables

All CADD deliverables of As-built drawings shall be delivered in a MicroStation V8 .DGN compatible format utilizing survey feet for the working units. A seed file can be obtained from the Fort Polk DPW CADD/GIS Center. GIS deliverables shall be delivered in current GeoMedia file format or an ArcView shape file format. An additional copy of the final
drawings shall be provided in PDF format.

Deliverables for DPW shall include 1 hard copy and 1 CD/DVD with all specified digital formats. Please coordinate with the Area Office for Corps deliverables.

1.14.4 Point Of Contact

Contact: Fort Polk DPW CADD/GIS Center 337-531-6846

1.15 WATER AND WASTE WATER (Feb 2011)

Standard Operating Procedure
For Projects requiring Water or Waste Water Services

1.15.1 **Purpose**:

To outline requirements of Construction Projects connecting to American Water¡¦s water and waste water systems.

1.15.2 **Regulatory and Contractual Requirements**:

American Water Operations and Maintenance, Inc. (AW) is the owner and operator of the water and wastewater systems. Defense Energy Support Center (DESC) privatization contract (SP0600-08-C-8257) makes American Water responsible for evaluating the impacts of projects on the water and wastewater systems, designing system upgrades, and performing the upgrades necessary to provide dependable water and wastewater services at a reasonable cost. The contract makes AW responsible for "performing the necessary work on all necessary additions or modifications up to the established points of demarcation for new construction"..

All work in regard to water and wastewater systems shall be completed in accordance with the current design specifications and standard details of American Water Military Services Group. Reference: http://www.amwater.com/products-and-services/Military-Services/

specifications-and-details/fort-polk/index.html. PVC water pipes shall not be used above grade unless specifically approved by the KO or ACO.

All connections to the Fort Polk water system shall be equipped with a back flow prevention device. The device shall be furnished and installed by the Contractor. This includes connection to fire hydrants and the tie-in of sprinkler systems.

If the Contractor requires water in the performance of his contract for other than potable use, he may fill water tanks at the South Fort Water Plant located on Pennsylvania Avenue, Building 2902. Contractors are required to have an approved backflow prevention device to obtain water from the plant.
To schedule a time to fill water tanks, call 337- 531-2036 or 337-531-6596.

If the Contractor requires water at the project site, he shall submit an application for a written permit to connect to a designated installation fire hydrant. The Contractor shall submit his application to the DPW water system operators located at the South Fort Water Plant on Pennsylvania Avenue, Building 2902. The Contractor shall not draw water from any fire hydrants on Fort Polk without an installation permit in advance. The Contractor shall provide a copy of the permit application to the USACE Eastern Area Office for review and acknowledgement prior to its processing. Upon receiving all the necessary approvals, the approved permit application shall be submitted to the USACE Eastern Area Office. The Contractor shall be issued a written permit to draw water from a specific fire hydrant once his application is approved. The Contractor, after obtaining a permit, is required to use an approved backflow prevention device when drawing water from an installation's fire hydrant.

Water for Potable Use: If the Contractor requires water in the performance of their contract for potable use, he is authorized to use the installation's two potable water points. The South Fort potable water point is located on Georgia Avenue in the 2900 block. The North Fort potable water point is located on K Avenue, south of Access Control Point 7. Only containers properly marked "Potable Water" are authorized to be used at Fort Polk's potable water points.

HVAC closed loop-piping fluids shall first be tested prior to evacuation from the system. Fluid shall be analyzed for RCRA metal, reactivity, corrosiveness and ignitability to determine disposal method in accordance with local, state, and federal regulations. Sample shall be representative of all fluids that are to be disposed of by the contractor. It shall be specified to the EPA approved laboratory that analytical detection limits for the testing parameters are below the regulatory limits specified in 40 CFR 261 Subpart C.

Once analysis has been completed, copies of the results shall be provided to the KO and Fort Polk Environmental Division (EQD) located in Building 1647 along with the approximate volume of fluid to be disposed of by the contractor.

1.15.3 **LDHH project approval process**:

Louisiana Sanitary Code Title 51 Subpart XII paragraph 105 requires the owner of the water system to obtain LDHH approval prior to the start of construction for modifications to the water system that affect the capacity, hydraulic conditions, functioning of treatment processes or

quality of finished water. All projects using water/wastewater services will require AW and LDHH approval. Louisiana Sanitary Code requires this approval to be obtained prior to start of construction.

a) The Project Manager shall determine the water and waste water requirements of the project and involve American Water in the project upon project conception.

1) Maximum water flow
2) Minimum pressure
3) Average daily water usage
4) Sitemap indicating "Point of Demarcation" GPS location of "Point of Demarcation" for both water and wastewater connections including elevations. Note: The wastewater elevation must be coordinated with American Water to ensure proper flow.
5) Target start of construction date.
6) Date service connections are required, 180 days prior to connection when possible. Note: Any change to the flow or pressure requirements will require new AW and LDHH approval. Changes could also impact timing and costs.

b) The Project Manager shall supply American Water Contract Contracting Officer Representative (COR) the information on the project's water and waste water requirements. (See AW Contract, Request for Action)

c) American Water will evaluate the projects water and waste water loading on the water and waste water systems and determine system upgrades necessary for the project.

d) American Water will submit the system upgrade requirements to the COR (see AW Contract, Request for Action).

e) The project manager will request firm costs prices for the system upgrades. All requests for proposals (RFP) will come from DESC to AW via Fort Polk COR. (FFP requires minimum 60 days, depending on size of project)

f) The Project Manager will award the systems upgrades to the appropriate party.

g) The party performing the system upgrades will submit the completed design drawings to American Water for review. The design drawings must be 100 percent drawings signed and stamped by a Licensed Louisiana P.E. These drawings must be submitted 8 weeks (2 week AW review and 6 week LDHH turn around) prior to the start of construction to allow for LDHH approval.

h) American Water will manage the process (see AW Contract, Fort Polk Design Guide) of obtaining LDHH approval and inform the COR in writing that construction can start.

i) Fire Flow requirements for any proposed structure (flow rate, duration, and pressure at point of delivery).

j) All future expansion expected or otherwise anticipated by the project (this must be addressed as phased construction or not assumed).

Note 1: The project manager is responsible for identifying all water and

sewer requirements. The following information must be provided to American Water early enough for American Water to determine system upgrades required in step "c" above.

The following additional information should be provided if available:

- o Hydraulic Model results

1.15.4 DPW Points of Contact:

Close coordination must be maintained with applicable organizations of the W-3 working group. Organizational points of contact are listed below:

DES-Fire Department	337-531-2026
DES-Physical Security	337-531-4913
DPW-Engineering	337-531-6186
DPW-ENRMD 531-6008 DPW-OMD	337-531-2421
DPW-Planning	337-531-6103
Preventive Medicine-EH	337-531-4846
American Water	337-537-1161

1.15.5 **This SOP will remain in effect until suspended or rescinded.**

Greg Prudhomme
Director of Public Works

1.15.6 American Water (AW)'s Design Specifications

American Water's design specifications are located at the following Internet link:
http://www.amwater.com/products-and-services/Federal-Services/Military-Services/Fort-Polk

1.16 LOUISIANA SALES TAX

Contractors are required to pay Louisiana sales tax on materials for all construction projects at Fort Polk. Sales tax exemption based on Louisiana Sales Tax Form R-1020 is not applicable to Corps of Engineers' contracts.

1.17 UTILITY METERS

Domestic water, gas, and electricity shall utilize advance digital utility meters and be physically accessible by DPW and/or an privatized utilities visual reading/inspection. Meters shall be provided and installed by the construction contractor as part of the construction effort. Provide meters equivalent to: Electrical; Shark 200 with network card, Natural Gas; Sonix 880, Water; Neptune E-Coder R900 or greater as specified by American Water standards.

Each meter shall be hard lined to a data port located within the telecommunication closet for future connectivity to an enterprise-wide energy monitoring system. For each meter location, provide horizontal Category 6 or current NEC standard cabling from patch panel termination in the telecommunications room to the data outlet termination IAW TIA/EIA-568-C.1. The linear footage between the TR and the outlet should not exceed 250 feet. The data outlet termination shall be weatherproofed so as to allow weatherproof connection of a data patch cable between the data outlet and meter.

Meters shall be placed into operation as soon as possible to monitor and ensure proper operation; they shall be safeguarded to ensure they remain free of damage. This is not an effort to charge contractor but data is to be reported to the Utility Management team, BOID, DPW.

1.18 DOOR HARDWARE (Sep 2010)

Unless otherwise required by project requirements, hardware shall conform to the current ANSI/BHMA standards, grade 1. Locks, cylinders, and cores shall comply with ANSI/BHMA A156.13, Mortise Locks & Latches Series 1000, ANSI/BHMA A156.2 Bored and Preassembled Locks and Latches, and ANSI/BHMA A156.3 Exit Devices. Cylinders shall have key removable type cores. Cores shall have not less than seven pins. Extensions of the existing keying systems shall be provided. Cylinders and cores for locksets other than those for mechanical rooms shall be manufactured by Best Lock Corporation to extend the existing Base Keying System. Locksets for mechanical rooms only shall be keyed to the existing Post utilities master keying system, consisting of locksets manufactured by Arrow Lock Co., Keyway K-7; furnish keys "O" bitted. Disassembly of knob or lockset shall not be required to remove core from lockset. All locksets, exit devices, and padlocks shall accept same interchangeable cores.

a. Cores and cylinders shall fit locksets without the use of adaptors and without play. The key shall easily lock and unlock the lockset without binding or other difficulties. Control key shall easily remove and install cores.

b. Locks shall be keyed in sets or subsets in accordance with the approved schedule. Furnish locks with the manufacturer's standard construction cores and key system. Send permanent cylinders, cores, keys, and the lock set-up code to the Contracting Officer by registered mail or other approved means.

c. Furnish a quantity of key blanks equal to 20 percent of the total number of file keys.

d. All keys shall be marked with "U.S. GOVERNMENT - DO NOT DUPLICATE". Do not place room number on keys other than control/core keys. Stamp all control/core keys with building code and building number, and the letter "C".

e. All keys shall be stamped with 1/16" to 1/8" high characters.

f. Furnish keys to the Contracting Officer arranged in a container suitable for key control system storage in sets or subsets as scheduled.

g. Closers: BHMA A156.4, Surface type closers shall be Grade 1, Series C02000 Full Cover with options PT-4H, Size 1 or 2 through Size 6, and

PT-4D with back check position valve. Provide with brackets, arms, mounting devices, fasteners, full size covers, except at storefront mounting, pivots, cement cases, and other features necessary for the particular application. Provide manufacturer's 10 year warranty.

(1) Closers for outswinging exterior doors shall have parallel arms or shall be top jamb mounted. Provide narrow projection closers for doors close to a wall so as not to strike the wall at the 90-degree open position.

(2) Closers on doors accessible to the physically handicapped shall have the closing force set for a push-pull of 2.27 kg (5 pounds) applied at the knob or handle for interior doors; for exterior doors, set to the minimum required to relatch the door.

1.19 UMCS REQUIREMENTS

Provide a single, complete (not including a front end) non-proprietary Direct Digital Control (DDC) system for control of the heating, ventilating and air conditioning (HVAC) and other building systems. The system shall be installed such that it can be readily integrated into a UMCS1 Front End in accordance with UFGS2 25 10 10.

The system shall use BACnet (ASHRAE3-135 (2012)) and standard BACnet Services exclusively for communication between DDC Hardware. Except for Niagara Framework systems as indicated, the system shall use Standard BACnet Objects and Properties exclusively.

The system shall be Open. An Open system is designed and installed such that the Government or its agents are able to perform repair, replacement, upgrades, and expansions of the system without subsequent or future dependence on the original hardware vendor, the Contractor, or its agents. This includes, but is not limited to, the following:

o Installation of hardware such that individual control equipment can be replaced by similar control equipment from other equipment manufacturers with no loss of system functionality.

o Provision of information and items required to meet the Open system definition, including but not limited to: documentation (including rights to documentation and data), system administrative passwords, Vykon JACE building point of connection with Open license, configuration information, configuration tools with commissioning hardware, local display device, application programs (with comments explaining program logic), application source code for programmable controllers, drivers, and other software. All items shall be licensed to the Government and remain with the Government in compliance with the definition of Open above.

To the greatest extent practical, the system shall not rely on communication over the BACnet control network to perform sequences of operation. System installation must comply with the current UMCS Approval to Operate prior to acceptance.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 FORMS

3.1.1 Asbestos Certification Letter

CERTIFICATION LETTER

Project Name: _____

Name of Contractor: _____

Project Contract/Delivery Order Number: _____

Facility Number: _____

Date: _____

To Whom It May Concern:

This letter is to certify that the project indicated above has been constructed using no asbestos-containing materials in accordance with the design requirements.

Sincerely,

Typed Name: _____

Written / Typed Name: _____

3.1.2 SOLID WASTE DISPOSITION (Mar 2011)

Contractor Name, address, phone number, contract number:

Contractor Name, address, phone number, contract number	**Date**	**Name of Contractor**	**Name of Disposal Facility / POC**	**Disposal or Recycle Transaction**	**Cubic Yards**
Concrete (Cubic Yds) per haul					
Asphalt (Cubic Yds) per haul					
Routine Mixed Debris (Cubic Yds per haul)					
Asbestos Abatement (lbs per ticket)					
Universal Waste (lbs per ticket)					
Land Clearing Debris, Stumps (Cubic Yds per haul)					
Concrete: Goes to crushing yard off of Texas Ave					
Asphalt: Call COE Office for Info					
Routine Mixed Debris: Contractor option to permitted facility					

Contractor Name, address, phone number, contract number	**Date**	**Name of Contractor**	**Name of Disposal Facility / POC**	**Disposal or Recycle Transaction**	**Cubic Yards**
Asbestos Abatement: Permitted facility of choice					
Universal Waste: Contractor option at permitted facility					
Land Clearing Debris, IE stumps etc: Should be taken to chipping operation for recycle credit if available					

3.2 Installation Specific Security Requirements for PWS/SOW/SOO

3.2.1 Installation Physical Security

1. Contractor's must provide an access roster to Directorate of Emergency Services (DES), Physical Security Office of all employees monthly or when any personnel change occurs for access to Fort Polk. An access roster will also be furnished to the Security and Intelligence Division (S&ID), DPTMS quarterly or upon request. Access rosters must be forwarded by the COR to the visitors control center using a specific format electronically from a government computer. All personnel employed under this contract will adhere to all Fort Polk access control policies which include, weapons registration, transportation of weapons on the installation, access control policies, use of installation passes and ID cards and the operation of motor vehicles.

2. A check of records through the National Crime Information Center (NCIC) Interstate Identification Index (III) is the Army minimum baseline background check for entrance onto Army installations for non-CAC holders to include entrance of visitors. Contractors will identity proof all employees using e-verify and ensure that no illegal immigrants are employed under the umbrella of this contract.

3. The contractor shall provide employees with company identification (ID) cards prior to their commencement of work. The ID format is subject to approval by the government. IDs shall be laminated and include the company's name, ID number, issue and expiration dates, employee name, job title and color photograph. Employees shall wear ID cards on front exterior clothing, above the waist, when performing under the Performance of Work Statement (PWS)/Statement of Work (SOW) unless otherwise specified herein or approved by the government.

4. Physical Security Plan. The contractor shall address the physical security aspects associated with contract performance in government furnished facilities. The plan shall describe how the Security Plan shall

prevent unauthorized access, vandalism, pilferage, larceny, sabotage, and arson directed toward contractor controlled facilities. A list of installation buildings for which the contractor shall be responsible shall be included in the plan. The contractor shall maintain an active security checklist for each facility under the contractor's control. The plan shall comply with the provisions of AR 190-11, AR 190-13, AR 190-51, DoD 5100.76(D), 5220.22(D) and the Fort Polk, LA Installation Physical Security Plan. This security plan will be reviewed annually by the DES to ensure regulatory requirements.

5. Information Systems Security Plan. The information systems security plan shall establish security procedures for all computer systems and communications utilized in the performance of this PWS/SOW/SOO. The plan shall conform to AR 25-2, AR 25-1 and AR 380-67.

6. Key Control Plan. The contractor's key control plan shall provide for government access, 24 hours a day, seven days a week, to all government-furnished facilities. The plan shall comply with AR 190-13, the Army Physical Security Program, and AR 190-51.

7. The contractor shall ensure that its employees, performing under this contract who has access to government information systems receive annual Information Technology security training.

8. The contractor shall immediately notify the contracting officer when an employee terminates employment that has access to government information systems or data. The contractor shall ensure all common access cards issued to employees are returned to the government upon termination of employment and released employee names are to be stricken from the roster maintained by DES & S&ID immediately upon release.

3.2.2 Installation AT/FP

1. Pursuant to DoD Instruction Number 2000.16, "DoD Antiterrorism (AT) Standards," dated October 2, 2006, each Contractor employee requiring access to a Federally-Controlled Installation, facility and/or federally-controlled information system(s) shall complete Level I AT Awareness Training on an annual basis and receive a certificate of completion. The training is accessible from any computer and is available at https://jkodirect.jten.mil. The contractor is responsible for ensuring that all applicable employees have completed antiterrorism awareness training and shall certify that their workforce has completed the training through the submission of completion certificate(s) to the Contracting Officer and the Contracting Officer's Representative (if appointed) within five working days after contract award or prior to access to a federally-controlled installation or information system.

Special Instructions:

a. Google JKO (Joint Knowledge Online) to begin the process.

Clicks:

b. No DOD CAC

c. I am a US mil, government civil servant, or contract employee

d. I've been directed to take required training on JKO

e. Click on Courses

f. I do not have a .MIL, .GOV, or .NDU.EDU address or I am a Multi-National Student

g. Fill out the contact sheet and email to sponsor (This is the COR)

h. Sponsor will email to the JKO help desk. (This is the COR)

Approval

1) Help desk sends non-CAC user an email with User ID

2) Help desk will send a separate email with an electronic token to register a new password (token is good for 24 hours)

3) New User follows the instructions in the email and enters a new password

4) User will need to enroll in Course # JS-US007-14 (User has up to 30 days to complete the course)

2. In the event that the automated system at https://jkodirect.jten.mil not available (e.g., server problems), Level I AT Awareness Training can be provided by a qualified instructor. However, if the training is not completed online, the Level I AT Awareness instructor qualification must be coordinated with the installation Antiterrorism Officer or (installation security equivalent) and the resultant name(s) of approved instructors shall be provided the contracting officer or designee along with all associated cost or schedule impacts to the contract.

3. Antiterrorism performance (Level I AT Awareness Training attendance and compliance) may be documented as a performance metric under the resultant contract, and be part of past performance information in support of future source selections.

3.2.3 Installation OPSEC

1. In accordance with AR 530-1, Operations Security (OPSEC), dated 19 April 2007, and DoDM 5205.02-M, DoD Operations Security (OPSEC) Program Manual, dated 03 November 2008, contract personnel shall receive initial OPSEC Level I training which consists of initial and continual awareness training. Within the first 30 days of arrival on Fort Polk contract personnel shall receive initial OPSEC training either by on-line training through the Fort Polk SharePoint OPSEC site on the intranet, or the Defense Security Services website at: http://cdsetrain.dtic.mil/opsec/index.htm

2. The contractor shall ensure all applicable employees have completed OPSEC initial training and annual refresher training and shall certify that their workforce has completed the training through the submission of completion certificate(s) to the Contracting Officer and the Contracting Officer's Representative (if appointed) within 30 days of arrival on post.

3. Operations Security (OPSEC) Awareness Training attendance and compliance may be documented as a performance metric under the resultant contract, and be part of past performance information in support of future source selections.

3.2.4 FORT POLK CONTRACT /HOMELAND SECURITY PRESIDENTIAL DIRECTIVE 12 (HSPD 12) REQUIREMENTS

Requirements apply to any contract where contractor employees will access multiple Installations or require access to the government information systems.

1. All personnel hired under this contract who do not require a security clearance must have a favorable National Agency Check with Inquiries (NACI) to be issued a CAC. The Contracting Officer Representative (COR) will ensure new hires complete a NACI through the Personnel Security Investigation Portal (PSIP) by initiating a request through S&ID no later than 15 days from the date of hire and completing the investigation (submission to OPM) within 30 days. Personnel who require a security clearance must be processed by their company Facility Security Officer (FSO) or company Security Manager.

2. Instructions for completing the NACI process will be sent to the Project/Program Manager, Security Manager and the COR once the contract has been awarded and one of the above personnel notifies S&ID for the initiation. The contractor shall schedule fingerprinting appointments with S&ID. Personnel requiring a CAC who do not receive a favorable NACI will not be allowed to perform services under this contract.

3. All employees requiring a common access card (CAC) for physical access to multiple Installations or access to the government information systems may be granted a CAC after the successful submission of the NACI through PSIP and a favorable fingerprint review by S&ID. An unfavorable NACI adjudication can result in the loss or denial of computer access, physical access or employment.

4. Sponsoring organizations, activities whose personnel do not need access to multiple Installations or access to the government information systems will submit a completed access control roster to the Visitor Control Center (VCC). They may receive a MOBILISA visitor card for the terms of their contract (until contract end date, not to exceed 3 years) when sponsored on an access roster. If not sponsored they will only receive a pass for up to 7 days.

5. MOBILISA card expirations may be updated to reflect a new contract period by submitting an updated access control roster to Corps of Engineers.

6. Access rosters may only be submitted via e-mail to the Corps of Engineers. all others will be returned without action. (See 1.4 instructions

3.2.5 Installation Access

All visitors to Fort Polk must be vetted at the Visitors Center, located adjacent to the main gate on Louisiana Avenue. Each visitor will be issued an access control credential for entry onto the installation. Based on the results of the vetting process, some personnel may be denied unescorted access to Fort Polk. Personnel working at the Visitors Center are not permitted to divulge law enforcement data obtained during the vetting process. A waiver process has been established for personnel who are denied unescorted access. Generally, waivers will be processed within five days of completion.

Under the Trusted Traveler Program, visitors who are accompanied by Department of Defense-affiliated personnel (active-duty Soldiers, civilian common access card holders, retiree ID card holders, DoD dependent ID card holders, and civilian contractor CAC holders) will not require vetting for access and will only need to produce a valid ID card; these visitors must be in the immediate vehicle of the sponsoring card holder. These DoD affiliated personnel will be responsible for their visitors on the installation. Personnel who are enrolled and vetted through the Rapid Gate program do not have Trusted Traveler privileges.

The Fort Polk Visitors Center is now open 24 hours a day, seven days per week. The increase in operating hours will facilitate current operations and allow visitors more flexibility to obtain access. For additional information concerning access control please contact the Visitors Center at 531-0380.

-- End of Section --

SECTION 01 35 26

GOVERNMENTAL SAFETY REQUIREMENTS

PART 1 GENERAL

1.1 REFERENCES

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

AMERICAN SOCIETY OF SAFETY ENGINEERS (ASSE/SAFE)

ASSE/SAFE A10.34	(2001; R 2012) Protection of the Public on or Adjacent to Construction Sites
ASSE/SAFE A10.44	(2014) Control of Energy Sources (Lockout/Tagout) for Construction and Demolition Operations
ASSE/SAFE Z244.1	(2003; R 2014) Control of Hazardous Energy Lockout/Tagout and Alternative Methods
ASSE/SAFE Z359.0	(2012) Definitions and Nomenclature Used for Fall Protection and Fall Arrest
ASSE/SAFE Z359.1	(2007) Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components
ASSE/SAFE Z359.11	(2014) Safety Requirements for Full Body Harnesses
ASSE/SAFE Z359.12	(2009) Connecting Components for Personal Fall Arrest Systems
ASSE/SAFE Z359.13	(2013) Personal Energy Absorbers and Energy Absorbing Lanyards
ASSE/SAFE Z359.14	(2014) Safety Requirements for Self-Retracting Devices for Personal Fall Arrest and Rescue Systems
ASSE/SAFE Z359.15	(2014) Safety Requirements for Single Anchor Lifelines and Fall Arresters for Personal Fall Arrest Systems
ASSE/SAFE Z359.2	(2007) Minimum Requirements for a Comprehensive Managed Fall Protection Program
ASSE/SAFE Z359.3	(2007) Safety Requirements for Positioning and Travel Restraint Systems
ASSE/SAFE Z359.4	(2013) Safety Requirements for Assisted-Rescue and Self-Rescue Systems,

	Subsystems and Components
ASSE/SAFE Z359.6	(2009) Specifications and Design Requirements for Active Fall Protection Systems
ASSE/SAFE Z359.7	(2011) Qualification and Verification Testing of Fall Protection Products

ASME INTERNATIONAL (ASME)

ASME B30.20	(2013; INT Oct 2010 - May 2012) Below-the-Hook Lifting Devices
ASME B30.22	(2010) Articulating Boom Cranes
ASME B30.26	(2015; INT Jun 2010 - Jun 2014) Rigging Hardware
ASME B30.3	(2016) Tower Cranes
ASME B30.5	(2014) Mobile and Locomotive Cranes
ASME B30.8	(2015) Floating Cranes and Floating Derricks
ASME B30.9	(2014; INT Feb 2011 - Nov 2013) Slings

ASTM INTERNATIONAL (ASTM)

ASTM F855	(2015) Standard Specifications for Temporary Protective Grounds to Be Used on De-energized Electric Power Lines and Equipment

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE 1048	(2003) Guide for Protective Grounding of Power Lines
IEEE C2	(2012; Errata 1 2012; INT 1-4 2012; Errata 2 2013; INT 5-7 2013; INT 8-10 2014; INT 11 2015; INT 12 2016) National Electrical Safety Code

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 10	(2013) Standard for Portable Fire Extinguishers
NFPA 241	(2013; Errata 2015) Standard for Safeguarding Construction,Alteration, and Demolition Operations
NFPA 51B	(2014) Standard for Fire Prevention During Welding, Cutting, and Other Hot Work
NFPA 70	(2014; AMD 1 2013; Errata 1 2013; AMD 2 2013; Errata 2 2013; AMD 3 2014; Errata

	3-4 2014; AMD 4-6 2014) National Electrical Code
NFPA 70E	(2015; ERTA 1 2015) Standard for Electrical Safety in the Workplace

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety and Health Requirements Manual

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

10 CFR 20	Standards for Protection Against Radiation
29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1910.146	Permit-required Confined Spaces
29 CFR 1910.147	Control of Hazardous Energy (Lock Out/Tag Out)
29 CFR 1910.333	Selection and Use of Work Practices
29 CFR 1915	Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment
29 CFR 1915.89	Control of Hazardous Energy (Lockout/Tags-Plus)
29 CFR 1926	Safety and Health Regulations for Construction
29 CFR 1926.1400	Cranes and Derricks in Construction
29 CFR 1926.16	Rules of Construction
29 CFR 1926.450	Scaffolds
29 CFR 1926.500	Fall Protection
49 CFR 173	Shippers - General Requirements for Shipments and Packagings
CPL 2.100	(1995) Application of the Permit-Required Confined Spaces (PRCS) Standards, 29 CFR 1910.146

1.2 DEFINITIONS

1.2.1 Competent Person (CP)

The CP is a person designated in writing, who, through training, knowledge and experience, is capable of identifying, evaluating, and addressing existing and predictable hazards in the working environment or working conditions that are dangerous to personnel, and who has authorization to take prompt corrective measures with regards to such hazards.

1.2.2 Competent Person, Confined Space

The CP, Confined Space, is a person meeting the competent person requirements as defined EM 385-1-1 Appendix Q, with thorough knowledge of OSHA's Confined Space Standard, 29 CFR 1910.146, and designated in writing to be responsible for the immediate supervision, implementation and monitoring of the confined space program, who through training, knowledge and experience in confined space entry is capable of identifying, evaluating and addressing existing and potential confined space hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.3 Competent Person, Cranes and Rigging

The CP, Cranes and Rigging, as defined in EM 385-1-1 Appendix Q, is a person meeting the competent person, who has been designated in writing to be responsible for the immediate supervision, implementation and monitoring of the Crane and Rigging Program, who through training, knowledge and experience in crane and rigging is capable of identifying, evaluating and addressing existing and potential hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.4 Competent Person, Excavation/Trenching

A CP, Excavation/Trenching, is a person meeting the competent person requirements as defined in EM 385-1-1 Appendix Q and 29 CFR 1926, who has been designated in writing to be responsible for the immediate supervision, implementation and monitoring of the excavation/trenching program, who through training, knowledge and experience in excavation/trenching is capable of identifying, evaluating and addressing existing and potential hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.5 Competent Person, Fall Protection

The CP, Fall Protection, is a person meeting the competent person requirements as defined in EM 385-1-1 Appendix Q and in accordance with ASSE/SAFE Z359.0, who has been designated in writing by the employer to be responsible for immediate supervising, implementing and monitoring of the fall protection program, who through training, knowledge and experience in fall protection and rescue systems and equipment, is capable of identifying, evaluating and addressing existing and potential fall hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.6 Competent Person, Scaffolding

The CP, Scaffolding is a person meeting the competent person requirements in EM 385-1-1 Appendix Q, and designated in writing by the employer to be responsible for immediate supervising, implementing and monitoring of the scaffolding program. The CP for Scaffolding has enough training, knowledge and experience in scaffolding to correctly identify, evaluate and address existing and potential hazards and also has the authority to take prompt corrective measures with regard to these hazards. CP qualifications must be documented and include experience on the specific scaffolding systems/types being used, assessment of the base material that the scaffold will be erected upon, load calculations for materials and personnel, and erection and dismantling. The CP for scaffolding must have a documented, minimum of 8-hours of scaffold training to include training

on the specific type of scaffold being used (e.g. mast-climbing, adjustable, tubular frame), in accordance with EM 385-1-1 Section 22.B.02.

1.2.7 Competent Person (CP) Trainer

A competent person trainer as defined in EM 385-1-1 Appendix Q, who is qualified in the material presented, and who possesses a working knowledge of applicable technical regulations, standards, equipment and systems related to the subject matter on which they are training Competent Persons. A competent person trainer must be familiar with the typical hazards and the equipment used in the industry they are instructing. The training provided by the competent person trainer must be appropriate to that specific industry. The competent person trainer must evaluate the knowledge and skills of the competent persons as part of the training process.

1.2.8 High Risk Activities

High Risk Activities are activities that involve work at heights, crane and rigging, excavations and trenching, scaffolding, electrical work, and confined space entry.

1.2.9 High Visibility Accident

A High Visibility Accident is any mishap which may generate publicity or high visibility.

1.2.10 Load Handling Equipment (LHE)

LHE is a term used to describe cranes, hoists and all other hoisting equipment (hoisting equipment means equipment, including crane, derricks, hoists and power operated equipment used with rigging to raise, lower or horizontally move a load).

1.2.11 Medical Treatment

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

1.2.12 Near Miss

A Near Miss is a mishap resulting in no personal injury and zero property damage, but given a shift in time or position, damage or injury may have occurred (e.g., a worker falls off a scaffold and is not injured; a crane swings around to move the load and narrowly misses a parked vehicle).

1.2.13 Operating Envelope

The Operating Envelope is the area surrounding any crane or load handling equipment. Inside this "envelope" is the crane, the operator, riggers and crane walkers, other personnel involved in the operation, rigging gear between the hook, the load, the crane's supporting structure (i.e. ground or rail), the load's rigging path, the lift and rigging procedure.

1.2.14 Qualified Person (QP)

The QP is a person designated in writing, who, by possession of a

recognized degree, certificate, or professional standing, or extensive knowledge, training, and experience, has successfully demonstrated their ability to solve or resolve problems related to the subject matter, the work, or the project.

1.2.15 Qualified Person, Fall Protection (QP for FP)

A QP for FP is a person meeting the requirements of EM 385-1-1 Appendix Q, and ASSE/SAFE Z359.0, with a recognized degree or professional certificate and with extensive knowledge, training and experience in the fall protection and rescue field who is capable of designing, analyzing, and evaluating and specifying fall protection and rescue systems.

1.2.16 Recordable Injuries or Illnesses

Recordable Injuries or Illnesses are any work-related injury or illness that results in:

a. Death, regardless of the time between the injury and death, or the length of the illness;

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

c. Restricted work;

d. Transfer to another job;

e. Medical treatment beyond first aid;

f. Loss of consciousness; or

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

1.2.17 USACE Property and Equipment

Interpret "USACE" property and equipment specified in USACE EM 385-1-1 as Government property and equipment.

1.2.18 Load Handling Equipment (LHE) Accident or Load Handling Equipment Mishap

A LHE accident occurs when any one or more of the eight elements in the operating envelope fails to perform correctly during operation, including operation during maintenance or testing resulting in personnel injury or death; material or equipment damage; dropped load; derailment; two-blocking; overload; or collision, including unplanned contact between the load, crane, or other objects. A dropped load, derailment, two-blocking, overload and collision are considered accidents, even though no material damage or injury occurs. A component failure (e.g., motor burnout, gear tooth failure, bearing failure) is not considered an accident solely due to material or equipment damage unless the component failure results in damage to other components (e.g., dropped boom, dropped load, or roll over). Document any mishap that meets the criteria described in the Contractor Significant Incident Report (CSIR) using the Crane High Hazard working group mishap reporting form.

1.3 SUBMITTALS

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

SD-01 Preconstruction Submittals

Accident Prevention Plan (APP); G

SD-06 Test Reports

Monthly Exposure Reports

Notifications and Reports

Accident Reports; G

LHE Inspection Reports

SD-07 Certificates

Crane Operators/Riggers

Standard Lift Plan; G

Critical Lift Plan; G

Activity Hazard Analysis (AHA)

Confined Space Entry Permit

Hot Work Permit

Certificate of Compliance

License Certificates

Radiography Operation Planning Work Sheet; G

Portable Gauge Operations Planning Worksheet; G

1.4 MONTHLY EXPOSURE REPORTS

Provide a Monthly Exposure Report and attach to the monthly billing request. This report is a compilation of employee-hours worked each month for all site workers, both Prime and subcontractor. Failure to submit the report may result in retention of up to 10 percent of the voucher.

1.5 REGULATORY REQUIREMENTS

In addition to the detailed requirements included in the provisions of this contract, comply with the most recent edition of USACE EM 385-1-1, and the following federal, state, and local laws, ordinances, criteria, rules and regulations. Submit matters of interpretation of standards to

the appropriate administrative agency for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements govern.

1.6 SITE QUALIFICATIONS, DUTIES, AND MEETINGS

1.6.1 Personnel Qualifications

1.6.1.1 Site Safety and Health Officer (SSHO)

Provide an SSHO that meets the requirements of EM 385-1-1 Section 1. The SSHO must ensure that the requirements of 29 CFR 1926.16 are met for the project. Provide a Safety oversight team that includes a minimum of one (1) person at each project site to function as the Site Safety and Health Officer (SSHO). The SSHO or an equally-qualified Alternate SSHO must be at the work site at all times to implement and administer the Contractor's safety program and government-accepted Accident Prevention Plan. The SSHO shall be assigned no other duties. The SSHO and Alternate SSHO must have the required training, experience, and qualifications in accordance with EM 385-1-1 Section 01.A.17, and all associated sub-paragraphs.

If the SSHO is off-site for a period longer than 24 hours, an equally-qualified alternate SSHO must be provided and must fulfill the same roles and responsibilities as the primary SSHO. When the SSHO is temporarily (up to 24 hours) off-site, a Designated Representative (DR), as identified in the AHA may be used in lieu of an Alternate SSHO, and must be on the project site at all times when work is being performed. Note that the DR is a collateral duty safety position, with safety duties in addition to their full time occupation.

The SSHO shall be assigned no other duties.

1.6.1.2 Competent Person Qualifications

Provide Competent Persons in accordance with EM 385-1-1, Appendix Q and herein. Competent Persons for high risk activities include confined space, cranes and rigging, excavation/trenching, fall protection, and electrical work. The CP for these activities must be designated in writing, and meet the requirements for the specific activity (i.e. competent person, fall protection).

The Competent Person identified in the Contractor's Safety and Health Program and accepted Accident Prevention Plan, must be on-site at all times when the work that presents the hazards associated with their professional expertise is being performed. Provide the credentials of the Competent Persons(s) to the the Contracting Officer for information in consultation with the Safety Office.

1.6.1.2.1 Competent Person for Confined Space Entry

Provide a Confined Space (CP) Competent Person who meets the requirements of EM 385-1-1, Appendix Q, and herein. The CP for Confined Space Entry must supervise the entry into each confined space.

1.6.1.2.2 Competent Person for Scaffolding

Provide a Competent Person for Scaffolding who meets the requirements of EM 385-1-1, Section 22.B.02 and herein.

1.6.1.2.3 Competent Person for Fall Protection

Provide a Competent Person for Fall Protection who meets the requirements of EM 385-1-1, Section 21.C.04 and herein.

1.6.1.3 Qualified Trainer Requirements

Individuals qualified to instruct the 40 hour contract safety awareness course, or portions thereof, must meet the definition of a Competent Person Trainer, and, at a minimum, possess a working knowledge of the following subject areas: EM 385-1-1, Electrical Standards,Lockout/Tagout, Fall Protection, Confined Space Entry for Construction; Excavation, Trenching and Soil Mechanics, and Scaffolds in accordance with 29 CFR 1926.450, Subpart L.

Instructors are required to:

a. Prepare class presentations that cover construction-related safety requirements.

b. Ensure that all attendees attend all sessions by using a class roster signed daily by each attendee. Maintain copies of the roster for at least five (5) years. This is a certification class and must be attended 100 percent. In cases of emergency where an attendee cannot make it to a session, the attendee can make it up in another class session for the same subject.

c. Update training course materials whenever an update of the EM 385-1-1 becomes available.

d. Provide a written exam of at least 50 questions. Students are required to answer 80 percent correctly to pass.

e. Request, review and incorporate student feedback into a continuous course improvement program.

1.6.1.4 Dredging Contract Requirements

1.6.1.4.1 Dredging Safety Personnel Requirements

a. Provide a minimum of one SSHO assigned per project site for the primary working shift.

b. For a project involving multiple work shifts, provide one full-time SSHO for each additional shift.

c. For individual dredging projects or sites with a dredge crew and fill crew on watch of 8 employees or less, a CDSO must be appointed, instead of an SSHO. The CDSO assumes the same responsibilities as a full-time SSHO.

d. An example of one dredging project site is reflected in each of the following:

(1) a mechanical dredge, tug(s) and scow(s), scow route, and material placement site; or

(2) a hydraulic pipeline dredge, attendant plant, and material

placement site; or,

(3) a hopper dredge (include land-based material placement site - if applicable.)

e. For Hopper Dredges with the U.S. Coast Guard, documented crews may designate an officer as a Collateral Duty Safety Officer (CDSO) instead of having a full-time SSHO onboard if the officer meets the SSHO training and experience requirements.

1.6.1.4.2 SSHO Requirements for Dredging

a. In addition to requirements stated elsewhere in this specification, an individual serving as a SSHO must be present at the project site, located so that they have full mobility and reasonable access to all major work operations, for at least one shift in each 24 hour period when work is being performed. The SSHO must be available during their shift for immediate verbal consultation and notification, either by phone or radio.

b. The SSHO is a full-time, dedicated position, except as noted above, who must report to a senior project (or corporate) official. When the SSHO is permitted to be a collateral duty, the SSHO is not permitted to be in another position requiring continuous mechanical or equipment operations, such as equipment operators.

c. The SSHO must inspect all work areas and operations during initial set-up and at least monthly observe and provide personal oversight on each shift during dredging operations for projects with many work sites, more often for those with less work sites.

d. If the SSHO is off-site for a period longer than 24 hours, anotherqualified SSHO must be provided and fulfill the same roles and responsibilities as the SSHO during their absence.

1.6.1.4.3 Collateral Duty Safety Officer (CDSO) Requirements for Dredging

a. A CDSO is an individual who is assigned collateral duty safety responsibilities in addition to their full-time occupation, and who supports and supplements the SSHO efforts in managing, implementing and enforcing the Contractor's Safety and Health Program. The assigned CDSO must be an individual(s) with work oversight responsibilities, such as master, mate, fill foreman, or superintendent. A CDSO must not be an employee responsible for continuous mechanical or equipment operations, such as an equipment operator.

b. A CDSO performs safety program tasks as assigned by the SSHO and must report safety findings to the SSHO. The SSHO must document results of safety findings and provide information for inclusion in the CQC reports to the Contracting Officer.

1.6.1.4.4 Safety Personnel Training Requirements for Dredging

A SSHO and a CDSO for dredging contracts must take either a formal classroom or online OSHA 30-hour Construction Safety Course, or an equivalent 30 hours of formal classroom or online safety and health training covering the subjects of the OSHA 30-hour Course in accordance with EM 385-1-1 Appendix A, paragraph 3.d.(3), applicable to dredging

work, and given by qualified instructors. In exception to EM 385-1-1, Section 01.A.17, comply with the following:

a. The SSHO must maintain competency through having taken 8 hours of formal classroom or online safety and health related coursework every year. Hours spent as an instructor in such courses will be considered the same as attending them, but each course only gets credit once (for example, instructing a 1-hour asbestos awareness course 5 times in a year provides one hour credit for training).

b. The SSHO and a CDSO must have a minimum of three years of experience within the past five years in one of the following:

(1) Supervising/managing dredging activities

(2) Supervising/managing marine construction activities

(3) Supervising/managing land-based construction activities

(4) Work managing safety programs or processes

(5) Conducting hazard analyses and developing controls in activities or environments with similar hazards

1.6.1.5 Crane Operators/Riggers

Provide Operators meeting the requirements in EM 385-1-1, Section 15.B for Riggers and Section 16.B for Crane Operators. In addition, for mobile cranes with Original Equipment Manufacturer (OEM) rated capacities of 50,000 pounds or greater, designate crane operators qualified by a source that qualifies crane operators (i.e., union, a government agency, or an organization that tests and qualifies crane operators). Provide proof of current qualification.

1.6.2 Personnel Duties

1.6.2.1 Duties of the Site Safety and Health Officer (SSHO)

The SSHO must:

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

b. Conduct mishap investigations and complete required accident reports. Report mishaps and near misses.

c. Use and maintain OSHA's Form 300 to log work-related injuries and illnesses occurring on the project site for Prime Contractors and subcontractors, and make available to the Contracting Officer upon request. Post and maintain the Form 300A on the site Safety Bulletin Board.

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

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

f. Review the APP and AHAs for compliance with EM 385-1-1, and approve, sign, implement and enforce them.

g. Establish a Safety and Occupational Health (SOH) Deficiency Tracking System that lists and monitors outstanding deficiencies until resolution.

h. Ensure subcontractor compliance with safety and health requirements.

i. Maintain a list of hazardous chemicals on site and their material Safety Data Sheets (SDS).

j. Maintain a weekly list of high hazard activities involving energy, equipment, excavation, entry into confined space, and elevation, and be prepared to discuss details during QC Meetings.

k. Provide and keep a record of site safety orientation and indoctrination for Contractor employees, subcontractor employees, and site visitors.

Superintendent, QC Manager, and SSHO are subject to dismissal if the above duties are not being effectively carried out. If Superintendent, QC Manager, or SSHO are dismissed, project work will be stopped and will not be allowed to resume until a suitable replacement is approved and the above duties are again being effectively carried out.

1.6.3 Meetings

1.6.3.1 Preconstruction Conference

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

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

c. Deficiencies in the submitted APP, identified during the Contracting Officer's review, must be corrected, and the APP re-submitted for review prior to the start of construction. Work is not permitted to begin work until an APP is established that is acceptable to the Contracting Officer.

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

1.6.3.2 Safety Meetings

Conduct safety meetings to review past activities, plan for new or changed operations, review pertinent aspects of appropriate AHA (by trade), establish safe working procedures for anticipated hazards, and provide pertinent Safety and Occupational Health (SOH) training and motivation. Conduct meetings at least once a month for all supervisors on the project location. The SSHO, supervisors, foremen, or CDSOs must conduct meetings at least once a week for the trade workers. Document meeting minutes to include the date, persons in attendance, subjects discussed, and names of individual(s) who conducted the meeting. Maintain documentation on-site and furnish copies to the Contracting Officer on request. Notify the Contracting Officer of all scheduled meetings 7 calendar days in advance.

1.7 ACCIDENT PREVENTION PLAN (APP)

A qualified person must prepare the written site-specific APP. Prepare the APP in accordance with the format and requirements of EM 385-1-1, Appendix A, and as supplemented herein. Cover all paragraph and subparagraph elements in EM 385-1-1, Appendix A. The APP must be job-specific and address any unusual or unique aspects of the project or activity for which it is written. The APP must interface with the Contractor's overall safety and health program referenced in the APP in the applicable APP element, and made site-specific. Describe the methods to evaluate past safety performance of potential subcontractors in the selection process. Also, describe innovative methods used to ensure and monitor safe work practices of subcontractors. The Government considers the Prime Contractor to be the "controlling authority" for all work site safety and health of the subcontractors. Contractors are responsible for informing their subcontractors of the safety provisions under the terms of the contract and the penalties for noncompliance, coordinating the work to prevent one craft from interfering with or creating hazardous working conditions for other crafts, and inspecting subcontractor operations to ensure that accident prevention responsibilities are being carried out. The APP must be signed by an officer of the firm (Prime Contractor senior person), the individual preparing the APP, the on-site superintendent, the designated SSHO, the Contractor Quality Control Manager, and any designated Certified Safety Professional (CSP) or Certified Health Physicist (CIH). The SSHO must provide and maintain the APP and a log of signatures by each subcontractor foreman, attesting that they have read and understand the APP, and make the APP and log available on-site to the Contracting Officer. If English is not the foreman's primary language, the Prime Contractor must provide an interpreter.

Submit the APP to the Contracting Officer 15 calendar days prior to the date of the preconstruction conference for acceptance. Work cannot proceed without an accepted APP. Once reviewed and accepted by the Contracting Officer, the APP and attachments will be enforced as part of the contract. Disregarding the provisions of this contract or the accepted APP is cause for stopping of work, at the discretion of the Contracting Officer, until the matter has been rectified. Continuously review and amend the APP, as necessary, throughout the life of the contract. Changes to the accepted APP must be made with the knowledge and concurrence of the Contracting Officer, project superintendent, SSHO and Quality Control Manager. Incorporate unusual or high-hazard activities not identified in the original APP as they are discovered. Should any severe hazard exposure (i.e. imminent danger) become evident, stop work in the area, secure the area, and develop a plan to remove the exposure and control the hazard. Notify the Contracting Officer within 24 hours of

discovery. Eliminate and remove the hazard. In the interim, take all necessary action to restore and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public (as defined by ASSE/SAFE A10.34), and the environment.

1.7.1 Names and Qualifications

Provide plans in accordance with the requirements outlined in Appendix A of EM 385-1-1, including the following:

a. Names and qualifications (resumes including education, training, experience and certifications) of site safety and health personnel designated to perform work on this project to include the designated Site Safety and Health Officer and other competent and qualified personnel to be used. Specify the duties of each position.

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

1.7.2 Plans

Provide plans in the APP in accordance with the requirements outlined in Appendix A of EM 385-1-1, including the following:

1.7.2.1 Confined Space Entry Plan

Develop a confined or enclosed space entry plan in accordance with EM 385-1-1, applicable OSHA standards 29 CFR 1910, 29 CFR 1915, and 29 CFR 1926, OSHA Directive CPL 2.100, and any other federal, state and local regulatory requirements identified in this contract. Identify the qualified person's name and qualifications, training, and experience. Delineate the qualified person's authority to direct work stoppage in the event of hazardous conditions. Include procedure for rescue by contractor personnel and the coordination with emergency responders. (If there is no confined space work, include a statement that no confined space work exists and none will be created.)

1.7.2.2 Standard Lift Plan (SLP)

Plan lifts to avoid situations where the operator cannot maintain safe control of the lift. Prepare a written SLP in accordance with EM 385-1-1, Section 16.A.03, using Form 16-2 for every lift or series of lifts (if duty cycle or routine lifts are being performed). The SLP must be developed, reviewed and accepted by all personnel involved in the lift in conjunction with the associated AHA. Signature on the AHA constitutes acceptance of the plan. Maintain the SLP on the LHE for the current lift(s) being made. Maintain historical SLPs for a minimum of 3 months.

1.7.2.3 Critical Lift Plan - Crane or Load Handling Equipment

Provide a Critical Lift Plan as required by EM 385-1-1, Section 16.H.01, using Form 16-3. Critical lifts require detailed planning and additional or unusual safety precautions. Develop and submit a critical lift plan to the Contracting Officer 30 calendar days prior to critical lift. Comply

with load testing requirements in accordance with EM 385-1-1, Section 16.F.03.

In addition to the requirements of EM 385-1-1, Section 16.H.02, the critical lift plan must include the following:

a. For lifts of personnel, demonstrate compliance with the requirements of 29 CFR 1926.1400 and EM 385-1-1, Section 16.T.

b. For barge mounted mobile cranes, provide a Naval Architecture Analysis and include an LHE Manufacturer's Floating Service Load Chart in accordance with the criteria from the selected standard in EM 385-1-1, Section 16.L.02. The Floating Service Load Chart must provide a table of rated load versus boom angle and radius. The Floating Service Load Chart must also provide the maximum allowable machine list and trim associated with the tabular loads and radii provided. If the Manufacturer's Floating Service Load Chart is not available, a floating service load chart may be developed and provided by a qualified Registered Professional Engineer (RPE), competent in the field of floating cranes. The Load Chart must be in accordance with the criteria from the selected standard in EM 385-1-1, Section 16.L; provide a table of rated load versus boom angle and radius; provide the maximum allowable machine list and machine trim associated with the tabular loads and radii provided; and be stamped by a RPE qualified and competent in the field of floating cranes. The RPE, competent in the field of floating cranes must stamp and certify (sign) that the Naval Architectural Analysis (NAA) meets the requirements of EM 385-1-1, Section 16.L.03.

c. Multi-purpose machines, material handling equipment, and construction equipment used to lift loads that are suspended by rigging gear, require proof of authorization from the machine OEM that the machine is capable of making lifts of loads suspended by rigging equipment. Demonstrate that the operator is properly trained and that the equipment is properly configured to make such lifts and is equipped with a load chart.

1.7.2.4 Fall Protection and Prevention (FP&P) Plan

The plan must comply with the requirements of EM 385-1-1, Section 21.D and ASSE/SAFE Z359.2, be site specific, and address all fall hazards in the work place and during different phases of construction. Address how to protect and prevent workers from falling to lower levels when they are exposed to fall hazards above 6 feet. A competent person or qualified person for fall protection must prepare and sign the plan documentation. Include fall protection and prevention systems, equipment and methods employed for every phase of work, roles and responsibilities, assisted rescue, self-rescue and evacuation procedures, training requirements, and monitoring methods. Review and revise, as necessary, the Fall Protection and Prevention Plan documentation as conditions change, but at a minimum every six months, for lengthy projects, reflecting any changes during the course of construction due to changes in personnel, equipment, systems or work habits. Keep and maintain the accepted Fall Protection and Prevention Plan documentation at the job site for the duration of the project. Include the Fall Protection and Prevention Plan documentation in the Accident Prevention Plan (APP).

1.7.2.5 Rescue and Evacuation Plan

Provide a Rescue and Evacuation Plan in accordance with EM 385-1-1 Section 21.N and ASSE/SAFE Z359.2, and include in the FP&P Plan and as part of the APP. Include a detailed discussion of the following: methods of rescue; methods of self-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility.

1.7.2.6 Hazardous Energy Control Program (HECP)

Develop a HECP in accordance with EM 385-1-1 Section 12, 29 CFR 1910.147, 29 CFR 1910.333, 29 CFR 1915.89, ASSE/SAFE Z244.1, and ASSE/SAFE A10.44. Submit this HECP as part of the Accident Prevention Plan (APP). Conduct a preparatory meeting and inspection with all effected personnel to coordinate all HECP activities. Document this meeting and inspection in accordance with EM 385-1-1, Section 12.A.02. Ensure that each employee is familiar with and complies with these procedures.

1.7.2.7 Excavation Plan

Identify the safety and health aspects of excavation, and provide and prepare the plan in accordance with EM 385-1-1.

1.8 ACTIVITY HAZARD ANALYSIS (AHA)

Before beginning each activity, task or Definable Feature of Work (DFOW) involving a type of work presenting hazards not experienced in previous project operations, or where a new work crew or subcontractor is to perform the work, the Contractor(s) performing that work activity must prepare an AHA. AHAs must be developed by the Prime Contractor, subcontractor, or supplier performing the work, and provided for Prime Contractor review and approval before submitting to the Contracting Officer. AHAs must be signed by the SSHO, Superintendent, QC Manager and the subcontractor Foreman performing the work. Format the AHA in accordance with EM 385-1-1, Section 1 or as directed by the Contracting Officer. Submit the AHA for review at least 15 working days prior to the start of each activity task, or DFOW. The Government reserves the right to require the Contractor to revise and resubmit the AHA if it fails to effectively identify the work sequences, specific anticipated hazards, site conditions, equipment, materials, personnel and the control measures to be implemented.

AHAs must identify competent persons required for phases involving high risk activities, including confined entry, crane and rigging, excavations, trenching, electrical work, fall protection, and scaffolding.

1.8.1 AHA Management

Review the AHA list periodically (at least monthly) at the Contractor supervisory safety meeting, and update as necessary when procedures, scheduling, or hazards change. Use the AHA during daily inspections by the SSHO to ensure the implementation and effectiveness of the required safety and health controls for that work activity.

1.8.2 AHA Signature Log

Each employee performing work as part of an activity, task or DFOW must review the AHA for that work and sign a signature log specifically

maintained for that AHA prior to starting work on that activity. The SSHO must maintain a signature log on site for every AHA. Provide employees whose primary language is other than English, with an interpreter to ensure a clear understanding of the AHA and its contents.

1.9 DISPLAY OF SAFETY INFORMATION

1.9.1 Safety Bulletin Board

Within one calendar day(s) after commencement of work, erect a safety bulletin board at the job site. Where size, duration, or logistics of project do not facilitate a bulletin board, an alternative method, acceptable to the Contracting Officer, that is accessible and includes all mandatory information for employee and visitor review, may be deemed as meeting the requirement for a bulletin board. Include and maintain information on safety bulletin board as required by EM 385-1-1, Section 01.A.07. Additional items required to be posted include:

a. Confined space entry permit.

b. Hot work permit.

1.9.2 Safety and Occupational Health (SOH) Deficiency Tracking System

Establish a SOH deficiency tracking system that lists and monitors the status of SOH deficiencies in chronological order. Use the tracking system to evaluate the effectiveness of the APP. A monthly evaluation of the data must be discussed in the QC or SOH meeting with everyone on the project. The list must be posted on the project bulletin board and updated daily, and provide the following information:

a. Date deficiency identified;

b. Description of deficiency;

c. Name of person responsible for correcting deficiency;

d. Projected resolution date;

e. Date actually resolved.

1.10 SITE SAFETY REFERENCE MATERIALS

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

1.11 EMERGENCY MEDICAL TREATMENT

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

1.12 NOTIFICATIONS and REPORTS

1.12.1 Mishap Notification

Notify the Contracting Officer as soon as practical, but no more than twenty-four hours, after any mishaps, including recordable accidents, incidents, and near misses, as defined in EM 385-1-1 Appendix Q, any

report of injury, illness, load handling equipment (LHE) or rigging mishaps, or any property damage. The Contractor is responsible for obtaining appropriate medical and emergency assistance and for notifying fire, law enforcement, and regulatory agencies. Immediate reporting is required for electrical mishaps, to include Arc Flash; shock; uncontrolled release of hazardous energy (includes electrical and non-electrical); load handling equipment or rigging; fall from height (any level other than same surface); and underwater diving. These mishaps must be investigated in depth to identify all causes and to recommend hazard control measures.

Within notification include Contractor name; contract title; type of contract; name of activity, installation or location where accident occurred; date and time of accident; names of personnel injured; extent of property damage, if any; extent of injury, if known, and brief description of accident (for example, type of construction equipment used and PPE used). Preserve the conditions and evidence on the accident site until the Government investigation team arrives on-site and Government investigation is conducted. Assist and cooperate fully with the Government's investigation(s) of any mishap.

1.12.2 Accident Reports

a. Conduct an accident investigation for recordable injuries and illnesses, property damage, and near misses as defined in EM 385-1-1, to establish the root cause(s) of the accident. Complete the applicable USACE Accident Report Form 3394, and provide the report to the Contracting Officer within 5 calendar day(s) of the accident. The Contracting Officer will provide copies of any required or special forms.

b. Near Misses: For Army projects, report all "Near Misses" to the GDA, using local mishap reporting procedures, within 24 hrs. The Contracting Officer will provide the Contractor the required forms. Near miss reports are considered positive and proactive Contractor safety management actions.

c. Conduct an accident investigation for any load handling equipment accident (including rigging gear accidents) to establish the root cause(s) of the accident. Complete the LHE Accident Report (Crane and Rigging Gear) form and provide the report to the Contracting Officer within 30 calendar days of the accident. Do not proceed with crane operations until cause is determined and corrective actions have been implemented to the satisfaction of the Contracting Officer. The Contracting Officer will provide a blank copy of the accident report form.

1.12.3 LHE Inspection Reports

Submit LHE inspection reports required in accordance with EM 385-1-1 and as specified herein with Daily Reports of Inspections.

1.12.4 Certificate of Compliance and Pre-lift Plan/Checklist for LHE and Rigging

Provide a FORM 16-1 Certificate of Compliance for LHE entering an activity under this contract and in accordance with EM 385-1-1. Post certifications on the crane.

Develop a Standard Lift Plan (SLP) in accordance with EM 385-1-1, Section

16.H.03 using Form 16-2 Standard Pre-Lift Crane Plan/Checklist for each lift planned. Submit SLP to the Contracting Officer for approval within 15 calendar days in advance of planned lift.

1.13 HOT WORK

1.13.1 Permit and Personnel Requirements

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

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

1.13.2 Work Around Flammable Materials

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

Whenever these materials, except beryllium and chromium (VI), are encountered in indoor operations, local mechanical exhaust ventilation systems that are sufficient to reduce and maintain personal exposures to within acceptable limits must be used and maintained in accordance with manufacturer's instruction and supplemented by exceptions noted in EM 385-1-1, Section 06.H

1.14 RADIATION SAFETY REQUIREMENTS

Submit License Certificates, employee training records, and Leak Test Reports for radiation materials and equipment to the Contracting Officer and Radiation Safety Office (RSO)for all specialized and licensed material and equipment proposed for use on the construction project (excludes portable machine sources of ionizing radiation including moisture density and X-Ray Fluorescence (XRF)). Maintain on-site records whenever licensed radiological materials or ionizing equipment are on government property.

Protect workers from radiation exposure in accordance with 10 CFR 20, ensuring any personnel exposures are maintained As Low As Reasonably Achievable.

1.14.1 Radiography Operation Planning Work Sheet

Submit a Gamma and X-Ray Radiography Operation Planning Work Sheet to Contracting Officer 14 days prior to commencement of operations involving radioactive materials or radiation generating devices. For portable

machine sources of ionizing radiation, including moisture density and XRF, use and submit the Portable Gauge Operations Planning Worksheet instead. The Contracting Officer will review the submitted worksheet and provide questions and comments.

Contractors must use primary dosimeters process by a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory.

1.14.2 Site Access and Security

Coordinate site access and security requirements with the Contracting Officer for all radiological materials and equipment containing ionizing radiation that are proposed for use on a government facility. For gamma radiography materials and equipment, a Government escort is required for any travels on the Installation. The Government authorized representative will meet the Contractor at a designated location outside the Installation, ensure safety of the materials being transported, and will escort the Contractor for gamma sources onto the Installation, to the job site, and off the Installation. For portable machine sources of ionizing radiation, including moisture density and XRF, the Government authorized representative will meet the Contractor at the job site.

Provide a copy of all calibration records, and utilization records for radiological operations performed on the site.

1.14.3 Loss or Release and Unplanned Personnel Exposure

Loss or release of radioactive materials, and unplanned personnel exposures must be reported immediately to the Contracting Officer, RSO, and Base Security Department Emergency Number.

1.14.4 Site Demarcation and Barricade

Properly demark and barricade an area surrounding radiological operations to preclude personnel entrance, in accordance with EM 385-1-1, Nuclear Regulatory Commission, and Applicable State regulations and license requirements, and in accordance with requirements established in the accepted Radiography Operation Planning Work Sheet.

Do not close or obstruct streets, walks, and other facilities occupied and used by the Government without written permission from the Contracting Officer.

1.14.5 Security of Material and Equipment

Properly secure the radiological material and ionizing radiation equipment at all times, including keeping the devices in a properly marked and locked container, and secondarily locking the container to a secure point in the Contractor's vehicle or other approved storage location during transportation and while not in use. While in use, maintain a continuous visual observation on the radiological material and ionizing radiation equipment. In instances where radiography is scheduled near or adjacent to buildings or areas having limited access or one-way doors, make no assumptions as to building occupancy. Where necessary, the Contracting Officer will direct the Contractor to conduct an actual building entry, search, and alert. Where removal of personnel from such a building cannot be accomplished and it is otherwise safe to proceed with the radiography, position a fully instructed employee inside the building or area to prevent exiting while external radiographic operations are in process.

1.14.6 Transportation of Material

Comply with 49 CFR 173 for Transportation of Regulated Amounts of Radioactive Material. Notify Local Fire authorities and the site Radiation Safety officer (RSO) of any Radioactive Material use.

1.14.7 Schedule for Exposure or Unshielding

Actual exposure of the radiographic film or unshielding the source must not be initiated until after 5 p.m. on weekdays.

1.14.8 Transmitter Requirements

Adhere to the base policy concerning the use of transmitters, such as radios and cell phones. Obey Emissions control (EMCON) restrictions.

1.15 CONFINED SPACE ENTRY REQUIREMENTS.

Confined space entry must comply with Section 34 of EM 385-1-1, OSHA 29 CFR 1926, OSHA 29 CFR 1910, OSHA 29 CFR 1910.146, and OSHA Directive CPL 2.100. Any potential for a hazard in the confined space requires a permit system to be used.

1.15.1 Entry Procedures

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

1.15.2 Forced Air Ventilation

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

1.15.3 Sewer Wet Wells

Sewer wet wells require continuous atmosphere monitoring with audible alarm for toxic gas detection.

1.15.4 Rescue Procedures and Coordination with Local Emergency Responders

Develop and implement an on-site rescue and recovery plan and procedures. The rescue plan must not rely on local emergency responders for rescue from a confined space.

1.16 SEVERE STORM PLAN

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

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

b. Check surrounding area, including roof, for loose material, equipment,

debris, and other objects that could be blown away or against existing facilities.

c. Ensure that temporary erosion controls are adequate.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 CONSTRUCTION AND OTHER WORK

Comply with EM 385-1-1, NFPA 70, NFPA 70E, NFPA 241, the APP, the AHA, Federal and State OSHA regulations, and other related submittals and activity fire and safety regulations. The most stringent standard prevails.

PPE is governed in all areas by the nature of the work the employee is performing. Use personal hearing protection at all times in designated noise hazardous areas or when performing noise hazardous tasks. Safety glasses must be worn or carried/available on each person. Mandatory PPE includes:

a. Hard Hat

b. Long Pants

c. Appropriate Safety Shoes

d. Appropriate Class Reflective Vests

3.1.1 Worksite Communication

Employees working alone in a remote location or away from other workers must be provided an effective means of emergency communications (i.e., cellular phone, two-way radios, land-line telephones or other acceptable means). The selected communication must be readily available (easily within the immediate reach) of the employee and must be tested prior to the start of work to verify that it effectively operates in the area/environment. An employee check-in/check-out communication procedure must be developed to ensure employee safety.

3.1.2 Hazardous Material Exclusions

Notwithstanding any other hazardous material used in this contract, radioactive materials or instruments capable of producing ionizing/non-ionizing radiation (with the exception of radioactive material and devices used in accordance with EM 385-1-1 such as nuclear density meters for compaction testing and laboratory equipment with radioactive sources) as well as materials which contain asbestos, mercury or polychlorinated biphenyls, di-isocyanates, lead-based paint, and hexavalent chromium, are prohibited. The Contracting Officer, upon written request by the Contractor, may consider exceptions to the use of any of the above excluded materials. Low mercury lamps used within fluorescent lighting fixtures are allowed as an exception without further Contracting Officer approval. Notify the Radiation Safety Officer (RSO) prior to excepted items of radioactive material and devices being brought on base.

3.1.3 Unforeseen Hazardous Material

Contract documents identify materials such as PCB, lead paint, and friable and non-friable asbestos and other OSHA regulated chemicals (i.e. 29 CFR Part 1910.1000). If material(s) that may be hazardous to human health upon disturbance are encountered during construction operations, stop that portion of work and notify the Contracting Officer immediately. Within 14 calendar days the Government will determine if the material is hazardous. If material is not hazardous or poses no danger, the Government will direct the Contractor to proceed without change. If material is hazardous and handling of the material is necessary to accomplish the work, the Government will issue a modification pursuant to FAR 52.243-4, "Changes" and FAR 52.236-2, "Differing Site Conditions."

3.2 PRE-OUTAGE COORDINATION MEETING

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

3.3 CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT)

Provide and operate a Hazardous Energy Control Program (HECP) in accordance with EM 385-1-1 Section 12, 29 CFR 1910.333, 29 CFR 1915.89, and paragraph HAZARDOUS ENERGY CONTROL PROGRAM (HECP).

3.4 FALL PROTECTION PROGRAM

Establish a fall protection program, for the protection of all employees exposed to fall hazards. Within the program include company policy, identify roles and responsibilities, education and training requirements, fall hazard identification, prevention and control measures, inspection, storage, care and maintenance of fall protection equipment and rescue and evacuation procedures in accordance with ASSE/SAFE Z359.2 and EM 385-1-1, Sections 21.A and 21.D.

3.4.1 Training

Institute a fall protection training program. As part of the Fall Protection Program, provide training for each employee who might be exposed to fall hazards. Provide training by a competent person for fall protection in accordance with EM 385-1-1, Section 21.C. Document training and practical application of the competent person in accordance with EM 385-1-1, Section 21.C.04 and ASSE/SAFE Z359.2 in the AHA.

3.4.1.1 **Fall Protection Trainers**

All fall protection trainers must meet or exceed the experience, knowledge, training, and education requirements for any category of person that they are training, in accordance with ANSI/ASSE Z359.2, Section 3, Paragraph 3.3. In addition, all Qualified/Competent Person trainers must

have at least 2 years of experience as a fall protection trainer and demonstrated experience supervising and managing fall protections programs in construction. These requirements are mandatory and in addition to other fall protection requirements in the contract. Examples of documents to be submitted are completion of Fall Protection Competent Person training course, Train the Trainer course (Construction or General Industry), OHSA 3110/3115 (Fall Protection) or an equivalent Fall Protection training course and resume showing at least 2 years of instructing a Competent Person Fall Protection training course. The Contractor shall submit documentation to the contracting officer/COR substantiating the qualifications of all fall protection trainers.

3.4.2 Fall Protection Equipment and Systems

Enforce use of personal fall protection equipment and systems designated (to include fall arrest, restraint, and positioning) for each specific work activity in the Site Specific Fall Protection and Prevention Plan and AHA at all times when an employee is exposed to a fall hazard. Protect employees from fall hazards as specified in EM 385-1-1, Section 21.

Provide personal fall protection equipment, systems, subsystems, and components that comply with EM 385-1-1 Section 21.I, 29 CFR 1926.500 Subpart M,ASSE/SAFE Z359.0, ASSE/SAFE Z359.1, ASSE/SAFE Z359.2, ASSE/SAFE Z359.3, ASSE/SAFE Z359.4, ASSE/SAFE Z359.6, ASSE/SAFE Z359.7, ASSE/SAFE Z359.11, ASSE/SAFE Z359.12, ASSE/SAFE Z359.13, ASSE/SAFE Z359.14, and ASSE/SAFE Z359.15.

3.4.2.1 Additional Personal Fall Protection

In addition to the required fall protection systems, other protection such as safety skiffs, personal floatation devices, and life rings, are required when working above or next to water in accordance with EM 385-1-1, Sections 21.O through 21.O.06. Personal fall protection systems and equipment are required when working from an articulating or extendible boom, swing stages, or suspended platform. In addition, personal fall protection systems are required when operating other equipment such as scissor lifts. The need for tying-off in such equipment is to prevent ejection of the employee from the equipment during raising, lowering, travel, or while performing work.

3.4.2.2 Personal Fall Protection Harnesses

Only a full-body harness with a shock-absorbing lanyard or self-retracting lanyard is an acceptable personal fall arrest body support device. The use of body belts is not acceptable. Harnesses must have a fall arrest attachment affixed to the body support (usually a Dorsal D-ring) and specifically designated for attachment to the rest of the system. Snap hooks and carabiners must be self-closing and self-locking, capable of being opened only by at least two consecutive deliberate actions and have a minimum gate strength of 3,600 lbs in all directions. Use webbing, straps, and ropes made of synthetic fiber. The maximum free fall distance when using fall arrest equipment must not exceed 6 feet, unless the proper energy absorbing lanyard is used. Always take into consideration the total fall distance and any swinging of the worker (pendulum-like motion), that can occur during a fall, when attaching a person to a fall arrest system. All full body harnesses must be equipped with Suspension Trauma Preventers such as stirrups, relief steps, or similar in order to provide short-term relief from the effects of orthostatic intolerance in accordance with EM 385-1-1, Section 21.I.06.

3.4.3 Fall Protection for Roofing Work

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

a. Low Sloped Roofs:

(1) For work within 6 feet of an edge, on a roof having a slope less than or equal to 4:12 (vertical to horizontal), protect personnel from falling by use of personal fall arrest/restraint systems, guardrails, or safety nets. A safety monitoring system is not adequate fall protection and is not authorized. Provide in accordance with 29 CFR 1926.500.

(2) For work greater than 6 feet from an edge, erect and install warning lines in accordance with 29 CFR 1926.500 and EM 385-1-1, Section L.

b. Steep-Sloped Roofs: Work on a roof having a slope greater than 4:1 (vertical to horizontal) requires a personal fall arrest system, guardrails with toe-boards, or safety nets. This requirement also applies to residential or housing type construction.

3.4.4 Horizontal Lifelines (HLL)

Provide HLL in accordance with EM 385-1-1, Section 21.I.08.d.2. Commercially manufactured horizontal lifelines (HLL) must be designed, installed, certified and used, under the supervision of a qualified person, for fall protection as part of a complete fall arrest system which maintains a safety factor of 2 (29 CFR 1926.500). The competent person for fall protection may (if deemed appropriate by the qualified person) supervise the assembly, disassembly, use and inspection of the HLL system under the direction of the qualified person. Locally manufactured HLLs are not acceptable unless they are custom designed for limited or site specific applications by a Registered Professional Engineer who is qualified in designing HLL systems.

3.4.5 Guardrails and Safety Nets

Design, install and use guardrails and safety nets in accordance with EM 385-1-1, Section 21.F.01 and 29 CFR 1926 Subpart M.

3.4.6 Rescue and Evacuation Plan and Procedures

When personal fall arrest systems are used, ensure that the mishap victim can self-rescue or can be rescued promptly should a fall occur. Prepare a Rescue and Evacuation Plan and include a detailed discussion of the following: methods of rescue; methods of self-rescue or assisted-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility. Include the Rescue and Evacuation Plan within the Activity Hazard Analysis (AHA) for the phase of work, in the Fall Protection and Prevention (FP&P) Plan, and the Accident Prevention Plan (APP). The plan must comply with the requirements of EM 385-1-1, ASSE/SAFE Z359.2, and ASSE/SAFE Z359.4.

3.5 WORK PLATFORMS

3.5.1 Scaffolding

Provide employees with a safe means of access to the work area on the scaffold. Climbing of any scaffold braces or supports not specifically designed for access is prohibited. Comply with the following requirements:

a. Scaffold platforms greater than 20 feet in height must be accessed by use of a scaffold stair system.

b. Ladders commonly provided by scaffold system manufacturers are prohibited for accessing scaffold platforms greater than 20 feet maximum in height.

c. An adequate gate is required.

d. Employees performing scaffold erection and dismantling must be qualified.

e. Scaffold must be capable of supporting at least four times the maximum intended load or without appropriate fall protection as delineated in the accepted fall protection and prevention plan.

f. Stationary scaffolds must be attached to structural building components to safeguard against tipping forward or backward.

g. Special care must be given to ensure scaffold systems are not overloaded.

h. Side brackets used to extend scaffold platforms on self-supported scaffold systems for the storage of material are prohibited. The first tie-in must be at the height equal to 4 times the width of the smallest dimension of the scaffold base.

i. Scaffolding other than suspended types must bear on base plates upon wood mudsills (2 in x 10 in x 8 in minimum) or other adequate firm foundation.

j. Scaffold or work platform erectors must have fall protection during the erection and dismantling of scaffolding or work platforms that are more than 6 feet.

k. Delineate fall protection requirements when working above 6 feet or above dangerous operations in the Fall Protection and Prevention (FP&P) Plan and Activity Hazard Analysis (AHA) for the phase of work.

3.5.2 Elevated Aerial Work Platforms (AWPs)

Workers must be anchored to the basket or bucket in accordance with manufacturer's specifications and instructions (anchoring to the boom may only be used when allowed by the manufacturer and permitted by the CP). Lanyards used must be sufficiently short to prohibit worker from climbing out of basket. The climbing of rails is prohibited. Lanyards with built-in shock absorbers are acceptable. Self-retracting devices are not acceptable. Tying off to an adjacent pole or structure is not permitted unless a safe device for 100 percent tie-off is used for the transfer.

Use of AWPs must be operated, inspected, and maintained as specified in

the operating manual for the equipment and delineated in the AHA. Operators of AWPs must be designated as qualified operators by the Prime Contractor. Maintain proof of qualifications on site for review and include in the AHA.

3.6 EQUIPMENT

3.6.1 Material Handling Equipment (MHE)

a. Material handling equipment such as forklifts must not be modified with work platform attachments for supporting employees unless specifically delineated in the manufacturer's printed operating instructions. Material handling equipment fitted with personnel work platform attachments are prohibited from traveling or positioning while personnel are working on the platform.

b. The use of hooks on equipment for lifting of material must be in accordance with manufacturer's printed instructions. Material Handling Equipment Operators must be trained in accordance with OSHA 29 CFR 1910, Subpart N.

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

3.6.2 Load Handling Equipment (LHE)

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

b. Notify the Contracting Officer 15 working days in advance of any LHE entering the activity, in accordance with EM 385-1-1, Section 16.A.02, so that necessary quality assurance spot checks can be coordinated.Contractor's operator must remain with the crane during the spot check. Rigging gear must comply with OSHA, ASME B30.9 Standards safety standards.

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

d. Comply with ASME B30.5 for mobile and locomotive cranes, ASME B30.22 for articulating boom cranes, ASME B30.3 for construction tower cranes, ASME B30.8 for floating cranes and floating derricks, ASME B30.9 for slings, ASME B30.20 for below the hook lifting devices and ASME B30.26 for rigging hardware.

e. Under no circumstance must a Contractor make a lift at or above 90 percent of the cranes rated capacity in any configuration.

f. When operating in the vicinity of overhead transmission lines, operators and riggers must be alert to this special hazard and follow the requirements of EM 385-1-1 Section 11, and ASME B30.5 or ASME B30.22 as applicable.

g. Do not use crane suspended personnel work platforms (baskets) unless the Contractor proves that using any other access to the work location would provide a greater hazard to the workers or is impossible. Do not lift personnel with a line hoist or friction crane. Additionally,

submit a specific AHA for this work to the Contracting Officer. Ensure the activity and AHA are thoroughly reviewed by all involved personnel.

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

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

j. Use cribbing when performing lifts on outriggers.

k. The crane hook/block must be positioned directly over the load. Side loading of the crane is prohibited.

l. A physical barricade must be positioned to prevent personnel access where accessible areas of the LHE's rotating superstructure poses a risk of striking, pinching or crushing personnel.

m. Maintain inspection records in accordance by EM 385-1-1, Section 16.D, including shift, monthly, and annual inspections, the signature of the person performing the inspection, and the serial number or other identifier of the LHE that was inspected. Records must be available for review by the Contracting Officer.

n. Maintain written reports of operational and load testing in accordance with EM 385-1-1, Section 16.F, listing the load test procedures used along with any repairs or alterations performed on the LHE. Reports must be available for review by the Contracting Officer.

o. Certify that all LHE operators have been trained in proper use of all safety devices (e.g. anti-two block devices).

p. Take steps to ensure that wind speed does not contribute to loss of control of the load during lifting operations. At wind speeds greater than 20 mph, the operator, rigger and lift supervisor must cease all crane operations, evaluate conditions and determine if the lift may proceed. Base the determination to proceed or not on wind calculations per the manufacturer and a reduction in LHE rated capacity if applicable. Include this maximum wind speed determination as part of the activity hazard analysis plan for that operation.

3.6.3 Machinery and Mechanized Equipment

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

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

3.6.4 USE OF EXPLOSIVES

Explosives must not be used or brought to the project site without prior written approval from the Contracting Officer. Such approval does not relieve the Contractor of responsibility for injury to persons or for damage to property due to blasting operations.

Storage of explosives, when permitted on Government property, must be only where directed and in approved storage facilities. These facilities must be kept locked at all times except for inspection, delivery, and withdrawal of explosives.

3.7 EXCAVATIONS

Soil classification must be performed by a competent person in accordance with 29 CFR 1926 and EM 385-1-1.

3.7.1 Utility Locations

Provide a third party, independent, private utility locating company to positively identify underground utilities in the work area in addition to any station locating service and coordinated with the station utility department.

3.7.2 Utility Location Verification

Physically verify underground utility locations, including utility depth, by hand digging using wood or fiberglass handled tools when any adjacent construction work is expected to come within 3 feet of the underground system.

3.7.3 Utilities Within and Under Concrete, Bituminous Asphalt, and Other Impervious Surfaces

Utilities located within and under concrete slabs or pier structures, bridges, parking areas, and the like, are extremely difficult to identify. Whenever contract work involves chipping, saw cutting, or core drilling through concrete, bituminous asphalt or other impervious surfaces, the existing utility location must be coordinated with station utility departments in addition to location and depth verification by a third party, independent, private locating company. The third party, independent, private locating company must locate utility depth by use of Ground Penetrating Radar (GPR), X-ray, bore scope, or ultrasound prior to the start of demolition and construction. Outages to isolate utility systems must be used in circumstances where utilities are unable to be positively identified. The use of historical drawings does not alleviate the Contractor from meeting this requirement.

3.8 ELECTRICAL

Perform electrical work in accordance with EM 385-1-1, Appendix A, Sections 11 and 12.

3.8.1 Conduct of Electrical Work

As delineated in EM 385-1-1, electrical work is to be conducted in a de-energized state unless there is no alternative method for accomplishing the work. In those cases obtain an energized work permit from the Contracting Officer. The energized work permit application must be accompanied by the AHA and a summary of why the equipment/circuit needs to be worked energized. Underground electrical spaces must be certified safe for entry before entering to conduct work. Cables that will be cut must be positively identified and de-energized prior to performing each cut. Attach temporary grounds in accordance with ASTM F855 and IEEE 1048. Perform all high voltage cable cutting remotely using hydraulic cutting

tool. When racking in or live switching of circuit breakers, no additional person other than the switch operator is allowed in the space during the actual operation. Plan so that work near energized parts is minimized to the fullest extent possible. Use of electrical outages clear of any energized electrical sources is the preferred method.

When working in energized substations, only qualified electrical workers are permitted to enter. When work requires work near energized circuits as defined by NFPA 70, high voltage personnel must use personal protective equipment that includes, as a minimum, electrical hard hat, safety shoes, insulating gloves and electrical arc flash protection for personnel as required by NFPA 70E. Insulating blankets, hearing protection, and switching suits may also be required, depending on the specific job and as delineated in the Contractor's AHA. Ensure that each employee is familiar with and complies with these procedures and 29 CFR 1910.147.

3.8.2 Qualifications

Electrical work must be performed by QP personnel with verifiable credentials who are familiar with applicable code requirements. Verifiable credentials consist of State, National and Local Certifications or Licenses that a Master or Journeyman Electrician may hold, depending on work being performed, and must be identified in the appropriate AHA. Journeyman/Apprentice ratio must be in accordance with State, Local requirements applicable to where work is being performed.

3.8.3 Arc Flash

Conduct a hazard analysis/arc flash hazard analysis whenever work on or near energized parts greater than 50 volts is necessary, in accordance with NFPA 70E.

All personnel entering the identified arc flash protection boundary must be QPs and properly trained in NFPA 70E requirements and procedures. Unless permitted by NFPA 70E, no Unqualified Person is permitted to approach nearer than the Limited Approach Boundary of energized conductors and circuit parts. Training must be administered by an electrically qualified source and documented.

3.8.4 Grounding

Ground electrical circuits, equipment and enclosures in accordance with NFPA 70 and IEEE C2 to provide a permanent, continuous and effective path to ground unless otherwise noted by EM 385-1-1.

Check grounding circuits to ensure that the circuit between the ground and a grounded power conductor has a resistance low enough to permit sufficient current flow to allow the fuse or circuit breaker to interrupt the current.

3.8.5 Testing

Temporary electrical distribution systems and devices must be inspected,

tested and found acceptable for Ground-Fault Circuit Interrupter (GFCI) protection, polarity, ground continuity, and ground resistance before initial use, before use after modification and at least monthly. Monthly inspections and tests must be maintained for each temporary electrical distribution system, and signed by the electrical CP or QP.

-- End of Section --

SECTION 01 42 00

SOURCES FOR REFERENCE PUBLICATIONS

PART 1 GENERAL

1.1 REFERENCES

Various publications are referenced in other sections of the specifications to establish requirements for the work. These references are identified in each section by document number, date and title. The document number used in the citation is the number assigned by the standards producing organization (e.g. ASTM B564 Standard Specification for Nickel Alloy Forgings). However, when the standards producing organization has not assigned a number to a document, an identifying number has been assigned for reference purposes.

1.2 ORDERING INFORMATION

The addresses of the standards publishing organizations whose documents are referenced in other sections of these specifications are listed below, and if the source of the publications is different from the address of the sponsoring organization, that information is also provided.

AACE INTERNATIONAL (AACE)
1265 Suncrest Towne Centre Drive
Morgantown, WV 26505-1876 USA
Ph: 304-296-8444
Fax: 304-291-5728
E-mail: info@aacei.org
Internet: http://www.aacei.org

AMERICAN SOCIETY OF SAFETY ENGINEERS (ASSE/SAFE)
1800 East Oakton Street
Des Plaines, IL 60018
Ph: 847-699-2929
Internet: http://www.asse.org

ASME INTERNATIONAL (ASME)
Two Park Avenue, M/S 10E
New York, NY 10016-5990
Ph: 800-843-2763
Fax: 973-882-1717
E-mail: customercare@asme.org
Internet: http://www.asme.org

ASTM INTERNATIONAL (ASTM)
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959
Ph: 877-909-2786
Internet: http://www.astm.org

BUILDERS HARDWARE MANUFACTURERS ASSOCIATION (BHMA)
355 Lexington Avenue, 15th Floor
New York, NY 10017
Ph: 212-297-2122

Fax: 212-370-9047
Internet: http://www.buildershardware.com

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)
445 and 501 Hoes Lane
Piscataway, NJ 08854-4141
Ph: 732-981-0060 or 800-701-4333
Fax: 732-562-9667
E-mail: onlinesupport@ieee.org
Internet: http://www.ieee.org

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)
1, ch. de la Voie-Creuse
Case Postale 56
CP 56 - CH-1211 Geneva 20
Switzerland
Ph: 41-22-749-01-11
Fax: 41-22-733-34-30
E-mail: central@iso.ch
Internet: http://www.iso.org

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
1 Batterymarch Park
Quincy, MA 02169-7471
Ph: 617-770-3000
Fax: 617-770-0700
Internet: http://www.nfpa.org

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA)
1320 N. Courthouse Rd., Suite 200
Arlington, VA 22201
Ph: 703-907-7700
Fax: 703-907-7727
Internet: http://www.tiaonline.org

U.S. ARMY CORPS OF ENGINEERS (USACE)
CRD-C DOCUMENTS available on Internet:
http://www.wbdg.org/ccb/browse_cat.php?c=68
Order Other Documents from:
USACE Publications Depot
Attn: CEHEC-IM-PD
2803 52nd Avenue
Hyattsville, MD 20781-1102
Ph: 301-394-0081
Fax: 301-394-0084
E-mail: pubs-army@usace.army.mil
Internet: http://www.publications.usace.army.mil/
or
http://www.hnc.usace.army.mil/Missions/Engineering/TECHINFO.aspx

U.S. DEPARTMENT OF DEFENSE (DOD)
Order DOD Documents from:
Room 3A750-The Pentagon
1400 Defense Pentagon
Washington, DC 20301-1400
Ph: 703-571-3343
FAX: 215-697-1462

E-mail: customerservice@ntis.gov
Internet: http://www.ntis.gov
Obtain Military Specifications, Standards and Related Publications from:
Acquisition Streamlining and Standardization Information System (ASSIST)
Department of Defense Single Stock Point (DODSSP)
Document Automation and Production Service (DAPS)
Building 4/D
700 Robbins Avenue
Philadelphia, PA 19111-5094
Ph: 215-697-6396 - for account/password issues
Internet: http://assist.daps.dla.mil/online/start/; account registration required
Obtain Unified Facilities Criteria (UFC) from:
Whole Building Design Guide (WBDG)
National Institute of Building Sciences (NIBS)
1090 Vermont Avenue NW, Suite 700
Washington, CD 20005
Ph: 202-289-7800
Fax: 202-289-1092
Internet: http://www.wbdg.org/references/docs_refs.php

U.S. FEDERAL AVIATION ADMINISTRATION (FAA)
Order for sale documents from:
Superintendent of Documents
U.S. Government Printing Office (GPO)
710 North Capitol Street, NW
Washington, DC 20401
Ph: 202-512-1800
Fax: 202-512-2104
E-mail: contactcenter@gpo.gov
Internet: http://www.gpoaccess.gov
Order free documents from:
Federal Aviation Administration
Department of Transportation
800 Independence Avenue, SW
Washington, DC 20591
Ph: 1-866-835-5322
Internet: http://www.faa.gov

U.S. FEDERAL HIGHWAY ADMINISTRATION (FHWA)
FHWA, Office of Safety
1200 New Jersey Ave., SE
Washington, DC 20590
Ph: 202-366-4000
Internet: http://www.fhwa.dot.gov
Order from:
Superintendent of Documents
U. S. Government Printing Office (GPO)
710 North Capitol Street, NW
Washington, DC 20401
Ph: 202-512-1800
Fax: 202-512-2104
E-mail: contactcenter@gpo.gov
Internet: http://www.gpoaccess.gov

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)
8601 Adelphi Road

College Park, MD 20740-6001
Ph: 866-272-6272
Fax: 301-837-0483
Internet: http://www.archives.gov
Order documents from:
Superintendent of Documents
U.S.Government Printing Office (GPO)
710 North Capitol Street, NW
Washington, DC 20401
Ph: 202-512-1800
Fax: 202-512-2104
E-mail: contactcenter@gpo.gov
Internet: http://www.gpoaccess.gov

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

-- End of Section --

SECTION 01 45 00.00 10

QUALITY CONTROL

PART 1 GENERAL

1.1 REFERENCES

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

ASTM INTERNATIONAL (ASTM)

ASTM D3740	(2012a) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
ASTM E329	(2014a) Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction

U.S. ARMY CORPS OF ENGINEERS (USACE)

ER 1110-1-12	(2006; Change 1) 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 CLIN Schedule item.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. 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, DO

SD-05 Design Data

Discipline-Specific Checklists

SD-06 Test Reports

Verification Statement

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Establish and maintain an effective quality control (QC) system that complies with the Contract Clause titled "Inspection of Construction." QC consist of plans, procedures, and organization necessary to produce an end product which complies with the contract requirements. The QC system covers all design and construction operations, both onsite and offsite, and be keyed to the proposed design and construction sequence. The project superintendent will be held responsible for the quality of work and is subject to removal by the Contracting Officer for non-compliance with the quality requirements specified in the contract. In this context the highest level manager responsible for the overall construction activities at the site, including quality and production is the project superintendent. The project superintendent maintains a physical presence at the site at all times and is responsible for all construction and related activities at the site, except as otherwise acceptable to the Contracting Officer.

3.1.1 Construction Project Superintendent

a. Construction Project Superintendent shall have a recognized four-year or higher college degree in architecture, engineering, or construction management and 4 years experience as a project superintendent, or have at least 10 years construction experience in which 5 years were experience as a project superintendent.

3.2 CONTRACTOR QUALITY CONTROL (CQC) PLAN

Submit no later than 10 days after receipt of notice to proceed, the Contractor Quality Control (CQC) Plan proposed to implement the requirements of the Contract Clause titled "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 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.

3.2.1 Content of the CQC Plan

Include, as a minimum, the following to cover all design and construction operations, both onsite and offsite, including subcontractors designers of record, consultants, architect/engineers (AE), fabricators, suppliers and purchasing agents:

a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff will implement the three phase control system for all aspects of the work specified. Include a CQC System Manager that reports to the a senior project (or corporate) official.

b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.

c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the contract. Letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities will be issued by the CQC System Manager. Furnish copies of these letters to the Contracting Officer.

d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, designers of record, consultants, architect engineers (AE), offsite fabricators, suppliers, and purchasing agents, . These procedures must be in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.

e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities approved by the Contracting Officer are required to be used.)

f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.

g. Procedures for tracking design and construction deficiencies from identification through acceptable corrective action. Establish verification procedures that identified deficiencies have been corrected.

h. Reporting procedures, including proposed reporting formats.

i. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks, has separate control requirements, and is identified by different trades or disciplines, or it is work by the same trade in a different environment. 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. This list will be agreed upon during the coordination meeting.

3.2.2 Additional Requirements for Design Quality Control (DQC) Plan

The following additional requirements apply to the Design Quality Control (DQC) plan:

a. Submit and maintain a Design Quality Control (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 (ITR). 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. This should be at a detailed level of scheduling sufficient to identify all major design tasks, including those that control the flow of work. Include review and correction periods associated with each item. This should be a forward planning as well as a project monitoring tool. The schedule reflects calendar days and not dates for each activity. If the schedule is changed, submit a revised schedule reflecting the change within 7 calendar days. 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 1110-1-12 provides some useful information in developing checklists.

c. 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. This individual must be a person who has verifiable engineering or architectural design experience and is a registered professional engineer or architect. Notify the Contracting Officer, in writing, of the name of the individual, and the name of an alternate person assigned to the position.

The Contracting Officer will notify the Contractor in writing of the acceptance of the DQC Plan. After acceptance, any changes proposed by the Contractor are subject to the acceptance of the Contracting Officer.

3.2.3 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of cons design and construction. Acceptance is conditional and will be predicated on satisfactory performance during the design andconstruction. The Government reserves the right to require the Contractor to make changes in the Constractor Quality Control(CQC) Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.4 Notification of Changes

After acceptance of the CQC Plan, notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

3.3 COORDINATION MEETING

After the Postaward 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. Submit the CQC Plan a minimum of 14 calendar days prior to the Coordination Meeting. 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 Government, signed by both the Contractor and the Contracting Officer and will become a part of the contract file. There can be

occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures which can require corrective action by the Contractor.

3.4 QUALITY CONTROL ORGANIZATION

3.4.1 Personnel Requirements

The requirements for the CQC organization are a Safety and Health Manager, CQC System Manager, a Design Quality Manager, a Submittals Clerk, and sufficient number of additional qualified personnel to ensure safety and contract compliance. The submittals clerk shall have a year of experience, and shall be a full time employee with no other duties. The Safety and Health Manager reports directly to a senior project (or corporate) official independent from the CQC System Manager. The Safety and Health Manager 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 will also be included as part of the CQC organization. The Contractor's CQC staff maintains a presence at the site at all times during progress of the work and have complete authority and responsibility to take any action necessary to ensure contract compliance. 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 to maintain these documents and records at the site at all times, except as otherwise acceptable to the Contracting Officer.

3.4.2 CQC System Manager

Identify as CQC System Manager an individual within the onsite work organization who is responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. The CQC System Manager must be a graduate engineer, graduate architect, or a graduate of construction management, with a minimum of five years construction quality control experience on construction similar to this contract, or a person with a minimum of ten years construction experience, of which a minimum of five years experience must be in construction quality control on construction similar to this contract. This CQC System Manager must be on the site at all times during construction and be employed by the prime Contractor. The CQC System Manager must be assigned no other duties . Identify in the plan an alternate to serve in the event of the CQC System Manager's absence. The requirements for the alternate are the same as the CQC System Manager.

3.4.3 Additional Requirement

In addition to the above experience and/or education requirements the CQC System Manager must have completed the course entitled "Construction Quality Management For Contractors". This course is periodically offered at various locations within the Corps of Engineers Fort Worth District geographical area. For locations and schedules of training courses, please connect to the following link:

http://www.swf.usace.army.mil/BusinessWithUs/ConstructionQualityManagementTraining.asp

Registration is required; call the Contracting Officer's Representative for times and reservations. There is no charge for the course; however the Contractor will pay for travel and per diem costs.

3.4.4 Organizational Changes

Maintain the CQC staff at full strength at all times. When it is necessary to make changes to the CQC staff, revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

3.5 SUBMITTALS AND DELIVERABLES

Submittals, if needed, have to comply with the requirements in Section 01 33 00SUBMITTAL PROCEDURES. The CQC organization is responsible for certifying that all submittals and deliverables are in compliance with the contract requirements.

3.6 CONTROL

Contractor Quality Control (CQC)is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least three phases of control are required to be conducted by the CQC System Manager for each definable feature of the construction work as follows:

3.6.1 Preparatory Phase

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. This phase includes:

a. A review of each paragraph of applicable specifications, 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 of the contract drawings.

c. Check to assure that all materials and/or equipment have been tested, submitted, and approved.

d. Review of provisions that have been made to provide required control inspection and testing.

e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.

f. Examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.

g. Review of the appropriate activity hazard analysis to assure safety requirements are met.

h. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.

i. Check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.

j. Discussion of the initial control phase.

k. The Government need to be notified at least 72 hours in advance of beginning the preparatory control phase. Include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. Document the results of the preparatory phase actions by separate minutes prepared by the CQC System Manager and attach to the daily CQC report. Instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

3.6.2 Initial Phase

This phase is accomplished at the beginning of a definable feature of work. Accomplish the following:

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 are in conpliance with the contract.

c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as appropriate.

d. Resolve all differences.

e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.

f. The Government need to be notified at least 24 hours in advance of beginning the initial phase for definable feature of work. Prepare separate minutes of this phase by the CQC System Manager and attach to the daily CQC report. Indicate the exact location of initial phase for definable feature of work for future reference and comparison with follow-up phases.

g. The initial phase for each definable feature of work is repeated for each new crew to work onsite, or any time acceptable specified quality standards are not being met.

3.6.3 Follow-up Phase

Perform daily checks to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. Record the checks in the CQC documentation. 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. Do not build upon nor conceal non-conforming work.

3.6.4 Additional Preparatory and Initial Phases

Conduct additional preparatory and initial phases on the same definable features of work if: the quality of on-going work is unacceptable; if there are changes in the applicable CQC staff, onsite production supervision or work crew; if work on a definable feature is resumed after a substantial period of inactivity; or if other problems develop.

3.7 TESTS

3.7.1 Testing Procedure

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/or acceptance tests when specified. Procure the services of a Corps of Engineers approved testing laboratory or establish an approved testing laboratory at the project site. Perform the following activities and record and provide the following data:

a. Verify that testing procedures comply with contract requirements.

b. Verify that facilities and testing equipment are available and comply with testing standards.

c. Check test instrument calibration data against certified standards.

d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.

e. 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.

3.7.2 Testing Laboratories

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: http://www.erdc.usace.army.mil/Media/Fact-Sheets/Fact-Sheet-Article-View/Article/47666

3.7.2.1 Capability Check

The Government reserves the right to check laboratory equipment in the proposed laboratory for compliance with the standards set forth in the contract specifications and to check the laboratory technician's testing procedures and techniques. Laboratories utilized for testing soils, concrete, asphalt, and steel is required to meet criteria detailed in ASTM D3740 and ASTM E329.

3.7.2.2 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed a charge of $2,000 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.

3.7.3 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.

3.7.4 Furnishing or Transportation of Samples for Testing

Costs incidental to the transportation of samples or materials will be borne by the Contractor. Samples of materials for test verification and acceptance testing by the Government must be delivered to the Government-contract laboratory designated by the Area Office.

Coordination for each specific test, exact delivery location, and dates will be made through the Area Office.

3.8 COMPLETION INSPECTION

3.8.1 Punch-Out Inspection

Conduct an inspection of the work by the CQC System Manager and the CQC staff near the end of the work, or any increment of the work established by a time stated in the Contract SPECIAL CONTRACT REQUIREMENTS Clause, "Commencement, Prosecution, and Completion of Work", or by the specifications. Prepare and include in the CQC documentation a punch list of items which do not conform to the approved drawings and specifications, as required by paragraph DOCUMENTATION. Include within the list of deficiencies the estimated date by which the deficiencies will be corrected. Make a second inspection the CQC System Manager or staff to ascertain that all deficiencies have been corrected. Once this is accomplished, notify the Government that the facility is ready for the Government Pre-Final inspection.

3.8.2 Pre-Final Inspection

The Government will perform the pre-final inspection to verify that the facility is complete and ready to be occupied. A Government Pre-Final Punch List may be developed as a result of this inspection. Ensure that all items on this list have been corrected before notifying the Government, so that a Final inspection with the customer can be scheduled. Correct any items noted on the Pre-Final inspection in a timely manner. These inspections and any deficiency corrections required by this paragraph need to be accomplished within the time slated for completion of the entire work or any particular increment of the work if the project is divided into increments by separate completion dates.

3.8.3 Final Acceptance Inspection

The Contractor's Quality Control Inspection personnel, plus the

superintendent or other primary management person, and the Contracting Officer's Representativeis required to be in attendance at the final acceptance inspection. Additional Government personnel including, but not limited to, those from Base/Post Civil Facility Engineer user groups, and major commands can also be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the Pre-Final inspection. Notify the Contracting Officer at least 14 days prior to the final acceptance inspection and include the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the contract, will be complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with the contract clause titled "Inspection of Construction".

3.9 DOCUMENTATION

Maintain current records providing factual evidence that required quality control activities and/or 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 Contractor/Subcontractor.

b. Operating plant/equipment with hours worked, idle, or down for repair.

c. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.

d. Test and/or control activities performed with results and references to specifications/drawings requirements. Identify the control phase (Preparatory, Initial, Follow-up). List of deficiencies noted, along with corrective action.

e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.

f. Submittals and deliverables reviewed, with contract reference, by whom, and action taken.

g. Offsite surveillance activities, including actions taken.

h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.

i. Instructions given/received and conflicts in plans and/or specifications.

j. Provide documentation of design quality control activities. For independent design reviews, provide, as a minimum, identification of the Independent Technical Review (ITR) team, the ITR review comments, responses and the record of resolution of the comments.

k. 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 daily within 24 hours after the date covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, 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 Contractor Quality Control(CQC) System Manager. Include copies of test reports and copies of reports prepared by all subordinate quality control personnel within the CQC System Manager Report.

3.10 SAMPLE FORMS

Quality control forms such as the daily construction quality control report and the required preparatory and initial inspection documentation are included in the RMS software.

3.11 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. Take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, will be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer can 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 claim for extension of time or for excess costs or damages by the Contractor.

-- End of Section --

SECTION 01 45 00.15 10

RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE (RMS CM)

PART 1 GENERAL

1.1 REFERENCES

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

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety and Health Requirements Manual

1.2 Contract Administration

The Government will use the Resident Management System (RMS) to assist in its monitoring and administration of this contract. The Contractor uses the Government-furnished Construction Contractor Mode of RMS, referred to as RMS CM, to record, maintain, and submit various information throughout the contract period. The Contractor mode user manuals, updates, and training information can be downloaded from the RMS web site (http://rms.usace.army.mil). The joint Government-Contractor use of RMS facilitates electronic exchange of information and overall management of the contract. RMS provides the means for the Contractor to input, track, and electronically share information with the Government in the following areas:

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

1.2.1 Correspondence and Electronic Communications

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

1.2.2 Other Factors

Particular attention is directed to Contract Clause, "Schedules for Construction Contracts", Contract Clause, "Payments", Section 01 32 01.00 10PROJECT SCHEDULE, Section 01 33 00 SUBMITTAL PROCEDURES, and Section 01 45 00.00 10 QUALITY CONTROL, which have a direct relationship to the reporting to be accomplished through RMS. Also, there is no separate payment for establishing and maintaining the RMS database; costs associated will be included in the contract pricing for the work.

1.3 RMS SOFTWARE

RMS is a Windows-based program that can be run on a Windows based PC meeting the requirements as specified in Section 1.3. The Government will make available the RMS software to the Contractor after award of the construction contract. Prior to the Pre-Construction Conference, the Contractor will be responsible to download, install and use the latest version of the RMS software from the Government's RMS Internet Website. Any program updates of RMS will be made available to the Contractor via the Government RMS Website as the updates become available.

1.3.1 RMS CONTRACTOR'S MODE (CM)

RMS Contractor's Mode or RMS CM is the replacement for Quality Control System or QCS. The database remains the same. References to RMS in this specification includes RMS CM.

1.4 SYSTEM REQUIREMENTS

The following is the minimum system configuration required to run RMS and Contractor Mode:

Minimum RMS System Requirements	
Hardware	
Windows-based PC	1.5 GHz 2 core or higher processor
RAM	8 GB
Hard drive disk	200 GB space for sole use by the RMS system
Monitor	Screen resolution 1366 x 768
Mouse or other pointing device	
Windows compatible printer	Laser printer must have 4 MB+ of RAM
Connection to the Internet	minimum 4 Mbs per user
Software	
MS Windows	Windows 10 x 64 bit (RMS requires 64 bit O/S) or newer
Word Processing software	Viewer for MS Word 2013, MS Excel 2013, or newer

Minimum RMS System Requirements	
Microsoft.NET Framework	Coordinate with Government QA Representative for free version required
Email	MAPI compatible
Virus protection software	Regularly upgraded with all issued manufacturer's updates and is able to detect most zero day viruses.

1.5 RELATED INFORMATION

1.5.1 RMS User Guide

After contract award, download instructions for the installation and use of RMS from the Government RMS Internet Website.

1.6 CONTRACT DATABASE

Prior to the pre-construction conference, the Government will provide the Contractor with basic contract award data to use for RMS. The Government will provide data updates to the Contractor as needed. These updates will generally consist of submittal reviews, correspondence status, Quality Assurance(QA) comments, and other administrative and QA data.

1.7 DATABASE MAINTENANCE

Establish, maintain, and update data in the RMS database throughout the duration of the contract at the Contractor's site office. Submit data updates to the Government (e.g., daily reports, submittals, RFI's, schedule updates, payment requests) using RMS. The RMS database typically includes current data on the following items:

1.7.1 Administration

1.7.1.1 Contractor Information

Contain within the database the Contractor's name, address, telephone numbers, management staff, and other required items. Within 7 calendar days of receipt of RMS software from the Government, deliver Contractor administrative data in electronic format in RMS.

1.7.1.2 Subcontractor Information

Contain within the database the name, trade, address, phone numbers, and other required information for all subcontractors. A subcontractor is listed separately for each trade to be performed. Assign each subcontractor/trade a unique Responsibility Code, provided in RMS. Within 7 calendar days of receipt of RMS software from the Government, deliver subcontractor administrative data in electronic format.

1.7.1.3 Correspondence

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

1.7.1.4 Equipment

Contain within the Contractor's RMS database a current list of equipment planned for use or being used on the jobsite, including the most recent and planned equipment inspection dates.

1.7.1.5 Management Reporting

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

1.7.1.6 Request For Information (RFI)

Exchange all Requests For Information (RFI) using the Built-in RFI generator and tracker in RMS.

1.7.2 Finances

1.7.2.1 Pay Activity Data

Include within the RMS database a list of pay activities that the Contractor develops in conjunction with the construction schedule. The sum of pay activities equals the total contract amount, including modifications. Each pay activity must be assigned to a Contract Line Item Number (CLIN). The sum of the activities equals the amount of each CLIN. The sum of all CLINs equals the contract amount.

1.7.2.2 Payment Requests

Prepare all progress payment requests using RMS. Complete the payment request worksheet, prompt payment certification, and payment invoice in RMS. Update the work completed under the contract, measured as percent or as specific quantities, at least monthly. After the update, generate a payment request report using RMS. Submit the payment request, prompt payment certification, and payment invoice with supporting data using RMS CM. If permitted by the Contracting Officer, email or a optical disc may be used. A signed paper copy of the approved payment request is also required and will govern in the event of discrepancy with the electronic version.

1.7.3 Quality Control (QC)

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

RMS generated daily report. Provide the Government a Contractor Quality Control (CQC) Plan within the time required in Section 01 45 00.00 10 QUALITY CONTROL. Within seven calendar days of Government acceptance, submit a RMS update reflecting the information contained in the accepted CQC Plan: schedule, pay activities, features of work, submittal register, QC requirements, and equipment list.

1.7.3.1 Daily Contractor Quality Control (CQC) Reports.

RMS includes the means to produce the Daily CQC Report. The Contractor can use other formats to record basic Quality Control(QC) data. However, the Daily CQC Report generated by RMS must be the Contractor's official report. Summarize data from any supplemental reports by the Contractor and consolidate onto the RMS-generated Daily CQC Report. Submit daily CQC Reports as required by Section 01 45 00.00 10 QUALITY CONTROL. Electronically submit reports to the Government within 24 hours after the date covered by the report. Also provide the Government a signed, printed copy of the daily CQC report.

1.7.3.2 Deficiency Tracking.

Use RMS to track deficiencies. Deficiencies identified by the Contractor will be numerically tracked using its Quality Control (QC) punch list items. Maintain a current log of its QC punch list items in the RMS database. The Government will log the deficiencies it has identified using its Quality Assurance (QA) punch list items. The Government's QA punch list items will be included in its export file to the Contractor. Regularly update the correction status of both QC and QA punch list items.

1.7.3.3 QC Requirements

Develop and maintain a complete list of QC testing and required structural and life safety special inspections required by the International Code Council (ICC), transferred and installed property, and user training requirements in RMS. Update data on these QC requirements as work progresses, and promptly provide the information to the Government via RMS.

1.7.3.4 Three-Phase Control Meetings

Maintain scheduled and actual dates and times of preparatory and initial control meetings in RMS.

1.7.3.5 Labor and Equipment Hours

Log labor and equipment exposure hours on a daily basis. The labor and equipment exposure data will be rolled up into a monthly exposure report.

1.7.3.6 Accident/Safety Reporting

The Government will issue safety comments, directions, or guidance whenever safety deficiencies are observed. The Government's safety comments will be provided via RMS CM. Regularly update the correction status of the safety comments. In addition, utilize RMS to advise the Government of any accidents occurring on the jobsite. A brief supplemental entry of an accident is not to be considered as a substitute for completion of mandatory reports, e.g., ENG Form 3394 and OSHA Form 300.

1.7.3.7 Features of Work

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

1.7.3.8 Hazard Analysis

Use RMS CM to develop a hazard analysis for each feature of work included in the CQC Plan. The Activity Hazard Analysis will include information required by EM 385-1-1, paragraph 01.A.13.

1.7.4 Submittal Management

The Government will provide the initial submittal register in electronic format. Thereafter, maintain a complete list of submittals, including completion of data columns. Dates when submittals are received and returned by the Government will be included. Use RMS CM to track and transmit submittals. ENG Form 4025, submittal transmittal form, and the submittal register update is produced using RMS. RMS will be used to update, store and exchange submittal registers and transmittals. In addition to requirements stated in specification 01 33 00, actual submittals are to be stored in RMS CM, with hard copies also provided. Exception will be where the Contracting Officer specifies only hard copies required, where size of document cannot be saved in RMS CM, and where samples, spare parts, color boards, and full size drawings are to be provided.

1.7.5 Schedule

Develop a construction schedule consisting of pay activities, in accordance with Section 01 32 01.00 10 PROJECT SCHEDULE. Input and maintain in the RMS database the schedule either manually or by using the Standard Data Exchange Format (SDEF) (see Section 01 32 01.00 10 PROJECT SCHEDULE). Include with each pay request the updated schedule. Provide electronic copies of transmittals.

1.7.6 Import/Export of Data

RMS includes the ability to import schedule data using SDEF.

1.8 IMPLEMENTATION

Use of RMS CM as described in the preceding paragraphs is mandatory. Ensure that sufficient resources are available to maintain contract data within the RMS CM system. RMS CM is an integral part of the Contractor's management of quality control.

1.9 MONTHLY COORDINATION MEETING

Update the RMS CM database each workday. At least monthly, generate and submit a schedule update. At least one week prior to submittal, meet with the Government representative to review the planned progress payment data submission for errors and omissions.

Make required corrections prior to Government acceptance of the export file and progress payment request. Payment requests accompanied by incomplete or incorrect data submittals will not be accepted. The

Government will not process progress payments until all required corrections are processed.

1.10 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the requirements of this specification. Take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, will be deemed sufficient for the purpose of notification.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

SECTION 01 50 00

TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 REFERENCES

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

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 241	(2013; Errata 2015) Standard for Safeguarding Construction,Alteration, and Demolition Operations
NFPA 70	(2014; AMD 1 2013; Errata 1 2013; AMD 2 2013; Errata 2 2013; AMD 3 2014; Errata 3-4 2014; AMD 4-6 2014) National Electrical Code

U.S. FEDERAL AVIATION ADMINISTRATION (FAA)

FAA AC 70/7460-1	(2015; Rev L) Obstruction Marking and Lighting

U.S. FEDERAL HIGHWAY ADMINISTRATION (FHWA)

MUTCD	(2009) Manual on Uniform Traffic Control Devices

1.2 SUBMITTALS

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

SD-01 Preconstruction Submittals

Construction Site Plan; G

Traffic Control Plan; G

SD-06 Test Reports

Backflow Preventer Tests

1.3 CONSTRUCTION SITE PLAN

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

PART 2 PRODUCTS

2.1 TEMPORARY SIGNAGE

2.1.1 Bulletin Board

Immediately upon beginning of work, provide a weatherproof glass-covered bulletin board not less than 36 by 48 inches in size for displaying the Equal Employment Opportunity poster, a copy of the wage decision contained in the contract, Wage Rate Information poster, and other information approved by the Contracting Officer.

2.1.2 Project and Safety Signs

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

2.2 TEMPORARY TRAFFIC CONTROL

2.2.1 Haul Roads

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

2.2.2 Barricades

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

2.2.3 Fencing

Provide fencing along the construction site at all open excavations and tunnels to control access by unauthorized people.

a. The safety fencing must be a high visibility orange colored, high density polyethylene grid or approved equal, a minimum of 48 inches high and maximum mesh size of 2 inches, supported and tightly secured to steel posts located on maximum 10 foot centers, constructed at the approved location. Install fencing to be able to restrain a force of at least 250 pounds against it.

2.2.4 Temporary Wiring

Provide temporary wiring in accordance with NFPA 241 and NFPA 70. Include frequent inspection of all equipment and apparatus.

PART 3 EXECUTION

3.1 EMPLOYEE PARKING

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

3.2 TEMPORARY BULLETIN BOARD

Locate the bulletin board at the project site in a conspicuous place easily accessible to all employees, as approved by the Contracting Officer.

3.3 AVAILABILITY AND USE OF UTILITY SERVICES

3.3.1 Temporary Utilities

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

3.3.2 Payment for Utility Services

a. The Government will make all reasonably required utilities available to the Contractor from existing outlets and supplies, as specified in the contract. Unless otherwise provided in the contract, the amount of each utility service consumed will be charged to or paid for by the Contractor at prevailing rates charged to the Government or, where the utility is produced by the Government, at reasonable rates determined by the Contracting Officer. Carefully conserve any utilities furnished without charge.

b. Reasonable amounts of the following utilities will be made available to the Contractor at the prevailing rates.

3.3.3 Meters and Temporary Connections

At the Contractors expense and in a manner satisfactory to the Contracting

Officer, provide and maintain necessary temporary connections, distribution lines, and meter bases (Government will provide meters) required to measure the amount of each utility used for the purpose of determining charges. Notify the Contracting Officer, in writing, 5 working days before final electrical connection is desired so that a utilities contract can be established. The Government will provide a meter and make the final hot connection after inspection and approval of the Contractor's temporary wiring installation. The Contractor will not make the final electrical connection.

3.3.4 Advance Deposit

An advance deposit for utilities consisting of an estimated month's usage or a minimum of $50.00 will be required. The last monthly bills for the fiscal year will normally be offset by the deposit and adjustments will be billed or returned as appropriate. Services to be rendered for the next fiscal year, beginning 1 October, will require a new deposit. Notification of the due date for this deposit will be mailed to the Contractor prior to the end of the current fiscal year.

3.3.5 Final Meter Reading

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

3.3.6 Sanitation

a. Provide and maintain within the construction area minimum field-type sanitary facilities approved by the Contracting Officer and periodically empty wastes into a municipal, district, or station sanitary sewage system, or remove waste to a commercial facility. Obtain approval from the system owner prior to discharge into any municipal, district, or commercial sanitary sewer system. Any penalties and / or fines associated with improper discharge will be the responsibility of the Contractor. Coordinate with the Contracting Officer and follow station regulations and procedures when discharging into the station sanitary sewer system. Maintain these conveniences at all times without nuisance. Include provisions for pest control and elimination of odors. Government toilet facilities will not be available to Contractor's personnel.

3.3.7 Telephone

Make arrangements and pay all costs for telephone facilities desired.

3.3.8 Obstruction Lighting of Cranes

Provide a minimum of 2 aviation red or high intensity white obstruction lights on temporary structures (including cranes) over 100 feet above ground level. Light construction and installation must comply with FAA AC 70/7460-1. Lights must be operational during periods of reduced visibility, darkness, and as directed by the Contracting Officer.

3.3.9 Fire Protection

Provide temporary fire protection equipment for the protection of personnel and property during construction. Remove debris and flammable materials daily to minimize potential hazards.

3.4 TRAFFIC PROVISIONS

3.4.1 Maintenance of Traffic

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

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

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

3.4.2 Protection of Traffic

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

3.4.3 Rush Hour Restrictions

Do not interfere with the peak traffic flows preceding and during normal operations without notification to and approval by the Contracting Officer.

3.4.4 Dust Control

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

3.5 CONTRACTOR'S TEMPORARY FACILITIES

3.5.1 Safety

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

3.5.2 Administrative Field Offices

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

3.5.3 Storage Area

Construct a temporary 6 foot high chain link fence around trailers and materials. Include plastic strip inserts, colored brown, so that visibility through the fence is obstructed. Fence posts may be driven, in lieu of concrete bases, where soil conditions permit. Do not place or store Trailers, materials, or equipment outside the fenced area unless such trailers, materials, or equipment are assigned a separate and distinct storage area by the Contracting Officer away from the vicinity of the construction site but within the installation boundaries. Trailers, equipment, or materials must not be open to public view with the exception of those items which are in support of ongoing work on any given day. Do not stockpile materials outside the fence in preparation for the next day's work. Park mobile equipment, such as tractors, wheeled lifting equipment, cranes, trucks, and like equipment within the fenced area at the end of each work day.

3.5.4 Appearance of Trailers

a. Trailers utilized by the Contractor for administrative or material storage purposes must present a clean and neat exterior appearance and be in a state of good repair. Trailers which, in the opinion of the Contracting Officer, require exterior painting or maintenance will not be allowed on installation property.

b. Paint using suitable paint and maintain the temporary facilities. Failure to do so will be sufficient reason to require their removal.

3.5.5 Maintenance of Storage Area

a. Keep fencing in a state of good repair and proper alignment. Grassed or unpaved areas, which are not established roadways, will be covered with a layer of gravel as necessary to prevent rutting and the tracking of mud onto paved or established roadways, should the Contractor elect to traverse them with construction equipment or other vehicles; gravel gradation will be at the Contractor's discretion. Mow and maintain grass located within the boundaries of the construction site for the duration of the project. Grass and vegetation along fences, buildings, under trailers, and in areas not accessible to mowers will be edged or trimmed neatly.

3.5.6 Security Provisions

Provide adequate outside security lighting at the Contractor's temporary facilities. The Contractor will be responsible for the security of its own equipment; in addition, the Contractor will notify the appropriate law enforcement agency requesting periodic security checks of the temporary project field office.

3.5.7 Weather Protection of Temporary Facilities and Stored Materials

Take necessary precautions to ensure that roof openings and other critical openings in the building are monitored carefully. Take immediate actions required to seal off such openings when rain or other detrimental weather is imminent, and at the end of each workday. Ensure that the openings are completely sealed off to protect materials and equipment in the building from damage.

3.5.7.1 Building and Site Storm Protection

When a warning of gale force winds is issued, take precautions to minimize danger to persons, and protect the work and nearby Government property. Precautions must include, but are not limited to, closing openings; removing loose materials, tools and equipment from exposed locations; and removing or securing scaffolding and other temporary work. Close openings in the work when storms of lesser intensity pose a threat to the work or any nearby Government property.

3.6 PLANT COMMUNICATION

Whenever the Contractor has the individual elements of its plant so located that operation by normal voice between these elements is not satisfactory, the Contractor must install a satisfactory means of communication, such as telephone or other suitable devices and made available for use by Government personnel.

3.7 TEMPORARY PROJECT SAFETY FENCING

As soon as practicable, but not later than 15 days after the date established for commencement of work, furnish and erect temporary project safety fencing at the work site. Maintain the safety fencing during the life of the contract and, upon completion and acceptance of the work, will become the property of the Contractor and be removed from the work site.

3.8 CLEANUP

Remove construction debris, waste materials, packaging material and the like from the work site daily. Any dirt or mud which is tracked onto paved or surfaced roadways must be cleaned away. Store any salvageable materials resulting from demolition activities within the fenced area described above or at the supplemental storage area. Neatly stack stored materials not in trailers, whether new or salvaged.

3.9 RESTORATION OF STORAGE AREA

Upon completion of the project remove the bulletin board, signs, barricades, haul roads, and any other temporary products from the site. After removal of trailers, materials, and equipment from within the fenced area, remove the fence that will become the property of the Contractor. Restore areas used by the Contractor for the storage of equipment or

material, or other use to the original or better condition. Remove gravel used to traverse grassed areas and restore the area to its original condition, including top soil and seeding as necessary.

-- End of Section --

SECTION 01 56 00.00 44

DUST CONTROL

PART 1 GENERAL

1.1 SUMMARY

The work covered by this section consists of furnishing all labor, materials and equipment and performing all work required for the control and prevention of fugitive dust during and as the result of construction operations under this contract except for those measures set forth in other Technical Provisions of these specifications. For the purpose of this specification, fugitive dust entails the generation of solid particles by the forces of wind or machinery acting upon exposed materials. Provisions of this specification shall prevent fugitive dust from adversely affecting human health or welfare; unfavorably altering ecological balances of importance to human life; affecting other species of importance to man; or degrading the utility of the environment for aesthetic and recreational purposes. Dust Control is a requirement in the EPA and state pollutant discharge elimination system or permit for discharging storm water during construction.

1.2 REFERENCES

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

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety and Health Requirements Manual

1.3 SUBMITTALS

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

SD-01 Preconstruction Submittals

Dust Control; G.
Products and Procedures; G

Prior to commencement of the work, submit in writing a proposal to the Contracting Officer for implementing the provisions of this section for fugitive dust control. Address the plans, and the products to be used, to prevent and control fugitive dust through specific mitigative and preventative measures, . The effectiveness of the dust control program shall be periodically checked and reviewed. Revisions to the dust control plan shall be submitted to the Contracting Officer as changes are necessary

during the duration of this contract.

Material Safety Data Sheets; G.

- Material Safety Data Sheets include those for soil stabilization products.

Sandblasting; G.

SD-02 Shop Drawings

Recordkeeping;.

- Maintain and furnish records in accordance with PART 1 paragraph RECORDKEEPING.

1.4 IMPLEMENTATION MEETING

Prior to commencement of the work the Contractor shall meet with representatives of the Contracting Officer to develop mutual understandings relative to compliance with these provisions and administration of the dust control program in accordance with Section 01 31 19.00 44 PROJECT MEETINGS.

1.5 APPLICABLE REGULATIONS

In order to prevent and to provide control of pollution arising from the construction activities of the Contractor and his subcontractors in the performance of this contract, all applicable Federal, State, and local laws and regulations concerning environmental pollution control and abatement, and all applicable provisions of the EM 385-1-1 as well as the specific requirements stated in this section and elsewhere in the contract specifications. Compliance with the provisions of this section by subcontractors will be the responsibility of the Contractor.

1.6 NOTIFICATION OF NON-COMPLIANCE

The Contracting Officer will notify the Contractor in writing of any observed non-compliance with the foregoing provisions. The Contractor shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the Contractor or his authorized representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails or refuses to promptly take corrective action, 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 any such stop orders shall be made the subject of a claim for extension of time or for excess costs or damages by the Contractor unless it was later determined that the Contractor was in compliance.

1.7 RECORDKEEPING

The Contractor shall, at a minimum, maintain records indicating dust control measures taken. Information provided shall be sufficient to answer any questions regarding control methods utilized, products used, application rates, inspections performed. Additional information to be recorded, but not limited to reporting, includes treated area, operator, date and time of treatment, meteorological conditions and inspection and monitoring reports. Records shall be submitted every 30 days to the

Contracting Officer.

PART 2 PRODUCTS

2.1 PRODUCTS AND PROCEDURES

Products and procedures used in controlling particulates and dust shall be in accordance with the Contractor's Environmental Protection Plan and the dust control plan required by this Section. Material Safety Data Sheets for soil binders for use in dust control shall be approved prior to application. Soil binders containing cancinogenic substances (e.g. acrylamides) are prohibited.

PART 3 EXECUTION

3.1 DUST CONTROL

Control techniques for fugitive dust sources shall involve watering. For arid regions and dusty work areas, dust control shall include water application with soil binders that is environmental sustainable and non-toxic. The methods utilized shall be cost effective, water conservation, and appropriate for the size and scope of the fugitive dust source. Methods and controls shall not have an adverse effects on plant and animal life, ecosystem, and facility air intakes, or contaminate the treated material.

Repeat methods at such intervals as to keep all parts of the disturbed area(s) treated at all times. Have sufficient competent equipment on the job to accomplish control techniques. Products shall provide a method to reduce dust-related environmental concerns and aid in complying with applicable regulations. Products shall not in any form produce any adverse environmental effects through their use and shall provide an effective, clean, safe control of airborne dust and protection against soil erosion.

3.1.1 Preventative Techniques

The reduction of source extent, the incorporation of process modifications, or adjusted work practices, which reduce the amount of dust-generation, are preventative techniques for the control of fugitive dust emissions. These techniques include the elimination of mud and dirt carry-out onto paved roads at construction sites.

3.1.2 Mitigative Techniques

Mitigative measures entail the periodic removal of dust-producing material. Examples of mitigative control measures include clean-up of spillage on paved or unpaved travel surfaces and clean-up of material spillage at transfer points.

3.2 MATERIALS HANDLING

The Contractor shall take the following minimum precautions to limit fugitive dust emissions from material handling and transportation to achieve control of dust emissions to the extent practicable:

a. Stockpiles

Apply water with an approved soil binder. Other alternatives include laydown top soil with organic matters that are removed from the disturbed area or placing a compouded fiber erosion control blanket to cover material stockpiles and other surfaces which can create airborne dust. BMP perimeter controls around the stockpile shall be placed at least 10 feet away from the toe of stockpiled material.

b. Transportation

At a minimum, complete covering, maintain a minimum 12 inch free-board space, and moistening of materials hauled from the construction site. Open truck beds, since they create airborne particulate matter, are prohibited. Additional application of water with approved soil binder shall be required if additional controls are considered necessary by the Contracting Officer.

c. Off-Site Tracking

Perform dust control as the work proceeds to minimize vehicle off-site tracking of sediment and generation of dust. Provide every effort, such as temporary paved roadways, to keep vehicles from tracking soils from the construction site. Gravel construction access roadways shall be at least 80 feet long and 30 feet wide for construction sites 5 acres or larger. The access roadway gravel blanket shall be 6-inch minimum in depth with gravel size of 3-inch minimum. Overlay gravel blankets on two layers of 0.015 mm6-mil thick geotextile fabric or a single layer of 10-mil thick geotextile fabric. Control dust generation by water sprinkling. For water conservation, water may be applied with an approved soil binder.

3.3 CONSTRUCTION AND DEMOLITION

Control dust resulting from demolition and construction activities. No person may cause, suffer, allow, or permit a structure, road, street, alley, or parking area to be constructed, altered, repaired, or demolished, or land to be cleared without taking minimum precautions to achieve control of dust emissions.

3.3.1 Demolition

Control the amount of dust resulting from demolition to prevent the spread of dust to occupied portions of the construction site and to avoid creation of a nuisance in the surrounding area. The use of water, oil, or chemical treatment for control of dust in the demolition of structures, in construction operations, in work performed on a road, parking area, or in the clearing of land is required.

3.3.2 Sandblasting

Utilize adequate methods, including enclosure of work areas and debris, to prevent airborne particulate matter during sandblasting of painted and non-paintedstructures or other similar operations. Blast media and containment systems shall be approved prior to use.

3.4 ACCESS ROADS AND PARKING LOTS

No person may cause, suffer, allow, or permit any public, industrial, commercial, or private road, street, or alley to be used without taking precautions to achieve control of dust emissions.

In addition to mitigation and control techniques, the removal of soil or other materials shall be periodically performed by mechanical sweepers or their equivalent. Spot clean dirty roadways and parking lots. These activities shall be performed as deemed necessary. Remove sand which is applied for the specific purpose of snow or ice control as soon as such control is no longer necessary.

3.4.1 Access Roads

The use of temporary asphalt pavement is required for major access roadways at extensive development sites (10 acres or larger) and/or construction periods longer than 3 months. Alternative method of dust control for access roads with uniform gravel cover (and geotextile fabric beneath gravel cover) is acceptable for site less than 10 acres of total disturbed area, and if construction period is shorter than 3 months. Site access roads may use uniform gravel cover (with geotextile fabric beneath gravel cover) and water sprinkling with soil binders for dust control.

The use of temporary asphalt or uniform gravel cover , as described above for control of Off-Site Tracking, with wheel wash is an acceptable method of dust control for roads leading to and from areas of construction activity.

3.4.2 Parking Lots

Parking surfaces with more than five parking spaces shall be paved. Temporary parking area(s) to be used 30 calendar days or more for the Contractor's equipment or personal vehicles shall be paved with temporary asphalt. Temporary lots used for less than one month may use uniform gravel, if required by Corps Area Office Contracting Officer (AOCO), applying water with approved soil binder may be necessary.

3.5 CONTROL STRUCTURES

Activities performed under this Contract shall conform with the specifications described herein along with other technical specifications, particularly Sections 01 57 20.00 10 ENVIRONMENTAL PROTECTION and 01 57 24.03 44 STORM WATER POLLUTION PREVENTION.

If the Contractor proposes to construct temporary structures, he shall submit the proposal for approval at least ten (10) days prior to the scheduled start of such temporary work. Modification of the Contractor's plans shall be made only with the written approval of the Contracting Officer.

3.6 MAINTENANCE

During the life of this contract, the Contractor shall maintain all facilities constructed for pollution control under this Contract as long as the operations creating the particular pollutant are being carried out or until the material concerned has become stabilized to the extent that pollution is no longer being created. Re-application of water by sprinking or approved soil binder with water shall be required when the disturbed areas are not stabilized.

During the construction period the Contractor shall conduct frequent training courses for his maintenance personnel. The curricula shall include methods of dust control, familiarity with pollution standards, and care of controls and measures to prevent and correct fugitive dust pollution.

The Contractor shall furnish daily services for the temporary control measures at the project site and perform any required maintenance as deemed necessary by and to the satisfaction of the Corps AOCO during the entire life of the Contract. Services shall be performed at such a time and in such a manner to least interfere with the operations.

-- End of Section --

SECTION 01 57 20.00 10

ENVIRONMENTAL PROTECTION

PART 1 GENERAL

1.1 REFERENCES

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

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety and Health Requirements Manual
WETLANDS DELINEATION MANUAL	(1987) Corps of Engineers Wetlands Delineation Manual

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

33 CFR 328	Definitions of Waters of the United States
40 CFR 150 - 189	Pesticide Programs
40 CFR 260	Hazardous Waste Management System: General
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 279	Standards for the Management of Used Oil
40 CFR 302	Designation, Reportable Quantities, and Notification
40 CFR 355	Emergency Planning and Notification
40 CFR 68	Chemical Accident Prevention Provisions
49 CFR 171 - 178	Hazardous Materials Regulations

1.2 DEFINITIONS

1.2.1 Environmental Pollution and Damage

Environmental pollution and damage is the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade the environment aesthetically, culturally and/or historically.

1.2.2 Environmental Protection

Environmental protection is the prevention/control of pollution and habitat disruption that may occur to the environment during construction. The control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

1.2.3 Contractor Generated Hazardous Waste

Contractor generated hazardous waste means materials that, if abandoned or disposed of, may meet the definition of a hazardous waste. These waste streams would typically consist of material brought on site by the Contractor to execute work, but are not fully consumed during the course of construction. Examples include, but are not limited to, excess paint thinners (i.e. methyl ethyl ketone, toluene etc.), waste thinners,excess paints, excess solvents, waste solvents, and excess pesticides, and contaminated pesticide equipment rinse water.

1.2.4 Installation Pest Management Coordinator

Installation Pest Management Coordinator (IPMC) is the individual officially designated by the Installation Commander to oversee the Installation Pest Management Program and the Installation Pest Management Plan.

1.2.5 Project Pesticide Coordinator

The Project Pesticide Coordinator (PPC) is an individual that resides at a Civil Works Project office and that is responsible for oversight of pesticide application on Project grounds.

1.2.6 Land Application for Discharge Water

The term "Land Application" for discharge water implies that the Contractor must discharge water at a rate which allows the water to percolate into the soil. No sheeting action, soil erosion, discharge into storm sewers, discharge into defined drainage areas, or discharge into the "waters of the United States" shall occur. Land Application must be in compliance with all applicable Federal, State, and local laws and regulations.

1.2.7 Pesticide

Pesticide is defined as any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant or desiccant.

1.2.8 Pests

The term "pests" means arthropods, birds, rodents, nematodes, fungi, bacteria, viruses, algae, snails, marine borers, snakes, weeds and other organisms (except for human or animal disease-causing organisms) that adversely affect readiness, military operations, or the well-being of personnel and animals; attack or damage real property, supplies, equipment, or vegetation; or are otherwise undesirable.

1.2.9 Surface Discharge

The term "Surface Discharge" implies that the water is discharged with possible sheeting action and subsequent soil erosion may occur. Waters that are surface discharged may terminate in drainage ditches, storm sewers,creeks, and/or "waters of the United States" and would require a permit to discharge water from the governing agency.

1.2.10 Waters of the United States

All waters which are under the jurisdiction of the Clean Water Act, as defined in 33 CFR 328.

1.2.11 Wetlands

Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, and bogs. Official determination of whether or not an area is classified as a wetland must be done in accordance with WETLANDS DELINEATION MANUAL.

1.3 GENERAL REQUIREMENTS

Minimize environmental pollution and damage that may occur as the result of construction operations. The environmental resources within the project boundaries and those affected outside the limits of permanent work must be protected during the entire duration of this contract. Comply with all applicable environmental Federal, State, and local laws and regulations. Any delays resulting from failure to comply with environmental laws and regulations will be the Contractor's responsibility.

1.4 SUBCONTRACTORS

Ensure compliance with this section by subcontractors.

1.5 PAYMENT

No separate payment will be made for work covered under this section. Payment of fees associated with environmental permits, application, and/or notices obtained by the Contractor , and payment of all fines/fees for violation or non-compliance with Federal, State, Regional and local laws and regulations, are the Contractor's responsibility. All costs associated with this section must be included in the contract price.

1.6 SUBMITTALS

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

SD-01 Preconstruction Submittals

Environmental Protection Plan

The environmental protection plan.

Storm Water Pollution Prevention Plan; G

Submit a copy of the Contractor's Pollution Prevention Plan (SWPPP), including both narrative and the EROSION AND SEDIMENT CONTROL drawings, in accordance with Section 01 57 24.03 44 STORM WATER POLLUTION PREVENTION PLAN.

SD-02 Shop Drawings

Hazardous Substance Reporting;

Submit a copy of the attached Emergency Planning and Community Right to Know notification and other reports to the Contracting Officer and to the Facility Emergency Coordinator (FEC) as specified in PART 3 paragraph EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW REQUIREMENTS.

1.7 ENVIRONMENTAL PROTECTION PLAN

Prior to commencing construction activities or delivery of materials to the site, submit an Environmental Protection Plan for review and approval by the Contracting Officer. The purpose of the Environmental Protection Plan is to present a comprehensive overview of known or potential environmental issues which the Contractor must address during construction. Issues of concern must be defined within the Environmental Protection Plan as outlined in this section. Address each topic at a level of detail commensurate with the environmental issue and required construction task(s). Topics or issues which are not identified in this section, but are considered necessary, must be identified and discussed after those items formally identified in this section. Prior to submittal of the Environmental Protection Plan, meet with the Contracting Officer for the purpose of discussing the implementation of the initial Environmental Protection Plan; possible subsequent additions and revisions to the plan including any reporting requirements; and methods for administration of the Contractor's Environmental Plans. The Environmental Protection Plan must be current and maintained onsite by the Contractor.

1.7.1 Compliance

No requirement in this Section will relieve the Contractor of any applicable Federal, State, and local environmental protection laws and regulations. During Construction, the Contractor will be responsible for identifying, implementing, and submitting for approval any additional requirements to be included in the Environmental Protection Plan.

1.7.2 Contents

Include in the environmental protection plan, but not limit it to, the following:

a. Name(s) of person(s) within the Contractor's organization who is(are) responsible for ensuring adherence to the Environmental Protection Plan.

b. Name(s) and qualifications of person(s) responsible for manifesting hazardous waste to be removed from the site, if applicable.

c. Name(s) and qualifications of person(s) responsible for training the

Contractor's environmental protection personnel.

d. Description of the Contractor's environmental protection personnel training program.

e. An erosion and sediment control plan which identifies the type and location of the erosion and sediment controls to be provided. The plan must include monitoring and reporting requirements to assure that the control measures are in compliance with the erosion and sediment control plan, Federal, State, and local laws and regulations. A Storm Water Pollution Prevention Plan (SWPPP) may be substituted for this plan.

f. Drawings showing locations of proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials including methods to control runoff and to contain materials on the site.

g. Traffic control plans including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather. Plan shall include measures to minimize the amount of mud transported onto paved public roads by vehicles or runoff.

h. Work area plan showing the proposed activity in each portion of the area and identifying the areas of limited use or nonuse. Plan should include measures for marking the limits of use areas including methods for protection of features to be preserved within authorized work areas.

i. Drawing showing the location of borrow areas.

j. Include in the Spill Control plan the procedures, instructions, and reports to be used in the event of an unforeseen spill of a substance regulated by 40 CFR 68, 40 CFR 302, 40 CFR 355, and/or regulated under State or Local laws and regulations. The Spill Control Plan supplements the requirements of EM 385-1-1 . Include in this plan, as a minimum:

(1) The name of the individual who will report any spills or hazardous substance releases and who will follow up with complete documentation. This individual will immediately notify the Contracting Officer and Facility Fire Department, in addition to the legally required Federal, State, and local reporting channels (including the National Response Center 1-800-424-8802) if a reportable quantity is released to the environment. Include in the plan a list of the required reporting channels and telephone numbers.

(2) The name and qualifications of the individual who will be responsible for implementing and supervising the containment and cleanup.

(3) Training requirements for Contractor's personnel and methods of accomplishing the training.

(4) A list of materials and equipment to be immediately available at the job site, tailored to cleanup work of the potential hazard(s) identified.

(5) The names and locations of suppliers of containment materials and locations of additional fuel oil recovery, cleanup, restoration, and material-placement equipment available in case of an unforeseen spill emergency.

(6) The methods and procedures to be used for expeditious contaminant cleanup.

k. A non-hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris and schedules for disposal.

(1) Identify any subcontractors responsible for the transportation and disposal of solid waste. Submit licenses or permits for solid waste disposal sites that are not a commercial operating facility.

(2) Evidence of the disposal facility's acceptance of the solid waste must be attached to this plan during the construction. Attach a copy of each of the Non-hazardous Solid Waste Diversion Reports to the disposal plan. Submit the report for the previous month on the first working day after the first month that non-hazardous solid waste has been disposed and/or diverted).

(3) Indicate in the report the total amount of waste generated and total amount of waste diverted in cubic yards or tons along with the percent that was diverted.

(4) A recycling and solid waste minimization plan with a list of measures to reduce consumption of energy and natural resources. Detail in the plan the Contractor's actions to comply with and to participate in Federal, State, Regional, and local government sponsored recycling programs to reduce the volume of solid waste at the source. Address the implementation of the Department of the Army requirement for a 50 percent by weight minimum diversion of construction and demolition (C&D) non-hazardous solid waste from landfill disposal or incineration for promoting more efficient use of C&D materials during construction.

l. An air pollution control plan detailing provisions to assure that dust, debris, materials, trash, etc., do not become air borne and travel off the project site.

m. A contaminant prevention plan that: identifies potentially hazardous substances to be used on the job site; identifies the intended actions to prevent introduction of such materials into the air, water, or ground; and details provisions for compliance with Federal, State, and local laws and regulations for storage and handling of these materials. In accordance with EM 385-1-1, a copy of the Safety Data Sheets (SDS) and the maximum quantity of each hazardous material to be onsite at any given time must be included in the contaminant prevention plan. Update the plan as new hazardous materials are brought onsite or removed from the site.

n. A waste water management plan that identifies the methods and procedures for management and/or discharge of waste waters which are directly derived from construction activities, such as concrete curing

water, clean-up water, dewatering of ground water, disinfection water, hydrostatic test water, and water used in flushing of lines. If a settling/retention pond is required, the plan must include the design of the pond including drawings, removal plan, and testing requirements for possible pollutants. If land application will be the method of disposal for the waste water, the plan must include a sketch showing the location for land application along with a description of the pretreatment methods to be implemented. If surface discharge will be the method of disposal, include a copy of the permit and associated documents as an attachment prior to discharging the waste water. If disposal is to a sanitary sewer, the plan must include documentation that the Waste Water Treatment Plant Operator has approved the flow rate, volume, and type of discharge.

o. A historical, archaeological, cultural resources biological resources and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands known to be on the project site: and/or identifies procedures to be followed if historical archaeological, cultural resources, biological resources and wetlands not previously known to be onsite or in the area are discovered during construction. Include in the plan methods to assure the protection of known or discovered resources, identifying lines of communication between Contractor personnel and the Contracting Officer.

p. Include and update a pesticide treatment plan, as information becomes available. Include in the plan: sequence of treatment, dates, times, locations, pesticide trade name, EPA registration numbers, authorized uses, chemical composition, formulation, original and applied concentration, application rates of active ingredient (i.e. pounds of active ingredient applied), equipment used for application and calibration of equipment. Federal, State, Regional and Local pest management record keeping and reporting requirements as well as any additional Installation Project Office specific requirements are the Contractor's responsibility in conformance with for data required to be reported to the Installation.

1.7.3 Appendix

Attach to the Environmental Protection Plan, as an appendix, copies of all environmental permits, permit application packages, approvals to construct, notifications, certifications, reports, and termination documents.

1.8 PROTECTION FEATURES

This paragraph supplements the Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS. Prior to start of any onsite construction activities, the Contractor and the Contracting Officer will make a joint condition survey. Immediately following the survey, the Contractor will prepare a brief report including a plan describing the features requiring protection under the provisions of the Contract Clauses, which are not specifically identified on the drawings as environmental features requiring protection along with the condition of trees, shrubs and grassed areas immediately adjacent to the site of work and adjacent to the Contractor's assigned storage area and access route(s), as applicable. This survey report will be signed by both the the Contractor and the Contracting Officer upon mutual agreement as to its accuracy and completeness. The Contractor must protect those

environmental features included in the survey report and any indicated on the drawings, regardless of interference which their preservation may cause to the work under the contract.

1.9 ENVIRONMENTAL ASSESSMENT OF CONTRACT DEVIATIONS

Any deviations from the drawings,plans and specifications, requested by the Contractor and which may have an environmental impact, will be subject to approval by the Contracting Officer and may require an extended review, processing, and approval time. The Contracting Officer reserves the right to disapprove alternate methods, even if they are more cost effective, if the Contracting Officer determines that the proposed alternate method will have an adverse environmental impact.

1.10 NOTIFICATION

The Contracting Officer will notify the Contractor in writing of any observed noncompliance with Federal, State or local environmental laws or regulations, permits, and other elements of the Contractor's Environmental Protection plan. After receipt of such notice, the Contractor will inform the Contracting Officer of the proposed corrective action and take such action when approved by the Contracting Officer. The Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No time extensions will be granted or equitable adjustments allowed for any such suspensions. This is in addition to any other actions the Contracting Officer may take under the contract, or in accordance with the Federal Acquisition Regulation or Federal Law.

1.10.1 Demolition

The Contractor shall notify EPA (per 40 CRF 61 Subpart M) or the appropriate regulatory agency, or in Texas, the Texas Department of Health, in writing, at least 10 working days prior to commencement of demolition work. The Contractor shall prepare the "Demolition/Renovation Notification Form" and obtain signature of an authorized person from the building (to be demolished) owner's environmental office. The Contractor shall allow at least 10 working days for obtaining signature from the authorized person. The Contractor is responsible to mail the signed notification form by certified mail with return receipt requested. A copy of the signed notification and a copy of the return receipt shall be provided to the Contracting Officer Representative (COR) and the authorized person. In Texas, in compliance with the Texas Asbestos Hazard Protection Rules (TAHPA), Section 295.61, this notification process is necessary prior to demolition of building structures with or without Asbestos Containing Material. The notification form is available on http://www.tdh.state.tx.us/beh/asbestos/default.HTM, then click on Notification & Information Section/ Download Demolition/Renovation Forms.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

3.1 ENVIRONMENTAL PERMITS AND COMMITMENTS

Obtaining and complying with all environmental permits and commitments required by Federal, State, Regional, and local environmental laws and

regulations is the Contractor's responsibility.

3.2 LAND RESOURCES

Confine all activities to areas defined by the drawings and specifications. Identify any land resources to be preserved within the work area prior to the beginning of any construction. Do not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and land forms without approval, except in areas indicated on the drawings or specified to be cleared. Ropes, cables, or guys will not be fastened to or attached to any trees for anchorage unless specifically authorized. Provide effective protection for land and vegetation resources at all times, as defined in the following subparagraphs. Remove stone, soil, or other materials displaced into uncleared areas.

3.2.1 Work Area Limits

Mark the areas that need not be disturbed under this contract prior to commencing construction activities. Mark or fence isolated areas within the general work area which are not to be disturbed. Protect monuments and markers before construction operations commence. Where construction operations are to be conducted during darkness, any markers must be visible in the dark. The Contractor's personnel must be knowledgeable of the purpose for marking and/or protecting particular objects.

3.2.2 Landscape

Trees, shrubs, vines, grasses, land forms and other landscape features indicated and defined on the drawings to be preserved must be clearly identified by marking, fencing, or wrapping with boards, or any other approved techniques. Restore landscape features damaged or destroyed during construction operations outside the limits of the approved work area.

3.2.3 Erosion and Sediment Controls

Providing erosion and sediment control measures in accordance with Federal, State, and local laws and regulations is the Contractor's responsibility. The erosion and sediment controls selected and maintained by the Contractor shall be such that water quality standards are not violated as a result of construction activities. The area of bare soil exposed at any one time by construction operations should be kept to a minimum. Construct or install temporary and permanent erosion and sediment control best management practices (BMPs) as specified in Section 01 57 23 TEMPORARY STORM WATER POLLUTION CONTROL. BMPs may include, but not be limited to, vegetation cover, stream bank stabilization, slope stabilization, silt fences, construction of terraces, interceptor channels, sediment traps, inlet and outfall protection, diversion channels, and sedimentation basins. The Contractor's best management practices must also be in accordance with the National Pollutant Discharge, Elimination System (NPDES) Storm Water Pollution Prevention Plan (SWPPP) which may be reviewed at the Environmental Office. Remove any temporary measures after the area has been stabilized.

3.2.4 Contractor Facilities and Work Areas

Place field offices, staging areas, stockpile storage, and temporary buildings in areas designated on the drawings or as directed by the

Contracting Officer. Temporary movement or relocation of Contractor facilities will be made only when approved. Erosion and sediment controls must be provided for onsite borrow and spoil areas to prevent sediment from entering nearby waters. Temporary excavation and embankments for plant and/or work areas must be controlled to protect adjacent areas.

3.2.5 Storm Water Pollution Prevention Plan

The Contractor shall reference Section 01 57 24.03 44 STORM WATER POLLUTION PREVENTION PLAN for submittal requirements.

3.3 WATER RESOURCES

Monitor all water areas affected by construction activities to prevent pollution of surface and ground waters. Do not apply toxic or hazardous chemicals to soil or vegetation unless otherwise indicated. For construction activities immediately adjacent to impaired surface waters, the Contractor must be capable of quantifying sediment or pollutant loading to that surface water when required by State or Federally issued Clean Water Act permits.

3.3.1 Cofferdams, Diversions, and Dewatering Operations

Construction operations for dewatering, removal of cofferdams, tailrace excavation, and tunnel closure will be controlled at all times to maintain compliance with existing State water quality standards and designated uses of the surface water body. Comply with the State of Louisiana water quality standards and anti-degradation provisions and the Clean Water Act Section 404, Nation Wide Permit No. .

3.3.2 Stream Crossings

Stream crossings must allow movement of materials or equipment without violating water pollution control standards of the Federal, State, and local governments.

3.3.3 Wetlands

Do not enter, disturb, destroy, or allow discharge of contaminants into any wetlands.

3.4 AIR RESOURCES

Equipment operation, activities, or processes will be in accordance with all Federal and State air emission and performance laws and standards.

3.4.1 Particulates

Dust particles; aerosols and gaseous by-products from construction activities; and processing and preparation of materials, such as from asphaltic batch plants; must be controlled at all times, including weekends, holidays and hours when work is not in progress. Maintain excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, spoil areas, borrow areas, and other work areas within or outside the project boundaries free from particulates which would cause the Federal, State, and local air pollution standards to be exceeded or which would cause a hazard or a nuisance. Sprinkling, chemical treatment of an approved type, baghouse, scrubbers, electrostatic precipitators or other methods will be permitted to control particulates in the work area.

Sprinkling, to be efficient, must be repeated to keep the disturbed area damp at all times. Provide sufficient, competent equipment available to accomplish these tasks. Perform particulate control as the work proceeds and whenever a particulate nuisance or hazard occurs. Comply with all State and local visibility regulations.

3.4.1.1 Dust Control

See Section 01 56 00.00 44 DUST CONTROL for additional requirements.

3.4.2 Odors

Odors from construction activities must be controlled at all times. The odors must be in compliance with State regulations and/or local ordinances and may not constitute a health hazard.

3.4.3 Sound Intrusions

Keep construction activities under surveillance and control to minimize environment damage by noise. Comply with the provisions of the State of Louisiana rules.

3.4.4 Burning

Burning is prohibited on the Government premises.

3.5 CHEMICAL MATERIALS MANAGEMENT AND WASTE DISPOSAL

Disposal of wastes will be as directed below, unless otherwise specified in other sections and/or shown on the drawings.

3.5.1 Solid Wastes

Place solid wastes (excluding clearing debris) in containers which are emptied on a regular schedule. Handling, storage, and disposal must be conducted to prevent contamination. Employ segregation measures so that no hazardous or toxic waste will become co-mingled with solid waste. Transport solid waste off Government property and dispose of it in compliance with Federal, State, and local requirements for solid waste disposal. A Subtitle D RCRA permitted landfill will be the minimum acceptable offsite solid waste disposal option. Verify that the selected transporters and disposal facilities have the necessary permits and licenses to operate.

3.5.2 Chemicals and Chemical Wastes

Dispense chemicals ensuring no spillage to the ground or water. Perform and document periodic inspections of dispensing areas to identify leakage and initiate corrective action. This documentation will be periodically reviewed by the Government. Collect chemical waste in corrosion resistant, compatible containers. Collection drums must be monitored and removed to a staging or storage area when contents are within 6 inches of the top. Wastes will be classified, managed, stored, and disposed of in accordance with Federal, State, and local laws and regulations.

3.5.3 Contractor Generated Hazardous Wastes/Excess Hazardous Materials

Hazardous wastes are defined in 40 CFR 261, or are as defined by applicable State and local regulations. Hazardous materials are defined

in 49 CFR 171 - 178. At a minimum, manage and store hazardous waste in compliance with 40 CFR 262 in accordance with the Installation hazardous waste management plan. Take sufficient measures to prevent spillage of hazardous and toxic materials during dispensing. Segregate hazardous waste from other materials and wastes, protect it from the weather by placing it in a safe covered location, and take precautionary measures such as berming or other appropriate measures against accidental spillage. Storage, describing, packaging, labeling, marking, and placarding of hazardous waste and hazardous material in accordance with 49 CFR 171 - 178, State, and local laws and regulations is the Contractor's responsibility. Transport Contractor generated hazardous waste off Government property within 60 days in accordance with the Environmental Protection Agency and the Department of Transportation laws and regulations. Dispose of hazardous waste in compliance with Federal, State and local laws and regulations. Spills of hazardous or toxic materials must be immediately reported to the Contracting Officer and the Facility Environmental Office. Cleanup and cleanup costs due to spills are the Contractor's responsibility. Coordinate the disposition of hazardous waste with the Facility's Hazardous Waste Manager and the Contracting Officer.

3.5.4 Fuel and Lubricants

Storage, fueling and lubrication of equipment and motor vehicles must be conducted in a manner that affords the maximum protection against spill and evaporation. Manage and store fuel, lubricants and oil in accordance with all Federal, State, Regional, and local laws and regulations. Used lubricants and used oil to be discarded must be stored in marked corrosion-resistant containers and recycled or disposed in accordance with 40 CFR 279, State, and local laws and regulations. Storage of fuel on the project site is not allowed. Fuel must be brought to the project site each day that work is performed.

3.5.5 Waste Water

Disposal of waste water will be as specified below.

a. Waste water from construction activities, such as onsite material processing, concrete curing, foundation and concrete clean-up, water used in concrete trucks, forms, etc. will not be allowed to enter water ways or to be discharged prior to being treated to remove pollutants. Dispose of the construction related waste water by collecting and placing it in a retention pond where suspended material can be settled out and/or the water can evaporate to separate pollutants from the water. The site for the retention pond must be coordinated and approved with the Contracting Officer. The residue left in the pond prior to completion of the project will be removed, tested, and disposed off-Government property in accordance with Federal, State, and local laws and regulations. The area must be backfilled to the original grade, top-soiled and seeded/sodded. .

b. For discharge of ground water, the Contractor will surface discharge in accordance with all Federal, State, and local laws and regulations.

c. Water generated from the flushing of lines after disinfection or disinfection in conjunction with hydrostatic testing will be land applied in accordance with all Federal, State, and local laws and

regulations for land application .

3.6 RECYCLING AND WASTE MINIMIZATION

Participate in State and local government sponsored recycling programs. The Contractor is further encouraged to minimize solid waste generation throughout the duration of the project. .

3.7 NON-HAZARDOUS SOLID WASTE DIVERSION REPORT

Maintain an inventory of non-hazardous solid waste diversion and disposal of construction and demolition debris. Submit a report to through the Contracting Officer on the first working day after each fiscal year quarter, starting the first quarter that non-hazardous solid waste has been generated. Include the following in the report:

a. Construction and Demolition (C&D) Debris Disposed = in cubic yards or tons, as appropriate.

b. Construction and Demolition (C&D) Debris Recycled = in cubic yards or tons, as appropriate.

c. Total C&D Debris Generated = in cubic yards or tons, as appropriate.

d. Waste Sent to Waste-To-Energy Incineration Plant (This amount should not be included in the recycled amount) = in cubic yards or tons, as appropriate.

3.8 HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

If during excavation or other construction activities any previously unidentified or unanticipated historical, archaeological, and cultural resources are discovered or found, all activities that may damage or alter such resources will be temporarily suspended. Resources covered by this paragraph include but are not limited to: any human skeletal remains or burials; artifacts; shell, midden, bone, charcoal, or other deposits; rock or coral alignments, pavings, wall, or other constructed features; and any indication of agricultural or other human activities. Upon such discovery or find, immediately notify the Contracting Officer so that the appropriate authorities may be notified and a determination made as to their significance and what, if any, special disposition of the finds should be made. Cease all activities that may result in impact to or the destruction of these resources. Secure the area and prevent employees or other persons from trespassing on, removing, or otherwise disturbing such resources.

3.9 BIOLOGICAL RESOURCES

Minimize interference with, disturbance to, and damage to fish, wildlife, and plants including their habitat. The protection of threatened and endangered animal and plant species, including their habitat, is the Contractor's responsibility in accordance with Federal, State, Regional, and local laws and regulations.

3.10 INTEGRATED PEST MANAGEMENT

In order to minimize impacts to existing fauna and flora, the Contractor through the Contracting Officer, must coordinate with the Installation

Pest Management Coordinator (IPMC) Project Pesticide Coordinator (PPC)at the earliest possible time prior to pesticide application. Discuss integrated pest management strategies with the IPMC and receive concurrence from the IPMC through the COR prior to the application of any pesticide associated with these specifications. Installation Project Office Pest Management personnel will be given the opportunity to be present at all meetings concerning treatment measures for pest or disease control and during application of the pesticide. The use and management of pesticides are regulated under 40 CFR 150 - 189.

3.10.1 Pesticide Delivery and Storage

Deliver pesticides to the site in the original, unopened containers bearing legible labels indicating the EPA registration number and the manufacturer's registered uses. Store pesticides according to manufacturer's instructions and under lock and key when unattended.

3.10.2 Qualifications

For the application of pesticides, use the services of a subcontractor whose principal business is pest control. The subcontractor must be licensed and certified in the state where the work is to be performed.

3.10.3 Pesticide Handling Requirements

Formulate, treat with, and dispose of pesticides and associated containers in accordance with label directions and use the clothing and personal protective equipment specified on the labeling for use during all phases of the application. Furnish Safety Data Sheets (SDS) for all pesticide products.

3.10.4 Application

Apply pesticides using a State Certified Pesticide Applicator in accordance with EPA label restrictions and recommendation. The Certified Applicator must wear clothing and personal protective equipment as specified on the pesticide label. The Contracting Officer will designate locations for water used in formulating. Do not allow the equipment to overflow. All equipment must be inspected for leaks, clogging, wear, or damage and repaired prior to application of pesticide.

3.11 PREVIOUSLY USED EQUIPMENT

Clean all previously used construction equipment prior to bringing it onto the project site. Ensure that the equipment is free from soil residuals, egg deposits from plant pests, noxious weeds, and plant seeds. Consult with the USDA jurisdictional office for additional cleaning requirements.

3.12 MAINTENANCE OF POLLUTION FACILITIES

Maintain permanent and temporary pollution control facilities and devices for the duration of the contract or for that length of time construction activities create the particular pollutant.

3.13 MILITARY MUNITIONS

In the event military munitions, as defined in 40 CFR 260, are discovered or uncovered, the Contractor will immediately stop work in that area and immediately inform the Contracting Officer.

3.14 TRAINING OF CONTRACTOR PERSONNEL

The Contractor's personnel must be trained in all phases of environmental protection and pollution control. Conduct environmental protection/pollution control meetings for all personnel prior to commencing construction activities. Additional meetings must be conducted for new personnel and when site conditions change. Include in the training and meeting agenda: methods of detecting and avoiding pollution; familiarization with statutory and contractual pollution standards; installation and care of devices, vegetative covers, and instruments required for monitoring purposes to ensure adequate and continuous environmental protection/pollution control; anticipated hazardous or toxic chemicals or wastes, and other regulated contaminants; recognition and protection of archaeological sites, artifacts, wetlands, and endangered species and their habitat that are known to be in the area.

3.15 CONTAMINATED MEDIA MANAGEMENT

Manage contaminated environmental media consisting of, but not limited to, ground water, soils, and sediments in accordance with Section .

3.16 POST CONSTRUCTION CLEANUP

The Contractor will clean up all areas used for construction in accordance with Contract Clause: "Cleaning Up". Unless otherwise instructed in writing by the Contracting Officer, obliterate all signs of temporary construction facilities such as haul roads, work area, structures, foundations of temporary structures, stockpiles of excess or waste materials, and other vestiges of construction prior to final acceptance of the work. The disturbed area must be graded, filled and the entire area seeded unless otherwise indicated.

3.17 HAZARDOUS SUBSTANCE REPORTING

Comply with the requirements of Sections 301 through 312 of the Emergency Planning and Community Right-to-Know Act (EPCRA), also known as Superfund Amendments and Reauthorization Act (SARA) Title III, as published in 40 CFR Part 355, and with all state regulations and procedures which result from EPCRA and the hazard communication program requirements of EM 385-1-1. The following planning and reporting requirements involve the Contractor's reporting requirements but are not all inclusive; i.e. transport regulations are not addressed. It is the Contractor's responsibility to comply with all Federal, state, and local emergency planning and reporting requirements.

3.17.1 Definitions and Acronyms

3.17.1.1 CERCLA Hazardous Substance (CHS)

A CERCLA Hazardous Substance (CHS) is any substance listed in Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act, also referred to as Superfund; the list of substances also appears in Table 302.4 of 40 CFR 302.

3.17.1.2 Contracting Officer (CO)

For purposes of the Emergency Planning and Community Right-to-Know Act (EPCRA), the Contracting Officer (CO) will be considered the site owner or operator's construction representative.

3.17.1.3 Extremely Hazardous Substance (EHS)

An Extremely Hazardous Substance (EHS) is any substance listed in Appendices A and B of 40 CFR 355.

3.17.1.4 Facility Emergency Coordinator (FEC)

Facility Emergency Coordinator (FEC) is the representative of the facility Owner or Operator. The Contractor shall identify the FEC and notify the FEC as described below each time the Contractor brings a hazardous substance onto the construction site.

3.17.1.5 Hazardous Chemical Substance (HCS)

A Hazardous Chemical Substance (HCS) is any substance defined as hazardous under 29 CFR 1910.1200, with exceptions as listed in 40 CFR 370.2; generally any substance with a Safety Data Sheet (SDS).

3.17.1.6 Reportable Quantity (RQ)

Reportable Quantity (RQ) is a specified minimum amount of a CHS or an EHS which, if released, must be reported immediately to the FEC. The RQ for a CHS is listed in Table 302.4 of 40 CFR 302; the RQ for an EHS is 0.45 kg (1 pound).

3.17.1.7 Threshold Planning Quantity (TPQ)

Threshold Planning Quantity (TPQ) is a specified minimum amount of an EHS which, if brought onto the construction site, must be reported within a stated time to the FEC. The TPQ for an EHS is listed in Appendices A and B of 40 CFR 355 or is the quantity published in state code, whichever is less.

3.17.1.8 Threshold Quantity (TQ)

Threshold Quantity (TQ) is the quantity listed as the Threshold Inventory Quantity for hazardous substances in Title 33 of the Louisiana Administrative Code, Part V, Subpart 2, Chapter 101.

3.17.2 Hazardous Substance Reporting

Whenever a HCS or an EHS substance is brought onto the construction site, the Contractor shall submit the attached reporting form to the FEC, the fire department with jurisdiction over the site, and the Contracting Officer as described below:

a. within 5 days for an EHS substance which (1) equals or exceeds its TPQ, or (2) is a solid or liquid weighing 225 kg (500 pounds) or more, whichever is less, or

b. within 10 days for a HCS substance which equals or exceeds 500 pounds or the state level, whichever is less.

3.17.3 Emergency Release Notification for Listed Hazardous Substances

The Contractor shall immediately notify the FEC and the Contracting Officer if there is a release of an EHS or a CHS substance whose quantity equals or exceeds its RQ.

Notification is also required if the following substances are released into the environment:

a. 5,000 pounds or more of any dry solid substance which is an HCS but not an EHS or a CHS,

b. 100 pounds or more of compressed inflammable gas or an inflammable liquid which is an HCS, or

c. 500 pounds or more of any other liquid which is an HCS but not an EHS or CHS.

3.17.3.1 Emergency Notification Information

Emergency notifications shall consist of the following information:

a. The Contractor's name, the name and telephone number of the person making the report, and the name and telephone number of the Contractor's contact person;

b. The chemical name and identification;

c. An estimate of the quantity released;

d. The location of the release;

e. The time and duration of the release;

f. The medium receiving the release (air, land, water);

g. Known acute or chronic health risks;

h. Medical advice when necessary; and

i. Recommended community precautions.

3.17.3.2 Follow-Up Notice

Within 5 days of the release, a written follow-up notice of the release shall be provided to the FEC and the Contracting Officer. The written notice shall update information provided in the initial report, provide detailed information on the response actions taken, and provide advice regarding medical attention necessary for exposed individuals.

3.17.3.3 State EPCRA Agency

The Contractor may call the following agency for information about EPCRA requirements:

Louisiana Department of Public Safety
Transportation Emergency Safety Unit
P.O. Box 66614
Baton Rouge, Louisiana 70896-6614

Telephone Number: 504-925-6113

3.18 FORMS

The EMERGENCY PLANNING COMMUNITY RIGHT TO KNOW NOTIFICATION form is attached to the end of this Section.

-- End of Section --

State of _____

EMERGENCY PLANNING COMMUNITY RIGHT TO KNOW NOTIFICATION FORM

Date _____

This is a notification that the facility named below stores or has stored a Hazardous Chemical Substance (HCS) or an Extremely Hazardous Substance (EHS) as listed in Section 302(c), Title III of SARA - Emergency Planning and Community Right-to-Know Act of 1986.

INSTRUCTIONS: Print or type all information, except signature.

_____
Name of Construction Facility

_____
Address

_____
City State Zip Code

_____
Name and Company of Person Completing Form

_____
Storage Location of HS/EHS

_____
Facility Emergency Coordinator

_____
Telephone Number

_____
Signature of Person Completing Form

CHEMICAL DESCRIPTION

_____
Product Name

_____
Chemical Name(s)

_____
CAS Number(s)

_____
Maximum Quantity On-Site

_____
Average Daily Quantity On Site

CHEMICAL CHARACTERISTICS

Description	Hazard
[ ] Pure	[ ] Fire
[ ] Mixture	[ ] Pressure
[ ] Solid	[ ] Reactivity
[ ] Liquid	[ ] Acute
[ ] Gas	[ ] Chronic

FOR EHS or CHS

_____
Threshold Planning Quantity

_____
Reportable Quantity

TYPE OF HAZARDOUS SUBSTANCE

[ ] EHS [ ] CHS

SECTION 01 58 00

PROJECT IDENTIFICATION

PART 1 GENERAL

1.1 REFERENCES

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

U.S. ARMY CORPS OF ENGINEERS (USACE)

EP 310-1-6a	(2006) Sign Standards Manual, VOL 1
EP 310-1-6b	(2006) Sign Standards Manual, VOL 2, Appendices

1.2 SUBMITTALS

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

SD-02 Shop Drawings

Preliminary one line drawings of project rendering

preliminary drawing indicating layout and text content

Sign Legend Orders

SD-04 Samples

Final rendering sample

Final framed rendering and copies

1.3 QUALITY ASSURANCE

1.3.1 Rendering

Provide the project rendering in accordance with the following drawing stages as required in paragraph entitled "Submittals". The following submittal data is required to properly identify the appropriate view and approve the final rendering of the facility. The final painted rendering will be used to produce the image for the signboard and framed photographic copies provided to the Contracting Officer.

1.3.1.1 Preliminary One Line Drawings

Provide three different views of the facility in a preliminary single line drawing (black and white) format. These three views will represent the best angles at which to view the proposed facility showing the best design

features and the three dimensional character of the facility.

1.3.1.2 Final Rendering Sample

Provide a photographic copy (8 by 10 inches minimum size) of final rendering for approval of color, landscaping, and foreground/background development prior to final submittal.

1.3.1.3 Final Framed Rendering and Copies

Provide final full color rendering of the proposed facility as specified.

1.4 PROJECT SIGN

1.4.1 Construction Project Signs

Furnish the construction project sign package, maintain the signs during construction, and remove the signs from the job site upon completion of the project. The construction project sign package consists of two signs: one for project identification and the other to show the on-the-job safety performance of the contractor. The package shall conform to the requirements of EP 310-1-6a and EP 310-1-6b, specifically Section 16. Submit the sign legend orders as described in Section 16 of EP 310-1-6a prior to erecting the signs.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

CONSTRUCTION SIGN SCHEDULE

Each contractor's safety record is to be posted on Corps managed or supervised construction projects and mounted with the Construction Project Identification sign specified on page 16-2.

The graphic format, color, size and typefaces used on the sign are to be reproduced exactly as specified below. The title with First Aid logo in the top section of the sign, and the performance record captions are standard for all signs of this type. Legend groups 2 and 3 below identify the project and the contractor and are to be placed on the sign as shown.

Safety record numbers are mounted on individual metal plates and are screw-mounted to the background to allow for daily revisions to posted safety performance record.

Special applications or situations not covered in these guidelines should be referred to the district Sign Program Manager.

Legend Group 1: Standard two-line title "Safety is a Job Requirement" with 8" (outside diameter) Safety Green first aid logo.
Color: To match Pantone system 347
Typeface: 3" Helvetica Bold
Color: Black

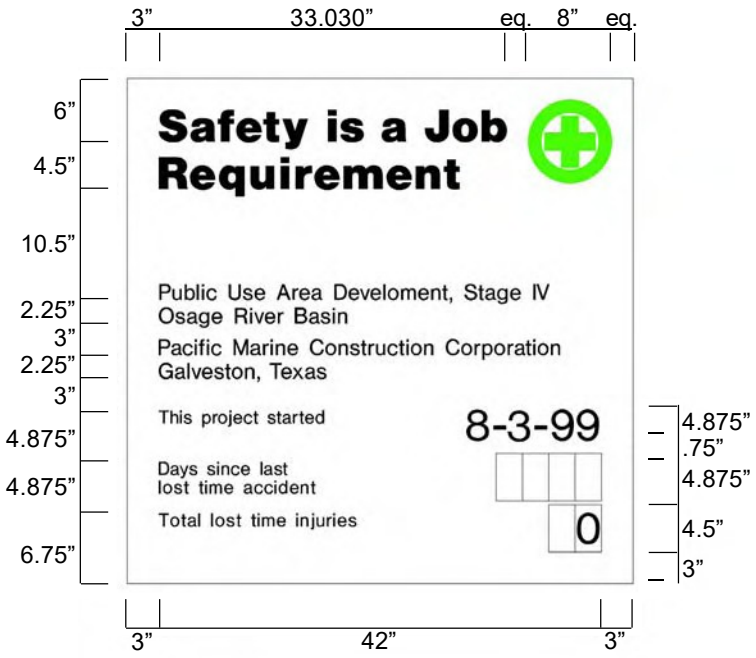
Legend Group 2: One- to two-line project title legend describes the work being done under this contract and name of host project.
Color: Black
Typeface: 1.5" Helvetica Regular
Maximum line length: 42"

Legend Group 3: One- to two-line identification: name of prime contractor and city, state address. Color: Black
Typeface: 1.5" Helvetica Regular
Maximum line length: 42"

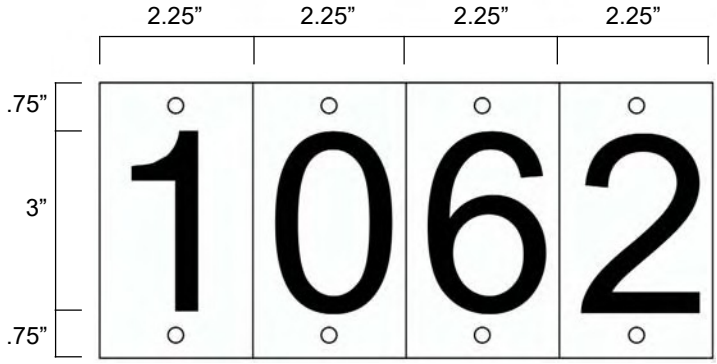
Legend Group 4: Standard safety record captions as shown.
Color: Black
Typeface: 1.25" Helvetica Regular

Replaceable numbers are to be mounted on white .060 aluminum plates and screw-mounted to background.
Color: Black
Typeface: 3" Helvetica Regular
Plate size: 2.5" x 4.5"

All typography is flush left and rag right, upper and lower case with initial capitals only as shown. Letter- and word-spacing to follow Corps standards as specified in Appendix D.



Sign Type	Legend Size (A)	Panel Size	Post Size	Specification Code	Mounting Height	Color Bkg/Lgd
CID-02	various	4'x4'	4"x4"	HDO-3	48"	WH/BK-SG



All Construction Project Identification signs and Safety Performance signs are to be fabricated and installed as described below. The signs are to be erected at a location designated by the contracting officer representative and shall conform to the size, format, and typographic standards shown on pages16-2 and 16-3. Detailed specifications for HDO plywood panel preparation are provided in Appendix B.

Shown below the mounting diagram is a panel layout grid with spaces provided for project information. Photocopy this page and use as a worksheet when preparing sign legend orders.

For additional information on the proper method to prepare sign panel graphics, contact the district Sign Program Manager.

The sign panels are to be fabricated from .75" High Density Overlay Plywood. Panel preparation to follow HDO specifications provided in Appendix B.

Sign graphics to be prepared on a white nonreflective vinyl film with positionable adhesive backing.

All graphics except for the Communication Red background with Corps Signature on the project sign are to be die-cut or computer-cut nonreflective vinyl, prespaced legends prepared in the sizes and typefaces specified and applied to the background panel following the graphic formats shown on pages 16-2 and 16-3.

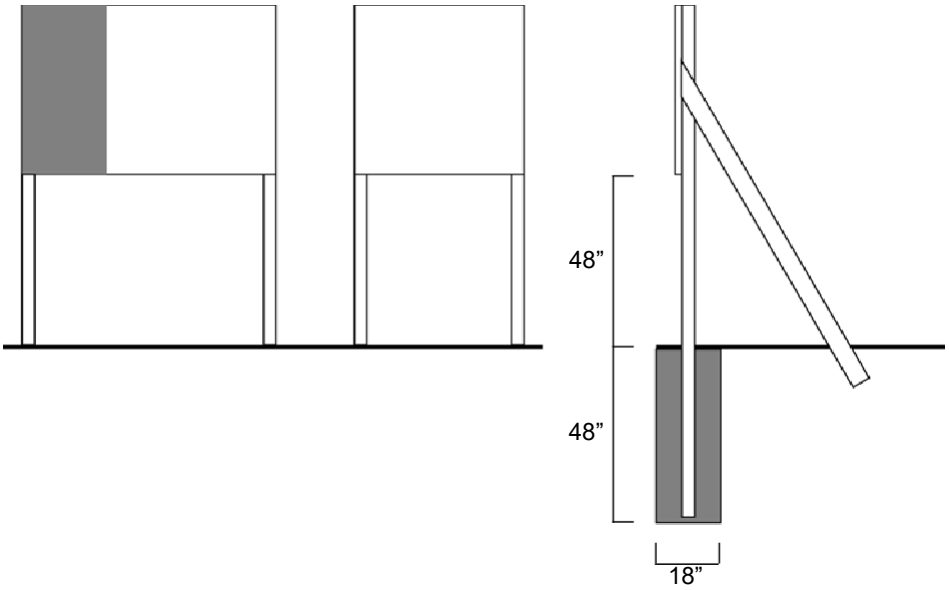
The 2'x 4' Communication Red panel (to match Pantone system 032) with full Corps Signature (reverse version) is to be screen-printed on the white background. Identification of the district or division may be applied under the signature with white cut vinyl letters prepared to Corps standards.

Drill and insert six (6) .375" T-nuts from the front face of the HDO sign panel. Position holes as shown. Flange of T-nut to be flush with sign face.

Apply graphic panel to prepared HDO plywood panel following manufacturers' instructions.

Sign uprights to be structural grade 4" x 4" treated Douglas Fir or Southern Yellow Pine, No.1 or better. Post to be 12' long. Drill six (6) .375" mounting holes in uprights to align with T-nuts in sign panel. Countersink (.5") back of hole to accept socket head cap screw (4" x .375").

Assemble sign panel and uprights. Imbed assembled sign panel and uprights in 4' hole. Local soil conditions and/or wind loading may require bolting additional 2" x 4" struts on inside face of uprights to reinforce installation as shown.



Construction Project Identification Sign
Legend Group 1: Corps Relationship

1. _____
2. _____

Legend Group 2: Division/District Name

1. _____
2. _____

Legend Group 2a: Military/Civil Works Sponsor

1. _____
2. _____

Legend Group 3: Project Title

1. _____
2. _____
3. _____

Legend Group 4: Facility Name

1. _____
2. _____

Legend Group 5: Contractor/A&E

1. _____
2. _____
3. _____
4. _____
5. _____

Legend Group 5b: Contractor/A&E

1. _____
2. _____
3. _____
4. _____
5. _____

Safety Performance Sign
Legend Group 2: Project Title

1. _____
2. _____

Legend Group 3: Contractor/A&E

1. _____
2. _____

SECTION 01 62 35

RECYCLED / RECOVERED MATERIALS

PART 1 GENERAL

1.1 REFERENCES

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

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

40 CFR 247	Comprehensive Procurement Guideline for Products Containing Recovered Materials

1.2 OBJECTIVES

Government procurement policy is to acquire, in a cost effective manner, items containing the highest percentage of recycled and recovered materials practicable consistent with maintaining a satisfactory level of competition without adversely affecting performance requirements or exposing suppliers' employees to undue hazards from the recovered materials. The Environmental Protection Agency (EPA) has designated certain items which must contain a specified percent range of recovered or recycled materials. EPA designated products specified in this contract comply with the stated policy and with the EPA guidelines. The Contractor shall make all reasonable efforts to use recycled and recovered materials in providing the EPA designated products and in otherwise utilizing recycled and recovered materials in the execution of the work.

A listing of EPA's comprehensive procurement guidelines (CPG) for designated and proposed products containing recovered materials can be viewed at the Internet web pages http://www.epa.gov/epawaste/conserve/tools/cpg/index.htm for designated items and proposed items.

1.3 EPA DESIGNATED ITEMS INCORPORATED IN THE WORK

Various sections of the specifications contain requirements for materials that have been designated by EPA as being products which are or can be made with recovered or recycled materials. These items, when incorporated into the work under this contract, shall contain at least the specified percentage of recycled or recovered materials unless adequate justification (non-availability) for non-use is provided. When a designated item is specified as an option to a non-designated item, the designated item requirements apply only if the designated item is used in the work.

1.4 EPA PROPOSED ITEMS INCORPORATED IN THE WORK

Products other than those designated by EPA are still being researched and are being considered for future Comprehensive Procurement Guideline (CPG) designation. It is recommended that these items, when incorporated in the

work under this contract, contain the highest practicable percentage of recycled or recovered materials, provided specified requirements are also met.

1.5 EPA LISTED ITEMS USED IN CONDUCT OF THE WORK BUT NOT INCORPORATED IN THE WORK

There are many products listed in 40 CFR 247 which have been designated or proposed by EPA to include recycled or recovered materials that may be used by the Contractor in performing the work but will not be incorporated into the work. These products include office products, temporary traffic control products, and pallets. It is recommended that these non-construction products, when used in the conduct of the work, contain the highest practicable percentage of recycled or recovered materials and that these products be recycled when no longer needed.

1.6 SUBMITTALS

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

SD-11 Closeout Submittals

List of Recycled/Recovered Materials; G.

Furnish a list and percentage of recycled/recovered materials applicable to the work in this Contract.

PART 2 PRODUCTS (Not Used)

Not Used

PART 3 EXECUTION

3.1 LIST OF RECYCLED/RECOVERED MATERIALS

In compliance with 40 CFR 247 and Contract Clauses 52.223-4 Recovered Material Certification and 52.223-9 Estimate of Percentage of Recovered Material Content for EPA-Designated Products, furnish a list of recycled/recovered materials used in contract performance of this Contract. Review the specifications and drawings and identify the designated and proposed construction products, including those items used in conduct of the work but not incorporated in the work, that will be included in the Contract. The list shall include an estimate of the percentage of total materials utilized for the performance of the Contract which is recovered materials.

-- End of Section --

SECTION 01 71 23.00 44

SURVEY, LAYOUT, AND OTHER DATA

PART 1 GENERAL (NOT USED)

1.1 SUBMITTALS

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

SD-01 Preconstruction Submittals

Survey Data;

Construction Photographs

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 CONTRACTOR VERIFICATION OF CONTRACT SURVEY DATA

During initial site layout and before existing conditions are disturbed the Contractor shall verify, in writing, the basic survey data provided on the contract drawings. Verification shall be initiated from the point shown on the contract drawings or from the contract drawing reference point designated by the Contracting Officer's Authorized Representative and shall include, as a minimum, benchmark elevations, horizontal control points, and sufficient spot checks of critical elevations to ensure that the survey data adequately reflects existing conditions. The Contractor shall not proceed with construction until survey verification is provided to the Contracting Officer's Authorized Representative. Before an existing benchmark referenced on the contract drawings is disturbed the Contractor shall establish a new benchmark which has been approved by the Contracting Officer's Authorized Representative. Benchmarks which are destroyed without authorization from the Contracting Officer's Authorized Representative must be replaced at the Contractor's expense as prescribed in Section 00 72 00 Contract Clause, "Layout of Work." The Contractor shall refer to Contract Clauses, "Differing Site Conditions" and "Site Investigation and Conditions Affecting the Work," for additional requirements.

3.2 CONSTRUCTION PHOTOGRAPHS

The Contractor shall make a representative series of digital images consisting of 6 before, 6 during, and 6 after construction of this project. Images shall be taken as directed by the Contracting Officer and shall be delivered to the Contracting Officer.

-- End of Section --

SECTION 01 74 19

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.1 REFERENCES

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

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

40 CFR 273	Standards for Universal Waste Management
49 CFR 173	Shippers - General Requirements for Shipments and Packagings
49 CFR 178	Specifications for Packagings

1.2 DEFINITIONS

1.2.1 Co-mingle

The practice of placing unrelated materials together in a single container, usually for benefits of convenience and speed.

1.2.2 Construction Waste

Waste generated by construction activities, such as scrap materials, damaged or spoiled materials, temporary and expendable construction materials, and other waste generated by the workforce during construction activities.

1.2.3 Demolition Debris/Waste

Waste generated from demolition activities, including minor incidental demolition waste materials generated as a result of Intentional dismantling of all or portions of a building, to include clearing of building contents that have been destroyed or damaged.

1.2.4 Disposal

Depositing waste in a solid waste disposal facility, usually a managed landfill, regulated in the US under the Resource Conservation and Recovery Act (RCRA).

1.2.5 Diversion

The practice of diverting waste from disposal in a landfill, by means of eliminating or minimizing waste, or reuse of materials.

1.2.6 Final Construction Waste Diversion Report

A written assertion by a material recovery facility operator identifying

constituent materials diverted from disposal, usually including summary tabulations of materials, weight in short-ton.

1.2.7 Recycling

The series of activities, including collection, separation, and processing, by which products or other materials are diverted from the solid waste stream for use in the form of raw materials in the manufacture of new products sold or distributed in commerce, or the reuse of such materials as substitutes for goods made of virgin materials, other than fuel.

1.2.8 Reuse

The use of a product or materials again for the same purpose, in its original form or with little enhancement or change.

1.2.9 Salvage

Usable, salable items derived from buildings undergoing demolition or deconstruction, parts from vehicles, machinery, other equipment, or other components.

1.2.10 Source Separation

The practice of administering and implementing a management strategy to identify and segregate unrelated waste at the first opportunity.

1.3 CONSTRUCTION WASTE (INCLUDES DEMOLITION DEBRIS/WASTE)

Divert a minimum of 60 percent by weight of the project construction waste and demolition debris/waste from the landfill. Follow applicable industry standards in the management of waste. Apply sound environmental principles in the management of waste. (1) Practice efficient waste management when sizing, cutting, and installing products and materials and (2) use all reasonable means to divert construction waste and demolition debris/waste from landfills and incinerators and to facilitate the recycling or reuse of excess construction materials.

1.4 CONSTRUCTION WASTE MANAGEMENT

Implement a construction waste management program for the project. Take a pro-active, responsible role in the management of construction construction waste, recycling process, disposal of demolition debris/waste, and require all subcontractors, vendors, and suppliers to participate in the construction waste management program. Establish a process for clear tracking, and documentation of construction waste and demolition debris/waste.

1.4.1 Implementation of Construction Waste Management Program

Develop and document how the construction waste management program will be implemented in a construction waste management plan. Submit a Construction Waste Management Plan to the Contracting Officer for approval. Construction waste and demolition debris/waste materials include un-used construction materials not incorporated in the final work, as well as demolition debris/waste materials from demolition activities or deconstruction activities. In the management of waste, consider the availability of viable markets, the condition of materials, the ability to

provide material in suitable condition and in a quantity acceptable to available markets, and time constraints imposed by internal project completion mandates.

1.4.2 Oversight

The Quality Control Manager, as specified in Section 01 45 00.00 10 QUALITY CONTROL, is responsible for overseeing and documenting results from executing the construction waste management plan for the project.

1.4.3 Special Programs

Implement any special programs involving rebates or similar incentives related to recycling of construction waste and demolition debris/waste materials. Retain revenue or savings from salvaged or recycling, unless otherwise directed. Ensure firms and facilities used for recycling, reuse, and disposal are permitted for the intended use to the extent required by federal, state, and local regulations.

1.4.4 Special Instructions

Provide on-site instruction of appropriate separation, handling, recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the projects. Designation of single source separating or commingling will be clearly marked on the containers.

1.4.5 Waste Streams

Delineate waste streams and characterization, including estimated material types and quantities of waste, in the construction waste management plan. Manage all waste streams associated with the project. Typical waste streams are listed below. Include additional waste steams not listed:

a. Land Clearing Debris
b. Asphalt
c. Masonry and CMU
d. Concrete
e. Metals (e.g. banding, stud trim, ductwork, piping, rebar, roofing, other trim, steel, iron, galvanized, stainless steel, aluminum, copper, zinc, bronze, etc.)
f. Wood (nails and staples allowed)
g. Glass
h. Paper
i. Plastics (PET, HDPE,PVC,LDPE,PP,PS, Other)
j. Gypsum
k. Non-hazardous paint and paint cans
l. Carpet
m. Ceiling Tiles
n. Insulation
o. Beverage Containers

1.5 SUBMITTALS

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

SD-01 Preconstruction Submittals

Construction Waste Management Plan; G

SD-06 Test Reports

Quarterly Reports

Annual Report

SD-11 Closeout Submittals

Final Construction Waste Diversion Report; S

1.6 MEETINGS

Conduct Construction Waste Management meetings. After award of the Contract and prior to commencement of work, schedule and conduct a meeting with the Contracting Officer to discuss the proposed construction waste management plan and to develop a mutual understanding relative to the management of the construction waste management program and how waste diversion requirements will be met.

The requirements of this meeting may be fulfilled during the coordination and mutual Understanding meeting outlined in Section 01 45 00.00 10 QUALITY CONTROL. At a minimum, discuss and document waste management goals at following meetings:

a. Preconstruction meeting.

b. Regular Quality Control meetings.

c. Work safety meeting (if applicable).

1.7 CONSTRUCTION WASTE MANAGEMENT PLAN

Submit Construction Waste Management Plan within 15 days after notice to proceed. Revise and resubmit Construction Waste Management Plan until it receives final approval from the Contracting Officer, in order for construction to begin. Manage demolition debris/waste or deconstruction materials in accordance with the approved construction waste management plan.

An approved construction waste management plan will not relieve the Contractor of responsibility for compliance with applicable environmental regulations or meeting project cumulative waste diversion requirement. Ensure all subcontractors receive a copy of the approved Construction Waste Management Plan. The plan demonstrates how to meet the project waste diversion requirement. Also, include the following in the plan:

a. Identify the names of individuals responsible for waste management and waste management tracking, along with roles and responsibilities on the project..

b. Actions that will be taken to reduce solid waste generation, including coordination with subcontractors to ensure awareness and participation.

c. Description of the regular meetings to be held to address waste management.

d. Description of the specific approaches to be used in recycling/reuse of the various materials generated, including the areas on site and equipment to be used for processing, sorting, and temporary storage of materials.

e. Name of landfill and/or incinerator to be used.

f. Identification of local and regional re-use programs, including non-profit organizations such as schools, local housing agencies, and organization that accept used materials such as material exchange networks and resale stores. Include the name, location, phone number for each re-use facility identified, and provide a copy of the permit or license for each facility.

g. List of specific materials, by type and quantity, that will be salvaged for resale, salvaged and reused on the current project, salvaged and stored for reuse on a future project, or recycled. Identify the recycling facilities by name, address, and phone number.

h. Identification of materials that cannot be recycled or reused with an explanation or justification, to be approved by the Contracting Officer.

i. Description of the means by which any materials identified in item (g) above will be protected from contamination.

j. Description of the means of transportation of the recyclable materials (whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler and removed from the site).

k. Copy of training plan for subcontractors and other services to prevent contamination by co-mingling materials identified for diversion and waste materials.

l. Identification of at least 5 construction or demolition material streams for diversion.

m. Detailed plan and distribution of waste diversion between buildings, when project is a part of a campus.

n. Facilities or subcontractors offering construction waste transport on-site or off-site must ensure that proper shipping orders, bill of lading, manifests, or other shipping documents containing waste diversion information meet requirements of 40 CFR 273 Universal Waste Management, 49 CFR 173 Shippers - General Requirements for Shipments and Packagings, and 49 CFR 178 Specifications for Packaging. Individuals signing manifests or other shipping documents should meet the minimum training requirements.

o. List each supplier who deliver construction materials, in bulk, or package products in returnable containers or returnable packaging, or have take-back programs. List each program and the applicable material to actively monitor and track to assist in meeting waste diversion requirements on the project.

p. Identify any local jurisdiction requirements for waste management.

Include those requirements, points of contact, etc.

Distribute copies of the waste management plan to each subcontractor, Quality Control Manager, and the Contracting Officer.

1.8 RECORDS (DOCUMENTATION)

1.8.1 General

Maintain records to document the types and quantities of waste generated and diverted though re-use, recycling and/or sale to third parties; through disposal to a landfill or incinerator facility. Provide explanations for any materials not recycled, reused or sold. Collect and retain manifests, weight tickets, sales receipts, and invoices specifically identifying diverted project waste materials or disposed materials.

1.8.2 Accumulated

Maintain a running record of materials generated and diverted from landfill disposal, including accumulated diversion rates for the project. Make records available to the Contracting Officer during construction or incidental demolition activities. Provide a copy of the diversion records to the Contracting Officer and the Solid Waste Management Office of the facility owner upon completion of the construction, incidental demolitions or minor deconstruction activities.

1.9 REPORTS

1.9.1 General

Maintain current construction waste diversion information on site for periodic inspection by the Contracting Officer. Include in the quarterly reports, annual reports and final reports: the project name, contract information, information for waste generated, diverted and disposed of for the current reporting period and show cumulative totals for the project. Reports must identify quantifies of waste by type and disposal method. Also include in each report, supporting documentation to include manifests, weigh tickets, receipts, and invoices specifically identifying the project and waste material type and weighted sum.

1.9.2 Quarterly Reporting

Provide cumulative reports at the end of each quarter (December, March, June, and September, corresponding with the federal fiscal year for reporting purposes). Submit quarterly reports not later than 15 calendar days after the preceding quarter has ended. Submit Quarterly Reports to the appropriate office or identified point of contact.

1.9.3 Annual Reporting

Provide a cumulative construction waste diversion report annually. Submit annual report not later than 30 calendar days after the preceding fourth quarter has ended. Provide copy of annual construction waste diversion report to the installation POC.

1.10 FINAL CONSTRUCTION WASTE DIVERSION REPORT

A Final Construction Waste Diversion Report is required at the end of the project. Provide Final Construction Waste Diversion Report 60 days prior to the Beneficial Occupancy Date (BOD).

1.11 COLLECTION

Collect, store, protect, and handle reusable and recyclable materials at the site in a manner which prevents contamination, and provides protection from the elements to preserve their usefulness and monetary value. Provide receptacles and storage areas designated specifically for recyclable and reusable materials and label them clearly and appropriately to prevent contamination from other waste materials. Keep receptacles or storage areas neat and clean.

Train subcontractors and other service providers to either separate waste streams or use the co-mingling method as described in the construction waste management plan. Handle hazardous waste and hazardous materials in accordance with applicable regulations and coordinate with Section 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS. Separate materials by one of the following methods described herein:

1.11.1 Source Separation Method

Separate waste products and materials that are recyclable from trash and sort as described below into appropriately marked separate containers and then transport to the respective recycling facility for further processing. Deliver materials in accordance with recycling or reuse facility requirements (e.g., free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process). Separate materials into the category types as defined in the construction waste management plan.

1.11.2 Co-Mingled Method

Place waste products and recyclable materials into a single container and then transport to an authorized recycling facility, which meets all applicable requirements to accept and dispose of recyclable materials in accordance with all applicable local, state and federal regulations. The Co-mingled materials must be sorted and processed in accordance with the approved construction waste management plan.

1.11.3 Other Methods

Other methods proposed by the Contractor may be used when approved by the Contracting Officer.

1.12 DISPOSAL

Control accumulation of waste materials and trash. Recycle or dispose of collected materials off-site at intervals approved by the Contracting Officer and in compliance with waste management procedures as described in the waste management plan. Except as otherwise specified in other sections of the specifications, dispose of in accordance with the following:

1.12.1 Reuse

Give first consideration to reusing construction and demolition materials as a disposition strategy. Recover for reuse materials, products, and components as described in the approved construction waste management plan. Coordinate with the Contracting Officer to identify onsite reuse opportunities or material sales or donation available through Government resale or donation programs. Sale of recovered materials is allowed on the Installation.

1.12.2 Recycle

Recycle non-hazardous construction and demolition/debris materials that are not suitable for reuse. Track rejection of contaminated recyclable materials by the recycling facility. Rejected recyclables materials will not be counted as a percentage of diversion calculation. Recycle all fluorescent lamps, HID lamps, mercury (Hg) -containing thermostats and ampoules, and PCBs-containing ballasts and electrical components as directed by the Contracting Officer. Do not crush lamps on site as this creates a hazardous waste stream with additional handling requirements.

1.12.3 Waste

Dispose by landfill or incineration only those waste materials with no practical use, economic benefit, or recycling opportunity.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used. -- End of Section --

SECTION 01 78 00

CLOSEOUT SUBMITTALS

PART 1 GENERAL
1.1 REFERENCES

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

U.S. ARMY CORPS OF ENGINEERS (USACE)

ERDC/ITL TR-12-1	(2015) A/E/C Graphics Standard, Release 2.0
ERDC/ITL TR-12-6	(2015) A/E/C CAD Standard - Release 6.0

U.S. DEPARTMENT OF DEFENSE (DOD)

UFC 1-300-08	(2009, with Change 2) Criteria for Transfer and Acceptance of DoD Real Property

1.2 SUBMITTALS

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

SD-03 Product Data

As-Built Record of Equipment and Materials; G
Warranty Management Plan; G
Three sets of the construction warranty management plan containing information relevant to the warranty of materials and equipment incorporated into the construction project, including the starting date of warranty of construction. The Contractor shall furnish with each warranty the name, address, and telephone number of each of the guarantor's representatives nearest to the project location.

Warranty Tags; G
Performance Bond During Warranty;
Warranty Point of Contact; G
Warranty Report; G

Spare Parts Data; G

SD-08 Manufacturer's Instructions

Preventative Maintenance; G
Condition Monitoring (Predictive Testing); G
Inspection; G
Posted Instructions; G

SD-10 Operation and Maintenance Data

Operation and Maintenance Manuals; G

SD-11 Closeout Submittals

LEED Review Meetings; G
Red Zone Meeting; G
Video; G

Record Drawings; G
Preliminary Record Drawings; G
Final Record Drawings; G
Drawings showing final as-built conditions of the project.
Sustainable Design Documentation; G
Final Approved Shop Drawingsv

Real Property Equipment; G
Certification of EPA Designated Items; G
Interim Form DD1354; G
Checklist for Form DD1354; G
Inventory Of Contractor Furnished And Installed Equipment; G
Real Property Record

1.3 GENERAL

1.3.1 Payment

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

1.3.2 HVAC Testing

The HVAC Testing that the Contractor schedules after substantial completion pursuant to paragraph entitled "Testing of Heating and Air-Conditioning Systems" of Section 01 00 00.00 45 DESIGN AND CONSTRUCTION SCHEDULE has a value to the Government of 10 percent of the value of the equipment to be tested. The Contractor shall reserve that amount to be paid on any equipment that will require testing after substantial completion pursuant to the above referenced specification paragraph.

1.4 PROJECT RECORD DOCUMENTS

1.4.1 Record Drawings

Drawings showing final as-built conditions of the project. This paragraph covers record drawings complete, as a requirement of the contract. The terms "drawings," "contract drawings," "drawing files," "working record drawings" and "final record drawings" refer to contract drawings which are revised to be used for final record drawings showing as-built conditions. The final CADD record drawings must consist of one set of electronic CADD

drawing files in the specified format, one set of mylar drawings, 2 sets of black-line prints, and one set of the approved working Record drawings.

1.4.1.1 Definition

Project Record documents are a record of the construction as installed and completed by the Contractor. They are a record of all deviations, modifications, or changes from contract set of drawings (the accepted 100% design drawings) and other documents, however minor, which were incorporated in the work. They include all the information shown on the contract set of drawings, any Contractor-original drawings, all additional work not appearing on the contract drawings, and all changes which are made after final inspection of the contract work.

1.4.1.2 Contractor-Original Record Drawings

Contractor-original record drawings are those drawings drawn by the Contractor, after acceptance of the 100% design documents and the start of construction, to further explain the Contract documents such as subcontractor submittals for fire protection/detection, communication, and other systems, and approved Contractor's solutions to problems. Submit these drawings as full-size reproducible sheets and CADD files. CADD files shall conform to the Working CADD file requirements specified in paragraph "Final Record Drawings."

1.4.1.3 Preliminary Record Drawings

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

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

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

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

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

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

f. Changes in details of design or additional information obtained from working drawings specified to be prepared and/or furnished by the Contractor including but not limited to fabrication, erection, installation plans and placing details, pipe sizes, insulation material, dimensions of equipment foundations, etc.

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

h. Options

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

i. Blue Line or Black Line Prints

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

j. Prefinal Inspection For Each Item of Work

As part of the prefinal inspection for each item of work, the current updated preliminary marked-up record drawings and as-built CADD drawing files will be reviewed. They shall comply with this specification prior to scheduling the final inspection, and/or prior to substantial completion of the item of work.

k. Preliminary Record Drawing Final Submittal

Prior to scheduling the red zone meeting and the final acceptance inspection of the last or only bid schedule item of work, the updated preliminary marked-up record drawings and the updated as-built CADD drawing files shall be completed and delivered to the Contracting

Officer's Representative for review and approval. If upon review, the drawings and files are found to contain errors and/or omissions, they will be returned to the Contractor for corrections. Failure of the Contractor to make timely delivery of the preliminary record drawings and files on any or all items of work will be cause for the Government to delay substantial completion and to withhold the amount indicated in paragraph "Withholding for Preliminary Record Drawings," in accordance with the terms and conditions of the contract.

l. Withholding for Preliminary Record Drawings

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

m. Final Inspection

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

1.4.1.4 Final Record Drawings

Upon approval of the preliminary record drawings, the Contracting Officer will return the approved preliminary record drawing prints back to the Contractor. The Contractor will then modify the CADD files as may be necessary to correctly show all the features of the project as it was constructed by bringing the contract set into agreement with the preliminary record drawings, including adding additional drawings and CADD files as may be necessary. The Contractor shall furnish the as-built drawings in the same file format specified in Section 01 33 16 DESIGN AFTER AWARD. The Working CADD files and non-graphical digital data shall conform to the Fort Polk Requirements specified specified in Section 01 35 12.00 44 SPECIAL PROJECT PROCEDURES FOR FORT POLK. These CADD files are part of the permanent records of this project and the Contractor shall be responsible for the protection and safety thereof until final submittal to the Contracting Officer. Drawings, tracings, or CADD files damaged or lost by the Contractor shall be satisfactorily replaced by the Contractor at the Contractor's expense. CADD files will be audited by the Contracting Officer and for accuracy and conformance to the above specified drafting and CADD standards.

a. Drafting

Only personnel proficient in the preparation of engineering drawings and CADD shall be employed to modify the original contract drawings, prepare additional new drawings, and modify the CADD files. Additions and corrections to the contract drawings shall be neat, clean, and legible and shall match the adjacent existing line work and/or lettering being annotated in type, density, size and style. All modifications, CADD information, and new drawings shall conform to applicable requirements specified in the paragraph "CADD Standards." The Contractor shall ensure

that all delivered CADD digital files and data (e.g., sheet files, model files, cell/block libraries) are compatible with the Government's target CADD system and operating system, and adhere to the standards and requirements specified. The term "compatible" means that data is in native digital format i.e., .dgn (MicroStation) or .dwg (AutoCAD). It is the responsibility of the Contractor to ensure this level of compatibility.

b. CADD Standards

CADD Standards are specified in Section Section 01 35 12.00 44 SPECIAL PROJECT PROCEDURES FOR FORT POLK. CADD drawings shall be prepared in accordance with the ERDC/ITL TR-12-6 (A/E/C CADD Standards) and the ERDC/ITL TR-12-1 (A/E/C Graphics Standards). See Section 01 35 12.00 44 SPECIAL PROJECT PROCEDURES FOR FORT POLK for requirements for Fort Polk.

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

c. Final Revisions

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

d. Border Sheets

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

f. Copies of the Final Record Drawings

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

g. Submittal Requirements

The Contractor shall submit to the Contracting Officer the final record drawings, consisting of two sets of full-size black line prints and three CD's or DVD's of corrected electronic (CADD and.pdf) files; verification that the electronic (CADD and .pdf) files have been loaded and work on the designated computer systems and are error- and virus-free; the approved preliminary drawings; and all required reproduced items. The corrected.pdf files shall be compiled into sets so that the files can be viewed and printed by the Adobe PDF reader; sets shall be bookmarked by sheet number and title. All paper prints and electronic CADD files will become the property of the Government.

h. Sustainable Design Documentation

Submit the final LEED Documentation as specified in Section 01 33 29 LEED DOCUMENTATION, verifying the final LEED score and establishing the final ratingProvide certification of achievement of the specified rating, including the final LEED-NC Registered Project Checklist verifying the

final LEED score and establishing the final rating.

1.4.1.5 Post-Record Drawing Work

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

1.4.1.6 Payment for Final Record Drawings

If there is no separate contract line item (CLIN) for Final Record Drawings, cost load the "Submission and approval of as-built drawings" activity not less than $35,000 or 1 percent of the present contract value, which ever is greater, up to $200,000. Activity will be declared 100 percent complete upon the Government's approval.

1.4.2 As-Built Record of Equipment and Materials

Furnish one copy of preliminary record of equipment and materials used on the project 15 days prior to final inspection. This preliminary submittal will be reviewed and returned 2 days after final inspection with Government comments. Submit Two sets of final record of equipment and materials 10 days after final inspection. Key the designations to the related area depicted on the contract drawings. List the following data:

RECORD OF DESIGNATED EQUIPMENT AND MATERIALS DATA

Description	Specification Section	Manufacturer and Catalog, Model, and Serial Number	Composition and Size	Where Used

1.4.3 Final Approved Shop Drawings

Furnish final approved project shop drawings 30 days after transfer of the completed facility.

1.4.4 Real Property Equipment

Furnish a list of installed equipment furnished under this contract. Include all information usually listed on manufacturer's name plate. In the "EQUIPMENT-IN-PLACE LIST" include, as applicable, the following for each piece of equipment installed: description of item, location (by room number), model number, serial number, capacity, name and address of manufacturer, name and address of equipment supplier, condition, spare parts list, manufacturer's catalog, and warranty. Furnish a draft list at time of transfer. Furnish the final list 30 days after transfer of the completed facility.

1.5 SPARE PARTS DATA

Submit two copies of the Spare Parts Data list.

a. Indicate manufacturer's name, part number, nomenclature, and stock

level required for maintenance and repair. List those items that may be standard to the normal maintenance of the system.

b. Supply extra items of each part for spare parts inventory. Provision of spare parts does not relieve the Contractor of responsibilities listed under the contract guarantee provisions.

1.6 PREVENTATIVE MAINTENANCE

Submit Preventative Maintenance, Condition Monitoring (Predictive Testing) and Inspection schedules with instructions that state when systems should be retested.

a. Define the anticipated length of each test, test apparatus, number of personnel identified by responsibility, and a testing validation procedure permitting the record operation capability requirements within the schedule. Provide a signoff blank for the Contractor and Contracting Officer for each test feature; e.g., gpm, rpm, psi. Include a remarks column for the testing validation procedure referencing operating limits of time, pressure, temperature, volume, voltage, current, acceleration, velocity, alignment, calibration, adjustments, cleaning, or special system notes. Delineate procedures for preventative maintenance, inspection, adjustment, lubrication and cleaning necessary to minimize corrective maintenance and repair.

b. Repair requirements must inform operators how to check out, troubleshoot, repair, and replace components of the system. Include electrical and mechanical schematics and diagrams and diagnostic techniques necessary to enable operation and troubleshooting of the system after acceptance.

1.7 CERTIFICATION OF EPA DESIGNATED ITEMS

Submit the Certification of EPA Designated Items as required by FAR 52.223-9, "Certification and Estimate of Percentage of Recovered Material Content for EPA Designated Items". Include on the certification form the following information: project name, project number, Contractor name, license number, Contractor address, and certification. The certification will read as follows and be signed and dated by the Contractor. "I hereby certify the information provided herein is accurate and that the requisition/procurement of all materials listed on this form comply with current EPA standards for recycled/recovered materials content. The following exemptions may apply to the non-procurement of recycled/recovered content materials: 1) The product does not meet appropriate performance standards; 2) The product is not available within a reasonable time frame; 3) The product is not available competitively (from two or more sources); 4) The product is only available at an unreasonable price (compared with a comparable non-recycled content product)." Record each product used in the project that has a requirement or option of containing recycled or biobased content in accordance with Section 01 62 35 RECYCLED/RECOVERED MATERIALS, noting total price, total value of post-industrial recycled content, total value of post-consumer recycled content, total value of biobased content, exemptions (1, 2, 3, or 4, as indicated), and comments. Recycled and biobased content values may be determined by weight or volume percent, but must be consistent throughout.

1.8 INVENTORY OF CONTRACTOR FURNISHED AND INSTALLED EQUIPMENT

The Contractor shall develop and maintain an up-to-date list of all equipment installed under this contract. The list shall include but not be limited to equipment that require electrical power or fuel, or may require removal or replacement such as AHUs, fans, air conditioners, compressors, condensers, boiler, thermal exchangers, pumps, cooling towers, tanks, fire hydrants, sinks, water closets, lavatories, urinals, shower stalls, and any other large plumbing fixtures, light fixtures, etc. The list shall be reviewed periodically by the Government to insure completeness and accuracy. Partial payment will be withheld for equipment not incorporated in the list. Final list shall be turned over to the Authorized Representative of the Contracting Officer at the time of contractor's quality control completion inspection.

1.8.1 Equipment Identification Number

There are two separate Equipment ID numbering systems. One is for Real Property installed equipment. The other is for Equipment in Place. Only spaces filled with significant digits will be used. Do not add zeros or blanks to fill extra spaces.

a. Real Property Installed Equipment (RFIE)

The equipment ID Number, for use with RPIE, is made of 4 parts. These parts represent the building number, the equipment type suffix, the floor the equipment is located on, and the sequence number of that type of equipment on that floor in the building.

(1) The first part is the building number.

(2) The second part, the equipment type suffix, is a 1 digit alpha-character based on IFS-M. Acceptable codes are:

(a) A - Air Conditioning Plant: Includes chillers, condensing units, etc., excludes air conditioning plants that directly support user end item equipment, such as a separate package unit to chill a computer room equipment space. Excludes window air conditioning units.

(b) B - Compressed Air/Vacuum: Note, only those that are part of the building systems such as pneumatic controls for Energy Management and Control Systems (EMCS). Does not include compressed air and vacuum systems that directly support user end items.

(c) C - Evaporative cooling and mechanical equipment.

(d) D - Dehumidification Equipment: Applies to equipment whose sole purpose is dehumidification of facilities. Excludes dehumidification that directly support user and item equipment.

(e) E - Electrical Generating Plants: Includes permanently installed generators and switch gear associated with prime power and emergency generator plants. Excludes uninterruptable power systems (UPS) equipment.

(f) F - Transformers: Does not include transformers that directly support user end items or equipment.

(g) G - Other Heating Support: Includes air handlers,

circulating pumps, etc., associated with heating systems. Also includes dual (heating/cooling) air handlers, etc. Includes specialized central energy management systems EMCS, exclusive of CPU's and peripherals.

(h) H - Heating Plants: Limited to direct fired, fuel burning heating plants. Does not apply to electrical fired heaters, heat pumps, or associated equipment. See Suffixes A, G, or M.

(i) I - Substation and Switching Station: Associates with stepdown from incoming primary voltage to secondary voltage or lower voltage primary voltage.

(j) J - Sewage Pumping Plants: Includes grinder pump type sewage lift systems as well as conventional sewage lift stations, associated controls and equipment.

(k) M - Miscellaneous Utilities: Includes gas generators, cooling towers and other facility systems not otherwise identified. Excludes systems associates with and in support of user end items.

(l) N - Liquid Fuel Dispensing: Includes pumps, controls.

(m) P - Cold Storage and Refrigeration Plants: Excludes portable and prefabricated refrigeration systems which can be removed from the facility.

(n) R - Fire Extinguishing Systems: Includes standpipe and sprinkler systems, as well as fixed gas and/or chemical extinguishing systems intended for protection of the facility. Excludes portable extinguishing systems and fixed gas and/or chemical extinguishing systems intended for protection of user and item equipment. Includes specialized systems such as Engineer Smoke Control systems (ESCS) other than CPU's and associated peripherals of such systems.

(o) S - Water Pumping Plants: Applies to potable and nonpotable water pumping systems only. Excludes storm waste pumping systems which should be includes under Equipment Suffix M.

(p) T - Fire and other Alarm Systems: Excludes security alarm systems and alarm systems associated with user and item equipment such as medical refrigerators and commissary display cases. Does not include 'pumpout' and 'overflow' alarms associates with water and sewage lift stations and other similar facilities.

(q) W - Water Sources: Includes potable and non-potable well equipment and storage tanks.

(r) X - Water Treatment and Filtration Plants: Includes water softeners and deionization equipment in support of facility systems, as well as systems for processing raw water to potability standards. Excludes systems that directly support user and item equipment.

(s) Y - Industrial Waste and Sewage Treatment Plants: Includes grease, oil, and other waste separators.

(t) Z - Special Purpose: Assigned by installation a case by case basis.

(3) The third part, the floor, is a 1 to 2 alphanumeric

character. The system for defining floor number is:

(a) Floors, above and including the ground floor, are numbered in ascending order with the ground floor being equal to 1.

(b) Interstitial floors and spaces are identified by the letter 'I' and the number of the occupied floor below the interstitial space. For example, the interstitial space above the third floor of a building would be identified as: I3. Attic spaces are numbered as interstitial space.

(c) Crawl space, below the first floor, is identified as: CS.

(d) Basements and lower level floors are numbered, in descending order, with a 2 character identified. The first character is the letter 'L' and the second character is the number of the floor with the floor immediately under the ground floor being: L1.

(e) Where equipment, associates with a facility is mounted on the ground outside the physical perimeter of the facility, such as a condensing unit, the floor is identified a: G.

(4) The fourth part, the sequence number, is a 2 to 4 digit character. The first digit shall always be a slash (/). The second through fourth character is the sequential numbering (1 thru 999) of items of equipment with identical first 3 parts of the equipment ID number. For existing facilities, this will normally be given to the activity installing the equipment by the O&M Division. For new facilities, this is assigned by the activity installing the equipment.

b. For "Equipment In Place" Equipment

The equipment ID number, for use with equipment in place (i.e., end item equipment which is not an integral part of the building but which is installed in the building under this contract,) is made of 2 parts. These parts represent the Department of Defense Activity Code (DODAC) of the unit or equipment in the activity.

(1) The first part, the DODAC, is a 6 digit alpha-numeric character representing the primary user or responsible organization. It will be provided to the contractor upon request from the Contracting Officer.

(2) The second part, the sequence number, is a 1 to 4 digit character. It is the sequential numbering (1 thru 9999), of equipment in that building, belonging to the DODAC. Questions, with respect to sequence numbers, should be addressed to the O&M Division.

1.8.2 Equipment Data

List shall include on each item as applicable: Description, Manufacturer, Model or Catalog No., Serial No., Input (power voltage, BTU, etc.), Output (power, voltage, BTU, tons, etc.). Size or Capacity (tanks), and net inventory costs; any other data necessary to describe item and shall list all warrantors and warranty periods for each item of equipment.

1.9 INVENTORY OF CONTRACTOR FURNISHED AND INSTALLED EQUIPMENT

A list of equipment or units of equipment that require electrical power or

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

1.10 WARRANTY MANAGEMENT

1.10.1 Warranty Management Plan

Develop a warranty management plan which contains information relevant to the clause Warranty of Construction in Section 00 72 00 CONTRACT CLAUSES. At least 30 days before the planned pre-warranty conference, submit one set of the warranty management plan. Include within the warranty management plan all required actions and documents to assure that the Government receives all warranties to which it is entitled. The plan must be in narrative form and contain sufficient detail to render it suitable for use by future maintenance and repair personnel, whether tradesmen, or of engineering background, not necessarily familiar with this contract. The term "status" as indicated below must include due date and whether item has been submitted or was accomplished. Warranty information made available during the construction phase must be submitted to the Contracting Officer for approval prior to each monthly pay estimate. Assemble approved information in a binder and turn over to the Government upon acceptance of the work. The construction warranty period will begin on the date of project acceptance and continue for the full product warranty period. A joint 4 month and 9 month warranty inspection will be conducted, measured from time of acceptance, by the Contractor, Contracting Officer and the Customer Representative.

Include within the warranty management plan , but not limited to, the following:

a. Roles and responsibilities of all personnel associated with the warranty process, including points of contact and telephone numbers within the organizations of the Contractors, subContractors, manufacturers or suppliers involved.

b. Furnish with each warranty the name, address, and telephone number of each of the guarantor's representatives nearest to the project location.

c. Listing and status of delivery of all Certificates of Warranty for extended warranty items, to include roofs, HVAC balancing, pumps, motors, transformers, and for all commissioned systems such as fire protection and alarm systems, sprinkler systems, lightning protection systems, etc.

d. A list for each warranted equipment, item, feature of construction or

system indicating:

(1) Name of item.
(2) Model and serial numbers.
(3) Location where installed.
(4) Name and phone numbers of manufacturers or suppliers.
(5) Names, addresses and telephone numbers of sources of spare parts.
(6) Warranties and terms of warranty. Include one-year overall warranty of construction, including the starting date of warranty of construction. Items which have extended warranties must be indicated with separate warranty expiration dates.
(7) Cross-reference to warranty certificates as applicable.
(8) Starting point and duration of warranty period.
(9) Summary of maintenance procedures required to continue the warranty in force.
(10) Cross-reference to specific pertinent Operation and Maintenance manuals.
(11) Organization, names and phone numbers of persons to call for warranty service.
(12) Typical response time and repair time expected for various warranted equipment.

e. The Contractor's plans for attendance at the 4 and 9 month post-construction warranty inspections conducted by the Government.

f. Procedure and status of tagging of all equipment covered by extended warranties.

g. Copies of instructions to be posted near selected pieces of equipment where operation is critical for warranty and/or safety reasons.

1.10.2 Performance Bond

The Contractor's Performance Bond must remain effective throughout the construction period .

a. In the event the Contractor fails to commence and diligently pursue any construction warranty work required, the Contracting Officer will have the work performed by others, and after completion of the work, will charge the remaining construction warranty funds of expenses incurred by the Government while performing the work, including, but not limited to administrative expenses.

b. In the event sufficient funds are not available to cover the construction warranty work performed by the Government at the Contractor's expense, the Contracting Officer will have the right to recoup expenses from the bonding company.

c. Following oral or written notification of required construction warranty repair work, respond in a timely manner. Written verification will follow oral instructions. Failure of the Contractor to respond will be cause for the Contracting Officer to proceed against the Contractor.

1.10.3 Pre-Warranty Conference

Prior to contract completion, and at a time designated by the Contracting Officer, meet with the Contracting Officer to develop a mutual understanding with respect to the requirements of this section.

Communication procedures for Contractor notification of construction warranty defects, priorities with respect to the type of defect, reasonable time required for Contractor response, and other details deemed necessary by the Contracting Officer for the execution of the construction warranty will be established/reviewed at this meeting. In connection with these requirements and at the time of the Contractor's quality control completion inspection, furnish the name, telephone number and address of a licensed and bonded company which is authorized to initiate and pursue construction warranty work action on behalf of the Contractor. This warranty point of contact will be located within the local service area of the warranted construction, be continuously available, and be responsive to Government inquiry on warranty work action and status. This requirement does not relieve the Contractor of any of its responsibilities in connection with other portions of this provision.

1.10.4 Contractor's Response to Construction Warranty Service Requirements

Following oral or written notification by the Contracting Officer, respond to construction warranty service requirements in accordance with the "Construction Warranty Service Priority List" and the three categories of priorities listed below. Submit a warranty report on any warranty item that has been repaired during the warranty period. Include within the report the cause of the problem, date reported, corrective action taken, and when the repair was completed. If the Contractor does not perform the construction warranty within the timeframes specified, the Government may perform the work and, if so, backcharge the Contractor for the cost of such repairs. Such backcharges shall be accomplished under the Changes Clause of the Contract through a credit modification. These modifications will include a Government administration fee per occurrence.

a. First Priority Code 1. Perform onsite inspection to evaluate situation, and determine course of action within 4 hours, initiate work within 6 hours and work continuously to completion or relief.

b. Second Priority Code 2. Perform onsite inspection to evaluate situation, and determine course of action within 8 hours, initiate work within 24 hours and work continuously to completion or relief.

c. Third Priority Code 3. All other work to be initiated within 3 work days and work continuously to completion or relief.

d. The "Construction Warranty Service Priority List" is as follows:

Code 1-Life Safety Systems
(1) Fire suppression systems.
(2) Fire alarm system(s) in place in the building.

Code 1-Air Conditioning Systems
(1) Recreational support.
(2) Air conditioning leak in part of building, if causing damage.
(3) Air conditioning system not cooling properly.

Code 1-Doors
(1) Overhead doors not operational, causing a security, fire, or safety problem.
(2) Interior, exterior personnel doors or hardware, not functioning properly, causing a security, fire, or safety problem.

Code 3-Doors

(1) Overhead doors not operational.
(2) Interior/exterior personnel doors or hardware not functioning properly.

Code 1-Electrical
(1) Power failure (entire area or any building operational after 1600 hours).
(2) Security lights
(3) Smoke detectors

Code 2-Electrical
(1) Power failure (no power to a room or part of building).
(2) Receptacle and lights (in a room or part of building).

Code 3-Electrical
Street lights.

Code 1-Gas
(1) Leaks and breaks.
(2) No gas to family housing unit or cantonment area.

Code 1-Heat
(1) Area power failure affecting heat.
(2) Heater in unit not working.

Code 2-Kitchen Equipment
(1) Dishwasher not operating properly.
(2) All other equipment hampering preparation of a meal.

Code 1-Plumbing
(1) Hot water heater failure.
(2) Leaking water supply pipes.

Code 2-Plumbing
(1) Flush valves not operating properly.
(2) Fixture drain, supply line to commode, or any water pipe leaking.
(3) Commode leaking at base.

Code 3 -Plumbing
Leaky faucets.

Code 3-Interior
(1) Floors damaged.
(2) Paint chipping or peeling.
(3) Casework.

Code 1-Roof Leaks
Temporary repairs will be made where major damage to property is occurring.

Code 2-Roof Leaks
Where major damage to property is not occurring, check for location of leak during rain and complete repairs on a Code 2 basis.

Code 2-Water (Exterior)
No water to facility.

Code 2-Water (Hot)
No hot water in portion of building listed.

Code 3-All other work not listed above.

Code 1-Building Automation and Control Systems
(1) Systems and equipment not working properly
(1) Equipment or software malfunction

1.10.5 Warranty Tags

At the time of installation, tag each warranted item with a durable, oil and water resistant tag approved by the Contracting Officer. Attach each tag with a copper wire and spray with a silicone waterproof coating. Also, submit two record copies of the warranty tags showing the layout and design. The date of acceptance and the QC signature must remain blank until the project is accepted for beneficial occupancy. Show the following information on the tag.

a. Type of product/material_____.

b. Model number_____.

c. Serial number_____.

d. Contract number_____.

e. Warranty period_____from_____to_____.

f. Inspector's signature_____.

g. Construction Contractor_____.

Address_____.

Telephone number_____.

h. Warranty contact_____.

Address_____.

Telephone number_____.

i. Warranty response time priority code_____.

j. WARNING - PROJECT PERSONNEL TO PERFORM ONLY OPERATIONAL MAINTENANCE DURING THE WARRANTY PERIOD.

1.10.5.1 Duplicate Information

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

1.10.5.2 Execution

Complete the required information on each tag and install these tags on the equipment by the time of and as a condition of final acceptance of the equipment. Schedule this activity in the Contractor progress reporting

system. Schedule the final acceptance inspection based upon notice from the Contractor, thus if the Contractor is at fault in this inspection being delayed, the Contractor will, at the Contractor's own expense, update the in-service and warranty expiration dates on these tags.

1.10.5.3 Updating Equipment Warranty Tags

Repairing or replacing warranted equipment: include an updated warranty identification tag on the repaired or replaced equipment. Using a fine point permanent marker pen, update the tag by checking whether the equipment was repaired or replaced, then indicate the date the work was completed. If the equipment was replaced, furnish a new tag identical to the original tag except indicate or update the manufacturer, MODEL NO., SERIAL NO., and Date Equip Placed In Service. Also, indicate whether the equipment has been replaced and the date of replacement.

1.11 OPERATION AND MAINTENANCE MANUALS

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

1.11.1 Submittal Requirements

All of the above listed items required in the technical specifications shall be fully developed and submitted to the Contracting Officer not less than 120 calendar days prior to the scheduled final acceptance inspection date and prior to scheduling training for operating and service personnel. The Contractor shall coordinate the content of each instruction period required in the technical specifications with the Contracting Officer's Representative prior to the actual start of the training period.

1.11.1.1 Field Training

Field Training is a requirement for substantial completion. The Contractor shall conduct a training course for the operating staff for each particular system. The training is to be conducted during hours of normal working time and shall start after the system is functionally complete. The field instructions shall cover all of the items contained in the Equipment Operating, Maintenance and Repair Manuals. The training will include both classroom and "hands-on" training. The Contractor shall submit a lesson plan outlining the information to be discussed during training periods. This lesson plan will be submitted 90 days before contract completion and approved before the field training occurs. Training shall be recorded on video DVD and shall be furnished to the Government within ten (10) days following training. The taping shall include the entire session(s). The original video(s) or DVD's shall be labeled and turned over to the Contracting Officer. The video cameras and DVD's utilized by the Contractor shall be of a quality to enable clear and understandable playbacks of the recorded events. Training shall be

documented by the Contractor and a list of attendees shall be furnished to the Government.

1.11.1.2 Draft O & M Manuals

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

1.11.1.3 Commencement of Warranty of Construction

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

1.11.2 Government Possession of Work

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

1.11.3 Payment

If there is no separate CLIN for O&M Manuals, the Government will withhold an amount representing $20,000,or 1% of the present construction value, whichever is the greater, as non-progressed work, until submittal and approval of all O&M manuals are complete.

1.11.4 Preparation And Submission Of Operation And Maintenance Manuals

This paragraph establishes general requirements for the preparation and submission of equipment operating, maintenance, and repair manuals as called for in the various sections of the specifications. Specific instruction(s) relating to a particular system or piece of equipment shall be incorporated into the manuals in accordance with the applicable technical specification. See Section 01 78 23 OPERATION AND MAINTENANCE DATA for additional information concerning the Operation and Maintenance data packages required by the technical sections.

1.11.4.1 General Requirements

Furnish one permanent electronic copy of the final Equipment Operating,

Maintenance, and Repair Manuals on CD-ROM disk along with the number of copies specified in the the technical sections. Documents on the CD-ROM disk drive shall be in portable document format (.pdf); all printed and graphic documents, drawings, and illustrations shall be legible and bookmarked.

1.11.4.2 Equipment Operating, Maintenance, and Repair Manuals

a. General

Provide separate manuals for each utility system as defined hereinafter. Provide the number of copies of the manuals specified specified above or in the applicable technical section. Include in the manuals, in separate sections, the following information for each item of equipment. These requirements may be supplemented by additional requirements specified in the technical sections:

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

(2) Catalog cuts showing application information.

(3) Installation information showing minimum acceptable requirements.

(4) Operation and maintenance requirements. Include adequate illustrative material to identify and locate operating controls, indicating devices and locations of areas or items requiring maintenance.

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

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

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

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

(7) Names and addresses of local manufacturers representatives.

b. Facility Heating Systems

Provide information for the following equipment: Boilers, water

treatment, chemical feed pumps and tanks, converters, heat exchangers, pumps, unit heaters, fin-tube radiation, air handling units (both heating only and heating and cooling), and valves (associated with heating systems).

c. Air-Conditioning Systems

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

d. Temperature Control and HVAC Distribution Systems

(1) Provide the information described for the following equipment:

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

(2) Provide all information described for the following equipment:

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

e. Central Heating Plants

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

f. District Heating Distribution Systems

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

g. Exterior Electrical Systems

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

h. Interior Electrical Systems

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

i. Energy Management and Control System

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

j. Domestic Water Systems

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

k. Wastewater Treatment Systems

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

l. Fire Protection Systems

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

m. Fire Detection Systems

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

n. Plumbing Systems

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

o. Liquid Fuels Systems

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

p. Cathodic Protection Systems

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

q. Generator Installations

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

r. Miscellaneous Systems

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

otherwise specified.

1.11.5 RED ZONE MEETING

Approximately 60 days before the anticipated Beneficial Occupancy Date (BOD)but prior to the final acceptance inspection of the last or only bid schedule item of work, the Contractor's Supervisor and Quality Control Manager and the Government's project delivery team will conduct what is known as the Red Zone Meeting to discuss the close-out process, to schedule the events and review responsibilities for actions necessary to produce a timely physical, as well as fiscal, project close-out. The Red Zone meeting derives its name from the football term used to describe the team effort to move the ball the last 20 yards into the end zone. The close-out of a construction project sometimes can be equally as hard and most definitely requires the whole team's efforts. The ACO will chair the meeting. Exhibit One is a generic meeting checklist.

1.12 CLEANUP

Leave premises "broom clean." Clean interior and exterior glass surfaces exposed to view; remove temporary labels, stains and foreign substances; polish transparent and glossy surfaces; vacuum carpeted and soft surfaces. Clean equipment and fixtures to a sanitary condition. Replace filters of operating equipment. Clean debris from roofs, gutters, downspouts and drainage systems. Sweep paved areas and rake clean landscaped areas. Remove waste and surplus materials, rubbish and construction facilities from the site.

1.13 REAL PROPERTY RECORD

DD Form 1354, TRANSFER AND ACCEPTANCE OF MILITARY REAL PROPERTY, is the formal document that the Corps of Engineers uses to transfer project ownership to the installation. In accordance with Section 01 33 16 DESIGN AFTER AWARD requirements for this form, complete the Excel files "Contractor Template for DD1354 .xls" and “Contractor Template for Appendix D.xls” and submit with the interim final design(s). These Excel forms, completed examples, and a list of the category codes are included in the solicitation files. TThe DD Form 1354 and appendix D documents identify project design information to support additional Real Property records and installation life safety requirements. Break the data down by applicable Category Codes necessary for the Government to use in updating the DD Form 1354 data in RMS. Expand list as applicable. The required data includes:

(1) A description of the item
(2) The applicable Category Code
(3) The quantity and unit of measure
(4) The item’s contract cost to the Government

During project construction, the Government is responsible for keeping the DD1354 data current by updating the approved Excel spreadsheet submitted during design with any new and/or changed construction data caused by field changes. This assistance will be necessary whenever a construction modification is issued and/or the Contractor elects to modify the original design. The updated Excel spreadsheet shall be provided at the Red Zone

meeting or no later than 60 days prior to anticipated BOD or project completion. Data shall be provided to the Contracting Officer Representative.

Refer to UFC 1-300-08 for instruction on completing the DD Form 1354. For information purposes, a blank DD Form 1354 (fill-able) in ADOBE (PDF) may be obtained at the following web site:
http://www.dtic.mil/whs/directives/infomgt/forms/eforms/dd1354.pdf

Submit the completed Checklist for Form DD1354 of Installed Building Equipment items. Attach this list to the updated DD Form 1354.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 EXHIBIT 1

SAMPLE

Red Zone Meeting Checklist
Date:_____

Contract No.:_____
Description / Location:_____
Contractor: _____
Contracting Officer: _____

Action	**Completion**	**Milestone**
Inspections		
Fire		
Safety		
Pre-final		
Mechanical Test & Balance		
Commissioning		
Landscaping Complete		
Beneficial Occupancy Date (BOD)		
Furniture Installation		
Comm Installation		
As-Built Contract Drawings		
Provide all O&M manuals, tools, shop drawings, spare parts, etc. provided to customer		
Provide Warranty documents to Customer		
Contract completion		
Final Inspection		
User move-in		
DD Form 1354, Transfer of Real Property completed & signed		
Ribbon cutting		
DD Form 2626 - Construction Contractor Performance Evaluation		
DD Form 2631 - A-E Performance Rated after Construction		

SAMPLE

Red Zone Meeting Checklist
Date:_____

Contract No.:_____
Description / Location:_____
Contractor: _____
Contracting Officer: _____

Action	**Completion**	**Milestone**
Final Payment Completed	_____	
Release of Claims (see Exhibit 2)	_____	
Return of Unobligated Funds	_____	
Move Project from CIP to General Ledger	_____	
Financial completion	_____	

3.2 EXHIBIT 2

FINAL PAYMENT RELEASE

The undersigned as the Contractor under Contract No. W9126G-__-_-____ dated _____ between the United States of America and said Contractor, for _____ located at in accordance with paragraph (____) of Contract Clause _____, PAYMENTS TO CONTRACTOR, of said Contract, hereby releases the United States, its officers, agents, and employees from any and all claims relating to or arising by virtue of said Contract, or any modification or change thereto, except with respect to those claims, if any, listed below:

(Identify claim or if none, write in "none.")

Executed this ____ day of _____ 20__

(Contractor's name in CAPS)

By _____

Title_____

-- End of Section --

SECTION 01 78 23

OPERATION AND MAINTENANCE DATA

PART 1 GENERAL

1.1 SUBMITTALS

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

SD-10 Operation and Maintenance Data

O&M Database ; G

Training Plan; G

Training Outline; G

Training Content; G

SD-11 Closeout Submittals

Training Video Recording; G

Validation of Training Completion; G

1.2 OPERATION AND MAINTENANCE DATA

Submit Operation and Maintenance (O&M) Data for the provided equipment, product, or system, defining the importance of system interactions, troubleshooting, and long-term preventive operation and maintenance. Compile, prepare, and aggregate O&M data to include clarifying and updating the original sequences of operation to as-built conditions. Organize and present information in sufficient detail to clearly explain O&M requirements at the system, equipment, component, and subassembly level. Include an index preceding each submittal. Submit in accordance with this section and Section 01 33 00 SUBMITTAL PROCEDURES.

1.2.1 Package Quality

Documents must be fully legible. Operation and Maintenance data must be consistent with the manufacturer's standard brochures, schematics, printed instructions, general operating procedures, and safety precautions.

1.2.2 Package Content

Provide data package content in accordance with paragraph SCHEDULE OF OPERATION AND MAINTENANCE DATA PACKAGES. Comply with the data package requirements specified in the individual technical sections, including the content of the packages and addressing each product, component, and system designated for data package submission, except as follows. Use Data Package 345 for commissioned items without a specified data package requirement in the individual technical sections. Provide a Data Package 3

45 instead of Data Package 1 or 2, as specified in the individual technical section, for items that are commissioned.

1.2.3 Changes to Submittals

Provide manufacturer-originated changes or revisions to submitted data if a component of an item is so affected subsequent to acceptance of the O&M Data. Submit changes, additions, or revisions required by the Contracting Officer for final acceptance of submitted data within 30 calendar days of the notification of this change requirement.

1.3 O&M DATABASE

Develop an editable, electronic spreadsheet based on the equipment in the Operation and Maintenance Manuals that contains the information required to start a preventive maintenance program. As a minimum, provide list of system equipment, location installed, warranty expiration date, manufacturer, model, and serial number.

1.4 OPERATION AND MAINTENANCE MANUAL FILE FORMAT

Assemble data packages into electronic Operation and Maintenance Manuals. Assemble each manual into a composite electronically indexed file using the most current version of Adobe Acrobat or similar software capable of producing PDF file format. Provide compact disks (CD) or data digital versatile disk (DVD) as appropriate, so that each one contains operation, maintenance and record files, project record documents, and training videos. Include a complete electronically linked operation and maintenance directory.

1.4.1 Organization

Bookmark Product and Drawing Information documents using the current version of CSI Masterformat numbering system, and arrange submittals using the specification sections as a structure. Use CSI Masterformat and UFGS numbers along with descriptive bookmarked titles that explain the content of the information that is being bookmarked.

1.4.2 CD or DVD Label and Disk Holder or Case

Provide the following information on the disk label and disk holder or case:

a. Building Number

b. Project Title

c. Activity and Location

d. Construction Contract Number

e. Prepared For: (Contracting Agency)

f. Prepared By: (Name, title, phone number and email address)

g. Include the disk content on the disk label

h. Date

i. Virus scanning program used

1.5 TYPES OF INFORMATION REQUIRED IN O&M DATA PACKAGES

The following are a detailed description of the data package items listed in paragraph SCHEDULE OF OPERATION AND MAINTENANCE DATA PACKAGES.

1.5.1 Operating Instructions

Provide specific instructions, procedures, and illustrations for the following phases of operation for the installed model and features of each system:

1.5.1.1 Safety Precautions and Hazards

List personnel hazards and equipment or product safety precautions for operating conditions. List all residual hazards identified in the Activity Hazard Analysis provided under Section 01 35 26 GOVERNMENT SAFETY REQUIREMENTS. Provide recommended safeguards for each identified hazard.

1.5.1.2 Operator Prestart

Provide procedures required to install, set up, and prepare each system for use.

1.5.1.3 Startup, Shutdown, and Post-Shutdown Procedures

Provide narrative description for Startup, Shutdown and Post-shutdown operating procedures including the control sequence for each procedure.

1.5.1.4 Normal Operations

Provide Control Diagrams with data to explain operation and control of systems and specific equipment. Provide narrative description of Normal Operating Procedures.

1.5.1.5 Emergency Operations

Provide Emergency Procedures for equipment malfunctions to permit a short period of continued operation or to shut down the equipment to prevent further damage to systems and equipment. Provide Emergency Shutdown Instructions for fire, explosion, spills, or other foreseeable contingencies. Provide guidance and procedures for emergency operation of utility systems including required valve positions, valve locations and zones or portions of systems controlled.

1.5.1.6 Operator Service Requirements

Provide instructions for services to be performed by the operator such as lubrication, adjustment, inspection, and recording gauge readings.

1.5.1.7 Environmental Conditions

Provide a list of Environmental Conditions (temperature, humidity, and other relevant data) that are best suited for the operation of each product, component or system. Describe conditions under which the item equipment should not be allowed to run.

1.5.1.8 Operating Log

Provide forms, sample logs, and instructions for maintaining necessary operating records.

1.5.1.9 Additional Requirements for HVAC Control Systems

Provide Data Package 5 and the following for control systems:

a. Narrative description on how to perform and apply functions, features, modes, and other operations, including unoccupied operation, seasonal changeover, manual operation, and alarms. Include detailed technical manual for programming and customizing control loops and algorithms.

b. Full as-built sequence of operations.

c. Copies of checkout tests and calibrations performed by the Contractor (not Cx tests).

d. Full points list. Provide a listing of rooms with the following information for each room:

(1) Floor

(2) Room number

(3) Room name

(4) Air handler unit ID

(5) Reference drawing number

(6) Air terminal unit tag ID

(7) Heating or cooling valve tag ID

(8) Minimum cfm

(9) Maximum cfm

e. Full print out of all schedules and set points after testing and acceptance of the system.

f. Full as-built print out of software program.

g. Marking of system sensors and thermostats on the as-built floor plan and mechanical drawings with their control system designations.

1.5.2 Preventive Maintenance

Provide the following information for preventive and scheduled maintenance to minimize repairs for the installed model and features of each system. Include potential environmental and indoor air quality impacts of recommended maintenance procedures and materials.

1.5.2.1 Lubrication Data

Include the following preventive maintenance lubrication data, in addition to instructions for lubrication required under paragraph OPERATOR SERVICE

REQUIREMENTS:

a. A table showing recommended lubricants for specific temperature ranges and applications.

b. Charts with a schematic diagram of the equipment showing lubrication points, recommended types and grades of lubricants, and capacities.

c. A Lubrication Schedule showing service interval frequency.

1.5.2.2 Preventive Maintenance Plan, Schedule, and Procedures

Provide manufacturer's schedule for routine preventive maintenance, inspections, condition monitoring (predictive tests) and adjustments required to ensure proper and economical operation and to minimize repairs. Provide instructions stating when the systems should be retested. Provide manufacturer's projection of preventive maintenance work-hours on a daily, weekly, monthly, and annual basis including craft requirements by type of craft. For periodic calibrations, provide manufacturer's specified frequency and procedures for each separate operation.

a. Define the anticipated time required to perform each of each test (work-hours), test apparatus, number of personnel identified by responsibility, and a testing validation procedure permitting the record operation capability requirements within the schedule. Provide a remarks column for the testing validation procedure referencing operating limits of time, pressure, temperature, volume, voltage, current, acceleration, velocity, alignment, calibration, adjustments, cleaning, or special system notes. Delineate procedures for preventive maintenance, inspection, adjustment, lubrication and cleaning necessary to minimize repairs.

b. Repair requirements must inform operators how to check out, troubleshoot, repair, and replace components of the system. Include electrical and mechanical schematics and diagrams and diagnostic techniques necessary to enable operation and troubleshooting of the system after acceptance.

1.5.3 Repair

Provide manufacturer's recommended procedures and instructions for correcting problems and making repairs.

1.5.3.1 Troubleshooting Guides and Diagnostic Techniques

Provide step-by-step procedures to promptly isolate the cause of typical malfunctions. Describe clearly why the checkout is performed and what conditions are to be sought. Identify tests or inspections and test equipment required to determine whether parts and equipment may be reused or require replacement.

1.5.3.2 Wiring Diagrams and Control Diagrams

Provide point-to-point drawings of wiring and control circuits including factory-field interfaces. Provide a complete and accurate depiction of the actual job specific wiring and control work. On diagrams, number electrical and electronic wiring and pneumatic control tubing and the terminals for each type, identically to actual installation configuration

and numbering.

1.5.3.3 Repair Procedures

Provide instructions and a list of tools required to repair or restore the product or equipment to proper condition or operating standards.

1.5.3.4 Removal and Replacement Instructions

Provide step-by-step procedures and a list of required tools and supplies for removal, replacement, disassembly, and assembly of components, assemblies, subassemblies, accessories, and attachments. Provide tolerances, dimensions, settings and adjustments required. Use a combination of text and illustrations.

1.5.3.5 Spare Parts and Supply Lists

Provide lists of spare parts and supplies required for repair to ensure continued service or operation without unreasonable delays. Special consideration is required for facilities at remote locations. List spare parts and supplies that have a long lead-time to obtain.

1.5.3.6 Repair Work-Hours

Provide manufacturer's projection of repair work-hours including requirements by type of craft. Identify, and tabulate separately, repair that requires the equipment manufacturer to complete or to participate.

1.5.4 Real Property Equipment

Provide a list of installed equipment furnished under this contract. Include all information usually listed on manufacturer's name plate. In the "EQUIPMENT-IN-PLACE LIST" include, as applicable, the following for each piece of equipment installed: description of item, location (by room number), model number, serial number, capacity, name and address of manufacturer, name and address of equipment supplier, condition, spare parts list, manufacturer's catalog, and warranty. Submit the final list 30 days after transfer of the completed facility.

Key the designations to the related area depicted on the contract drawings. List the following data:

RECORD OF DESIGNATED EQUIPMENT AND MATERIALS DATA				
Description	Specification Section	Manufacturer and Catalog, Model, and Serial Number	Composition and Size	Where Used

1.5.5 Appendices

Provide information required below and information not specified in the preceding paragraphs but pertinent to the maintenance or operation of the product or equipment. Include the following:

1.5.5.1 Product Submittal Data

Provide a copy of SD-03 Product Data submittals documented with the required approval.

1.5.5.2 Manufacturer's Instructions

Provide a copy of SD-08 Manufacturer's Instructions submittals documented with the required approval.

1.5.5.3 O&M Submittal Data

Provide a copy of SD-10 Operation and Maintenance Data submittals documented with the required approval.

1.5.5.4 Parts Identification

Provide identification and coverage for the parts of each component, assembly, subassembly, and accessory of the end items subject to replacement. Include special hardware requirements, such as requirement to use high-strength bolts and nuts. Identify parts by make, model, serial number, and source of supply to allow reordering without further identification. Provide clear and legible illustrations, drawings, and exploded views to enable easy identification of the items. When illustrations omit the part numbers and description, both the illustrations and separate listing must show the index, reference, or key number that will cross-reference the illustrated part to the listed part. Group the parts shown in the listings by components, assemblies, and subassemblies in accordance with the manufacturer's standard practice. Parts data may cover more than one model or series of equipment, components, assemblies, subassemblies, attachments, or accessories, such as typically shown in a master parts catalog.

1.5.5.5 Warranty Information

List and explain the various warranties and clearly identify the servicing and technical precautions prescribed by the manufacturers or contract documents in order to keep warranties in force. Include warranty information for primary componentsof the system. Provide copies of warranties required by Section 01 78 00 CLOSEOUT SUBMITTALS.

1.5.5.6 Extended Warranty Information

List all warranties for products, equipment, components, and sub-components whose duration exceeds one year. For each warranty listed, indicate the applicable specification section, duration, start date, end date, and the point of contact for warranty fulfillment. Also, list or reference the specific operation and maintenance procedures that must be performed to keep the warranty valid. Provide copies of warranties required by Section 01 78 00 CLOSEOUT SUBMITTALS.

1.5.5.7 Personnel Training Requirements

Provide information available from the manufacturers that is needed for use in training designated personnel to properly operate and maintain the equipment and systems.

1.5.5.8 Testing Equipment and Special Tool Information

Include information on test equipment required to perform specified tests and on special tools needed for the operation, maintenance, and repair of components. Provide final set points.

1.5.5.9 Testing and Performance Data

Include completed prefunctional checklists, functional performance test forms, and monitoring reports. Include recommended schedule for retesting and blank test forms. Provide final set points.

1.5.5.10 Field Test Reports

Provide a copy of Field Test Reports (SD-06) submittals documented with the required approval.

1.5.5.11 Contractor Information

Provide a list that includes the name, address, and telephone number of the General Contractor and each Subcontractor who installed the product or equipment, or system. For each item, also provide the name address and telephone number of the manufacturer's representative and service organization that can provide replacements most convenient to the project site. Provide the name, address, and telephone number of the product, equipment, and system manufacturers.

1.6 SCHEDULE OF OPERATION AND MAINTENANCE DATA PACKAGES

Provide the O&M data packages specified in individual technical sections. , or if not specified in the individual technical sections, in accordance with the package usage definition The information required in each type of data package follows:

Package Usage Definition: Use Data Package 1 for architectural items requiring simple but specific maintenance and replacement; for example, acoustical ceiling, floor tile or carpeting system.

1.6.1 Data Package 1

a. Safety precautions and hazards

b. Cleaning recommendations

c. Maintenance and repair procedures

d. Warranty information

e. Extended warranty information

f. Contractor information

g. Spare parts and supply list

1.6.2 Data Package 2

Package Usage Definition: Use Data Package 2 for an item that is less simple than required for Data Package 1; for example, an item having a motor and some sequence of operation such as a refrigerated drinking

fountain.

a. Safety precautions and hazards

b. Normal operations

c. Environmental conditions

d. Lubrication data

e. Preventive maintenance plan, schedule, and procedures

f. Cleaning recommendations

g. Maintenance and repair procedures

h. Removal and replacement instructions

i. Spare parts and supply list

j. Parts identification

k. Warranty information

l. Extended warranty information

m. Contractor information

1.6.3 Data Package 3

Package Usage Definition: Use Data Package 3 for a complex piece of equipment, having a specific troubleshooting sequence, but one which does not require an operator on watch; for example, HVAC temperature controls.

a. Safety precautions and hazards

b. Operator prestart

c. Startup, shutdown, and post-shutdown procedures

d. Normal operations

e. Emergency operations

f. Environmental conditions

g. Operating log

h. Lubrication data

i. Preventive maintenance plan, schedule, and procedures

j. Cleaning recommendations

k. Troubleshooting guides and diagnostic techniques

l. Wiring diagrams and control diagrams

m. Maintenance and repair procedures

n. Removal and replacement instructions

o. Spare parts and supply list

p. Product submittal data

q. O&M submittal data

r. Parts identification

s. Warranty information

t. Extended warranty information

u. Testing equipment and special tool information

v. Testing and performance data

w. Contractor information

x. Field test reports

1.6.4 Data Package 4

Package Usage Definition: Use Data Package 4 for an extremely complex piece of equipment, having an extensive sequence of operation, a complex troubleshooting sequence and one requiring frequent operator attention; at least for start-up and shut-down. Examples of this case would be small boilers and small diesel generator sets.

a. Safety precautions and hazards

b. Operator prestart

c. Startup, shutdown, and post-shutdown procedures

d. Normal operations

e. Emergency operations

f. Operator service requirements

g. Environmental conditions

h. Operating log

i. Lubrication data

j. Preventive maintenance plan, schedule, and procedures

k. Cleaning recommendations

l. Troubleshooting guides and diagnostic techniques

m. Wiring diagrams and control diagrams

n. Repair procedures

o. Removal and replacement instructions

p. Spare parts and supply list

q. Repair work-hours

r. Product submittal data

s. O&M submittal data

t. Parts identification

u. Warranty information

v. Extended warranty information

w. Personnel training requirements

x. Testing equipment and special tool information

y. Testing and performance data

z. Contractor information

aa. Field test reports

1.6.5 Data Package 5

Package Usage Definition: Use Data Package 5 for electrical equipment, components, or systems on which, wiring and control diagrams are needed for operation, maintenance, or repair. Examples of this case are 400 Hz frequency converters, annunciator panels, and cathodic protection systems.

a. Safety precautions and hazards

b. Operator prestart

c. Start-up, shutdown, and post-shutdown procedures

d. Normal operations

e. Environmental conditions

f. Preventive maintenance plan, schedule, and procedures

g. Troubleshooting guides and diagnostic techniques

h. Wiring and control diagrams

i. Maintenance and repair procedures

j. Removal and replacement instructions

k. Spare parts and supply list

l. Product submittal data

m. Manufacturer's instructions

n. O&M submittal data

o. Parts identification

p. Testing equipment and special tool information

q. Warranty information

r. Extended warranty information

s. Testing and performance data

t. Contractor information

u. Field test reports

v. Additional requirements for HVAC control systems

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 TRAINING

Prior to acceptance of the facility by the Contracting Officer for Beneficial Occupancy, provide comprehensive training for the systems and equipment specified in the technical specifications. The training must be targeted for the building maintenance personnel, and applicable building occupants. Instructors must be well-versed in the particular systems that they are presenting. Address aspects of the Operation and Maintenance Manual submitted in accordance with Section 01 78 00 CLOSEOUT SUBMITTALS.. Training must include classroom or field lectures based on the system operating requirements. The location of classroom training requires approval by the Contracting Officer.

3.1.1 Training Plan

Submit a written training plan to the Contracting Officer for approval at least 60 calendar days prior to the scheduled training. Training plan must be approved by the Quality Control Manager (QC) prior to forwarding to the Contracting Officer. Also, coordinate the training schedule with the Contracting Officer and QC. Include within the plan the following elements:

a. Equipment included in training

b. Intended audience

c. Location of training

d. Dates of training

e. Objectives

f. Outline of the information to be presented and subjects covered

including description

g. Start and finish times and duration of training on each subject

h. Methods (e.g. classroom lecture, video, site walk-through, actual operational demonstrations, written handouts)

i. Instructor names and instructor qualifications for each subject

j. List of texts and other materials to be furnished by the Contractor that are required to support training

k. Description of proposed software to be used for video recording of training sessions.

3.1.2 Training Content

The core of this training must be based on manufacturer's recommendations and the operation and maintenance information. The QC is responsible for overseeing and approving the content and adequacy of the training. Spend 95 percent of the instruction time during the presentation on the OPERATION AND MAINTENANCE DATA. Include the following for each system training presentation:

a. Start-up, normal operation, shutdown, unoccupied operation, seasonal changeover, manual operation, controls set-up and programming, troubleshooting, and alarms.

b. Relevant health and safety issues.

c. Discussion of how the feature or system is environmentally responsive. Advise adjustments and optimizing methods for energy conservation.

d. Design intent.

e. Use of O&M Manual Files.

f. Review of control drawings and schematics.

g. Interactions with other systems.

h. Special maintenance and replacement sources.

i. Tenant interaction issues.

3.1.3 Training Outline

Provide the Operation and Maintenance Manual Files (Bookmarked PDF) and a written course outline listing the major and minor topics to be discussed by the instructor on each day of the course to each trainee in the course. Provide the course outline 14 calendar days prior to the training.

3.1.4 Training Video Recording

Record classroom training session(s) on video. Provide to the Contracting Officer two copies of the training session(s) in DVD video recording format. Capture within the recording, in video and audio, the instructors' training presentations including question and answer periods

with the attendees. The recording camera(s) must be attended by a person during the recording sessions to assure proper size of exhibits and projections during the recording are visible and readable when viewed as training.

3.1.5 Unresolved Questions from Attendees

If, at the end of the training course, there are questions from attendees that remain unresolved, the instructor must send the answers, in writing, to the Contracting Officer for transmittal to the attendees, and the training video must be modified to include the appropriate clarifications.

3.1.6 Validation of Training Completion

Ensure that each attendee at each training session signs a class roster daily to confirm Government participation in the training. At the completion of training, submit a signed validation letter that includes a sample record of training for reporting what systems were included in the training, who provided the training, when and where the training was performed, and copies of the signed class rosters. Provide two copies of the validation to the Contracting Officer, and one copy to the Operation and Maintenance Manual Preparer for inclusion into the Manual's documentation.

3.1.7 Quality Control Coordination

Coordinate this training with the QC in accordance with Section 01 45 00.00 10 .

-- End of Section --

SECTION 01 78 24.00 10

FACILITY DATA REQUIREMENTS

PART 1 GENERAL

This specification requires the collection, organization, and turnover of electronic Facility Data for specific assets designed and constructed as part of this contract. Provide a Facility Document Set (FDS) and Facility Data Workbook (FDW) as defined in this specification. See Sections 01 33 00 SUBMITTAL PROCEDURES, 01 78 00 CLOSEOUT SUBMITTALS, for additional Facility Data delivery requirements.

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.

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

ISO 19005-3	(2012) Document Management -- Electronic Document File Format for Long-Term Preservation -- Part 3: Use of ISO 32000-1 with Support for Embedded Files (PDF/A-3)
ISO 32000-1	(2008) Document Management -- Portable Document Format -- Part 1: PDF 1.7

1.2 DEFINITIONS AND ABBREVIATIONS

1.2.1 Assets

Assets are specific items of property or equipment.

1.2.2 Attributes

Attributes are individual pieces of Facility Data that describe facilities and their associated assets.

1.2.3 Facility Data

Information defined and collected in the Facility Data Workbook (FDW) and Facility Document Set (FDS).

1.2.4 Facility Document Set (FDS)

An electronically compiled and organized document containing the supporting documents and data used to populate the Facility Data Workbook during its respective phase of development.

a. For design-based deliverables, the FDS contains the "Design Complete" or "Issued for Construction" (IFC) design drawings, specifications, and design analysis.
b. For construction-based deliverables, the FDS is comprised of the project Operation and Maintenance Data Packages and Government-Approved Record drawings.

1.2.5 Facility Data Workbook (FDW)

A pre-formatted spreadsheet template used to compile Asset, Attribute, Facility, and Space Data that the Government wishes to manage via electronic means. The FDW also contains all requirements associated with proper collection, organization, and turnover of the Facility Data.

1.2.6 Facility Data Project Execution Plan (FDPxP)

A document that describes the clear and organized plan for the collection, organization, and turnover of the Facility Data deliverables required by this specification. The Contractor may consolidate BIM PxP requirements defined in 01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD) and FDPxP requirements defined herein and integrate them into a single, consolidated BIM/Facility Data PxP for Government approval.

1.3 UNITS OF MEASURE

Provide Facility Data deliverables utilizing the units of measure required by 01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD).

1.4 SUBMITTALS

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

SD-01 Preconstruction Submittals

Facility Data Project Execution Plan(FDPxP)

SD-10 Operation and Maintenance Data

Facility Data Workbook, Construction Progress; G

Facility Document Set, Construction Progress; G

SD-11 Closeout Submittals

Facility Data Workbook, Construction Final; G

Facility Document Set, Construction Final; G

1.5 QUALITY ASSURANCE

1.5.1 Facility Data Project Execution Plan (FDPxP)

Provide the Government with a plan for the collection, organization, and turnover of the Facility Data deliverables to the Government. At a minimum, include the following items in the FDPxP:

1.5.1.1 Front Matter

Provide a Cover Page, Table of Contents, and Executive Summary/Objectives.

1.5.1.2 Project Information

List the Project Owner, Project Name, Project Location and address, Contract Type, Project Description, Project/Contract Number, Project Milestones.

1.5.1.3 Submittal Schedule

Identify delivery schedule for all deliverables in compliance with the submission requirements identified in this specification.

1.5.1.4 Personnel

Identify key personnel involved in the development of the Facility Data deliverables including Contractor and Government personnel.

1.5.1.5 Facility Data Workbook(s)

Identify Facility and Space Data as applicable at time of FDPxP submission. Individually list every asset group from the FDW Requirements that will require Facility Data collection. No attribute data is required at this time. Identify any asset groups from the FDW Requirements that are not required within the scope of this Contract. Document the version of FDW to be used through the duration of the project.

1.5.1.6 Facility Document Set(s)

Define structure and format of the submittal. Provide a comprehensive outline of the final FDS to be delivered. Organize the outline with headings, titles, and descriptions such that the Government may ascertain that working documents comply with the formatting requirements defined by this specification.

1.5.1.7 Protocols

Detailed procedures:

a. Facility Data documentation/collection process.

b. Facility Document Set production/development process.

c. Collaboration procedures including strategy, meetings, communication, and subcontractor/consultant involvement.

d. Quality Control, including site verification of FDW, as applicable.

e. File and folder naming structure.

f. Hardware and software being used for collection and organization of Facility Data. Identify type, format, and anticipated organization of digital storage media to be provided as part of required deliverables. Include means and methods for checking deliverables for malicious content.

1.5.2 Meetings

To assure that Facility Data requirements are being met through the duration of the project, organize the following meetings and discuss the

subsequent topics:

1.5.2.1 Post-Award Kickoff Meeting

At a minimum, discuss the following:

a. The requirement for Facility Data deliverables under this contract.

b. Primary roles and responsibilities associated with the development and delivery of the Facility Data deliverables, and.

c. Identify and agree upon a date and attendance list for the meetings described below:

1.5.2.2 FDPxP Coordination Meeting

a. Facilitate a meeting following submission and Government review of the FDPxP. Include the Facility Data Preparer(s), Designer of Record (DOR),, Quality Control (QC) Manager, Government's Facility Data Proponent, Contracting Officer's Representative, and Directorate of Public Works (DPW) Facilities Management Specialist (FMS). Also include any Government personnel required for obtaining security clearances and waivers for proper Facility Data collection in this meeting.

b. The purpose of this meeting is to coordinate the efforts necessary by contract parties to ensure an accurate collection, preparation, quality control, and submittal of these deliverables.

c. The FDPxP serves as the primary agenda for this meeting. At a minimum, discuss the following:

(1) Processes and methods of gathering facility data during construction. Discuss and obtain special permissions and/or waivers as necessary (photo waivers, data encryption, etc.);

(2) Contractor Quality Control practices and procedures;

(3) Corrective actions necessary for Government approval of FDPxP;

(4) Necessity for additional or recurring Facility Data Coordination Meetings outside of those required by this specification, as requested by the Contractor. Intent of these meetings would be to maintain regular contact between responsible parties of the Contractor and Government with regard to development of the facility data deliverables. Conduct status meetings with a frequency agreed upon at this meeting.

1.5.2.3 Submittal Coordination Meeting

a. Facilitate a meeting following submission and Government review of each design or progress submittal of the Facility Data. Include the Facility Data Preparer(s), Designer of Record (DOR), Quality Control (QC) Manager, Government's Facility Data Proponent, Contracting Officer's Representative, and Directorate of Public Works (DPW) Facilities Management Specialist (FMS). Include Mechanical, Electrical, Plumbing, and Fire Protection subcontractors as applicable.

b. The purpose of this meeting is to demonstrate ongoing compliance with

the requirements identified in this specification.

c. The applicable deliverables, along with Government remarks associated with review of these submittals serve as the primary guide and agenda for this meeting. At a minimum, discuss the following during this meeting:

(1) Review assets, applicable attributes, facility, and space data in FDW at time of submittal;

(2) Demonstrate Quality Control and site verification procedures, as applicable, by Contractor QC;

(3) Review contents and organization of FDS at time of submittal;

(4) Discuss Government review comments and/or unresolved items preventing completion and Government approval of the Facility Data Workbook and Facility Document Set.

1.5.3 Facility Turnover and Contract Closeout

Include the Facility Document Set, Construction Final as a deliverable in Facility Turnover and Contract Closeout procedures as defined in 01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD) and 01 78 00 CLOSEOUT SUBMITTALS.

1.5.4 Facility Data Workbook Quality Requirements

For each submittal, ensure that the information contained in the FDW(s) reflects the minimum content requirements defined in the PART 3 EXECUTION portion of this section. Ensure that information provided as part of the FDW(s) conforms to the standards described below:

a. Compile FDW(s) using approved spreadsheet templates. Do not alter the formatting or organizational layout of the templates in any way. For this Contract, templates are available for download from the USACE CAD/BIM Technology Center website, site information provided in the PART 2 PRODUCTS portion of this section.

b. Instructions for the proper maintenance and completion of these FDWs are contained in the FDW Requirements contained within the FDW template.

1.5.5 Facility Document Set Quality Requirements

Ensure that information provided as part of each FDS conforms to the electronic and data formatting standards identified in 01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD) in 01 33 00 SUBMITTAL REQUIREMENTS and 01 78 23 OPERATION AND MAINTENANCE DATA. below:

1.5.5.1 Document Files

Utilize PDF file format in accordance with ISO 32000-1 and ISO 19005-3 for all document-based files. Provide files from original sources, text-searchable, and saved in "Standard" (uncompressed) resolution. Bookmark and label files as defined in the PART 2 PRODUCTS portion of this section.

1.5.5.2 Photograph Files

If photographs are required, utilize JPEG file format for all photograph and image files. Provide full-color photos with photo resolution of not less than 4 megapixels and not more than 12 megapixels.

Provide a copy of any installation-specific letters or waivers allowing permission to take installed equipment photographs on this Contract. Waivers need not be attached to every photo, only one copy of each permission letter need be included in the Government deliverables.

1.5.5.3 Drawing Files

Provide all drawings required by this specification in full-size PDF format in accordance with ISO 32000-1 and ISO 19005-3. Produce PDF files from original sources, text-searchable, and saved in "Standard" (uncompressed) resolution whenever possible. Bookmark and label files as defined in the PART 2 PRODUCTS portion of this section.

Submission of scanned or photocopied drawing files is prohibited. Only vector-preserved PDF files are acceptable.

1.5.6 Facility Document Set Integrity Requirements

Ensure that information provided as part of each FDS conforms to the integrity standards identified below:

1.5.6.1 File Protection

Do not restrict data files, document files or photographic files from being printed, exported, modified or copied. Do not deliver files with any restrictions (expiration date, locks, etc.) for access, viewing, archiving, or editing.

1.5.6.2 Manufacturer-Specific Documents

Provide text-searchable, vector-based document files from the manufacturer's online or electronic documentation. Color documents are preferred. Provide documents specific to the product(s) installed under this Contract. When possible, do not submit document files containing multiple product catalogs from the same manufacturer, or product data from multiple manufacturers in the same file. Provide documents directly from the manufacturer whenever possible. Do not provide scanned copies of hardcopy documents.

1.6 DELIVERY, STORAGE, AND HANDLING

Deliver facility data submittals in an organized and legible manner. Provide submittals adhering to the requirements of 01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD).

1.6.1 Number of Copies

Provide three identical copies of disks for approval; for each submittal and each facility required. Provide on approved electronic media (one copy per disk or set of disks) as defined below. Provide submittal files on electronic storage media in compliance with the quality requirements identified in this specification.

1.6.2 Malicious Content

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

1.6.3 Storage Media

Provide facility data on disk-based (DVD-R/RW) media. Any deviations from the required storage media must be approved by the Government. Select and apply technology used for electronic data transmission to ensure that the full Facility Data submittal for each facility is provided on one single disk, whenever possible. When separation of the submittal is required, first separate the FDS and the FDW onto separate media. Second, separate FDS into logical segments or components. Any further divisions must be documented in the FDPxP and approved by the Government.

Provide Facility Data on disk-based (DVD-R/RW) media. Any deviations from the required storage media shall be approved by the Government. Select and apply technology used for electronic data transmission to ensure that the full Facility Data submittal for each facility is provided on one single disk, whenever possible. When separation of the submittal is required, first separate the FDS and the FDW onto separate media. Second, separate FDS into logical segments or components. Any further divisions must be documented in the FDPxP and approved by the Government.

a. Apply a label directly printed to storage media. Do not provide adhesive, paper-based labels. List the name of the facility, Project, Project location, Contract number, Designer of Record firm/Prime Contractor company's name, title of submission, and security classification (in accordance with the appropriate security classification labeling regulations) on the label. If multiple disks are provided, clearly document the contents of each disk on the label.

b. Include the name and contact information of the individual who produced the final data disk to ensure that any problems with the data or media can be easily resolved.

c. When browsed on any computer, the disk shall display the following folders and their associated content:

(1) Facility Data Workbook (containing 1 FDW per facility);
(2) Facility Document Set (containing 1 FDS per facility);
(3) FDPxP (containing 1 PxP per contract);
(4) Readme (Containing 1 TXT, PDF, or HTML file with general use information, organizational instructions, and basic preparer contact information. Include all information included on the storage media label).

PART 2 PRODUCTS

2.1 FACILITY DATA WORKBOOK(S)

Provide one compiled FDW for each facility identified above. Complete all portions of each FDW including facility, space, asset, and attribute data in compliance with the FDW Requirements. The current FDW template (.xlsm format) shall be downloaded from the USACE CAD/BIM Technology Center website at https://cadbimcenter.erdc.dren.mil.

2.1.1 Spaces

Provide data for all applicable spaces in the facility. Minimum space definitions are as follows:

a. Provide all rooms as defined in the design documents.
b. If not otherwise defined, provide a minimum of one "roof" space in the FDW.
c. If not otherwise defined, provide a minimum of one "site" space in the FDW.
d. Provide all spaces not otherwise described, but necessary to accurately indicate the location of all FDW assets required by this specification.

2.1.2 Attributes

a. Populate each individual asset with all required attributes defined in the "Required Attributes" portion of the FDW template.

b. Definitions, descriptions, and formatting requirements for these attributes can be found in the FDW Requirements contained within the FDW template.

c. If an attribute is not applicable, populate that field with "N/A." Do not leave it blank.

2.2 FACILITY DOCUMENT SET

2.2.1 Organization

Organize the FDS in a hierarchical manner as follows. Use electronic bookmarks to create an easily navigable document. The first and primary hierarchical level must contain the following bookmarks:

a. "Design Data" - See subordinate hierarchical requirements in the "DESIGN DATA HIERARCHY" paragraph.

b. "O&M Data" - See subordinate hierarchical requirements in the "O&M DATA HIERARCHY" paragraph.

c. "Record Drawings" - See subordinate hierarchical requirements in paragraph RECORD DRAWINGS HIERARCHY.

PART 3 EXECUTION

3.1 CONSTRUCTION PROGRESS SUBMITTALS

Submit the FDW and FDS construction progress submittals together. Meet the following completeness and formatting requirements listed below:

a. Provide Facility Data Workbook, Construction Progress submittal(s) when all assets are identified, but not later than 60 days prior to Beneficial Occupancy Date (BOD) as identified in the Government-Approved construction schedule. Clearly identify any assets or asset groups missing in the "variations" section of the ENG Form 4025 Transmittal Form provided with the submittal. Populate assets with any front-loaded attribute data that is available at the time of asset input. See the FDW Requirements contained within the FDW template for a list of attributes to be completed for this

submittal.

b. Submit individual FDW templates for each facility identified in the "FACILITIES" paragraph. While FDWs are not required to be complete for this submittal, any data provided shall be accurate and formatted correctly according to the FDW Requirements.

c. Submit a sample or working Facility Document Set, Construction Progress submittal containing "draft" or "example" documents that are organized in the manner defined by this specification. Draft or example documents need not be technically accurate or complete in their content, but defined and separated in a manner such that all organizational and formatting requirements defined by this specification may be evaluated.

3.2 FACILITY DATA WORKBOOK VERIFICATION

Verify the FDW through the quality control personnel and procedures as defined in the FDPxP. One-hundred percent accuracy of FDW information is required for Government acceptance of the .

-- End of Section --

Appendix A. DRAWINGS

US Army Corps
of Engineers ®
FORT WORTH DISTRICT

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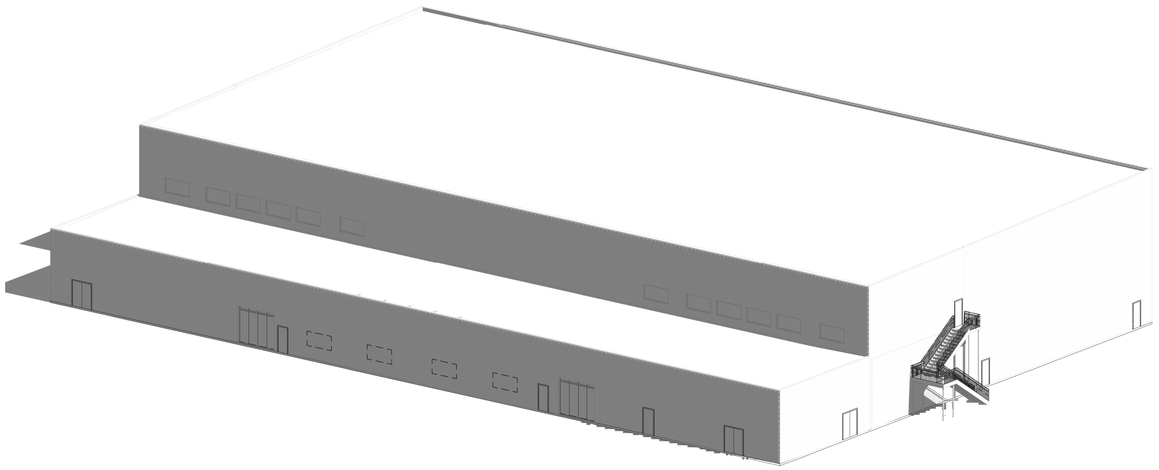
Jacobs
Jacobs Government Services Company
Texas Registered Engineering Firm F-2966
777 Main Street
Fort Worth, TX 76102
TEL: (817) 735-6000
FAX: (817) 735-6148

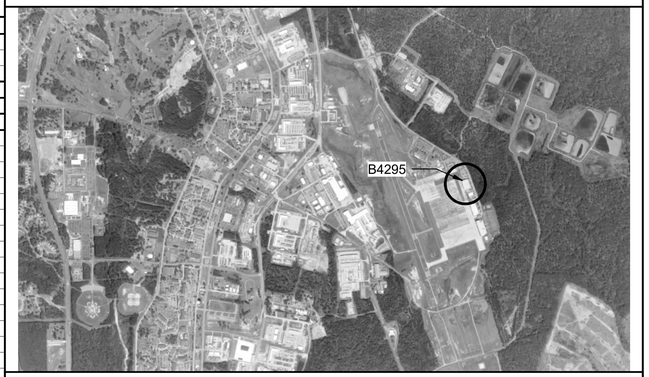
FT. POLK, LA
HANGAR RENOVATION BUILDING 4295



SHEET INDEX

NO	NAME
	GENERAL
G-001	COVER SHEET
G-004	FIRST FLOOR LIFE SAFETY PLAN
G-005	SECOND FLOOR LIFE SAFETY PLAN
	CIVIL
C-000	HAUL ROUTE EXHIBIT
	ARCHITECTURAL
A-001	ABBREVIATIONS
AD101	OVERALL FIRST FLOOR DEMOLITION PLAN
AD102	PARTIAL FIRST FLOOR DEMOLITION PLAN - AREA A
AD103	PARTIAL FIRST FLOOR DEMOLITION PLAN - AREA B
AD104	OVERALL SECOND FLOOR DEMOLITION PLAN
AD121	OVERALL FIRST FLOOR RCP DEMOLITION
AD124	OVERALL SECOND FLOOR RCP DEMOLITION
AD131	OVERALL ROOF PLAN DEMOLITION
AD201	EXTERIOR DEMOLITION ELEVATION
AD202	EXTERIOR DEMOLITION ELEVATION
AE101	OVERALL FIRST FLOOR PLAN
AE102	PARTIAL FIRST FLOOR PLAN - AREA A
AE103	PARTIAL FIRST FLOOR PLAN - AREA B
AE104	OVERALL SECOND FLOOR PLAN
AE105	PARTIAL SECOND FLOOR PLAN - AREA A
AE121	OVERALL FIRST FLOOR RCP
AE124	OVERALL SECOND FLOOR RCP
AE201	EXTERIOR ELEVATION
AE202	EXTERIOR ELEVATION
A-605	DOOR SCHEDULE AND DETAILS
	INTERIORS
IF101	OVERALL FURNITURE, FIXTURE, AND EQUIPMENT PLAN
IF102	PARTIAL FURNITURE, FIXTURE AND EQUIPMENT PLAN - LEVEL 1 - AREA A
I-301	ENLARGED PLANS
I-601	FINISH MATERIAL LEGEND / ROOM FINISH SCHEDULE

VICINITY MAP



PREPARED BY U.S. ARMY ENGINEERS DISTRICT, FORT WORTH

SIGNATURES AFFIXED BELOW INDICATE OFFICIAL RECOMMENDATION AND APPROVAL OF ALL DRAWINGS IN THIS SET AS SHOWN IN THE INDEX

REVIEWED BY:

QUALITY ASSURANCE — DATE

ACCEPTANCE RECOMMENDED:*

PROJECT ENGINEER/ ARCHITECT — DATE

ACCEPTED:*

CHIEF, ENGINEERING DIVISION — DATE

*THIS PROJECT WAS DESIGNED UNDER THE FORT WORTH DISTRICT OF THE U.S. ARMY CORPS OF ENGINEERS. THE INITIALS OR SIGNATURES AND REGISTRATION DESIGNATIONS OF INDIVIDUALS APPEAR ON THESE DOCUMENTS WITHIN THE SCOPE OF THEIR EMPLOYMENT AS REQUIRED BY ER 1110-1-8152

SOLICITATION NO.: W9126G20U3782

ISSUE DATE: 22 JULY 2020

SOLICITATION SUBMITTAL

JEG Proj. No. FDZD7426

US Army Corps
of Engineers ®

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CHRISTOPHER M. SURLES
NAME

TX23638 — REGISTRATION #
22 JULY 2020 — DATE
TEXAS REGISTERED ENGINEERING FIRM F-2966

MARK	DESCRIPTION	DATE

ISSUE DATE: 22 JULY 2020
SOLICITATION NO.: W9126G20U3782
CONTRACT NO.: -
FILE NUMBER: -
ANSI 'D' | PANSWDG-001

DESIGNED BY: E. NENTWIG
DRAWN BY: B. GARCIA
CHECKED BY: C. SURLES
SUBMITTED BY: L. WHITE
SCALE: AS NOTED — FILE NAME:

US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT
FORT WORTH, TEXAS

Jacobs
JACOBS GOVERNMENT SERVICES COMPANY
777 Main Street, Fort Worth, TX 76102
JEG Proj. No. FDZD7426

FT. POLK, LA.
HANGAR RENOVATION
BUILDING 4295
COVER SHEET

SHEET ID
G-001

B1 FIRST FLOOR LIFE SAFETY PLAN

SCALE: 1/16" = 1'-0"

EXIT COMPONENT

NUMBER	COMPONENTS	WIDTH	EXIT FACTOR (IN / PERSON)	EXIT FACTOR (IN / PERSON)
100A	DOOR	64"	.2"	320
106A	DOOR	64"	.2"	320
110A	DOOR	32"	.2"	160
111A	DOOR	64"	.2"	320
114A	DOOR	32"	.2"	160
			TOTAL EXITING CAPACITY =	1,280
			TOTAL EXITING POPULATION =	20

FIRST FLOOR ROOM SCHEDULE

ROOM #	ROOM NAME
FIRST FLOOR	
101	GENERAL STORAGE
102	HANGAR BAY AREA
103	MEDEVAC FLIGHT OPS
103A	MEDEVAC FLIGHT OPS
103B	FLIGHT OPS EQUIP STORAGE
104	SUPPLY ROOM
104A	SUPPLY ROOM
107	MAINT. TEST PILOT OFFICE
108	CREW CHIEF OFFICE
109	PLATOON OFFICE
110	DAY ROOM
111	SECURE EQUIP STORAGE
112	EQUIP ROOM
113	FLIGHT PLANNING OFFICE
113A	CORRIDOR
113B	CORRIDOR
113C	SNACK
113D	PASSAGE
115	STAIRS
116	MEN
117	WOMEN
118	CORRIDOR
119	EQUIP STORAGE
120	KITCHEN
121	FLIGHT EQUIP STORAGE
122	CONTRACT MAINT OFFICE
123	ENG. SHOP
124A	PASSAGE
124B	SLEEP RM
124C	SLEEP RM
124D	SLEEP RM
124E	SLEEP RM
124F	SLEEP RM
124G	SLEEP RM
124H	SLEEP RM
124J	SLEEP RM
124K	SLEEP RM
124L	SLEEP RM
125	MEDICAL SUPPLY
126	JANITOR CLOSET
127	LAUNDRY
130	CORRIDOR
132	EXERCISE ROOM
133	MECHANICAL
134	STORAGE
135	STORAGE
136	WEIGHT ROOM
138	GAME ROOM
139	MECH. EQUIP. ROOM
140	ELECT. ROOM

GENERAL NOTES - LIFE SAFETY PLAN

A	REFER TO OTHER DISCIPLINE DRAWINGS FOR PENETRATION LOCATIONS.
B	WHERE A PARTITION IS INDICATED TO BE RATED, PROVIDE A THROUGH PENETRATION FIRE STOPPING SYSTEM CONSTRUCTED IN STRICT COMPLIANCE WITH THE FIRE TEST DESIGN.
C	OCCUPANT LOADS ON THE LIFE SAFETY PLANS ARE BASED ON AREA OF INDIVIDUAL ROOMS AND WILL BE GREATER THAN THE GROSS CALCULATION LOADS NOTED ON CODE ANALYSIS G-003. OCCUPANT LOADS ARE CIRCULATION, VESTIBULES AND RESTROOMS ARE NOT NOTED ON THE LIFE SAFETY PLAN.

DESIGN CRITERIA

A	NFPA 101, LIFE SAFETY CODE, 2018 EDITION; FIRE SMOKE RESISTANCE RATING OF INTERIOR NON-LOAD BEARING PARTITIONS (OTHER THAN OCCUPANCY SEPARATION), MEANS OF EGRESS REQUIREMENTS, INTERIOR FINISH, AND FEATURES OF FIRE PROTECTION (E.G. VERTICAL OPENINGS).
B	INTERNATIONAL BUILDING CODE, 2015 EDITION; ALLOWABLE CONSTRUCTION TYPE, BUILDING HEIGHT, BUILDING AREA, BUILDING SEPARATION DISTANCE, AND OCCUPANCY SEPARATION.

LIFE SAFETY LEGEND

1 HOUR FIRE RATED PARTITION

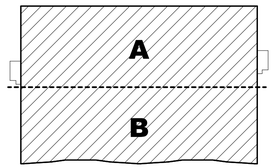
LEGEND

EXISTING DOOR TO REMAIN

NEW DOOR CONSTRUCTION

EXISTING WALL TO REMAIN

NEW WALL CONSTRUCTION



OVERALL KEY PLAN

GRAPHIC SCALE

16 12 8 4 0 16 32

SCALE: 1/16"=1'-0"

PLAN NORTH

TRUE N

US Army Corps of Engineers ®

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CHRISTOPHER M. SURLES
NAME

TX23638 — REGISTRATION #

22 JULY 2020 — DATE

TEXAS REGISTERED ENGINEERING FIRM F-2966

MARK	DESCRIPTION	DATE

DESIGNED BY: Designer
DRAWN BY: Author
CHECKED BY: Checker
SUBMITTED BY: L. WHITE
STATE FILE NAME: ANSI 'D'

ISSUE DATE: 22 JULY 2020
SOLICITATION NO.: W9126G20U3782
CONTRACT NO.: -
FILE NUMBER: -
PANSWDG-004

US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT
FORT WORTH, TEXAS

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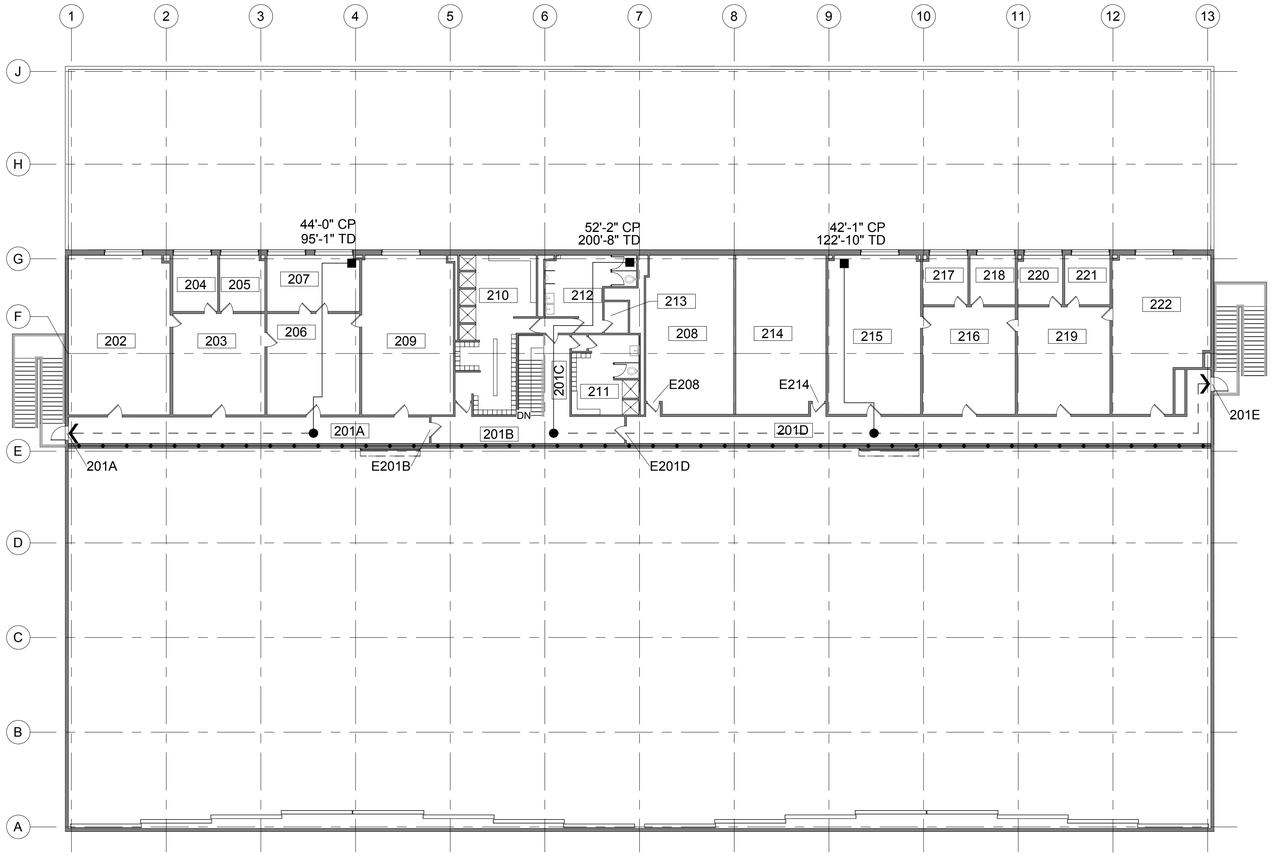
FT. POLK, LA.
HANGAR RENOVATION
BUILDING 4295

FIRST FLOOR LIFE SAFETY PLAN

SHEET ID

G-004

SOLICITATION SUBMITTAL



B1 SECOND FLOOR LIFE SAFETY PLAN

SCALE: 1/16" = 1'-0"

EXIT COMPONENT

NUMBER	COMPONENTS	WIDTH	EXIT FACTOR (IN / PERSON)	EXIT FACTOR (IN / PERSON)
100A	DOOR	64"	.2"	320
106A	DOOR	64"	.2"	320
110A	DOOR	32"	.2"	160
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114A	DOOR	32"	.2"	160
TOTAL EXITING CAPACITY = 1,280				
TOTAL EXITING POPULATION = 20				

SECOND FLOOR ROOM SCHEDULE

ROOM #	ROOM NAME
SECOND FLOOR	
201A	CORRIDOR
201B	CORRIDOR
201C	CORRIDOR
201D	CORRIDOR
202	SAFETY OFFICE
203	ADMIN.
204	1ST SGT
205	CPT OFFICE
206	CONFERENCE ROOM
207	OFFICE
208	MEDICAL TRAINING
209	INSTRUCTOR PILOT OFFICE
210	MEN'S LOCKER & SHOWER
211	WOMEN'S LATRINE LOCKER & SHOWER
212	MEN'S LATRINE
213	JANITOR CLOSET
214	EDUCATION
215	OPERATIONS
216	OPERATIONS
217	OFFICE
218	OFFICE
219	UNIT MAINT. ADMIN.
220	OFFICE
221	OFFICE
222	MEDIC OFFICE

GENERAL NOTES - LIFE SAFETY PLAN

A	REFER TO OTHER DISCIPLINE DRAWINGS FOR PENETRATION LOCATIONS.
B	WHERE A PARTITION IS INDICATED TO BE RATED, PROVIDE A THROUGH PENETRATION FIRE STOPPING SYSTEM CONSTRUCTED IN STRICT COMPLIANCE WITH THE FIRE TEST DESIGN.
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LIFE SAFETY LEGEND

1 HOUR FIRE RATED PARTITION

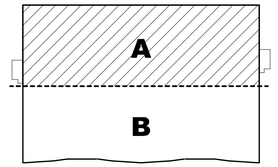
LEGEND

EXISTING DOOR TO REMAIN

NEW DOOR CONSTRUCTION

EXISTING WALL TO REMAIN

NEW WALL CONSTRUCTION



AREA A
KEY PLAN

GRAPHIC SCALE

16 12 8 4 0 16 32

SCALE: 1/16"=1'-0"

PLAN NORTH

TRUE N

US Army Corps of Engineers ®

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CHRISTOPHER M. SURLES
NAME

TX23638
REGISTRATION #

22 JULY 2020
DATE

TEXAS REGISTERED ENGINEERING FIRM F-2966

MARK	DESCRIPTION	DATE

DESIGNED BY: Designer
DRAWN BY: Author
CHECKED BY: Checker
SUBMITTED BY: L. WHITE
SIZE: ANSI 'D'

ISSUE DATE: 22 JULY 2020
SOLICITATION NO.: W9126G20U3782
CONTRACT NO.: -
FILE NUMBER: -
FILE NAME: PANSWDG-005

US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT
FORT WORTH, TEXAS

jacobs
JACOBS GOVERNMENT SERVICES COMPANY
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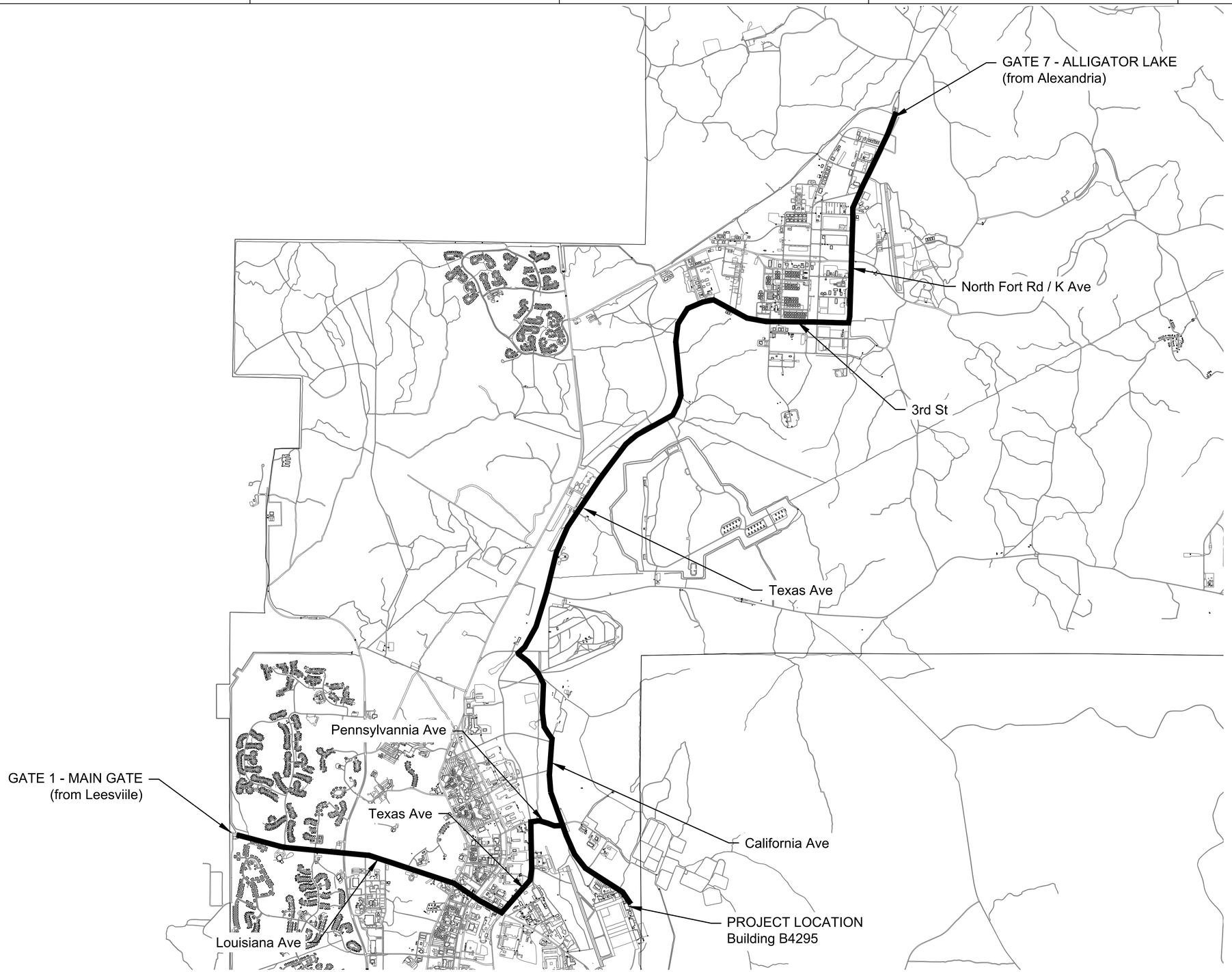
FT. POLK, LA.
HANGAR RENOVATION
BUILDING 4295

SECOND FLOOR LIFE SAFETY PLAN

SHEET ID

G-005

SOLICITATION SUBMITTAL



A1 HAUL ROUTE EXHIBIT
1" = 2000'

GRAPHIC SCALE

0 2000 4000

SCALE: 1:2000

PLAN NORTH

TRUE N

US Army Corps of Engineers ®

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KEVIN P. HUNT
NAME

TX91842
REGISTRATION #

22 JULY 2020
DATE

MARK	DESCRIPTION	DATE

US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT
FORT WORTH, TEXAS

Jacobs
Jacobs Engineering Group Inc. and its subsidiary
777 Main Street, Fort Worth, TX 76102
Job/Proj No. 170001234

DESIGNED BY:
DRAWN BY:
CHECKED BY:
SUBMITTED BY:
L. WHITE
SIZE:
ANSI 'D'

ISSUE DATE:
22 JULY 2020
SOLICITATION NO.:
W9126G20U3782
CONTRACT NO.:
-
FILE NUMBER:
-
FILE NAME:
PANSWDFT POLK HAUL ROUTE

FT. POLK, LA.
HANGAR RENOVATION
BUILDING 4295
HAUL ROUTE EXHIBIT

SHEET ID

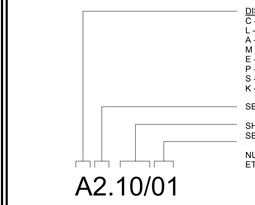
C-000

SOLICITATION SUBMITTAL

A/E	ARCHITECT/ENGINEER	DS	DOWNSPOUT	NIC	NOT IN CONTRACT	VWC	VINYL WALL COVERING
AB	ANCHOR BOLT	DWG	DRAWING	NO	NUMBER	W	WIDTH
ABUT	ABUTMENT	DWR	DRAWER	NOM	NOMINAL	W/	WITH
ABV	ABOVE	EF	EACH FACE	NTS	NOT TO SCALE	W/O	WITHOUT
ACOU	ACOUSTICAL	EJ	EXPANSION JOINT	OA	OVERALL	WC	WATER CLOSET
ACOU INSUL	ACOUSTICAL INSULATION	EL	ELEVATION	OC	ON CENTER	WD	WOOD
ACT	ACOUSTICAL CEILING TILE	ELEC	ELECTRIC(AL)	OD	OUTSIDE DIAMETER(DIMENSION)	WDW	WINDOW
ADD	ADDENDUM	ELEV	ELEVATION			WSCT	WAINSCOT
ADDL	ADDITIONAL	EMER	EMERGENCY	OF	OUTSIDE FACE	WT	WEIGHT
ADJ	ADJUSTABLE	ENCL	ENCLOSURE	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED	WTR	WATER
AFF	ABOVE FINISHED FLOOR	ENGR	ENGINEER			WWF	WELDED WIRE FABRIC
AL OR ALUM	ALUMINUM	EQUIP	EQUIPMENT	OPNG	OPENING		
ALT	ALTERNATE	EW	EACH WAY	OPP	OPPOSITE		
AMT	AMOUNT	EWC	ELEC WATER COOLER	OPT	OPTIONAL		
ANOT	ANODIZED	EXH	EXHAUST	PERF	PERFORATED		
ARCH	ARCHITECT(URAL)	EXIST	EXISTING	PERP	PERPINDICULAR		
ASPH	ASPHALT	EXP	EXPANSION	PL	PLATE		
ASSN	ASSOCIATION	EXT	EXTERIOR	PLAM	PLASTIC LAMINATE		
ASSY	ASSEMBLY	FD	FLOOR DRAIN	PLBG	PLUMBING		
ATCH	ATTACHMENT	FE	FIRE EXTINGUISHER	PLYWD	PLYWOOD		
AV	AUDIO VISUAL	FEC	FIRE EXTINGUISHER CABINET	PNL	PANEL		
B/B	BACK TO BACK	FIN	FINISH	PR	PAIR		
BAF	BAFFLE	FIN FLR	FINISH FLOOR	PREFAB	PREFABRICATED		
BAL	BALANCE	FL	FLASHING	PREFIN	PREFINISHED		
BB	BULLETIN BOARD	FLR	FLOOR(ING)	PRELIM	PRELIMINARY		
BC	BACK OF CURB	FLUOR	FLUORESCENT	PREP	PREPARATION		
BD	BOARD	FR	FIRE RATING	PROJ	PROJECT		
BET	BETWEEN	FURN	FURNITURE	PROP	PROPERTY		
BEV	BEVEL	FURR	FURRING	PTD	PAINTED		
BF	BOTH FACES	GA	GAGE OR GAUGE	PTN	PARTITION		
BITUM	BITUMINOUS	GAL	GALLON	PVC	PLYVINYL CHLORIDE		
BLDG	BUILDING	GALV	GALVANIZED	PVMT	PAVEMENT		
BLK	BLOCK	GB	GRAB BAR	PWR	POWER		
BLKG	BLOCKING	GEN	GENERAL	QTR	QUARTER		
BLKHD	BULKHEAD	GL	GLASS	QTY	QUANTITY		
BLST	BALLAST	GR	GRADE(ING)	R	RISER(RADIUS)		
BLW	BELOW	GYP BD	GYPSUM BOARD	RB	RESILIENT BASE		
BM	BEAM	H	HIGH	RD	ROOF DRAIN		
BOTT	BOTTOM	HB	HOSE BIB	RE/REF	REFERENCE		
BRG	BEARING	HC	HOLLOW CORE	RECT	RECTANGULAR		
BRS	BRASS	HD	HEAVY DUTY	REINF	REINFORCE(D)(ING)(MENT)		
BRZ	BRONZE	HDWE	HARDWARE	REQD	REQUIRED		
BS	BOTH SIDES	HGT	HEIGHT	RH	RIGHT HAND		
BU	BUILT-UP	HM	HOLLOW METAL	RM	ROOM		
BUR	BUILT-UP ROOF	HORIZ	HORIZONTAL	RO	ROUGH OPENING		
BW	BOTH WAYS	HR	HOUR	SC	SOLID CORE		
C&G	CURB & GUTTER	HVAC	HEATING, VENTILATION, AIR CONDITIONING	SCHED	SCHEDULE		
C/C	CENTER TO CENTER			SCRN	SCREEN		
CAB	CABINET	ID	INSIDE DIAMETER	SECT	SECTION		
CAP	CAPACITY	INSTL	INSTALLATION	SF	SQUARE FOOT		
CB	CORNER BREAD	INSUL	INSULATION	SGL	SINGLE		
CD	CEILING DIFFUSER	INT	INTERIOR	SHT	SHEET(ING)		
CER	CERAMIC	JAN	JANITOR	SIM	SIMILAR		
CFLG	COUNTER FLASHING	JST	JOIST	SL	SLOPE		
CLJ	CONTROL JOINT	JT	JOINT	SPECS	SPECIFICATIONS		
CLR	CLEAR	LAB	LABRATORY	SQ	SQUARE		
CMU	CONCRETE MASONRY UNIT	LAV	LAVATORY	SS (SSTL)	STAINLESS STEEL		
CNTR	COUNTER	LB	POUND	STA	STATION		
CO	CASED OPENING	LH	LEFT HAND	STC	SOUND TRANSMISSION CLASS		
COL	COLUMN	LLH	LONG LEG HORIZONTAL				
COMB	COMBINATION	LLV	LONG LEG VERTICAL	STD	STANDARD		
CONC	CONCRETE	LONG	LONGITUDINAL	STL	STEEL		
CONF	CONFERENCE	LT	LIGHT	STL JST	STEEL JOIST		
CONN	CONNECTION	LT WT	LIGHTWEIGHT	STOR	STORAGE		
CONSTR	CONSTRUCTION	LVL	LEVEL(ER)	STRUCT	STRUCTURAL		
CONT	CONTINUOUS(ATION)	MAINT	MAINTENANCE	SUSP	SUSPENDED		
CONTR	CONTRACT(OR)	MATL	MATERIAL	SVC	SERVICE		
COOR	CORRIDOR	MAX	MAXIMUM	SYS	SYSTEM		
COORD	COORDINATE	MBR	MEMBER	T&G	TONGUE & GROOVE		
CPT	CARPET	MECH	MECHANICAL	TEMP	TEMPORARY		
CSK	COUNTERSUNK	MED	MEDIUM	THK	THICKNESS		
CSWK	CASEWORK	MEMB	MEMBRANE	THRESH	THRESHOLD		
CT	CERAMIC TILE	MEZZ	MEZZAINE	THRU	THROUGH		
CW	CLOCKWISE	MFGR	MANUFACTURE(ING)	TR	TREAD		
DEMO	DEMOLITION	MIN	MINIMUM	TYP	TYPICAL		
DEPT	DEPARTMENT	MISC	MISCELLANEOUS	UNFIN	UNFINISHED		
DET	DETAIL	MLWK	MILLWORK	UON	UNLESS OTHERWISE NOTED		
DF	DRINKING FOUNTAIN	MO	MASONRY OPENING	UR	URINAL		
DIFF	DIFFUSER	MOD	MODULE(AR)	UTIL	UTILITY		
DIM	DIMENSION	MTD	MOUNTED	VCT	VINYL COMPOSITION TILE		
DIST	DISTANCE	MTG	MOUNTING	VEH	VEHICLE		
DISTR	DISTRIBUTE(ION)	MTL	METAL	VENT	VENT(ILATOR)		
DN	DOWN	MULL	MULLION	VERT	VERTICAL		
DO	DITTO	NA	NOT APPLICABLE	VEST	VESTIBULE		
		NEG	NEGATIVE	VIF	VERIFY IN FIELD		

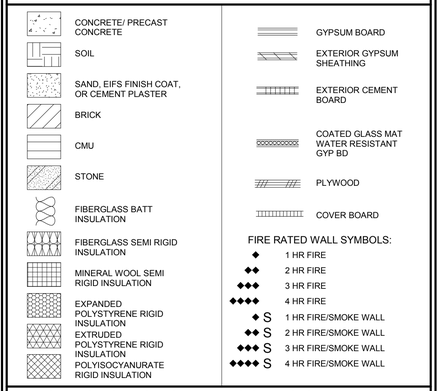
INDEX OF DRAWINGS

NUMBERING SYSTEM:

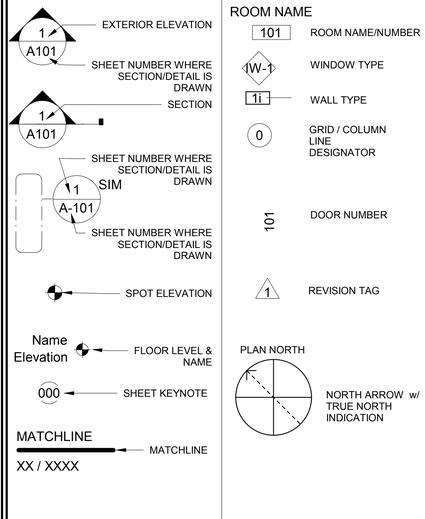


LEGEND

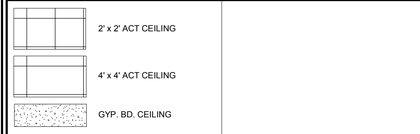
MATERIALS



ANNOTATION CALLOUTS/DRAWING SYMBOLS



CEILING SYMBOLS



GENERAL NOTES

A	FIELD VERIFY CONDITIONS AND VERIFY CONSTRUCTION LAYOUT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
B	DO NOT SCALE THE DRAWINGS.
C	BUILDING RENOVATION DRAWINGS INDICATE THE GENERAL INTENT OF DEMOLITION FOR THE PURPOSE OF CONSTRUCTING NEW SYSTEMS AND ASSEMBLIES. EXISTING SERVICES HAVE BEEN IDENTIFIED BASED UPON THE EXISTING AS-BUILT DRAWINGS. ANY DOCUMENTED SERVICES AND ASSEMBLIES ENCOUNTERED DURING CONSTRUCTION SHALL BE IDENTIFIED AND DOCUMENTED TO THE DESIGNER OF RECORD AND OWNER. VERIFY SIZE, LOCATION AND CHARACTERISTIC OF ALL EQUIPMENT TO BE FURNISHED WITH MANUFACTURERS OR SUPPLIERS BEFORE BEGINNING CONSTRUCTION.
D	PATCH AND REPAIR EXISTING WALLS, FLOORS, CEILING, AND ADJACENT EXISTING CONSTRUCTION AFFECTED BY DEMOLITION TO BE FREE OF DEFECTS AND PREPARE TO RECEIVE NEW CONSTRUCTION IN THE AREA OF WORK.
E	ALL PLAN DIMENSIONS ARE TO FINISH FACE OF EXISTING WALLS, FACE OF WALL STUDS, FACE OF CONCRETE, FACE OF CMU, OR COLUMN CENTERLINE. ALL REFLECTED CEILING PLAN DIMENSIONS ARE TO FINISH FACE OF EXISTING WALLS, FACE OF EXISTING WALLS, FACE OF GYPSUM BOARD, FACE OF CONCRETE, FACE OF CMU, OR COLUMN CENTERLINE.
F	COORDINATE PRIOR TO THE COMMENCEMENT OF WORK THE SALVAGING OF SPECIFIC ITEMS AND PROTECTION OF EXISTING BUILDING ELEMENTS, BUILDING SYSTEMS, AND EQUIPMENT TO REMAIN IN PLACE.
G	FOR ADDITIONAL GENERAL AND DEMOLITION NOTES REFER TO SHEETS AD101 THRU AD202.
H	FINISH EXPOSED JOINTS, EDGES, AND CORNERS OF WALL BEFORE INSTALLATION OF FINAL FINISHES.
J	CLEAN CONCRETE SLAB OF ADHESIVE AND OTHER CONTAMINANTS UPON REMOVAL OF FLOOR FINISHES. PATCH AND LEVEL SLAB WITH LEVELING COMPOUND AFTER DEMOLITION IS COMPLETE AND PRIOR TO INSTALLATION OF NEW CONSTRUCTION. FEATHER EDGES TO PROVIDE A SMOOTH TRANSITION TO EXISTING SLAB.
K	REMOVE ALL ABANDON OR UNUSED PIPING OR CONDUIT AND CAP BEHIND WALLS, BELOW FLOOR SURFACES OR ABOVE CEILING.
L	ALL EGRESS COMPONENTS (STAIR, CORRIDORS, DOORS, EXIT SIGNAGE, EMERGENCY LIGHTING) TO REMAIN UNOBSTRUCTED FOR PERSONNEL TRAFFIC AND EXITING REQUIREMENTS.
M	ERECT TEMPORARY DUST PARTITIONS WITH CLOSED JOINTS AND SEALED EDGES.
N	PROTECT EXISTING FINISHES NOT IN THE SCOPE OF WORK FROM CONSTRUCTION TRAFFIC, DIRT, DEBRIS, WEAR, AND DAMAGE.
P	EXECUTE FINAL CLEANING PRIOR TO FINAL INSPECTION.

US Army Corps of Engineers ®

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CHRISTOPHER M. SURLES
NAME

TX23638 — REGISTRATION #
22 JULY 2020 — DATE
TEXAS REGISTERED ENGINEERING FIRM F-2966

MARK	DESCRIPTION	DATE

DESIGNED BY: E. NENTWIG
DRAWN BY: D. BURGESS
CHECKED BY: C. SURLES
SUBMITTED BY: L. WHITE
QA/QC: -
ISSUE DATE: 22 JULY 2020
SOLICITATION NO.: W9126G20U3782
CONTRACT NO.: -
FILE NUMBER: -
FILE NAME: ANSI 'D' PANSWIDA-001

US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT
FORT WORTH, TEXAS

jacobs
JACOBS GOVERNMENT SERVICES COMPANY
777 Main Street, Fort Worth, TX 76102
Texas Registration No. F-2966

FT. POLK, LA.
HANGAR RENOVATION
BUILDING 4295

ABBREVIATIONS

SHEET ID

A-001

SOLICITATION SUBMITTAL

B1 OVERALL DEMOLITION FIRST FLOOR PLAN

SCALE: 1/16" = 1'-0"

GENERAL NOTES - DEMOLITION PLANS

A	EXISTING CONSTRUCTION SHOWN BASED UPON OWNER FURNISHED PLANS AND ONSITE OBSERVATION. REPORT ANY DISCREPANCIES BETWEEN DRAWINGS AND ACTUAL FIELD CONDITION TO THE CONTRACTING OFFICER PRIOR TO PROCEEDING WITH WORK.
B	COORDINATE WITH THE CONTRACTING OFFICER THE PROJECT SCHEDULE OF WORK AND THE PROJECT SAFETY DEMARCATIONS.
C	COORDINATE WITH CONTRACTING OFFICER FOR DEMOLITION/STAGING SCHEDULE PRIOR TO COMMENCEMENT OF DEMOLITION.
D	PROTECT AND MAINTAIN EXISTING ROOF, PLUMBING, ELECTRICAL, LIGHTING, AND FIRE PROTECTION THAT IS REQUIRED TO REMAIN IN SERVICE.
E	REFER TO AND COORDINATE WITH STRUCTURAL, MECHANICAL, PLUMBING, FIRE PROTECTION, AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION SCOPE.

FIRST FLOOR ROOM SCHEDULE DEMOLITION

ROOM #	ROOM NAME
FIRST FLOOR	
101	GENERAL STORAGE
102	HANGAR BAY AREA
103	MEDEVAC FLIGHT OPS
103A	MEDEVAC FLIGHT OPS
103B	FLIGHT OPS EQUIP STORAGE
104	SUPPLY ROOM
104A	SUPPLY ROOM
107	MAINT. TEST PILOT OFFICE
108	CREW CHIEF OFFICE
109	PLATOON OFFICE
110	DAY ROOM
111	SECURE EQUIP STORAGE
112	EQUIP ROOM
113	FLIGHT PLANNING OFFICE
113A	CORRIDOR
113B	CORRIDOR
115	STAIRS
116	MEN
117	WOMEN
118	CORRIDOR
119	EQUIP STORAGE
120	KITCHEN
121	FLIGHT EQUIP STORAGE
122	CONTRACT MAINT OFFICE
123	ENG. SHOP
125	MEDICAL SUPPLY
126	JANITOR CLOSET
130	CORRIDOR
132	EXERCISE ROOM
133	MECHANICAL
134	STORAGE
135	STORAGE
136	WEIGHT ROOM
138	GAME ROOM
139	MECH. EQUIP. ROOM
140	ELECT. ROOM

GENERAL NOTES - DEMOLITION PLANS

F	IN THE AREAS DESIGNATED FOR NEW WORK REMOVE ALL HARDWARE, WIRE HANGERS, ANCHOR SYSTEMS, MISC. METAL ATTACHMENTS, ETC. PATCH AND FINISH TO MATCH ADJACENT SURFACE.
G	PATCH AND REPAIR EXISTING WALLS, FLOORS AND ROOF DAMAGED FROM THE REMOVAL OF HARDWARE AND ASSOCIATED ACCESSORIES, TO BE FREE OF DEFECTS AND PREPARE TO RECEIVE NEW CONSTRUCTION IN THE AREA OF WORK
H	COORDINATE DISPOSAL OF DEMOLISHED MATERIALS WITH CONTRACTING OFFICER.
J	REFER TO STRUCTURAL FOR SPECIFIC AREAS OF STRUCTURAL DEMOLITION.
K	STOP WORK IMMEDIATELY AND NOTIFY THE CONTRACTING OFFICER IF ASBESTOS CONTAINING MATERIALS ARE DISCOVERED NOT IDENTIFIED IN THE ASBESTOS SURVEY.
L	A HAZARDOUS MATERIAL SURVEY HAS BEEN CONDUCTED FOR THE BUILDING AND PROVIDED FOR REFERENCE ONLY. DESIGN BUILD CONTRACTOR IS REQUIRED TO PROVIDE A COMPLETE HAZMAT SURVEY.
M	THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING ALL INSTRUCTION AND GUIDELINES FOR ALL ACTIVITIES ASSOCIATED WITH DEMOLITION AND REMEDIATION FOR ALL CONSTRUCTION ACTIVITIES DURING THE BUILDING RENOVATION.
N	REFER TO DEMOLITION ELEVATIONS FOR ADDITIONAL ITEMS TO BE DEMOLISHED.
P	COORDINATE PAINTED SURFACES ASSUMED TO CONTAIN LEAD IN ACCORDANCE WITH THE OSHA LEAD IN CONSTRUCTION STANDARD 39 CFR 1926.62.
Q	FIELD VERIFY EXISTING CONDITIONS AND VERIFY CONSTRUCTION LAYOUT PRIOR TO COMMENCEMENT OF CONSTRUCTION.

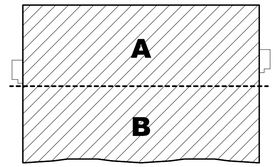
LEGEND

EXISTING WALL TO BE REMOVED

EXISTING DOOR TO BE REMOVED

EXISTING WALL TO REMAIN

EXISTING DOOR TO REMAIN



OVERALL KEY PLAN

GRAPHIC SCALE

16 12 8 4 0 16 32

SCALE: 1/16"=1'-0"

PLAN NORTH

TRUE N

US Army Corps of Engineers ®

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CHRISTOPHER M. SURLES
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TX23638 REGISTRATION #
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(817) 878-7800 FAX 8178787824

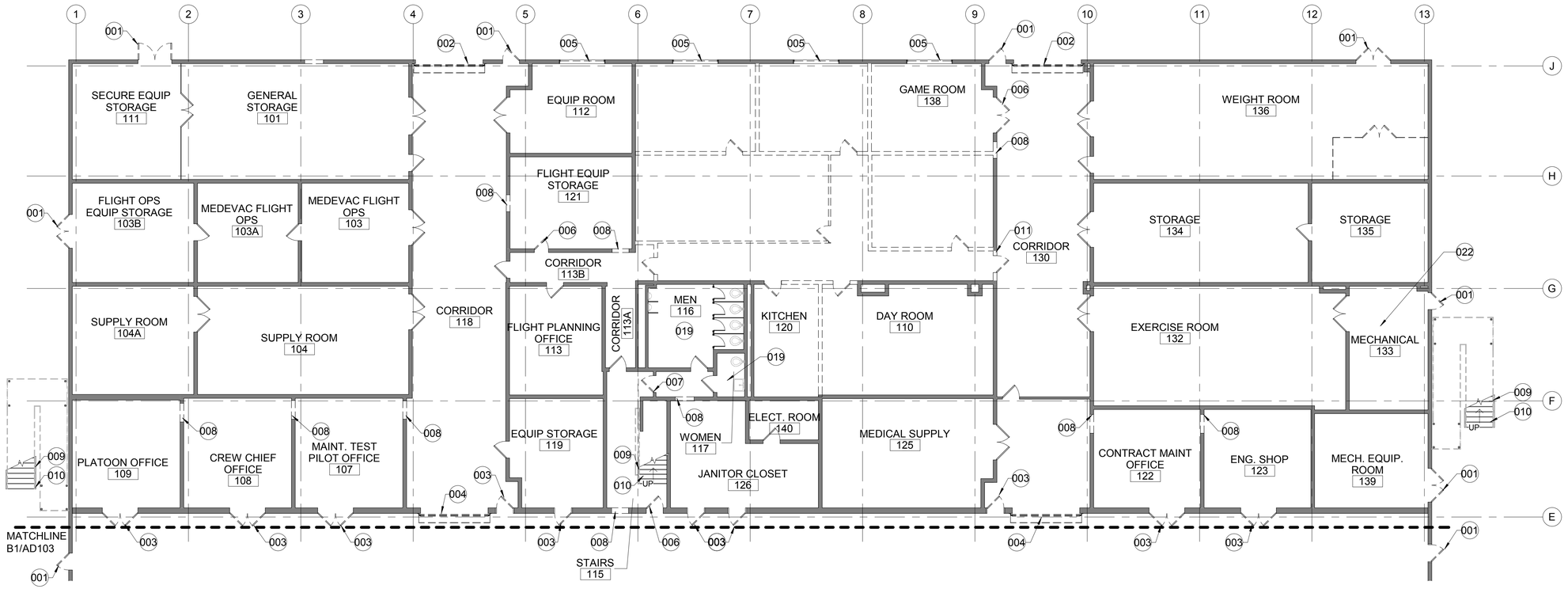
FT. POLK, LA.
HANGAR RENOVATION
BUILDING 4295

OVERALL FIRST FLOOR DEMOLITION PLAN

SHEET ID

AD101

SOLICITATION SUBMITTAL



B1 PARTIAL DEMOLITION FIRST FLOOR PLAN - AREA A

SCALE: 3/32" = 1'-0"

KEYNOTES

001	REMOVE EXISTING DOOR AND FRAME, SALVAGE HARDWARE FOR REUSE. PREPARE EXISTING OPENING TO RECEIVE NEW DOOR AND FRAME
002	REMOVE EXISTING OVERHEAD COILING DOOR AND FRAME IN ITS ENTIRETY, PREPARE EXISTING OPENING TO RECEIVE NEW DOOR AS SCHEDULED
003	REMOVE EXISTING DOOR AND FRAME, SALVAGE HARDWARE FOR REUSE. PREPARE EXISTING OPENING TO RECEIVE NEW FIRE RATED DOOR AND FRAME
004	REMOVE EXISTING OVERHEAD COILING DOOR AND FRAME, SALVAGE HARDWARE FOR REUSE. PREPARE EXISTING OPENING TO RECEIVE NEW FIRE RATED FIRE SHUTTER
005	REMOVE EXISTING EXTERIOR WINDOW. REMOVE PARTIAL CMU BLOCK AND PREPARE OPENING TO RECEIVE NEW TOOTH-IN CMU CONSTRUCTION

KEYNOTES

006	REMOVE EXISTING DOOR AND FRAME. REMOVE PARTIAL CMU BLOCK AND PREPARE OPENING TO RECEIVE NEW TOOTH-IN CMU CONSTRUCTION
007	REMOVE EXISTING DOOR, FRAME TO REMAIN
008	PARTIALLY REMOVE EXISTING CMU WALL AS REQUIRED FOR NEW DOOR INSTALLATION. REMOVE PARTIAL CMU BLOCK AND PREPARE TO RECEIVE NEW TOOTH-IN CMU CONSTRUCTION
009	REMOVE EXISTING HANDRAIL IN ITS ENTIRETY, PREPARE EXISTING STAIR TO RECEIVE NEW GUARDRAIL AND HANDRAIL
010	EXISTING STAIR TO REMAIN, CLEAN STAIR AND PREPARE TO RECEIVE NEW FINISHES
011	PARTIALLY REMOVE EXISTING CMU WALL AS REQUIRED FOR NEW WALL OPENING. REMOVE PARTIAL CMU BLOCK AND PREPARE TO RECEIVE NEW TOOTH-IN CMU CONSTRUCTION
019	REMOVE EXISTING PLUMBING FIXTURES AND PREPAIR EXISTING WALLS TO RECEIVE NEW FIXTURES
022	CONVERT EXISTING PAINT BOOTH/STORAGE TO NEW MECHANICAL ROOM

GENERAL NOTES - DEMOLITION PLANS

A	EXISTING CONSTRUCTION SHOWN BASED UPON OWNER FURNISHED PLANS AND ONSITE OBSERVATION. REPORT ANY DISCREPANCIES BETWEEN DRAWINGS AND ACTUAL FIELD CONDITION TO THE CONTRACTING OFFICER PRIOR TO PROCEEDING WITH WORK.
B	COORDINATE WITH THE CONTRACTING OFFICER THE PROJECT SCHEDULE OF WORK AND THE PROJECT SAFETY DEMARCATIONS.
C	COORDINATE WITH THE CONTRACTING OFFICER FOR DEMOLITION/STAGING SCHEDULE PRIOR TO COMMENCEMENT OF DEMOLITION.
D	PROTECT AND MAINTAIN EXISTING ROOF, PLUMBING, ELECTRICAL, LIGHTING, AND FIRE PROTECTION THAT IS REQUIRED TO REMAIN IN SERVICE.
E	REFER TO AND COORDINATE WITH STRUCTURAL, MECHANICAL, PLUMBING, FIRE PROTECTION, AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION SCOPE.
F	IN THE AREAS DESIGNATED FOR NEW WORK REMOVE ALL HARDWARE, WIRE HANGERS, ANCHOR SYSTEMS, MISC. METAL ATTACHMENTS, ETC. PATCH AND FINISH TO MATCH ADJACENT SURFACES.

GENERAL NOTES - DEMOLITION PLANS

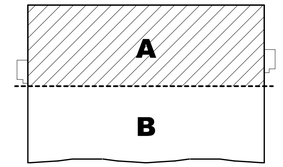
G	PATCH AND REPAIR EXISTING WALLS, FLOORS, AND ROOF DAMAGED FROM THE REMOVAL OF HARDWARE AND ASSOCIATED ACCESSORIES, TO BE FREE OF DEFECTS AND PREPARE TO RECEIVE NEW CONSTRUCTION IN THE AREA OF WORK.
H	COORDINATE DISPOSAL OF DEMOLISHED MATERIALS MATERIALS WITH CONTRACTING OFFICER.
J	REFER TO STRUCTURAL FOR SPECIFIC AREAS OF STRUCTURAL DEMOLITION.
K	STOP WORK IMMEDIATELY AND NOTIFY THE CONTRACTING OFFICER IF ASBESTOS CONTAINING MATERIALS ARE DISCOVERED NOT IDENTIFIED IN THE ASBESTOS SURVEY.
L	A HAZARDOUS MATERIAL SURVEY HAS BEEN CONDUCTED FOR THE BUILDING.
M	THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING ALL INSTRUCTION AND GUIDELINES FOR ALL ACTIVITES ASSOCIATED WITH DEMOLITION AND REMEDIATION FOR ALL CONSTRUCTION ACTIVITIES DURING THE BUILDING RENOVATION.
N	REFER TO DEMOLITION ELEVATIONS FOR ADDITIONAL ITEMS TO BE DEMOLISHED.
P	COORDINATE PAINTED SURFACES ASSUMED TO CONTAIN LEAD IN ACCORDANCE WITH THE OSHA LEAD IN CONSTRUCTION STANDARD 39 CFR 1926.62.

GENERAL NOTES - DEMOLITION PLANS

Q	FIELD VERIFY EXISTING CONDITIONS AND VERIFY CONSTRUCTION LAYOUT PRIOR TO COMMENCEMENT OF CONSTRUCTION.

LEGEND

- EXISTING WALL TO BE REMOVED
- EXISTING DOOR TO BE REMOVED
- EXISTING WALL TO REMAIN
- EXISTING DOOR TO REMAIN



AREA A KEY PLAN

GRAPHIC SCALE

0 4' 8' 16' 32'

SCALE: 3/32"=1'-0"

PLAN NORTH

TRUE N

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E. NEE	FILE NAME:
	ANSI 'D' PANSWDAD102

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FORT WORTH DISTRICT
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+817 870 7600 FAX +1 (817)870-7602

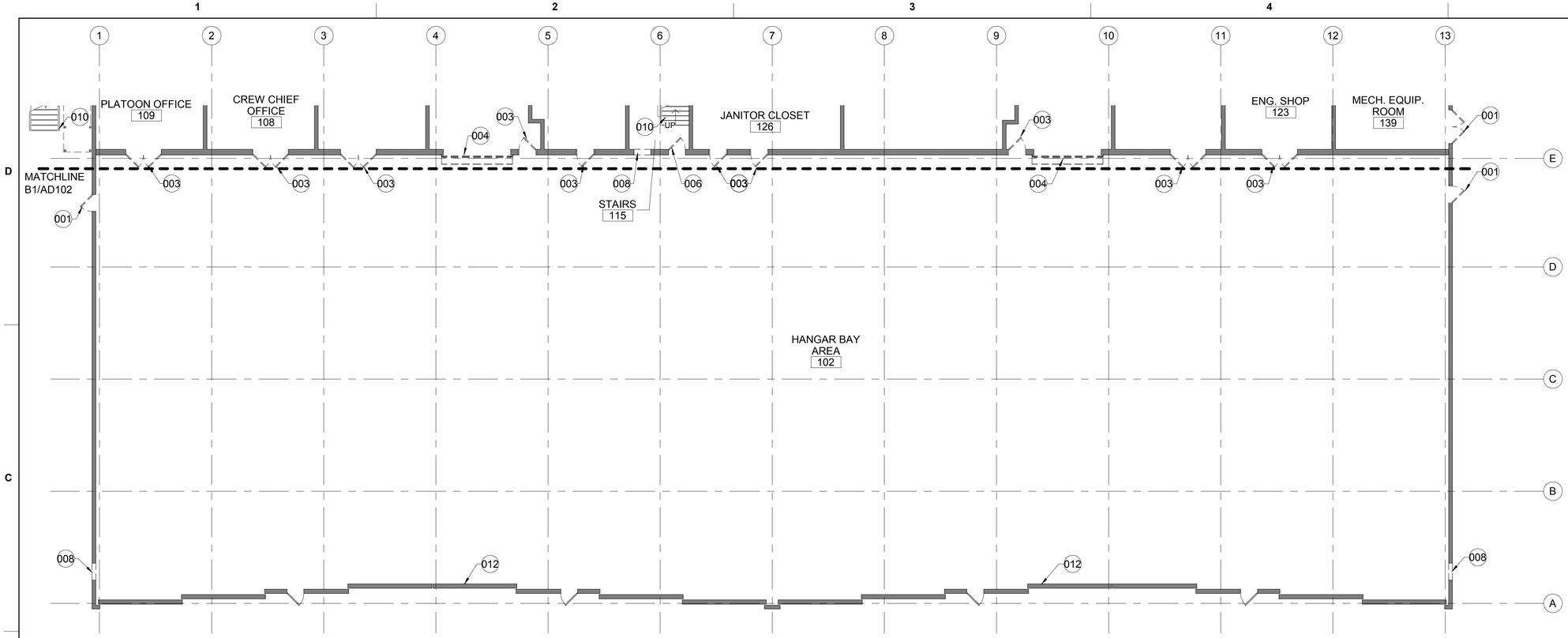
FT. POLK, LA.
HANGAR RENOVATION
BUILDING 4295

PARTIAL FIRST FLOOR DEMOLITION PLAN - AREA A

SHEET ID

AD102

SOLICITATION SUBMITTAL



B1 PARTIAL DEMOLITION FIRST FLOOR PLAN - AREA B

SCALE: 3/32" = 1'-0"

KEYNOTES	
001	REMOVE EXISTING DOOR AND FRAME, SALVAGE HARDWARE FOR REUSE. PREPARE EXISTING OPENING TO RECEIVE NEW DOOR AND FRAME
003	REMOVE EXISTING DOOR AND FRAME, SALVAGE HARDWARE FOR REUSE. PREPARE EXISTING OPENING TO RECEIVE NEW FIRE RATED DOOR AND FRAME
004	REMOVE EXISTING OVERHEAD COILING DOOR AND FRAME, SALVAGE HARDWARE FOR REUSE. PREPARE EXISTING OPENING TO RECEIVE NEW FIRE RATED FIRE SHUTTER
006	REMOVE EXISTING DOOR AND FRAME. REMOVE PARTIAL CMU BLOCK AND PREPARE OPENING TO RECEIVE NEW TOOTH-IN CMU CONSTRUCTION
008	PARTIALLY REMOVE EXISTING CMU WALL AS REQUIRED FOR NEW DOOR INSTALLATION. REMOVE PARTIAL CMU BLOCK AND PREPARE TO RECEIVE NEW TOOTH-IN CMU CONSTRUCTION
010	EXISTING STAIR TO REMAIN, CLEAN STAIR AND PREPARE TO RECEIVE NEW FINISHES
012	EXISTING HANGAR DOOR TO REMAIN

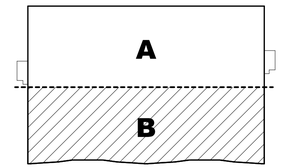
GENERAL NOTES - DEMOLITION PLANS	
A	EXISTING CONSTRUCTION SHOWN BASED UPON OWNER FURNISHED PLANS AND ONSITE OBSERVATION. REPORT ANY DISCREPANCIES BETWEEN DRAWINGS AND ACTUAL FIELD CONDITION TO THE CONTRACTING OFFICER PRIOR TO PROCEEDING WITH WORK.
B	COORDINATE WITH THE CONTRACTING OFFICER THE PROJECT SCHEDULE OF WORK AND THE PROJECT SAFETY DEMARCATIONS.
C	COORDINATE WITH THE CONTRACTING OFFICER FOR DEMOLITION/STAGING SCHEDULE PRIOR TO COMMENCEMENT OF DEMOLITION.
D	PROTECT AND MAINTAIN EXISTING ROOF, PLUMBING, ELECTRICAL, LIGHTING, AND FIRE PROTECTION THAT IS REQUIRED TO REMAIN IN SERVICE.
E	REFER TO AND COORDINATE WITH STRUCTURAL, MECHANICAL, PLUMBING, FIRE PROTECTION, AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION SCOPE.
F	IN THE AREAS DESIGNATED FOR NEW WORK REMOVE ALL HARDWARE, WIRE HANGERS, ANCHOR SYSTEMS, MISC. METAL ATTACHMENTS, ETC. PATCH AND FINISH TO MATCH ADJACENT SURFACES.

GENERAL NOTES - DEMOLITION PLANS	
G	PATCH AND REPAIR EXISTING WALLS, FLOORS, AND ROOF DAMAGED FROM THE REMOVAL OF HARDWARE AND ASSOCIATED ACCESSORIES, TO BE FREE OF DEFECTS AND PREPARE TO RECEIVE NEW CONSTRUCTION IN THE AREA OF WORK.
H	COORDINATE DISPOSAL OF DEMOLISHED MATERIALS MATERIALS WITH CONTRACTING OFFICER.
J	REFER TO STRUCTURAL FOR SPECIFIC AREAS OF STRUCTURAL DEMOLITION.
K	STOP WORK IMMEDIATELY AND NOTIFY THE CONTRACTING OFFICER IF ASBESTOS CONTAINING MATERIALS ARE DISCOVERED NOT IDENTIFIED IN THE ASBESTOS SURVEY.
L	A HAZARDOUS MATERIAL SURVEY HAS BEEN CONDUCTED FOR THE BUILDING.
M	THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING ALL INSTRUCTION AND GUIDELINES FOR ALL ACTIVITES ASSOCIATED WITH DEMOLITION AND REMEDIATION FOR ALL CONSTRUCTION ACTIVITIES DURING THE BUILDING RENOVATION.
N	REFER TO DEMOLITION ELEVATIONS FOR ADDITIONAL ITEMS TO BE DEMOLISHED.
P	COORDINATE PAINTED SURFACES ASSUMED TO CONTAIN LEAD IN ACCORDANCE WITH THE OSHA LEAD IN CONSTRUCTION STANDARD 39 CFR 1926.62.

GENERAL NOTES - DEMOLITION PLANS	
Q	FIELD VERIFY EXISTING CONDITIONS AND VERIFY CONSTRUCTION LAYOUT PRIOR TO COMMENCEMENT OF CONSTRUCTION.

LEGEND

- EXISTING WALL TO BE REMOVED
- EXISTING DOOR TO BE REMOVED
- EXISTING WALL TO REMAIN
- EXISTING DOOR TO REMAIN



AREA B KEY PLAN

GRAPHIC SCALE

0 4' 8' 16' 32'

SCALE: 3/32"=1'-0"

PLAN NORTH

TRUE N

US Army Corps of Engineers ®

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THESE DOCUMENTS ARE FOR CONCEPT DESIGN AND NOT INTENDED FOR CONSTRUCTION BIDDING OR PERMIT PURPOSES. THEY WERE PREPARED BY, OR UNDER SUPERVISION OF:

CHRISTOPHER M. SURLES
NAME

TX23638 REGISTRATION # — 22 JULY 2020 DATE

TEXAS REGISTERED ENGINEERING FIRM F-2966

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
E. NENTWIG	22 JULY 2020
DRAWN BY:	SOLICITATION NO.:
D. BURGESS	W9126G20U3782
CHECKED BY:	CONTRACT NO.:
C. SURLES	-
SUBMITTED BY:	FILE NUMBER:
L. WHITE	-
QA/QC	FILE NAME:
	ANSI 'D' PANSWDAD103

US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT
FORT WORTH, TEXAS

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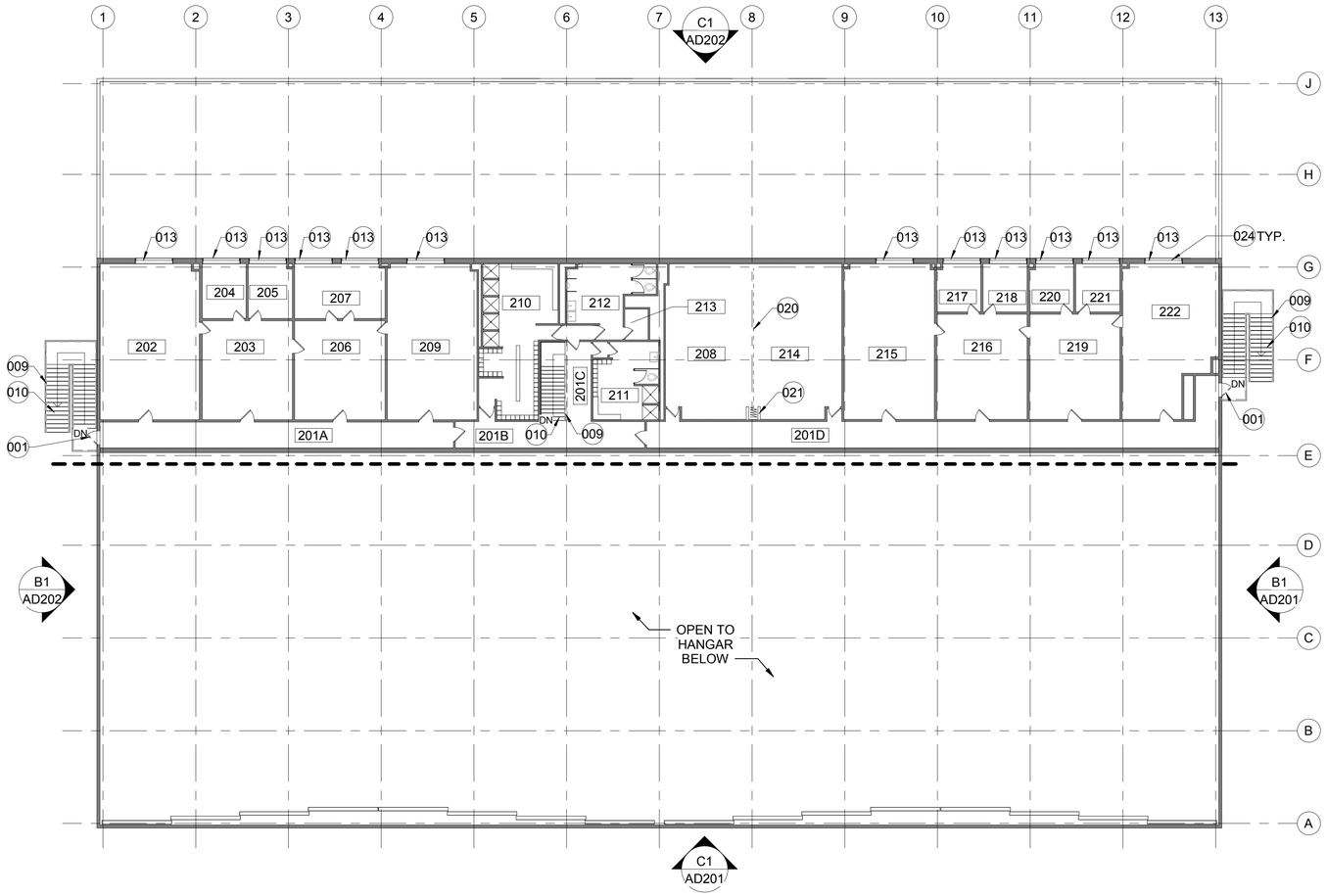
FT. POLK, LA.
HANGAR RENOVATION
BUILDING 4295
PARTIAL FIRST FLOOR DEMOLITION PLAN - AREA B

SHEET ID

AD103

SOLICITATION SUBMITTAL



B1 OVERALL DEMOLITION SECOND FLOOR PLAN

SCALE: 1/16" = 1'-0"

GENERAL NOTES - DEMOLITION PLANS

A	EXISTING CONSTRUCTION SHOWN BASED UPON OWNER FURNISHED PLANS AND ONSITE OBSERVATION. REPORT ANY DISCREPANCIES BETWEEN DRAWINGS AND ACTUAL FIELD CONDITION TO THE CONTRACTING OFFICER PRIOR TO PROCEEDING WITH WORK.
B	COORDINATE WITH THE CONTRACTING OFFICER THE PROJECT SCHEDULE OF WORK AND THE PROJECT SAFETY DEMARCATIONS.
C	COORDINATE WITH CONTRACTING OFFICER FOR DEMOLITION/STAGING SCHEDULE PRIOR TO COMMENCEMENT OF DEMOLITION.
D	PROTECT AND MAINTAIN EXISTING ROOF, PLUMBING, ELECTRICAL, LIGHTING, AND FIRE PROTECTION THAT IS REQUIRED TO REMAIN IN SERVICE.
E	REFER TO AND COORDINATE WITH STRUCTURAL, MECHANICAL, PLUMBING, FIRE PROTECTION, AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION SCOPE.

SECOND FLOOR ROOM SCHEDULE DEMOLITION

ROOM #	ROOM NAME
SECOND FLOOR	
201A	CORRIDOR
201B	CORRIDOR
201C	CORRIDOR
201D	CORRIDOR
202	SAFETY OFFICE
203	ADMIN.
204	1ST SGT
205	CPT OFFICE
206	CONFERENCE ROOM
207	OFFICE
208	MEDICAL TRAINING
209	INSTRUCTOR PILOT OFFICE
210	MEN'S LOCKER & SHOWER
211	WOMEN'S LATRINE LOCKER & SHOWER
212	MEN'S LATRINE
213	JANITOR CLOSET
214	EDUCATION
215	OPERATIONS
216	OPERATIONS
217	OFFICE
218	OFFICE
219	UNIT MAINT. ADMIN.
220	OFFICE
221	OFFICE
222	MEDIC OFFICE

KEYNOTES

001	REMOVE EXISTING DOOR AND FRAME, SALVAGE HARDWARE FOR REUSE. PREPARE EXISTING OPENING TO RECEIVE NEW DOOR AND FRAME
009	REMOVE EXISTING HANDRAIL IN ITS ENTIRETY, PREPARE EXISTING STAIR TO RECEIVE NEW GUARDRAIL AND HANDRAIL
010	EXISTING STAIR TO REMAIN, CLEAN STAIR AND PREPARE TO RECEIVE NEW FINISHES
013	CLEAN EXISTING EXTERIOR WINDOW AND PREPARE TO RECEIVE NEW WINDOW FILM, TYPICAL.
020	REMOVE ACCORDION DOOR.
021	REMOVE EXISTING CMU WALL.
024	BID OPTION: REMOVE/REPLACE WINDOWS ON 2ND FLOOR

GENERAL NOTES - DEMOLITION PLANS

F	IN THE AREAS DESIGNATED FOR NEW WORK REMOVE ALL HARDWARE, WIRE HANGERS, ANCHOR SYSTEMS, MISC. METAL ATTACHMENTS, ETC. PATCH AND FINISH TO MATCH ADJACENT SURFACE.
G	PATCH AND REPAIR EXISTING WALLS, FLOORS AND ROOF DAMAGED FROM THE REMOVAL OF HARDWARE AND ASSOCIATED ACCESSORIES, TO BE FREE OF DEFECTS AND PREPARE TO RECEIVE NEW CONSTRUCTION IN THE AREA OF WORK
H	COORDINATE DISPOSAL OF DEMOLISHED MATERIALS WITH CONTRACTING OFFICER.
J	REFER TO STRUCTURAL FOR SPECIFIC AREAS OF STRUCTURAL DEMOLITION.
K	STOP WORK IMMEDIATELY AND NOTIFY THE CONTRACTING OFFICER IF ASBESTOS CONTAINING MATERIALS ARE DISCOVERED NOT IDENTIFIED IN THE ASBESTOS SURVEY.
L	A HAZARDOUS MATERIAL SURVEY HAS BEEN CONDUCTED FOR THE BUILDING AND PROVIDED FOR REFERENCE ONLY. DESIGN BUILD CONTRACTOR IS REQUIRED TO PROVIDE A COMPLETE HAZMAT SURVEY.
M	THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING ALL INSTRUCTION AND GUIDELINES FOR ALL ACTIVITIES ASSOCIATED WITH DEMOLITION AND REMEDIATION FOR ALL CONSTRUCTION ACTIVITIES DURING THE BUILDING RENOVATION.
N	REFER TO DEMOLITION ELEVATIONS FOR ADDITIONAL ITEMS TO BE DEMOLISHED.
P	COORDINATE PAINTED SURFACES ASSUMED TO CONTAIN LEAD IN ACCORDANCE WITH THE OSHA LEAD IN CONSTRUCTION STANDARD 39 CFR 1926.62.
Q	FIELD VERIFY EXISTING CONDITIONS AND VERIFY CONSTRUCTION LAYOUT PRIOR TO COMMENCEMENT OF CONSTRUCTION.

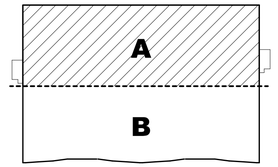
LEGEND

EXISTING WALL TO BE REMOVED

EXISTING DOOR TO BE REMOVED

EXISTING WALL TO REMAIN

EXISTING DOOR TO REMAIN



AREA A KEY PLAN

GRAPHIC SCALE

16 12 8 4 0 16 32

SCALE: 1/16"=1'-0"

PLAN NORTH

TRUE N

US Army Corps of Engineers ®

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CHRISTOPHER M. SURLES
NAME

TX23638 — REGISTRATION #
22 JULY 2020 — DATE
TEXAS REGISTERED ENGINEERING FIRM F-2966

MARK	DESCRIPTION	DATE

DESIGNED BY: E. NENTWIG
DRAWN BY: D. BURGESS
CHECKED BY: C. SURLES
SUBMITTED BY: L. WHITE
QC'D BY:
ISSUE DATE: 22 JULY 2020
SOLICITATION NO.: W9126G20U3782
CONTRACT NO.: -
FILE NUMBER: -
FILE NAME: ANSI D/ PANSWIDAD104

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FT. POLK, LA.
HANGAR RENOVATION
BUILDING 4295

OVERALL SECOND FLOOR DEMOLITION PLAN

SHEET ID

AD104

SOLICITATION SUBMITTAL

B1 OVERALL DEMOLITION FIRST FLOOR RCP

SCALE: 1/16" = 1'-0"

KEYNOTES

050	REMOVE EXISTING CEILING IN ITS ENTIRETY. PREPARE TO RECEIVE NEW CEILING CONSTRUCTION.
052	EXISTING CEILING OPEN TO DECK ABOVE. PREPARE AND CLEAN STRUCTURE ABOVE TO RECEIVE NEW PAINT FINISH.

GENERAL NOTES - DEMOLITION PLANS

A	EXISTING CONSTRUCTION SHOWN BASED UPON OWNER FURNISHED PLANS AND ONSITE OBSERVATION. REPORT ANY DISCREPANCIES BETWEEN DRAWINGS AND ACTUAL FIELD CONDITION TO THE CONTRACTING OFFICER PRIOR TO PROCEEDING WITH WORK.
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FIRST FLOOR ROOM SCHEDULE DEMOLITION

ROOM #	ROOM NAME
FIRST FLOOR	
101	GENERAL STORAGE
102	HANGAR BAY AREA
103	MEDEVAC FLIGHT OPS
103A	MEDEVAC FLIGHT OPS
103B	FLIGHT OPS EQUIP STORAGE
104	SUPPLY ROOM
104A	SUPPLY ROOM
107	MAINT. TEST PILOT OFFICE
108	CREW CHIEF OFFICE
109	PLATOON OFFICE
110	DAY ROOM
111	SECURE EQUIP STORAGE
112	EQUIP ROOM
113	FLIGHT PLANNING OFFICE
113A	CORRIDOR
113B	CORRIDOR
115	STAIRS
116	MEN
117	WOMEN
118	CORRIDOR
119	EQUIP STORAGE
120	KITCHEN
121	FLIGHT EQUIP STORAGE
122	CONTRACT MAINT OFFICE
123	ENG. SHOP
125	MEDICAL SUPPLY
126	JANITOR CLOSET
130	CORRIDOR
132	EXERCISE ROOM
133	MECHANICAL
134	STORAGE
135	STORAGE
136	WEIGHT ROOM
138	GAME ROOM
139	MECH. EQUIP. ROOM
140	ELECT. ROOM

GENERAL NOTES - DEMOLITION PLANS

F	IN THE AREAS DESIGNATED FOR NEW WORK REMOVE ALL HARDWARE, WIRE HANGERS, ANCHOR SYSTEMS, MISC. METAL ATTACHMENTS, ETC. PATCH AND FINISH TO MATCH ADJACENT SURFACE.
G	PATCH AND REPAIR EXISTING WALLS, FLOORS AND ROOF DAMAGED FROM THE REMOVAL OF HARDWARE AND ASSOCIATED ACCESSORIES, TO BE FREE OF DEFECTS AND PREPARE TO RECEIVE NEW CONSTRUCTION IN THE AREA OF WORK
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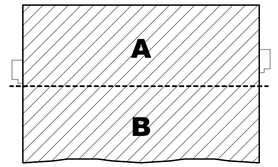
P	COORDINATE PAINTED SURFACES ASSUMED TO CONTAIN LEAD IN ACCORDANCE WITH THE OSHA LEAD IN CONSTRUCTION STANDARD 39 CFR 1926.62.
Q	FIELD VERIFY EXISTING CONDITIONS AND VERIFY CONSTRUCTION LAYOUT PRIOR TO COMMENCEMENT OF CONSTRUCTION.

LEGEND

- EXISTING WALL TO BE REMOVED
- EXISTING WALL TO REMAIN
- EXISTING CEILING TO REMOVED
- EXISTING GYPSUM CEILING TO REMOVED



OVERALL KEY PLAN

GRAPHIC SCALE

16 12 8 4 0 16 32

SCALE: 1/16"=1'-0"

PLAN NORTH

TRUE N

US Army Corps of Engineers ®

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CHRISTOPHER M. SURLES
NAME

TX23638
REGISTRATION #

22 JULY 2020
DATE

TEXAS REGISTERED ENGINEERING FIRM F-2966

MARK	DESCRIPTION	DATE

DESIGNED BY: E. NENTWIG
DRAWN BY: D. BURGESS
CHECKED BY: C. SURLES
SUBMITTED BY: L. WHITE
QA/QC: -

ISSUE DATE: 22 JULY 2020
SOLICITATION NO.: W9126G20U3782
CONTRACT NO.: -
FILE NUMBER: -
FILE NAME: ANSI 'D' PANSWDAD121

US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT
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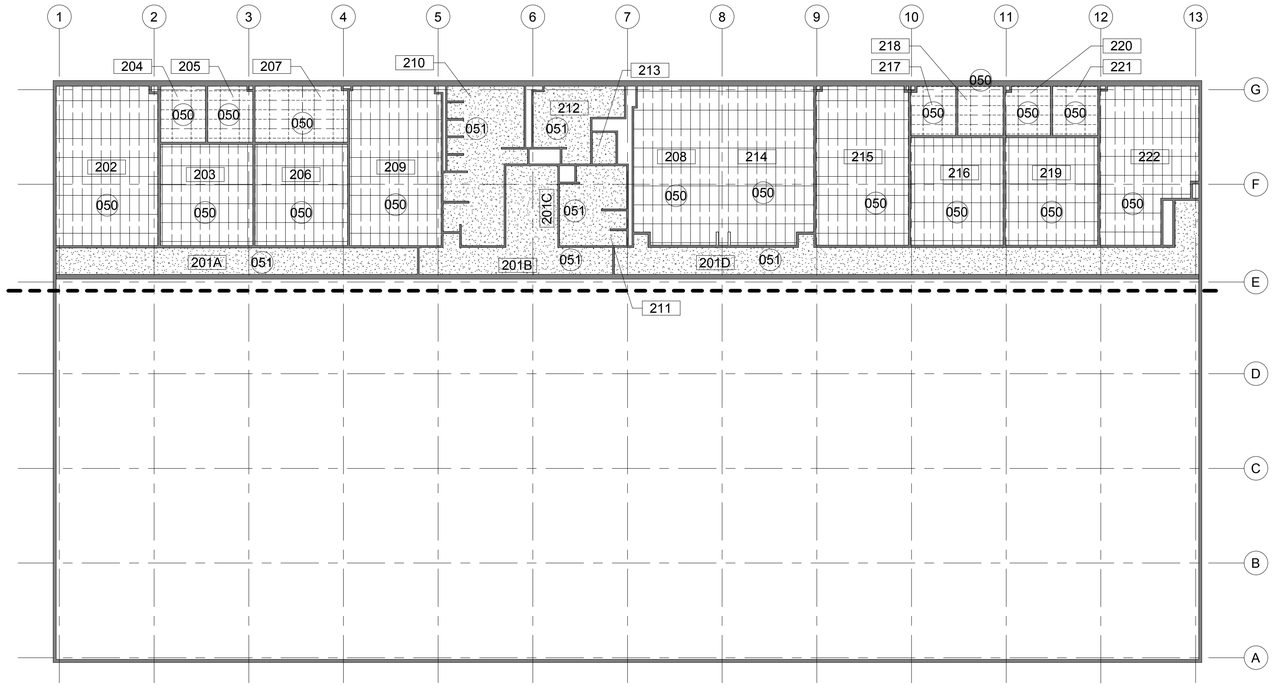
FT. POLK, LA.
HANGAR RENOVATION
BUILDING 4295

OVERALL FIRST FLOOR RCP DEMOLITION

SHEET ID

AD121

SOLICITATION SUBMITTAL



B1 OVERALL DEMOLITION SECOND FLOOR RCP

SCALE: 1/16" = 1'-0"

GENERAL NOTES - DEMOLITION PLANS

A	EXISTING CONSTRUCTION SHOWN BASED UPON OWNER FURNISHED PLANS AND ONSITE OBSERVATION. REPORT ANY DISCREPANCIES BETWEEN DRAWINGS AND ACTUAL FIELD CONDITION TO THE CONTRACTING OFFICER PRIOR TO PROCEEDING WITH WORK.
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SECOND FLOOR ROOM SCHEDULE DEMOLITION

ROOM #	ROOM NAME
SECOND FLOOR	
201A	CORRIDOR
201B	CORRIDOR
201C	CORRIDOR
201D	CORRIDOR
202	SAFETY OFFICE
203	ADMIN.
204	1ST SGT
205	CPT OFFICE
206	CONFERENCE ROOM
207	OFFICE
208	MEDICAL TRAINING
209	INSTRUCTOR PILOT OFFICE
210	MEN'S LOCKER & SHOWER
211	WOMEN'S LATRINE LOCKER & SHOWER
212	MEN'S LATRINE
213	JANITOR CLOSET
214	EDUCATION
215	OPERATIONS
216	OPERATIONS
217	OFFICE
218	OFFICE
219	UNIT MAINT. ADMIN.
220	OFFICE
221	OFFICE
222	MEDIC OFFICE

KEYNOTES

050	REMOVE EXISTING CEILING IN ITS ENTIRETY. PREPARE TO RECEIVE NEW CEILING CONSTRUCTION.
051	EXISTING CEILING TO REMAIN, PREPARE TO RECEIVE NEW FINISH

GENERAL NOTES - DEMOLITION PLANS

F	IN THE AREAS DESIGNATED FOR NEW WORK REMOVE ALL HARDWARE, WIRE HANGERS, ANCHOR SYSTEMS, MISC. METAL ATTACHMENTS, ETC. PATCH AND FINISH TO MATCH ADJACENT SURFACE.
G	PATCH AND REPAIR EXISTING WALLS, FLOORS AND ROOF DAMAGED FROM THE REMOVAL OF HARDWARE AND ASSOCIATED ACCESSORIES, TO BE FREE OF DEFECTS AND PREPARE TO RECEIVE NEW CONSTRUCTION IN THE AREA OF WORK
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LEGEND

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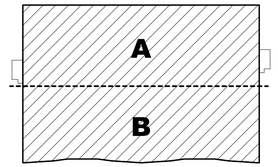

OVERALL KEY PLAN

GRAPHIC SCALE

16 12 8 4 0 16 32

SCALE: 1/16"=1'-0"

PLAN NORTH

TRUE N

US Army Corps of Engineers ®

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CHRISTOPHER M. SURLES
NAME

TX23638 REGISTRATION # — 22 JULY 2020 DATE

TEXAS REGISTERED ENGINEERING FIRM F-2966

MARK	DESCRIPTION	DATE

DESIGNED BY: E. NENTWIG
DRAWN BY: D. BURGESS
CHECKED BY: C. SURLES
SUBMITTED BY: L. WHITE, CPE
ISSUE DATE: 22 JULY 2020
SOLICITATION NO.: W9126G20U3782
CONTRACT NO.: -
FILE NUMBER: -
FILE NAME: ANSI 'D' PANSWDAD124

US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT
FORT WORTH, TEXAS

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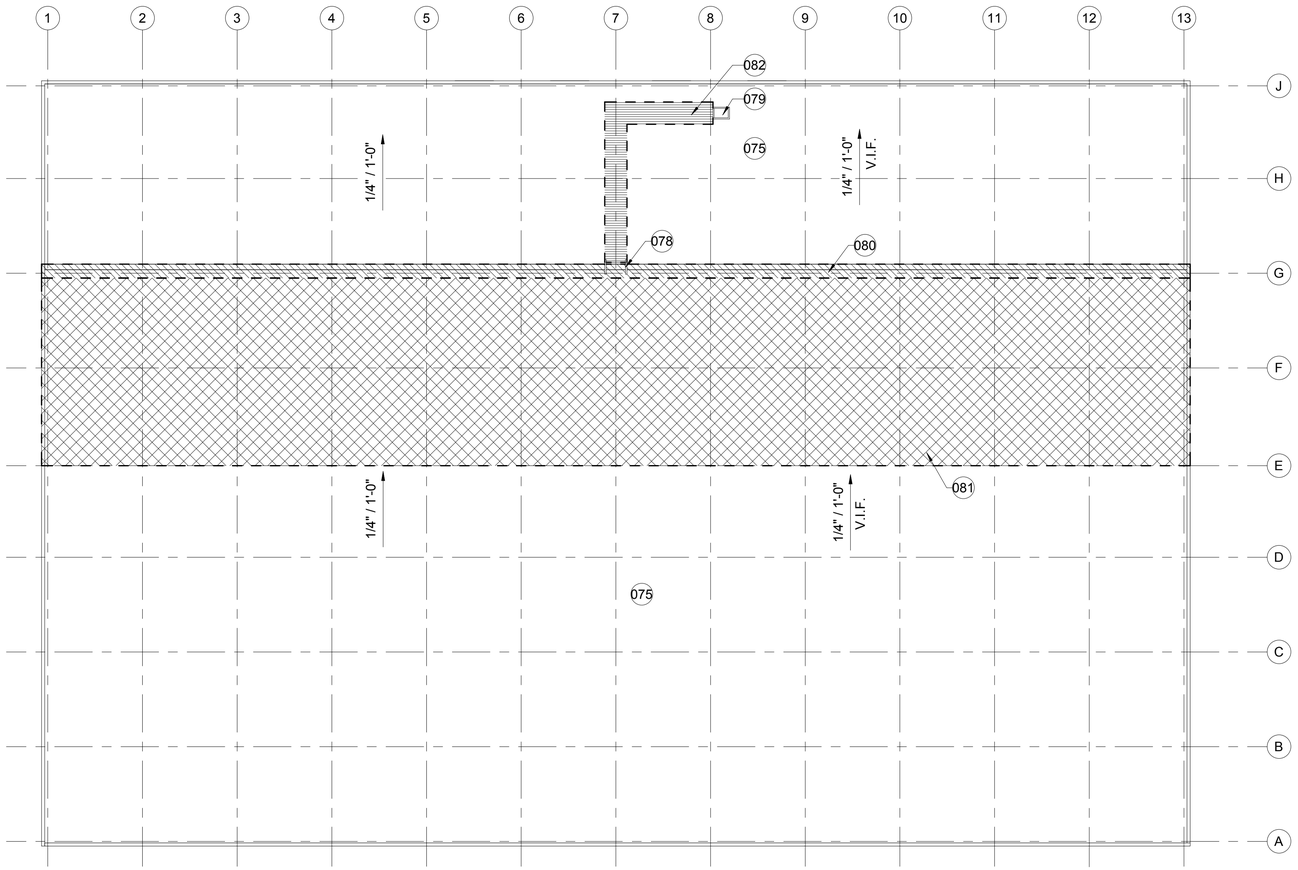
FT. POLK, LA.
HANGAR RENOVATION
BUILDING 4295

OVERALL SECOND FLOOR RCP DEMOLITION

SHEET ID

AD124

SOLICITATION SUBMITTAL



B1 OVERALL ROOF DEMOLITION PLAN
SCALE: 1/16" = 1'-0"

GENERAL NOTES - DEMOLITION PLANS

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E	REFER TO AND COORDINATE WITH STRUCTURAL, MECHANICAL, PLUMBING, FIRE PROTECTION, AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION SCOPE.

KEYNOTES

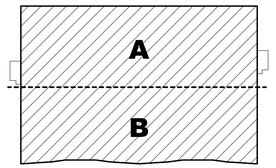
075	BID OPTION: EXISTING MODIFIED BITUMEN ROOF CONSTRUCTION TO REMAIN. PREPARE EDGES OF EXISTING ROOF TO RECEIVE NEW FLASHING AS REQUIRED FOR INSTALLATION OF NEW INSULATED METAL PANEL SIDING.
078	BID OPTION: EXISTING ROOF ACCESS LADDER TO REMAIN, CLEAN LADDER AND REPAIR TO RECEIVE NEW PAINT FINISH
079	BID OPTION: EXISTING ROOF HATCH TO REMAIN. PROVIDE NEW CURB FLASHING AND REPAIR EXISTING MODIFIED BITUMEN ROOF SYSTEM AS REQUIRED.
080	BID OPTION: LOCATION OF EXISTING ROOF DRAINS. CLEAN EXISTING ROOF MAIN AND OVERFLOW DRAINS, VERIFY DRAIN SEALS AND PROPER DRAINAGE.
081	BID OPTION: REMOVE EXISTING MODIFIED BITUMEN ROOF SYSTEM TO THE EXTENT SHOWN; EXISTING UNDERPAYMENT, PROTECTION BOARD, AND INSULATION TO REMAIN. PROVIDE NEW MODIFIED BITUMEN ROOF SYSTEM TO MATCH ADJACENT MODIFIED BITUMEN ROOF SYSTEM. PREPARE EDGES OF ROOF TO RECEIVE NEW FLASHING AS REQUIRED FOR INSTALLATION OF NEW INSULATED METAL PANEL SIDING.
082	BID OPTION: PROVIDE NEW WALKING PADS FROM ROOF HATCH TO LADDER

GENERAL NOTES - DEMOLITION PLANS

F	IN THE AREAS DESIGNATED FOR NEW WORK REMOVE ALL HARDWARE, WIRE HANGERS, ANCHOR SYSTEMS, MISC. METAL ATTACHMENTS, ETC. PATCH AND FINISH TO MATCH ADJACENT SURFACE.
G	PATCH AND REPAIR EXISTING WALLS, FLOORS AND ROOF DAMAGED FROM THE REMOVAL OF HARDWARE AND ASSOCIATED ACCESSORIES, TO BE FREE OF DEFECTS AND PREPARE TO RECEIVE NEW CONSTRUCTION IN THE AREA OF WORK
H	COORDINATE DISPOSAL OF DEMOLISHED MATERIALS WITH CONTRACTING OFFICER.
J	REFER TO STRUCTURAL FOR SPECIFIC AREAS OF STRUCTURAL DEMOLITION.
K	STOP WORK IMMEDIATELY AND NOTIFY THE CONTRACTING OFFICER IF ASBESTOS CONTAINING MATERIALS ARE DISCOVERED NOT IDENTIFIED IN THE ASBESTOS SURVEY.
L	A HAZARDOUS MATERIAL SURVEY HAS BEEN CONDUCTED FOR THE BUILDING AND PROVIDED FOR REFERENCE ONLY. DESIGN BUILD CONTRACTOR IS REQUIRED TO PROVIDE A COMPLETE HAZMAT SURVEY.
M	THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING ALL INSTRUCTION AND GUIDELINES FOR ALL ACTIVITIES ASSOCIATED WITH DEMOLITION AND REMEDIATION FOR ALL CONSTRUCTION ACTIVITIES DURING THE BUILDING RENOVATION.
N	REFER TO DEMOLITION ELEVATIONS FOR ADDITIONAL ITEMS TO BE DEMOLISHED.
P	COORDINATE PAINTED SURFACES ASSUMED TO CONTAIN LEAD IN ACCORDANCE WITH THE OSHA LEAD IN CONSTRUCTION STANDARD 39 CFR 1926.62.
Q	FIELD VERIFY EXISTING CONDITIONS AND VERIFY CONSTRUCTION LAYOUT PRIOR TO COMMENCEMENT OF CONSTRUCTION.

LEGEND

- EXTENT OF ROOF REPLACEMENT
- EXTENT OF ROOF DRAIN WORK
- EXTENTS OF WALKING PADS



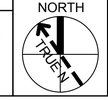
OVERALL KEY PLAN

GRAPHIC SCALE

16 12 8 4 0 16 32

SCALE: 1/16"=1'-0"

PLAN NORTH



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CHRISTOPHER M. SURLES
NAME

TX23638 — REGISTRATION #
22 JULY 2020 — DATE
TEXAS REGISTERED ENGINEERING FIRM F-2966

MARK	DESCRIPTION	DATE

DESIGNED BY: E. NENTWIG
DRAWN BY: D. BURGESS
CHECKED BY: C. SURLES
SUBMITTED BY: L. WHITE
SIZE: ANSI 'D'
ISSUE DATE: 22 JULY 2020
SOLICITATION NO.: W9126G20U3782
CONTRACT NO.: -
FILE NUMBER: -
FILE NAME: PANSWDAD131

US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT
FORT WORTH, TEXAS

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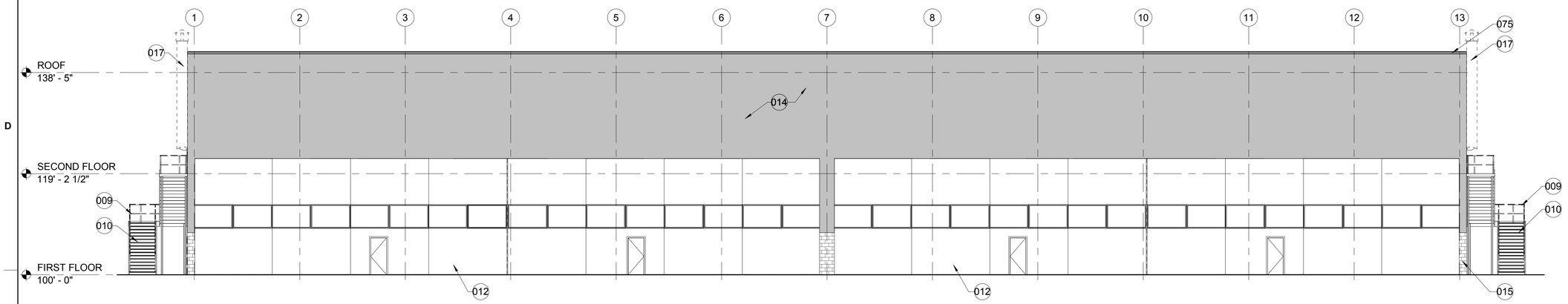
HANGAR RENOVATION
BUILDING 4295

OVERALL ROOF PLAN DEMOLITION

SHEET ID

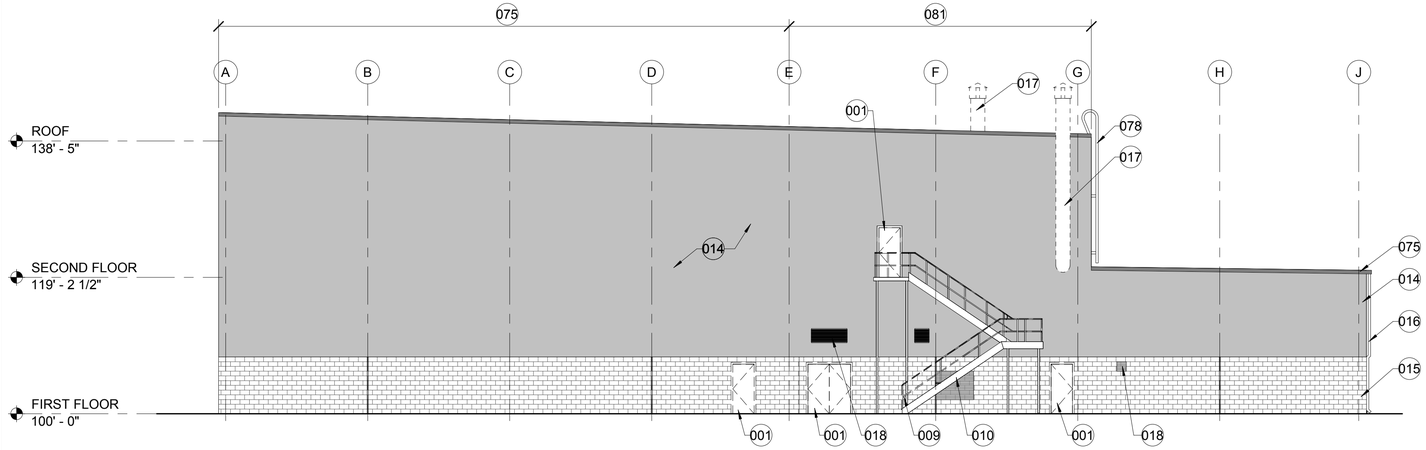
AD131

SOLICITATION SUBMITTAL



C1 SOUTH DEMOLITION ELEVATION

SCALE: 3/32" = 1'-0"



B1 EAST DEMOLITION ELEVATION

SCALE: 3/32" = 1'-0"

GENERAL NOTES - DEMOLITION ELEVATIONS

A	EXISTING CONSTRUCTION SHOWN BASED UPON OWNER FURNISHED PLANS AND ONSITE OBSERVATION, ANY DISCREPANCIES BETWEEN DRAWINGS AND ACTUAL FIELD CONDITION BE REPORTED TO THE CONTRACTING OFFICER PRIOR TO PROCEEDING WITH WORK.
B	FIELD VERIFY EXISTING CONDITIONS AND INFORM THE CONTRACTING OFFICER OF ANY DISCREPANCIES BETWEEN DRAWINGS AND ACTUAL FIELD CONDITIONS PRIOR TO PROCEEDING WITH WORK.
C	COORDINATE WITH THE CONTRACTING OFFICER THE PROJECT SCHEDULE OF WORK AND THE PROJECT SAFETY DEMARCATIONS.

KEYNOTES

001	REMOVE EXISTING DOOR AND FRAME, SALVAGE HARDWARE FOR REUSE. PREPARE EXISTING OPENING TO RECEIVE NEW DOOR AND FRAME
009	REMOVE EXISTING HANDRAIL IN ITS ENTIRETY, PREPARE EXISTING STAIR TO RECEIVE NEW GUARDRAIL AND HANDRAIL
010	EXISTING STAIR TO REMAIN, CLEAN STAIR AND PREPARE TO RECEIVE NEW FINISHES
012	EXISTING HANGAR DOOR TO REMAIN
014	BID OPTION: REMOVE EXISTING METAL SIDING, INSULATION BOARD, TRIMS, FLASHING, AND ACCESSORIES IN THEIR ENTIRETY. PREPARE EXISTING SUPERSTRUCTURE TO RECEIVE NEW 2" VERTICAL INSULATED METAL PANEL SYSTEM. REFER TO STRUCTURAL FOR VERIFICATION, REPAIR, AND CLEANING OF BUILDING STRUCTURAL SYSTEMS
015	BID OPTION: EXTERIOR FACE OF CMU TO BE CLEANED AND REPAIRED. CMU TO RECEIVE NEW EXTERIOR GRADE PAINT FINISH.
016	BID OPTION: REMOVE EXISTING GUTTER AND DOWNSPOUTS
017	REMOVE EXISTING MECHANICAL VENT, REFER TO MECHANICAL FOR VERIFICATION, REPAIR, AND CLEANING OF BUILDING MECHANICAL SYSTEMS
018	EXISTING MECHANICAL LOUVER, REFER TO MECHANICAL STATEMENT OF WORK FOR VERIFICATION, REPAIR, CLEANING, OR REPLACEMENT OF BUILDING MECHANICAL SYSTEMS, TYP.
075	BID OPTION: EXISTING MODIFIED BITUMEN ROOF CONSTRUCTION TO REMAIN. PREPARE EDGES OF EXISTING ROOF TO RECEIVE NEW FLASHING AS REQUIRED FOR INSTALLATION OF NEW INSULATED METAL PANEL SIDING.
078	BID OPTION: EXISTING ROOF ACCESS LADDER TO REMAIN, CLEAN LADDER AND REPAIR TO RECEIVE NEW PAINT FINISH
081	BID OPTION: REMOVE EXISTING MODIFIED BITUMEN ROOF SYSTEM TO THE EXTENT SHOWN; EXISTING UNDERPAYMENT, PROTECTION BOARD, AND INSULATION TO REMAIN. PROVIDE NEW MODIFIED BITUMEN ROOF SYSTEM TO MATCH ADJACENT MODIFIED BITUMEN ROOF SYSTEM. PREPARE EDGES OF ROOF TO RECEIVE NEW FLASHING AS REQUIRED FOR INSTALLATION OF NEW INSULATED METAL PANEL SIDING.

GENERAL NOTES - DEMOLITION ELEVATIONS

D	COORDINATE WITH CONTRACTING OFFICER FOR DEMOLITION/STAGING SCHEDULE PRIOR TO COMMENCEMENT OF DEMOLITION.
E	PROTECT AND MAINTAIN EXISTING ROOF, PLUMBING, ELECTRICAL, LIGHTING, AND FIRE PROTECTION THAT IS REQUIRED TO REMAIN IN SERVICE.
F	REFER TO AND COORDINATE WITH MECHANICAL, PLUMBING, FIRE PROTECTION, STRUCTURAL, AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION SCOPE.
G	IN THE AREAS DESIGNATED FOR NEW WORK REMOVE ALL HARDWARE, HANGERS, ANCHOR SYSTEMS, MISC. METAL ATTACHMENTS, ETC. PATCH AND FINISH TO MATCH ADJACENT SURFACE.
H	REFER TO STRUCTURAL AND ELECTRICAL DRAWINGS FOR LOCATION OF ADDITIONAL PENETRATIONS.
J	PATCH AND REPAIR EXISTING WALLS, FLOORS AND ROOF DAMAGED FROM THE REMOVAL OF HARDWARE AND ASSOCIATED ACCESSORIES, TO BE FREE OF DEFECTS AND PREPARE TO RECEIVE NEW CONSTRUCTION IN THE AREA OF WORK; REFER TO MECHANICAL, PLUMBING, FIRE PROTECTION, STRUCTURAL, AND ELECTRICAL
K	COORDINATE DISPOSAL OF DEMOLISHED MATERIALS WITH CONTRACTING OFFICER.
L	REFER TO STRUCTURAL FOR SPECIFIC AREAS OF STRUCTURAL DEMOLITION.
M	STOP WORK IMMEDIATELY AND NOTIFY THE CONTRACTING OFFICER IF ASBESTOS CONTAINING MATERIALS ARE DISCOVERED NOT IDENTIFIED IN THE ASBESTOS SURVEY. REFER TO APPENDIX F RECORD OF ENVIRONMENTAL CONSIDERATION
N	PROTECT PORTIONS OF EXISTING FACILITY TO REMAIN.
P	THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING ALL INSTRUCTION AND GUIDELINES IN THE NESHAP REPORT AS FOUND IN SPECIFICATION 49 99 98 FOR ALL ACTIVITIES ASSOCIATED WITH DEMOLITION AND REMEDIATION FOR ALL CONSTRUCTION ACTIVITIES DURING THE BUILDING RENOVATION.
Q	FIELD VERIFY EXISTING CONDITIONS AND VERIFY CONSTRUCTION LAYOUT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
R	REFER TO DEMOLITION PLANS FOR ADDITIONAL ITEMS TO BE DEMOLISHED. REFER TO APPENDIX F RECORD OF ENVIRONMENTAL CONSIDERATION

GRAPHIC SCALE

0 4' 8' 16' 32'

SCALE: 3/32"=1'-0"

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CHRISTOPHER M. SURLES
NAME

TX23638 — REGISTRATION #
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TEXAS REGISTERED ENGINEERING FIRM F-2966

MARK	DESCRIPTION	DATE

ISSUE DATE: 22 JULY 2020
SOLICITATION NO.: W9126G20U3782
CONTRACT NO.: -
FILE NUMBER: -
FILE NAME: ANSI 'D' PANSWDAD201

DESIGNED BY: E. NENTWIG
DRAWN BY: D. BURGESS
CHECKED BY: C. SURLES
SUBMITTED BY: L. WHITE

US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT
FORT WORTH, TEXAS

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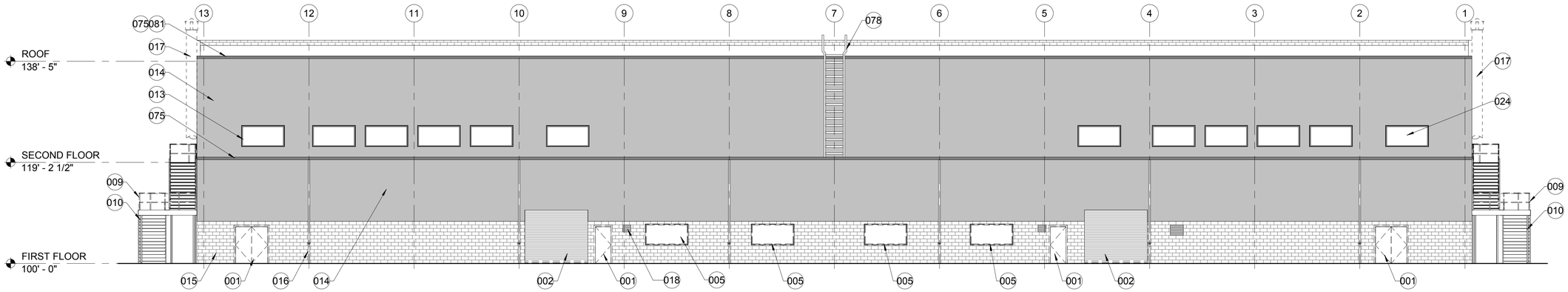
FT. POLK, LA.
HANGAR RENOVATION
BUILDING 4295
EXTERIOR DEMOLITION ELEVATION

SHEET ID

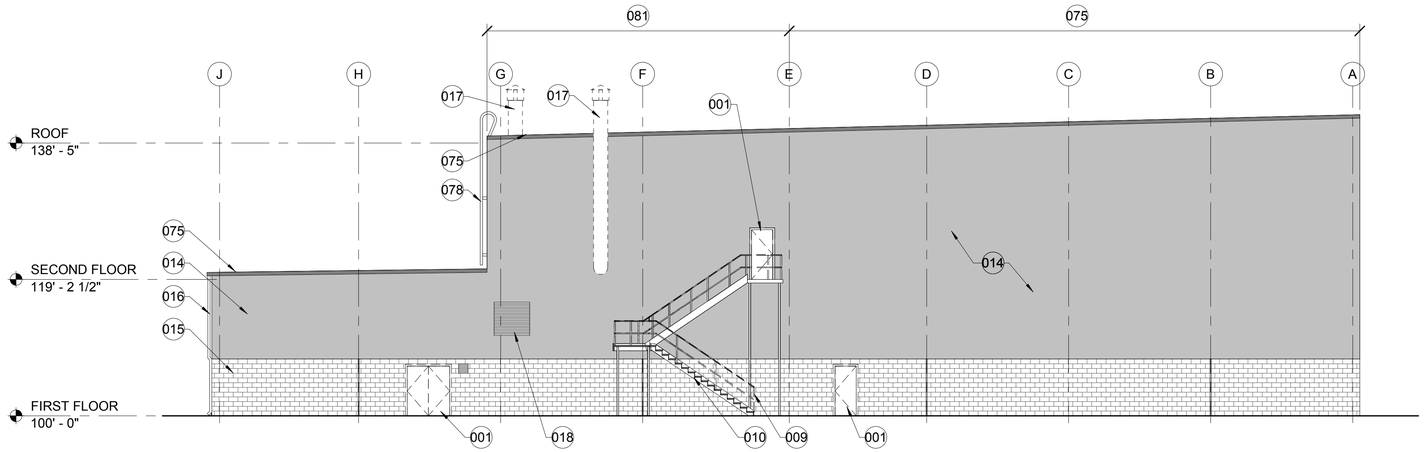
AD201

SOLICITATION SUBMITTAL



C1 NORTH DEMOLITION ELEVATION

SCALE: 3/32" = 1'-0"



B1 WEST DEMOLITION ELEVATION

SCALE: 3/32" = 1'-0"

KEYNOTES

078	BID OPTION: EXISTING ROOF ACCESS LADDER TO REMAIN, CLEAN LADDER AND REPAIR TO RECEIVE NEW PAINT FINISH
081	BID OPTION: REMOVE EXISTING MODIFIED BITUMEN ROOF SYSTEM TO THE EXTENT SHOWN; EXISTING UNDERPAYMENT, PROTECTION BOARD, AND INSULATION TO REMAIN. PROVIDE NEW MODIFIED BITUMEN ROOF SYSTEM TO MATCH ADJACENT MODIFIED BITUMEN ROOF SYSTEM. PREPARE EDGES OF ROOF TO RECEIVE NEW FLASHING AS REQUIRED FOR INSTALLATION OF NEW INSULATED METAL PANEL SIDING.

GENERAL NOTES - DEMOLITION ELEVATIONS

A	EXISTING CONSTRUCTION SHOWN BASED UPON OWNER FURNISHED PLANS AND ONSITE OBSERVATION, ANY DISCREPANCIES BETWEEN DRAWINGS AND ACTUAL FIELD CONDITION BE REPORTED TO THE CONTRACTING OFFICER PRIOR TO PROCEEDING WITH WORK.
B	FIELD VERIFY EXISTING CONDITIONS AND INFORM THE CONTRACTING OFFICER OF ANY DISCREPANCIES BETWEEN DRAWINGS AND ACTUAL FIELD CONDITIONS PRIOR TO PROCEEDING WITH WORK.
C	COORDINATE WITH THE CONTRACTING OFFICER THE PROJECT SCHEDULE OF WORK AND THE PROJECT SAFETY DEMARCATIONS.

KEYNOTES

001	REMOVE EXISTING DOOR AND FRAME, SALVAGE HARDWARE FOR REUSE. PREPARE EXISTING OPENING TO RECEIVE NEW DOOR AND FRAME
002	REMOVE EXISTING OVERHEAD COILING DOOR AND FRAME IN ITS ENTIRETY, PREPARE EXISTING OPENING TO RECEIVE NEW DOOR AS SCHEDULED
005	REMOVE EXISTING EXTERIOR WINDOW. REMOVE PARTIAL CMU BLOCK AND PREPARE OPENING TO RECEIVE NEW TOOTH-IN CMU CONSTRUCTION
009	REMOVE EXISTING HANDRAIL IN ITS ENTIRETY, PREPARE EXISTING STAIR TO RECEIVE NEW GUARDRAIL AND HANDRAIL
010	EXISTING STAIR TO REMAIN, CLEAN STAIR AND PREPARE TO RECEIVE NEW FINISHES
013	CLEAN EXISTING EXTERIOR WINDOW AND PREPARE TO RECEIVE NEW WINDOW FILM, TYPICAL.
014	BID OPTION: REMOVE EXISTING METAL SIDING, INSULATION BOARD, TRIMS, FLASHING, AND ACCESSORIES IN THEIR ENTIRETY. PREPARE EXISTING SUPERSTRUCTURE TO RECEIVE NEW 2" VERTICAL INSULATED METAL PANEL SYSTEM. REFER TO STRUCTURAL FOR VERIFICATION, REPAIR, AND CLEANING OF BUILDING STRUCTURAL SYSTEMS
015	BID OPTION: EXTERIOR FACE OF CMU TO BE CLEANED AND REPAIRED. CMU TO RECEIVE NEW EXTERIOR GRADE PAINT FINISH.
016	BID OPTION: REMOVE EXISTING GUTTER AND DOWNSPOUTS
017	REMOVE EXISTING MECHANICAL VENT, REFER TO MECHANICAL FOR VERIFICATION, REPAIR, AND CLEANING OF BUILDING MECHANICAL SYSTEMS
018	EXISTING MECHANICAL LOUVER, REFER TO MECHANICAL STATEMENT OF WORK FOR VERIFICATION, REPAIR, CLEANING, OR REPLACEMENT OF BUILDING MECHANICAL SYSTEMS, TYP.
024	BID OPTION: REMOVE/REPLACE WINDOWS ON 2ND FLOOR
075	BID OPTION: EXISTING MODIFIED BITUMEN ROOF CONSTRUCTION TO REMAIN. PREPARE EDGES OF EXISTING ROOF TO RECEIVE NEW FLASHING AS REQUIRED FOR INSTALLATION OF NEW INSULATED METAL PANEL SIDING.

GENERAL NOTES - DEMOLITION ELEVATIONS

D	COORDINATE WITH CONTRACTING OFFICER FOR DEMOLITION/STAGING SCHEDULE PRIOR TO COMMENCEMENT OF DEMOLITION.
E	PROTECT AND MAINTAIN EXISTING ROOF, PLUMBING, ELECTRICAL, LIGHTING, AND FIRE PROTECTION THAT IS REQUIRED TO REMAIN IN SERVICE.
F	REFER TO AND COORDINATE WITH MECHANICAL, PLUMBING, FIRE PROTECTION, STRUCTURAL, AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION SCOPE.
G	IN THE AREAS DESIGNATED FOR NEW WORK REMOVE ALL HARDWARE, HANGERS, ANCHOR SYSTEMS, MISC. METAL ATTACHMENTS, ETC. PATCH AND FINISH TO MATCH ADJACENT SURFACE.
H	REFER TO STRUCTURAL AND ELECTRICAL DRAWINGS FOR LOCATION OF ADDITIONAL PENETRATIONS.
J	PATCH AND REPAIR EXISTING WALLS, FLOORS AND ROOF DAMAGED FROM THE REMOVAL OF HARDWARE AND ASSOCIATED ACCESSORIES, TO BE FREE OF DEFECTS AND PREPARE TO RECEIVE NEW CONSTRUCTION IN THE AREA OF WORK; REFER TO MECHANICAL, PLUMBING, FIRE PROTECTION, STRUCTURAL, AND ELECTRICAL
K	COORDINATE DISPOSAL OF DEMOLISHED MATERIALS WITH CONTRACTING OFFICER.
L	REFER TO STRUCTURAL FOR SPECIFIC AREAS OF STRUCTURAL DEMOLITION.
M	STOP WORK IMMEDIATELY AND NOTIFY THE CONTRACTING OFFICER IF ASBESTOS CONTAINING MATERIALS ARE DISCOVERED NOT IDENTIFIED IN THE ASBESTOS SURVEY. REFER TO APPENDIX F RECORD OF ENVIRONMENTAL CONSIDERATION
N	PROTECT PORTIONS OF EXISTING FACILITY TO REMAIN.
P	THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING ALL INSTRUCTION AND GUIDELINES IN THE NESHAP REPORT AS FOUND IN SPECIFICATION 49 99 98 FOR ALL ACTIVITIES ASSOCIATED WITH DEMOLITION AND REMEDIATION FOR ALL CONSTRUCTION ACTIVITIES DURING THE BUILDING RENOVATION.
Q	FIELD VERIFY EXISTING CONDITIONS AND VERIFY CONSTRUCTION LAYOUT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
R	REFER TO DEMOLITION PLANS FOR ADDITIONAL ITEMS TO BE DEMOLISHED. REFER TO APPENDIX F RECORD OF ENVIRONMENTAL CONSIDERATION

GRAPHIC SCALE

0 4' 8' 16' 32'

SCALE: 3/32"=1'-0"

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CHRISTOPHER M. SURLES
NAME

TX23638 — REGISTRATION #
22 JULY 2020 — DATE

TEXAS REGISTERED ENGINEERING FIRM F-2966

MARK	DESCRIPTION	DATE

ISSUE DATE: 22 JULY 2020
SOLICITATION NO.: W9126G20U3782
CONTRACT NO.: -
FILE NUMBER: -
FILE NAME: PANSWDAD202

DESIGNED BY: E. NENTWIG
DRAWN BY: D. BURGESS
CHECKED BY: C. SURLES
SUBMITTED BY: L. WHITE

US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT
FORT WORTH, TEXAS

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777 Main Street, Fort Worth, TX 76102
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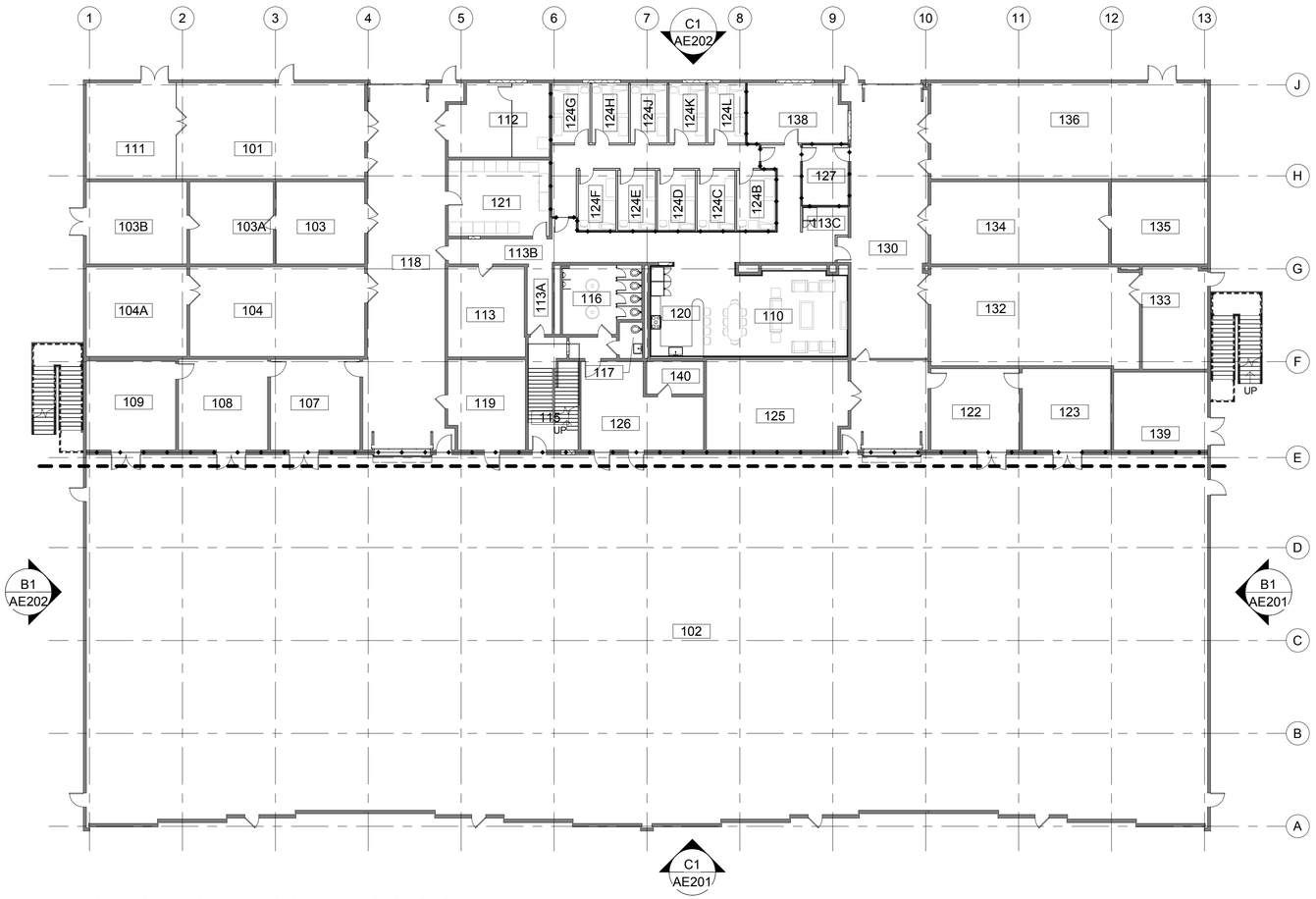
FT. POLK, LA.
HANGAR RENOVATION
BUILDING 4295

EXTERIOR DEMOLITION ELEVATION

SHEET ID

AD202

SOLICITATION SUBMITTAL



B1 OVERALL FIRST FLOOR PLAN

SCALE: 1/16" = 1'-0"

FIRST FLOOR ROOM SCHEDULE

ROOM #	ROOM NAME
FIRST FLOOR	
101	GENERAL STORAGE
102	HANGAR BAY AREA
103	MEDEVAC FLIGHT OPS
103A	MEDEVAC FLIGHT OPS
103B	FLIGHT OPS EQUIP STORAGE
104	SUPPLY ROOM
104A	SUPPLY ROOM
107	MAINT. TEST PILOT OFFICE
108	CREW CHIEF OFFICE
109	PLATOON OFFICE
110	DAY ROOM
111	SECURE EQUIP STORAGE
112	EQUIP ROOM
113	FLIGHT PLANNING OFFICE
113A	CORRIDOR
113B	CORRIDOR
113C	SNACK
113D	PASSAGE
115	STAIRS
116	MEN
117	WOMEN
118	CORRIDOR
119	EQUIP STORAGE
120	KITCHEN
121	FLIGHT EQUIP STORAGE
122	CONTRACT MAINT OFFICE
123	ENG. SHOP
124A	PASSAGE
124B	SLEEP RM
124C	SLEEP RM
124D	SLEEP RM
124E	SLEEP RM
124F	SLEEP RM
124G	SLEEP RM
124H	SLEEP RM
124J	SLEEP RM
124K	SLEEP RM
124L	SLEEP RM
125	MEDICAL SUPPLY
126	JANITOR CLOSET
127	LAUNDRY
130	CORRIDOR
132	EXERCISE ROOM
133	MECHANICAL
134	STORAGE
135	STORAGE
136	WEIGHT ROOM
138	GAME ROOM
139	MECH. EQUIP. ROOM
140	ELECT. ROOM

GENERAL NOTES - FLOOR PLAN

A	REFER TO DRAWING AE102 FOR PARTITION TYPES, NOTES, AND ASSOCIATED DETAILS.
B	REFER TO DRAWINGS A-605 FOR DOOR SCHEDULE
C	REFER TO AND COORDINATE WITH PLUMBING, MECHANICAL, AND ELECTRICAL NARRATIVES FOR ADDITIONAL NEW SCOPE.

LEGEND

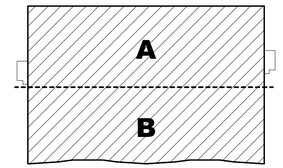
EXISTING DOOR TO REMAIN

NEW DOOR CONSTRUCTION

EXISTING WALL TO REMAIN

NEW WALL CONSTRUCTION

1 HR RATING



OVERALL KEY PLAN

GRAPHIC SCALE

16 12 8 4 0 16 32

SCALE: 1/16"=1'-0"

PLAN NORTH

TRUE N

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FILE NAME: PANSWDAE101

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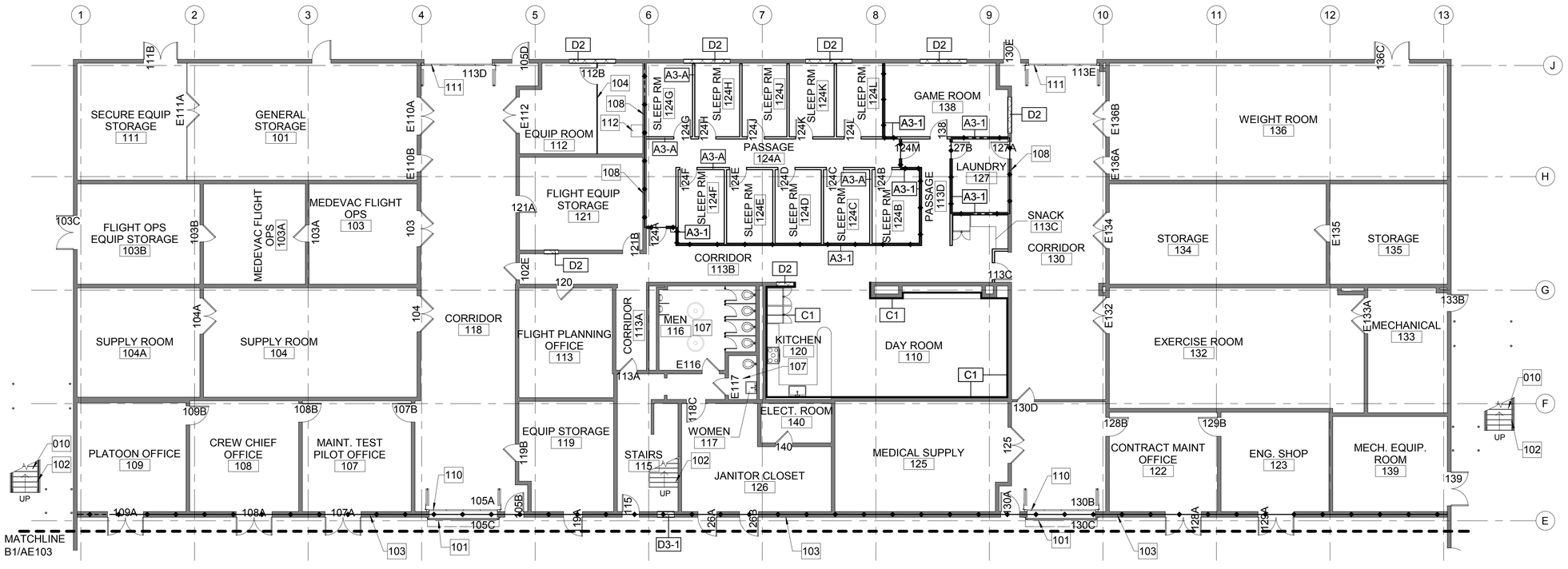
FT. POLK, LA.
HANGAR RENOVATION
BUILDING 4295
OVERALL FIRST FLOOR PLAN

SHEET ID

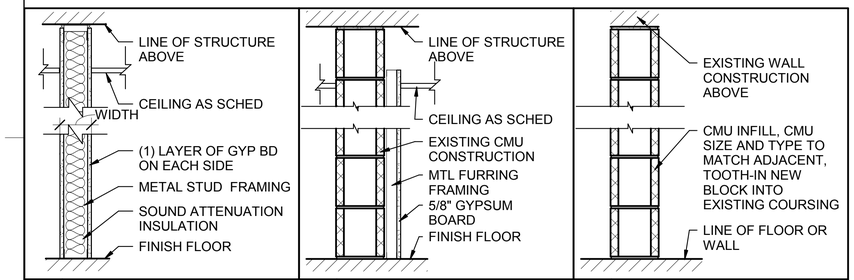
AE101

SOLICITATION SUBMITTAL



B1 PARTIAL FIRST FLOOR PLAN - AREA A

SCALE: 3/32" = 1'-0"



TYPE	A		
SIZE INDICATOR	IND	STUD SIZE	TOTAL WIDTH
	3	3 5/8"	4 7/8"
RATING	1	1 HR FIRE RATED UL# U419	
	A	ACOUSTICAL - STC 45	

TYPE	C		
SIZE INDICATOR	IND	STUD SIZE	TOTAL WIDTH
	1	1 5/8"	2 1/4"
RATING		NO RATING	

TYPE	D		
SIZE INDICATOR	IND	CMU SIZE	TOTAL WIDTH
	2	7 5/8"	7 5/8
	3	11 5/8"	11 5/8
RATING	1	1 HR - MATCH ADJACENT	

LEGEND

- EXISTING DOOR TO REMAIN
- NEW DOOR CONSTRUCTION
- EXISTING WALL TO REMAIN
- NEW WALL CONSTRUCTION
- 1 HR RATING

KEYNOTES

108	VERIFY/CONFIRM EXISTING 1 HR WALL CONSTRUCTION; VERIFY/CONFIRM ALL PENETRATIONS, DOOR OPENINGS, TERMINATIONS, AND SEALANTS
110	NEW 12' X 12' INSULATED THREE-FOLD DOOR SYSTEM WITH INTEGRAL PERSONNEL DOOR
111	NEW 12' X 12' INSULATED THREE-FOLD DOOR SYSTEM
112	RELOCATED SERVER CABINET

PARTITION TYPES LEGEND

FIRST DIGIT IS THE PARTITION 'TYPE'

A3-2

SECOND DIGIT IS THE 'SIZE INDICATOR'
THIRD DIGIT IS THE PARTITION 'RATING'

GENERAL PARTITION NOTES

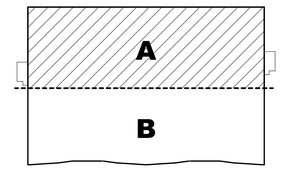
A.	"LINE OF STRUCTURE" INDICATED FOR EACH PARTITION IS DIAGRAMMATIC ONLY AND DOES NOT INDICATE EXACT CONSTRUCTION CONDITIONS OR GEOMETRY.
B.	STC RATING IS BASED ON A MIN METAL STUD SIZE OF 3 5/8".
C.	REFER TO FLOOR PLANS FOR LOCATION OF PARTITION TYPE TAGS.

KEYNOTES

010	EXISTING STAIR TO REMAIN, CLEAN STAIR AND PREPARE TO RECEIVE NEW FINISHES
101	NEW OVERHEAD FIRE SHUTTER
102	NEW CODE COMPLIANT EXTERIOR GRADE PIPE GUARDRAIL AND HANDRAIL
103	VERIFY/CONFIRM EXISTING 1 HR WALL CONSTRUCTION BETWEEN HANGAR AND ADMINISTRATION/SHOP SPACE; VERIFY/CONFIRM ALL PENETRATIONS, DOOR OPENINGS, TERMINATIONS, AND SEALANTS
104	NEW WIRE MESH PARTITION AND LOCKABLE GATE
107	NEW PLUMBING FIXTURES. REFER TO PLUMBING NARRATIVE

GENERAL NOTES - FLOOR PLAN

A	REFER TO DRAWING AE102 FOR PARTITION TYPES, NOTES, AND ASSOCIATED DETAILS.
B	REFER TO DRAWINGS A-605 FOR DOOR SCHEDULE
C	REFER TO AND COORDINATE WITH PLUMBING, MECHANICAL, AND ELECTRICAL NARRATIVES FOR ADDITIONAL NEW SCOPE.



AREA A KEY PLAN

GRAPHIC SCALE

0 4' 8' 16' 32'

SCALE: 3/32"=1'-0"

PLAN NORTH

TRUE N

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THESE DOCUMENTS ARE FOR CONCEPT DESIGN AND NOT INTENDED FOR CONSTRUCTION BIDDING OR PERMIT PURPOSES. THEY WERE PREPARED BY, OR UNDER SUPERVISION OF:

CHRISTOPHER M. SURLES
NAME

TX23638 — REGISTRATION #
22 JULY 2020 — DATE
TEXAS REGISTERED ENGINEERING FIRM F-2966

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
E. NENTWIG	22 JULY 2020
DRAWN BY:	SOLICITATION NO.:
D. BURGESS	W9126G20U3782
CHECKED BY:	CONTRACT NO.:
C. SURLES	-
SUBMITTED BY:	FILE NUMBER:
L. WHITE	-
FILE NAME:	
ANSI D / PANSW/DAE102	

US ARMY CORPS OF ENGINEERS
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FORT WORTH, TEXAS

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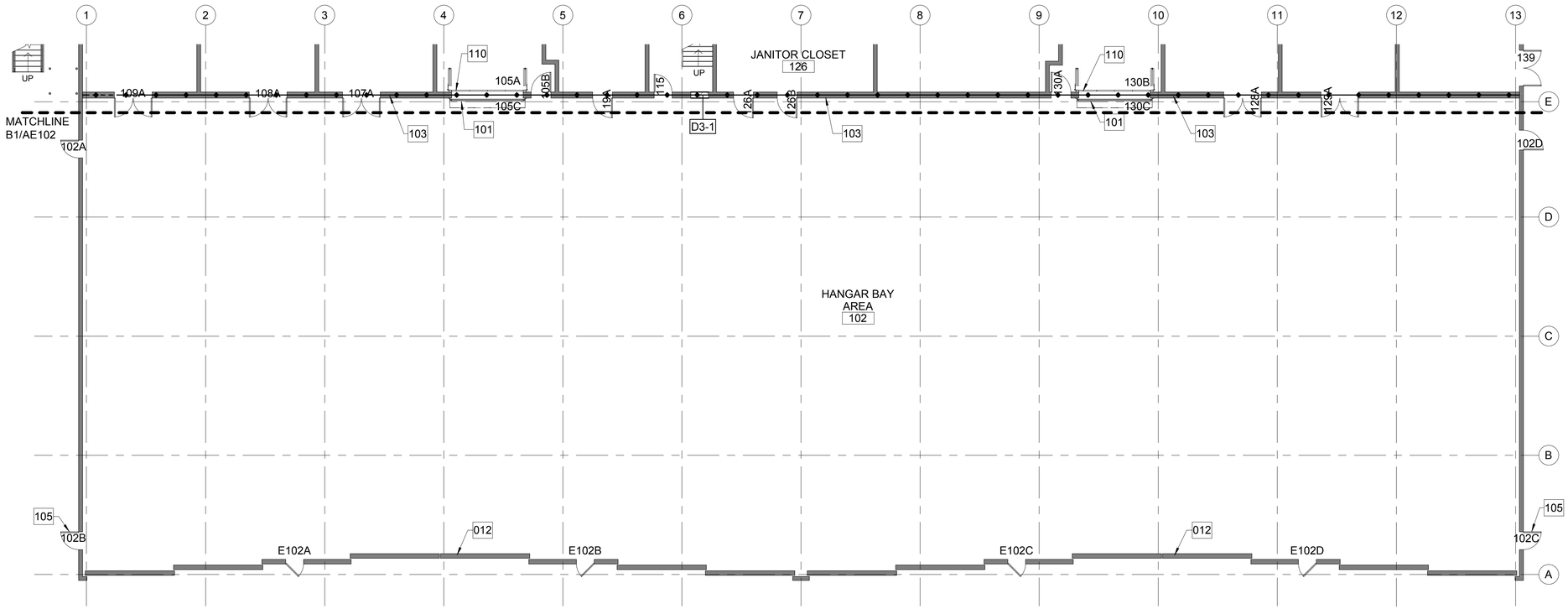
FT. POLK, LA.
HANGAR RENOVATION
BUILDING 4295

PARTIAL FIRST FLOOR PLAN - AREA A

SHEET ID

AE102

SOLICITATION SUBMITTAL



B1 PARTIAL FIRST FLOOR PLAN - AREA B

SCALE: 3/32" = 1'-0"

LEGEND

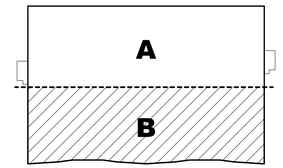
- EXISTING DOOR TO REMAIN
- NEW DOOR CONSTRUCTION
- EXISTING WALL TO REMAIN
- NEW WALL CONSTRUCTION
- 1 HR RATING

KEYNOTES

012	EXISTING HANGAR DOOR TO REMAIN
101	NEW OVERHEAD FIRE SHUTTER
103	VERIFY/CONFIRM EXISTING 1 HR WALL CONSTRUCTION BETWEEN HANGAR AND ADMINISTRATION/SHOP SPACE; VERIFY/CONFIRM ALL PENETRATIONS, DOOR OPENINGS, TERMINATIONS, AND SEALANTS
105	NEW ACCESSIBLE EGRESS DOORS WITHIN 20'-0" OF HANGAR DOOR PER UFC 4-211-01, 3-3.1.9 HANGAR BAY EGRESS
110	NEW 12' X 12' INSULATED THREE-FOLD DOOR SYSTEM WITH INTEGRAL PERSONNEL DOOR

GENERAL NOTES - FLOOR PLAN

A	REFER TO DRAWING AE102 FOR PARTITION TYPES, NOTES, AND ASSOCIATED DETAILS.
B	REFER TO DRAWINGS A-605 FOR DOOR SCHEDULE
C	REFER TO AND COORDINATE WITH PLUMBING, MECHANICAL, AND ELECTRICAL NARRATIVES FOR ADDITIONAL NEW SCOPE.



AREA B
KEY PLAN

GRAPHIC SCALE

0 4' 8' 16' 32'

SCALE: 3/32"=1'-0"

PLAN NORTH

TRUE N

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CHRISTOPHER M. SURLES
NAME

TX23638 — REGISTRATION #
22 JULY 2020 — DATE
TEXAS REGISTERED ENGINEERING FIRM F-2966

MARK	DESCRIPTION	DATE

DESIGNED BY:	E. NENTWIG
DRAWN BY:	D. BURGESS
CHECKED BY:	C. SURLES
SUBMITTED BY:	L. WHITE
ISSUE DATE:	22 JULY 2020
SOLICITATION NO.:	W9126G20U3782
CONTRACT NO.:	-
FILE NUMBER:	-
FILE NAME:	ANSI 'D' PANSW/DAE103

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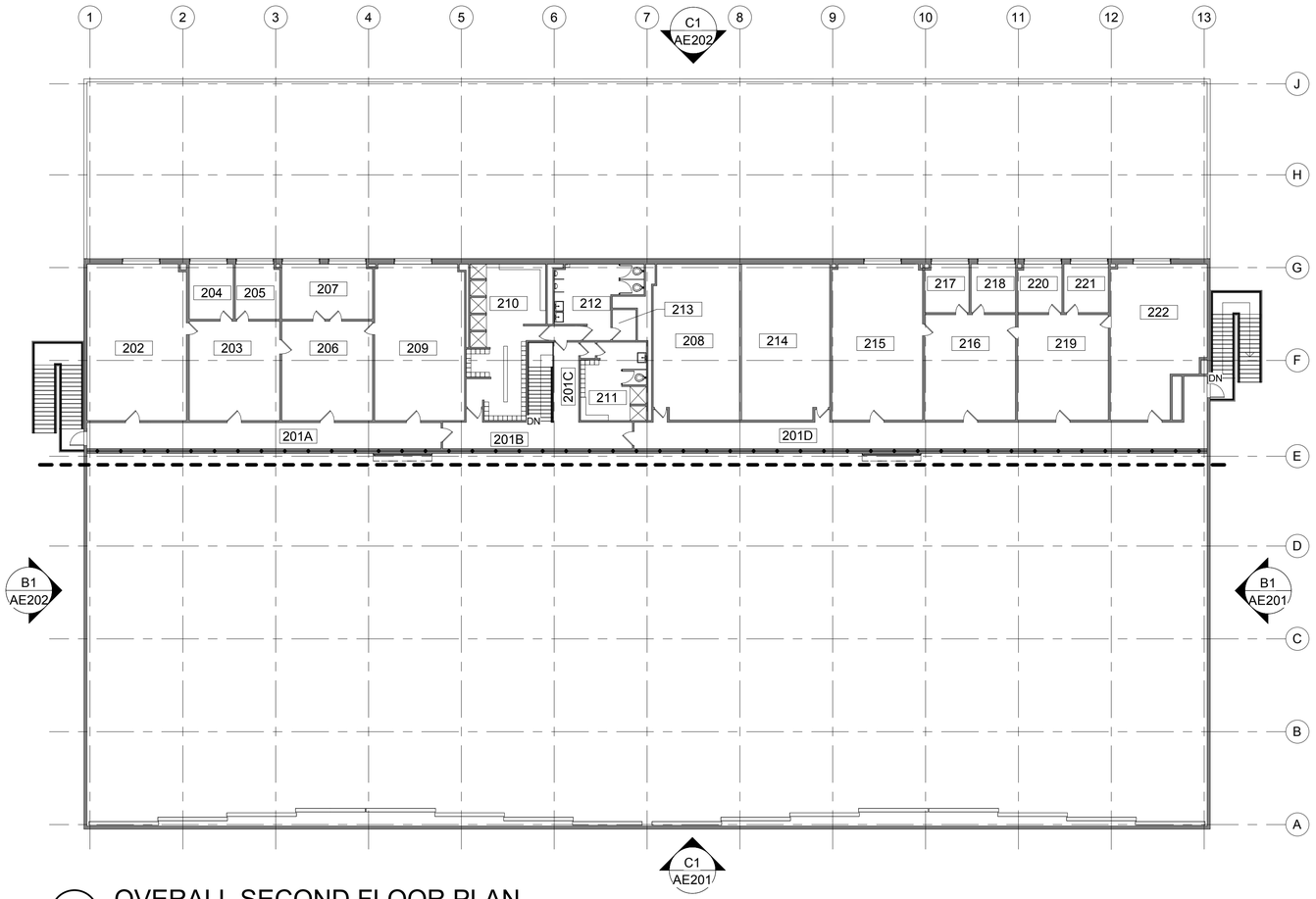
FT. POLK, LA.
HANGAR RENOVATION
BUILDING 4295

PARTIAL FIRST FLOOR PLAN - AREA B

SHEET ID

AE103

SOLICITATION SUBMITTAL



B1 OVERALL SECOND FLOOR PLAN

SCALE: 1/16" = 1'-0"

GENERAL NOTES - FLOOR PLAN

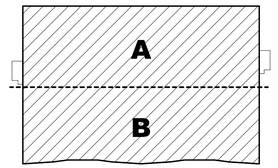
A	REFER TO DRAWING AE102 FOR PARTITION TYPES, NOTES, AND ASSOCIATED DETAILS.
B	REFER TO DRAWINGS A-605 FOR DOOR SCHEDULE
C	REFER TO AND COORDINATE WITH PLUMBING, MECHANICAL, AND ELECTRICAL NARRATIVES FOR ADDITIONAL NEW SCOPE.

SECOND FLOOR ROOM SCHEDULE

ROOM #	ROOM NAME
SECOND FLOOR	
201A	CORRIDOR
201B	CORRIDOR
201C	CORRIDOR
201D	CORRIDOR
202	SAFETY OFFICE
203	ADMIN.
204	1ST SGT
205	CPT OFFICE
206	CONFERENCE ROOM
207	OFFICE
208	MEDICAL TRAINING
209	INSTRUCTOR PILOT OFFICE
210	MEN'S LOCKER & SHOWER
211	WOMEN'S LATRINE LOCKER & SHOWER
212	MEN'S LATRINE
213	JANITOR CLOSET
214	EDUCATION
215	OPERATIONS
216	OPERATIONS
217	OFFICE
218	OFFICE
219	UNIT MAINT. ADMIN.
220	OFFICE
221	OFFICE
222	MEDIC OFFICE

LEGEND

- EXISTING DOOR TO REMAIN
- NEW DOOR CONSTRUCTION
- EXISTING WALL TO REMAIN
- NEW WALL CONSTRUCTION
- 1 HR RATING



OVERALL KEY PLAN

GRAPHIC SCALE

16 12 8 4 0 16 32

SCALE: 1/16"=1'-0"

PLAN NORTH

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TEXAS REGISTERED ENGINEERING FIRM F-2966

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DESIGNED BY: E. NENTWIG
DRAWN BY: D. BURGESS
CHECKED BY: C. SURLES
SUBMITTED BY: L. WHITE
STAFF
ISSUE DATE: 22 JULY 2020
SOLICITATION NO.: W9126G20U3782
CONTRACT NO.: -
FILE NUMBER: -
FILE NAME: ANSI 'D' P:\ANSI\DAE104

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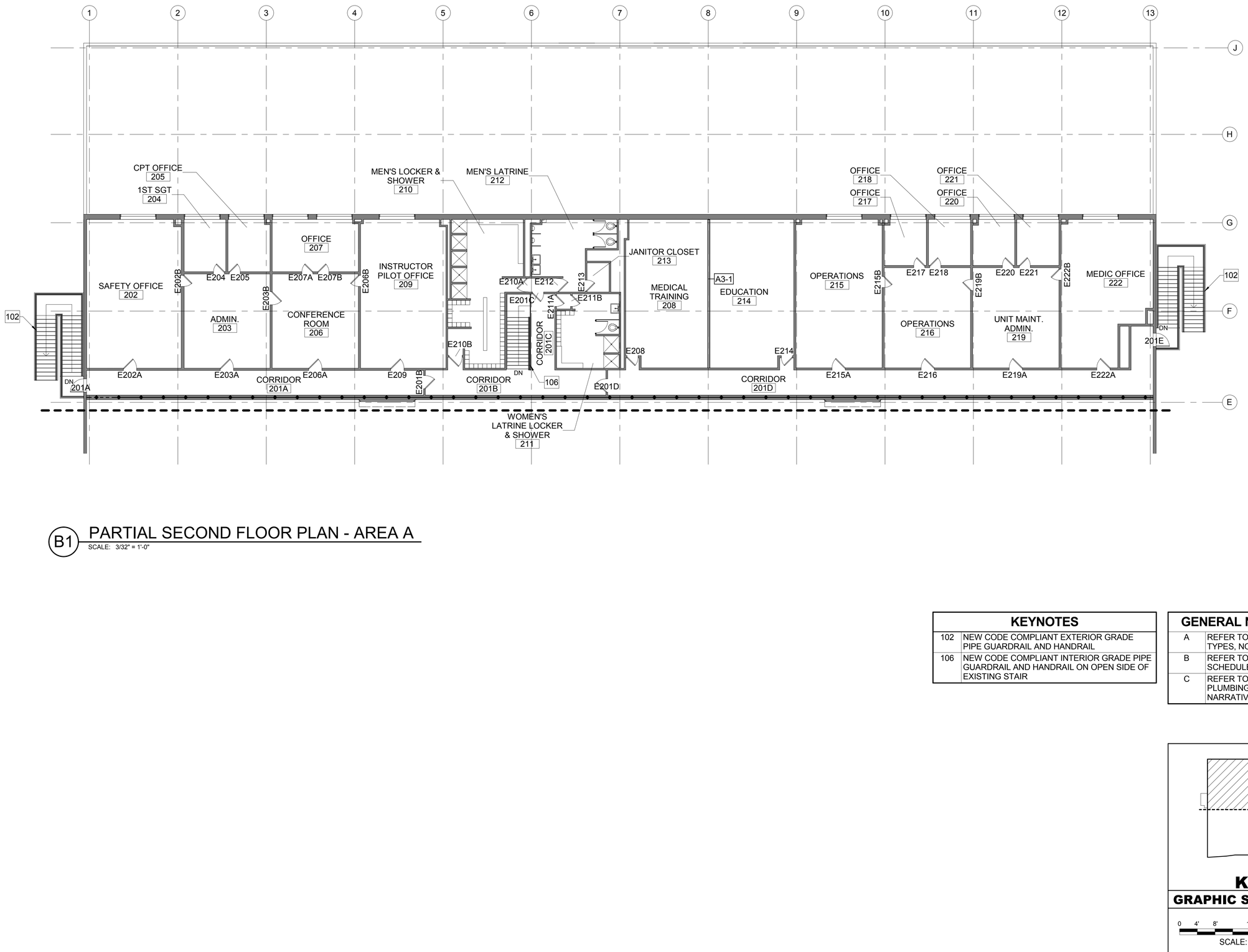
FT. POLK, LA.
HANGAR RENOVATION
BUILDING 4295
OVERALL SECOND FLOOR PLAN

SHEET ID

AE104

SOLICITATION SUBMITTAL

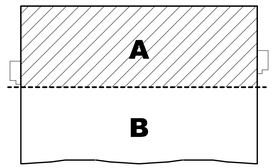


B1 PARTIAL SECOND FLOOR PLAN - AREA A

SCALE: 3/32" = 1'-0"

KEYNOTES	
102	NEW CODE COMPLIANT EXTERIOR GRADE PIPE GUARDRAIL AND HANDRAIL
106	NEW CODE COMPLIANT INTERIOR GRADE PIPE GUARDRAIL AND HANDRAIL ON OPEN SIDE OF EXISTING STAIR

GENERAL NOTES - FLOOR PLAN	
A	REFER TO DRAWING AE102 FOR PARTITION TYPES, NOTES, AND ASSOCIATED DETAILS.
B	REFER TO DRAWINGS A-605 FOR DOOR SCHEDULE
C	REFER TO AND COORDINATE WITH PLUMBING, MECHANICAL, AND ELECTRICAL NARRATIVES FOR ADDITIONAL NEW SCOPE.



AREA A
KEY PLAN

GRAPHIC SCALE

0 4' 8' 16' 32'

SCALE: 3/32"=1'-0"

PLAN NORTH

TRUE N

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22 JULY 2020 — DATE
TEXAS REGISTERED ENGINEERING FIRM F-2966

MARK	DESCRIPTION	DATE

ISSUE DATE: 22 JULY 2020
SOLICITATION NO.: W9126G20U3782
CONTRACT NO.: -
FILE NUMBER: -

DESIGNED BY: E. NENTWIG
DRAWN BY: D. BURGESS
CHECKED BY: C. SURLES
SUBMITTED BY: L. WHITE
QC'D BY:
FILE NAME: ANSI 'D' PANSWDAE105

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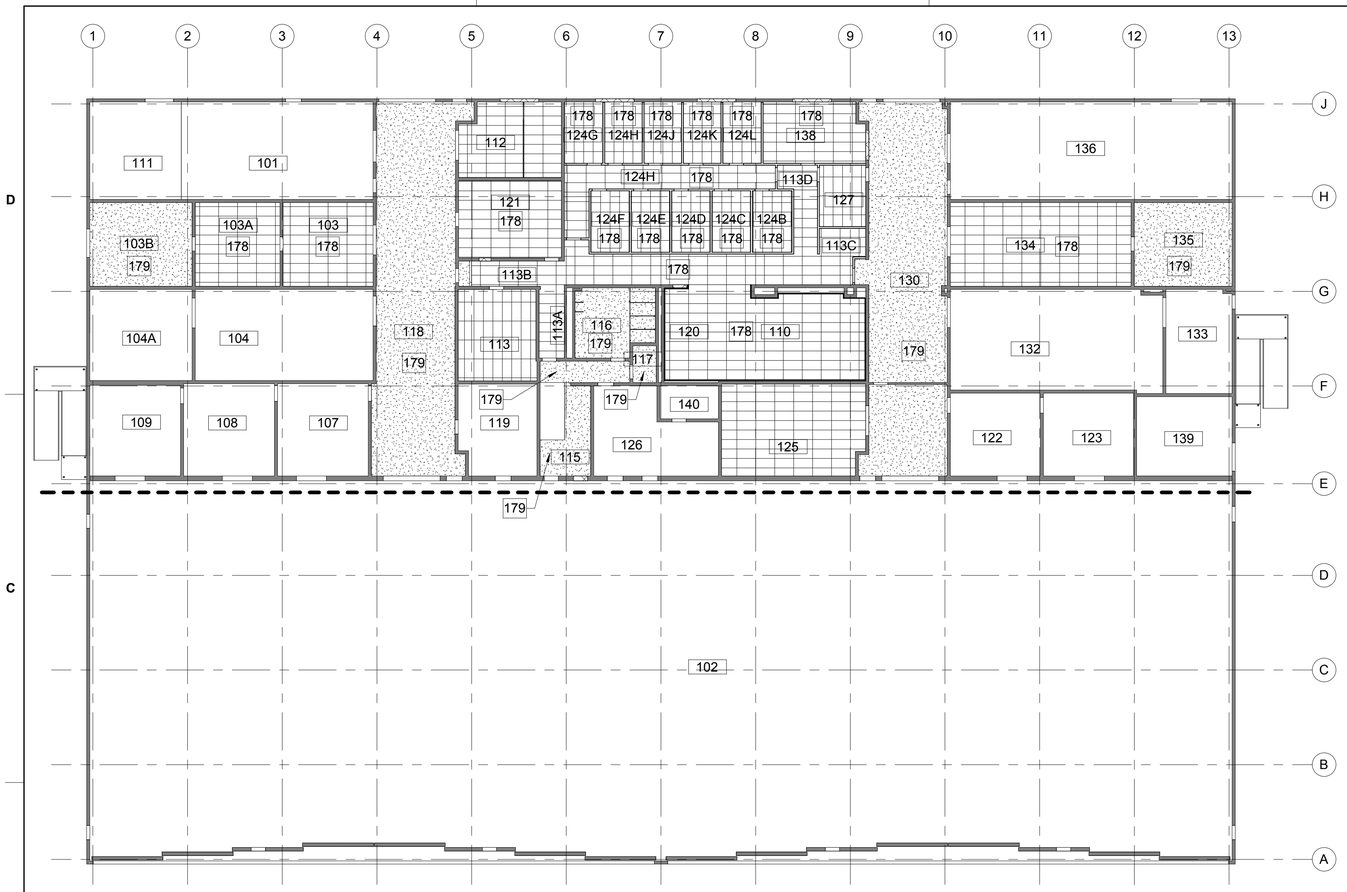
BUILDING 4295

PARTIAL SECOND FLOOR PLAN - AREA A

SHEET ID

AE105

SOLICITATION SUBMITTAL



B1 OVERALL FIRST FLOOR RCP

SCALE: 1/16" = 1'-0"

FIRST FLOOR ROOM SCHEDULE

ROOM #	ROOM NAME
FIRST FLOOR	
101	GENERAL STORAGE
102	HANGAR BAY AREA
103	MEDEVAC FLIGHT OPS
103A	MEDEVAC FLIGHT OPS
103B	FLIGHT OPS EQUIP STORAGE
104	SUPPLY ROOM
104A	SUPPLY ROOM
107	MAINT. TEST PILOT OFFICE
108	CREW CHIEF OFFICE
109	PLATOON OFFICE
110	DAY ROOM
111	SECURE EQUIP STORAGE
112	EQUIP ROOM
113	FLIGHT PLANNING OFFICE
113A	CORRIDOR
113B	CORRIDOR
113C	SNACK
113D	PASSAGE
115	STAIRS
116	MEN
117	WOMEN
118	CORRIDOR
119	EQUIP STORAGE
120	KITCHEN
121	FLIGHT EQUIP STORAGE
122	CONTRACT MAINT OFFICE
123	ENG. SHOP
124A	PASSAGE
124B	SLEEP RM
124C	SLEEP RM
124D	SLEEP RM
124E	SLEEP RM
124F	SLEEP RM
124G	SLEEP RM
124H	SLEEP RM
124J	SLEEP RM
124K	SLEEP RM
124L	SLEEP RM
125	MEDICAL SUPPLY
126	JANITOR CLOSET
127	LAUNDRY
130	CORRIDOR
132	EXERCISE ROOM
133	MECHANICAL
134	STORAGE
135	STORAGE
136	WEIGHT ROOM
138	GAME ROOM
139	MECH. EQUIP. ROOM
140	ELECT. ROOM

KEYNOTES

178	NEW ACOUSTICAL CEILING TILE
179	NEW GYPSUM BOARD CEILING

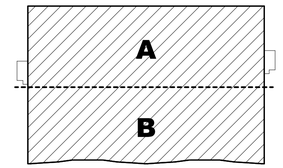
GENERAL NOTES - FLOOR PLAN

A	REFER TO DRAWING AE102 FOR PARTITION TYPES, NOTES, AND ASSOCIATED DETAILS.
B	REFER TO DRAWINGS A-605 FOR DOOR SCHEDULE
C	REFER TO AND COORDINATE WITH PLUMBING, MECHANICAL, AND ELECTRICAL NARRATIVES FOR ADDITIONAL NEW SCOPE.

REFLECTED CEILING PLAN LEGEND

SUSPENDED GYPSUM BOARD CEILING W/ PAINT FINISH TO MATCH EXISTING HEIGHT

2'x4' ACOUSTICAL CEILING TILE CENTERED IN SPACE AS INDICATED TO MATCH EXISTING HEIGHT



OVERALL KEY PLAN

GRAPHIC SCALE

16 12 8 4 0 16 32

SCALE: 1/16"=1'-0"

PLAN NORTH

TRUE N

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CHRISTOPHER M. SURLES
NAME

TX23638 REGISTRATION #
22 JULY 2020 DATE

TEXAS REGISTERED ENGINEERING FIRM F-2966

MARK	DESCRIPTION	DATE

DESIGNED BY: E. NENTWIG
DRAWN BY: D. BURGESS
CHECKED BY: C. SURLES
SUBMITTED BY: L. WHITE
DATE: ISSUE DATE: 22 JULY 2020
FILE NAME: ANSI 'D' PANSW/DAE121
SOLICITATION NO.: W9126G20U3782
CONTRACT NO.: -
FILE NUMBER: -

US ARMY CORPS OF ENGINEERS
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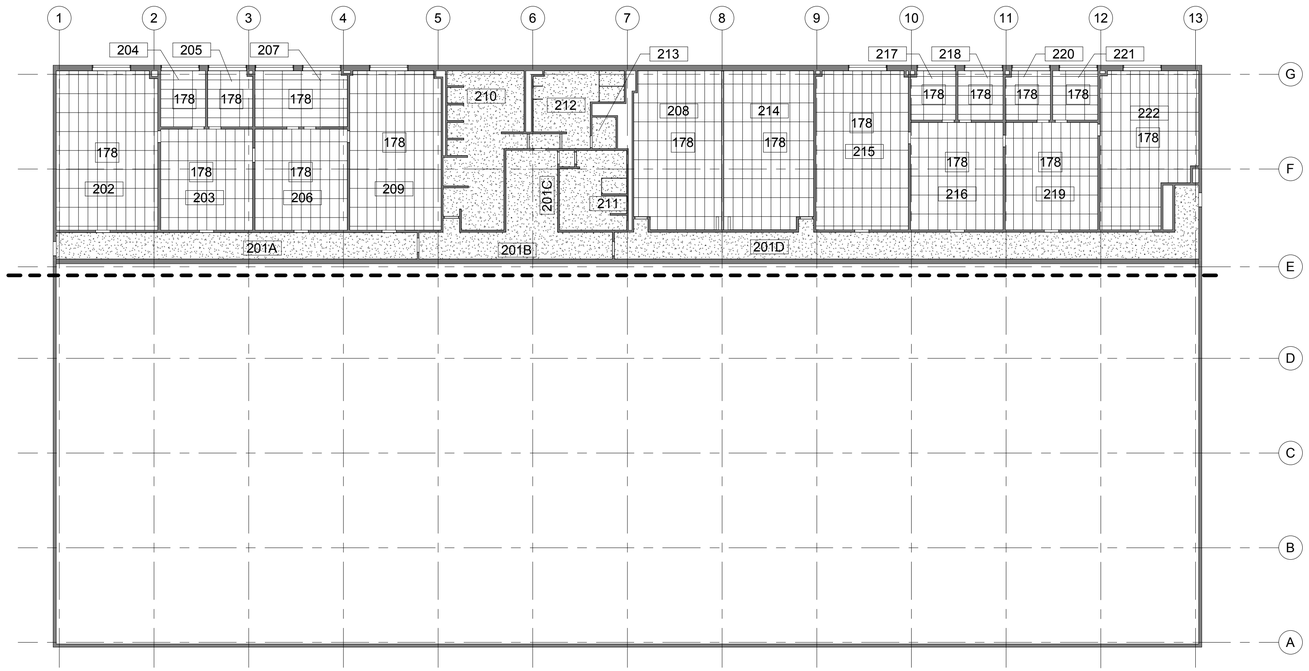
FT. POLK, LA.
HANGAR RENOVATION
BUILDING 4295

OVERALL FIRST FLOOR RCP

SHEET ID

AE121

SOLICITATION SUBMITTAL



B1 OVERALL SECOND FLOOR RCP

SCALE: 1/16" = 1'-0"

SECOND FLOOR ROOM SCHEDULE

ROOM #	ROOM NAME
SECOND FLOOR	
201A	CORRIDOR
201B	CORRIDOR
201C	CORRIDOR
201D	CORRIDOR
202	SAFETY OFFICE
203	ADMIN.
204	1ST SGT
205	CPT OFFICE
206	CONFERENCE ROOM
207	OFFICE
208	MEDICAL TRAINING
209	INSTRUCTOR PILOT OFFICE
210	MEN'S LOCKER & SHOWER
211	WOMEN'S LATRINE LOCKER & SHOWER
212	MEN'S LATRINE
213	JANITOR CLOSET
214	EDUCATION
215	OPERATIONS
216	OPERATIONS
217	OFFICE
218	OFFICE
219	UNIT MAINT. ADMIN.
220	OFFICE
221	OFFICE
222	MEDIC OFFICE

KEYNOTES

178	NEW ACOUSTICAL CEILING TILE

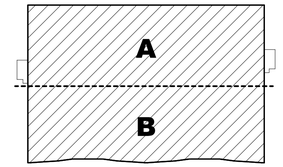
GENERAL NOTES - FLOOR PLAN

A	REFER TO DRAWING AE102 FOR PARTITION TYPES, NOTES, AND ASSOCIATED DETAILS.
B	REFER TO DRAWINGS A-605 FOR DOOR SCHEDULE
C	REFER TO AND COORDINATE WITH PLUMBING, MECHANICAL, AND ELECTRICAL NARRATIVES FOR ADDITIONAL NEW SCOPE.

REFLECTED CEILING PLAN LEGEND

SUSPENDED GYPSUM BOARD CEILING W/ PAINT FINISH TO MATCH EXISTING HEIGHT

2'x4' ACOUSTICAL CEILING TILE CENTERED IN SPACE AS INDICATED TO MATCH EXISTING HEIGHT



OVERALL KEY PLAN

GRAPHIC SCALE

16 12 8 4 0 16 32

SCALE: 1/16"=1'-0"

PLAN NORTH

TRUE N

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DESIGNED BY: E. NENTWIG	ISSUE DATE: 22 JULY 2020
DRAWN BY: D. BURGESS	SOLICITATION NO.: W9126G20U3782
CHECKED BY: C. SURLES	CONTRACT NO.: -
SUBMITTED BY: L. WHITE CTE	FILE NUMBER: -
	FILE NAME: ANSI 'D' PANSWD\AE124

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FORT WORTH, TEXAS

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uEID Reg. No. E2GDPQK4

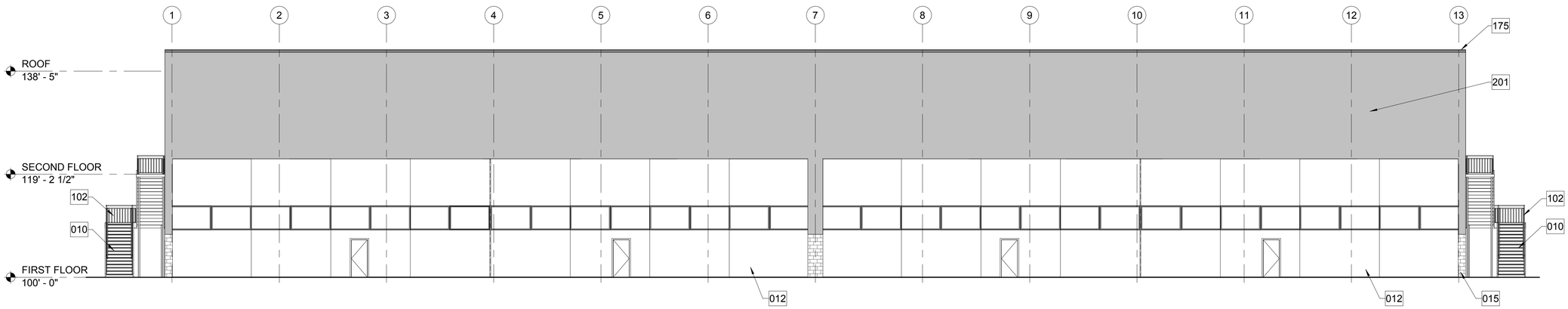
FT. POLK, LA.
HANGAR RENOVATION
BUILDING 4295

OVERALL SECOND FLOOR RCP

SHEET ID

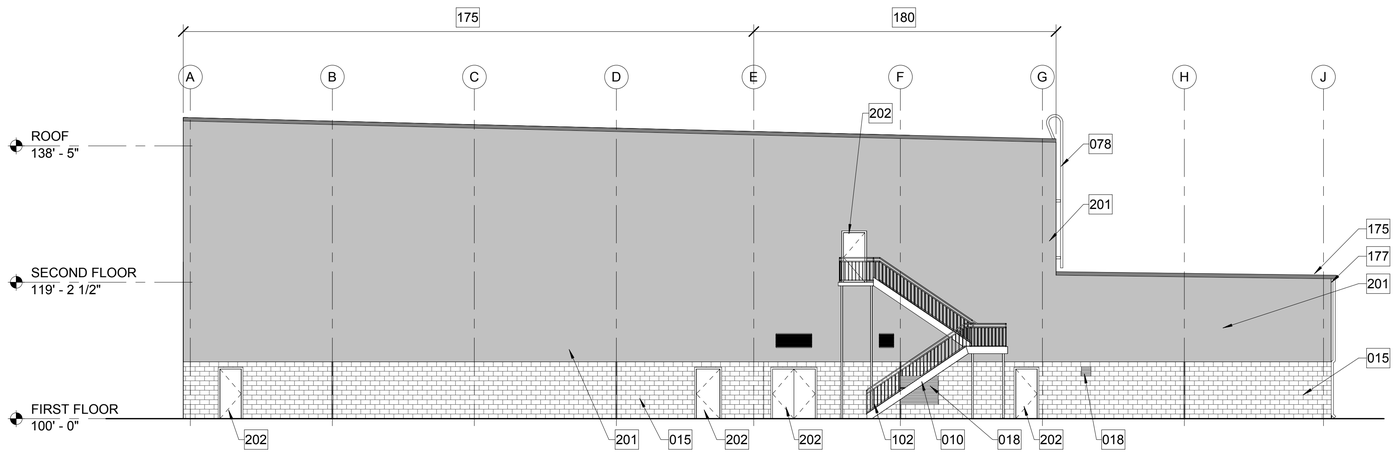
AE124

SOLICITATION SUBMITTAL



C1 EXTERIOR SOUTH ELEVATION

SCALE: 3/32" = 1'-0"



B1 EXTERIOR EAST ELEVATION

SCALE: 3/32" = 1'-0"

GENERAL NOTES - ELEVATIONS

A	EXISTING BUILDING HEIGHTS ARE APPROXIMATE; VERIFY ACTUAL BUILDING ELEMENT HEIGHTS IN FIELD PRIOR RO COMMENCEMENT OF WORK
B	REFER TO A-605 FOR DOOR SCHEDULE
C	REFER TO AE101 THRU AE105 FOR FLOOR PLANS
D	REFER TO AE131 FOR ROOF PLAN

KEYNOTES

010	EXISTING STAIR TO REMAIN, CLEAN STAIR AND PREPARE TO RECEIVE NEW FINISHES
012	EXISTING HANGAR DOOR TO REMAIN
015	BID OPTION: EXTERIOR FACE OF CMU TO BE CLEANED AND REPAIRED. CMU TO RECEIVE NEW EXTERIOR GRADE PAINT FINISH.
018	EXISTING MECHANICAL LOUVER, REFER TO MECHANICAL STATEMENT OF WORK FOR VERIFICATION, REPAIR, CLEANING, OR REPLACEMENT OF BUILDING MECHANICAL SYSTEMS, TYP.
078	BID OPTION: EXISTING ROOF ACCESS LADDER TO REMAIN, CLEAN LADDER AND REPAIR TO RECEIVE NEW PAINT FINISH
102	NEW CODE COMPLIANT EXTERIOR GRADE PIPE GUARDRAIL AND HANDRAIL
175	BID OPTION: EXISTING MODIFIED BITUMEN ROOF CONSTRUCTION TO REMAIN. PREPARE EDGES OF EXISTING ROOF TO RECEIVE NEW FLASHING AS REQUIRED FOR INSTALLATION OF NEW INSULATED METAL PANEL SIDING.
177	BID OPTION: NEW PREFINISHED ALUMINUM GUTTER & DOWNSPOUTS
180	BID OPTION: PROVIDE NEW MODIFIED BITUMEN ROOF SYSTEM TO MATCH ADJACENT MODIFIED BITUMEN ROOF SYSTEM. PREPARE EDGES OF ROOF TO RECEIVE NEW FLASHING AS REQUIRED FOR INSTALLATION OF NEW INSULATED METAL PANEL SIDING.
201	BID OPTION: NEW 2" VERTICAL INSULATED METAL PANEL SYSTEM, R-14 (U-0.072) MIN
202	NEW INSULATED HOLLOW METAL EXTERIOR DOOR, R-6 MIN

GRAPHIC SCALE

0 4' 8' 16' 32'

SCALE: 3/32"=1'-0"

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CHRISTOPHER M. SURLES
NAME

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22 JULY 2020 — DATE
TEXAS REGISTERED ENGINEERING FIRM F-2966

MARK	DESCRIPTION	DATE

DESIGNED BY: E. NENTWIG
DRAWN BY: D. BURGESS
CHECKED BY: C. SURLES
SUBMITTED BY: L. WHITE
ISSUE DATE: 22 JULY 2020
SOLICITATION NO.: W9126G20U3782
CONTRACT NO.: -
FILE NUMBER: -
FILE NAME: ANSI D\ PANSW\DAE201

US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT
FORT WORTH, TEXAS

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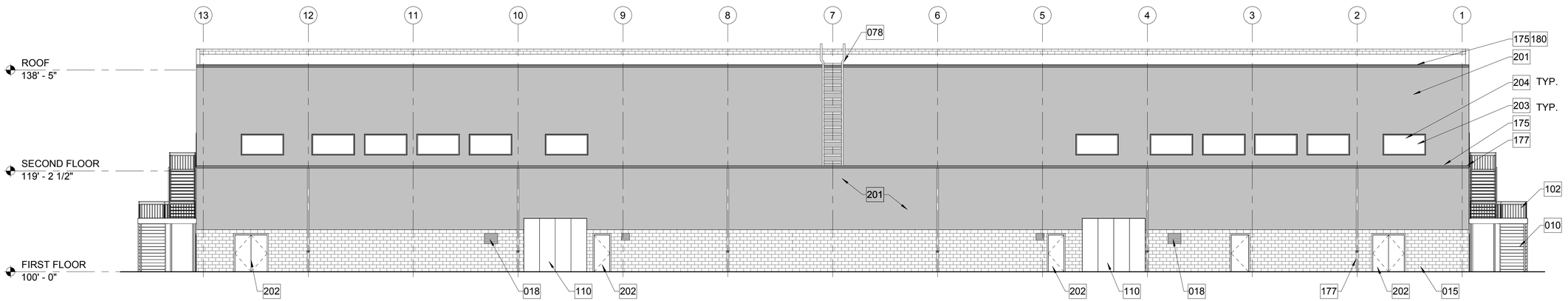
(817) 870-7600 FAX (817)870-7604

FT. POLK, LA.
HANGAR RENOVATION
BUILDING 4295
EXTERIOR ELEVATION

SHEET ID

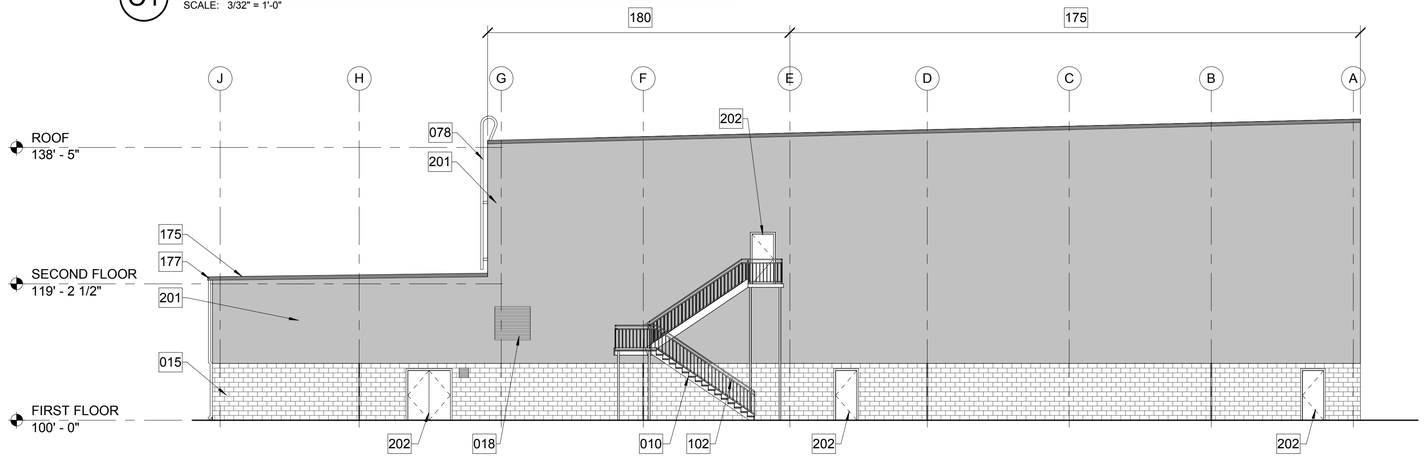
AE201

SOLICITATION SUBMITTAL



C1 EXTERIOR NORTH ELEVATION

SCALE: 3/32" = 1'-0"



B1 EXTERIOR WEST ELEVATION

SCALE: 3/32" = 1'-0"

GENERAL NOTES - ELEVATIONS

A	EXISTING BUILDING HEIGHTS ARE APPROXIMATE; VERIFY ACTUAL BUILDING ELEMENT HEIGHTS IN FIELD PRIOR RO COMMENCEMENT OF WORK
B	REFER TO A-605 FOR DOOR SCHEDULE
C	REFER TO AE101 THRU AE105 FOR FLOOR PLANS
D	REFER TO AE131 FOR ROOF PLAN

KEYNOTES

010	EXISTING STAIR TO REMAIN, CLEAN STAIR AND PREPARE TO RECEIVE NEW FINISHES
015	BID OPTION: EXTERIOR FACE OF CMU TO BE CLEANED AND REPAIRED. CMU TO RECEIVE NEW EXTERIOR GRADE PAINT FINISH.
018	EXISTING MECHANICAL LOUVER, REFER TO MECHANICAL STATEMENT OF WORK FOR VERIFICATION, REPAIR, CLEANING, OR REPLACEMENT OF BUILDING MECHANICAL SYSTEMS, TYP.
078	BID OPTION: EXISTING ROOF ACCESS LADDER TO REMAIN, CLEAN LADDER AND REPAIR TO RECEIVE NEW PAINT FINISH
102	NEW CODE COMPLIANT EXTERIOR GRADE PIPE GUARDRAIL AND HANDRAIL
110	NEW 12' X 12' INSULATED THREE-FOLD DOOR SYSTEM WITH INTEGRAL PERSONNEL DOOR
175	BID OPTION: EXISTING MODIFIED BITUMEN ROOF CONSTRUCTION TO REMAIN. PREPARE EDGES OF EXISTING ROOF TO RECEIVE NEW FLASHING AS REQUIRED FOR INSTALLATION OF NEW INSULATED METAL PANEL SIDING.
177	BID OPTION: NEW PREFINISHED ALUMINUM GUTTER & DOWNSPOUTS
180	BID OPTION: PROVIDE NEW MODIFIED BITUMEN ROOF SYSTEM TO MATCH ADJACENT MODIFIED BITUMEN ROOF SYSTEM. PREPARE EDGES OF ROOF TO RECEIVE NEW FLASHING AS REQUIRED FOR INSTALLATION OF NEW INSULATED METAL PANEL SIDING.
201	BID OPTION: NEW 2" VERTICAL INSULATED METAL PANEL SYSTEM, R-14 (U-0.072) MIN
202	NEW INSULATED HOLLOW METAL EXTERIOR DOOR, R-6 MIN
203	EXISTING WINDOW WITH NEW WINDOW FILM
204	BID OPTION: REPLACE WINDOWS

GRAPHIC SCALE

0 4' 8' 16' 32'

SCALE: 3/32"=1'-0"

US Army Corps of Engineers ®

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CHRISTOPHER M. SURLES
NAME

TX23638 — REGISTRATION #
22 JULY 2020 — DATE
TEXAS REGISTERED ENGINEERING FIRM F-2966

MARK	DESCRIPTION	DATE

ISSUE DATE: 22 JULY 2020
SOLICITATION NO.: W9126G20U3782
CONTRACT NO.: -
FILE NUMBER: -
FILE NAME: ANSI 'D' PANS\WDAE202

DESIGNED BY: E. NENTWIG
DRAWN BY: D. BURGESS
CHECKED BY: C. SURLES
SUBMITTED BY: L. WHITE
QTY: 1

US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT
FORT WORTH, TEXAS

Jacobs
JACOBS GOVERNMENT SERVICES COMPANY
777 Main Street, Fort Worth, TX 76102
Registration No. F-2966

FT. POLK, LA.
HANGAR RENOVATION
BUILDING 4295
EXTERIOR ELEVATION

SHEET ID

AE202

SOLICITATION SUBMITTAL

DOOR SCHEDULE

NO	DOOR SIZE WT	DOOR SIZE HT	DOOR SIZE THK	DOOR MATL	DOOR FIN	FRAME MATL	FRAME FIN	ASSEMBLY FIRE RATING	REMARKS
FIRST FLOOR									
102A	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	3,4,6
102B	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	3,4,6
102C	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	3,4,6
102D	3' - 4"	7' - 0"	2"	HM	P	HM	P	--	3,4,6
102E	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
103	6' - 4"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
103A	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
103B	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
103C	6' - 0"	7' - 0"	2"	HM	P	HM	P	--	3,4,6
104	6' - 4"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
104A	6' - 4"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
105A	12' - 0"	12' - 0"	2 1/8"	STL	P	STL	P	45 MIN	
105B	3' - 4"	7' - 0"	2"	HM	P	HM	P	45 MIN	5,9
105C	12' - 0"	12' - 0"		STL	P	STL	P	45 MIN	3,7
105D	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	3,4,6
107A	6' - 4"	7' - 0"	2"	HM	P	HM	P	45 MIN	5,9
107B	3' - 4"	7' - 0"	2"	HM	P	HM	P	--	5,9
108A	6' - 4"	7' - 0"	2"	HM	P	HM	P	45 MIN	5,9
108B	3' - 4"	7' - 0"	2"	HM	P	HM	P	--	5,9
109A	6' - 4"	7' - 0"	2"	HM	P	HM	P	45 MIN	5,9
109B	3' - 4"	7' - 0"	2"	HM	P	HM	P	--	5,9
111B	6' - 0"	7' - 0"	2"	HM	P	HM	P	--	3,4,6
112B	3' - 0"	7' - 0"	2"	STL	P	STL	P	--	10
113A	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
113C	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	5,9
113D	12' - 0"	10' - 2"	2 1/8"	HM	P	HM	P	--	--
113E	12' - 0"	10' - 2"	2 1/8"	HM	P	HM	P	--	--
115	3' - 0"	7' - 0"	2"	HM	P	HM	P	45 MIN	5,9
118C	3' - 4"	7' - 0"	2"	HM	P	HM	P	--	5,9
119A	3' - 4"	7' - 0"	2"	HM	P	HM	P	45 MIN	5,9
119B	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
120	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
121A	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	5,9
121B	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	5,9
124A	3' - 0"	7' - 0"	2"	HM	P	HM	P	45 MIN	5,9
124B	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	5,9
124C	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	5,9
124D	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	5,9
124E	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	5,9
124F	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	5,9
124G	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	5,9
124H	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	5,9
124J	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	5,9
124K	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	5,9
124L	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	5,9
124M	3' - 0"	7' - 0"	2"	HM	P	HM	P	45 MIN	5,9
125	6' - 4"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
126A	3' - 4"	7' - 0"	2"	HM	P	HM	P	45 MIN	5,9
126B	3' - 4"	7' - 0"	2"	HM	P	HM	P	45 MIN	5,9
127A	3' - 0"	7' - 0"	2"	HM	P	HM	P	45 MIN	5,9
127B	3' - 0"	7' - 0"	2"	HM	P	HM	P	45 MIN	5,9
128A	6' - 4"	7' - 0"	2"	HM	P	HM	P	45 MIN	5,9
128B	3' - 4"	7' - 0"	2"	HM	P	HM	P	--	5,9
129A	6' - 4"	7' - 0"	2"	HM	P	HM	P	45 MIN	5,9
129B	3' - 4"	7' - 0"	2"	HM	P	HM	P	--	5,9
130A	3' - 4"	7' - 0"	2"	HM	P	HM	P	45 MIN	5,9
130B	12' - 0"	12' - 0"	2 1/8"	STL	P	STL	P	45 MIN	--
130C	12' - 0"	12' - 0"		STL	P	STL	P	45 MIN	3,7
130D	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
130E	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	3,4,6
130F	3' - 4"	7' - 0"	2"						
133B	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	3,4,6
136C	6' - 2"	7' - 0"	2"	HM	P	HM	P	--	3,4,6
138	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	5,9
139	6' - 0"	7' - 0"	2"	HM	P	HM	P	--	3,4,6
140	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
E102A	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
E102B	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
E102C	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
E102D	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
E110A	6' - 8"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
E110B	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
E111A	6' - 2"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
E112	6' - 4"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
E116	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
E117	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
E132	6' - 4"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
E133A	6' - 4"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
E134	6' - 4"	7' - 0"	2"	HM	P	HM	P	--	1,2,3

DOOR SCHEDULE

NO	DOOR SIZE WT	DOOR SIZE HT	DOOR SIZE THK	DOOR MATL	DOOR FIN	FRAME MATL	FRAME FIN	ASSEMBLY FIRE RATING	REMARKS
E135	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
E136A	3' - 0"	7' - 0"	2"	HM	P	HM	P	--	1,2,3
E136B	6' - 4"	7' - 0"	2"	HM	P	HM	P	--	1,2,3

DOOR SCHEDULE

NO	DOOR SIZE WT	DOOR SIZE HT	DOOR MATL	DOOR FIN	FRAME MATL	FRAME FIN	ASSEMBLY FIRE RATING	REMARKS
SECOND FLOOR								
201A	3' - 0"	7' - 0"	HM	P	HM	P	--	3,4,6
201E	3' - 0"	7' - 0"	HM	P	HM	P	--	3,4,6
E201B	3' - 0"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E201C	2' - 6"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E201D	3' - 0"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E202A	3' - 0"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E202B	2' - 6"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E203A	3' - 0"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E203B	3' - 0"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E204	2' - 6"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E205	2' - 6"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E206A	3' - 0"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E206B	2' - 6"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E207A	2' - 6"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E207B	2' - 6"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E208	2' - 6"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E209	3' - 0"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E210A	3' - 0"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E210B	3' - 0"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E211A	2' - 6"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E211B	2' - 6"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E212	3' - 0"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E213	2' - 6"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E214	2' - 6"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E215A	3' - 0"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E215B	2' - 6"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E216	3' - 0"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E217	2' - 6"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E218	2' - 6"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E219A	3' - 0"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E219B	2' - 6"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E220	2' - 6"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E221	2' - 6"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E222A	3' - 0"	7' - 0"	HM	P	HM	P	--	1, 2, 3
E222B	2' - 6"	7' - 0"	HM	P	HM	P	--	1, 2, 3

GENERAL NOTES - DOOR SCHEDULE

A	REFER AE101 THRU AE105 FOR PARTITION LAYOUT. REFER AE102 FOR PARTITION TYPES
B	DOOR AND FRAME TO BE GALVANIZED COATED AND FACTORY PRIMED FINISH
C	ALL DOOR AND FRAMES DIMENSIONS TO BE FIELD VERIFIED

DOOR SCHEDULE REMARKS

1	EXISTING DOOR AND FRAME
2	CLEAN EXISTING DOOR AND FRAME AND PREPARE TO RECEIVE NEW FINISH
3	CLEAN AND REUSE EXISTING DOOR HARDWARE
4	INSULATED EXTERIOR HOLLOW METAL DOOR (R-6)
5	STANDARD INTERIOR HOLLOW METAL DOOR
6	PROVIDE THRESHOLD, WEATHER STRIPPING AND RAIN DRIP AT HEAD OF DOOR
7	NEW OVERHEAD COILING FIRE SHUTTER
8	EXISTING OVERHEAD COILING DOOR, CLEAN DOOR AND FRAME AND PREPARE TO RECEIVE NEW FINISH
9	NEW DOOR HARDWARE TO MATCH EXISTING
10	WIRE MESH GATE
11	PROVIDE A NEW HOUSING DOOR COVER TO MATCH EXISTING

DOOR SCHEDULE ABBREVIATIONS

FIN	FINISH
HM	HOLLOW METAL
HT	HEIGHT
MATL	MATERIAL
NO	DOOR NUMBER
P	PAINTED
STL	STEEL
THK	THICKNESS
WT	WIDTH

US Army Corps of Engineers ®

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CHRISTOPHER M. SURLES
NAME

TX23638 — REGISTRATION #
22 JULY 2020 — DATE
TEXAS REGISTERED ENGINEERING FIRM F-2966

MARK	DESCRIPTION	DATE

DESIGNED BY: E. NENTWIG
DRAWN BY: D. BURGESS
CHECKED BY: C. SURLES
SUBMITTED BY: L. WHITE
SIZE: ANSI 'D'
ISSUE DATE: 22 JULY 2020
SOLICITATION NO.: W9126G20U3782
CONTRACT NO.: -
FILE NUMBER: -
FILE NAME: PANSWDA-605

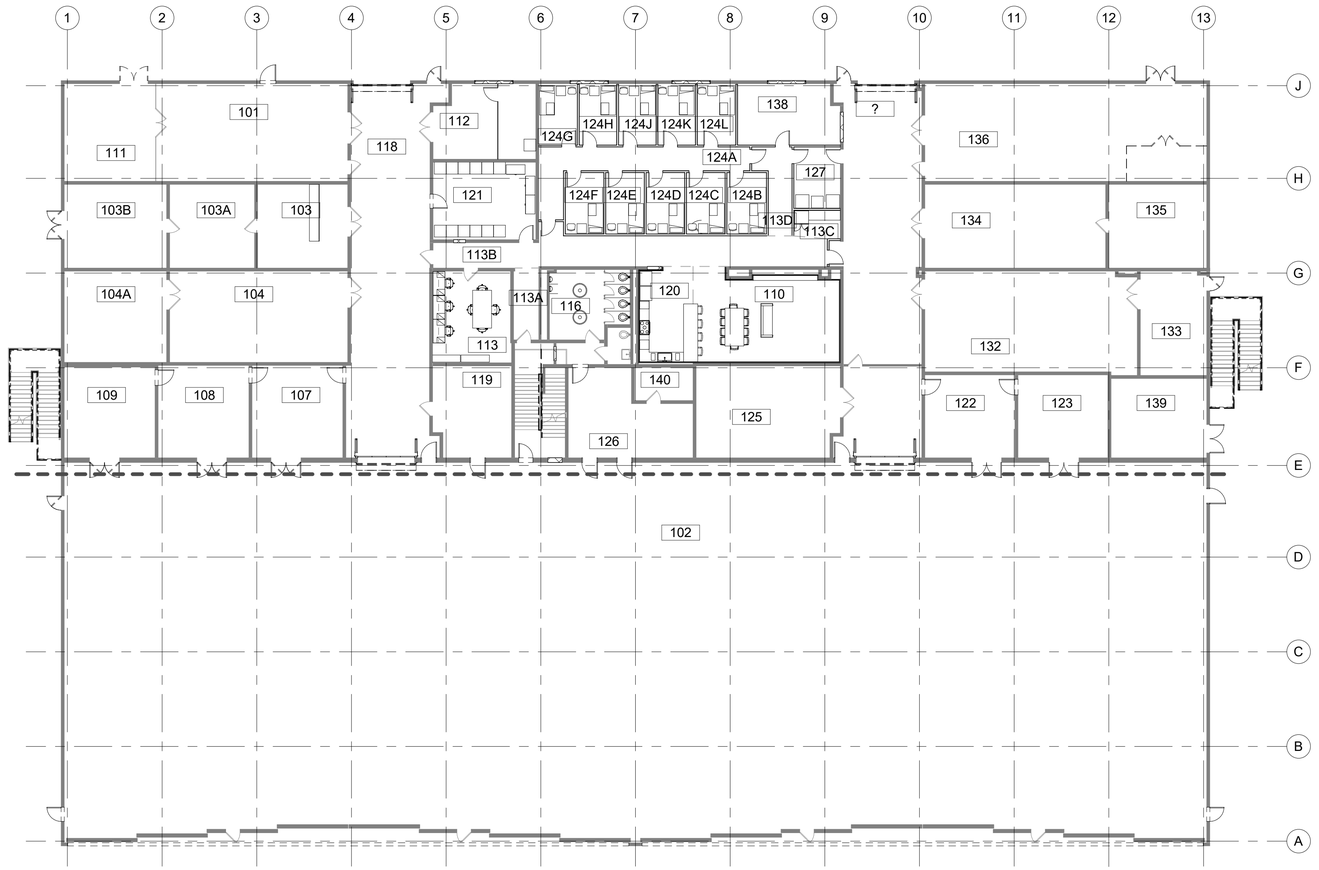
US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT
FORT WORTH, TEXAS

Jacobs
JACOBS GOVERNMENT SERVICES COMPANY
777 Main Street, Fort Worth, TX 76102
(817) 878-1700 FAX (817) 878-1701

FT. POLK, LA.
HANGAR RENOVATION
BUILDING 4295
DOOR SCHEDULE AND DETAILS

SHEET ID
A-605

SOLICITATION SUBMITTAL

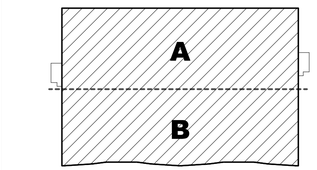


B1 OVERALL FFE PLAN - LEVEL 1

1/16" = 1'-0"

GENERAL NOTES - FF&E PLANS

A	FURNITURE, FIXTURE & EQUIPMENT (FF&E) IS SHOWN FOR COORDINATION ONLY, AND IS GOVERNMENT FURNISHED GOVERNMENT INSTALLED (GFGI).
B	VERIFY FIELD CONDITIONS PRIOR TO ORDERING FF&E TO ENSURE PROPER FIT OF ALL ITEMS.
C	GENERAL CONTRACTOR SHALL COORDINATE WITH FURNITURE DEALE TO ALLOW BUILDING ACCESS FOR FIELD CONDITION VERIFICATION.
D	GENERAL CONTRACTOR IS RESPONSIBLE FOR ELECTRICAL CONNECTIONS TO THE BUILDING, INCLUDING J BOXES TO SUPPORT FF&E. FURNITURE DEALER IS RESPONSIBLE FOR THE ELECTRICAL HOOKUP OF ALL FF&E, INCLUDING WHIPS FROM WALL CONNECTIONS TO THE FURNITURE AND CONNECTING PRE-WIRED PANELS, UP TO AND INCLUDING FACEPLATES.
E	INFORMATION TECHNOLOGY (IT) (PHONE/ LAN ETC.) WIRING SHALL BE PROVIDED BY OTHERS AFTER INSTALLATION: COORDINATE WITH CONTRACTING OFFICER.
F	FURNITURE DEALER SHALL INVENTORY EXISTING FF&E AND REUSE ALL EXISTING COMPONENTS POSSIBLE, SUPLEMENTING WITH NEW AS REQUIRED TO SATISFY THE INTENT OF THE DESIGN. REMAINING FF&E NOT TO BE USED SHALL BE DISPOSED OF BY DEALER.
G	PROVIDE ALL FF&E COMPONENTS REQUIRED TO FULFILL THE DESIGN INTENT OUTLINED IN THE FF&E PACKAGE, AND ASSEMBLE FF&E PER MANUFACTURER'S WRITTEN INSTRUCTIONS.FF&E PROVIDER SHALL COORDINATE WITH CONTRACTING OFFICER AS REQUIRED TO ENSURE THAT ALL FF&E IS SUCCESSFULLY INSTALLED AND OPERATIONAL PRIOR TO OCCUPANCY.
H	ALL WORKSURFACES ARE TO HAVE ONE GROMMET WITH COVER MINIMUM.



OVERALL
KEY PLAN

GRAPHIC SCALE

16 12 8 4 0 16 32

SCALE: 1/16"=1'-0"

PLAN NORTH

TRUE N

US Army Corps of Engineers ®

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JERI L. CHAMPINE
NAME

TX629 — REGISTRATION #
22 JULY 2020 — DATE
TEXAS REGISTERED ENGINEERING FIRM F-2966

MARK	DESCRIPTION	DATE

ISSUE DATE: 22 JULY 2020
SOLICITATION NO.: W9126G20U3782
CONTRACT NO.: -
FILE NUMBER: -
FILE NAME: ANSI 'D'/ PANSW/DF101

DESIGNED BY: J.L CHAMPINE
DRAWN BY: J.WISE
CHECKED BY: K. CARLSON
SUBMITTED BY: L. WHITE
SIZE: ANSI 'D'

US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT
FORT WORTH, TEXAS

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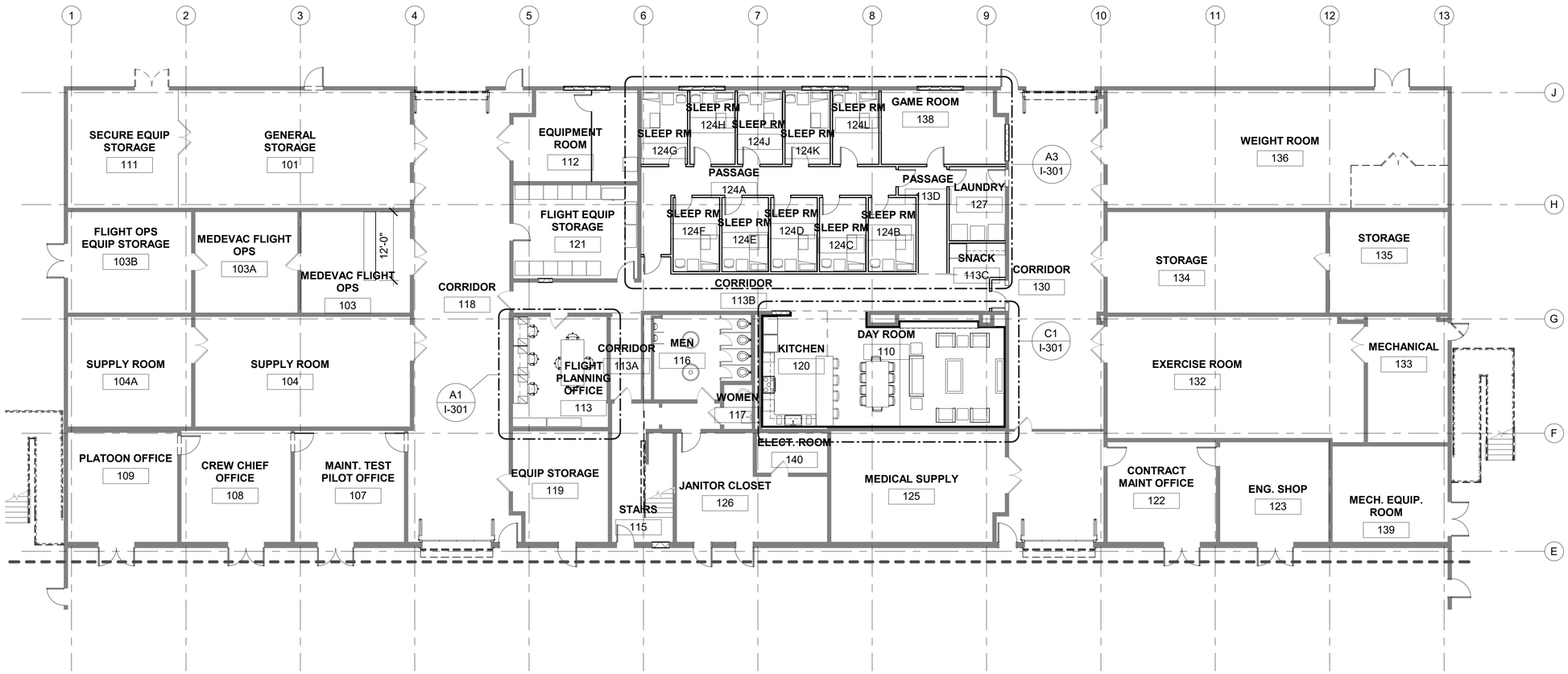
FT. POLK, LA.
HANGAR RENOVATION
BUILDING 4295
OVERALL FURNITURE, FIXTURE, AND EQUIPMENT PLAN

SHEET ID
IF101

SOLICITATION SUBMITTAL



B1 PARTIAL FFE PLAN - LEVEL 1 - AREA A

3/32" = 1'-0"

GENERAL NOTES - FF&E PLANS

A	FURNITURE, FIXTURE & EQUIPMENT (FF&E) IS SHOWN FOR COORDINATION ONLY, AND IS GOVERNMENT FURNISHED GOVERNMENT INSTALLED (GFGI).
B	VERIFY FIELD CONDITIONS PRIOR TO ORDERING FF&E TO ENSURE PROPER FIT OF ALL ITEMS.
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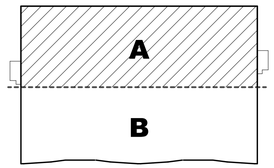
D	GENERAL CONTRACTOR IS RESPONSIBLE FOR ELECTRICAL CONNECTIONS TO THE BUILDING, INCLUDING J BOXES TO SUPPORT FF&E. FURNITURE DEALER IS RESPONSIBLE FOR THE ELECTRICAL HOOKUP OF ALL FF&E, INCLUDING WHIPS FROM WALL CONNECTIONS TO THE FURNITURE AND CONNECTING PRE-WIRED PANELS, UP TO AND INCLUDING FACEPLATES.
E	INFORMATION TECHNOLOGY (IT) (PHONE/ LAN ETC.) WIRING SHALL BE PROVIDED BY OTHERS AFTER INSTALLATION: COORDINATE WITH CONTRACTING OFFICER.
F	FURNITURE DEALER SHALL INVENTORY EXISTING FF&E AND REUSE ALL EXISTING COMPONENTS POSSIBLE, SUPLEMENTING WITH NEW AS REQUIRED TO SATISFY THE INTENT OF THE DESIGN. REMAINING FF&E NOT TO BE USED SHALL BE DISPOSED OF BY DEALER.
G	PROVIDE ALL FF&E COMPONENTS REQUIRED TO FULFILL THE DESIGN INTENT OUTLINED IN THE FF&E PACKAGE, AND ASSEMBLE FF&E PER MANUFACTURER'S WRITTEN INSTRUCTIONS.FF&E PROVIDER SHALL COORDINATE WITH CONTRACTING OFFICER AS REQUIRED TO ENSURE THAT ALL FF&E IS SUCCESSFULLY INSTALLED AND OPERATIONAL PRIOR TO OCCUPANCY.
H	ALL WORKSURFACES ARE TO HAVE ONE GROMMET WITH COVER MINIMUM.



AREA A
KEY PLAN

GRAPHIC SCALE

0 4' 8' 16' 32'

SCALE: 3/32"=1'-0"

PLAN NORTH

TRUE N

US Army Corps of Engineers ®

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JERI L. CHAMPINE
NAME

TX629
REGISTRATION #

22 JULY 2020
DATE

TEXAS REGISTERED ENGINEERING FIRM F-2966

MARK	DESCRIPTION	DATE

DESIGNED BY: J. CHAMPINE
DRAWN BY: J.WISE
CHECKED BY: K. CARLSON
SUBMITTED BY: L. WHITE
SIZE: 'D' FILE NAME: ANSI 'D' PANSWDIF102

ISSUE DATE: 22 JULY 2020
SOLICITATION NO.: W9126G20U3782
CONTRACT NO.: -
FILE NUMBER: -

US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT
FORT WORTH, TEXAS

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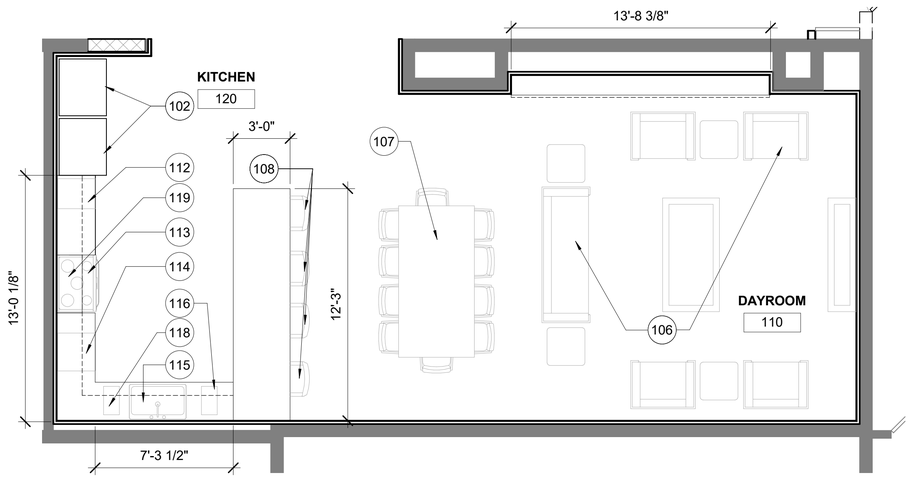
HANGAR RENOVATION
BUILDING 4295

PARTIAL FURNITURE, FIXTURE AND EQUIPMENT PLAN - LEVEL 1 - AREA A

SHEET ID

IF102

SOLICITATION SUBMITTAL



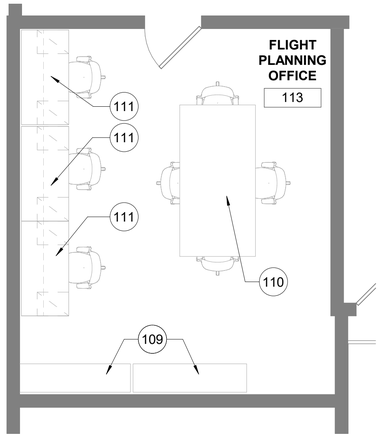
C1 KITCHEN / DAYROOM ENLARGED FURNITURE PLAN
1/4" = 1'-0"

GENERAL NOTES - FF&E PLANS

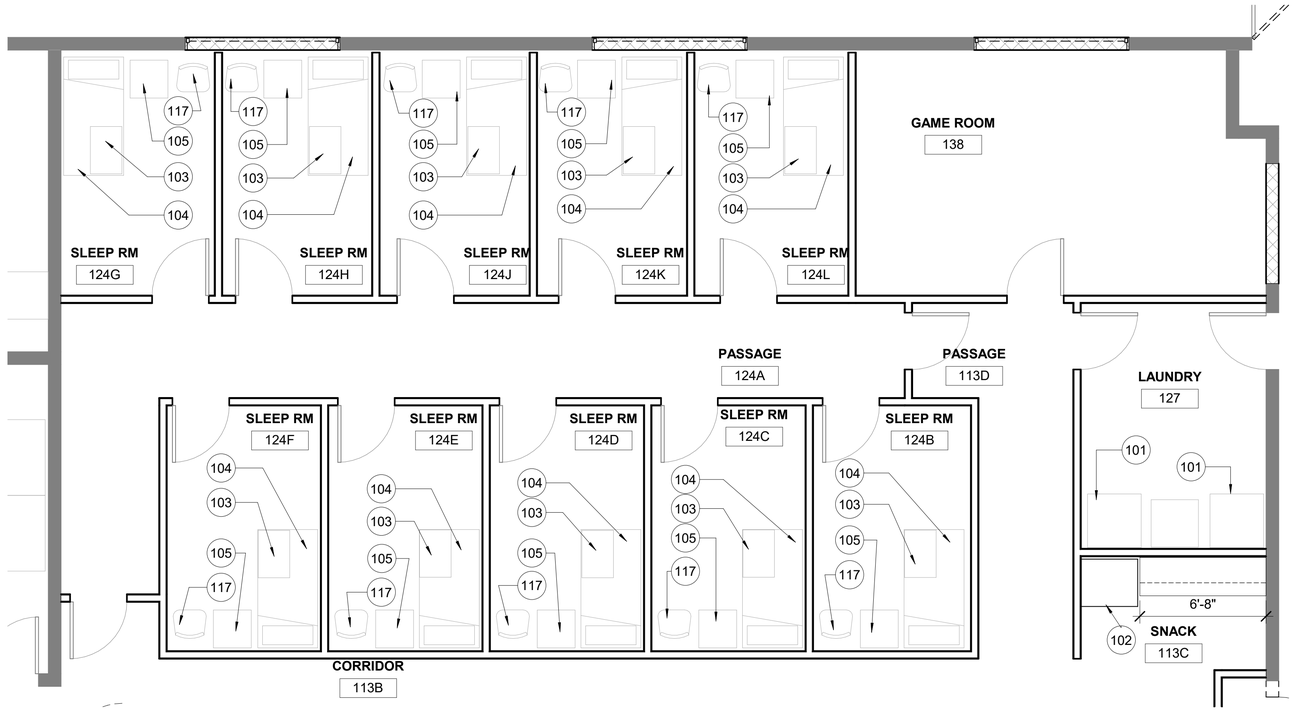
A	FURNITURE, FIXTURE & EQUIPMENT (FF&E) IS SHOWN FOR COORDINATION ONLY, AND IS GOVERNMENT FURNISHED GOVERNMENT INSTALLED (GFGI).
B	VERIFY FIELD CONDITIONS PRIOR TO ORDERING FF&E TO ENSURE PROPER FIT OF ALL ITEMS.
C	GENERAL CONTRACTOR SHALL COORDINATE WITH FURNITURE DEALE TO ALLOW BUILDING ACCESS FOR FIELD CONDITION VERIFICATION.
D	GENERAL CONTRACTOR IS RESPONSIBLE FOR ELECTRICAL CONNECTIONS TO THE BUILDING, INCLUDING J BOXES TO SUPPORT FF&E. FURNITURE DEALER IS RESPONSIBLE FOR THE ELECTRICAL HOOKUP OF ALL FF&E, INCLUDING WHIPS FROM WALL CONNECTIONS TO THE FURNITURE AND CONNECTING PRE-WIRED PANELS, UP TO AND INCLUDING FACEPLATES.
E	INFORMATION TECHNOLOGY (IT) (PHONE/ LAN ETC.) WIRING SHALL BE PROVIDED BY OTHERS AFTER INSTALLATION: COORDINATE WITH CONTRACTING OFFICER.
F	FURNITURE DEALER SHALL INVENTORY EXISTING FF&E AND REUSE ALL EXISTING COMPONENTS POSSIBLE, SUPLEMENTING WITH NEW AS REQUIRED TO SATISFY THE INTENT OF THE DESIGN. REMAINING FF&E NOT TO BE USED SHALL BE DISPOSED OF BY DEALER.
G	PROVIDE ALL FF&E COMPONENTS REQUIRED TO FULFILL THE DESIGN INTENT OUTLINED IN THE FF&E PACKAGE, AND ASSEMBLE FF&E PER MANUFACTURER'S WRITTEN INSTRUCTIONS.FF&E PROVIDER SHALL COORDINATE WITH CONTRACTING OFFICER AS REQUIRED TO ENSURE THAT ALL FF&E IS SUCCESSFULLY INSTALLED AND OPERATIONAL PRIOR TO OCCUPANCY.
H	ALL WORKSURFACES ARE TO HAVE ONE GROMMET WITH COVER MINIMUM.

KEYNOTES

101	STACKABLE WASHER AND DRYER; REFER TO FF&E APPENDIX
102	FULL SIZE REFRIGERATOR; REFER TO FF&E APPENDIX
103	UNDERBED STORAGE, 2 DRAWER; REFER TO FF&E APPENDIX
104	TWIN BED, ADJUSTABLE HEIGHT TO ALLOW FOR UNDERBED STORAGE; REFER TO FF&E APPENDIX
105	NIGHTSTAND; REFER TO FF&E APPENDIX
106	EXISTING TO REMAIN LOUNGE FURNITURE
107	DINING TABLE WITH LEAF TO SEAT 10; REFER TO FF&E APPENDIX
108	COUNTER HEIGHT BAR STOOLS; REFER TO FF&E APPENDIX
109	LATERAL FILES WITH TOP FOR PRINTERS; REFER TO FF&E APPENDIX
110	CONFERENCE TABLE WITH TASK CHAIRS; REFER TO FF&E APPENDIX
111	DESK AND TASK CHAIR; REFER TO FF&E APPENDIX
112	STACKABLE MICROWAVES; REFER TO FF&E APPENDIX
113	FULL SIZE SLIDE-IN RANGE WITH DOUBLE OVEN; REFER TO FF&E APPENDIX
114	DISHWASHER; REFER TO FF&E APPENDIX
115	SINGLE BASIN 32" UNDERMOUNT SINK
116	COFFEE POT WITH WATER HOOK-UP
117	SIDE CHAIR
118	ICE MAKER; REFER TO FF&E APPENDIX
119	RANGE HOOD; MOUNTED TO UPPER CABINETS; REFER TO FF&E APPENDIX; COORDINATE WITH MECH & ELEC.



A1 FLIGHT PLANNING OFFICE ENLARGED PLAN
1/4" = 1'-0"



A3 SLEEP ROOMS ENLARGED PLANS
1/4" = 1'-0"

4 3 2 1 0 4 8
SCALE: 1/4"=1'-0"

PLAN NORTH
TRUE N

US Army Corps of Engineers ®

PRELIMINARY FOR REVIEW ONLY

THESE DOCUMENTS ARE FOR CONCEPT DESIGN AND NOT INTENDED FOR CONSTRUCTION BIDDING OR PERMIT PURPOSES. THEY WERE PREPARED BY, OR UNDER SUPERVISION OF:

JERI L. CHAMPINE
NAME

TX629 — REGISTRATION #
22 JULY 2020 — DATE
TEXAS REGISTERED ENGINEERING FIRM F-2966

MARK	DESCRIPTION	DATE

DESIGNED BY: J. CHAMPINE
DRAWN BY: J.WISE
CHECKED BY: K. CARLSON
SUBMITTED BY: L. WHITE
SIZE: FILE NAME: ANSI 'D'
ISSUE DATE: 22 JULY 2020
SOLICITATION NO.: W9126G20U3782
CONTRACT NO.: -
FILE NUMBER: -
PANSWDI-301

US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT
FORT WORTH, TEXAS

Jacobs
JACOBS GOVERNMENT SERVICES COMPANY
777 Main Street, Fort Worth, TX 76102
(817) 334-7687 FAX (817)334-7744

FT. POLK, LA.
HANGAR RENOVATION
BUILDING 4295
ENLARGED PLANS

SHEET ID
I-301

SOLICITATION SUBMITTAL

FINISH LEGEND

SECTION	ITEM CODE	DESCRIPTION	NOTES
FLOORING			
FLOORING	CPT	CARPET TILE	18" X 18" CARPET TILE
FLOORING	CT	CERAMIC TILE	
FLOORING	LVT	LUXURY VINYL TILE	IN KITCHEN / DAYROOM ONLY
FLOORING	RST	RUBBER STAIR TREADS	MATCH EXISTING
FLOORING	SC	SEALED CONCRETE	
FLOORING	VCT	VINYL COMPOSITION TILE	12" X 12" TILE
BASE			
BASE	RB	RUBBER BASE	4"
WALLS			
WALLS	PT	PAINT	
CEILINGS			
CEILINGS	ACT	ACOUSTICAL CEILING TILE	
CEILINGS	GYP	PAINTED GYPSUM BOARD	
CEILINGS	OTS	OPEN TO STRUCTURE	CLEAN AND PAINT AREAS WITH OTS
MISCELLANEOUS			
MISCELLANEOUS	ETR	EXISTING TO REMAIN	

ROOM FINISH SCHEDULE

NUMBER	NAME	BASE	FLOOR	WALLS				CEILING	COMMENTS
				NORTH	SOUTH	WEST	EAST		
101	GENERAL STORAGE	NA	SC	PT	PT	PT	PT	OTS	
102	HANGAR BAY	NA	NA	NA	NA	NA	NA	NA	NO FINISHES REQUIRED IN THE HANGAR BAY
103	MEDEVAC FLIGHT OPS	RB	VCT	PT	PT	PT	PT	ACT	
103A	MEDEVAC FLIGHT OPS	RB	VCT	PT	PT	PT	PT	ACT	
103B	FLIGHT OPS EQUIP STORAGE	NA	SC	PT	PT	PT	PT	GYP	
104	SUPPLY ROOM	NA	SC	PT	PT	PT	PT	OTS	
104A	SUPPLY ROOM	NA	SC	PT	PT	PT	PT	OTS	
107	MAINT. TEST PILOT OFFICE	NA	SC	PT	PT	PT	PT	OTS	
108	CREW CHIEF OFFICE	NA	SC	PT	PT	PT	PT	OTS	
109	PLATOON OFFICE	NA	SC	PT	PT	PT	PT	OTS	
110	DAYROOM	RB	CPT	PT	PT	PT	PT	ACT	
111	SECURE EQUIP STORAGE	NA	SC	PT	PT	PT	PT	OTS	
112	EQUIPMENT ROOM	RB	SC	PT	PT	PT	PT	ACT	
113	FLIGHT PLANNING OFFICE	RB	VCT	PT	PT	PT	PT	ACT	
113A	CORRIDOR	RB	VCT	PT	PT	PT	PT	ACT	
113B	CORRIDOR	RB	VCT	PT	PT	PT	PT	ACT	
113C	SNACK	RB	VCT	PT	PT	PT	PT	ACT	
113D	PASSAGE	RB	VCT	PT	PT	PT	PT	ACT	
115	STAIRS	RB	SC / RST	PT	PT	PT	PT	GYP	
116	MEN	NA	SC	PT	PT	PT / CT	PT / CT	GYP	ANTI-SLIP CONCRETE; CLEAN EXISTING WALL TILE / RESEAL GROUT
117	WOMEN	NA	SC	PT	PT	PT	PT / CT	GYP	ANTI-SLIP CONCRETE; CLEAN EXISTING WALL TILE / RESEAL GROUT
118	CORRIDOR	NA	SC	PT	PT	PT	PT	GYP	
119	EQUIP STORAGE	NA	SC	PT	PT	PT	PT	OTS	
120	KITCHEN	RB	LVT	PT	PT	PT	PT	ACT	
121	FLIGHT EQUIP STORAGE	RB	VCT	PT	PT	PT	PT	ACT	
122	CONTRAC MAINT OFFICE	NA	SC	PT	PT	PT	PT	OTS	
123	ENG SHOP	NA	SC	PT	PT	PT	PT	OTS	
124A	PASSAGE	RB	CPT	PT	PT	PT	PT	ACT	
124B	SLEEP RM	RB	CPT	PT	PT	PT	PT	ACT	
124C	SLEEP RM	RB	CPT	PT	PT	PT	PT	ACT	
124D	SLEEP RM	RB	CPT	PT	PT	PT	PT	ACT	
124E	SLEEP RM	RB	CPT	PT	PT	PT	PT	ACT	
124F	SLEEP RM	RB	CPT	PT	PT	PT	PT	ACT	
124G	SLEEP RM	RB	CPT	PT	PT	PT	PT	ACT	
124H	SLEEP RM	RB	CPT	PT	PT	PT	PT	ACT	
124J	SLEEP RM	RB	CPT	PT	PT	PT	PT	ACT	
124K	SLEEP RM	RB	CPT	PT	PT	PT	PT	ACT	
124L	SLEEP RM	RB	CPT	PT	PT	PT	PT	ACT	
125	MEDICAL SUPPLY	NA	SC	PT	PT	PT	PT	ACT	
126	JANITOR CLOSET	NA	SC	PT	PT	PT	PT	OTS	
127	LAUNDRY	RB	CT	PT	PT	PT	PT	ACT	

ROOM FINISH SCHEDULE

NUMBER	NAME	BASE	FLOOR	WALLS				CEILING	COMMENTS
				NORTH	SOUTH	WEST	EAST		
130	CORRIDOR	NA	SC	PT	PT	PT	PT	GYP	
132	EXERCISE ROOM	NA	SC	PT	PT	PT	PT	OTS	
133	STORAGE	NA	SC	PT	PT	PT	PT	OTS	
134	STORAGE	NA	SC	PT	PT	PT	PT	ACT	
135	STORAGE ROOM	NA	SC	PT	PT	PT	PT	GYP	
136	WEIGHT ROOM	NA	SC	PT	PT	PT	PT	OTS	
138	GAME ROOM	RB	VCT	PT	PT	PT	PT	ACT	
139	MECH EQUIP ROOM	NA	SC	PT	PT	PT	PT	OTS	
140	ELECT ROOM	NA	SC	PT	PT	PT	PT	OTS	
201A	CORRIDOR	RB	VCT	PT	PT	PT	PT	GYP	REPLACE CORNERGUARDS WITH NEW
201B	CORRIDOR	RB	VCT	PT	PT	PT	PT	GYP	REPLACE CORNERGUARDS WITH NEW
201C	CORRIDOR	RB	VCT	PT	PT	PT	PT	GYP	REPLACE CORNERGUARDS WITH NEW
201D	CORRIDOR	RB	VCT	PT	PT	PT	PT	GYP	REPLACE CORNERGUARDS WITH NEW
202	SAFETY OFFICE	ETR	ETR	PT	PT	PT	PT	ACT	CLEAN AND POLISH EXISTING VCT
203	ADMIN	ETR	ETR	PT	PT	PT	PT	ACT	CLEAN EXISTING CARPET
204	1ST SGT	ETR	ETR	PT	PT	PT	PT	ACT	CLEAN EXISTING CARPET
205	CPT OFFICE	ETR	ETR	PT	PT	PT	PT	ACT	CLEAN EXISTING CARPET
206	CONFERENCE ROOM	ETR	ETR	PT	PT	PT	PT	ACT	CLEAN EXISTING CARPET
207	OFFICE	ETR	ETR	PT	PT	PT	PT	ACT	CLEAN EXISTING CARPET
208	MEDICAL TRAINING	RB	ETR	PT	PT	PT	PT	ACT	CLEAN AND POLISH EXISTING VCT
209	INSTRUCTOR PILOT OFFICE	ETR	ETR	PT	PT	PT	PT	ACT	CLEAN EXISTING CARPET
210	MEN'S LOCKER & SHOWER	ETR	ETR	PT	PT	PT / CT	PT	GYP	CLEAN EXISTING CERAMIC TILE
211	WOMEN'S LATRINE LOCKER & SHOWER	ETR	ETR	PT	PT	PT	PT / CT	GYP	CLEAN EXISTING CERAMIC TILE
212	MEN'S LATRINE	ETR	ETR	PT	PT	PT / CT	PT / CT	GYP	CLEAN EXISTING CERAMIC TILE
213	JANITOR CLOSET	NA	SC	PT	PT	PT	PT	GYP	
214	EDUCATION	RB	ETR	PT	PT	PT	PT	ACT	CLEAN AND POLISH EXISTING VCT
215	OPERATIONS	ETR	ETR	PT	PT	PT	PT	ACT	CLEAN EXISTING CARPET
216	OPERATIONS	ETR	ETR	PT	PT	PT	PT	ACT	CLEAN EXISTING CARPET
217	OFFICE	ETR	ETR	PT	PT	PT	PT	ACT	CLEAN EXISTING CARPET
218	OFFICE	ETR	ETR	PT	PT	PT	PT	ACT	CLEAN EXISTING CARPET
219	UNIT MAINT. ADMIN.	ETR	ETR	PT	PT	PT	PT	ACT	CLEAN EXISTING CARPET
220	OFFICE	ETR	ETR	PT	PT	PT	PT	ACT	CLEAN EXISTING CARPET
221	OFFICE	ETR	ETR	PT	PT	PT	PT	ACT	CLEAN EXISTING CARPET
222	MEDIC OFFICE	ETR	ETR	PT	PT	PT	PT	ACT	CLEAN EXISTING CARPET

US Army Corps of Engineers ®

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ISSUE DATE: 22 JULY 2020
SOLICITATION NO.: W9126G20U3782
CONTRACT NO.: -
FILE NUMBER: -
FILE NAME: ANSI 'D' PANSWDI-I601

US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT
FORT WORTH, TEXAS

Jacobs
JACOBS GOVERNMENT SERVICES COMPANY
777 Main Street, Fort Worth, TX 76102
ARCH Reg. No. 0000024

FT. POLK, LA.
HANGAR RENOVATION
BUILDING 4295

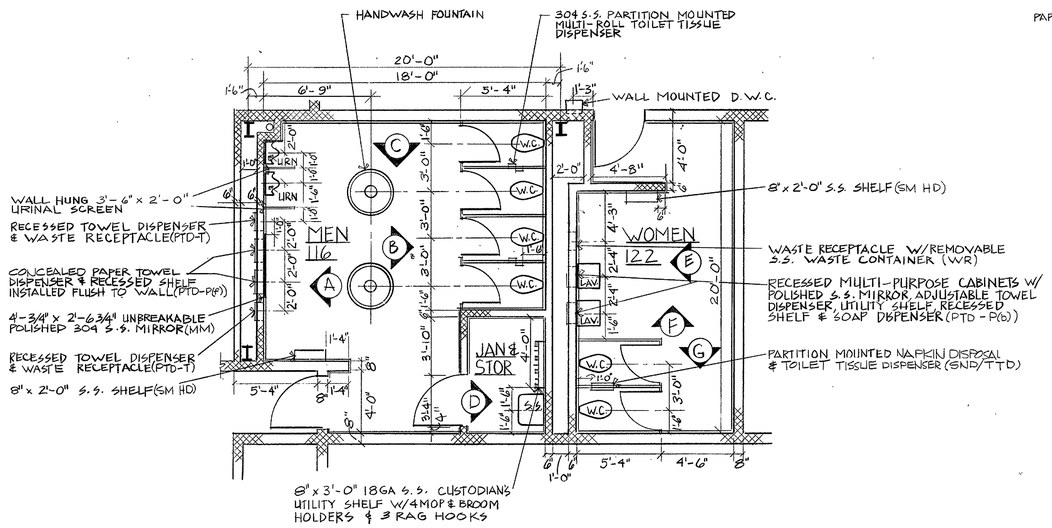
FINISH MATERIAL LEGEND / ROOM FINISH SCHEDULE

SHEET ID

I-601

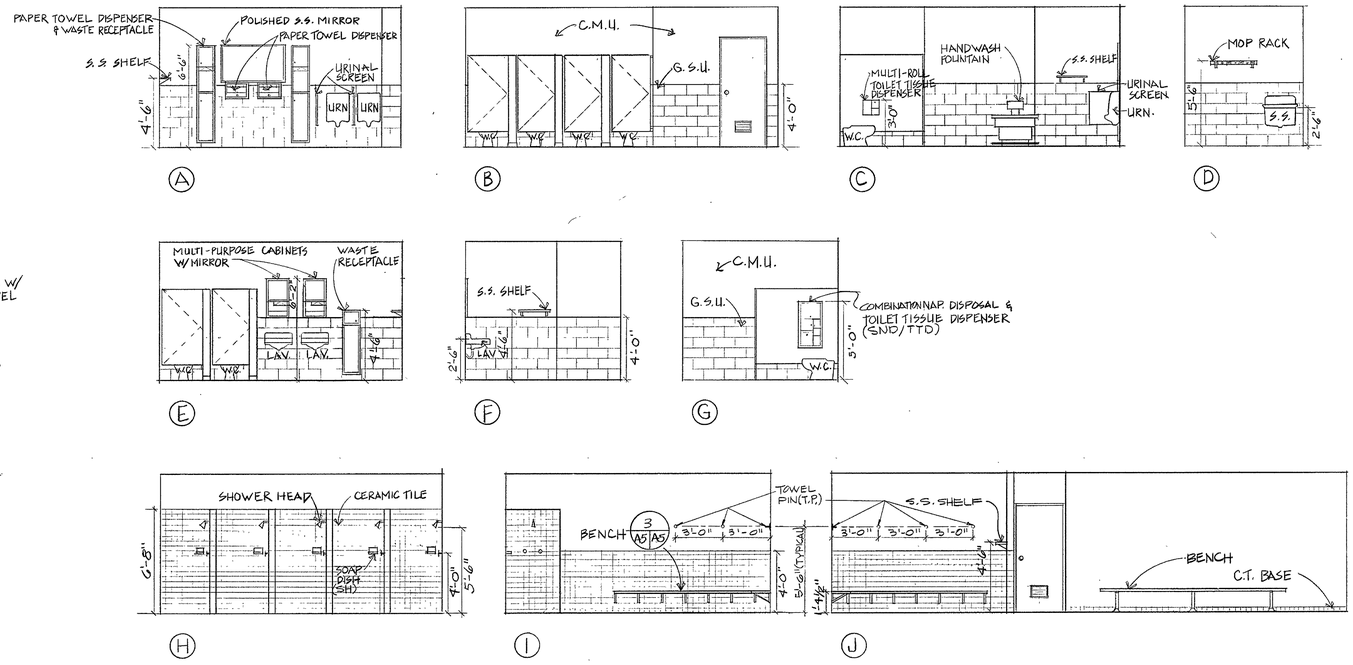
SOLICITATION SUBMITTAL

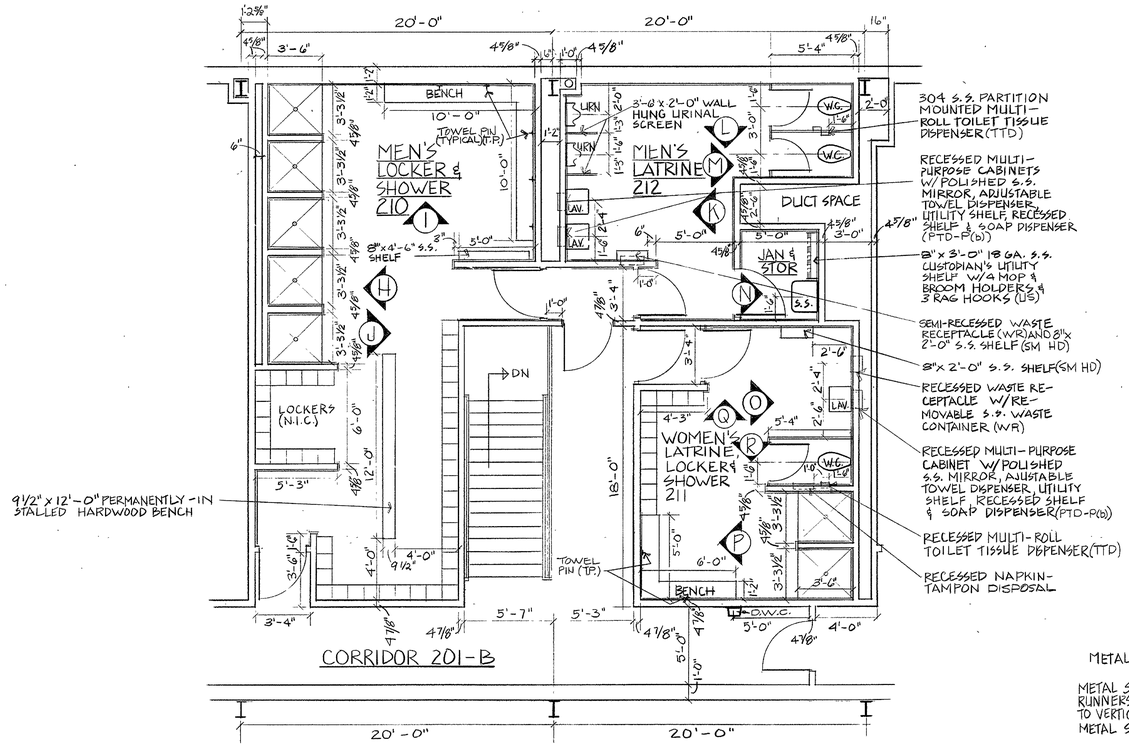
Appendix B. AS-BUILT DRAWINGS



TOILET - ROOMS 116 & 122

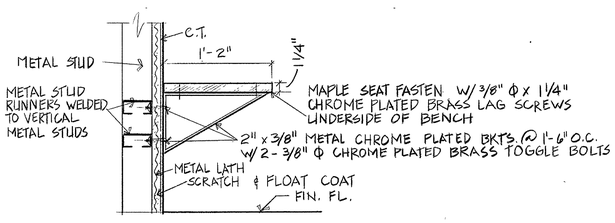
SCALE: 1/4" = 1'-0" (1 / A1 | A5)





LOCKER, SHOWER & TOILET ROOMS 210, 211 & 212

SCALE: 1/4" = 1'-0" (2 / A2 | A5)



(3 / A5 | A5) BENCH

SCALE: 1½" = 1'-0"

ELEVATIONS: ROOMS 116, 122, 210, 211 & 212

SCALE: 1/4" = 1'-0"

SYM. DG. NO.	ACTION	DATE	DESCRIPTION OF REVISION
		18MAY83	"REVISED AS-BUILT"

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: A.Z. FINE & S.J. SWOFFORD
DRAWN BY: S.J. SWOFFORD
CHECKED BY: F. McALEAVEY

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

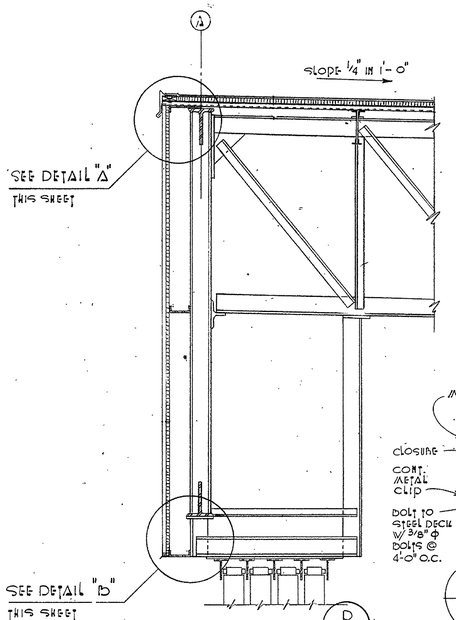
HANGAR

LOCKER, SHOWER AND TOILET LAYOUT

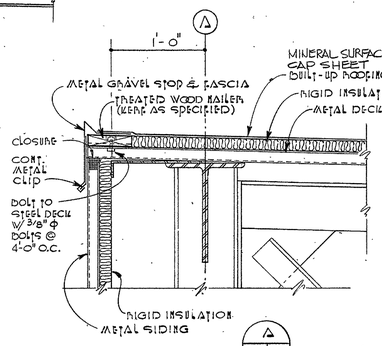
INV. NO. DACA63-81-B-0077 DATED: APR. 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER SHEET NO. A5 OF 19
SEQUENCE NO. 47

CONTR. NO. DACA63-81-C-0125

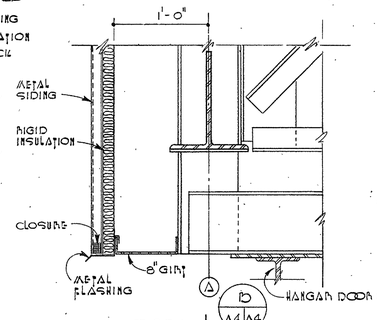
"DRAWING OF WORK AS BUILT"



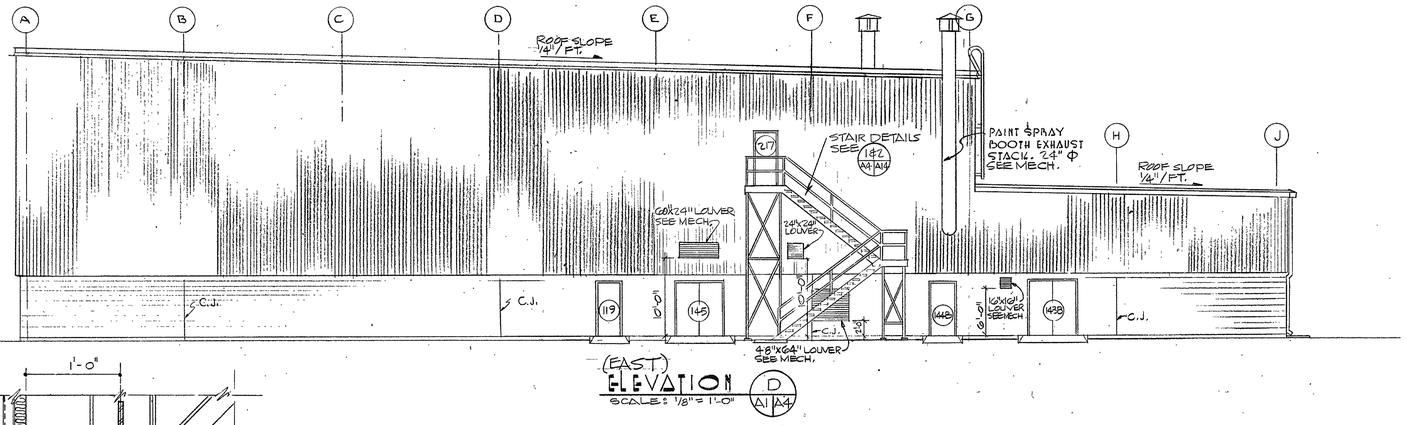
SECTION
SCALE: 1/2" = 1'-0"



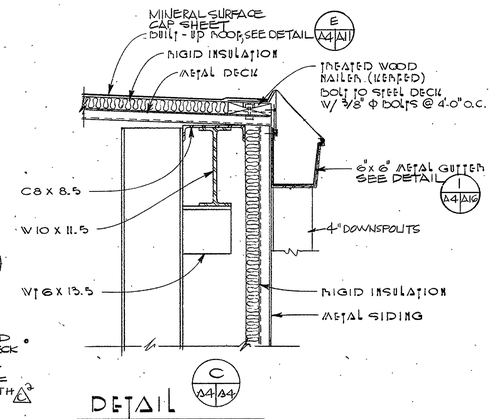
DETAIL
SCALE: 1 1/2" = 1'-0"



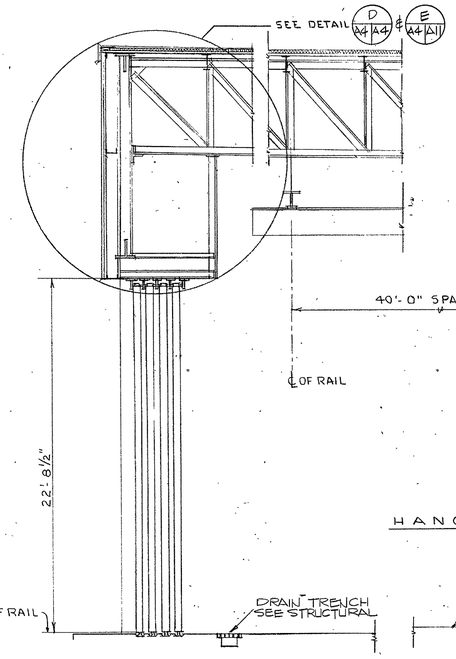
DETAIL
SCALE: 1 1/2" = 1'-0"

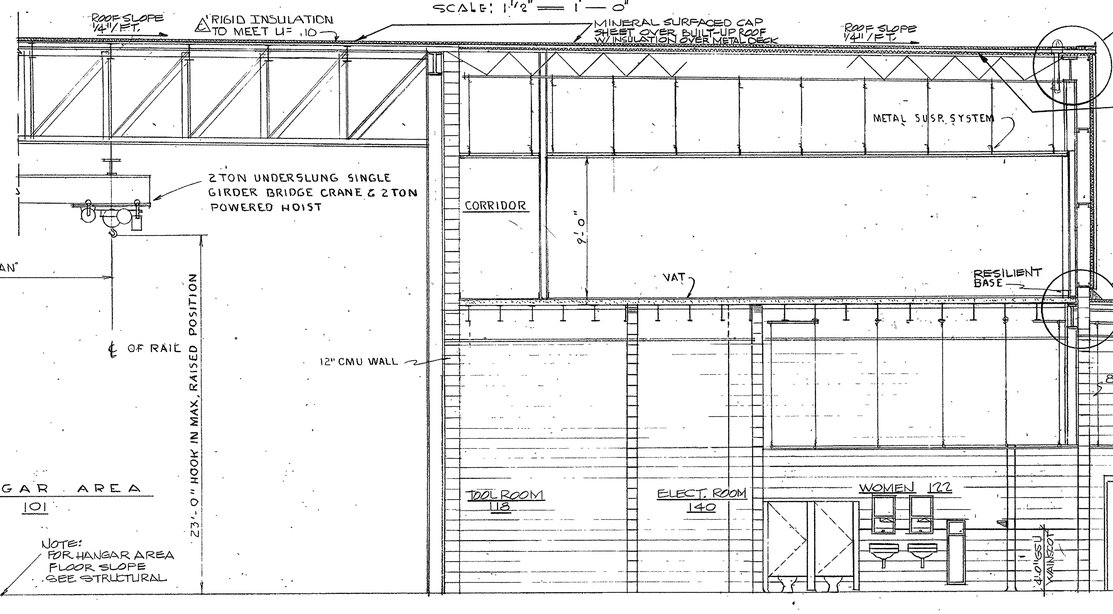


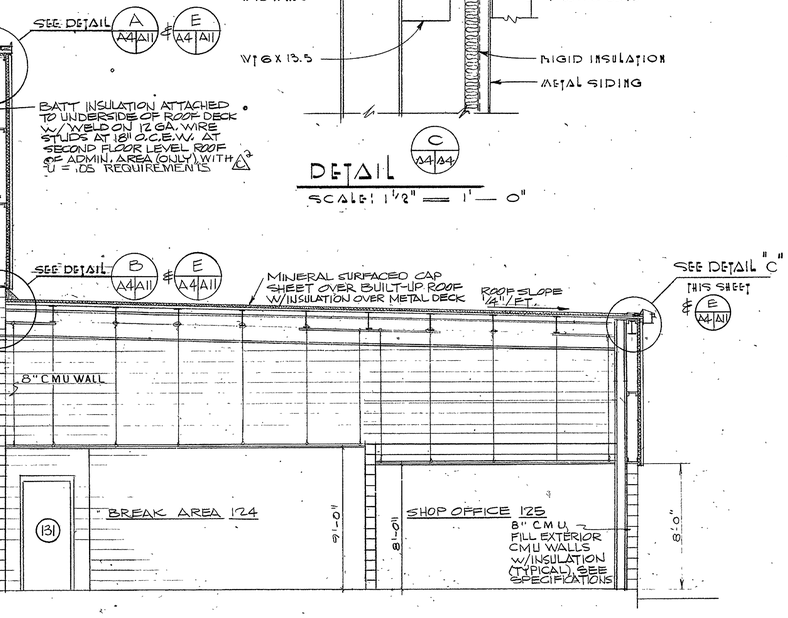
(EAST) ELEVATION
SCALE: 1/8" = 1'-0"



DETAIL
SCALE: 1 1/2" = 1'-0"







TRANSVERSE SECTION
SCALE 1/4" = 1'-0"

SYM.	D.O. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18 MAY 83	"REVISED AS-BUILT"
△2		AM#0003	24 APR 81	REVISED TO REFLECT W.I. CHANGE

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: S.J. SMOFFORD & A.Z. FINE
DRAWN BY: A.Z. FINE
CHECKED BY: F.M. McALEAVEY
SUBMITTED BY:
ENGINEER:

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

HANGAR

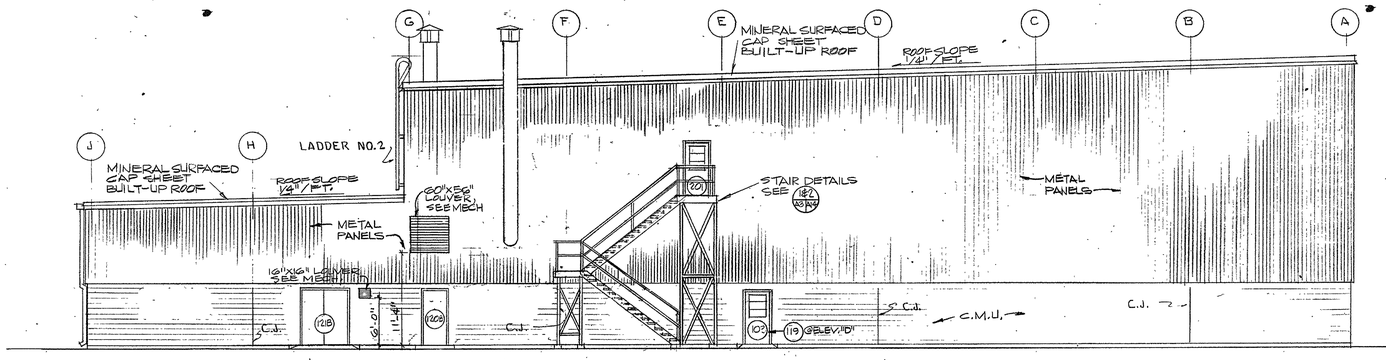
ELEVATION "D" AND TRANSVERSE SECTION

INV. NO. DACA63-81-B-0077 DATED: APR. 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER: A4
SHEET NO. 19 OF
SEQUENCE NO. 46

"DRAWING OF WORK AS BUILT"

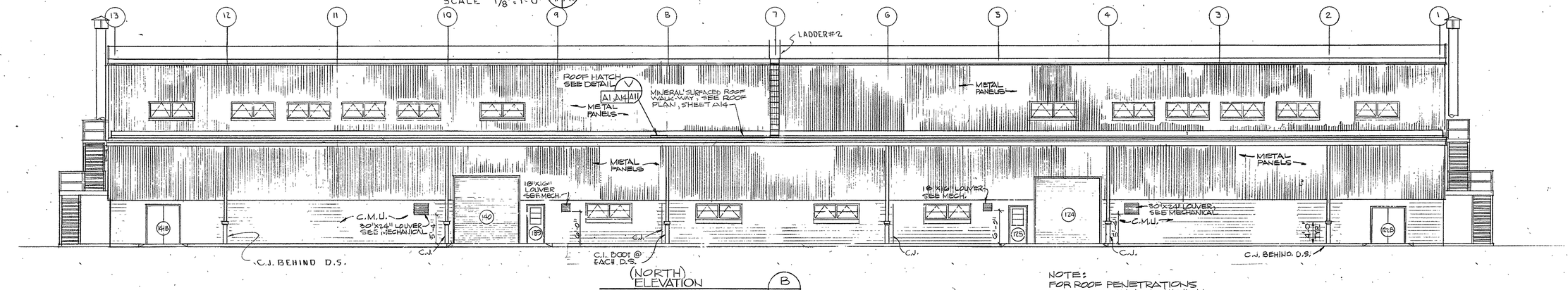
△2 FT. POLK - AIRFIELD AND SUPPORT FAC. - PH. II
HANGAR - ELEVATION "D" AND TRANSVERSE SECTION

5220-1 (18-3-82) DA FORM



(WEST) ELEVATION

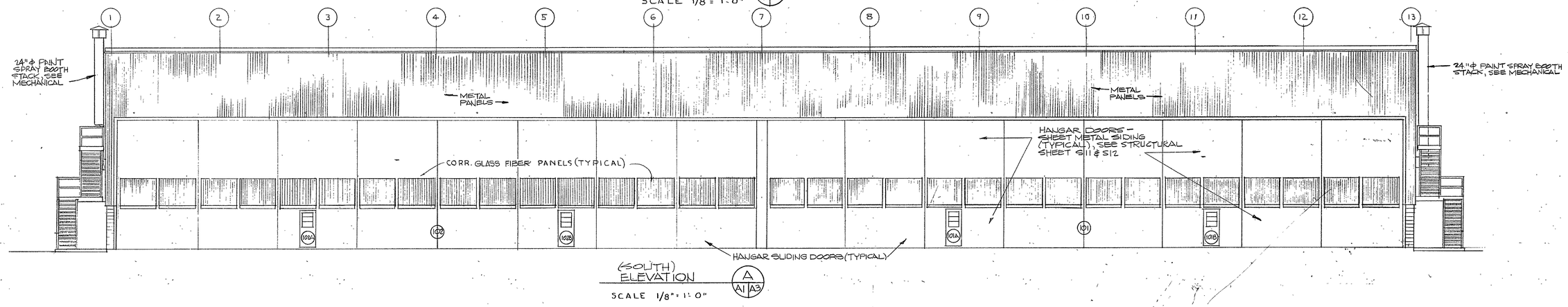
SCALE 1/8" = 1'-0"



(NORTH) ELEVATION

SCALE 1/8" = 1'-0"

NOTE:
FOR ROOF PENETRATIONS SEE ROOF PLAN & MECHANICAL.



(SOUTH) ELEVATION

SCALE 1/8" = 1'-0"

SYM	D.O. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18MAY83	"REVISED AS-BUILT"

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: S.J. SWOFFORD & A.Z. FINE
DRAWN BY: A.Z. FINE
CHECKED BY: F. McCALEAVEY
SUBMITTED BY:
ENGINEER:

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

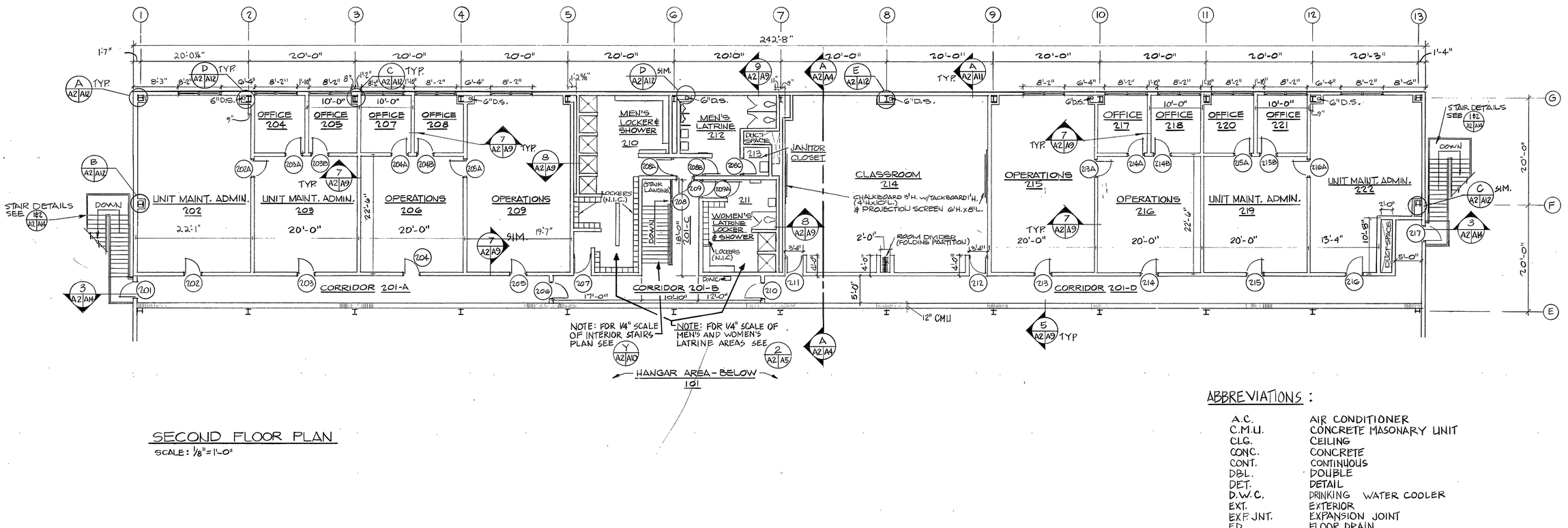
HANGAR

ELEVATIONS "A", "B" & "C"

INV. NO. DACA63-81-B-0077 DATED: APR. 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER SHEET NO. A3 OF 19
SEQUENCE NO. 45

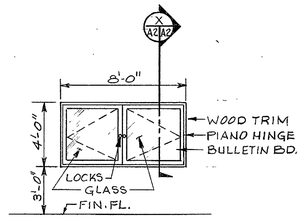
CONTR. NO. DACA63-81-C-0125

"DRAWING OF WORK AS BUILT"



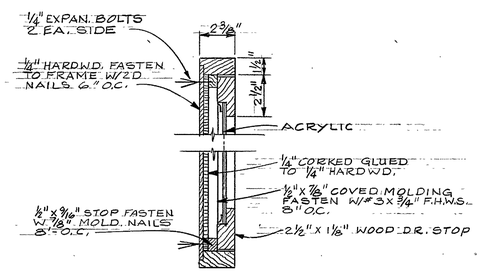
SECOND FLOOR PLAN

SCALE: 1/8"=1'-0"



ELEVATION

SCALE 1/4"=1'-0"

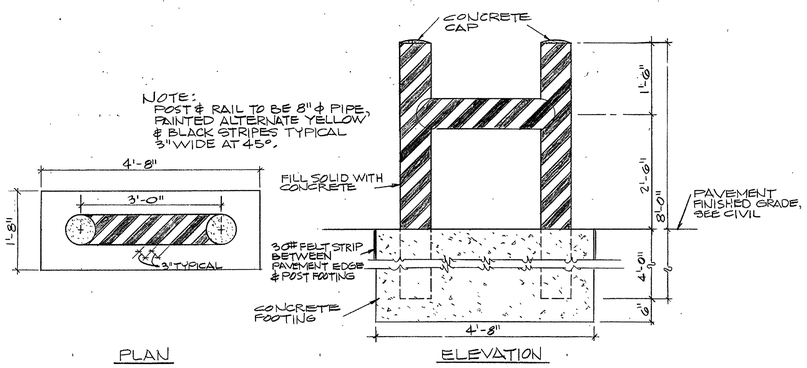


SECTION

N.T.S.

BULLETIN BOARD

2-REQ'D



PLAN ELEVATION

GUARD POST DETAILS

SCALE: 3/4"=1'-0"

ABBREVIATIONS:

A.C.	AIR CONDITIONER
C.M.U.	CONCRETE MASONARY UNIT
CLG.	CEILING
CONC.	CONCRETE
CONT.	CONTINUOUS
DBL.	DOUBLE
DET.	DETAIL
D.W.C.	DRINKING WATER COOLER
EXT.	EXTERIOR
EXP. JNT.	EXPANSION JOINT
F.D.	FLOOR DRAIN
F.H.	FLAT HEAD
FIN. FLR.	FINISH FLOOR
F.R.	FIRE RATED
G.S.U.	GLAZED STRUCTURAL UNIT
GYP. BD.	GYSUM BOARD
INT.	INTERIOR
LAV.	LAVATORY
M.T.	METAL THRESHOLD
N.S.	NO SMOKING
P.E.J.	PREMOLDED EXPANSION JOINT
SAN. NAP.	SANITARY NAPKIN
S.S.	SERVICE SINK
TYP.	TYPICAL
URN.	URINAL
W.C.	WATER CLOSET

NOTE: SEE SEQ. 72 FOR ROOM DIVIDER SUPPORT DETAIL. 1

SYM	I.D. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18MAY83	REVISED AS-BUILT
1	B4932	P00021	7DEC82	ADDED BULLETIN BOARD. ELEV & SECT.
2		AM**0002	24APR81	REVISED TO REFLECT W I CHANGE

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: A.Z. FINE & B.J. SHOFFORD
DRAWN BY: A.Z. FINE & R.E. YOHE
CHECKED BY: F. McALEAVEY

FORT POLK, LOUISIANA

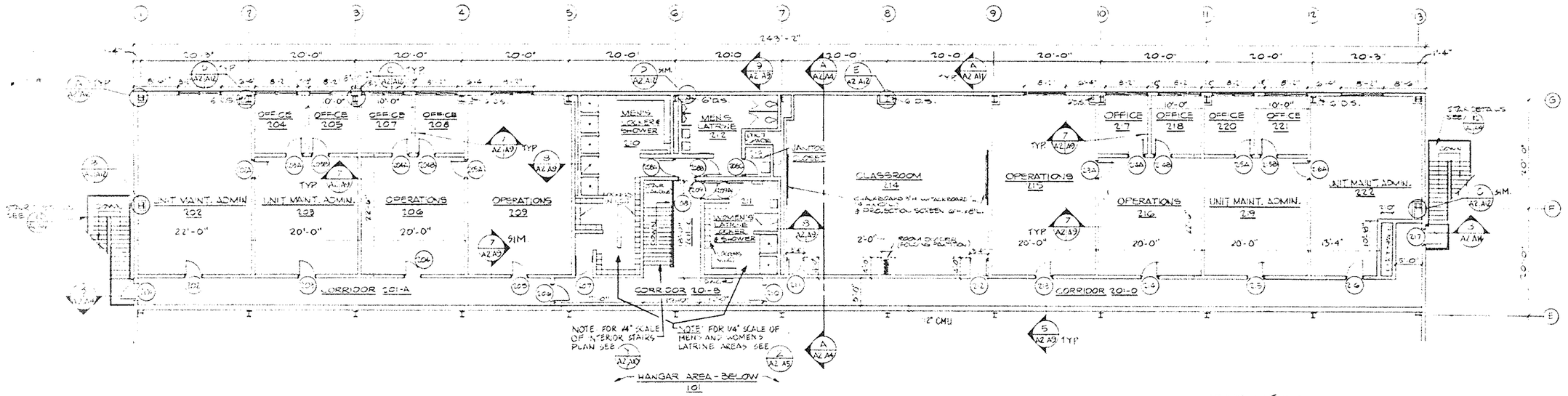
AIRFIELD AND SUPPORT FACILITIES PHASE II
BLDG 4295
HANGAR
SECOND FLOOR PLAN

SUBMITTED BY:
ENGINEER:

INV. NO. DACA63-81-B-0077 DATED: APR. 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER
SHEET NO. A2.1 of 19
SEQUENCE NO. 44

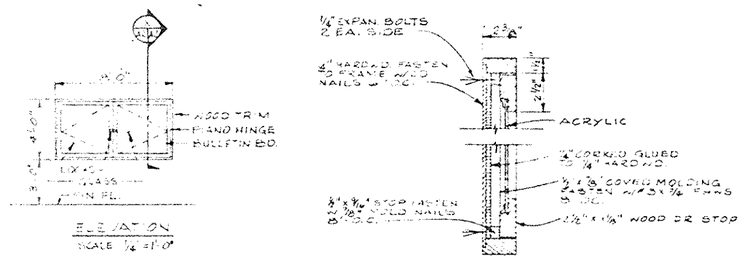
CONTR. NO. DACA63-81-C-0125

SUPERSEDES SHEET: A2 OF 19 "DRAWING OF WORK AS BUILT"



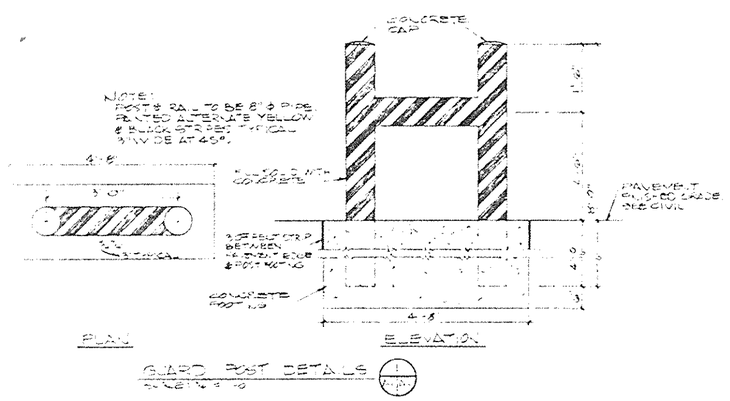
SECOND FLOOR PLAN

SCALE: 1/8" = 1'-0"



BULLETIN BOARD

2-REQ'D



GUARD POST DETAILS

SCALE 1" = 1'-0"

ABBREVIATIONS:

A.C.	AIR CONDITIONER
C.M.U.	CONCRETE MASONARY UNIT
CLG.	CEILING
CONC.	CONCRETE
CONT.	CONTINUOUS
DBL.	DOUBLE
DET.	DETAIL
D.W.C.	DRINKING WATER COOLER
EXT.	EXTERIOR
EXP. JNT.	EXPANSION JOINT
F.D.	FLOOR DRAIN
F.H.	FLAT HEAD
FIN. FLR.	FINISH FLOOR
F.R.	FIRE RATED
G.S.U.	GLAZED STRUCTURAL UNIT
GYP. BD.	GYSUM BOARD
INT.	INTERIOR
LAV.	LAVATORY
M.T.	METAL THRESHOLD
N.S.	NO SMOKING
P.E.J.	PREMOLDED EXPANSION JOINT
SAN. NAP.	SANITARY NAPKIN
S.S.	SERVICE SINK
TYP.	TYPICAL
URN.	URINAL
W.C.	WATER CLOSET

NOTE: SEE SEQ. 72 FOR ROOM DIMENSION SUMMARY DETAIL.

1	84332	P00021	17DEC82 ADDED BULLETIN BOARD ELEV & SECT.
BY	AMENDMENT/MODIFICATION NO.		REMARKS

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: A.Z. [illegible] E.S. [illegible]
DRAWN BY: A.Z. Lee R.E.Cole
CHECKED BY: F. McALEAVEY

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

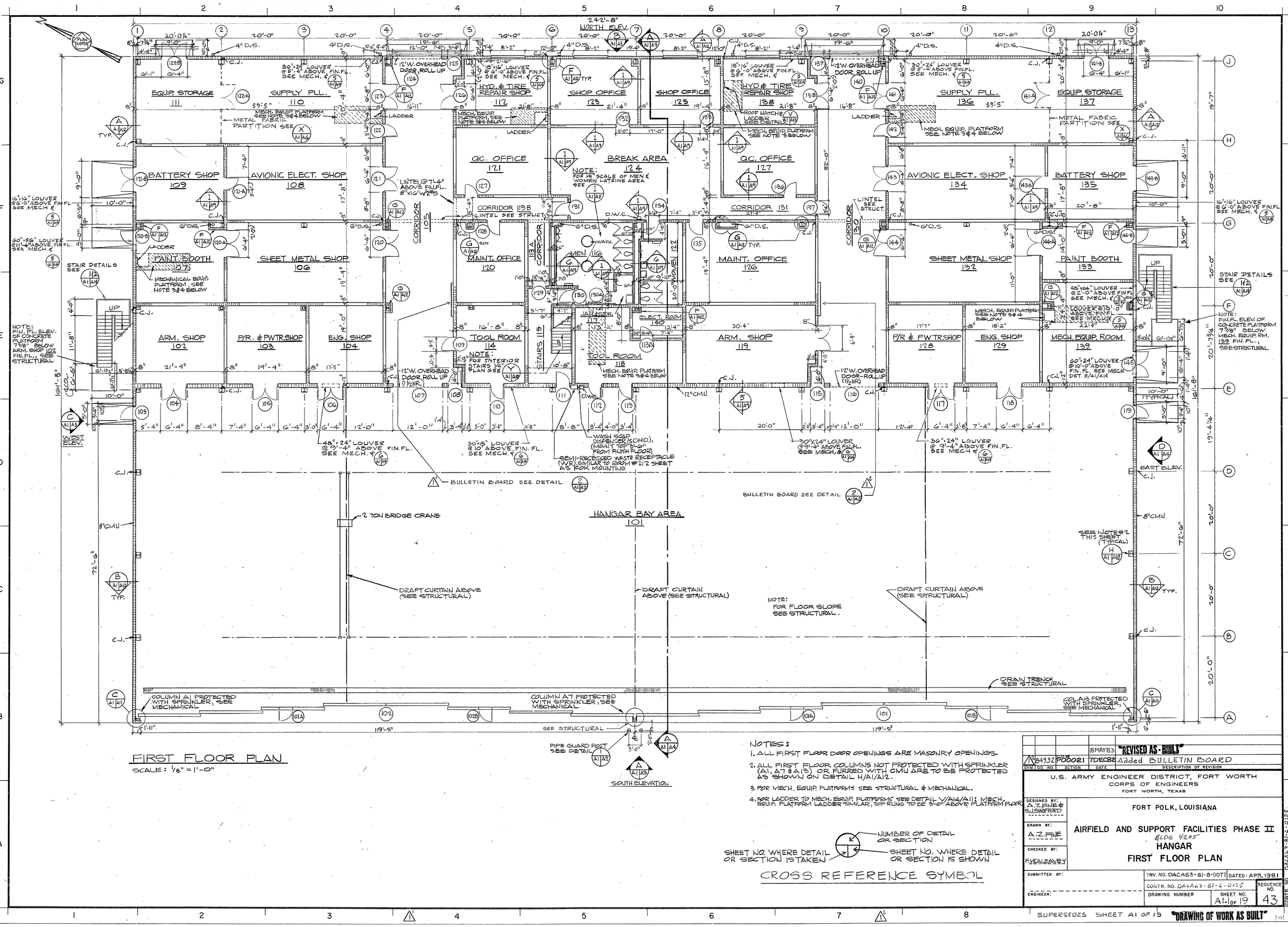
HANGAR

SECOND FLOOR PLAN

SUBMITTED BY: ENGINEER

INV. NO. DACA63-81-B-0277 DATED APR 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER: SHEET NO. A2 of 19
SEQUENCE NO. 44

SUPERSEDES SHEET A2 OF 19



FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0"

NOTES:

1. ALL FIRST FLOOR DOOR OPENINGS ARE MASONRY OPENINGS.
2. ALL FIRST FLOOR COLUMNS NOT PROTECTED WITH SPRINKLER (A1, A7 & A13) OR FURRED WITH CMU ARE TO BE PROTECTED AS SHOWN ON DETAIL H/A1/A12.
3. FOR MECH. EQUIP. PLATFORMS SEE STRUCTURAL & MECHANICAL.
4. FOR LADDER TO MECH. EQUIP. PLATFORMS SEE DETAIL V/A14/A11; MECH. EQUIP. PLATFORM LADDER SIMILAR, TOP RUNG TO BE 3'-0" ABOVE PLATFORM FLOOR.

CROSS REFERENCE SYMBOL

NUMBER OF DETAIL OR SECTION

SHEET NO. WHERE DETAIL OR SECTION IS TAKEN

SHEET NO. WHERE DETAIL OR SECTION IS SHOWN

SYM	D.O. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18MAY83	"REVISED AS-BUILT"
4	84932	P06021	7DEC82	Added BULLETIN BOARD

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: A.Z.FINE & G.J.SNOFFORD
DRAWN BY: A.Z.FINE
CHECKED BY: F.VICALEAVEY
SUBMITTED BY:
ENGINEER:

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II
BLDG 4295
HANGAR
FIRST FLOOR PLAN

INV. NO. DACA63-81-B-0077 DATED: APR. 1981
CONTR. NO. DACA63-81-C-0125 SEQUENCE NO. 43
DRAWING NUMBER A1 SHEET NO. 1 OF 19

CONTR. NO. DACA63-81-C-0125

SUPERSEDES SHEET A1 OF 19 "DRAWING OF WORK AS BUILT"

FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0"

NOTES:

1. ALL FIRST FLOOR DOOR OPENINGS ARE MASONRY OPENINGS.
2. ALL FIRST FLOOR COLUMNS NOT PROTECTED WITH SPRINKLER (A1/A1 &A2/A2) OR FURRED WITH CMU ARE TO BE PROTECTED AS SHOWN ON DETAIL H/A1/A2.
3. FOR MECH. EQUIP PLATFORMS SEE STRUCTURAL & MECHANICAL.
4. FOR LADDER TO MECH. EQUIP PLATFORMS SEE DETAIL V/A1/A2 & VECH. EQUIP PLATFORM LADDER SIMILAR, TOP RUNG TO BE 3'-0" ABOVE PLATFORM LEVEL.

CROSS REFERENCE SYMBOL

SHEET NO. WHERE DETAIL OR SECTION IS TAKEN

NUMBER OF DETAIL OR SECTION

SHEET NO. WHERE DETAIL OR SECTION IS SHOWN

REVISIONS	
2	P00021 17DEC82 Added BULLETIN BOARD

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: A.C.FINE
CHECKED BY: A.C.FINE
DRAWN BY: A.Z.FINE
CHECKED BY: FISK EMERY
SUBMITTED BY:
ENGINEER:

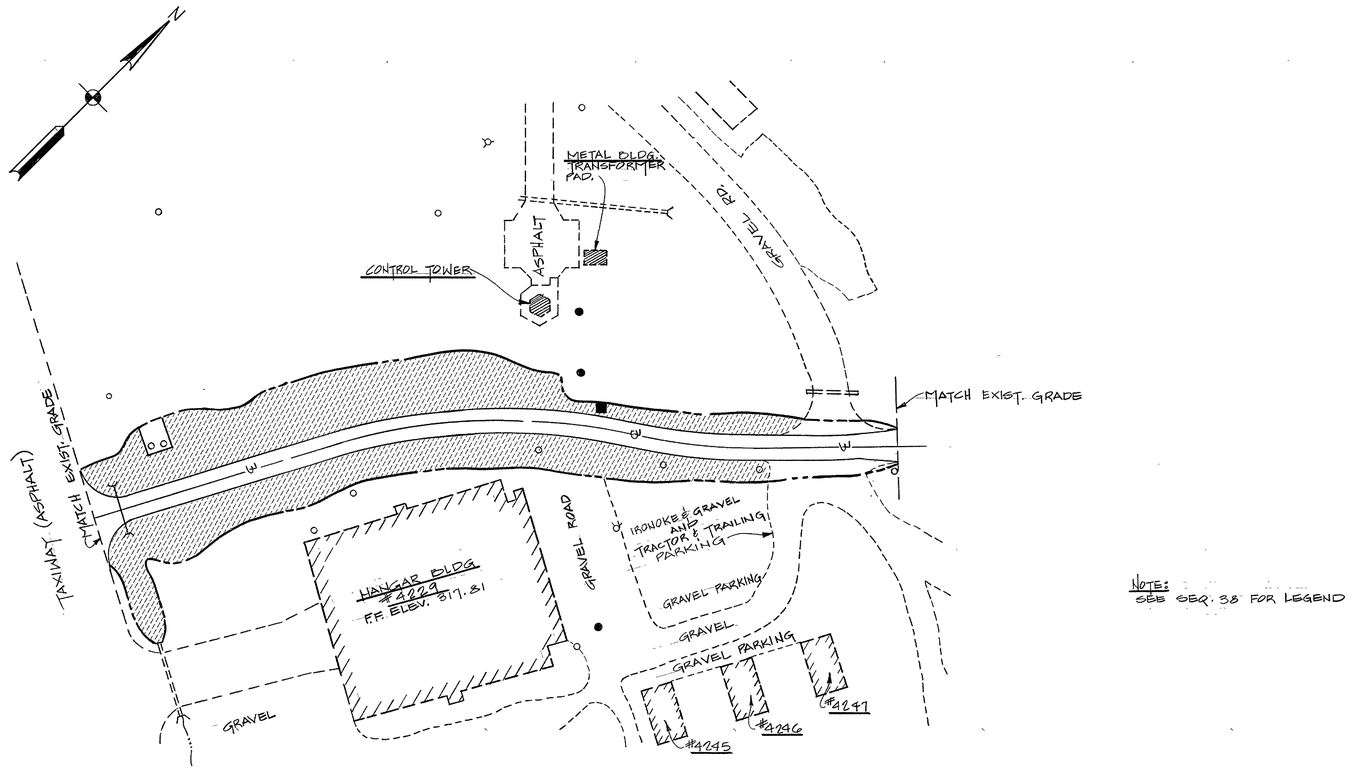
FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

HANGAR
FIRST FLOOR PLAN

CONTR NO DACA63-81-C-0128 DATED APR 1981
CONTR NO DACA63-81-C-0128
DRAWING NUMBER: A1-03
SHEET NO. 3
DEGLENCE NO. 43

SUPERSEDES SHEET A1 OF 13



NOTE:
SEE SHEET 3.8 FOR LEGEND

TURFING PLAN

H.T.S.

50 0 50 100
SCALE OF FEET

SYM	DO NO.	ACTION	DATE	DESCRIPTION OF REVISION
1	B-4855	PM	3 AUG 81	NEW SHEET

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: M. KERR
DRAWN BY: E. SHIRLEY
CHECKED BY: L.L. CARR

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

TURFING PLAN

L. L. CARR 29 JULY 81

INV. NO. DACA63-81-B-0077
DATED: APR 1981
DRAWING NUMBER
SHEET NO. C-42A.1 OF 42
SEQUENCE NO. 42A

CONT. NO. DACA63-81-C-0125

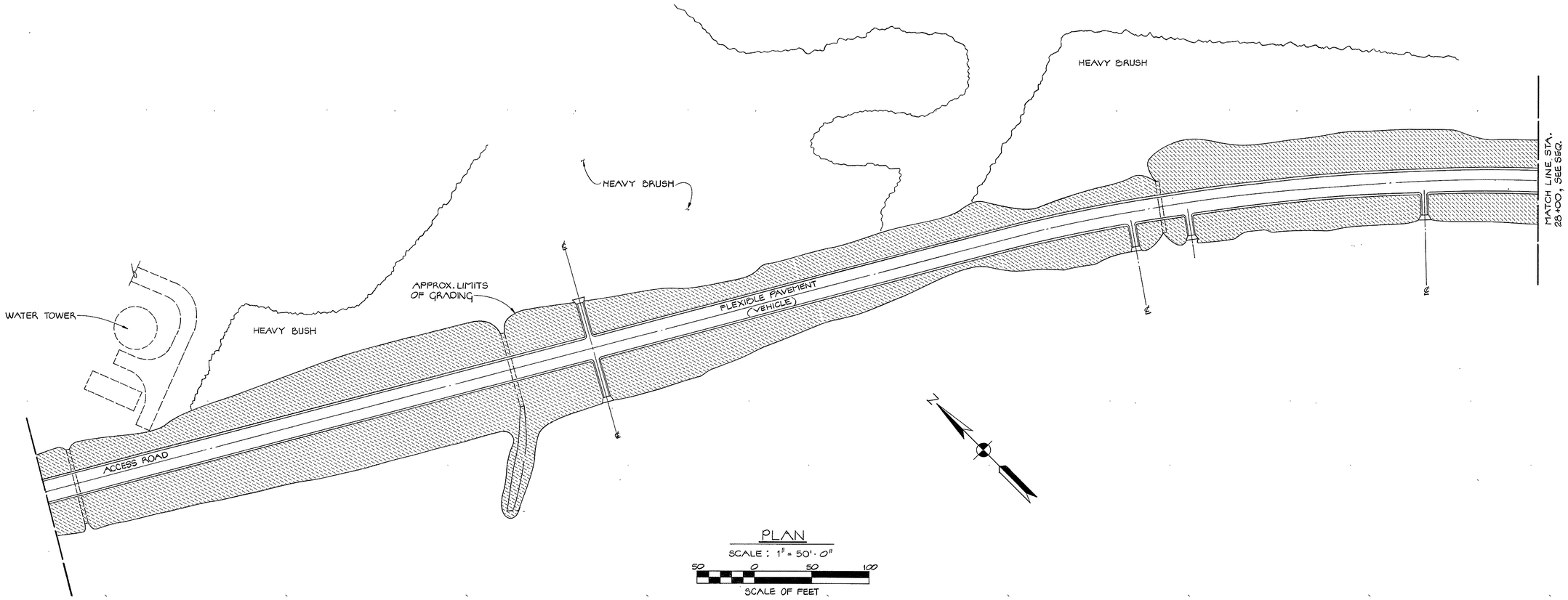
SUPERSEDES SHEET 42A. of 42

CONTR. NO. DACA63-81-C-0125

AF 18109C

E POLYTRACE 033

AF 11432

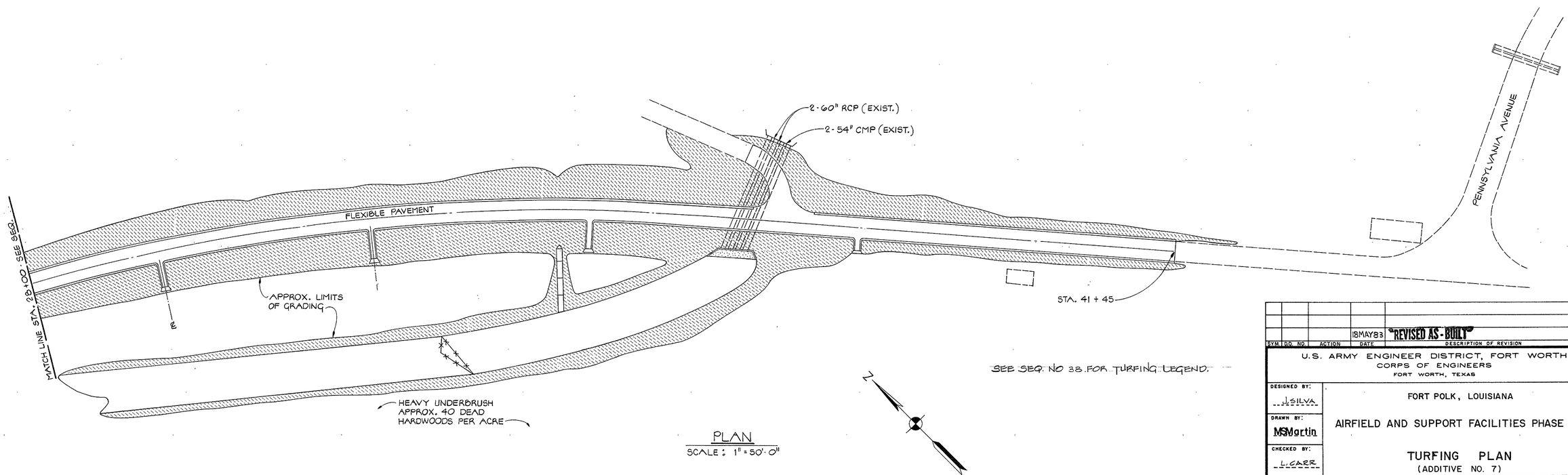


PLAN

SCALE : 1" = 50'-0"

50 0 50 100

SCALE OF FEET



PLAN

SCALE : 1" = 50'-0"

SEE SEQ. NO 38 FOR TURFING LEGEND.

SYM	DO. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18MAY83	"REVISED AS-BUILT"

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: J.SILVA
DRAWN BY: MSMartin
CHECKED BY: L.CARR

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

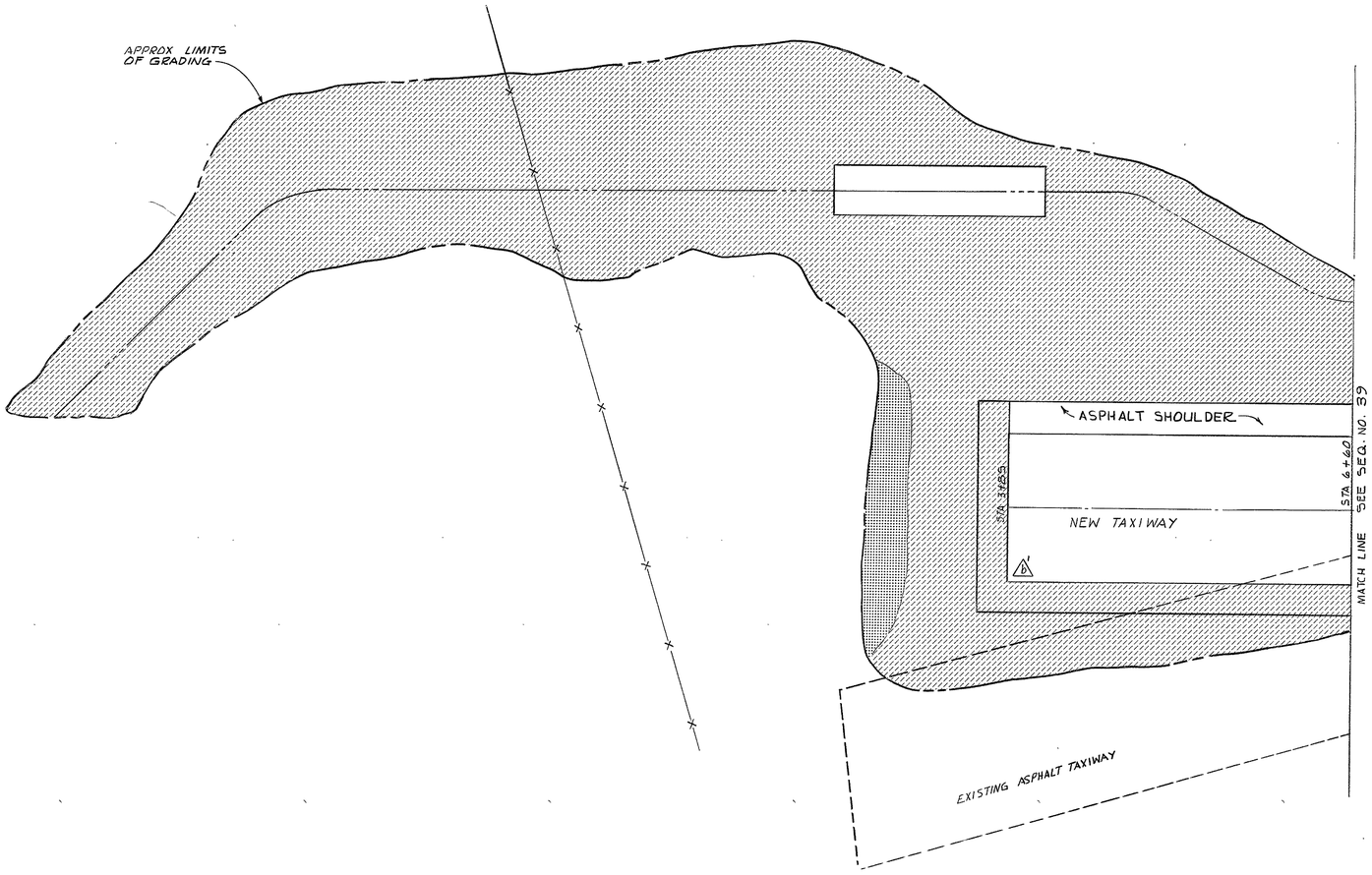
TURFING PLAN
(ADDITIVE NO. 7)

INV. NO. DACA63-81-B-0077 DATED: APR. 81
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER SHEET NO. C-42 OF 42
SEQUENCE NO. 42

CONTR. NO. DACA63-81-C-0125

"DRAWING OF WORK AS BUILT"

AF 11432



TURFING PLAN △2
SCALE: 1" = 50'

SEE SEQ. NO. 38 FOR TURFING LEGEND

SYM	DO. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18MAY83	"REVISED AS-BUILT"
△1		AM #0002	24APR81	GENERAL REVISION

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: B. GRAY
DRAWN BY: E. Parker
CHECKED BY: G. DEAVERS

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

HOVERLANE / TAXIWAY (WEST)
TURFING PLAN

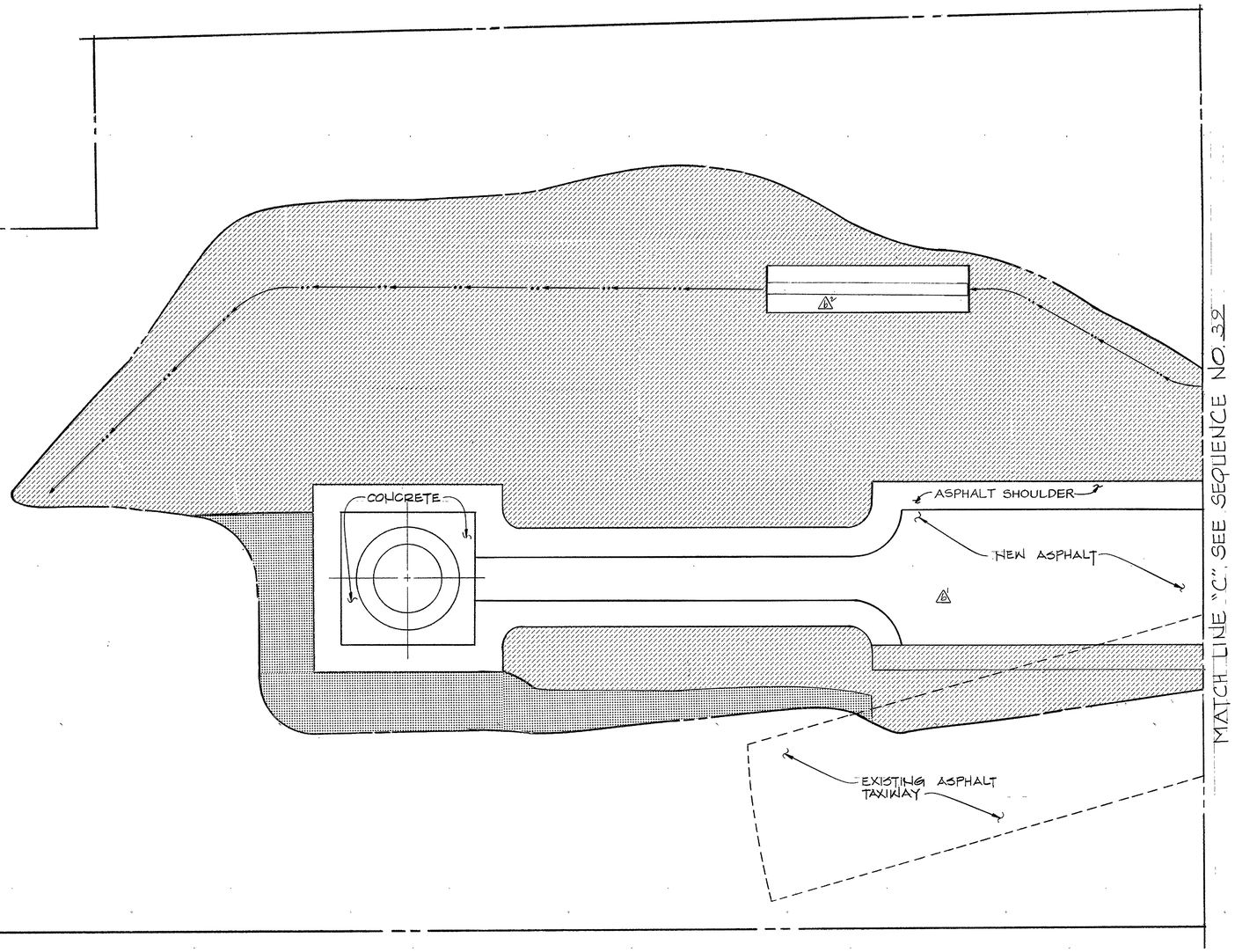
ADDITIVE NUMBER 8

INV. NO. DACA63-81-B-0071 | DATED: APR 1981
CONTRACT NO. DACA63-81-C-0125 | SEQUENCE NO. 41
DRAWING NUMBER | SHEET NO. C-41 OF 42

CONTR. NO. DACA63-81-C-0125

"DRAWING AS BUILT"

AF 11432



TURFING PLAN
SCALE: 1"=50'-0"
50 0 50 100

TURFING LEGEND SEE SEQ 38

ADDITIVE NO. 9

SYM	NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18MAY83	"REVISED AS-BUILT"
1	AM#0002	24APR81		GENERAL REVISION

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

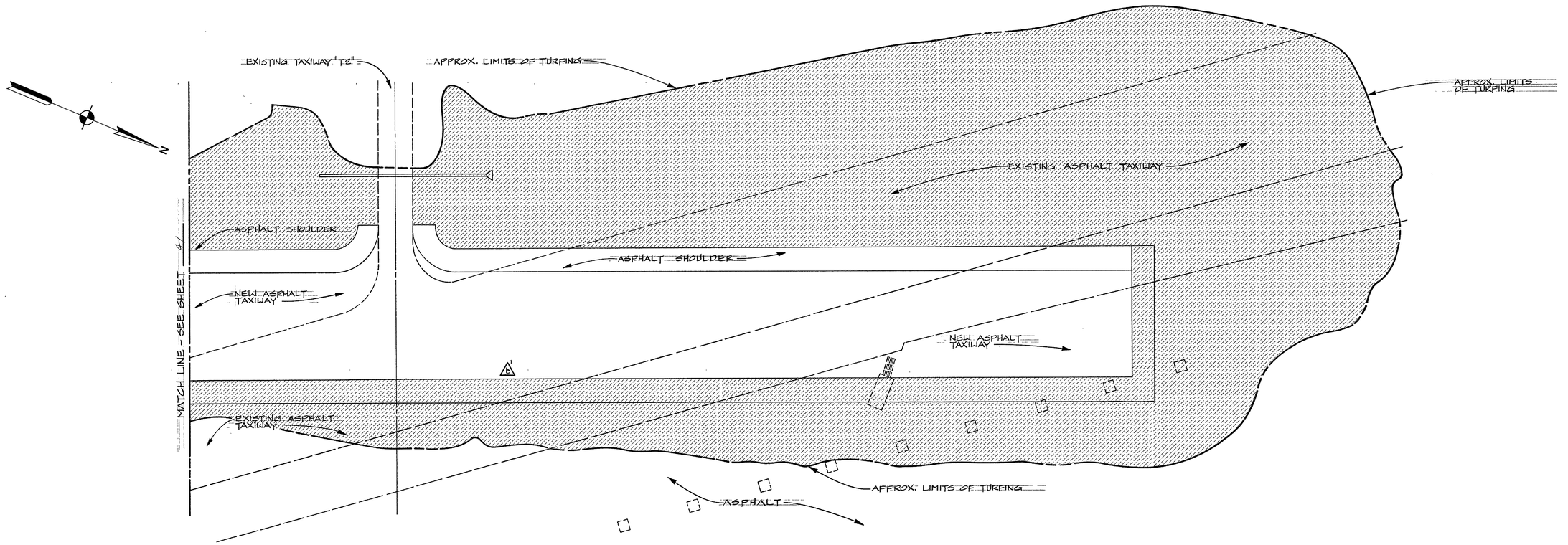
DESIGNED BY: J. SILVA
DRAWN BY: RDA
CHECKED BY: L. CARR

FORT POLK, LOUISIANA
AIRFIELD AND SUPPORT FACILITIES PHASE II
TURFING PLAN

INV. NO. DACA63-81-B-0077 DATED: APR. 1981
CONTRACT NO. DACA63-81-C-0125
DRAWING NUMBER
SHEET NO. C-40 OF 42
SEQUENCE NO. 40
CONTR. NO. DACA63-81-C-0125

"DRAWING OF WORK AS BUILT"

AF 18189C



TURFING PLAN
SCALE: 1" = 50'-0"

50' 0 50' 100'
SCALE OF FEET

FOR TURFING LEGEND SEE SEQ NO 38

SYM	DO. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18 MAY 83	"REVISED AS-BUILT"
2	AM# 0002		24 APR 81	TURFING CHANGE

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: B. GRAY
DRAWN BY: M. MINOR
CHECKED BY: G. DEAVERS

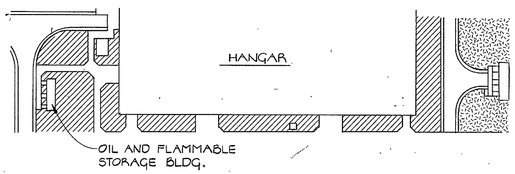
FORT POLK, LOUISIANA
AIRFIELD AND SUPPORT FACILITIES PHASE II
HOVERLANE / TAXIWAY (WEST)
TURFING PLAN
ADDITIVE NUMBER 3

INV. NO. DACA63-81-B-0077 DATED APR 1981
CONTRACT NO. DACA63-81-C-0125
DRAWING NUMBER
SHEET NO. C-39 OF 42
SEQUENCE NO. 39
CONTR. NO. DACA63-81-C-0125

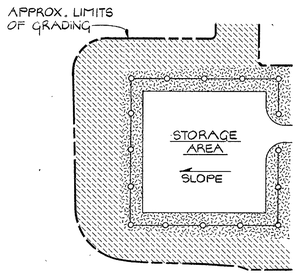
"DRAWING OF WORK AS BUILT"

1 POLYTRACE 033

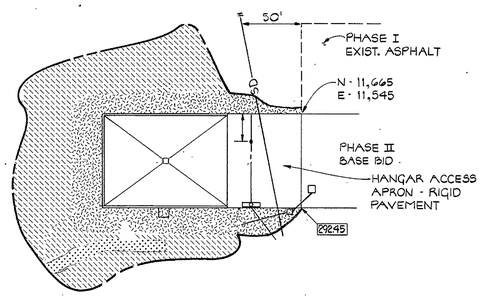
AF 11432



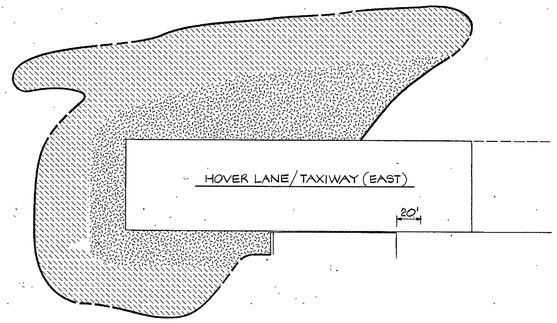
OIL AND FLAMMABLE STORAGE BLDGS.
(ADDITIVE NO. 1)



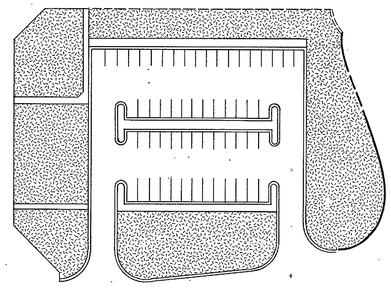
STORAGE AREA - FENCED
(ADDITIVE NO.2)



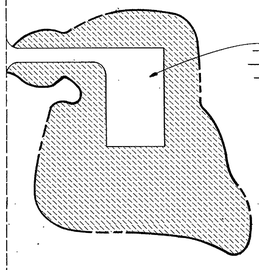
WASHRACK AND 60' OF SOUTH END HANGAR ACCESS APRON
(ADDITIVE NO. 3)



HOVER LANE/TAXIWAY (EAST)
(ADDITIVE NO. 4)



P.O.V. PARKING
(ADDITIVE NO. 5)



(ADDITIVE NO.6)

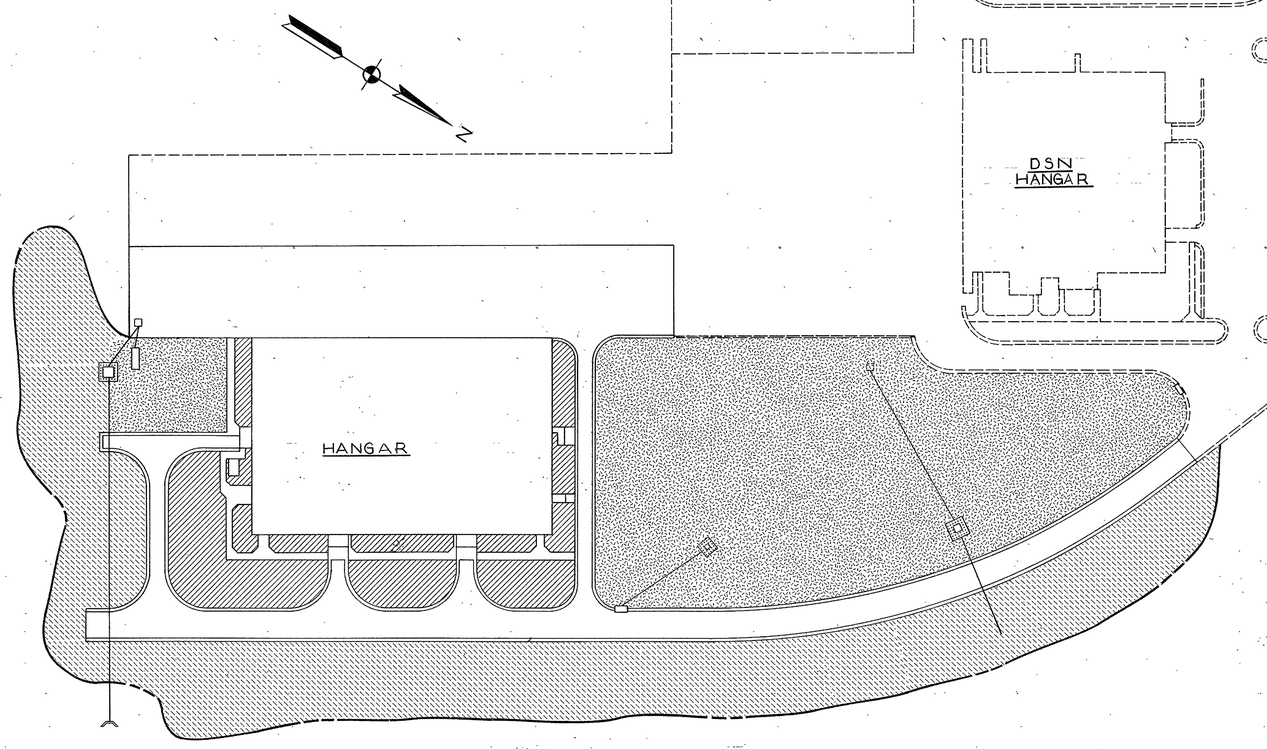
TURFING LEGEND

AREA 1 TURFING : FERTILIZE, PREPARE GROUND SURFACE, SPOT SOD COMMON BERMUDAGRASS, SEED COMMON BERMUDAGRASS, WATER, MAINTAIN & FERTILIZE.

AREA 2 TURFING : FERTILIZE, PREPARE GROUND SURFACE, SPRIG COASTAL BERMUDAGRASS, SEED COMMON BERMUDAGRASS, GIANT BERMUDAGRASS, BAHIAGRASS, MULCH, WATER, MAINTAIN AND FERTILIZE. ⚠1

AREA 3 TURFING : FERTILIZE, PREPARE GROUND SURFACE, SPRIG COMMON BERMUDAGRASS, SEED COMMON BERMUDAGRASS, GIANT BERMUDAGRASS, CARPETGRASS, MULCH, WATER, MAINTAIN AND FERTILIZE.

AREA 4 TURFING : EXCAVATE, FERTILIZE, PREPARE GROUND SURFACE, SOLID SOD COMMON BERMUDAGRASS, WATER, MAINTAIN AND FERTILIZE.



PLAN
SCALE: 1" = 50'

SCALE OF FEET
50 0 50 100

SYM.	CO. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18MAY83	"REVISED AS-BUILT"
⚠1		AM#0002	24APR.81	NOMENCLATURE CHANGE

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: J.SILVA
DRAWN BY: MSMartin
CHECKED BY: L.CARR

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

TURFING PLAN

BASE BID - PLUS ADDITIVES, NO'S 1 THRU 6

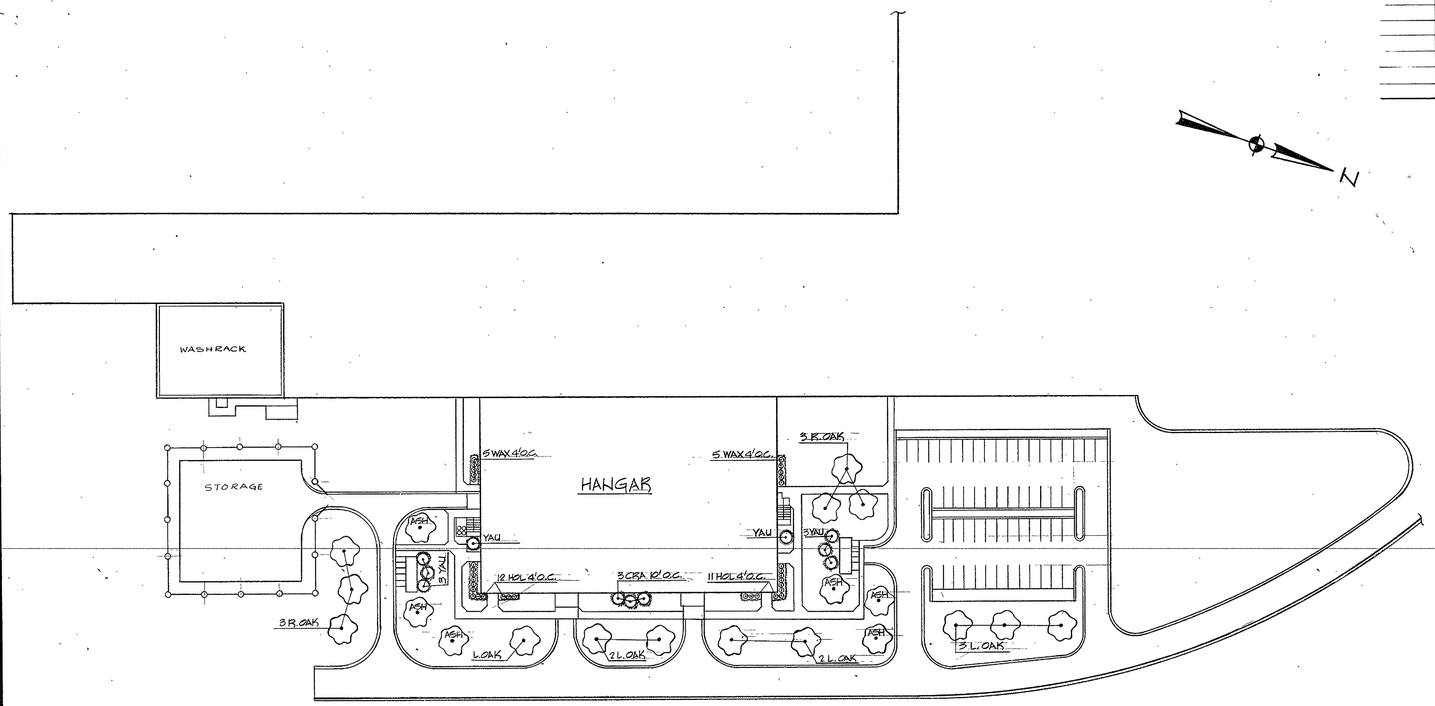
INV. NO. DACA63-81-B-0077 DATED APR.81
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER
SHEET NO. C-38 OF 42
SEQUENCE NO. 38

CONTR. NO. DACA63-81-C-0125

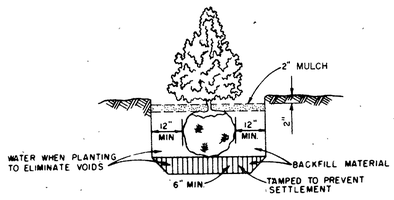
"DRAWING OF WORK AS BUILT"

PLANT LEGEND

TOTAL	KEY	COMMON NAME	SCIENTIFIC NAME	REMARKS	MIN. HEIGHT	CALIPER OR SPREAD	B & B BR OR C	MIN. ROOT SPREAD OR BALL DIMENSIONS DEPTH	MIN. ROOT SPREAD OR BALL DIMENSIONS DIA.	MIN. PIT SIZE DEPTH	MIN. PIT SIZE DIA.
		LARGE TREES									
	ASH	VELVET ASH	FRAXINUS VELUTINA		10'-12'	1 3/4"-2"	BB*	14"	18"	22"	42"
	LOAK	LIVE OAK	QUERCUS VIRGINIANA		10'-12'	1 3/4"-2"	BB	14"	18"	22"	42"
	ROAK	SOUTHERN RED OAK	QUERCUS FALCATA		10'-12'	1 3/4"-2"	BB	14"	18"	22"	42"
		SMALL TREES FALCATA									
	CRA	COMMON CRAPEMYRTLE (RED)	LAGERSTROMIA INDICA	MULTI-STEM	5'-6'	3/4"-1"	BB	12"	16"	20"	40"
	YAU	YAUPON	ILEX VOMITORIA	MULTI-STEM	4'-5'	3/4"-1"	BB	12"	16"	20"	40"
		SHRUBS									
	HOL	BURFORD CHINESE HOLLY	ILEX CORNUTA BURFORDI		24"	16"	BBC	9"	11"	17"	35"
	WAX	GLOSSY PRIVIT (WAX LEAF)	LIGUSTRUM LUCIDUM		24"	16"	BBC	9"	11"	17"	35"



LANDSCAPE PLAN
SCALE: 1"=50'-0"

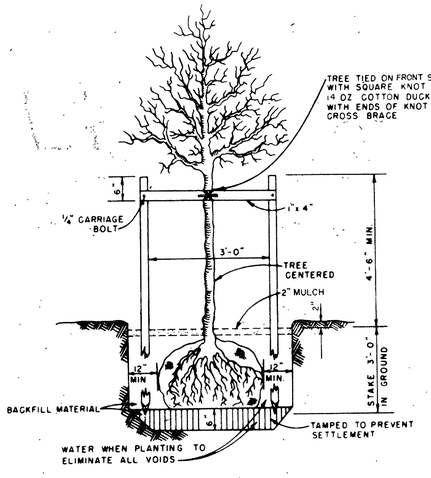


BALLED & BURLAPPED SHRUBS
NOT TO SCALE
(ALSO APPLIES TO SHRUB CONTAINERS)

LANDSCAPING LEGEND
TREE (NEW) TREE (EXIST.)
GROUP OF SHRUBS OR VINES

KEY TO PLANT DESIGNATION

3 WAX 4'OC
- 3 — No. OF PLANTS REQUIRED
- WAX — VARIETY OF PLANT (SEE PLANT LEGEND)
- 4'OC — SPACING OF PLANTS, CENTER TO CENTER



SECTION STAKING BALLED AND BURLAPPED TREES
NOT TO SCALE

NOTES
1. B&B DENOTES BALLED AND BURLAPPED
2. C DENOTES CONTAINER - 4 GAL UNLESS OTHERWISE NOTED
3. TREES WILL NOT BE PLANTED UNDER OVERHEAD ELEC. LINES OR IN DITCHES
4. CONTRACTOR WILL EXAMINE UTILITY PLANS AND AVOID UTILITIES
5. NUMBER OF PLANTS & SPACINGS WILL GOVERN SIZE OF PLANTING AREA
6. ONLY TOPSOIL FREE FROM NOXIOUS PLANTS EXCAVATED FROM PITS AND BEDS WILL BE ACCEPTABLE FOR USE AS BACKFILL MATERIAL (SEE SPECIFICATIONS)

BASE BID

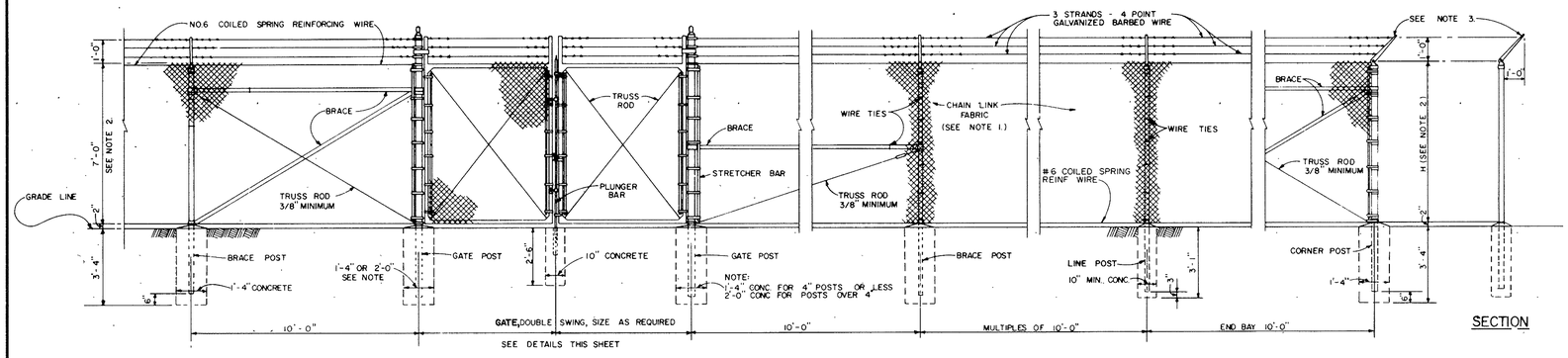
S/M	DK	ELEV'N	DATE	DESCRIPTION OF REVISION
			18MAY 83	"REVISED AS-BUILT"

US ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DES'SNED BY B. GRAY	FORT POLK, LOUISIANA
DRAWN BY MDT.	AIRFIELD AND SUPPORT FACILITIES PHASE II
CHECKED BY C. DEAVER	LANDSCAPING PLAN AND DETAILS
SUBM'TTED BY ENGINEER	INV. NO. DACA63-81-B-0077 DATED: APR. 1981
	CONTR. NO. DACA63-81-C-0125
	DRAWING NUMBER SHEET NO. C-37 OF 42 SEQUENCE NO. 37

CONTR. NO. DACA63-81-C-0125

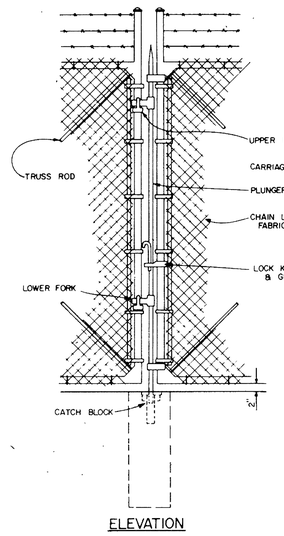
"DRAWING OF WORK AS BUILT"



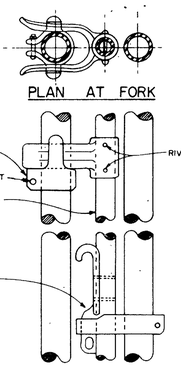
SECTION

CHAIN LINK FABRIC FENCE

NOT TO SCALE

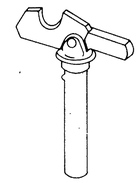


ELEVATION

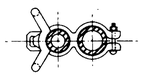


PLAN AT FORK

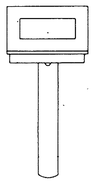
DETAIL



GATE KEEPER
(TO HOLD GATE OPEN)



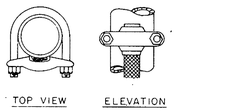
PLAN AT LOCK KEEPER



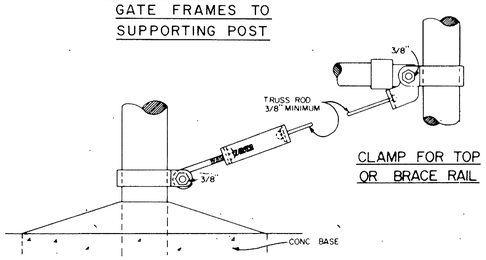
CATCH BLOCK

SWING GATE DETAILS

NOT TO SCALE

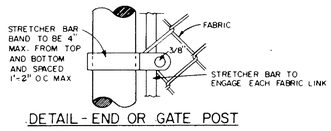


DETAIL OF BONDING GATE FRAMES TO SUPPORTING POST

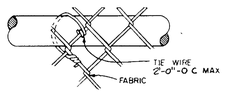


CLAMP FOR TOP OR BRACE RAIL

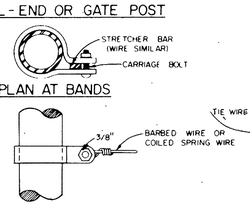
TRUSS ROD & BAND



DETAIL - END OR GATE POST

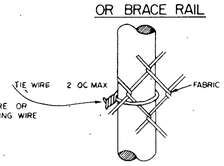


WIRE TIES FOR TOP OR BRACE RAIL



PLAN AT BANDS

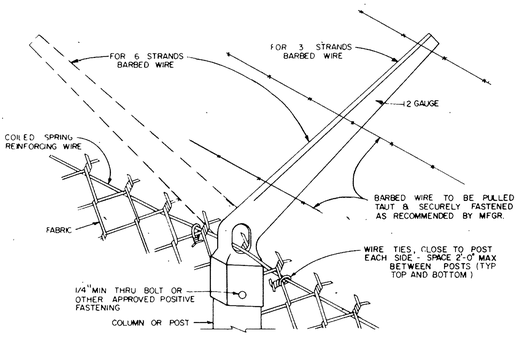
BAND FOR WIRE STRETCHING



WIRE TIES FOR POST

FASTENING DETAILS - SIMILAR FOR TUBULAR POST OR H COLUMNS

NOT TO SCALE



EXTENSION ARM FOR BARBED WIRE

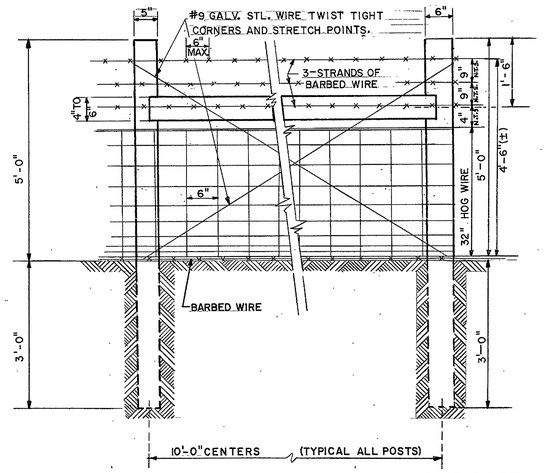
(ARMS FOR H COL. POSTS & TUBULAR POSTS SIMILAR)
NOT TO SCALE

SECURITY FENCE

(ADDITIVE 2)

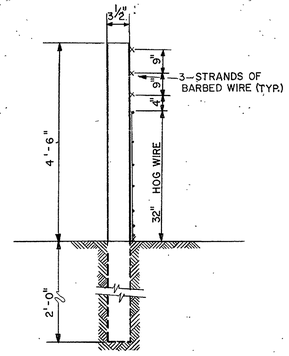
GENERAL NOTES

1. ALL FABRIC TO BE #9 GAGE WIRE, WOVEN IN A 2" MESH. TOP AND BOTTOM EDGES TO BE TWISTED AND BARBED.
2. HEIGHT (H) OF FENCE TO BE 7'-0" WITH 3 STRANDS OF 4 POINT BARBED WIRE SECURELY ATTACHED TO SINGLE EXTENSION ARMS ALONG TOP OF FENCE, TOP STRAND TO BE 1'-0" ABOVE.
3. SINGLE EXTENSION ARMS SHALL POINT OUTWARD AT AN ANGLE OF 45°



TYPICAL DETAIL SHOWING BRACING AT CORNER POST

SCALE: 3/4"= 1'-0"



TYPICAL DETAIL AT INTERMEDIATE POST

SCALE: 3/4"= 1'-0"

LIVESTOCK FENCE

SCALE: 3/4"= 1'-0"
(ADDITIVES 8 & 9)

GENERAL NOTES:

1. ALL WIRE SHALL BE GALV. STEEL, HEIGHT AND SPACING AS SHOWN.
2. ALL POSTS, BRACING SHALL BE PRESERVATIVE TREATED MAT'L SIZE AND LENGTH AS SHOWN, FREE OF SPLITS.
3. STRETCH POINTS SHALL NOT EXCEED 150'-0" CENTERS.

SYM	DO NO	ACTION	DATE	DESCRIPTION OF REVISION
			18MAY83	REVISED AS BUILT

"DRAWING AS BUILT"

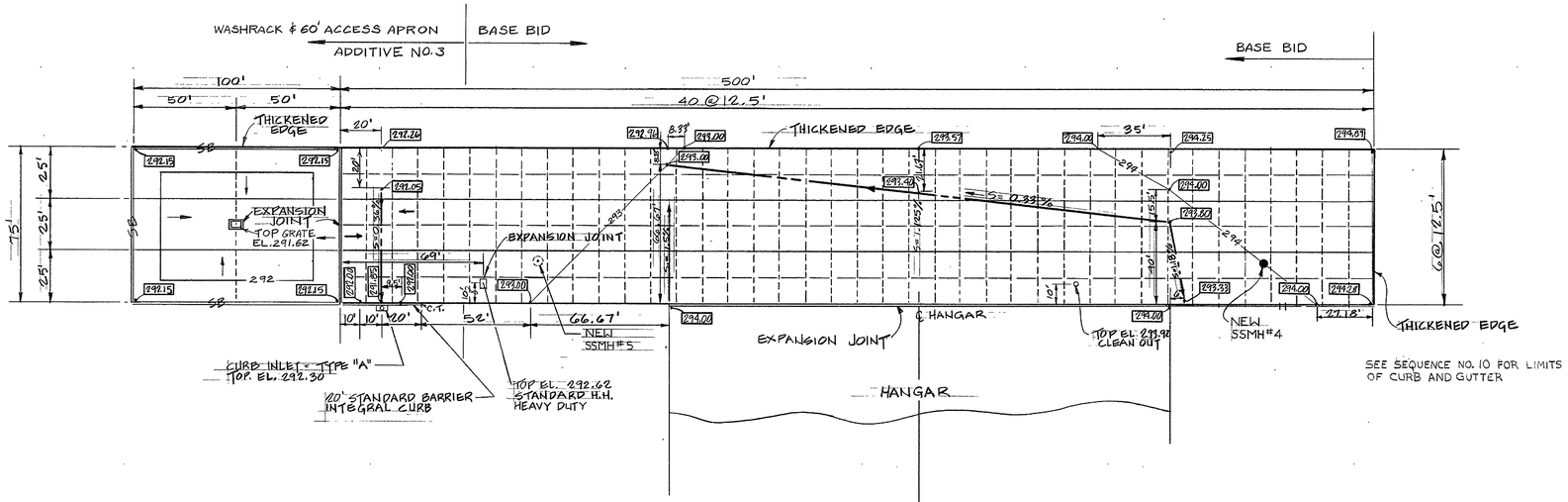
US ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: BNP	FORT POLK LOUISIANA
DRAWN BY: BNP-DMK	AIRFIELD AND SUPPORT FACILITIES, PHASE II
CHECKED BY: L.C. CARR	FENCING DETAILS
	ADDITIVES—2,8&9
SUBMITTED BY	INV. NO. DACA63-81-B-0077 DATED APR. 1981
ENGINEER	CONTR NO. DACA63-81-C-0125 SEQUENCE NO: 36
	DRAWING NUMBER SHEET NO. C-36 OF 42

CONTR NO. DACA63-81-C-0125

"DRAWING OF WORK AS BUILT"

AF 11432



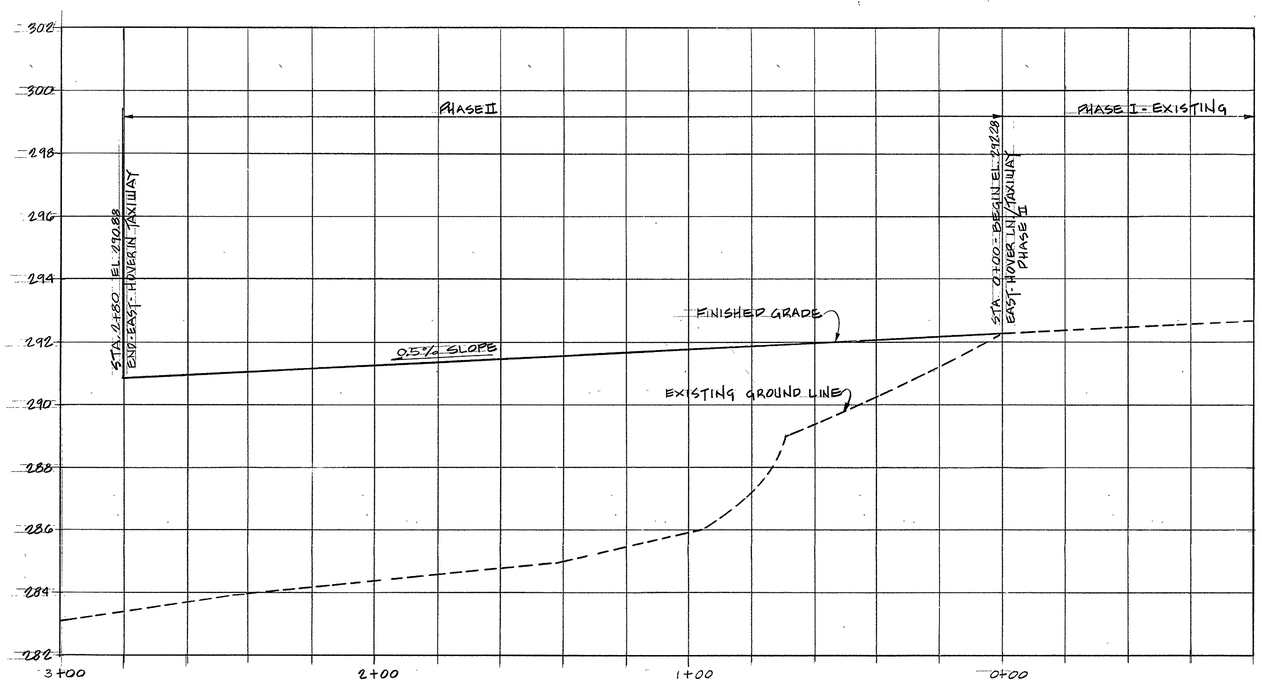
LAYOUT SHOWING JOINT PATTERN OF HANGAR ACCESS APRON AND REINFORCED WASHRACK

SCALE: 1" = 30'

LEGEND

- TRANSVERSE CONTRACTION JOINT.
- LONGITUDINAL CONTRACTION JOINT.
- LONGITUDINAL CONSTRUCTION JOINT
- EXPANSION JOINT
- THICKENED EDGE CONSTRUCTION JOINT.

FOR JOINT DETAILS, SEE SEQ. 27



PROFILE ON ℄ EAST-HOVER LANE/TAXIWAY

(ADDITIVE NO. 3)

SCALE: HORIZONTAL = 1" = 20'-0"
VERTICAL = 1" = 2'-0"

SYM	DO NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18 MAY 83	"REVISED AS-BUILT"
2	AM850002	2	29 APR 81	ADDED NOTE

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: J. SILVA
DRAWN BY: E&S
CHECKED BY: T. CARR

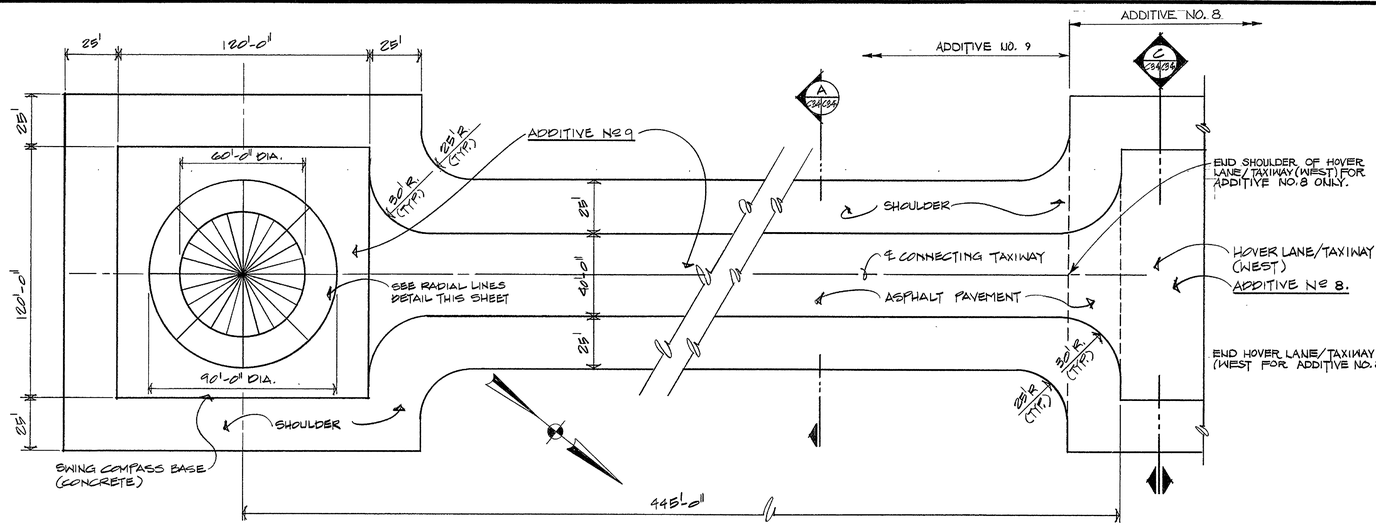
FORT POLK, LOUISIANA
AIRFIELD AND SUPPORT FACILITIES PHASE II
JOINT PATTERN LAYOUT-HANGAR ACCESS APRON
REINFORCED CONCRETE-WASHRACK
PROFILE-SECTION-HOVER LANE / TAXIWAY (EAST)

INV. NO. DACA63-80B-0077 DATED APR 81
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER
SHEET NO. C-35 OF 42
SEQUENCE NO. 35

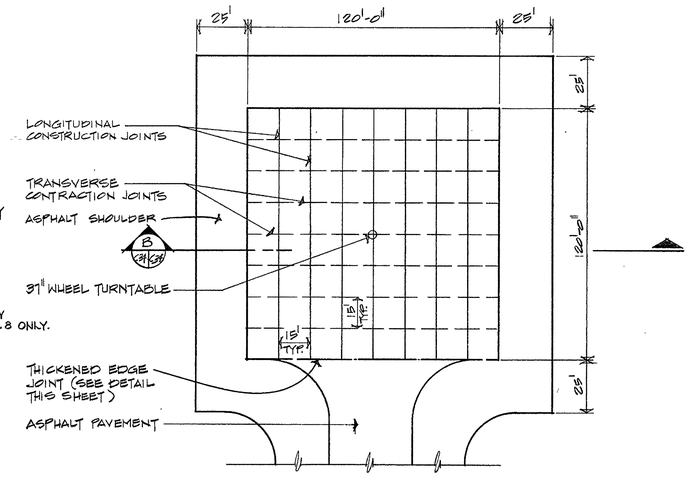
CONTR. NO. DACA63-81-C-0125

"DRAWING OF WORK AS BUILT"

AF 11432

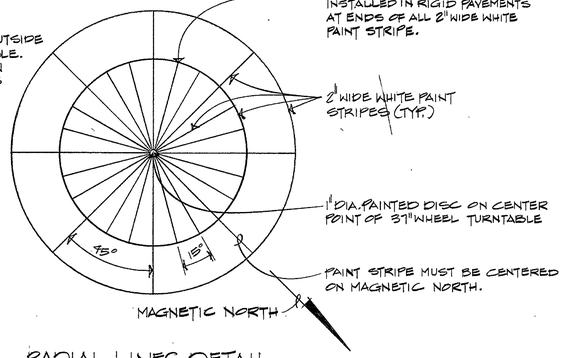


COMPASS SWINGING BASE & TAXIWAY
N.T.S.

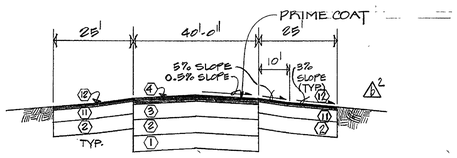


JOINT PATTERN
N.T.S.

NOTES
2' MARKING WILL START AT OUTSIDE EDGE OF 31' WHEEL TURNTABLE. MARKINGS TO BE PAINTED ON SURFACE EVERY 15 DEGREES BEGINNING WITH MAGNETIC NORTH.

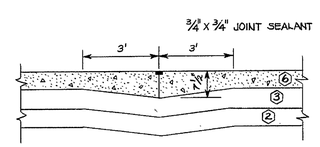


RADIAL LINES DETAIL
N.T.S.

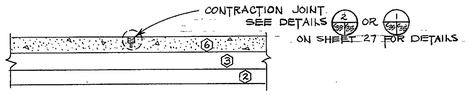


A/C 31/37 SECTION
N.T.S.

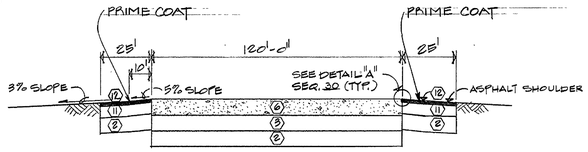
NOTE:
SEE SHEET 30 FOR PAVING LEGEND.
△3



CONSTRUCTION JOINT
N.T.S.

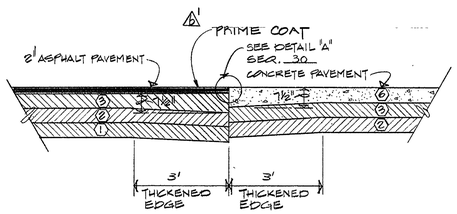


TRANSVERSE CONTRACTION JOINT
N.T.S.

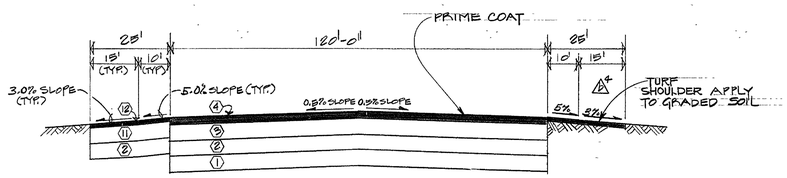


B/C 31/37 SECTION
N.T.S.

NOTE:
SEE SHEET 30 FOR PAVING LEGEND.
△5



THICKENED EDGE JOINT
N.T.S.



C/C 34/34 SECTION
N.T.S.

NOTE:
SEE SHEET 30 FOR PAVING LEGEND

SYM	DO. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18MAY 83	"REVISED AS-BUILT"
△2	AM#0002	29APR 81	ADDED NOTE & SLOPE	

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: J. SILVA
DRAWN BY: TH
CHECKED BY: L. CARR

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II
COMPASS SWINGING BASE AND HOVER LANE (TAXIWAY WEST) ADDITIVE 8 AND 9

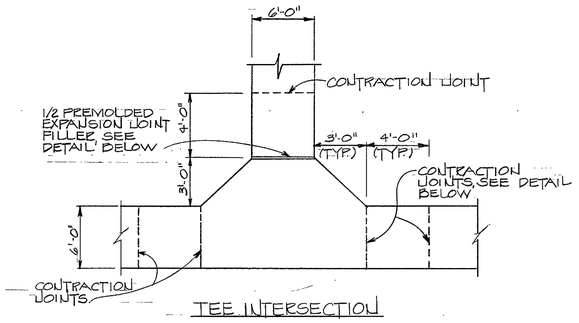
PLANS, SECTIONS AND PAVING DETAILS

INV. NO. DACA63-81-B-0077 | DATED: APR. 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER: C-34 OF 42
SEQUENCE NO. 34
CONTR. NO. DACA63-81-C-0125

△1 △2 △3 △4 △5

"DRAWING OF WORK AS BUILT"

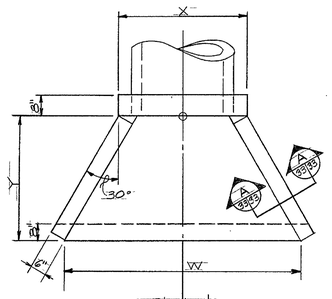
AF 11432



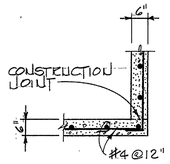
TEE INTERSECTION

CONCRETE SIDEWALK DETAIL

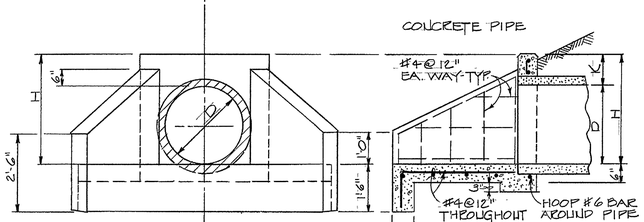
SCALE 1/4" = 1'-0"



PLAN



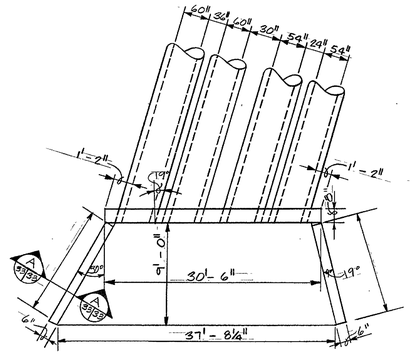
SECTION "A-A"



ELEVATION SECTION

HEADWALL DETAILS

N.T.S.



PLAN - 19° SKEW

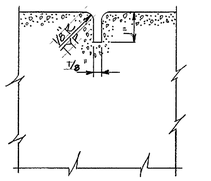
EAST DOWNSTREAM END AT STA. 36 + 44

* PLAN

N.T.S.

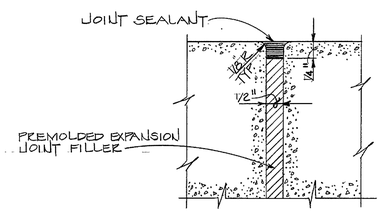
DIA. PIPE	TABLE OF DIMENSIONS TYPE "A" AND "D"							NO. OF ROWS
	D	G	K	X	H	Y	W	
	18"	—	12"	2'-11"	2'-6"	2'-0"	4'-0⅛"	1
	24"	—	12"	3'-6"	3'-0"	2'-6"	5'-0⅜"	1
	30"	—	12"	4'-1"	3'-6"	3'-0"	7'-0⅝"	1
	36"	—	12"	4'-8"	4'-0"	3'-6"	9'-3⅜"	1
	42"	—	12"	5'-3"	4'-6"	4'-0"	11'-0⅛"	1
	48"	—	15"	5'-10"	5'-3"	4'-6"	12'-9⅛"	1
	D	G						
*	2'-54"	2'-0"	2'-60"	3'-0"	15"	30'-6"	6'-3"	9'-0"	37'-8¼"	*

* SEE PLAN FOR 19° SKEWED CONCRETE HEADWALL DOWNSTREAM OF STA. 36+44 (EXTENSION OF 2 EXIST. 60" RCP AND 2 EXIST. 54" CMP).



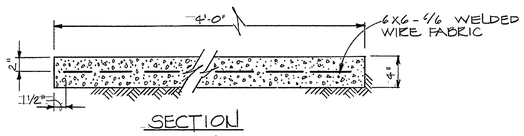
CONTRACTION JOINT

SCALE 6" = 1'-0"



EXPANSION JOINT

SCALE 6" = 1'-0"

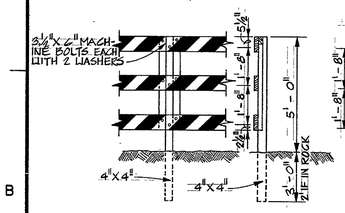


SECTION

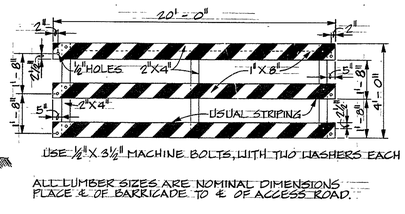
SCALE 1½" = 1'-0"

SIDEWALK DETAILS

CONTRACTION JOINT, EXPANSION JOINT & TRANSVERSE SECTION



POST FOR TYPE III BARRICADE



USE ½" X 3½" MACHINE BOLTS, WITH TWO WASHERS EACH

ALL LUMBER SIZES ARE NOMINAL DIMENSIONS PLACE ℄ OF BARRICADE TO ℄ OF ACCESS ROAD.

PANEL FOR TYPE III BARRICADE

STRIPING FOR BARRICADES

NOTE:

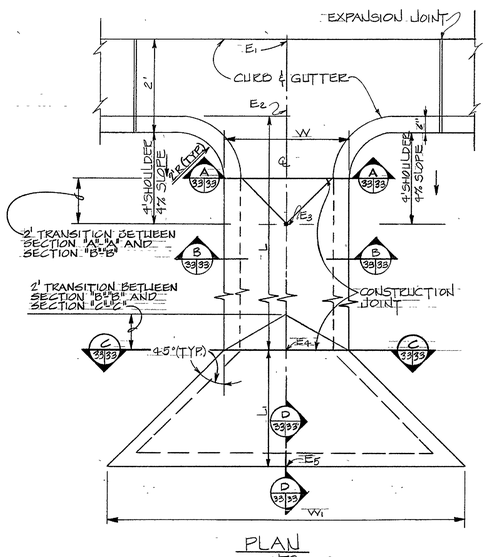
FOR TYPE III BARRICADES, THE THREE (3) RAILS SHALL BE REFLECTIVE ORANGE AND REFLECTIVE WHITE ON ONE SIDE IS FACING TRAFFIC.

AT STA. 0+00 ON ACCESS ROAD SLOPE CHEVRON STRIPING DOWNWARD TO THE RIGHT.

AT STA. 11+35 ON ACCESS ROAD SLOPE CHEVRON STRIPING DOWNWARD TO THE LEFT.

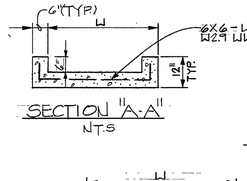
BARRICADE DETAIL - TYPE III

N.T.S.



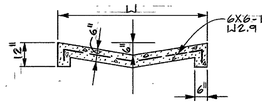
PLAN

N.T.S.



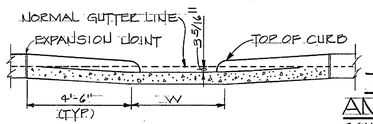
SECTION "A-A"

N.T.S.



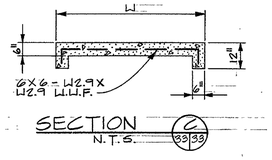
SECTION B 33/33

N.T.S.



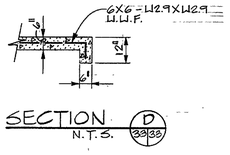
ELEVATION

N.T.S.



SECTION C 33/33

N.T.S.

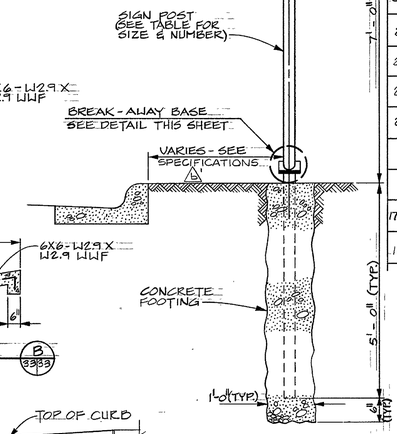


SECTION D 33/33

N.T.S.

CURB GAPS WITH CHUTE

N.T.S.



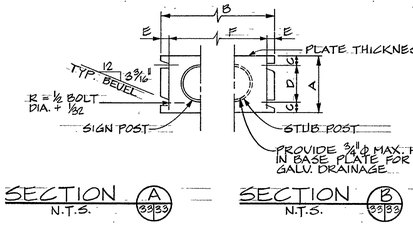
TYPE OF LETTERS AND HORIZONTAL SPACING FOR NON-STANDARD SIGNS SHALL BE SERIES "E" U.S. DEPT. OF COMMERCE, STANDARD ALPHABETS FOR HIGHWAY SIGNS, 1966 EDITION.

CURB GAP & CHUTE SCHEDULE

TABLE OF DIMENSIONS AND ELEVATIONS

STA	CHUTE NO.	L	L1	W	W1	E1	E2	E3	E4	E5
37+75	A-1	15	5	6	16	302.07	301.73	301.47	299.30	299.30
34+60	A-2	35	5	6	16	299.37	299.03	298.77	291.50	291.50
32+00	A-3	34	5	6	16	297.20	296.94	296.68	289.80	289.80
29+40	A-4	29	5	6	16	295.19	294.85	294.59	288.80	288.80
26+80	A-5	24	5	6	16	293.09	292.75	292.49	287.00	287.00
24+20	A-6	22	5	6	16	291.16	290.82	290.56	286.50	286.50
23+58	A-7	26	5	6	16	291.12	290.78	290.52	285.40	285.40
17+50	A-8	39	5	6	16	291.45	291.11	290.85	282.50	282.50
17+50	A-9	35	5	6	16	291.45	291.11	290.85	283.50	283.50

BREAK-AWAY BASE DATA TABLE									
NOMINAL PIPE SIZE	BOLT SIZE & TORQUE	A	B	C	D	E	F	T	W
2" ϕ	½" ϕ X 2" 200#	4½"	6¼"	1"	2½"	¾"	4¾"	½"	¼"
2½" ϕ	½" ϕ X 2" 200#	4½"	6¼"	1"	2½"	¾"	4¾"	½"	5/16"
3" ϕ	½" ϕ X 2½" 200#	4½"	7"	1"	2½"	¾"	5½"	½"	5/16"



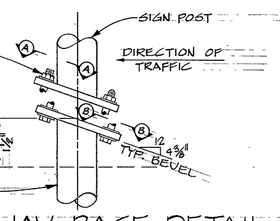
SECTION A 33/33

N.T.S.

SECTION B 33/33

N.T.S.

M.S. BOLTS W/HEX. HEAD, HEX. NUT & 3 WASHERS W/EA. BOLT. SEE TABLE FOR BOLT DIA. & TORQUE



BREAK-AWAY BASE DETAIL

N.T.S.

TYPICAL STANDARD SIGN AND POST MOUNTING DETAIL

SCALE: ¾" = 1'-0"

SYM.	DO. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18 MAY 83	"REVISED AS-BUILT"
A	AM**0002	24 APR 81		REVISED TO REFLECT W I CHANGE

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: ---LLS---
DRAWN BY: ---BS---
CHECKED BY: ---LCC---

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

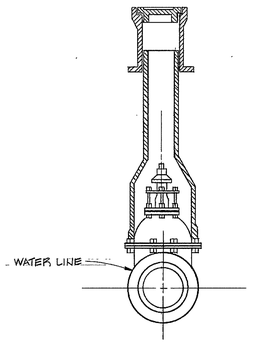
DRAINAGE & MISCELLANEOUS DETAILS

INV. NO. DACA63-81-B-0077 DATED: APR. 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER C-33 OF 42
SEQUENCE NO. 33

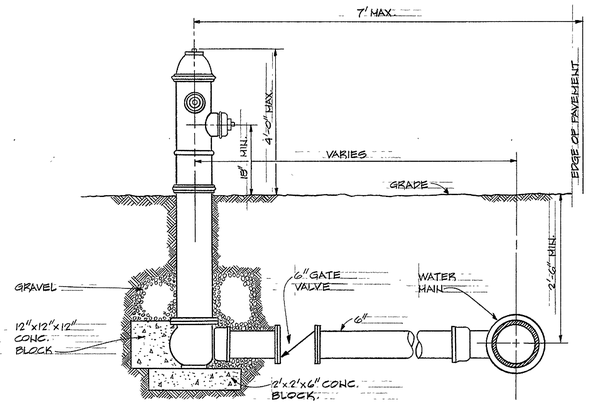
CONTR. NO. DACA63-81-C-0125

"DRAWING AS BUILT"

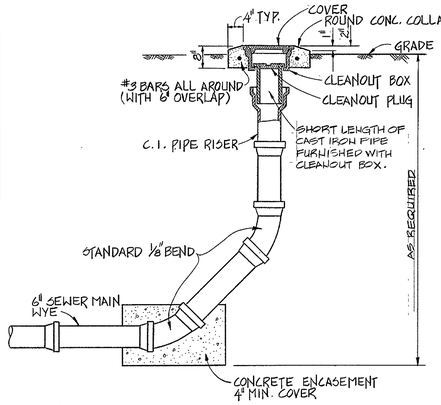
AF 11432



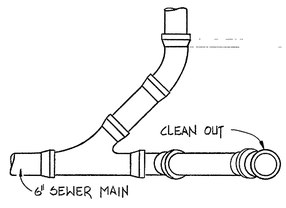
DETAIL-VALVE BOX
N.T.S.



TYPICAL FIRE HYDRANT SETTING
N.T.S.

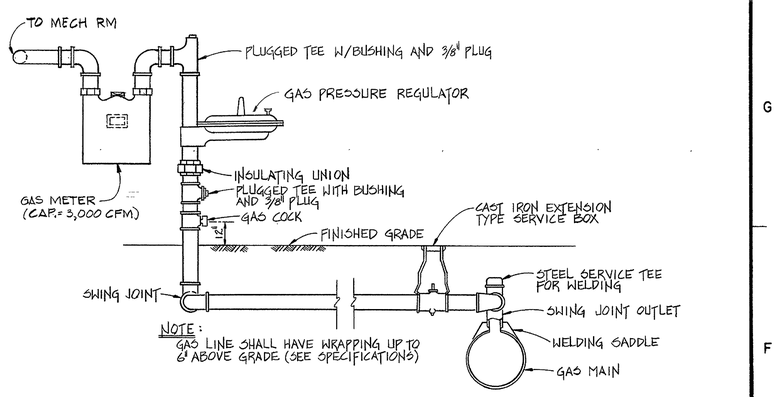


ELEVATION

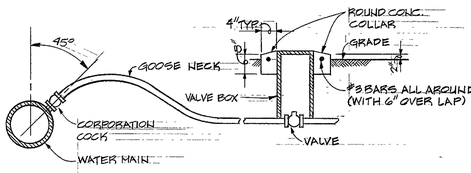


PLAN

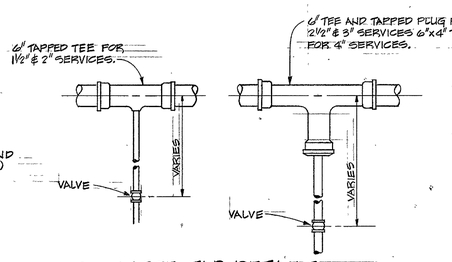
TYPICAL CLEANOUT
N.T.S.



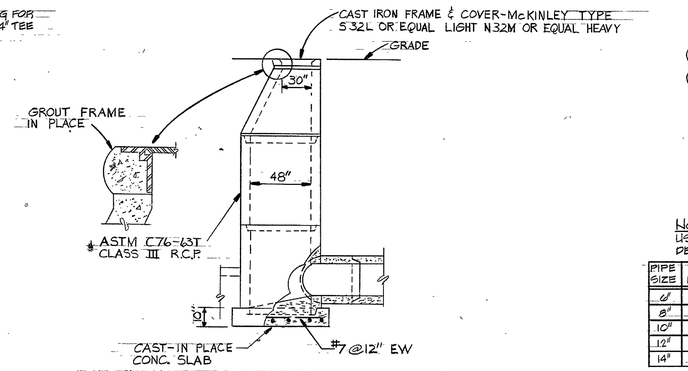
TYPICAL GAS SERVICE CONNECTION
N.T.S.



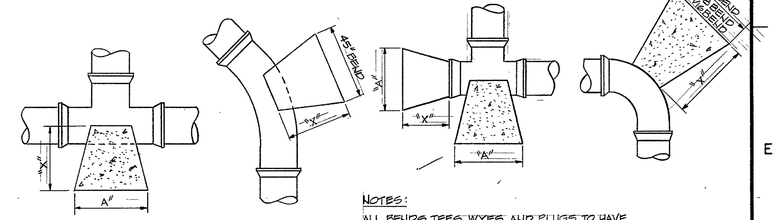
TYPICAL WATER CONNECTION
N.T.S.



LARGE TAP DETAILS
N.T.S.



ALTERNATE PRE-CAST MANHOLE OPTION
N. T. S.



NOTES:

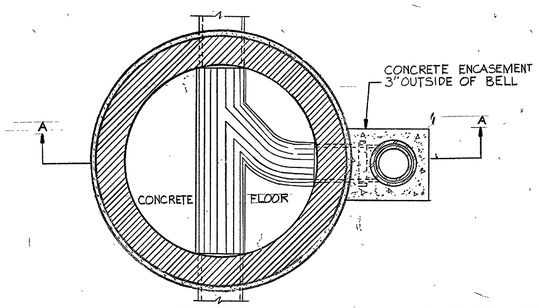
ALL BENDS TEES, WYES, AND PLUGS TO HAVE STANDARD BLOCKING AS PER SCHEDULE. DETAIL DIMENSION "X" TO BE A MINIMUM OF 1'-0", BUT IS TO BE INCREASED WHERE NECESSARY TO PROVIDE BEARING AGAINST UNDISTURBED TRENCH WALL.

BASE UPON 200 PSI OF WATER PRESSURE AND BEARING LOAD OF 2000 LB. PER SQ. FT.

NOTE:
USE DIMENSION "A, B, C, & D" FOR DEPTH OF CONCRETE ALSO.

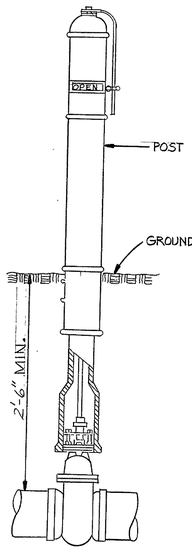
PIPE SIZE	"A" PLUGS & TEES	"B" 90° BENDS	"C" 45° BENDS	"D" 22°30' BENDS
6"	2'-0"	2'-4"		
8"	2'-7"	3'-0"	2'-3"	1'-0"
10"	3'-3"	3'-10"	2'-10"	2'-0"
12"	3'-11"	4'-8"	3'-5"	2'-5"
14"	4'-7"	5'-5"	4'-0"	2'-10"

THRUST BLOCK DETAILS
N.T.S.

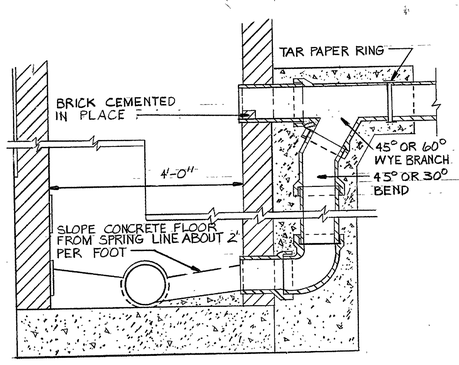


SECTION

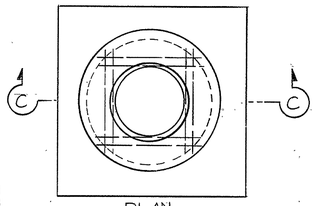
NOTE: 1. A REVERSE WYE BRANCH MAY BE USED IN THE DROP CONNECTION IN LIEU OF THE STANDARD SHOWN IN DETAIL.



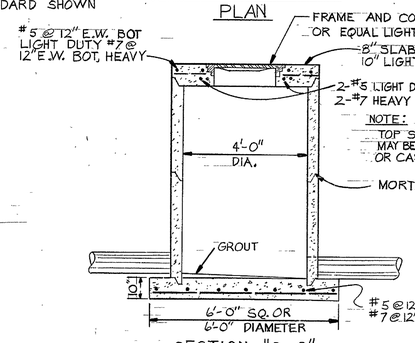
POST INDICATOR VALVE DETAIL
N.T.S.



SECTION "A A"
DROP MANHOLE DETAILS
N.T.S.

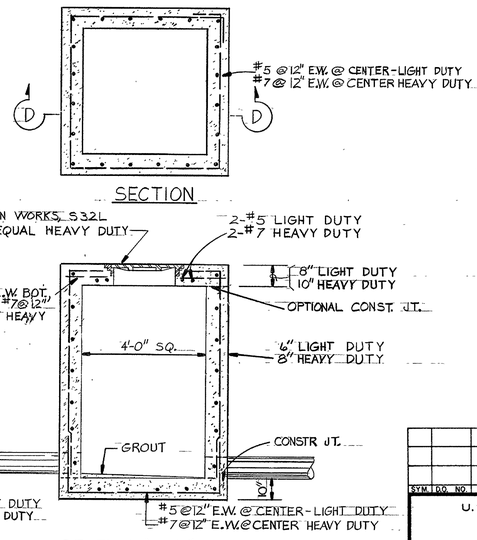


PLAN



SECTION "C-C"

PRECAST CONCRETE OPTION
N. T. S.



SECTION

SECTION "D-D"

CAST-IN-PLACE REINF. CONCRETE OPTION
N. T. S.

NOTES FOR MANHOLE

1. MANHOLE COVERS DESIGNATED "LIGHT" ARE FOR AREA SUBJECT TO RESIDENTIAL TRAFFIC OR LESS.
2. MANHOLE COVERS DESIGNATED "HEAVY" ARE AREAS SUBJECT TO TRAFFIC LOADS GREATER THAN RESIDENTIAL.
3. STEEL LADDER SHALL BE PROVIDED WHEN MANHOLE BECOMES DEEPER THAN 12'-0" BELOW FINISH GRADE. (SEE SPECS.)
4. CAST IN PLACE CONCRETE TO HAVE MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
5. ALL LAPS AND EXTENSIONS OF REINF. BARS SHALL BE 30 DIAM. MIN. EXCEPT AS OTHERWISE NOTED.

SYM	DOC. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18MAY83	REVISED AS-BUILT

DRAWING AS WORK AS BUILT

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: J.L.S.
DRAWN BY: MDT/J.L.S.
CHECKED BY: LCC

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

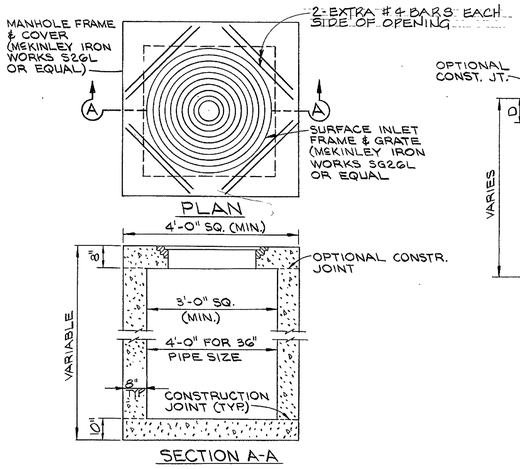
UTILITY DETAILS

INV. NO. DACA63-81-B-0077 | DATE: APRIL 1981
CONTRACT NO. DACA63-81-C-0125 | SEQUENCE NO. 32
DRAWING NUMBER | SHEET NO. C-32 OF 42

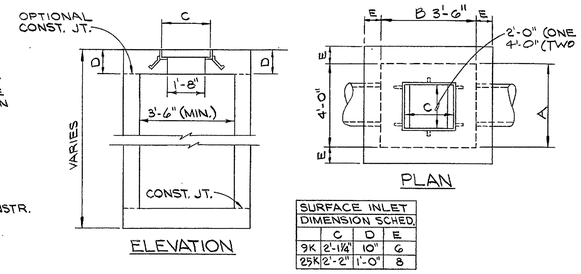
CONTR. NO. DACA63-81-C-0125

POLYTRACE 033

AF 11432



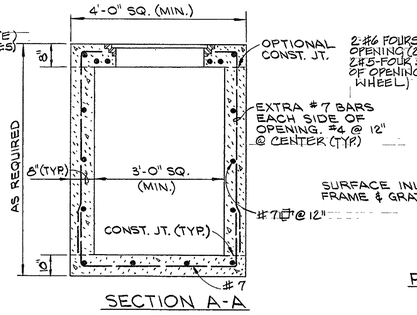
STANDARD MANHOLE & SURFACE INLET DETAILS
(NON TRAFFIC AREA)
N.T.S.



SURFACE INLET DIMENSION SCHED.			
	C	D	E
9K	2'-1¼"	10"	6
25K	2'-2"	1'-0"	8

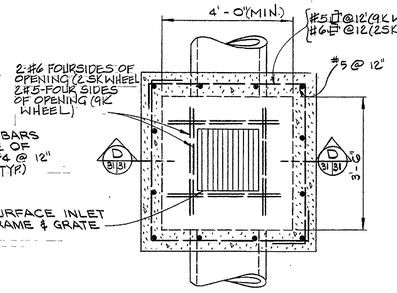
STANDARD SURFACE INLET & MANHOLE FOR 9K & 25K WHEEL LOAD TRAFFIC AREAS
N.T.S.

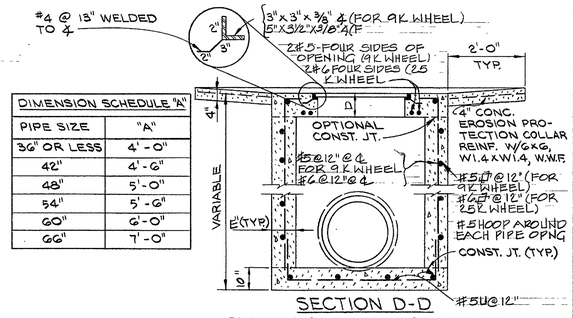
NOTE: USE 25K WHEEL LOAD ON STANDARD MANHOLE LOCATED ON STORM DRAIN LINE II-A ON HANGER APRON



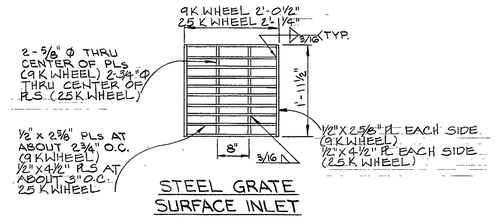
STANDARD MANHOLE DETAILS
N.T.S.

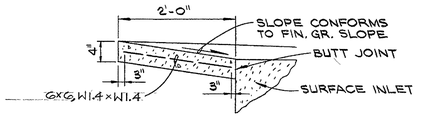
NOTES:
1. USE 3000 P.S.I. CONC.
2. HOOP ONE #4 BAR AROUND ALL PIPE OPENINGS.
3. ALL LAPS & EXTENSIONS OF REINF. TO BE 30 DIA.



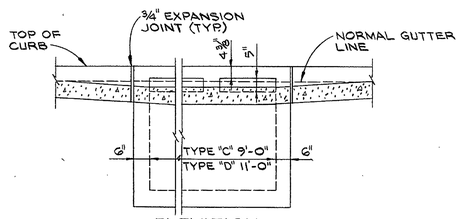


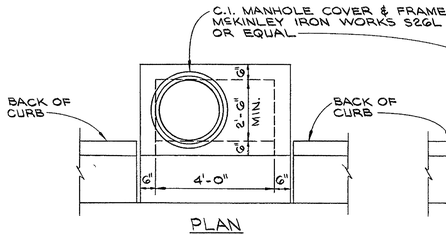
DIMENSION SCHEDULE "A"	
PIPE SIZE	"A"
36" OR LESS	4'-0"
42"	4'-6"
48"	5'-0"
54"	5'-6"
60"	6'-0"
66"	7'-0"

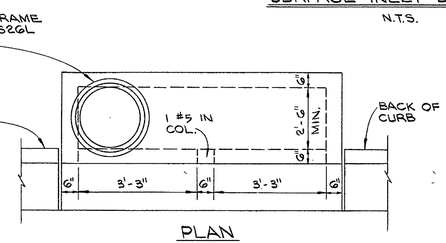


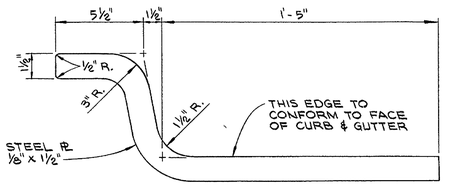


SURFACE INLET DETAILS
N.T.S.

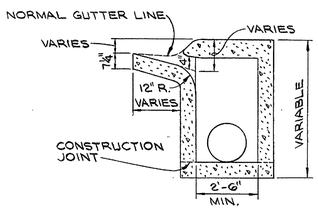








N.T.S.



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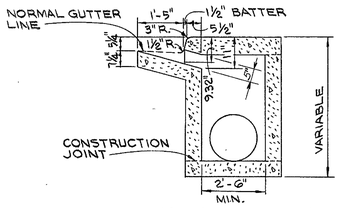
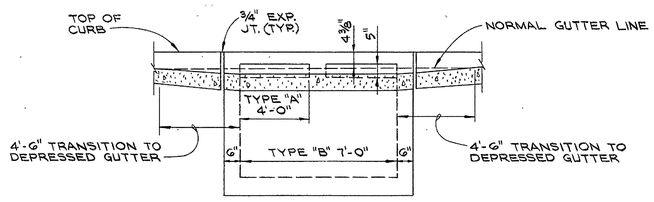


N.T.S.



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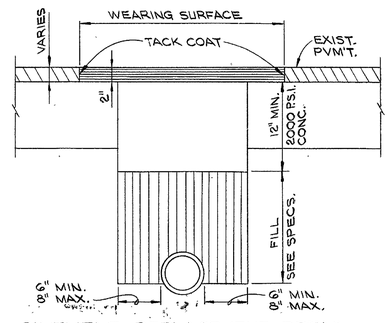

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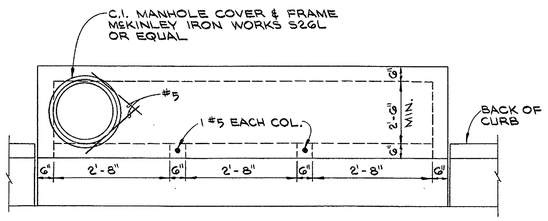

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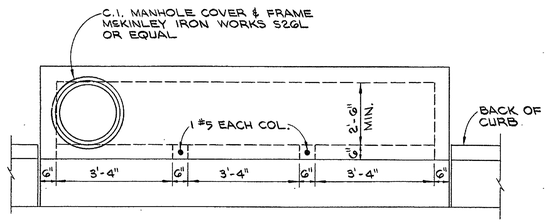

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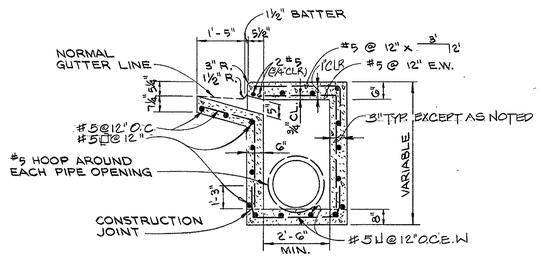


N.T.S.

SYM.	NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18MAY83	"REVISED AS-BUILT"

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: J.J.S.
DRAWN BY: O.E.C.
CHECKED BY: L.C.C.

FORT POLK, LOUISIANA

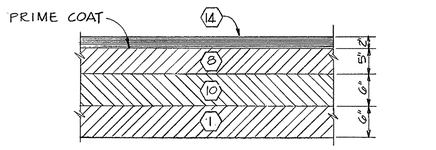
AIRFIELD AND SUPPORT FACILITIES PHASE II

DRAINAGE DETAILS

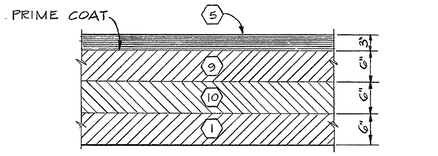
INV. NO. DACA63-81-B-0077 DATED: APR. 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER C-31 SHEET NO. 31 of 42
SEQUENCE NO. 31

CONTR. NO. DACA63-81-C-0125

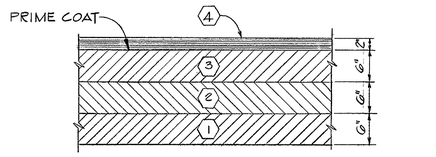
"DRAWING OF WORK AS BUILT"



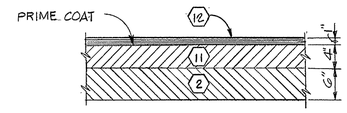
TYPE I PAVEMENT-TYPICAL SECTION
SCALE: 1"= 1'-0"
FLEXIBLE VEHICULAR PAVE.-POV AREAS & ACCESS DRIVES



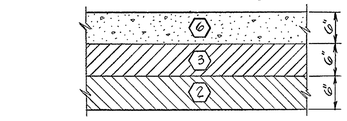
TYPE II PAVEMENT-TYPICAL SECTION
SCALE: 1"= 1'-0"
FLEXIBLE VEHICULAR PAVE.-ACCESS ROAD AND STORAGE AREA



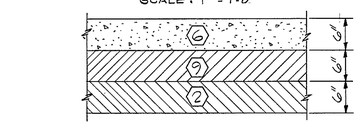
TYPE III PAVEMENT-TYPICAL SECTION
SCALE: 1"= 1'-0"
AIRFIELD PAVEMENT



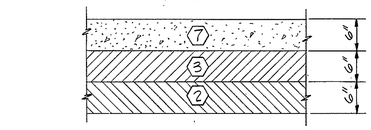
TYPE IV PAVEMENT STRUCTURE-TYPICAL SECTION
SHOULDERS FOR TAXIWAY & COMPASS SWING BASE
SCALE: 1"= 1'-0"



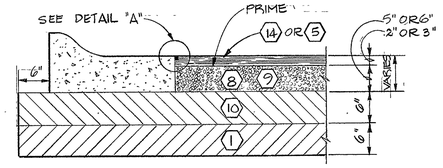
TYPE V PAVEMENT STRUCTURE-TYPICAL SECTION
RIGID PAVEMENT NONREINFORCED
SCALE: 1"= 1'-0"



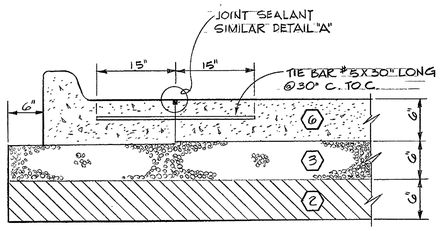
TYPE VI PAVEMENT STRUCTURE-TYPICAL SECTION
RIGID PAVEMENT NONREINFORCED — VEHICULAR RAMPS
SCALE: 1"=1'-0"



TYPE VII PAVEMENT STRUCTURE-TYPICAL SECTION
RIGID PAVEMENT REINFORCED-WASHRACK
SCALE: 1"=1'-0"



FLEXIBLE PAVEMENT - VEHICULAR WITH CURB AND GUTTER (MOUNTABLE & STANDARD BARRIER SEE LAYOUT PLAN)
SCALE: 1" = 1'-0"

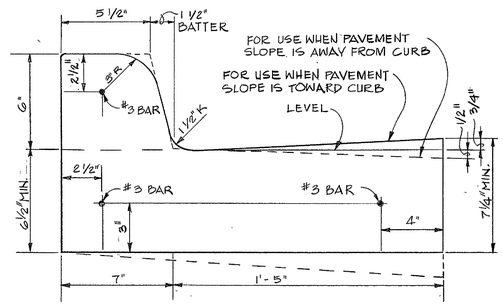


RIGID PAVEMENT WITH CURB & GUTTER (AT HANGAR SERVICE DRIVES)
NOT TO SCALE

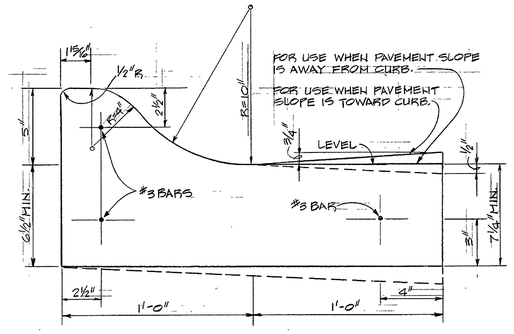
PAVING NOTES

1. 6" RAW SUBGRADE COMPACTED TO AT LEAST 90% MAX. DENSITY.
2. 6" RAW SUBGRADE COMPACTED TO AT LEAST 95% MAX. DENSITY.
3. 6" PORTLAND CEMENT STABILIZED BASE COURSE COMPACTED TO AT LEAST 100% MAX. DENSITY
4. 2" HOT MIX SURFACE COURSE (HIGH STABILITY - 1800).
5. 3" HOT MIX SURFACE COURSE. PLACED IN TWO EQUAL LAYERS.
6. 6" PORTLAND CEMENT CONCRETE.
7. 6" PORTLAND CEMENT CONCRETE W/#3 REBAR @ 15" O.C.E.W.
8. 5" BASE COURSE COMPACTED TO AT LEAST 100% MAX. DENSITY.
9. 6" BASE COURSE COMPACTED TO AT LEAST 100% MAX. DENSITY.
10. 6" BASE COURSE COMPACTED TO AT LEAST 95% MAX. DENSITY.
11. 4" BASE COURSE COMPACTED TO AT LEAST 100% MAX. DENSITY.
12. 1" HOT MIX SURFACE COURSE.
14. 2" HOT MIX SURFACE COURSE.

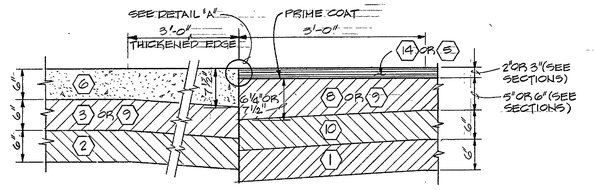
ALL DENSITIES ARE CE-55 MAXIMUM DENSITIES.



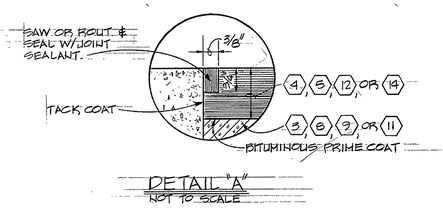
STANDARD BARRIER TYPE CONCRETE CURB AND GUTTER
SCALE: 3" = 1'-0"



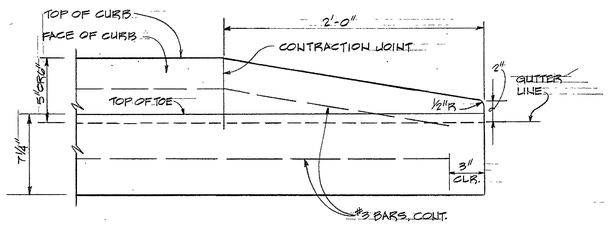
5" MOUNTABLE CONCRETE CURB AND GUTTER
SCALE: 3"=1'-0"



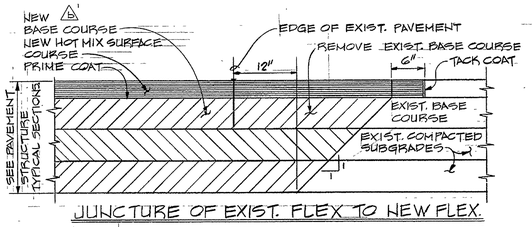
JUNCTURE OF RIGID & FLEXIBLE PAVEMENT
VEHICULAR PAVEMENT
SCALE: 1"-1'-0"



DETAIL "A"
NOT TO SCALE

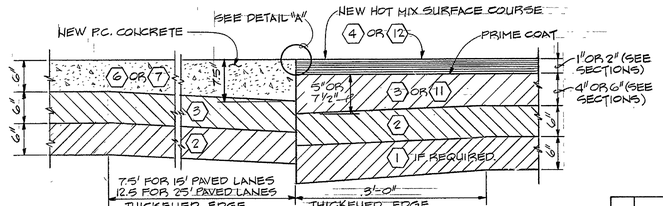


TERMINAL CURB DETAIL
NOT TO SCALE

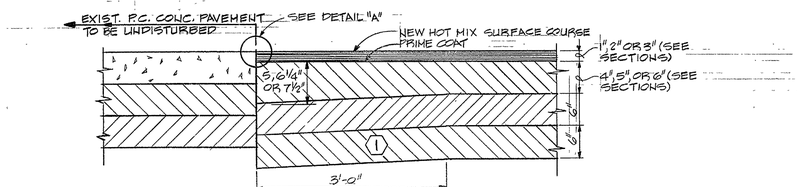


JUNCTURE OF EXIST. FLEX TO NEW FLEX.

NOTE: TYPICAL FOR PAVEMENT TYPE I, TYPE II, TYPE III, & TYPE IV.



JUNCTURE DETAIL - NEW RIGID TO NEW FLEX.
AIRFIELD PAVEMENT
N.T.S.



JUNCTURE OF EXIST. RIGID TO NEW FLEXIBLE

NOTE: TYP. FOR PAVEMENT TYPE I, TYPE II, TYPE III, & TYPE IV. SEE SECTIONS FOR PAVEMENT STRUCT.

SYM	I.D. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18MAY83	"REVISED AS-BUILT"
△2		AM#0002	24APR81	REVISED TO REFLECT W.I CHANGE

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: J. SILVA
DRAWN BY: MDT
CHECKED BY: L. CARR

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

PAVING DETAILS

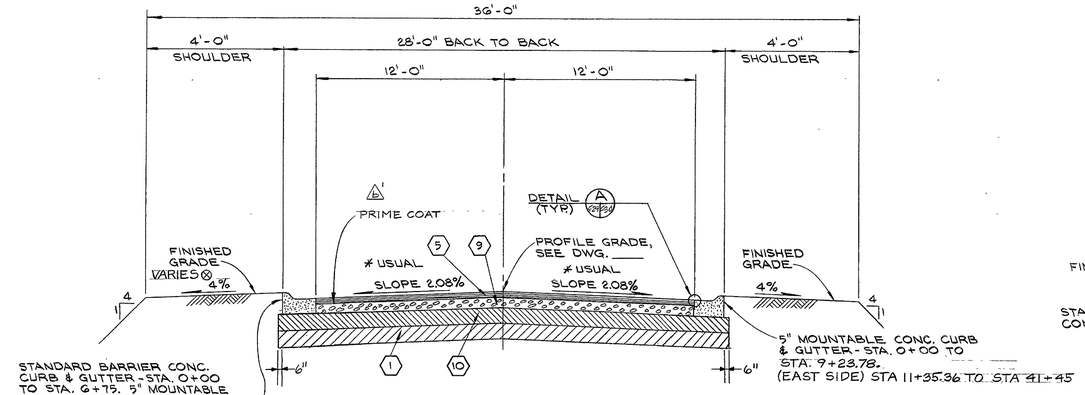
INV. NO. DACA63-81-B-0077 DATED: APR. 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER
SHEET NO. C-30 OF 42
SEQUENCE NO. 30

CONTR. NO. DACA63-81-C-0125

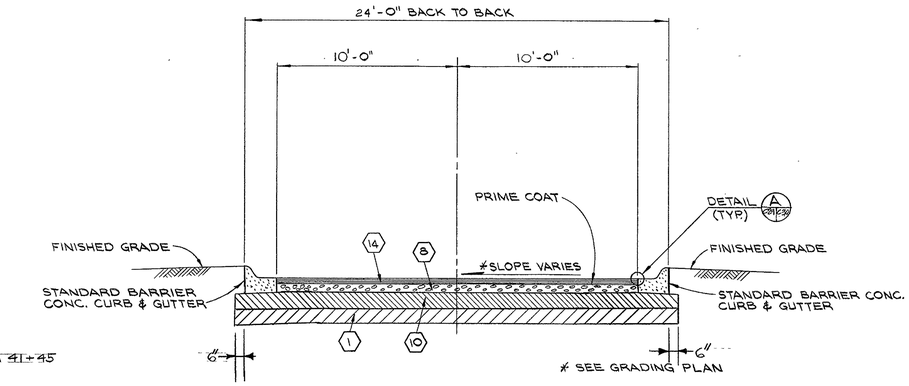
DRAWING AS BUILT

△2

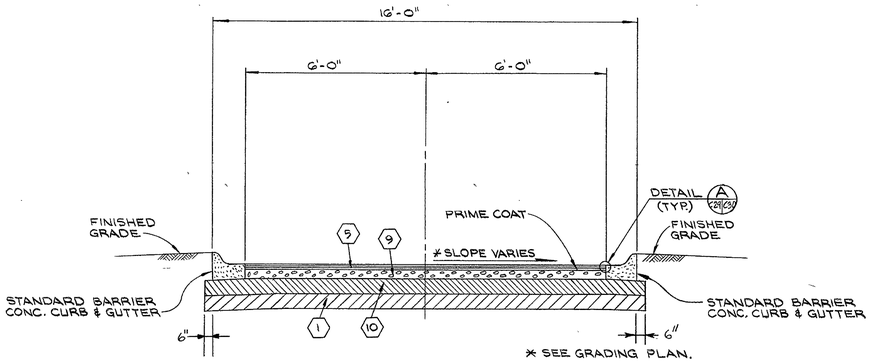
AF 11432



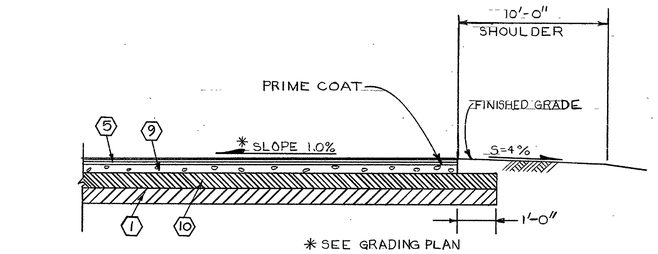
ACCESS ROADWAY STA. 0+00 TO STA. 9+23.78 (BASE BID)
STA 11+35.36 TO STA 41+45
(ADDITIVE NO. 7)
N.T.S.



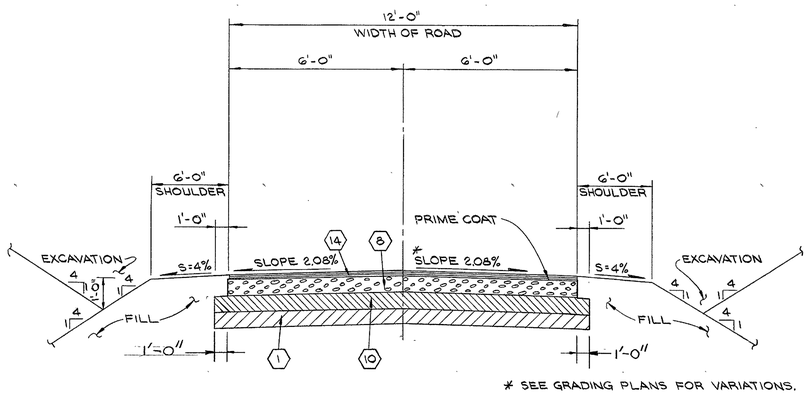
FLEXIBLE PAVEMENT - P.O.V. PARKING AND ACCESS DRIVES TO P.O.V. AREA
ADDITIVE NO. 5
N.T.S.



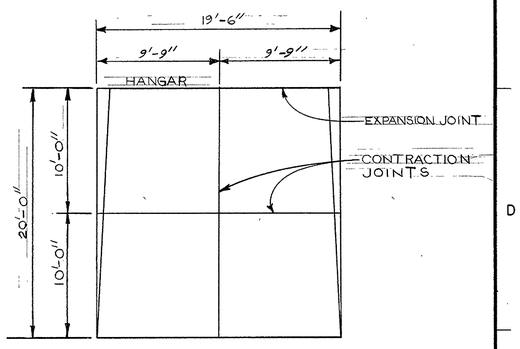
FLEXIBLE PAVEMENT - ACCESS ROADS TO VEHICLE RAMPS & STORAGE AREA
(BASE BID)
N.T.S.



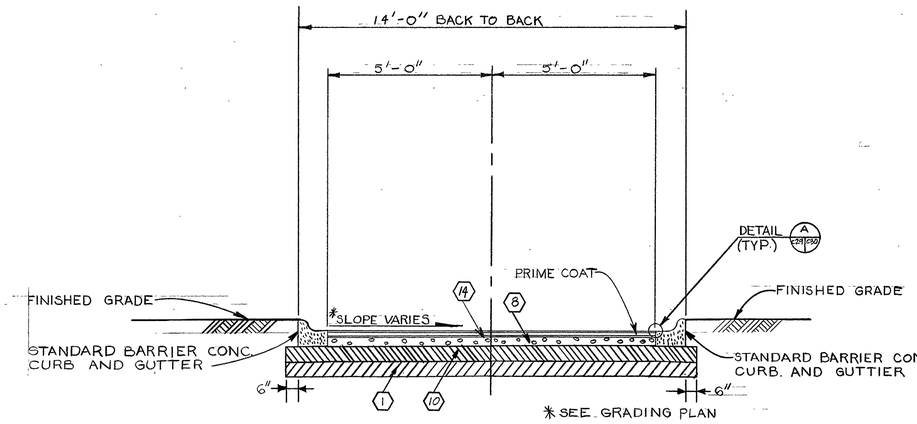
FLEXIBLE PAVEMENT - STORAGE AREA PROPER
ADDITIVE NO. 2
N.T.S.



FLEXIBLE PAVEMENT ROADWAY TO AIRFIELD NIGHT LIGHTING VAULT & EMERGENCY GENERATOR BLDG. & AREA SOUTH AND WEST ADJACENT TO THE BLDG. & ROADWAY ADDITIVE 6
N.T.S.



LAYOUT SHOWING JOINT PATTERN OF HANGAR VEHICULAR RAMPS
N.T.S.



FLEXIBLE PAVEMENT - FIRE LANE
(BASE BID)
N.T.S.

NOTE:
SEE SEQ'S 24 & 80 FOR LEGEND & PAVING NOTES, FOR DEPTH AND COMPACTION REQUIREMENTS.

SYM	DO. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18MAY83	"REVISED AS-BUILT"
Δ5	AM**0002	24 APR 81		REVISED TO REFLECT W.I CHANGE

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: ---
DRAWN BY: O.E.C.
CHECKED BY: ---

FORT POLK, LOUISIANA

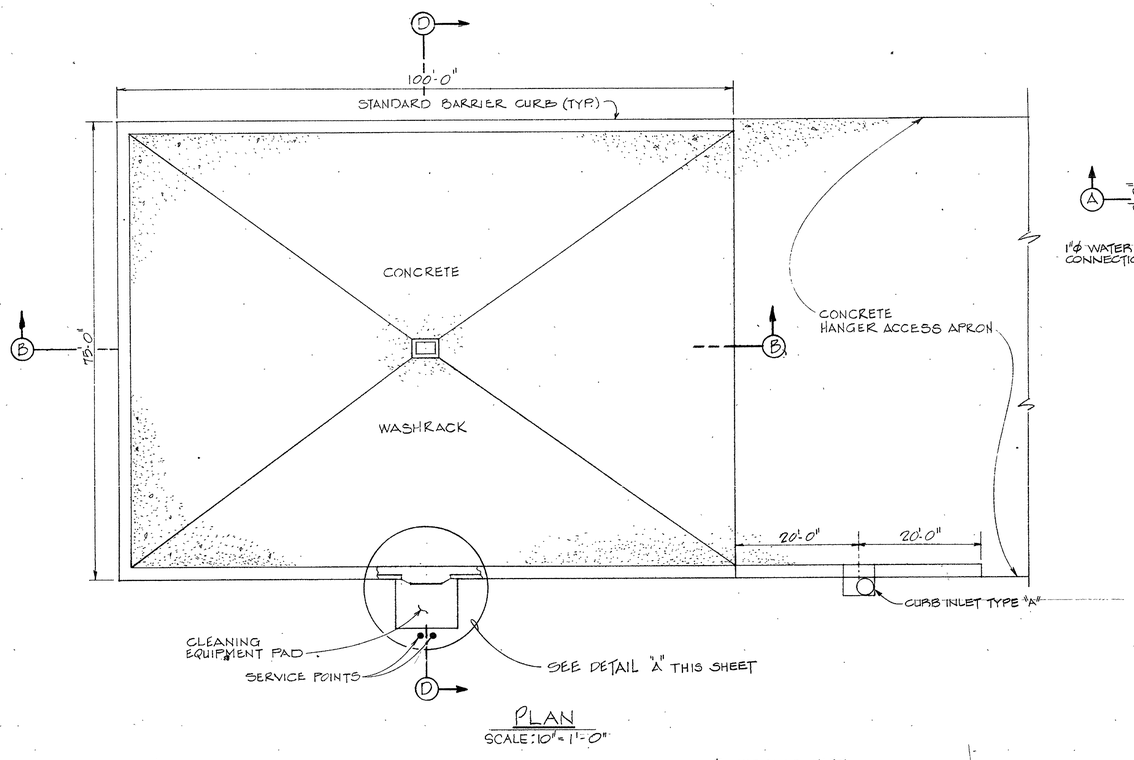
AIRFIELD AND SUPPORT FACILITIES PHASE II

ROADWAY PAVING SECTION AND JOINT PATTERN LAYOUT

INV. NO. DACA63-81-B-0077 DATED: APR. 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER C-29 SHEET NO. OF 42
SEQUENCE NO. 29

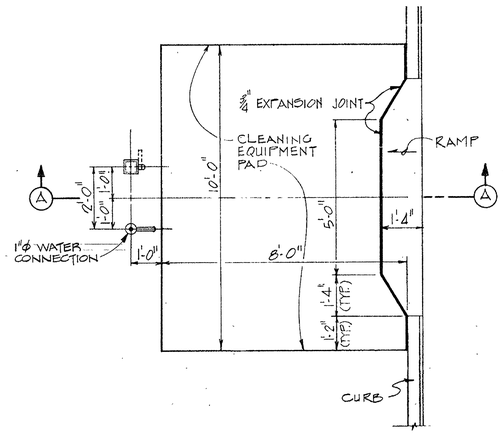
CONTR. NO. DACA63-81-C-0125

"DRAWING OF WORK AS BUILT"



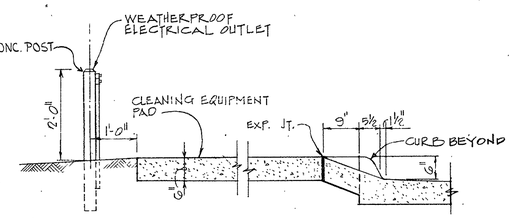
PLAN

SCALE: 1" = 1'-0"



DETAIL "A"

SCALE 1/2" = 1'-0"

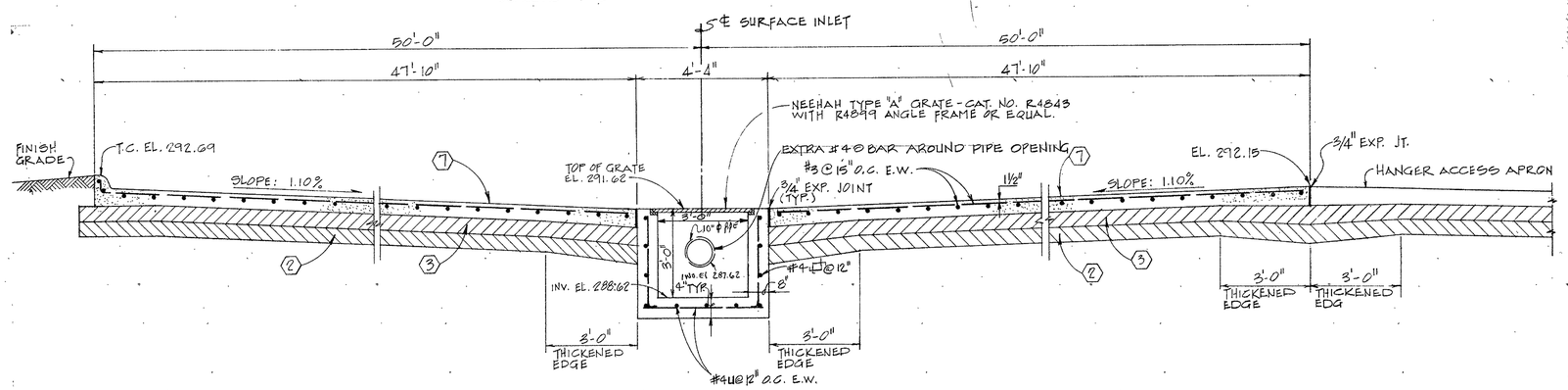


SECTION A-A

SCALE: 3/4" = 1'-0"

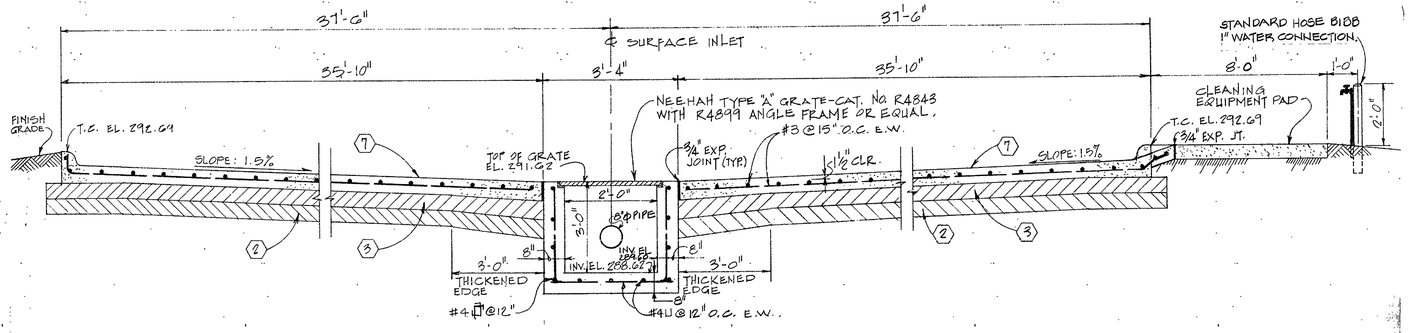
NOTE:

PAVEMENT STRUCTURE SEE LEGEND SEQUENCE NO. 21. PAVEMENT STRUCTURE SEE PAVING NOTES SEQUENCE NO. 30.



SECTION "B-B"

N.T.S.



SECTION "D-D"

N.T.S.

SYM.	DO. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18 MAY 83	"REVISED AS-BUILT"

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: J. SILVA
DRAWN BY: BNP
CHECKED BY: L. CARR

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II
WASHRACK
WASHRACK PLAN AND DETAILS
(ADDITIVE NO. 3)

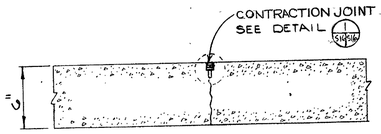
SUBMITTED BY:
ENGINEER:

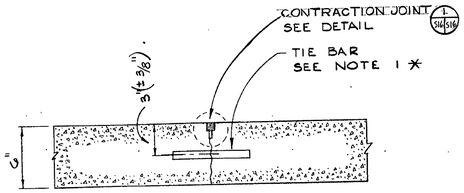
INV. NO. DACA63-81-B-0077 DATED: APR. 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER
SHEET NO. C-25 OF 42
SEQUENCE NO. 28

CONTR. NO. DACA63-81-C-0125

"DRAWING OF WORK AS BUILT"

CORPS OF ENGINEERS

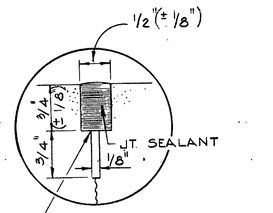




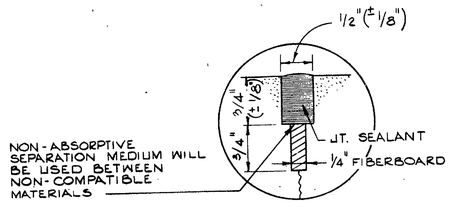
*NOTE 1: #5 DEF STEEL TIE BARS 2'-6" LONG AND SPACED 2'-6" ON CENTERS. USED ONLY IN JOINTS ADJACENT TO FREE EDGES.

LONGITUDINAL CONTRACTION JOINT

NOT TO SCALE

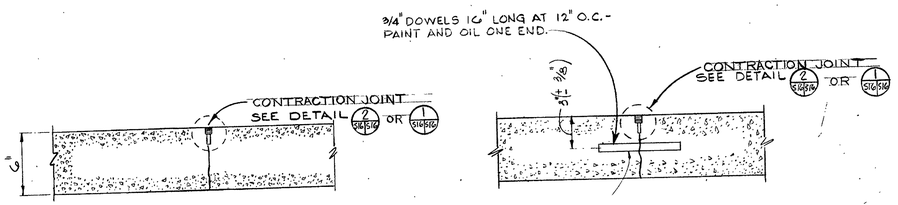


SAWED
DETAIL 1 5/16 5/16



FIBERBOARD FILLER

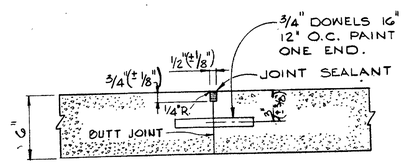
DETAIL 2 5/16 5/16



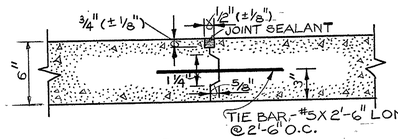
USE ONLY IN THE LAST 3 TRANSVERSE JOINTS BACK FROM ENDS OF SLAB.

TRANSVERSE CONTRACTION JOINT

NOT TO SCALE



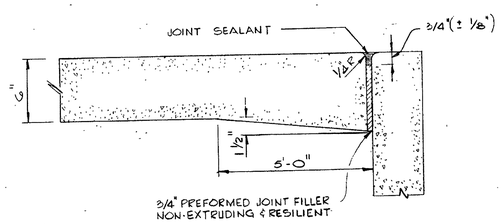
DOWELED JOINT



KEYED JOINT

LONGITUDINAL OR TRANSVERSE CONSTRUCTION JOINT ⚠

N.T.S.



THICKENED EDGE EXPANSION JOINT
(AT DRAINAGE STRUCTURE OR BUILDING)

NOT TO SCALE

SYM	DO. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18MAY83	"REVISED AS-BUILT"
⚠	AM#0002		24APR81	ADDED DETAIL

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: GNS/RCW
DRAWN BY: BNP
CHECKED BY: LC CARR

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

CONCRETE PAVEMENT JOINT DETAILS

SUBMITTED BY:
ENGINEER:

INV. NO. DACA63-81-B-0077 DATED: APR. 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER
SHEET NO. C-27 OF 4-2
SEQUENCE NO. 27

CONTR. NO. DACA63-81-C-0125

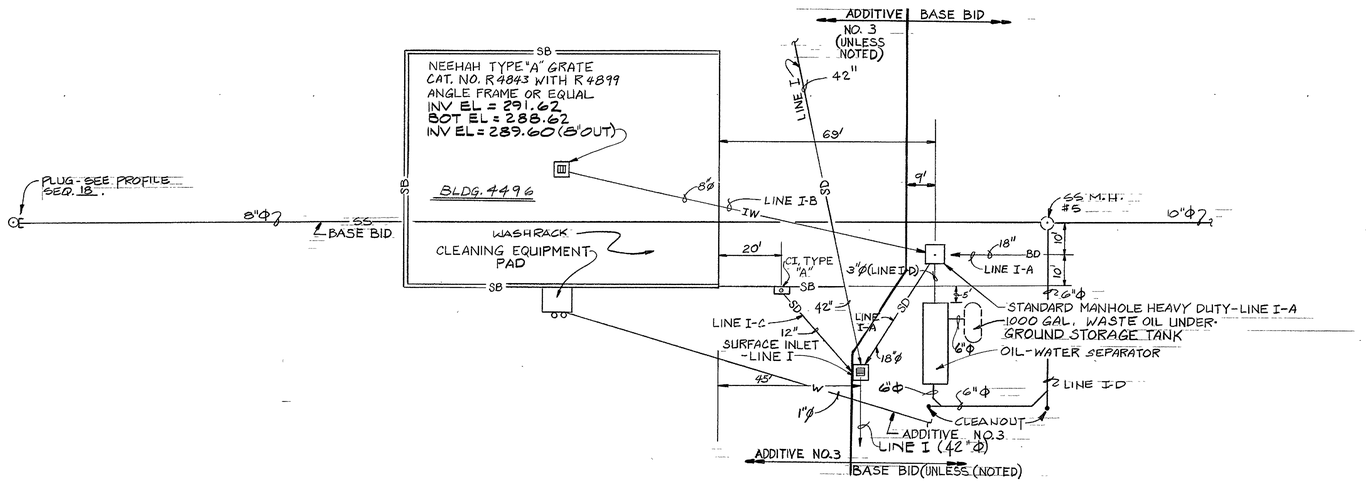
"DRAWING OF WORK AS BUILT"

⚠

Attenuate

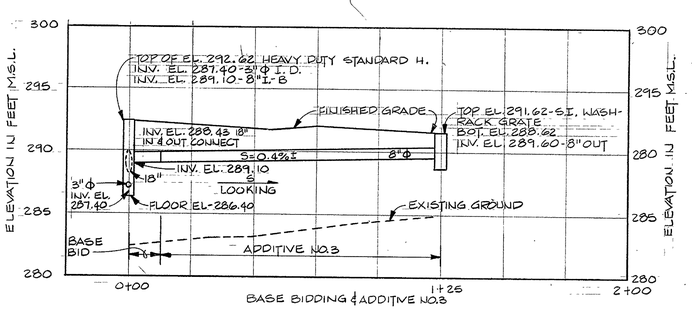
CITY BLUEPRINT 9-77

AF 11432



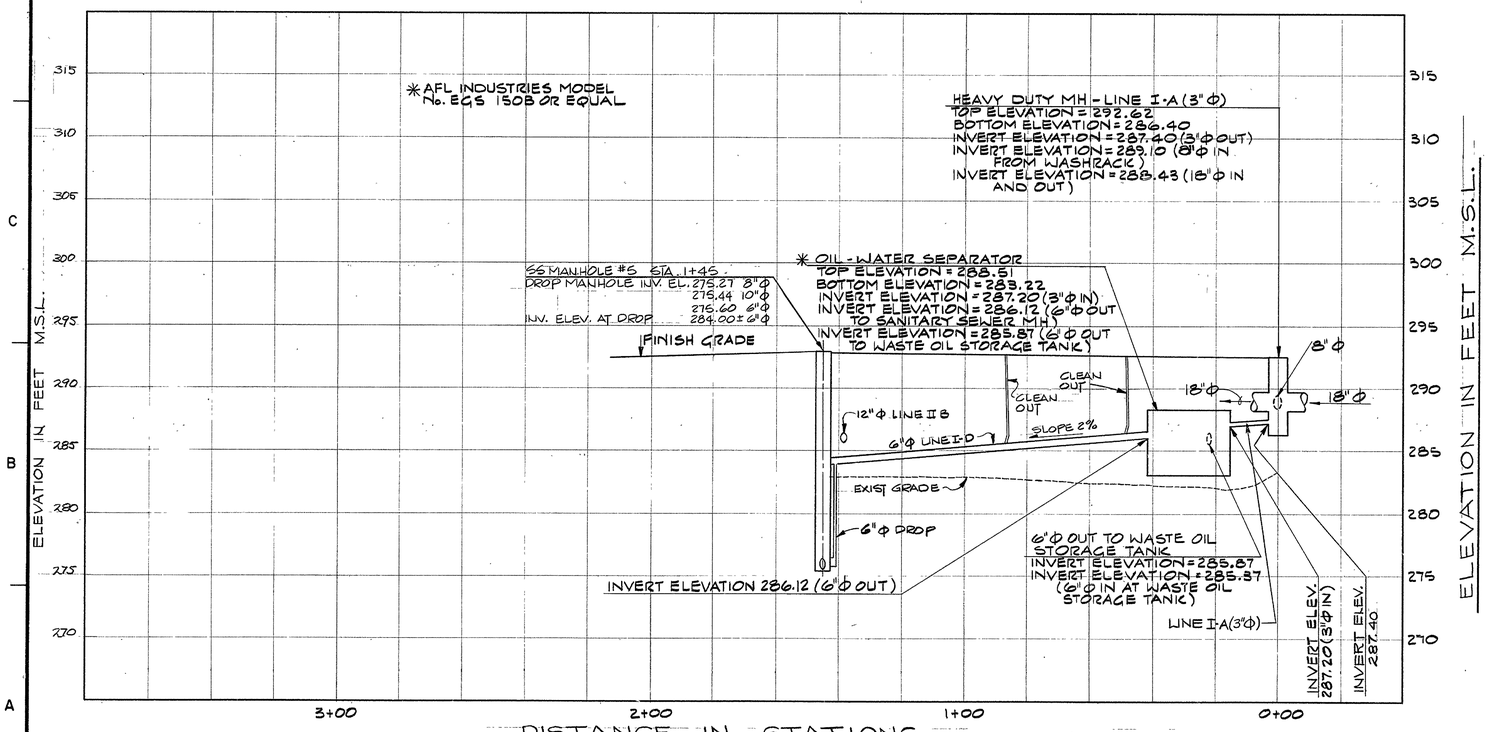
PLAN - OIL-WATER SEPARATOR AND INDUSTRIAL WASTE LINE
(BASE BID PLUS ADDITIVE No. 3)

SCALE = 1" = 20'



PROFILE LINE I-B

SCALE: VERT. - 1"=5'
HORIZ. - 1"=25'



PROFILE - LINE I-D (IW) FROM MANHOLE I-A TO SANITARY SEWER MANHOLE #5
(BASE BID)

SCALE = VERTICAL 1"=5'
HORIZONTAL 1"=20'

SYM.	D.O. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18 MAY 83	"REVISED AS-BUILT"
1	AM#0002	24APR81		GENERAL REVISION

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: J. SILVA
DRAWN BY: BNF
CHECKED BY: L. CARR

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

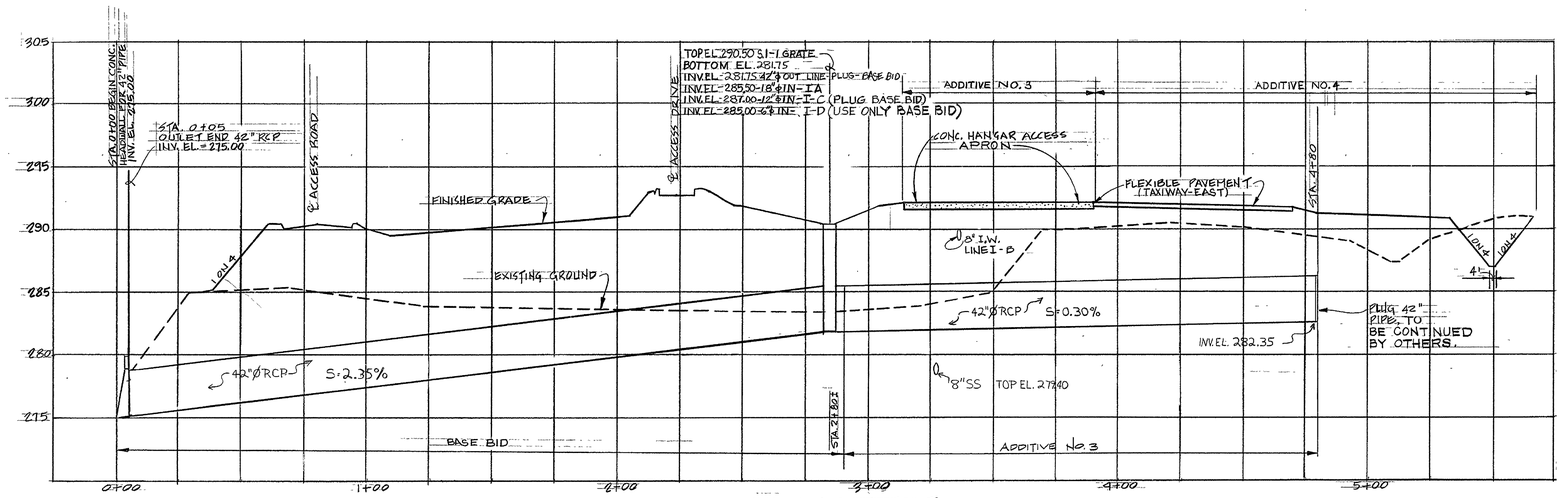
PLAN AND PROFILE OF INDUSTRIAL WASTE LINES - TO OIL-WATER SEPARATOR
(FOR BASE BID AND BASE BID PLUS ADDITIVE NO. 3)

INV. NO. DACA63-81-B-0077 | DATED: APR. 81
CONTR. NO. DACA63-81-C-0125 | SEQUENCE NO. 26
DRAWING NUMBER | SHEET NO. C-26 OF 42

CONTR. NO. DACA63-81-C-0125

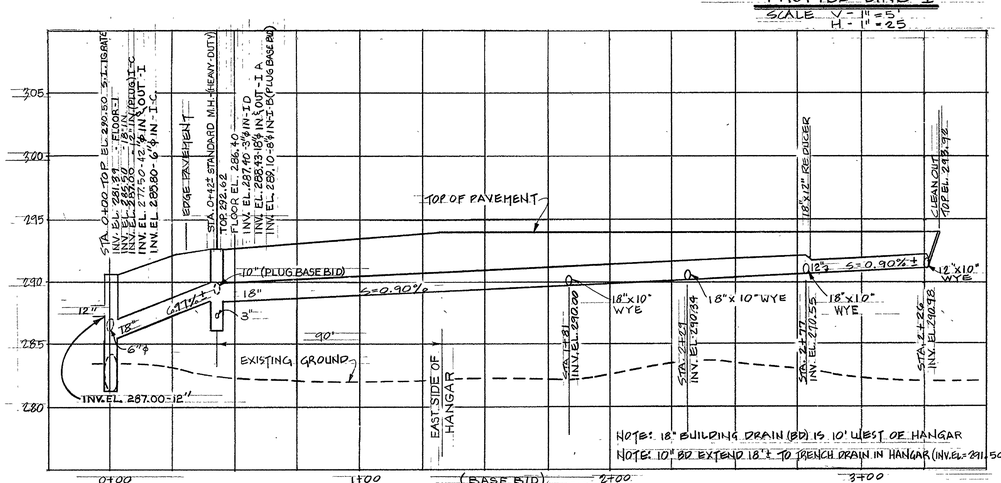
"DRAWING OF WORK AS BUILT"

AF 11432



PROFILE LINE I

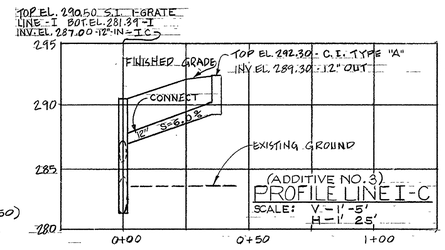
SCALE V-1"=5' H-1"=25'



(BASE BID)

PROFILE LINE I-A

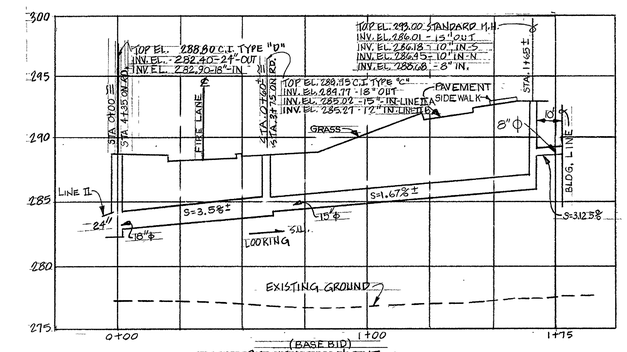
SCALE: V-1"=5' H-1"=25'



(ADDITIVE NO. 3)

PROFILE LINE I-C

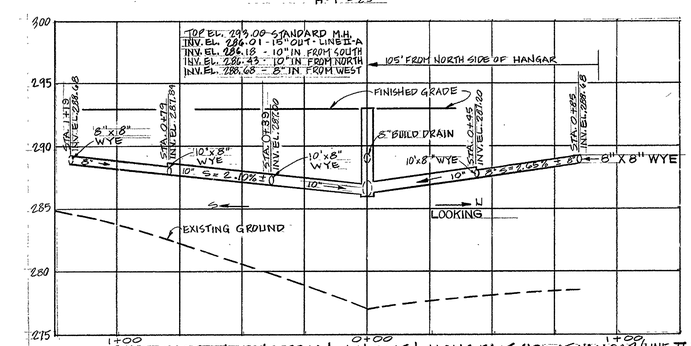
SCALE: V-1"=5' H-1"=25'



(BASE BID)

PROFILE LINE II-A

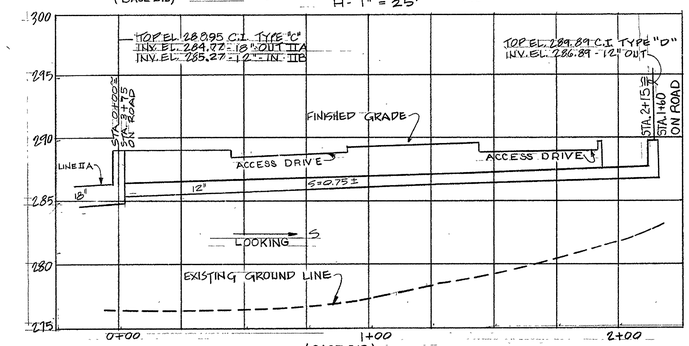
SCALE: V-1"=5' H-1"=25'



(BASE BID)

PROFILE OF BUILDING DRAIN - 10' EAST & ALONG EAST SIDE OF HANGAR (LINE II-A)

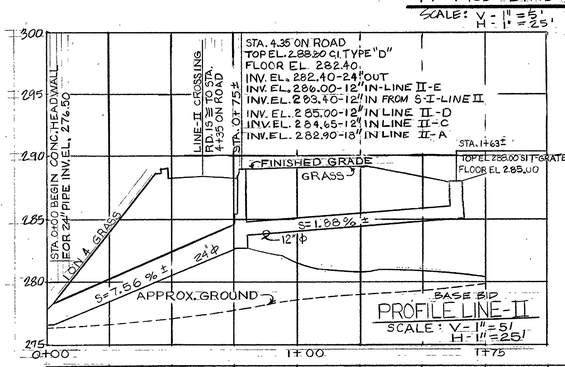
SCALE: V-1"=5' H-1"=25'

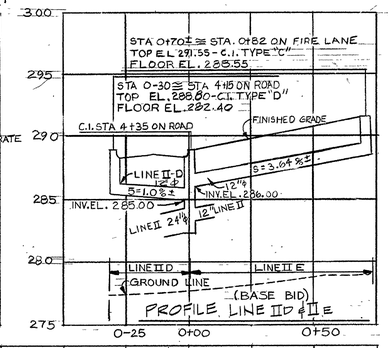


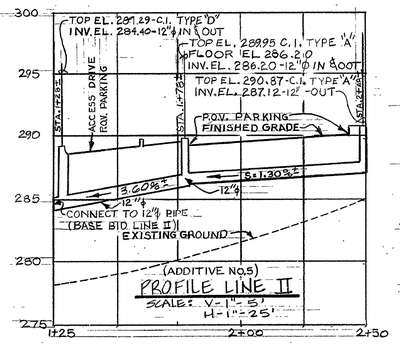
(BASE BID)

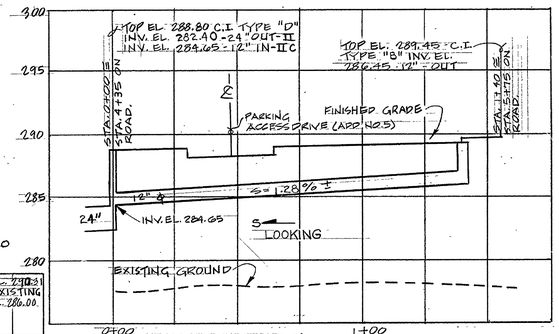
PROFILE LINE II-B

SCALE V-1"=5' H-1"=25'





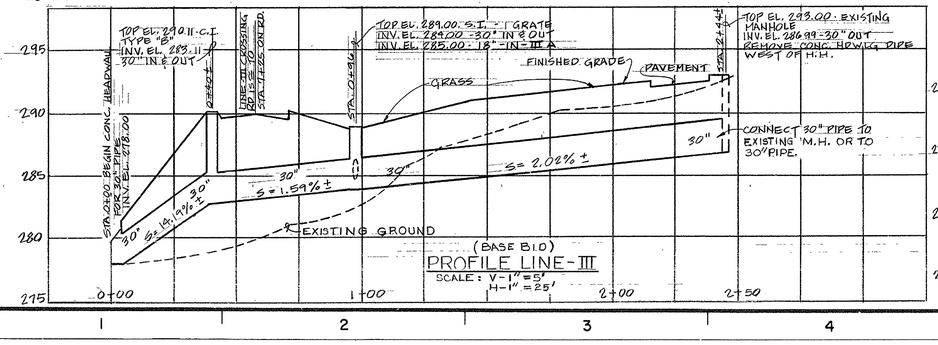


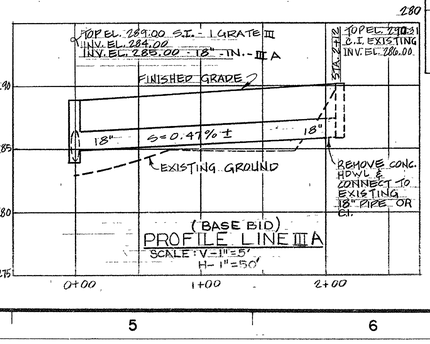


(BASE BID)

PROFILE LINE II-C

SCALE: V-1"=5' H-1"=25'





SYM.	DO. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18MAY83	"REVISED AS-BUILT"

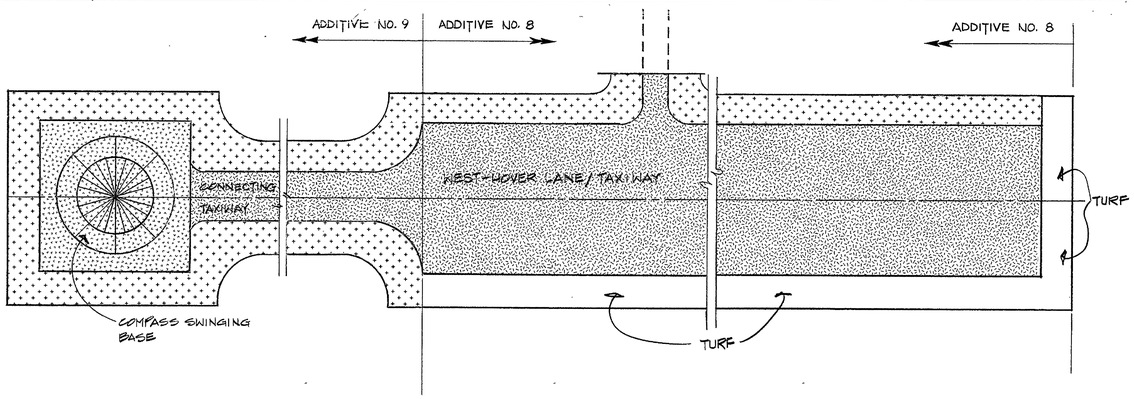
U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

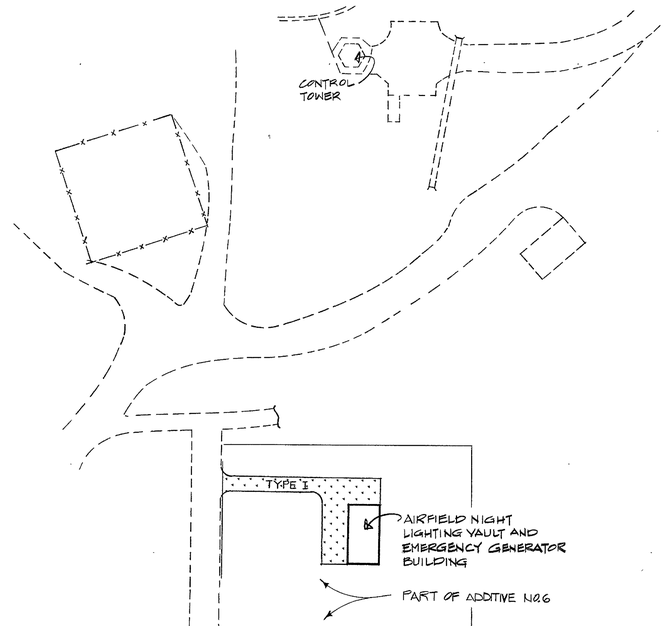
DESIGNED BY:	FORT POLK, LOUISIANA
J. SILVA	
DRAWN BY:	AIRFIELD AND SUPPORT FACILITIES PHASE II
E.S.	
CHECKED BY:	STORM DRAINS PROFILES
L. CARR	

INV. NO. DACA63-81-B-0077 DATED: APR 1981
CONTRACT NO. DACA63-81-C-0125
DRAWING NUMBER
SHEET NO. C25 OF 42
SEQUENCE NO. 25
CONTR. NO. DACA63-81-C-0125

"DRAWING OF WORK AS BUILT"

AF 11432





LEGEND

SYMBOL

PAVEMENT STRUCTURE

TYPE I – VEHICULAR PAVEMENT – POV AREAS & ACCESS DRIVES.
2" HOT MIX SURFACE COURSE
5" BASE COURSE COMPACTED TO AT LEAST 100% MAX. DENSITY.
6" BASE COURSE COMPACTED TO AT LEAST 95% MAX. DENSITY.
6" RAW SUBGRADE COMPACTED TO AT LEAST 90% MAX. DENSITY.

TYPE II – VEHICULAR PAVEMENT – ACCESS ROAD & STORAGE AREA.
3" HOT MIX SURFACE COURSE. PLACED IN TWO EQUAL LAYERS.
6" BASE COURSE COMPACTED TO AT LEAST 100% MAX. DENSITY.
6" BASE COURSE COMPACTED TO AT LEAST 95% MAX. DENSITY.
6" RAW SUBGRADE COMPACTED TO AT LEAST 90% MAX. DENSITY.

TYPE III – AIRFIELD PAVEMENT
2" HOT MIX SURFACE COURSE (HIGH STABILITY-1800)
6" PORTLAND CEMENT STABILIZED BASE COURSE COMPACTED TO AT LEAST 100% MAX. DENSITY.
6" RAW SUBGRADE COMPACTED TO AT LEAST 95% MAX. DENSITY.
6" RAW SUBGRADE COMPACTED TO AT LEAST 90% MAX. DENSITY.

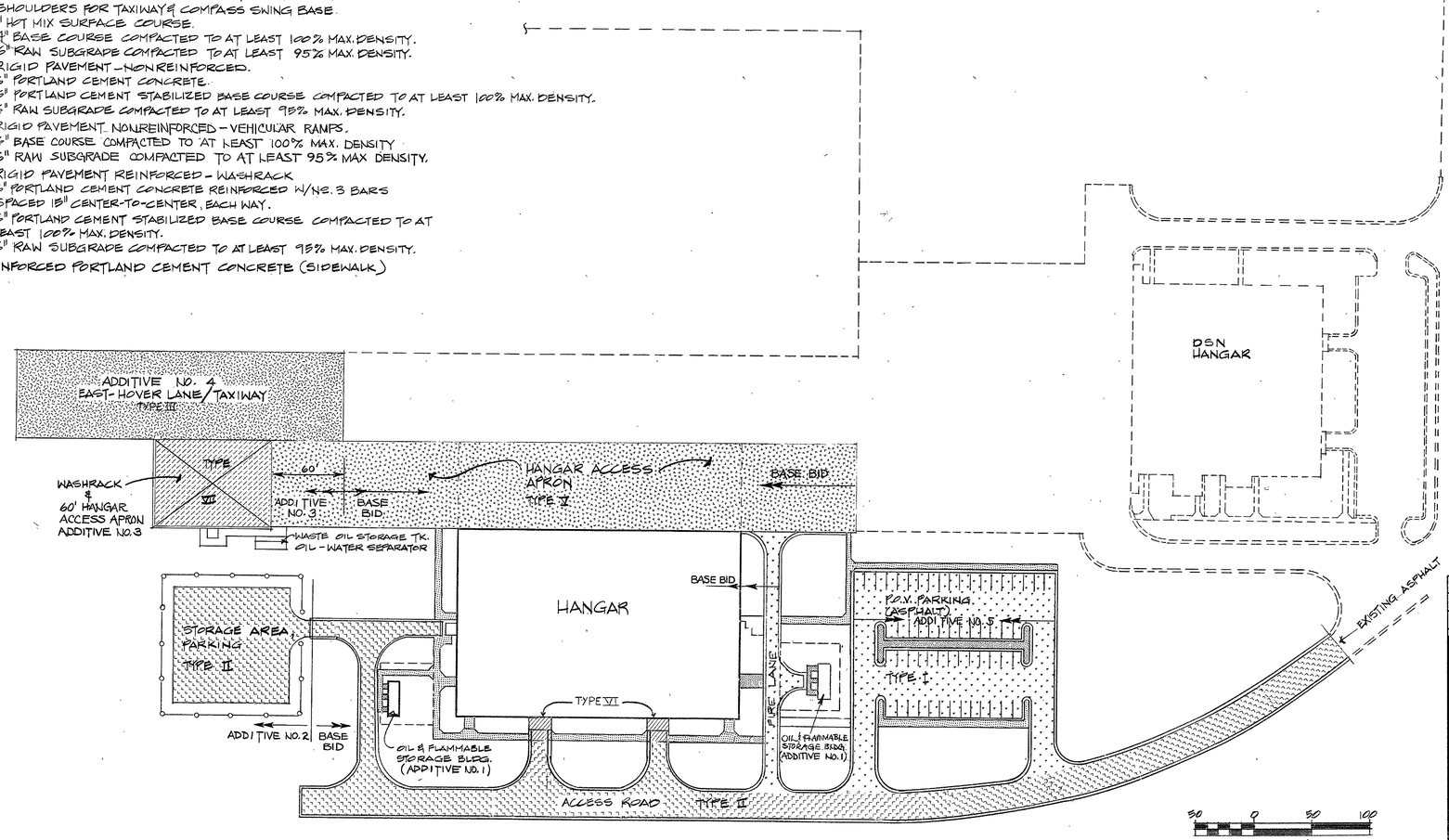
TYPE IV – SHOULDERS FOR TAXIWAY & COMPASS SWING BASE.
1" HOT MIX SURFACE COURSE.
4" BASE COURSE COMPACTED TO AT LEAST 100% MAX. DENSITY.
6" RAW SUBGRADE COMPACTED TO AT LEAST 95% MAX. DENSITY.

TYPE V – RIGID PAVEMENT – NONREINFORCED.
6" PORTLAND CEMENT CONCRETE.
6" PORTLAND CEMENT STABILIZED BASE COURSE COMPACTED TO AT LEAST 100% MAX. DENSITY.
6" RAW SUBGRADE COMPACTED TO AT LEAST 95% MAX. DENSITY.

TYPE VI – RIGID PAVEMENT. NONREINFORCED – VEHICULAR RAMPS.
6" BASE COURSE COMPACTED TO AT LEAST 100% MAX. DENSITY
6" RAW SUBGRADE COMPACTED TO AT LEAST 95% MAX DENSITY.

TYPE VII – RIGID PAVEMENT REINFORCED – WASHRACK
6" PORTLAND CEMENT CONCRETE REINFORCED W/NO. 3 BARS SPACED 18" CENTER-TO-CENTER, EACH WAY.
6" PORTLAND CEMENT STABILIZED BASE COURSE COMPACTED TO AT LEAST 100% MAX. DENSITY.
6" RAW SUBGRADE COMPACTED TO AT LEAST 95% MAX. DENSITY.

4' NON-REINFORCED PORTLAND CEMENT CONCRETE (SIDEWALK)



SYM	NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18MAY83	"REVISED AS-BUILT"
1	AM**0002		24APR81	REVISED TO REFLECT WI CHANGE

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: J. SILVA
DRAWN BY: TLH
CHECKED BY: LCCARR

FORT POLK, LOUISIANA

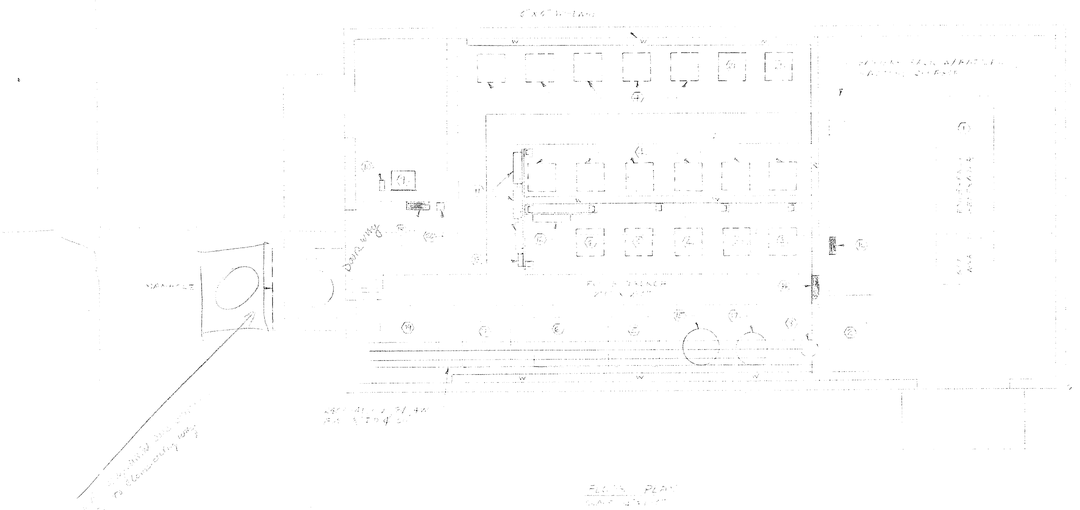
AIRFIELD AND SUPPORT FACILITIES PHASE II

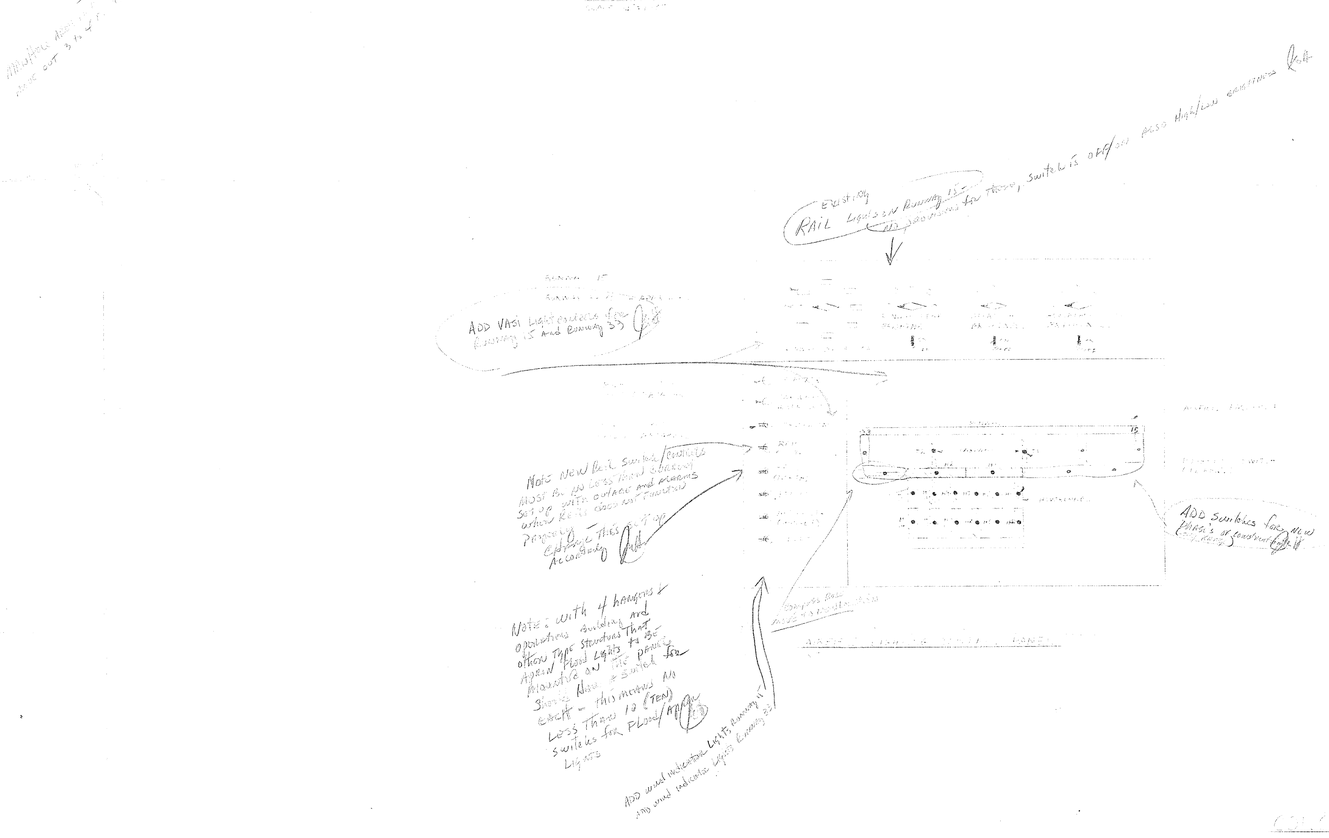
PAVING LAYOUT PLAN

BASE BID PLUS ADDITIVIES 1 (THRU) 9

INV. NO. DACA63-81-B-0077 DATED: APR 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER
SHEET NO. C-24 OF 42
SEQUENCE NO. 24
CONTR. NO. DACA63-81-C-0125

"DRAWING OF WORK AS BUILT"



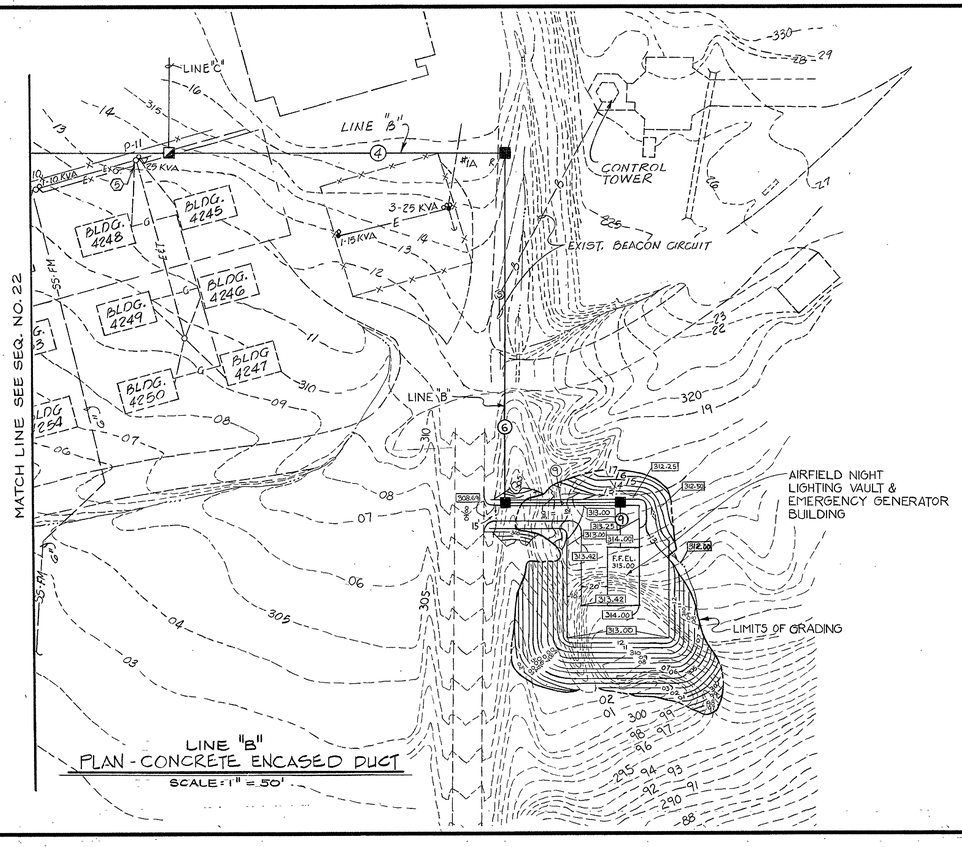


SYM	NO.	ACTION	DATE	DESCRIPTION OF REVISION

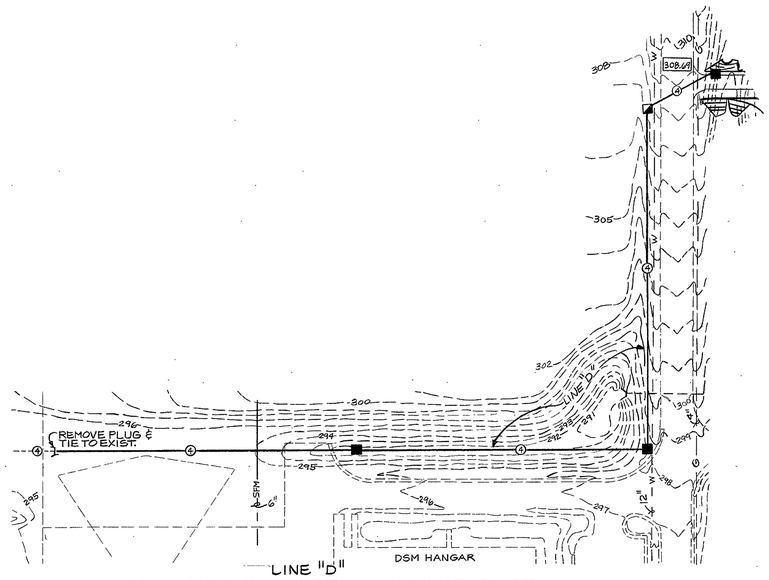
U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
SUBMITTED BY:
ENGINEER:

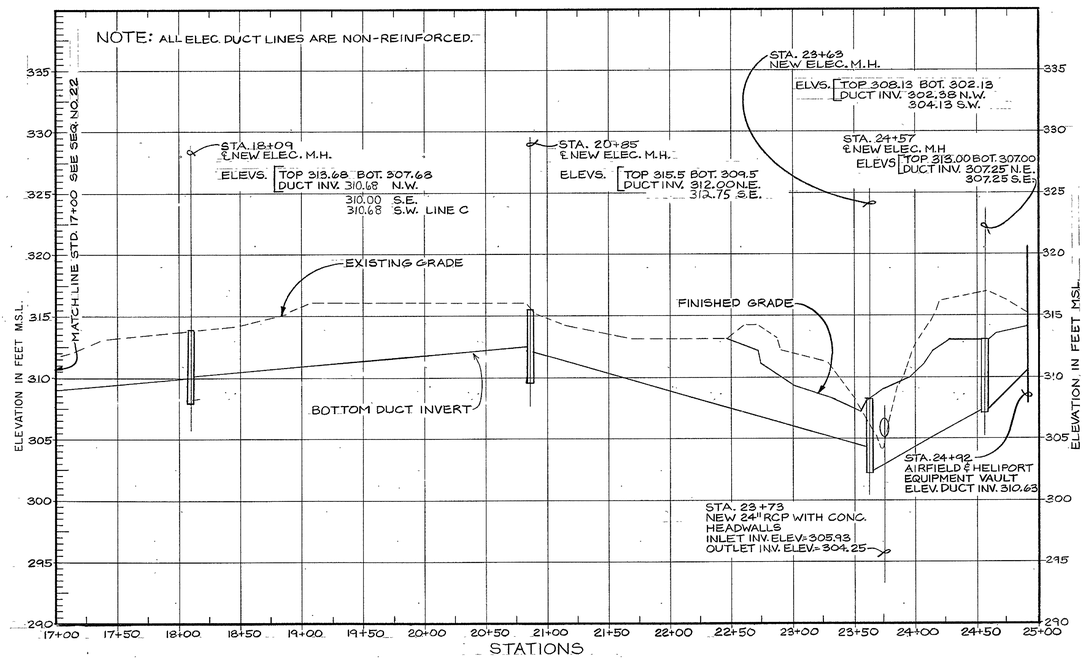
INV. NO. | DATED:
CONTR. NO.
DRAWING NUMBER | SHEET NO. / OF /
SEQUENCE NO.
CONTR. NO.



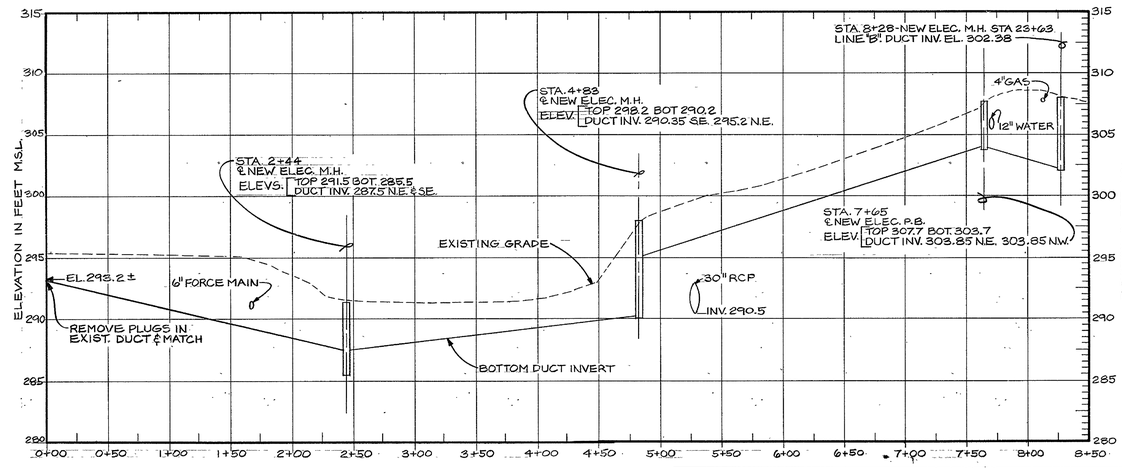
LINE "B"
PLAN - CONCRETE ENCASED DUCT
SCALE: 1" = 50'



LINE "D"
PLAN - CONCRETE ENCASED DUCT
SCALE: 1" = 50'



PROFILE ELEC. DUCT LINE "B"
SCALE: HORIZONTAL 1"=50' VERTICAL 1"=5'



PROFILE ELEC. DUCT LINE "D"
SCALE: HORIZONTAL 1"=50' VERTICAL 1"=5'

SYM	D.O. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18MAY83	"REVISED AS-BUILT"
1	AM#0001		17APR81	REVISED DRAWING

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: ---
DRAWN BY: D.M. KELLEY
CHECKED BY: ---
SUBMITTED BY:
ENGINEER:

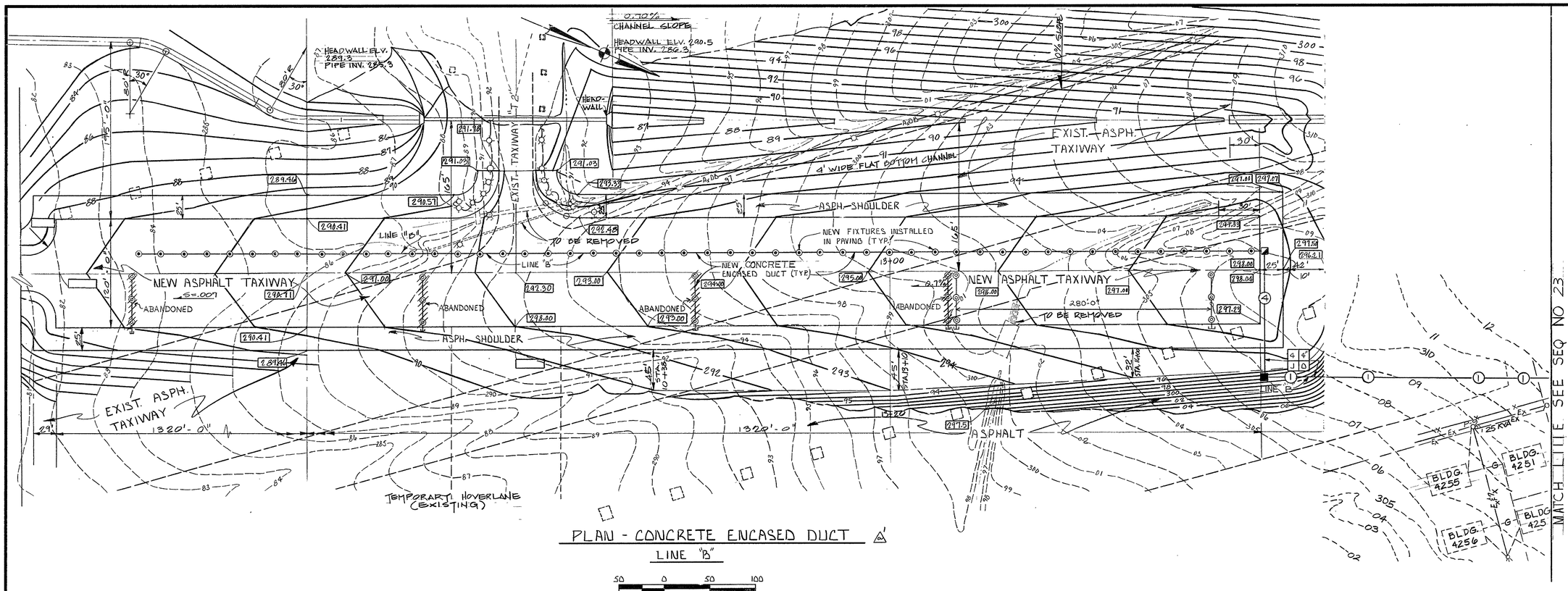
FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

PLAN & PROFILE - CONCRETE ENCASED DUCT
LINE "B" - STA. 17+00 TO STA. 24+92 AND LINE "D"

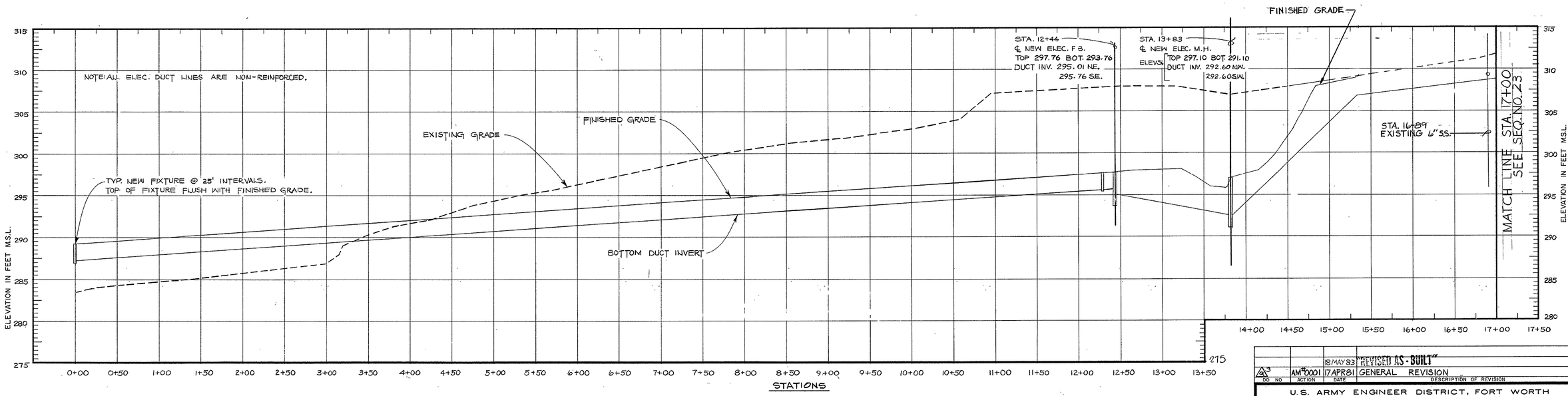
INV. NO. DACA63-81-B-0077 DATED: APRIL 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER
SHEET NO. C-23 OF 42
SEQUENCE NO. 23
CONTR. NO. DACA63-81-C-0125

"DRAWING OF WORK AS BUILT"



PLAN - CONCRETE ENCASED DUCT ⚠1
LINE "B"

50 0 50 100
SCALE OF FEET



PROFILE ELEC. DUCT LINE "B" ⚠2
SCALE: HORIZONTAL 1"=50'
VERTICAL 1"=5'

DO NO	ACTION	DATE	DESCRIPTION OF REVISION
		18 MAY 83	REVISED AS-BUILT
⚠3	AM 0001	17 APR 81	GENERAL REVISION

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: J. SILVA
DRAWN BY: D. PRICE JOHNSON
CHECKED BY: L. CARR
SUBMITTED BY: ENGINEER

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

PLAN AND PROFILE - CONCRETE ENCASED DUCT

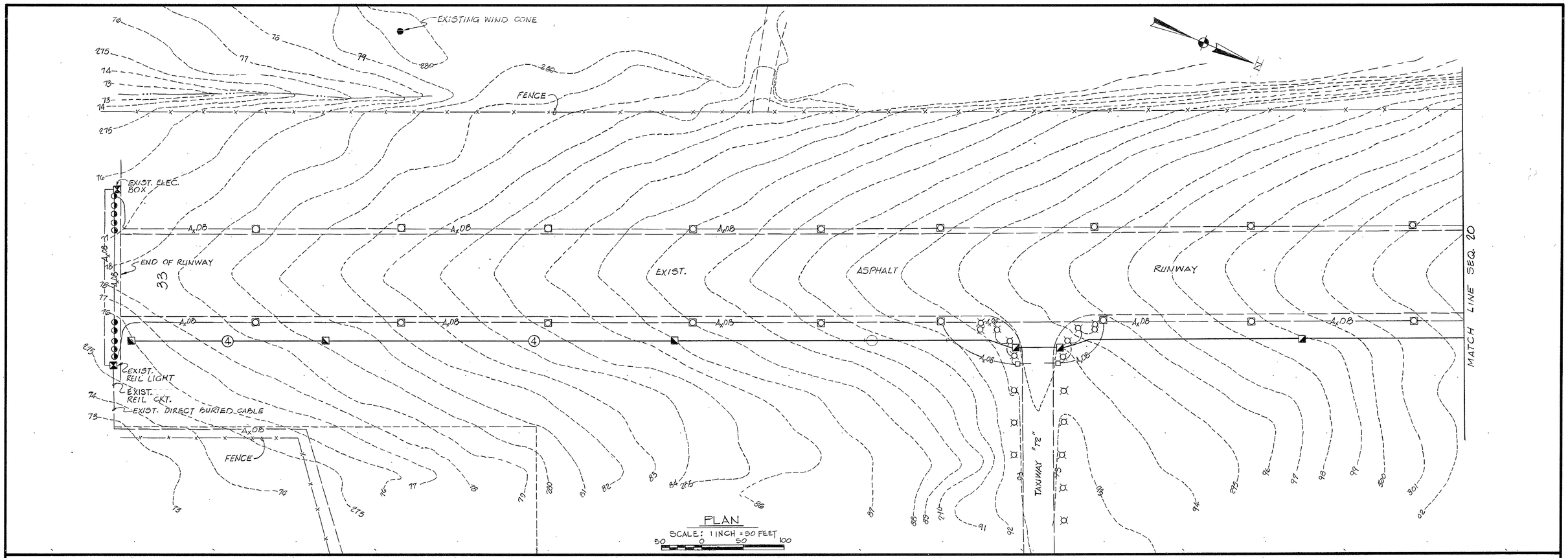
LINE "B" STA. 0+00 TO STA. 17+00 ⚠2

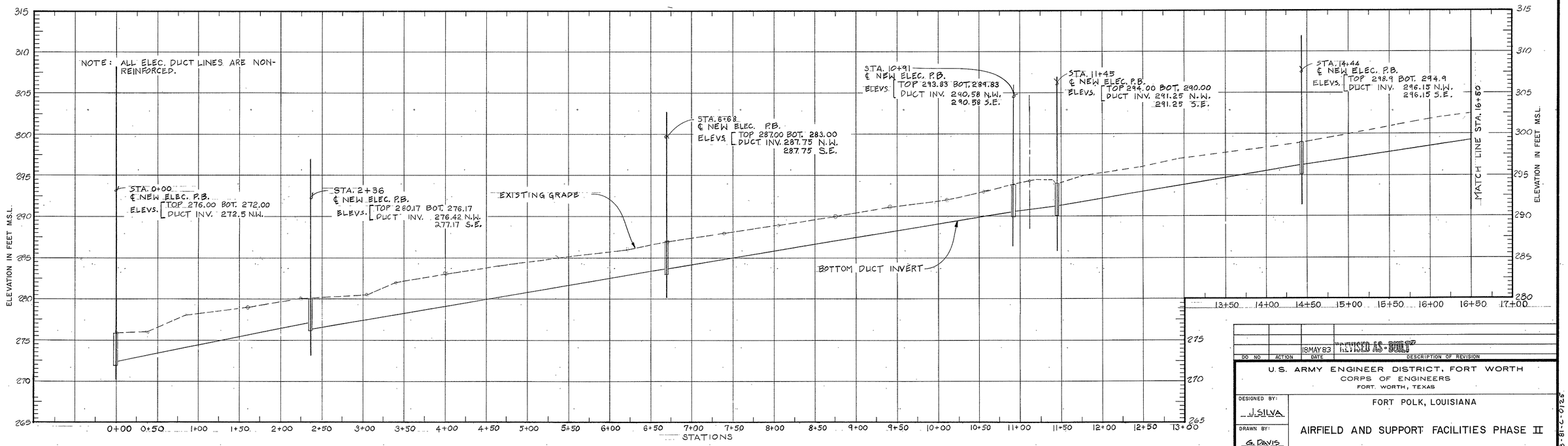
INVITATION NO. DACA63-81-B-0077 DATED APR 1981
CONTR NO. DACA63-81-C-0125
DRAWING NUMBER C-22 OF 42
SEQUENCE NO 22

CONTR. NO. DACA63-81-C-0125

"DRAWING OF WORK AS BUILT" ⚠3

⚠4 ⚠2





PROFILE ELEC. DUCT LINE "A"
SCALE: HORIZONTAL 1"=50' VERTICAL 1"=50'

DO NO	ACTION	DATE	DESCRIPTION OF REVISION
		18MAY83	REVISED AS BUILT

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT. WORTH, TEXAS

DESIGNED BY: J.SILVA
DRAWN BY: G.DAVIS
CHECKED BY: L.CARR

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

PLAN AND PROFILE CONCRETE ENCASED DUCT

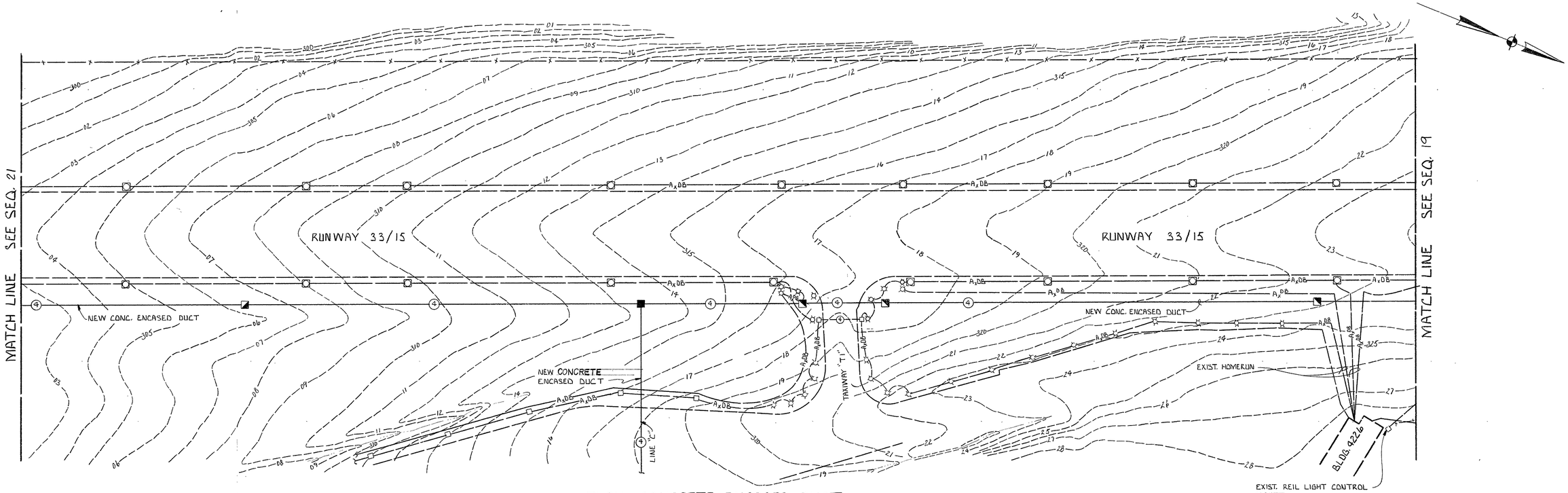
LINE "A" STA. 0+00 TO STA. 16+50

SUBMITTED BY:
ENGINEER

INV. NO. DACA63-81-B-0077 DATED APR. 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER
SHEET NO. C-21 OF 42
SEQUENCE NO. 21

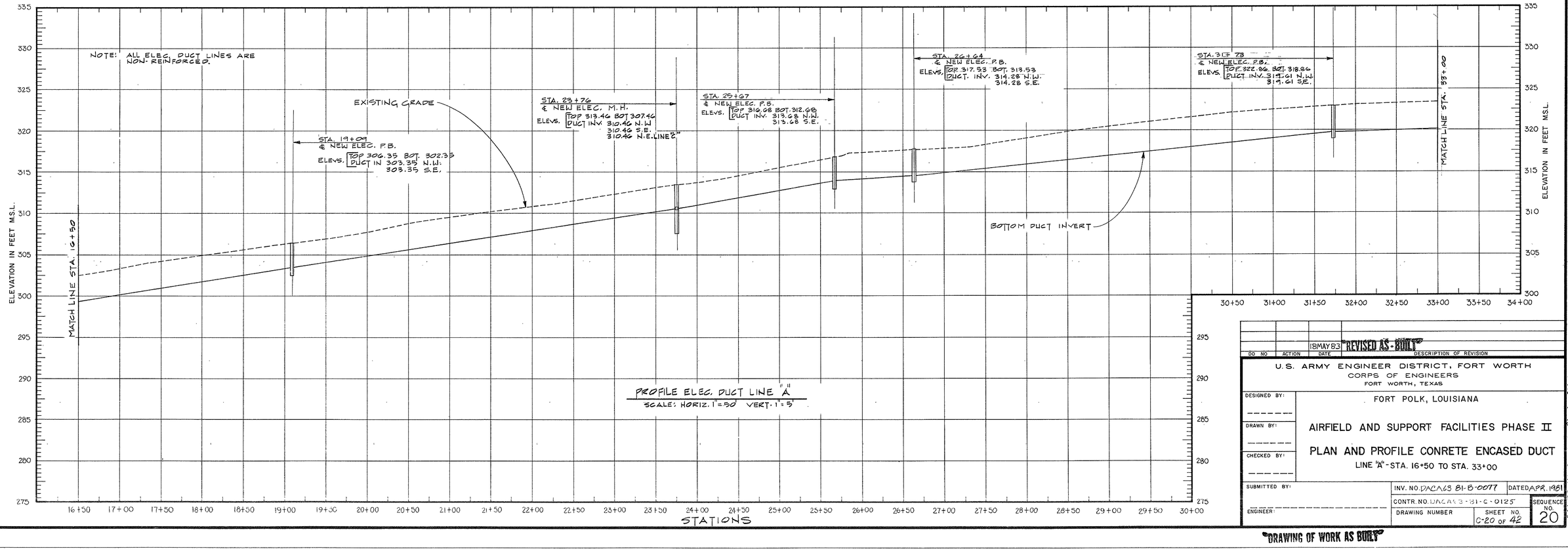
CONTR. NO. DACA63-81-C-0125

"DRAWING OF WORK AS BUILT"



PLAN – CONCRETE ENCASED DUCT
LINE "A"

50 0 50 100
SCALE OF FEET



PROFILE ELEC. DUCT LINE "A"
SCALE: HORIZ. 1"=50' VERT. 1"=5'

DO NO	ACTION	DATE	DESCRIPTION OF REVISION
		18MAY83	"REVISED AS-BUILT"

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: _____
DRAWN BY: _____
CHECKED BY: _____

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

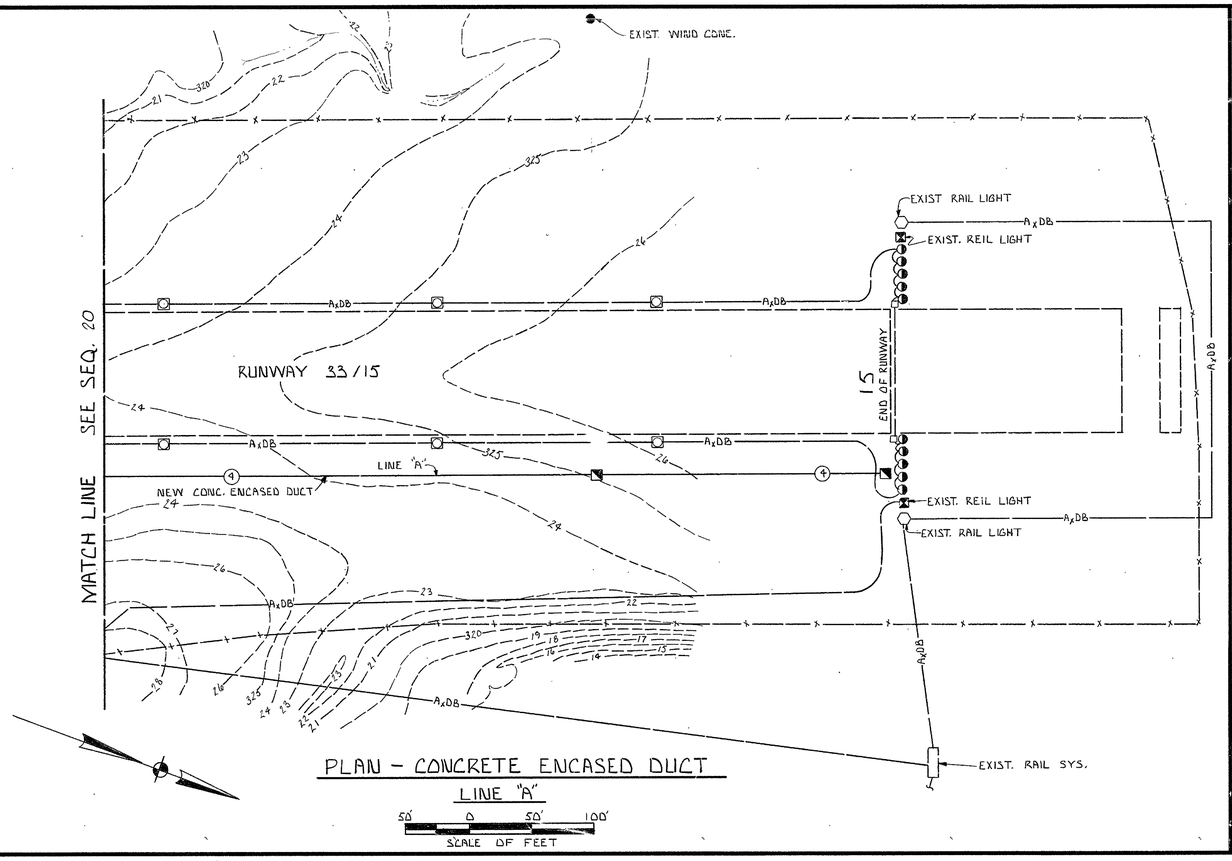
PLAN AND PROFILE CONRETE ENCASED DUCT
LINE "A" - STA. 16+50 TO STA. 33+00

SUBMITTED BY: _____
ENGINEER: _____

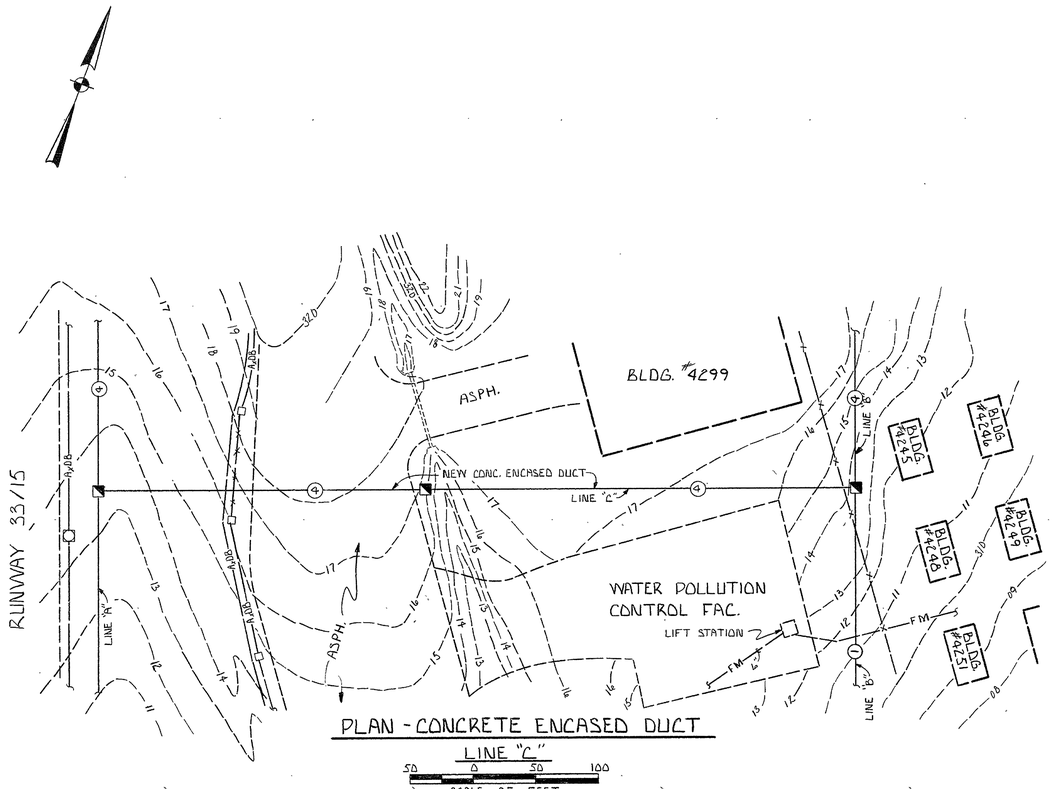
INV. NO. DACA63 81-B-0077 DATED APR. 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER
SHEET NO. C-20 OF 42
SEQUENCE NO. 20

CONTR. NO. DACA63-81-C-0125

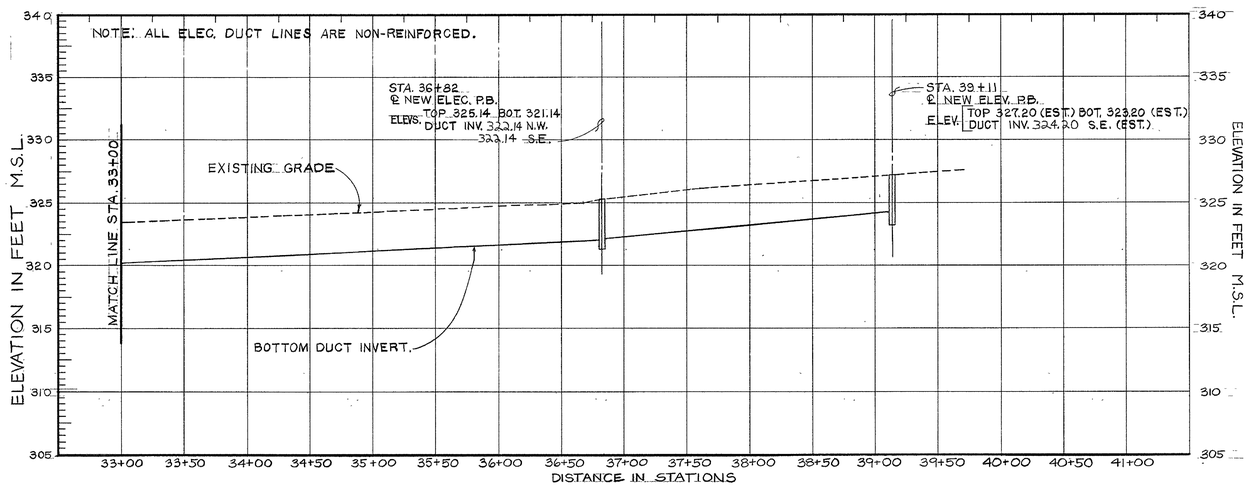
"DRAWING OF WORK AS BUILT"



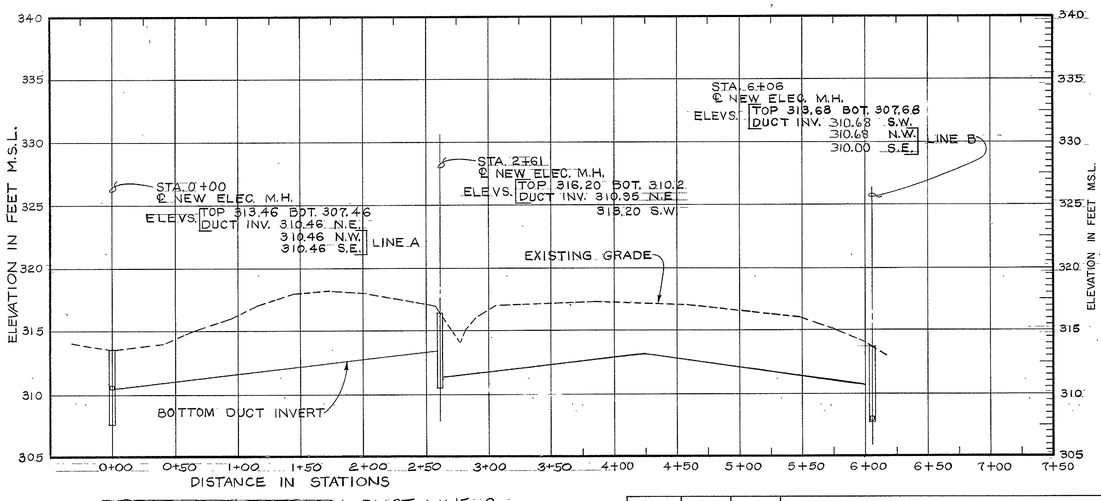
PLAN - CONCRETE ENCASED DUCT
LINE "A"
SCALE OF FEET



PLAN - CONCRETE ENCASED DUCT
LINE "C"
SCALE OF FEET



PROFILE ELECTRICAL DUCT LINE A
SCALE: HORIZONTAL = 1" = 50'-0"
VERTICAL = 1" = 5'-0"



PROFILE ELECTRICAL DUCT LINE C
SCALE: HORIZONTAL = 1" = 50'-0"
VERTICAL = 1" = 5'-0"

DO NO	ACTION	DATE	DESCRIPTION OF REVISION
		18MAY83	"REVISED AS-BUILT"

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: J.I.S.
DRAWN BY: J.J.M.
CHECKED BY: L.CARR
SUBMITTED BY:
ENGINEER:

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

PLAN AND PROFILE
CONCRETE ENCASED DUCT
LINE "A"-STA. 33+00 TO STA. 39+11
& LINE "C"-STA. 0+00 TO STA. 6+06

INV. NO. DACA63-81-B-0077 DATED APR. 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER C-19 SHEET NO. OF 42
SEQUENCE NO. 19

CONTR. NO. DACA63-81-C-0125

"DRAWING OF WORK AS BUILT"

AF 11432

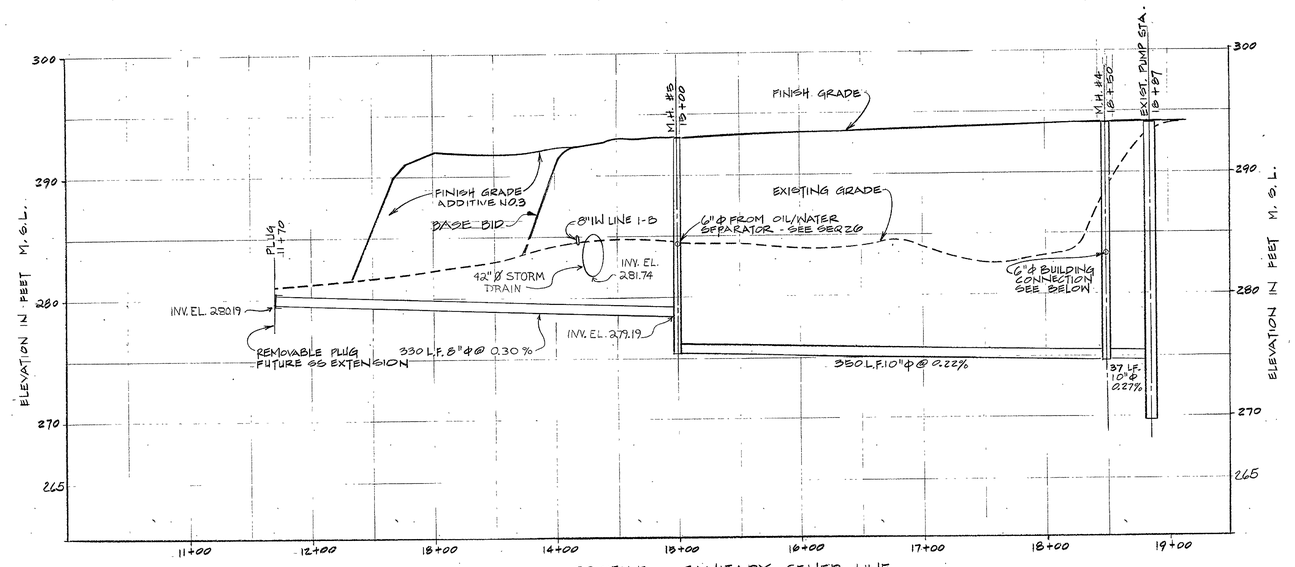
LEGEND

ITEM	EXISTING	NEW
WATER LINE	---W---	—W—
FIRE	---F---	—F—
FIRE HYDRANT	F.H.	F.H.
SANITARY SEWER LINE	---SS---	—SS—
SANITARY SEWER MANHOLE (M.H.)		
SANITARY FORCED MAIN (SFM)	---SFM---	
SEWER CLEAN OUT (C.O.)		
GAS LINE	---G---	—G—
OIL/WATER WASTE LINE		—IW—
SANITARY SEWER PUMP STATION	P.S.	

SCALE OF FEET
0' 50' 100' 150'

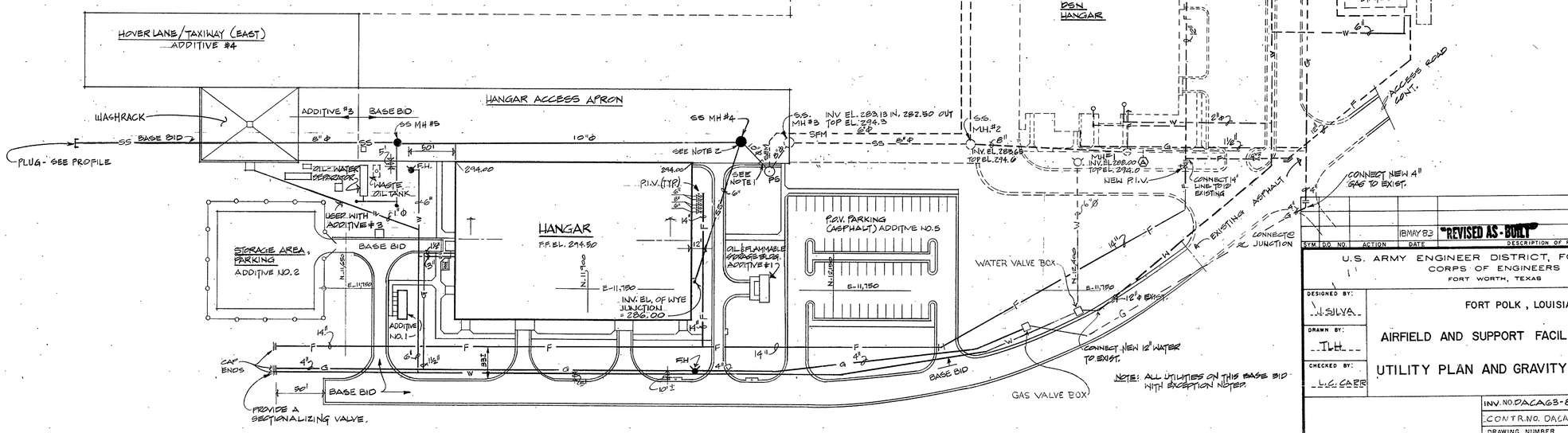
MANHOLE SCHEDULE

MANHOLE	STATION	COORDINATES NORTH	COORDINATES EAST	INVERT EL	TOP EL	
EXIST P.S.	18+87	12085	11630	274.40	294.00	
MH #4	18+50	12060	11600	274.50	294.00	DROP MANHOLE
MH #3	15+00	11710	11600	278.27/278.44	292.88	DROP MANHOLE
PLUG	11+70	11380	11600	277.63	N/A	

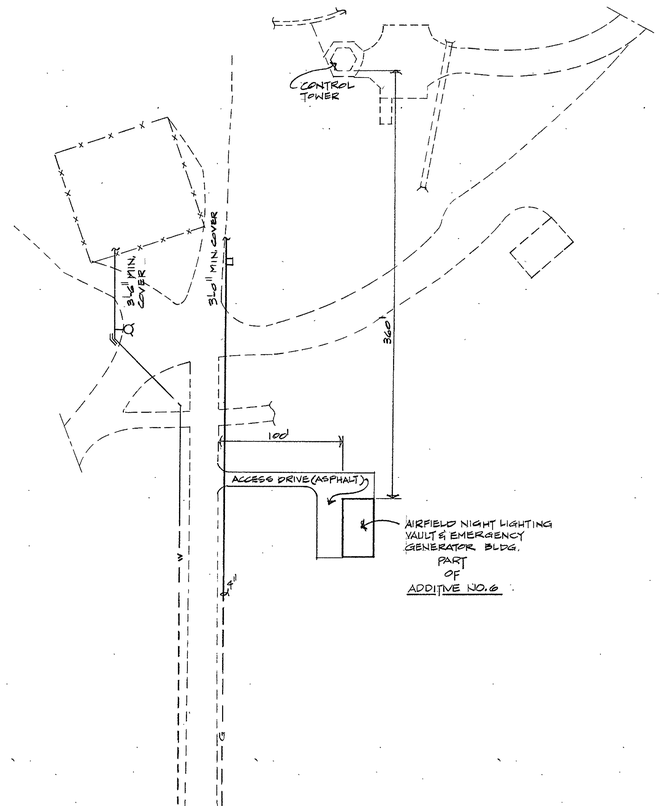


PROFILE - SANITARY SEWER LINE
(BASE BID)
SCALE: VERTICAL 1" = 5'
HORIZONTAL 1" = 50'

NOTES:
1. EXIST. PUMP STATION WITH 6' STUB OUT 8" ø INVERT EL. 274.40 AT MANHOLE. REMOVE PLUG & CONNECT NEW GRAVITY SEWER TO STUB OUT.
2. DROP MANHOLE, MH #4. SLOPE BUILDING CONNECTION WITH 2 % TO DROP, INV. EL. 283.00.
3. SS MANHOLES #5 & #4 SHALL BE HEAVY DUTY TYPE. SEE DETAILS.



NOTE: ALL UTILITIES ON THIS BASE BID WITH EXCEPTION NOTED.



SYM.	DO. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18MAY83	"REVISED AS-BUILT"

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: J.J.SILVA
DRAWN BY: I.L.H.
CHECKED BY: L.G. CAER

FORT POLK, LOUISIANA

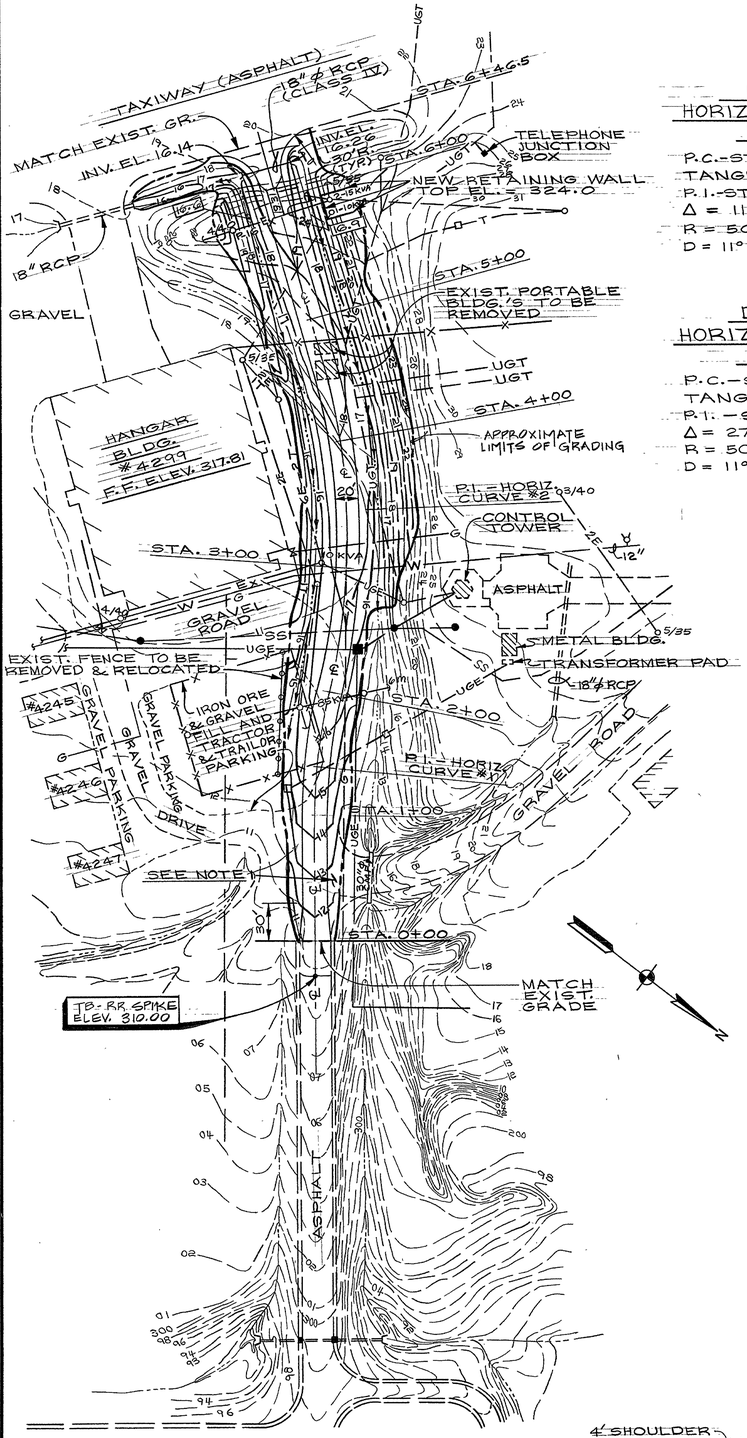
AIRFIELD AND SUPPORT FACILITIES PHASE II

UTILITY PLAN AND GRAVITY SEWER PROFILE

INV. NO. DACA63-81-B-0077 DATED APR 81
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER
SHEET NO. C-18 OF 42
SEQUENCE NO. 18

CONTR. NO. DA; A 63-81-C-0125

"DRAWING OF WORK AS BUILT"



GRADING PLAN

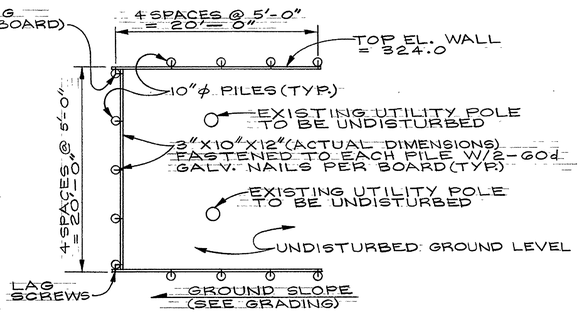
SCALE OF FEET

DATA
HORIZONTAL CURVE NO. 1

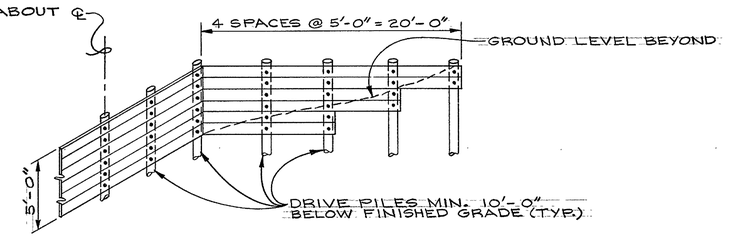
P.C.-STA. 0+89
TANGENT = 50.35'
P.I.-STA. 1+39.5
Δ = 11° 30'
R = 500'
D = 11° 27' 33"

DATA
HORIZONTAL CURVE NO. 2

P.C.-STA. 2+27.2
TANGENT = 121.58'
P.I.-STA. 3+48.78
Δ = 27° 20'
R = 500'
D = 11° 27' 33"



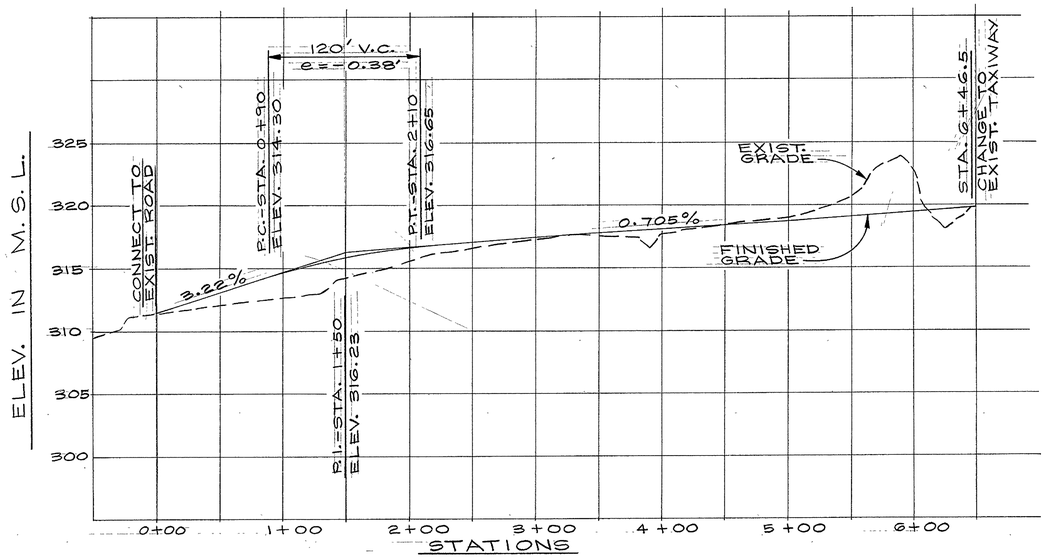
PLAN VIEW
SCALE: 1/4"=1'-0"



NOTE:
ALL TIMBER & PILES TO BE PRESSURE TREATED, #2 MEDIUM GRAIN SOUTHERN PINE W/ALLOWABLE BENDING STRESS OF 1070 PSI OR GREATER. (SEE SPECS.)

ISOMETRIC VIEW
N.T.S.

RETAINING WALL
SCALE AS NOTED

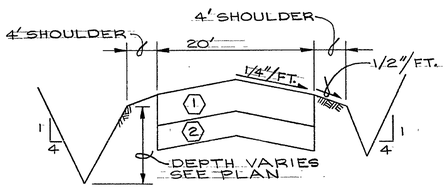


PROFILE — TEMPORARY GRAVEL TOW LANE
SCALE: HORIZ. 1' = 50'-0"
VERT. 1' = 5'-0"

LEGEND

ITEM	EXIST.	NEW
BLDG.		
ASPHALT	ASPH.	
GRAVEL	GRAVEL	
CURB & GUTTER		
CONTOURS	23	18
SWALES		
SPOT ELEV.'S		16.9
CULVERT		
ELEC. POLE	o	
UNDERGROUND POWER LINES	UGE	
UNDERGROUND TELEPHONE LINES	UGT	
OVERHEAD ELEC. LINES	2E / 1T	
SANITARY SEWER LINES	SS	
S.S. MANHOLE	●	
WATER LINES	W	
GAS LINES	G	
ELEC. PULL BOX	□	■
APPROX. LIMITS OF GRADING		

NOTE:
1. IN THIS AREA WHERE THE NEW ROAD CROSSES THE EXISTING GRAVEL ROAD, THE NEW SHOULDERS SHOULD BE MADE OF GRAVEL AND GRADED SUCH THAT THERE WILL BE A SMOOTH TRANSITION IN THE INTERSECTION TO ALLOW FOR CROSS TRAFFIC.



TYPICAL SECTION
TEMP. GRAVEL TOW LANE
N.T.S.

PAVING NOTES:
1. 8" BASE COURSE COMPACTED TO AT LEAST 100% MAX. DENSITY.
2. 6" RAW SUBGRADE COMPACTED TO AT LEAST 95% MAX. DENSITY.

BASE BID

SYM.	DO. NO.	ACTION	DATE	DESCRIPTION OF REVISION
1	84856	P.M	3 AUG 81	NEW SHEET ADDED

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: M. KERR
DRAWN BY: W.W. BELLOWS
CHECKED BY: L.C. CARR

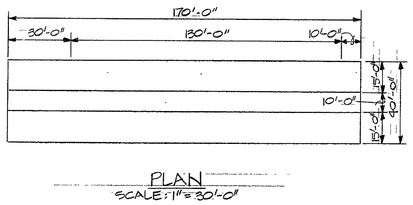
FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES
PHASE II

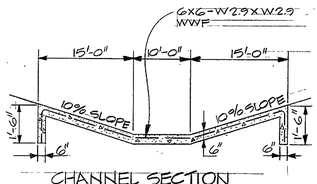
PLAN & PROFILE
TEMPORARY GRAVEL TOW LANE

INV. NO. DACA63-81-B-0077
DATED: APR 1981
DRAWING NUMBER
SHEET NO. C17 OF 42
SEQUENCE NO. 17
CONTR. NO. 81-C-0125

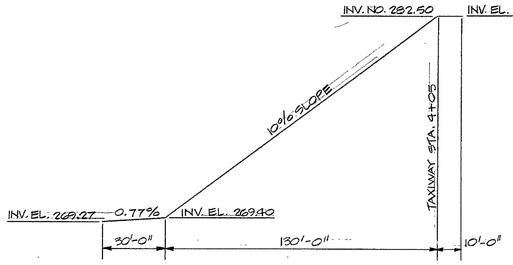
AF 11432



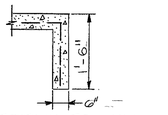
PLAN
SCALE: 1" = 30'-0"



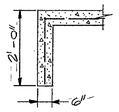
CHANNEL SECTION
N.T.S.



PROFILE
SCALE: HORIZONTAL: 1" = 30'-0"
VERTICAL: 1" = 4'-0"

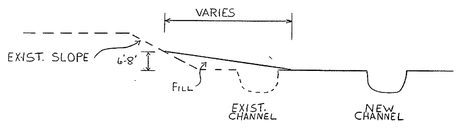


UPSTREAM TOEWALL
N.T.S.

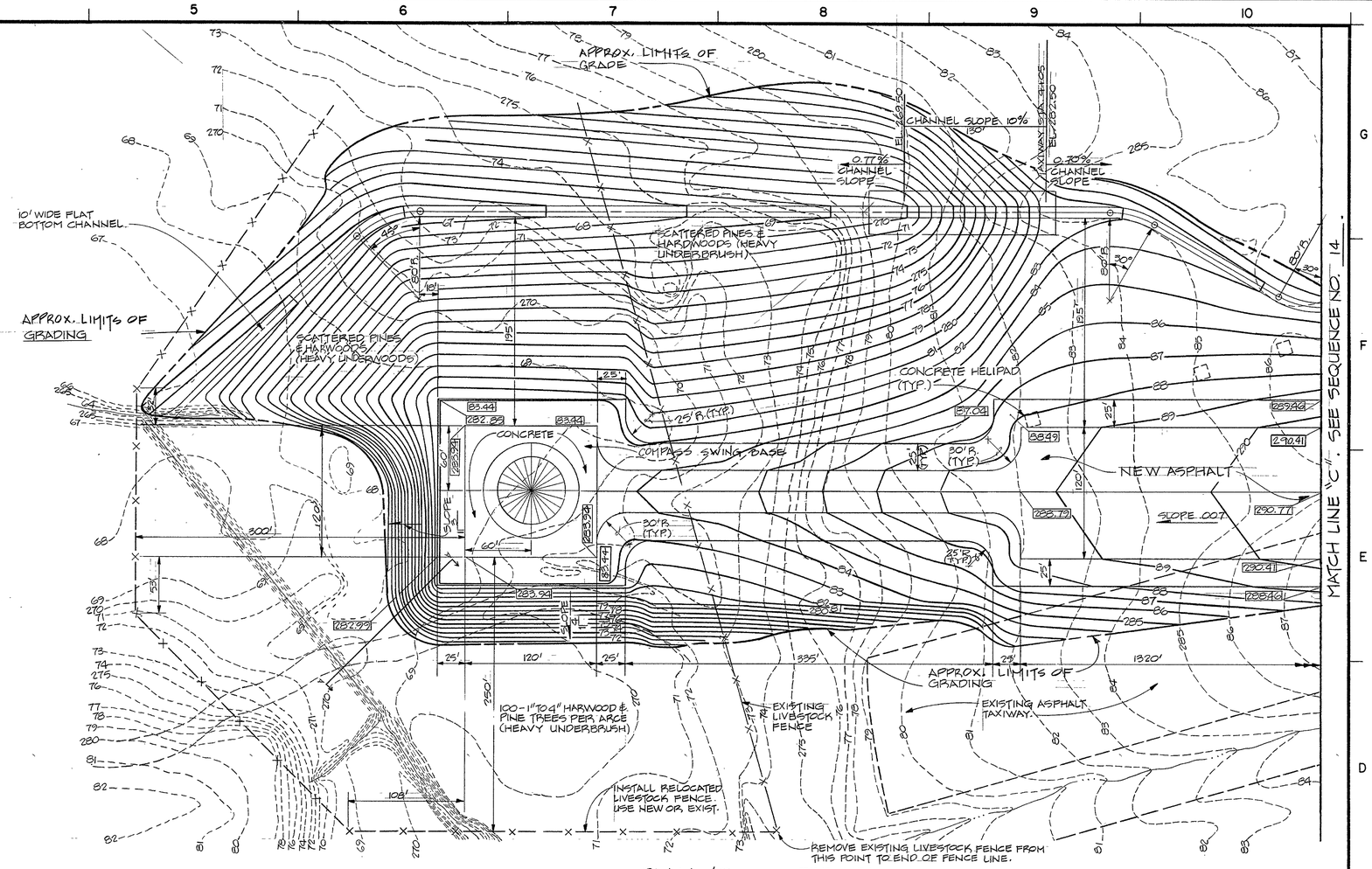


DOWNSTREAM TOEWALL
N.T.S.

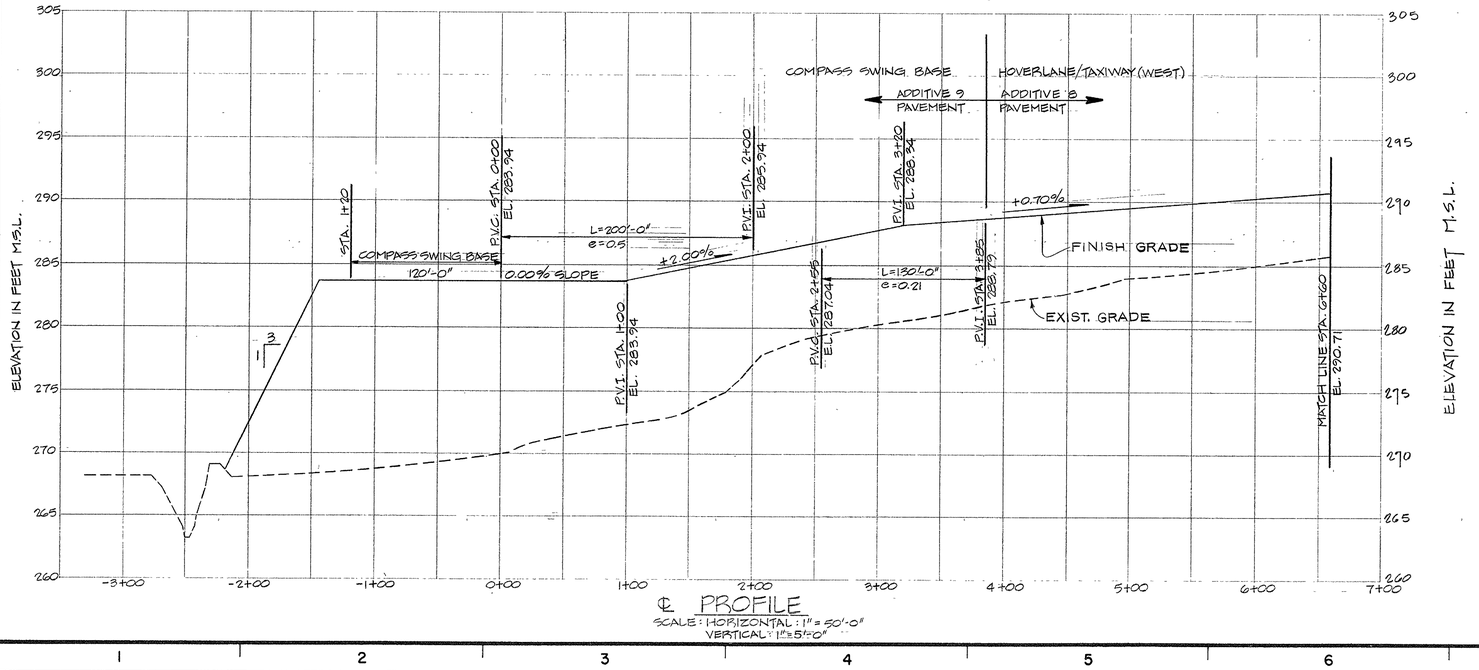
CONCRETE LINED CHANNEL
SCALES AS SHOWN



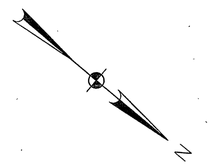
SECTION A-A

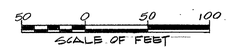


PLAN
SCALE: 1" = 50'-0"
SOUTH PORTION OF HOVERLANE/TAXIWAY (WEST) AND COMPASS SWING BASE.



℄ PROFILE
SCALE: HORIZONTAL: 1" = 50'-0"
VERTICAL: 1" = 5'-0"





SYM	DO. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18MAY83	"REVISED AS-BUILT"
A	AM#0002	24APR81		DELETE CIRCLES

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: J. SILVA
DRAWN BY: MARK HUGHES
CHECKED BY: L. CARR

FORT POLK, LOUISIANA

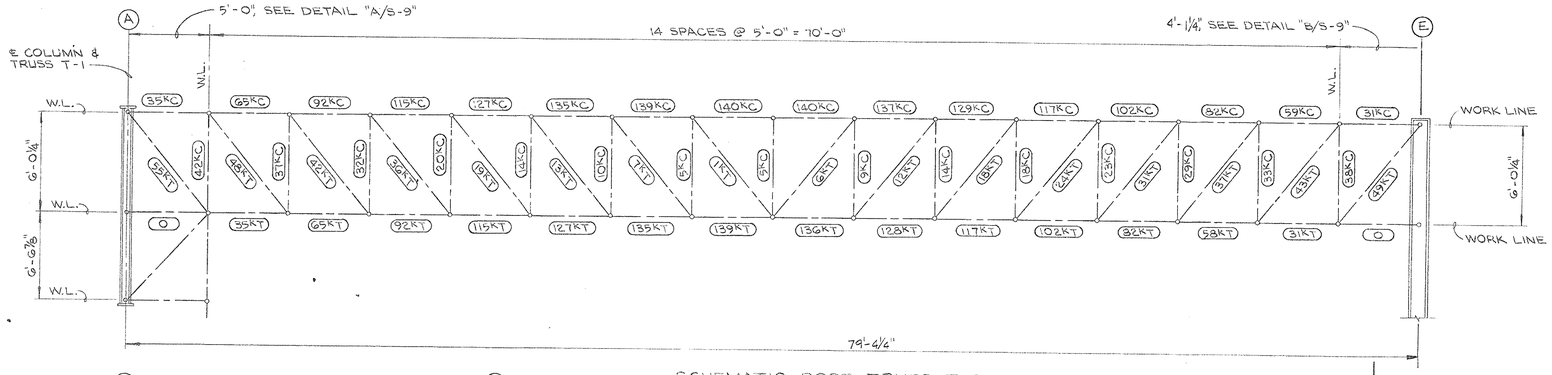
AIRFIELD AND SUPPORT FACILITIES PHASE II

HOVERLANE/TAXIWAY (WEST), COMPASS SWING BASE PLANS AND PROFILE
ADDITIVE NO. 8 PLUS ADDITIVE NO. 9

INV. NO. DACA63-81-B-0077 | DATED: APR. 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER | SHEET NO. C-16 OF 42
SEQUENCE NO. 16

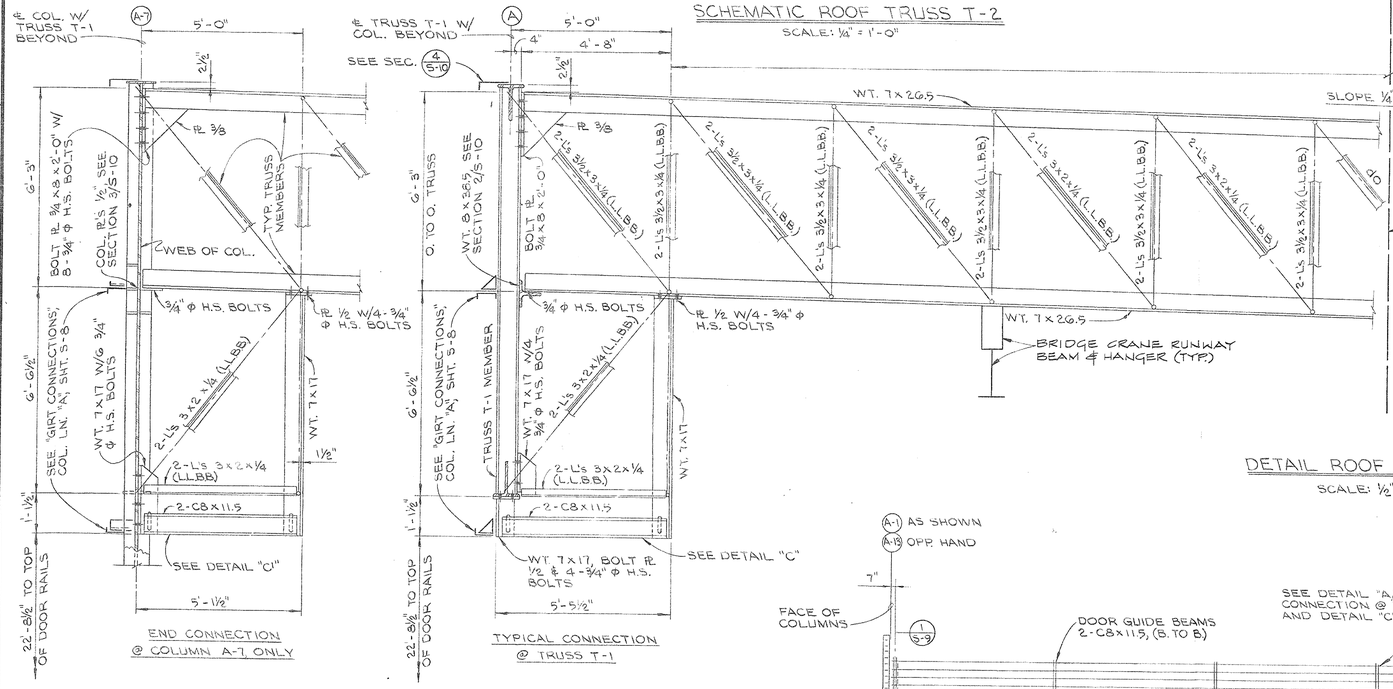
CONTR. NO. DACA63-81-C-0125

"DRAWING OF WORK AS BUILT"

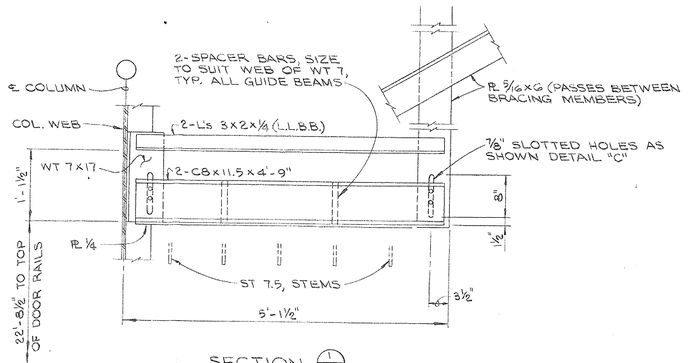


SCHEMATIC ROOF TRUSS T-2

SCALE: ⅛" = 1'-0"



TYPICAL CONNECTION @ INTERIOR COLUMNS



SECTION 1/S-9

SCALE: 1" = 1'-0"

DETAIL ROOF TRUSS T-2

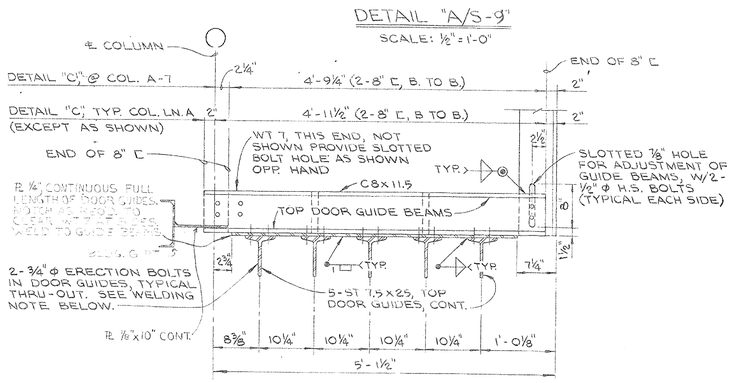
SCALE: ½" = 1'-0"

DETAIL "B/S-9"

SCALE: ½" = 1'-0"

DETAIL "A/S-9"

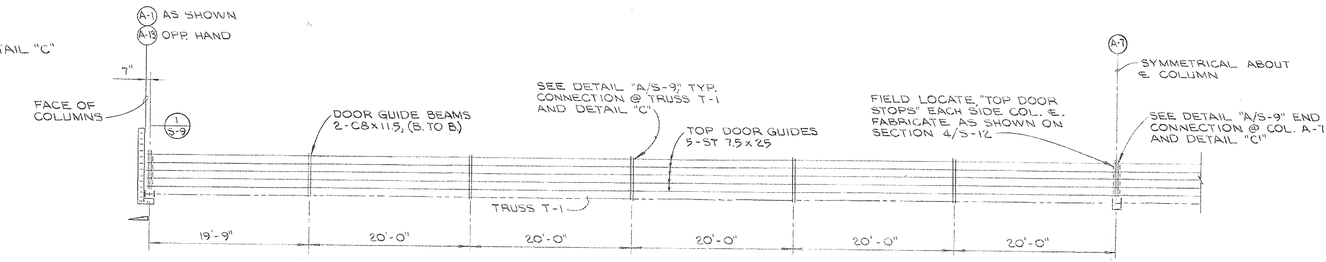
SCALE: ½" = 1'-0"



DETAIL "C1" AT COLUMN A-7, ONLY

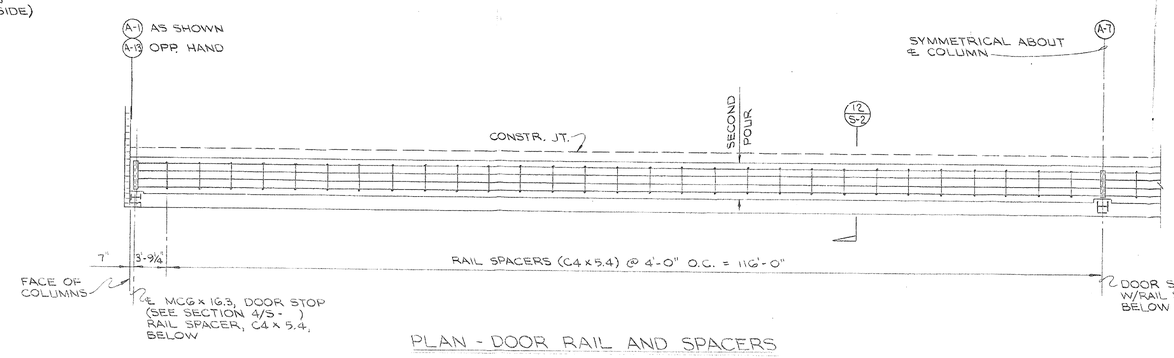
DETAIL "C" TYP. COL. LN. A, EXCEPT AS SHOWN

SCALE: 1" = 1'-0"



PLAN - TOP DOOR GUIDES

N.T.S.



PLAN - DOOR RAIL AND SPACERS

N.T.S.

WELDING NOTE:

AFTER ERECTION AND FINAL ADJUSTMENTS HAVE BEEN MADE, FIELD WELD ALL TOP DOOR GUIDE ASSEMBLY COMPONENTS TO STRUCTURE.

SYM	SO. NO.	ACTION	DATE	DESCRIPTION OF REVISION

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: CNS/EEW
DRAWN BY: D.E.C.
CHECKED BY:

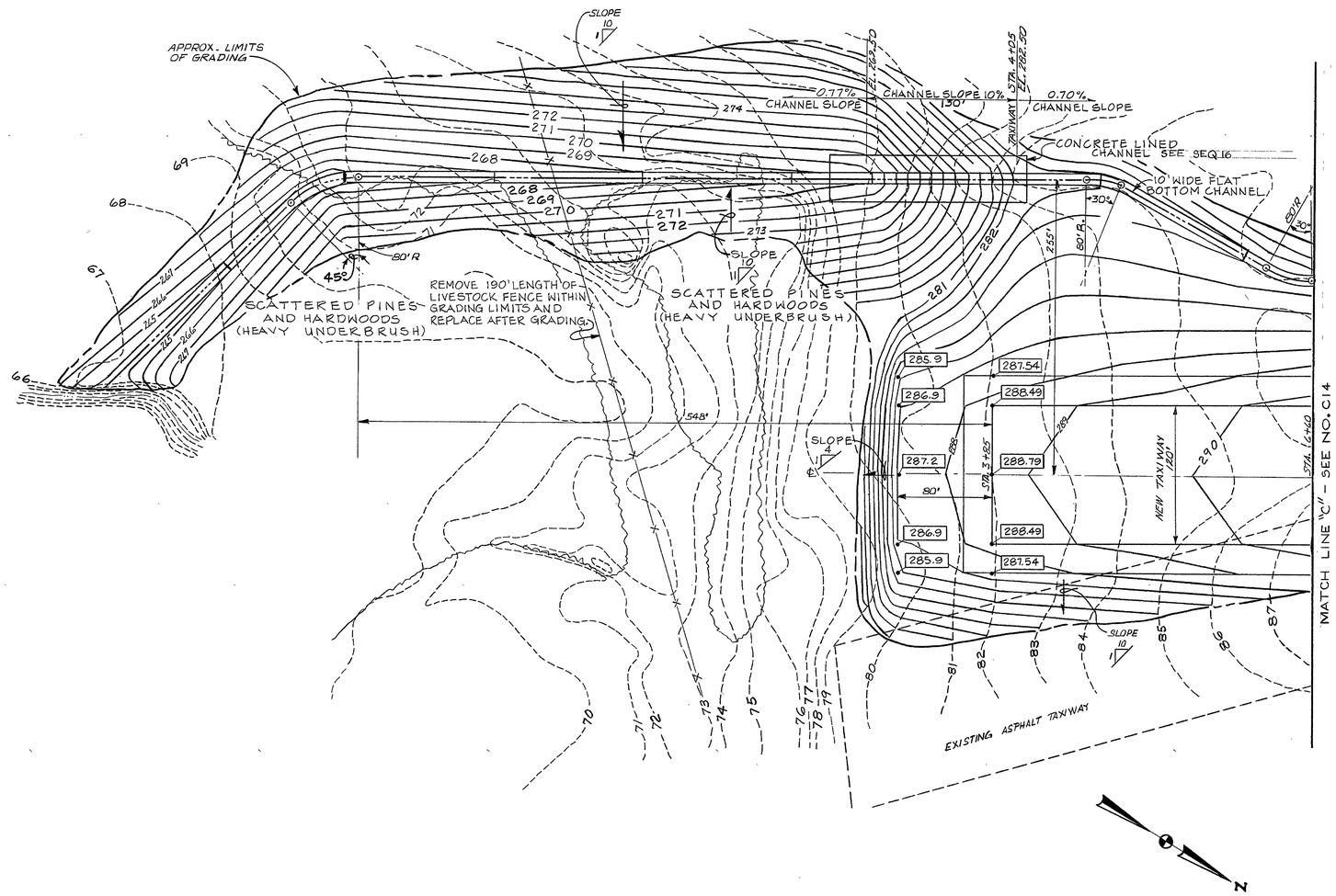
FORT POLK, LOUISIANA

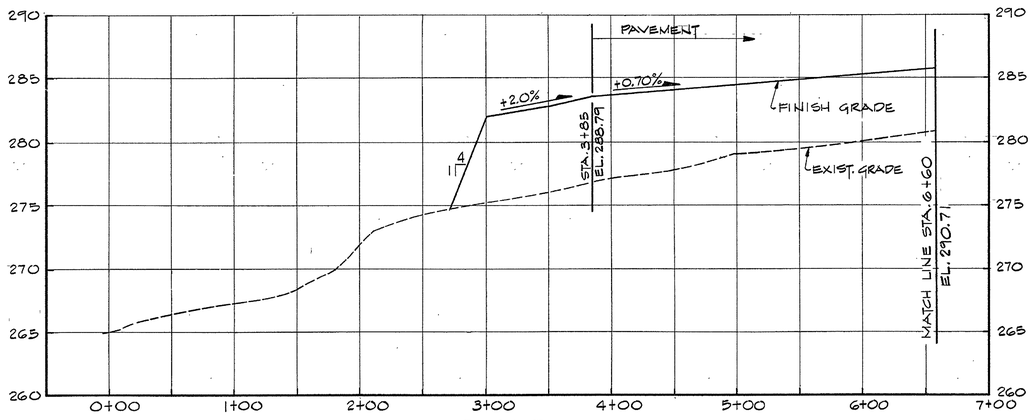
AIRFIELD AND SUPPORT FACILITIES PHASE II

HANGAR ROOF TRUSS "T-2" AND MISC. DETAILS

INV. NO. DACA63-81-B-0077 DATED: APR. 1981
CONTR. NO. DACA63-81-C-0135
DRAWING NUMBER
SHEET NO. 59 OF 16
SEQUENCE NO. 73

DACA63-81-C-0135





℄ PROFILE
SCALE: HORIZONTAL : 1"= 50'-0"
: VERTICAL : 1"= 5'-0"

SYM.	D.O. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18MAY83	"REVISED AS-BUILT"

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: J. Silva
DRAWN BY: D. PRICE
CHECKED BY: L. Carr
SUBMITTED BY:
ENGINEER:

FORT POLK, LOUISIANA

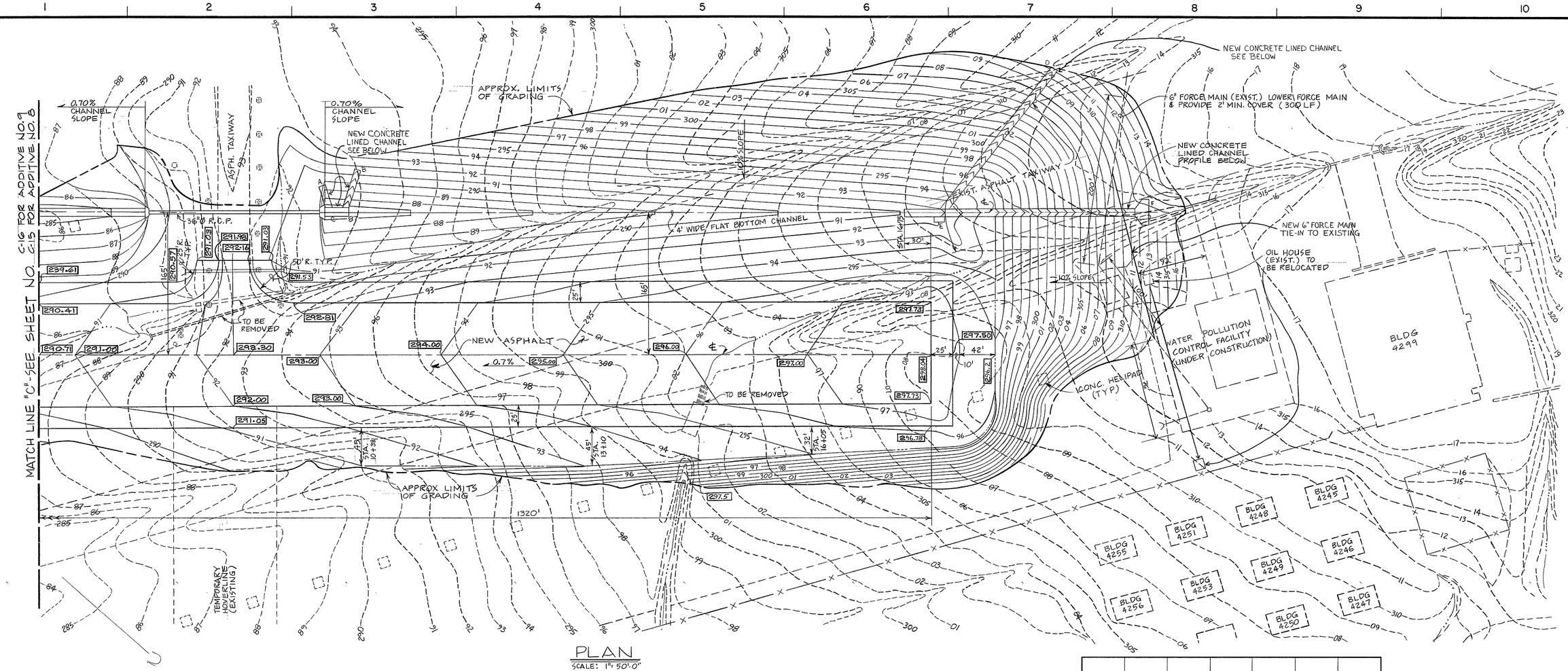
AIRFIELD AND SUPPORT FACILITIES PHASE II

HOVERLANE TAXIWAY (WEST) PLAN AND PROFILE

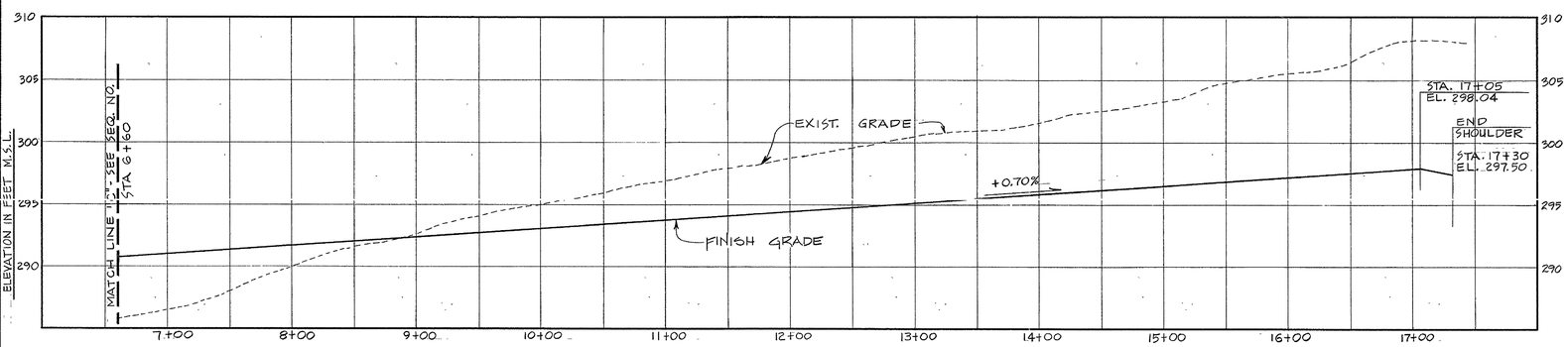
ADDITIVE NUMBER 8

INV. NO. DACA63-81-B-0077 DATED: APRIL 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER SHEET NO. C-15 OF 42
SEQUENCE NO. 15
CONTR. NO. DACA63-81-C-0125

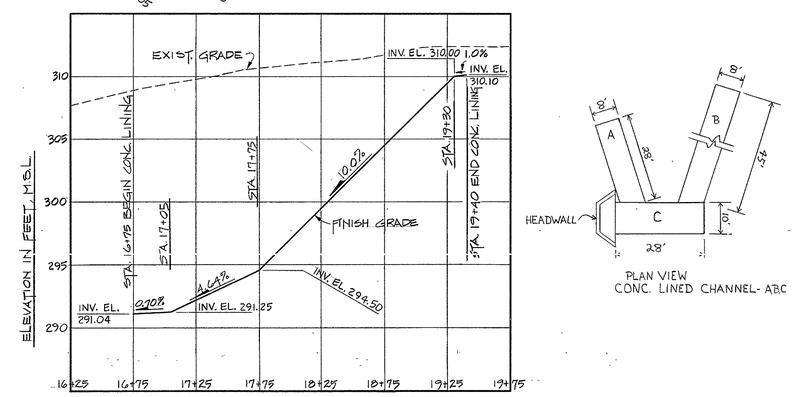
"DRAWING OF WORK AS BUILT"



PLAN
SCALE: 1"= 50'-0"

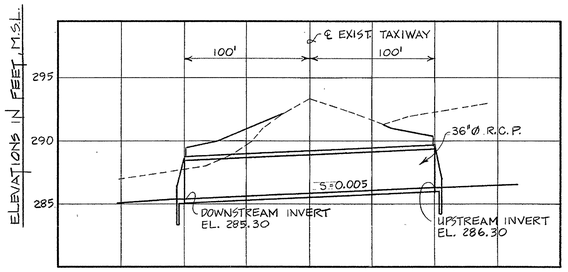


℄ PROFILE
SCALE: VERT. 1"= 5'
HORIZ 1"= 50'

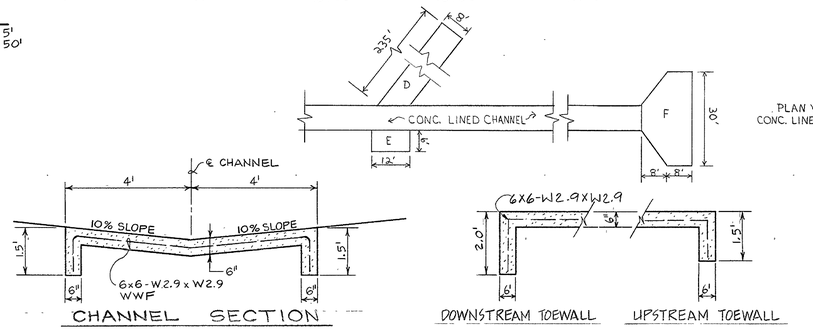


CONCRETE LINED CHANNEL℄PROFILE
SCALE: VERT. 1"= 5'
HORIZ. 1"= 50'

PLAN VIEW
CONC. LINED CHANNEL- ABC



CULVERT PROFILE
SCALE: VERT 1"= 5'
HORIZ 1"= 50'



PLAN VIEW
CONC. LINED CHANNEL - D,E,F

CONCRETE LINED CHANNEL
N.T.S.

50 0 50 100
SCALE OF FEET

SYM.	D.O. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18MAY83	"REVISED AS-BUILT"

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: J. SILVA
DRAWN BY: KG / FAW
CHECKED BY: L. CARR

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

HOVERLANE / TAXIWAY (WEST) PLAN & PROFILE

ADDITIVE NUMBER 8

SUBMITTED BY:

ENGINEER:

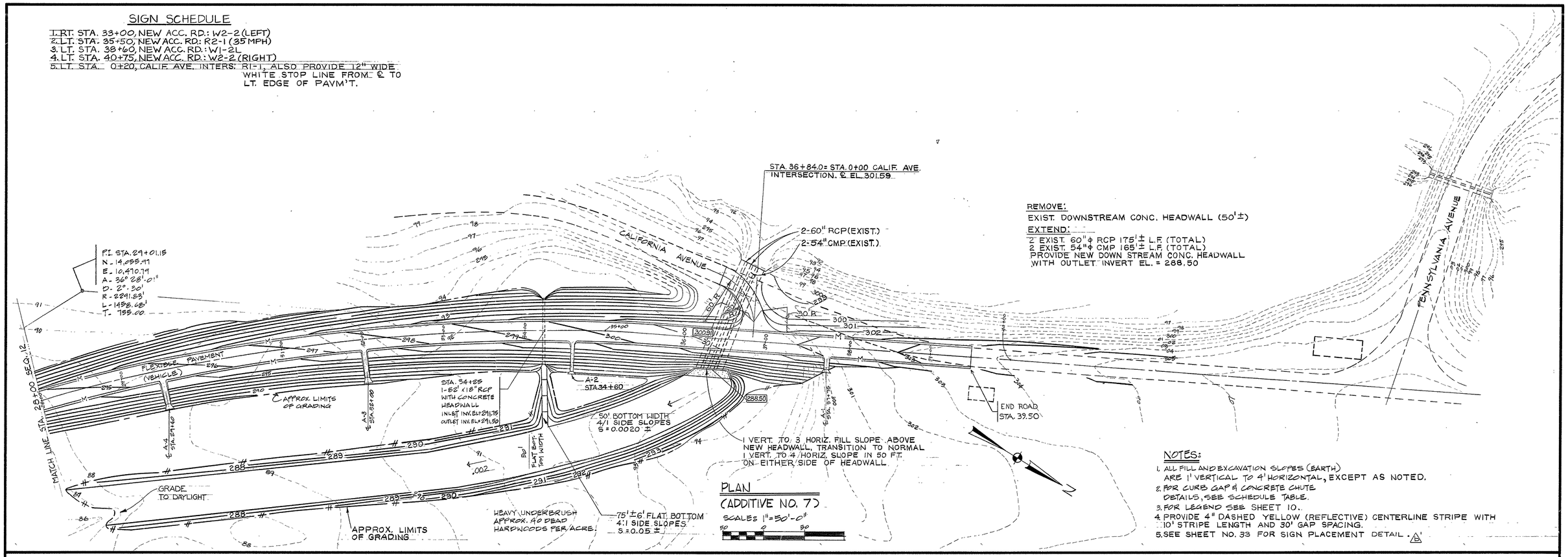
INV. NO. DACA63-81-B-0077 DATED: APR. 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER
SHEET NO. C-14 OF 42
SEQUENCE NO. 14

CONTR. NO. DACA63-81-C-0125

"DRAWING OF WORK AS BUILT"

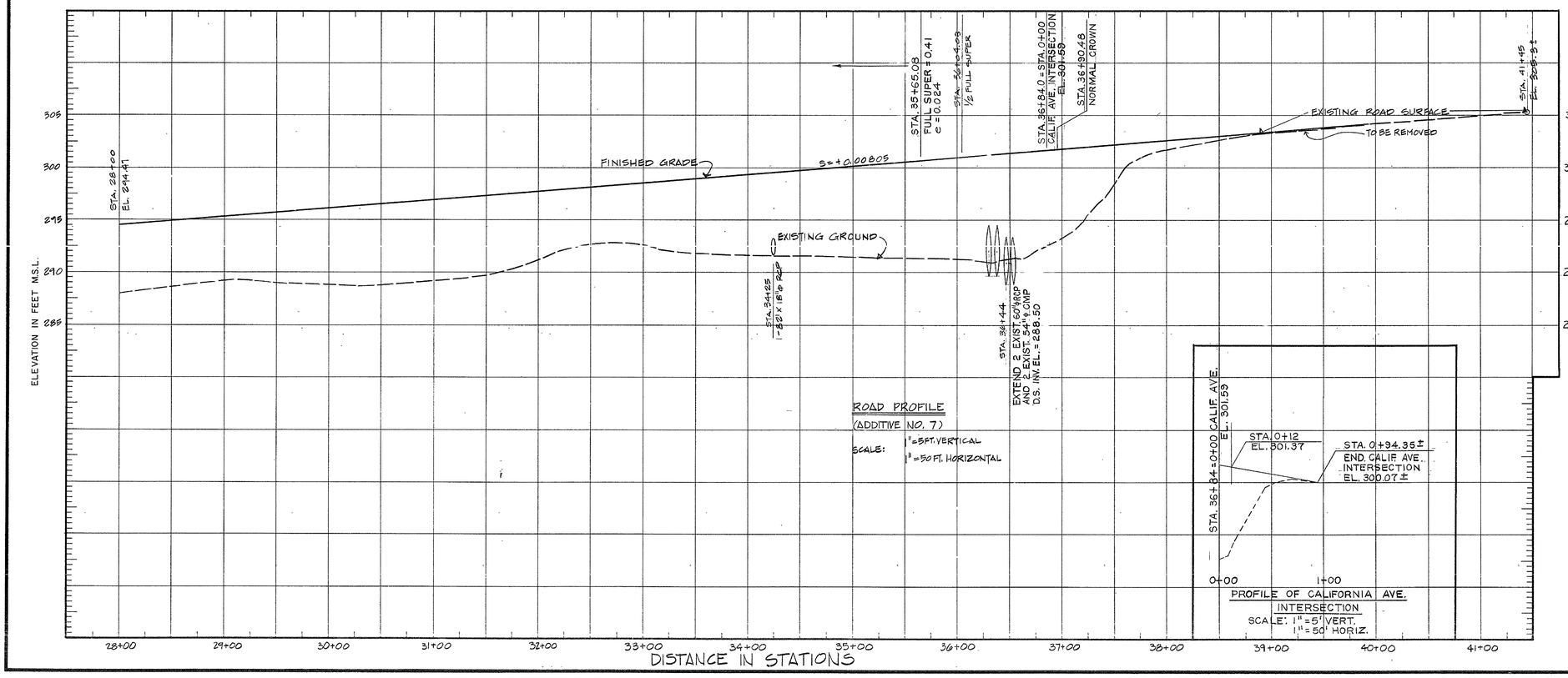
SIGN SCHEDULE

1. RT. STA. 33+00, NEW ACC. RD.: W2-2 (LEFT)
2. LT. STA. 35+50, NEW ACC. RD.: R2-1 (35 MPH)
3. LT. STA. 38+60, NEW ACC. RD.: W1-2L
4. LT. STA. 40+75, NEW ACC. RD.: W2-2 (RIGHT)
5. LT. STA. 0+20, CALIF. AVE. INTERS: R1-1, ALSO PROVIDE 12" WIDE WHITE STOP LINE FROM ℄ TO LT. EDGE OF PAVM'T.



NOTES:

1. ALL FILL AND EXCAVATION SLOPES (EARTH) ARE 1' VERTICAL TO 4' HORIZONTAL, EXCEPT AS NOTED.
2. FOR CURB GAP & CONCRETE CHUTE DETAILS, SEE SCHEDULE TABLE.
3. FOR LEGEND SEE SHEET 10.
4. PROVIDE 4" DASHED YELLOW (REFLECTIVE) CENTERLINE STRIPE WITH 10' STRIPE LENGTH AND 30' GAP SPACING.
5. SEE SHEET NO. 33 FOR SIGN PLACEMENT DETAIL. ⚠5



DO NO	ACTION	DATE	DESCRIPTION OF REVISION
		18 MAY 83	"REVISED AS-BUILT"
AM^0002	24 APR 81		REVISED TO REFLECT W.I. CHANGE

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: L. Silva
DRAWN BY: TLH
CHECKED BY: CARR
SUBMITTED BY:
ENGINEER

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

ROAD PLAN AND PROFILE (ADDITIVE NO.7)
ROAD PROFILE (ADDITIVE NO.6)

INV. NO. DACA63-81-B-0077 DATED APR. 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER
SHEET NO. C-13 OF 42
SEQUENCE NO. 13

CONTR. NO. DACA63-81-C-0125

"DRAWING OF WORK AS BUILT" ⚠1

SIGN SCHEDULE

RT. STA. 13+00, NEW ACC. RD: RZ-1 (35MPH)
LT. STA. 15+50, NEW ACC. RD: RZ-1 (20MPH)
RT. STA. 19+00, NEW ACC. RD: W1-2R

P.I. STA. 29+01.15
N- 19,055.97
E- 10,470.79
Δ- 36° 24' 01"
D- 2°-30'
R- 2291.83'
L- 1458.68'
T- 755.00

MATCH LINE STA. 11+35.36

MATCH LINE STA. 28+00 SEE 13

TREES

HEAVY BRUSH

WATER TOWER

APPROX. LIMITS OF GRADING

4' BOTTOM WIDTH CHANNEL WITH 4:1 SIDE SLOPES.

CONCRETE LINED CHANNEL

OPEN CHANNEL 40' BOTTOM WIDTH 4:1 SIDE SLOPES S=0.00050 FT/FT.

OPEN CHANNEL 4.0' BOTTOM WIDTH S=0.0035 FT/FT.

FL. EL. = 289.50

FL. EL. = 289.35

FL. EL. 289.10

FLEXIBLE PAVEMENT

VEHICLE

4' SHOULDER (TYP.)

ACCESS ROAD

P.C. STA. 21+46.15
N- 13,996.22
E- 10,945.93

STA. 23+90
1-64"X42"Ø RCP WITH CONCRETE HEADWALLS
INLET INV. EL. = 285.0
OUTLET INV. EL. = 284.20

4' FLAT BOTTOM DITCH WITH 4:1 SIDE SLOPES @ 0.0065 SLOPE

STA. 11+78 - 1-84"X18"Ø RCP W/CONC. HEADWALLS. INLET INV. EL. 284.10 OUTLET INV. EL. 283.70

STA. 11+35+36
N- 12,693.59
E- 11,582.04

STA. 16+60
1-82"X48"Ø RCP W/CONC. HEAD-WALLS.
INLET INV. EL. = 282.00
OUTLET INV. EL. = 281.50

OPEN CHANNEL 9.0' BOTTOM WIDTH 4:1 SIDE SLOPES S=0.0030 FT/FT.

FL. EL. = 281.20

PLAN (ADDITIVE NO.7)
SCALE: 1"=50'-0"

SCALE OF FEET

NOTES:
1. ALL FILL & EXCAVATION SLOPES (EARTH) ARE 1' VERTICAL TO 4' HORIZONTAL.
2. FOR CURB GAP & CONCRETE CHUTE DETAILS; SEE SCHEDULE TABLE.
3. FOR LEGEND SEE SHEET 10.
4. PROVIDE 4" DASHED YELLOW CENTERLINE (REFLECTIVE) STRIPE WITH 10 FT. STRIPE LENGTH AND 30 FT. GAP SPACING.
5. SEE SHEET NO. 33 FOR SIGN PLACEMENT DETAIL.

6X6 - W2.9 X W2.9 W.W.F

SECTION A-A
N.T.S.

SECTION B-B
N.T.S.

EL. 295.0

EL. 291

EL. 292.0

PLAN (N.T.S)
CONC. LINED DITCH
LT. STA. 21+80 ±

ELEVATION IN FEET M.S.L.

STA. 11+78
1-84"X18"Ø RCP

STA. 11+70
1-84"X18"Ø RCP

STA. 16+60
1-82"X48"Ø RCP

STA. 23+90
1-64"X42"Ø RCP

STA. 0+20
30" R.C.P. STORM DRAIN PIPE LINE I

STA. 4+35
21" R.C.P. LINE II

STA. 7+25
80" RCP STORM DRAIN PIPE LINE III

170' V.C.

200' V.C.

S=+0.005

S=-0.005

S=+0.0052

S=+0.00805

e=-0.21'

e=+0.26'

e=-0.26'

e=+0.28'

FINISHED GRADE

EXISTING GROUND

P.V.I. STA. 13+80 EL. 293.29

P.V.I. STA. 14+65 EL. 292.78

P.V.I. STA. 16+50 EL. 291.94

P.V.I. STA. 17+50 EL. 291.44

P.V.I. STA. 18+50 EL. 291.96

P.V.I. STA. 19+50 EL. 292.46

P.V.I. STA. 20+50 EL. 293.00

STA. 20+59.70 NORMAL CROWN

P.C. STA. 21+46.15

V.C. STA. 21+85.10

FULL SUPER

FULL SUPER = 0.41

E = 0.094

P.V.I. STA. 21+50 EL. 292.50

P.V.I. STA. 23+15 EL. 291.68

P.V.I. STA. 24+65 EL. 291.19

P.V.I. STA. 24+20 EL. 291.23

STA. 28+00 EL. 294.47

ROAD PROFILE (ADDITIVE NO. 7)
SCALE: 1"=50'-0" VERTICAL
1"=50'-0" HORIZONTAL

STA. 0+00 EL. 291.42

P.V.C. STA. 3+40 EL. 288.61

P.V.I. STA. 5+10 EL. 288.94

S=-0.0045

e=0.20'

STA. 7+25.36 EL. 291.28

EXISTING PAVEMENT (TO REMAIN)

STA. 11+35.36 EL. 292.06

ROAD PROFILE (BASE-BID)
SCALE: 1"=50'-0" VERTICAL
1"=50'-0" HORIZONTAL

STA. 4+35 EL. 288.91

PROFILE FIRE LANE (BASE BID)
SCALE: VERT: 1"=5'
HORIZ: 1"=50'

STA. 0+00 ON ACCESS ROAD EL. 293.03

P.C. STA. 0+20 EL. 288.30

P.T. STA. 0+40 EL. 288.23

P.C. STA. 2+60 EL. 290.33

P.T. STA. 2+80 EL. 291.18

P.C. STA. 1+85.39 EL. 292.22

P.T. STA. 2+16.58 EL. 292.10

C.L. STA. 2+35.39 EL. 293.65 EDGE OF HANGAR APRON (CONC.)

FINISHED GRADE G=0.90%

e=+0.23'

e=-0.28

40'-VC

DO NO	ACTION	DATE	DESCRIPTION OF REVISION
		15 MAY 83	"REVISED AS-BUILT"
	AM**0002	24 APR 81	REVISED TO REFLECT W I CHANGE

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY:
DRAWN BY: TLH
CHECKED BY:
SUBMITTED BY:
ENGINEER:

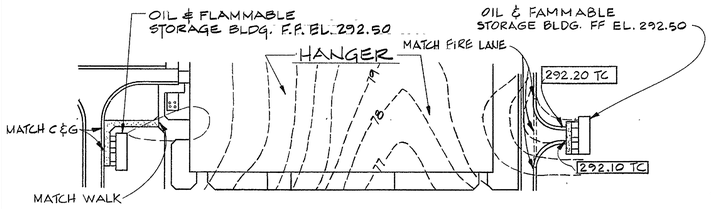
FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II
ROAD PLAN AND PROFILE
ADDITIVE NO 7
ROAD PROFILE
BASE BID

INV. NO DACA63-81-E-0077 DATED: APR. 1981
CONTR. NO DACA63-81-C-0125
DRAWING NUMBER
SHEET NO. C-12 OF 42
SEQUENCE NO. 12

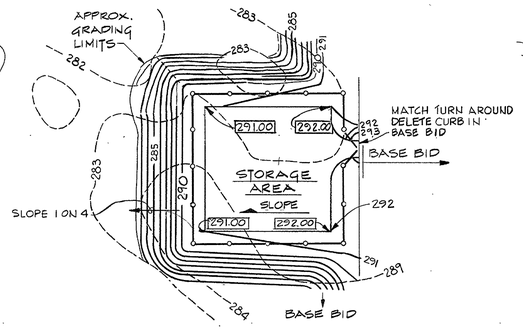
CONTR. NO. DACA63-81-C-0125

DRAWING AS BUILT



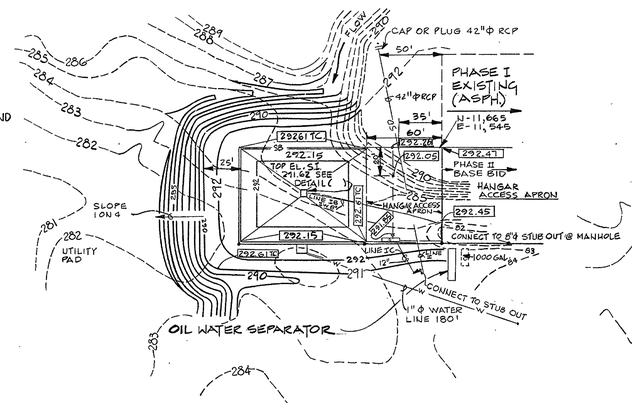
OIL AND FLAMMABLE STORAGE BLDGS.

ADDITIVE NO. 1



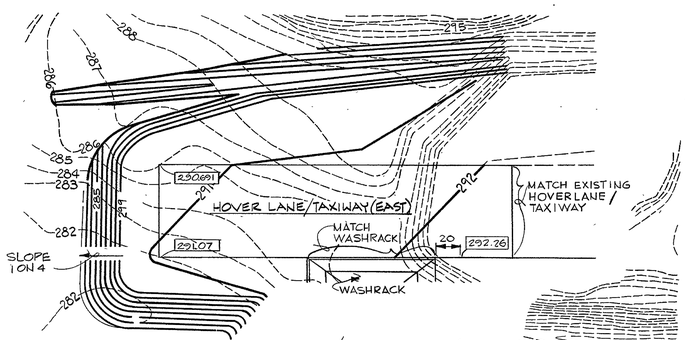
STORAGE AREA-FENCED

ADDITIVE NO. 2



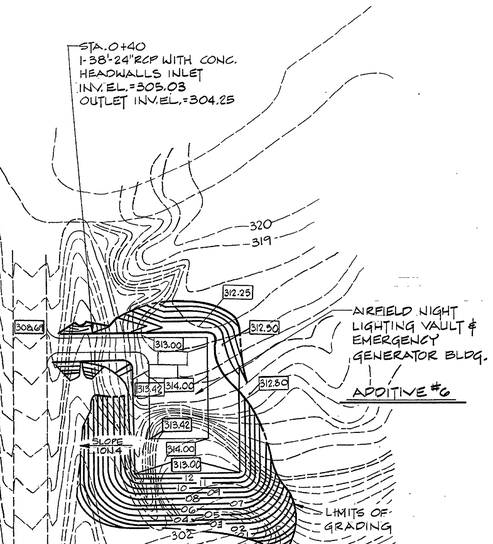
WASHRACK & 60' OF SOUTHEND HANGER ACCESS APRON

ADDITIVE NO. 3



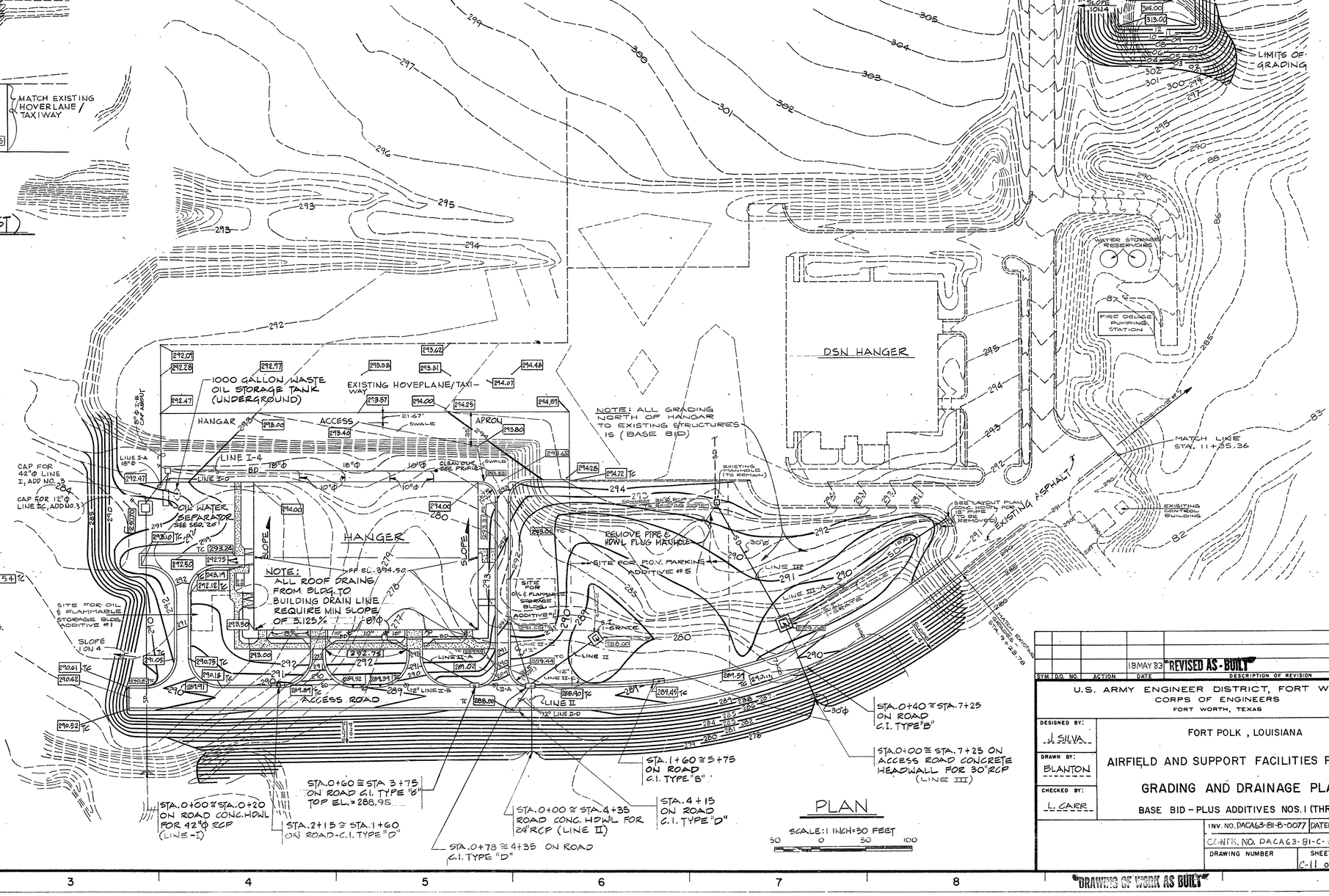
HOVER LANE/TAXIWAY (EAST)

ADDITIVE NO. 4



P.O.V. PARKING

ADDITIVE NO. 5



PLAN

SCALE: 1 INCH = 50 FEET

50 0 50 100

SYM.	DO. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18 MAY 83	REVISED AS-BUILT

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: J. SILVA
DRAWN BY: BLANTON
CHECKED BY: L. CARR

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

GRADING AND DRAINAGE PLAN

BASE BID – PLUS ADDITIVES NOS. I (THRU) 6

INV. NO. DACA63-81-B-0077 | DATED: APRIL 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER | SHEET NO. C-11 OF 42 | SEQUENCE NO. 11

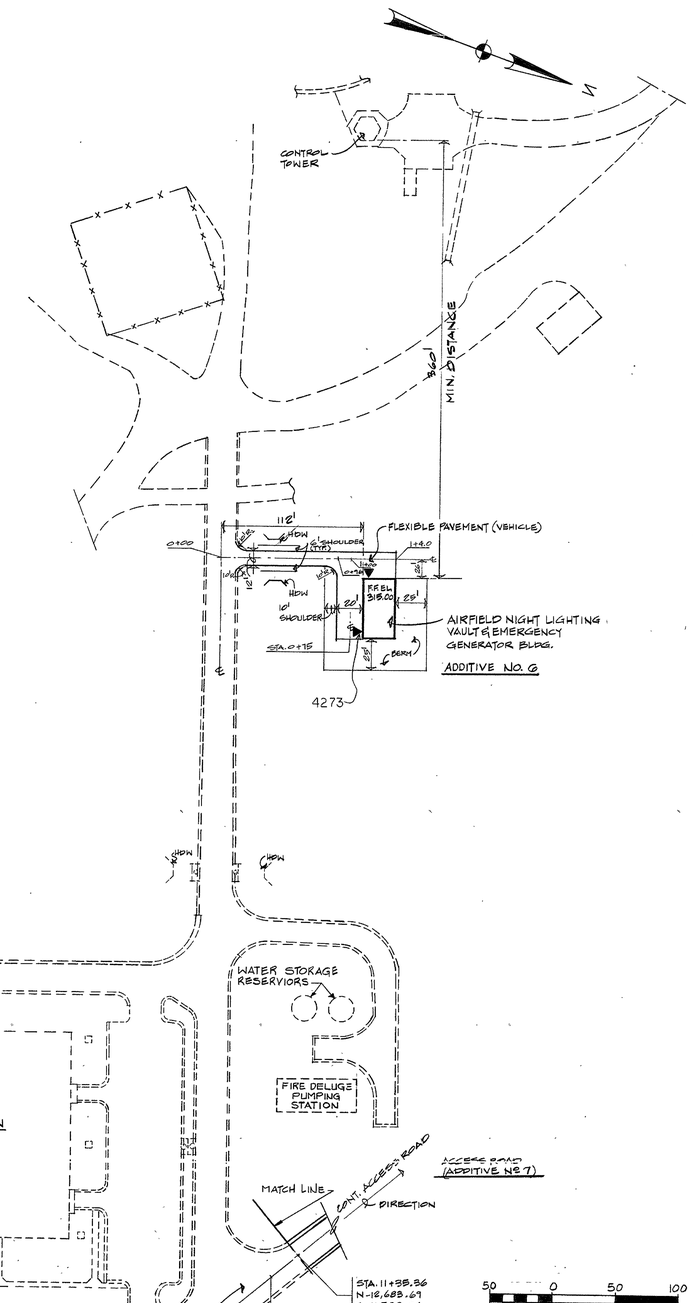
CONTR. NO. DACA63-81-C-0125

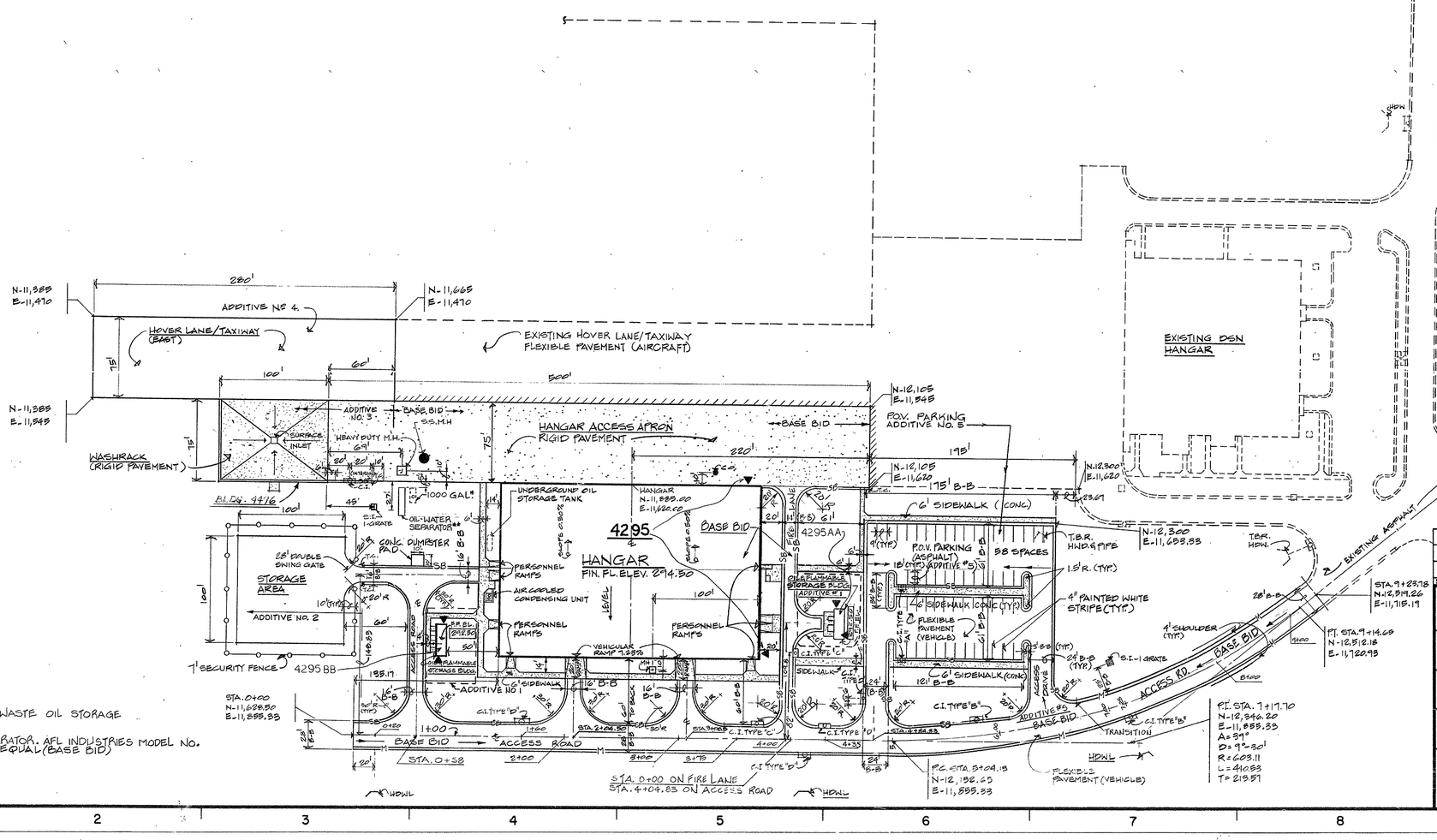
DRAWING OF WORK AS BUILT

AF 11432

LEGEND

ITEM	EXISTING	NEW
BUILDING		
STANDARD BARRIER CONCRETE CURB & GUTTER		SB
5' MOUNTABLE CONCRETE CURB & GUTTER		M
TERMINAL CURB	T.C.	T.C.
MANHOLE (MH) SANITARY SEWER		
MANHOLE (MH) STORM DRAIN		
SURFACE INLET (S.I.)		S.I.
CURB INLET (C.I.)		C.I.
CURB GAP & CONCRETE CHUTES		
SIDEWALK (CONC.)		
CONCRETE HEADWALL (HDWL) TO BE REMOVED	TBR	
SECURITY FENCE		
FENCE		
TREE LINE		
SAW CUT EXIST. ASPHALT		
BUILDING SIGN		▲





* UNDERGROUND WASTE OIL STORAGE TANK (BASE BID)

** OIL-WATER SEPARATOR. AFL INDUSTRIES MODEL NO. EGS 150 B OR EQUAL (BASE BID)

SYM.	DG. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18MAY83	"REVISED AS-BUILT"

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: J.L.S.
DRAWN BY: J.L.H.
CHECKED BY: J.C.C.

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

LAYOUT PLAN

BASE BID AND ADDITIVE NUMBERS 1 (THRU) 6

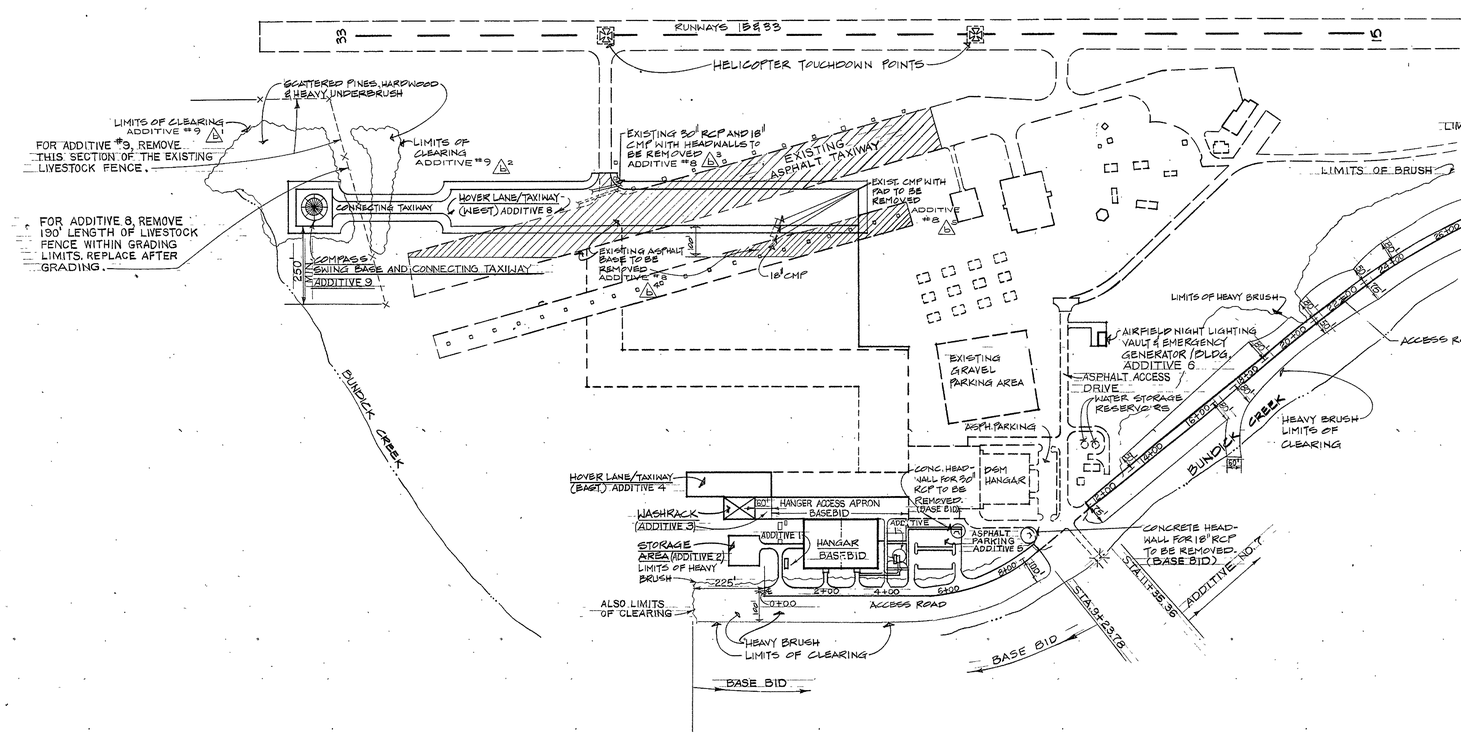
INV. NO. DACA63-81-B-0077 DATED: APR. 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER C-10 SHEET NO. OF 42
SEQUENCE NO. 10

CONTR. NO. DACA63-81-C-0125

"DRAWING OF WORK AS BUILT"

AL95

AF 11432



CLEARING AND DEMOLITION PLAN

SCALE: 1"=200'-0"

200 100 0 200

SCALE OF FEET: 1"=200'-0"

SYM	DO. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			8MAY83	REVISED AS-BUILT
△6		AM#0002	24APR81	REVISED TO REFLECT W I CHANGE

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: W.L.S.
DRAWN BY: TLH
CHECKED BY: L.C.C.

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

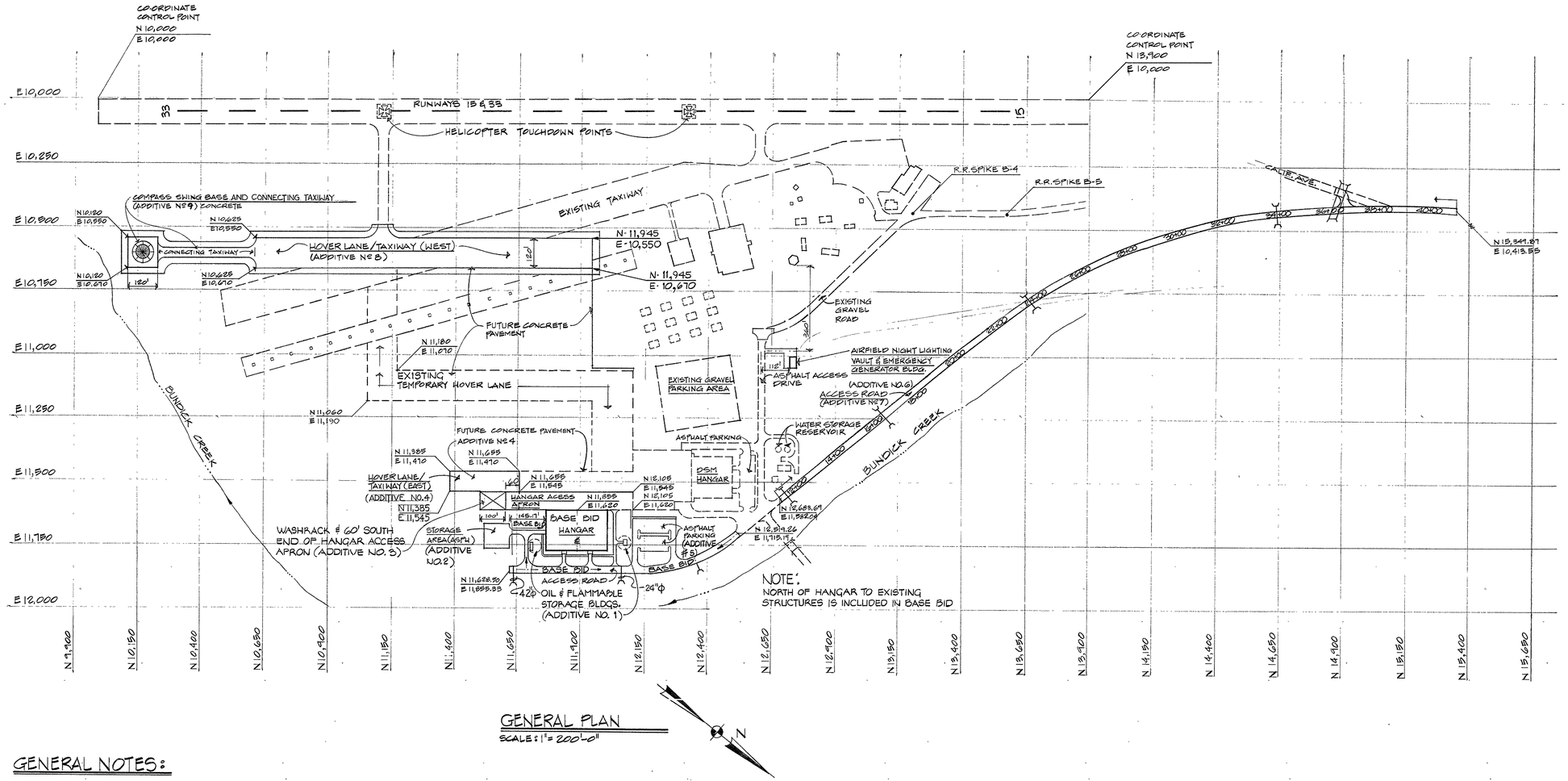
CLEARING AND DEMOLITION PLAN

INV. NO. DACA63-81-B-0077 DATED APR. 1981
CONTR NO. DACA63-81-C-0125
DRAWING NUMBER
SHEET NO. C-3 OF 42
SEQUENCE NO. 3

CONTR. NO. DACA63-81-C-0125

DRAWING OF WORK AS BUILT

AF 11432



GENERAL PLAN

SCALE: 1" = 200'-0"

GENERAL NOTES:

1. ALL COORDINATES HEREIN REFER TO THE PROJECT COORDINATE SYSTEM DEFINED BY N 10,000, E 10,000 LOCATED AT THE SOUTHWEST CORNER OF RUNWAYS 15 & 33 AS INDICATED ON DRAWING 02.
2. ALL ELEVATIONS SHOWN ARE IN FEET AND REFER TO MEAN SEA LEVEL DATUM (M.S.L.).
3. VERTICAL CONTROL FOR THE PROJECT WILL BE ESTABLISHED FROM THE FOLLOWING REFERENCE POINTS OR AS DIRECTED BY THE CONTRACTING OFFICER:
   R.R. SPIKE B-4 ELEV. 328.01'
   (N 13,202.49 - E 10,456.78)
   R.R. SPIKE B-5 ELEV. 310.38'
   (N 13,598.34 - E 10,456.89)

SYM.	NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18 MAY 83	REVISED AS-BUILT

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: J.L.S.
DRAWN BY: TLH
CHECKED BY: L.C. CARR

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

SITE DEVELOPMENT PLAN

INV. NO. DACA63-81-B-0079 DATED APR 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER
SHEET NO. C-8 OF 42
SEQUENCE NO. 8
CONTR. NO. DACA63-81-C-0125

DRAWING OF WORK AS BUILT

Hole No. BA25-1784

DRILLING LOG	DIVISION SWD	INSTALLATION FWD	SHEET 1 OF 1 SHEETS
1. PROJECT Ft. Polk, La.		10. SIZE AND TYPE OF BIT 2¾" 4¼ augers	
2. LOCATION (Coordinates or Station) Airfield Fac.		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	
3. DRILLING AGENCY USCE-C		12. MANUFACTURER'S DESIGNATION OF DRILL DAMCO-500	
4. HOLE NO. (As shown on drawing title and file number) BA25-1784		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 7	UNDISTURBED 0
5. NAME OF DRILLER Daniels		14. TOTAL NUMBER CORE BOXES --	
6. DIRECTION OF HOLE ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER ****	
7. THICKNESS OF OVERBURDEN 30.0		16. DATE HOLE: STARTED 1 Sep 78	COMPLETED 1 Sep 78
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE 284.5	
9. TOTAL DEPTH OF HOLE 30.0		18. TOTAL CORE RECOVERY FOR BORING -- %	
		19. SIGNATURE OF INSPECTOR J. Cole	

WATER Encountered Content	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV-ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
9	0		0.0' to 7.5' SAND, fine grained, loose, to medium dense, moist, tan and gray, silty.		A	**** 1. Hole left open 72 hrs. water at 7.1'.
11			7.5' to 30.0' CLAY, 7.5'-11.7' medium plasticity, soft, wet, very sandy, tan and grey. 11.7'-17.0' high plasticity, soft, moist, gray with tan. 17.0'-21.5' High plasticity, soft, moist, light red with tan. 21.5'-30.0' medium plasticity, stiff, moist, light gray.		B	2. Jars: A. 0.0 to 5.0 B. 5.0 to 7.5 C. 7.5 to 11.7 D. 11.7 to 17.5 E. 17.5 to 22.5 F. 22.5 to 25.0 G. 25.0 to 30.0
15	10				C	
40			- T.D. 30.0' -		D	3. Standard penetration tests. DEPTH BLOWS 2.5 to 4.0 3-4-5; 5.0 to 6.5 7-8-10; 7.5 to 9.0 8-10-13; 10.0 to 11.5 5-6-6; 12.5 to 14.0 4-4-5; 15.0 to 16.5 2-3-4; 17.5 to 19.0 2-2-3; 20.0 to 21.5 2-2-2; 22.5 to 24.0 2-3-3; 25.0 to 26.5 5-7-9; 28.5 to 30.0 5-7-9
40	20				E	
23					F	
17					G	4. Drilling methods: Alternated standard split spoon & 4" rock bit.
	30					

Hole No. 10A-1785

DRILLING LOG	DIVISION SWD	INSTALLATION FWD	SHEET 1 OF 1 SHEETS
1. PROJECT Ft. Polk, La.		10. SIZE AND TYPE OF BIT Hand auger	
2. LOCATION (Coordinates or Station) Airfield Fac.		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	
3. DRILLING AGENCY USCE-C		12. MANUFACTURER'S DESIGNATION OF DRILL Hand auger	
4. HOLE NO. (As shown on drawing title and file number) 10A-1785		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 4	UNDISTURBED 0
5. NAME OF DRILLER Daniels		14. TOTAL NUMBER CORE BOXES --	
6. DIRECTION OF HOLE ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER ****	
7. THICKNESS OF OVERBURDEN 10.0'		16. DATE HOLE: STARTED 5 Sep 78	COMPLETED 5 Sep 78
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE 272.2	
9. TOTAL DEPTH OF HOLE 10.0'		18. TOTAL CORE RECOVERY FOR BORING -- %	
		19. SIGNATURE OF INSPECTOR J. Cole	

WATER Encountered Content	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV-ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
14.5	0		0.0' to 10.0' SAND, fine grained, loose, moist to 2.9, saturated from 2.5' to 10.0' Colors: 0.0' to 1.8' - grey 1.8' to 10.0' - red-brown. -T.D.10.0'-		A	**** 1. Water at 2.5', 2 hrs. after augering, back fill
15.7					B	2. Jars: A. 0.0 to 1.8 B. 1.8 to 4.8 C. 4.8 to 7.8 D. 7.8 to 10.0
19.5					C	
26.2	10				D	*Classified according to MIL-STD-619B from laboratory test results

Hole No. 10A-1786

DRILLING LOG	DIVISION SWD	INSTALLATION FWD	SHEET 1 OF 1 SHEETS
1. PROJECT Ft. Polk, La.		10. SIZE AND TYPE OF BIT 8" auger	
2. LOCATION (Coordinates or Station) Airfield Fac.		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	
3. DRILLING AGENCY USCE-C		12. MANUFACTURER'S DESIGNATION OF DRILL DAMCO-500	
4. HOLE NO. (As shown on drawing title and file number) 10A-1776		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 6	UNDISTURBED 0
5. NAME OF DRILLER Daniels		14. TOTAL NUMBER CORE BOXES --	
6. DIRECTION OF HOLE ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER ****	
7. THICKNESS OF OVERBURDEN 10.0		16. DATE HOLE: STARTED 24 Aug 78	COMPLETED 24 Aug 78
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE 10.0		18. TOTAL CORE RECOVERY FOR BORING -- %	
		19. SIGNATURE OF INSPECTOR J. Cole	

WATER Encountered Content	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV-ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
1.0	0		0.0' to 10.0' SAND: 0.0' to 1.5', med. dense, sl. moist, scattered gravel, fill. 1.5' to 5.0', med. dense, moist, fill. Colors as follows: 1.5' to 2.0'-dark grey 2.0 to 3.4'-grey 3.4 to 5.0'-red 5.0' to 10.0', loose, wet, & light grey to 9.0', saturated & tan W/ grey from 9.0' to 10.0', alt. clayey. -T.D.10.0'-		A	**** 1. 24 Hour check, hole caved & wet @ 6.5'.
7.5					B	
7.3					C	
10.0					D	2. Jars: A. 0.0 to 1.5 B. 1.5 to 2.0 C. 2.0 to 3.4 D. 3.4 to 5.0 E. 5.0 to 9.0 F. 9.0 to 10.0
17.6					E	
19.5	10				F	*Classified according to MIL-STD-619B from laboratory test results

Hole No. 10A-1787

DRILLING LOG	DIVISION SWD	INSTALLATION FWD	SHEET 1 OF 1 SHEETS
1. PROJECT Ft. Polk, La.		10. SIZE AND TYPE OF BIT 8" auger	
2. LOCATION (Coordinates or Station) Airfield Fac.		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	
3. DRILLING AGENCY USCE-C		12. MANUFACTURER'S DESIGNATION OF DRILL DAMCO-500	
4. HOLE NO. (As shown on drawing title and file number) 10A-1787		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 6	UNDISTURBED 0
5. NAME OF DRILLER Daniels		14. TOTAL NUMBER CORE BOXES --	
6. DIRECTION OF HOLE ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER ****	
7. THICKNESS OF OVERBURDEN 10.0		16. DATE HOLE: STARTED 24 Aug 78	COMPLETED 24 Aug 78
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE 10.0		18. TOTAL CORE RECOVERY FOR BORING -- %	
		19. SIGNATURE OF INSPECTOR J. Cole	

WATER Encountered Content	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV-ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
3.7	0		0.0' to 0.25' Asphalt		A	**** 1. Water coning in @ 7.8', 24 Hour check, water @ 6.9', caved @ 7.1'.
12.0			0.25 to 0.45' OIL TREATED BASE		B	
12.3			0.45' to 1.0' SAND & GRAVEL (Base), C.-F. grained, moist, brown.		C	
7.7			1.0' to 7.8' SAND, fine grained, med. dense, moist Colors as follows: 1.0' to 4.0'-red 4.0' to 5.0'- grey 5.0' to 7.8'- mostly red W/ grey.		D	2. Jars:
11.5					E	
14.9	10		7.8' to 10.0' CLAY, low plast, soft, wet, grey -T.D.10.0'-		F	*Classified according to MIL-STD-619B from laboratory test results

Hole No. BA25-1789

DRILLING LOG	DIVISION SWD	INSTALLATION FWD	SHEET 1 OF 1 SHEETS
1. PROJECT Ft. Polk, La.		10. SIZE AND TYPE OF BIT 8" auger	
2. LOCATION (Coordinates or Station) Airfield Fac.		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	
3. DRILLING AGENCY USCE-C		12. MANUFACTURER'S DESIGNATION OF DRILL DAMCO-500	
4. HOLE NO. (As shown on drawing title and file number) 10A-1789		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 4	UNDISTURBED 0
5. NAME OF DRILLER Daniels		14. TOTAL NUMBER CORE BOXES --	
6. DIRECTION OF HOLE ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER ****	
7. THICKNESS OF OVERBURDEN 10.0		16. DATE HOLE: STARTED 25 Aug 78	COMPLETED 25 Aug 78
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE 10.0		18. TOTAL CORE RECOVERY FOR BORING -- %	
		19. SIGNATURE OF INSPECTOR J. Cole	

WATER Encountered Content	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV-ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
10.2	0		0.0' to 1.3' SAND, fine grained, loose, silt, moist, brown, silty.		A	**** 1. Hole caved @ 8' after augering, 72 hour check, water @ 3.0'.
15.4			1.3' to 5.0' CLAY (Borderline SAND), med. plast., soft, moist, tan & grey.		B	2. Jars: A. 0.0 to 1.3 B. 1.3 to 5.0 C. 5.0 to 6.9 D. 6.9 to 10.0
16.3			5.0' to 10.0' SAND, fine grained, loose.		C	
18.5	10		5.0' to 6.9', moist, rust brown, slightly clayey. 6.9' to 10.0', saturated, light grey. -T.D.10.0'-		D	*Classified according to MIL-STD-619B from laboratory test results

Hole No. 10A-1790

DRILLING LOG	DIVISION SWD	INSTALLATION FWD	SHEET 1 OF 1 SHEETS
1. PROJECT Ft. Polk, La.		10. SIZE AND TYPE OF BIT 8" auger	
2. LOCATION (Coordinates or Station) Airfield Fac.		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	
3. DRILLING AGENCY USCE-C		12. MANUFACTURER'S DESIGNATION OF DRILL DAMCO-500	
4. HOLE NO. (As shown on drawing title and file number) 10A-1790		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 5	UNDISTURBED 0
5. NAME OF DRILLER Daniels		14. TOTAL NUMBER CORE BOXES --	
6. DIRECTION OF HOLE ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER ****	
7. THICKNESS OF OVERBURDEN 10.0		16. DATE HOLE: STARTED 25 Aug 78	COMPLETED 25 Aug 78
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE 10.0		18. TOTAL CORE RECOVERY FOR BORING -- %	
		19. SIGNATURE OF INSPECTOR J. Cole	

WATER Encountered Content	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV-ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
27.4	0		0.0' to 6.8' CLAY: 0.0' to 2.8', med. to high plast., soft, moist, tan, sandy. 2.8' to 6.0', low plast., very soft, saturated, dark grey W/ strong org. odor. 6.0' to 10.0' SAND, fine grained, loose, saturated. 6.0' to 7.2', dark grey W/ wood particles, org. odor. 7.2' to 9.0', light grey 9.0' to 10.0', orange. -T.D.10.0'-		A	**** 1. Water at 1.8' after augering, 24 hour check, water at 0.6'.
40.2					B	2. Jars: A. 0.0 to 2.8 B. 2.8 to 6.0 C. 6.0 to 7.2 D. 7.2 to 9.0 E. 9.0 to 10.0
30.9					C	
26.4					D	
29.0	10				E	*Classified according to MIL-STD-619B from laboratory test results

Hole No. 10A-1791

DRILLING LOG	DIVISION SWD	INSTALLATION FWD	SHEET 1 OF 1 SHEETS
1. PROJECT Ft. Polk, La.		10. SIZE AND TYPE OF BIT 8" auger	
2. LOCATION (Coordinates or Station) Airfield Fac.		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	
3. DRILLING AGENCY USCE-C		12. MANUFACTURER'S DESIGNATION OF DRILL DAMCO-500	
4. HOLE NO. (As shown on drawing title and file number) 10A-1791		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 4	UNDISTURBED 0
5. NAME OF DRILLER Daniels		14. TOTAL NUMBER CORE BOXES --	
6. DIRECTION OF HOLE ☐ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER ****	
7. THICKNESS OF OVERBURDEN 10.0		16. DATE HOLE: STARTED 25 Aug 78	COMPLETED 25 Aug 78
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE 10.0		18. TOTAL CORE RECOVERY FOR BORING -- %	
		19. SIGNATURE OF INSPECTOR J. Cole	

WATER Encountered Content	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV-ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
6.7	0		0.0' to 0.2' ASPHALT 0.2' to 1.0' OIL TREATED SAND 1.0' to 2.5' SAND: 1.0' to 1.8', med. to fine grained, loose, moist, red W/ scattered gravel. 1.8' to 2.5', fine grained, loose moist, grey 2.5' to 7.5' CLAY, high plast., med. stiff, moist, tan & grey W/ layer of SAND from 4.5' to 4.9' (same as jar B.). 7.5' to 10.0' SAND, fine grained, loose, moist, grey. -T.D.10.0'-		No Sample. A B	**** 1. No water encountered boring on road, backfilled.
5.2						
26.5					C	2. Jars: A. 1.0 to 1.8 B. 1.8 to 2.5 C. 2.5 to 7.5 D. 7.5 to 10.0
8.0	10				D	3. All samples probably fill.
						*Classified according to MIL-STD-619B from laboratory test results

Hole No. BA25-1917

DRILLING LOG	DIVISION SWD	INSTALLATION FWD	SHEET 1 OF 1 SHEETS
1. PROJECT Ft. Polk, La. (Airfield Support Fac.)		10. SIZE AND TYPE OF BIT 8" Auger	
2. LOCATION (Coordinates or Station) Phase II - (Night Light Vault)		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	
3. DRILLING AGENCY USCE-C		12. MANUFACTURER'S DESIGNATION OF DRILL Failing 1500	
4. HOLE NO. (As shown on drawing title and file number) BA25-1917		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 10	UNDISTURBED 0
5. NAME OF DRILLER G. Schoonover		14. TOTAL NUMBER CORE BOXES N/A	
6. DIRECTION OF HOLE ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER See Remarks Column	
7. THICKNESS OF OVERBURDEN		16. DATE HOLE: STARTED 12 Sept. 79	COMPLETED 12 Sept. 79
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE 25.0'		18. TOTAL CORE RECOVERY FOR BORING N/A %	
		19. SIGNATURE OF INSPECTOR Jacob C. Pollard	

WATER Encountered Content	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOV-ERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
7	0.0		0.0' to 24.4' SAND: 0.0'-0.5' FINE-MED. GRAINED; BROWN; MEDIUM; DAMP; TRACE OF FINE SAND & SCAT. GRAVEL	Pen. TEST 1	A B	**** 1. BORING LEFT OPEN AFTER DRILLING 24 HR. OBSERVATION: BORING HAD CAVED-IN AT 19.4' WITH NO FREE WATER ABOVE.
5			0.5'-3.5' FINE-MED. GRAINED; YELLOWISH BROWN; LOOSE; DAMP; TRACE OF FINES	Pen. TEST 2	C	
10			3.5'-4.8' FINE-MED. GRAINED; YELLOWISH BROWN WITH WHITISH GRAY; MEDIUM; DAMP; TRACE OF FINES; WITH THIN HARD SEAMS OF IRON STAINED SANDSTONE	Pen. TEST 3	D	2. JAR SAMPLES: A: 0.0' - 0.5' B: 0.5' - 3.5' C: 3.5' - 4.8' D: 4.8' - 8.0' E: 8.0' - 13.0' F: 13.0' - 15.5' G: 15.5' - 17.5' H: 17.5' - 22.5' I: 22.5' - 24.4' J: 24.4' - 25.0'
14			4.8'-8.0' FINE-MED. GRAINED; YELLOWISH BROWN & REDDISH BROWN; MEDIUM; DAMP; CLAYEY	Pen. TEST 4	E	
13			8.0'-15.5' FINE-MED. GRAINED; REDDISH BROWN, RED, PINKISH RED & YELLOWISH BROWN; DENSE; DAMP; VERY CLAYEY	Pen. TEST 5	F	
15			15.5'-17.5' FINE-MED. GRAINED; REDDISH BROWN W/ YELLOWISH BROWN; MEDIUM; MOIST; CLAYEY	Pen. TEST 6	G	3. STANDARD PENETRATION TESTS:
21	20		17.5'-24.4' FINE-MED. GRAINED; PINK & YELLOW; MEDIUM; WET; TRACE OF FINES; LOOSE AT 22.5'	Pen. TEST 7	H	
22			24.4' T. 25.0' T.D. CLAY: MED.-HIGH PLASTICITY; YELLOW, PINK & LIGHT GRAY; MEDIUM STIFF; DAMP	Pen. TEST 8	I	
42	25.0		T.D. 25.0'	Pen. TEST 9	J	4. DRILLING: 8" FLIGHT AUGER: 0.0' - 25.0' NOTE: SPLIT SPOON SAMPLES TAKEN EVERY 2.5.

DEPTH	No. of Blows		
	1st 6"	2nd 6"	3rd 6"
2.5'	3	3	6
5.0'	6	10	10
7.5'	10	14	18
10.0'	9	15	17
12.5'	8	15	17
15.0'	8	11	11
17.5'	3	7	8
20.0'	3	5 5	5
23.5'	3	3 3	3

NOTES
1. USE THIS SHEET FOR BORING LOGS ONLY.
2. OVERBURDEN SOILS WERE CLASSIFIED ACCORDING ~~TO MILITARY STANDARD~~ 619B.
3. MOISTURE CONTENTS ARE EXPRESSED AS PERCENT OF DRY WEIGHT.

SYM SO NO	ACTION	DATE	DESCRIPTION OF REVISION
		18MAY83	"REVISED AS-BUILT"

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: ...J.I.S...
DRAWN BY: ...B.N.P...
CHECKED BY: ...L.C.C...
SUBMITTED BY:
ENGINEER:

FORT POLK LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

LOGS OF BORINGS

INV. NO. DACA63-81-B-0077 DATED: APR. 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER SHEET NO. C-7 OF 42
SEQUENCE NO. - 7

CONTR. NO. DACA63-81-C-0125

"DRAWING OF WORK AS BUILT"

PLATE 3

DRILLING LOG — Hole No. 10A-1382

DIVISION: SWD | INSTALLATION: FWD | SHEET 1 OF 1 SHEETS

1. PROJECT: Ft. Polk La-Airfield & Supply Fac.
2. LOCATION (Coordinates or Station): See Layout; USCS-C
3. DRILLING AGENCY: Hand Auger
4. HOLE NO. (As shown on drawing title and file number): 10A-1382
5. NAME OF DRILLER: L. Daniels
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0.0
8. DEPTH DRILLED INTO ROCK: 0.0
9. TOTAL DEPTH OF HOLE: 10.0'
10. SIZE AND TYPE OF BIT: 4" Hand Auger
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): See Remarks Column
12. MANUFACTURER'S DESIGNATION OF DRILL: Hand Auger
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 4; UNDISTURBED 0
14. TOTAL NUMBER CORE BOXES: N/A
15. ELEVATION GROUND WATER: See Remarks Column
16. DATE HOLE: STARTED 14 Nov. 77; COMPLETED 14 Nov. 77
17. ELEVATION TOP OF HOLE: ____
18. TOTAL CORE RECOVERY FOR BORING: N/A %
19. SIGNATURE OF INSPECTOR: Jackie R. Fisher

WATER Elevation Content %	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	0.0		0.0' to 5.4' SAND: 0.0 - 2.4': FINE - MED. GRAINED; VERY DARK GRAYISH BROWN (2.5Y - 3/2); LOOSE - MEDIUM; SATURATED; SLIGHTLY SILTY; ORGANIC. 2.4' - 5.4': FINE - MED. GRAINED; LIGHT BROWNISH GRAY (2.5Y - 6/2); LOOSE - MEDIUM; SATURATED; SLIGHTLY SILTY. 5.4' to 10.0' T.D. SAND; LOW PLASTICITY; LIGHT BROWNISH GRAY (2.5Y - 6/2) WITH BROWNISH YELLOW (10YR - 6/8) AT 6.4'; MEDIUM - STIFF; VERY MOIST; CLAYEY. T.D. 10.0'		A	**** 1. BORING LEFT OPEN AFTER DRILLING. 24 HR. OBSERVATION: FREE WATER LEVEL WAS AT 0.4' 2. JAR SAMPLES: A: 0.0' - 2.4' B: 2.4' - 5.4' C: 5.4' - 6.4' D: 6.4' - 10.0' 3. DRILLING: 4" HAND AUGER: 0.0' - 10.0' *Classified according to MIL-STD-619B from laboratory test results
26.2					B	
15.0					C	
5.6					D	
17.6	10.0					

DRILLING LOG — Hole No. 10A-1383

DIVISION: SWD | INSTALLATION: FWD | SHEET 1 OF 1 SHEETS

1. PROJECT: Ft. Polk La - Airfield & Supply Fac.
2. LOCATION (Coordinates or Station): See Layout; USCS-C
3. DRILLING AGENCY: Hand Auger
4. HOLE NO. (As shown on drawing title and file number): 10A-1383
5. NAME OF DRILLER: L. Daniels
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0.0
8. DEPTH DRILLED INTO ROCK: 0.0
9. TOTAL DEPTH OF HOLE: 10.0'
10. SIZE AND TYPE OF BIT: 4" Hand Auger
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): See Remarks Column
12. MANUFACTURER'S DESIGNATION OF DRILL: Hand Auger
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 4; UNDISTURBED 0
14. TOTAL NUMBER CORE BOXES: N/A
15. ELEVATION GROUND WATER: See Remarks Column
16. DATE HOLE: STARTED 14 Nov. 77; COMPLETED 14 Nov. 77
17. ELEVATION TOP OF HOLE: ____
18. TOTAL CORE RECOVERY FOR BORING: N/A %
19. SIGNATURE OF INSPECTOR: Jackie R. Fisher

WATER Elevation Content %	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	0.0		0.0' to 4.0' SAND: FINE - MED. GRAINED; STRONG BROWN (7.5 YR 5/6); LOOSE - MEDIUM; MOIST; TRACE OF FINES 4.0' to 10.0' T.D. CLAY; 4.0' - 7.0': HIGH PLASTICITY; STRONG BROWN (7.5YR - 5/6) WITH LIGHT GRAY (2.5Y - N 7/0); STIFF; DAMP; MOIST; VERY SANDY 7.0' - 10.0': HIGH PLASTICITY; LIGHT GRAY (2.5Y - N 7/0) WITH PALE RED (10R - 6/2) & STRONG BROWN (7.5 YR - 5/6); STIFF - VERY STIFF; DAMP; WITH TRACE OF SAND T.D. 10.0'		A	**** 1. BORING LEFT OPEN AFTER DRILLING 24 HR OBSERVATION: FREE WATER LEVEL WAS AT 5.2' 2. JAR SAMPLES: A: 0.0' - 3.0' B: 3.0' - 4.0' C: 4.0' - 7.0' D: 7.0' - 10.0' 3. DRILLING: 4" HAND AUGER: 0.0' - 10.0' *Classified according to MIL-STD-619B from laboratory test results
10.0					B	
13.9					C	
25.4					D	
37.7	10.0					

DRILLING LOG — Hole No. 10A-1384

DIVISION: SWD | INSTALLATION: FWD | SHEET 1 OF 1 SHEETS

1. PROJECT: Ft. Polk La - Airfield & Supply Fac.
2. LOCATION (Coordinates or Station): See Layout; USCS-C
3. DRILLING AGENCY: Hand Auger
4. HOLE NO. (As shown on drawing title and file number): 10A-1384
5. NAME OF DRILLER: L. Daniels
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0.0
8. DEPTH DRILLED INTO ROCK: 0.0
9. TOTAL DEPTH OF HOLE: 10.0'
10. SIZE AND TYPE OF BIT: 4" Hand Auger
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): See Remarks Column
12. MANUFACTURER'S DESIGNATION OF DRILL: Hand Auger
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 5; UNDISTURBED 0
14. TOTAL NUMBER CORE BOXES: N/A
15. ELEVATION GROUND WATER: See Remarks Column
16. DATE HOLE: STARTED 14 Nov. 77; COMPLETED 14 Nov. 77
17. ELEVATION TOP OF HOLE: ____
18. TOTAL CORE RECOVERY FOR BORING: N/A %
19. SIGNATURE OF INSPECTOR: Jackie R. Fisher

WATER Elevation Content %	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	0.0		0.0' to 7.1' SAND: 0.0 - 1.0': FINE - MED. GRAINED; STRONG BROWN (7.5 YR - 5/6); LOOSE - MEDIUM; VERY MOIST; ESSENTIALLY CLEAN 1.0' - 7.1': FINE - MED. GRAINED; BROWNISH YELLOW (10YR - 6/8) TO YELLOWISH BROWN (10YR - 5/4) AT 6.9'; LOOSE - MEDIUM; SATURATED; TRACE OF FINES 7.1' TO 10.0' T.D. SILT; LOW PLASTICITY; YELLOWISH BROWN (10YR - 5/8) & LIGHT GRAY (10YR - 6/1); MEDIUM; VERY MOIST - WET; SANDY; T.D. 10.0'		A	**** 1. BORING LEFT OPEN AFTER DRILLING 24 HR. OBSERVATION: FREE WATER LEVEL WAS AT 0.9' 2. JAR SAMPLES: A: 0.0' - 1.0' B: 1.0' - 4.0' C: 4.0' - 6.3' D: 6.3' - 7.1' E: 7.1' - 10.0' 3. DRILLING: 4" HAND AUGER: 0.0' - 10.0' *Classified according to MIL-STD-619B from laboratory test results
23.6					B	
17.3					C	
19.9					D	
22.1					E	
19.0	10.0					

DRILLING LOG — Hole No. 10A-1385

DIVISION: SWD | INSTALLATION: FWD | SHEET 1 OF 1 SHEETS

1. PROJECT: Ft. Polk La - Airfield & Support Fac.
2. LOCATION (Coordinates or Station): See Layout; USCS-C
3. DRILLING AGENCY: Damco 1250
4. HOLE NO. (As shown on drawing title and file number): 10A-1385
5. NAME OF DRILLER: L. Daniels
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0.0
8. DEPTH DRILLED INTO ROCK: 0.0
9. TOTAL DEPTH OF HOLE: 10.0'
10. SIZE AND TYPE OF BIT: 8" Auger
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): See Remarks Column
12. MANUFACTURER'S DESIGNATION OF DRILL: Damco 1250
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 6; UNDISTURBED 0
14. TOTAL NUMBER CORE BOXES: N/A
15. ELEVATION GROUND WATER: See Remarks Column
16. DATE HOLE: STARTED 14 Nov. 77; COMPLETED 14 Nov. 77
17. ELEVATION TOP OF HOLE: ____
18. TOTAL CORE RECOVERY FOR BORING: N/A %
19. SIGNATURE OF INSPECTOR: Jackie R. Fisher

WATER Elevation Content %	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	0.0		0.0' to 5.1' SAND: 0.0 - 2.4': FINE - MED. GRAINED; STRONG BROWN (7.5 YR - 5/6); MEDIUM; DAMP; MOD. SIZE. 2.4' - 3.0': FINE - MED. GRAINED; BROWN (7.5 YR - 5/4); MEDIUM; DAMP; VERY CLAYEY. 3.0' - 5.1': FINE - MED. GRAINED; GRAYISH BROWN (10YR - 5/2) & DARK GRAY (10YR - 4/1); MEDIUM; VERY MOIST; MOD. SIZE. 5.1' TO 7.4' SAND: LOW PLASTICITY; PALE BROWN (10YR - 6/3) & GRAY (10YR - 6/1); MEDIUM; WET; VERY CLAYEY 7.4' TO 10.0' T.D. SAND: 7.4' - 9.0': FINE - MED. GRAINED; BROWNISH YELLOW (10YR - 6/6); VERY MOIST; MEDIUM; CLAYEY 9.0' - 10.0': MED. GRAINED; BROWNISH YELLOW (10YR - 6/8); LOOSE - MEDIUM; SATURATED; ESSENTIALLY CLEAN T.D. 10.0'		A	**** 1. BORING LEFT OPEN AFTER DRILLING 24 HR. OBSERVATION: FREE WATER LEVEL WAS AT 5.2' 2. JAR SAMPLES: A: 0.0' - 2.4' B: 2.4' - 3.0' C: 3.0' - 5.1' D: 5.1' - 7.4' E: 7.4' - 9.0' F: 9.0' - 10.0' 3. DRILLING: 8" FLIGHT AUGER: 0.0' - 10.0' *Classified according to MIL-STD-619B from laboratory test results
11.2					B	
13.2					C	
13.5					D	
19.4					E	
17.8					F	
21.4	10.0					

DRILLING LOG — Hole No. 10A-1386

DIVISION: SWD | INSTALLATION: FWD | SHEET 1 OF 1 SHEETS

1. PROJECT: Ft. Polk La - Airfield & Supply Fac.
2. LOCATION (Coordinates or Station): See Layout; USCS-C
3. DRILLING AGENCY: Damco 1250
4. HOLE NO. (As shown on drawing title and file number): 10A-1386
5. NAME OF DRILLER: L. Daniels
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0.0
8. DEPTH DRILLED INTO ROCK: 0.0
9. TOTAL DEPTH OF HOLE: 10.0
10. SIZE AND TYPE OF BIT: 8" Auger
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): See Remarks Column
12. MANUFACTURER'S DESIGNATION OF DRILL: Damco 1250
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 6; UNDISTURBED 0
14. TOTAL NUMBER CORE BOXES: N/A
15. ELEVATION GROUND WATER: See Remarks Column
16. DATE HOLE: STARTED 14 Nov. 77; COMPLETED 14 Nov. 77
17. ELEVATION TOP OF HOLE: ____
18. TOTAL CORE RECOVERY FOR BORING: N/A %
19. SIGNATURE OF INSPECTOR: Jackie R. Fisher

WATER Elevation Content %	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	0.0		0.0' to 4.6' SAND: FINE - MED. GRAINED; STRONG BROWN (7.5 YR - 5/6); MEDIUM; DAMP; CLAYEY - VERY CLAYEY 4.6' to 6.1' SAND; LOW PLASTICITY; REDDISH BROWN (5YR - 5/4); STIFF; DAMP; VERY CLAYEY 6.1' to 10.0' T.D. SAND: 6.1' - 9.1': FINE - MED. GRAINED; REDDISH YELLOW (7.5YR - 6/6); MEDIUM; MOIST; MOD. CLAYEY 9.1' - 10.0': FINE - MED. GRAINED; REDDISH YELLOW (7.5YR - 6/6); MEDIUM; WET; SLIGHTLY CLAYEY T.D. 10.0'		A	**** 1. BORING LEFT OPEN AFTER DRILLING 24 HR. OBSERVATION: BORING WAS CAVED-IN AT 7.2' WITH NO FREE WATER ABOVE 2. JAR SAMPLES: A: 0.0' - 3.0' B: 3.0' - 4.6' C: 4.6' - 6.1' D: 6.1' - 9.1' E: 9.1' - 10.0' 3. DRILLING: 8" FLIGHT AUGER: 0.0' - 10.0' *Classified according to MIL-STD-619B from laboratory test results
11.0					B	
17.7					C	
15.6					D	
14.9					E	
19.5	10.0				F	

DRILLING LOG — Hole No. 8A2S-1780

DIVISION: SWD | INSTALLATION: FWD | SHEET 1 OF 2 SHEETS

1. PROJECT: Ft. Polk
2. LOCATION (Coordinates or Station): Airfield Fac.
3. DRILLING AGENCY: USCS-C
4. HOLE NO. (As shown on drawing title and file number): 8A2S-1780
5. NAME OF DRILLER: Daniels
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 50.0
8. DEPTH DRILLED INTO ROCK: 0.0
9. TOTAL DEPTH OF HOLE: 50.0
10. SIZE AND TYPE OF BIT: 2" split spoon
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): ____
12. MANUFACTURER'S DESIGNATION OF DRILL: DAMCO-500
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 12; UNDISTURBED 0
14. TOTAL NUMBER CORE BOXES: --
15. ELEVATION GROUND WATER: ****
16. DATE HOLE: STARTED 29 Apr. 78; COMPLETED 29 Apr. 78
17. ELEVATION TOP OF HOLE: 263.9
18. TOTAL CORE RECOVERY FOR BORING: -- %
19. SIGNATURE OF INSPECTOR: J. Cobb

MOISTURE %	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
13	0.0		0.0' to 7.0' SAND, fine grained, loose to medium dense, moist, tan & grey to rust brown. 7.0' to 50.0' CLAY, high plasticity, medium stiff to stiff. Colors as follows: 7.0' to 43.0', light grey W/ tan. 41.0 to 43.0, red & grey 43.0 to 50.0, grey W/ red & tan streaks. Slightly sandy as follows: 7.0' to 14.0 19.0' to 37.5 -T.D. 50.0-		A	**** 1. 24 hour check, water ¢ 3.0'. 2. Jars: A. 0.0 to 2.5 B. 2.5 to 7.0 C. 7.0 to 9.0 D. 9.0 to 14.0 E. 14.0 to 19.0 F. 19.0 to 22.5 G. 22.5 to 27.5 H. 27.5 to 32.5 I. 32.5 to 37.5 J. 37.5 to 41.5 K. 41.0 to 45.0 L. 45.0 to 50.0 3. Standard penetration tests. DEPTH to BLOWS 2.5 - 4.0 4-7-13 5.0 6.5 5-5-17 7.5 9.0 4-5-7 10.0 11.5 4-4-6 12.5 14.0 4-4-5 15.0 16.5 4-5-6 17.5 19.0 3-6-7 20.0 21.5 4-6-9 22.5 24.0 6-6-8 25.0 26.5 5-8-13 27.5 29.0 7-9-13 30.0 31.5 8-10-13 32.5 34.0 5-8-10 35.0 36.5 7-7-13 37.5 39.0 7-8-8 40.0 41.5 6-8-10 42.5 44.0 5-7-10 45.0 46.5 8-10-15 48.5 50.0 5-11-14 4. Drill method Alternated standard spoon & 4" rock bit.
14					B	
22					C	
35	10				D	
41					E	
34	20				F	
31					G	
17	30				H	
22					I	
18					J	
24					K	
18	50				L	

DRILLING LOG — Hole No. 8A2S-1781

DIVISION: SWD | INSTALLATION: FWD | SHEET 1 OF 2 SHEETS

1. PROJECT: Ft. Polk, La.
2. LOCATION (Coordinates or Station): Airfield Fac
3. DRILLING AGENCY: ____
4. HOLE NO. (As shown on drawing title and file number): 8A2S-1781
5. NAME OF DRILLER: Daniels
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 50
8. DEPTH DRILLED INTO ROCK: 0.0
9. TOTAL DEPTH OF HOLE: 50
10. SIZE AND TYPE OF BIT: 4" tri-cone bit & split spoon
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): ____
12. MANUFACTURER'S DESIGNATION OF DRILL: DAMCO-500
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 12; UNDISTURBED 0
14. TOTAL NUMBER CORE BOXES: --
15. ELEVATION GROUND WATER: ****
16. DATE HOLE: STARTED 30 Apr. 78; COMPLETED 30 Apr. 78
17. ELEVATION TOP OF HOLE: ~~263.9~~ 217.1
18. TOTAL CORE RECOVERY FOR BORING: -- %
19. SIGNATURE OF INSPECTOR: J. Cobb

MOISTURE Excavation Content %	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
20	0.0		0.0' to 7.5' SAND, 0.0'-4.0' medium plasticity, very loose, wet, tan, very silty. 4.0'-7.5' Medium plasticity, very loose, tan, wet, very clayey, silty. 7.5' to 50.0' CLAY, 7.5-10.0' high plasticity, soft, wet, tan and gray, with thin layers of fine grained grey sand. 10.0'-17.5' high plasticity, soft, moist to very moist, light gray and tan. 17.5'-25.0' Medium plasticity, soft, very moist, light grey. 25.0'-37.5' medium to high plasticity, soft to stiff, moist, light gray with tan. 37.5'-42.5' high plasticity, stiff, moist, red brown. 42.5'-50.0' medium plasticity, stiff, moist, reddish brown with grey. [redacted] -T.D. 50.0'-		A	**** 1. 24 hour check, water ¢ 2.9'. 2. Jars: A. 0.0' to 4.0 B. 4.0 to 7.5 C. 7.5 to 10.0 D. 10.0 to 15.0 E. 15.0 to 17.5 F. 17.5 to 22.5 G. 22.5 to 25.0 H. 25.0 to 30.0 I. 30.0 to 35.0 J. 35.0 to 40.0 K. 40.0 to 45.0 L. 45.0 to 50.0 3. Standard penetration tests. DEPTH to BLOWS 0.0 to 4.0 weight of hammer 5.0 to 6.5 2-2-3 7.5 to 9.0 2-2-3 10.0 to 11.5 3-4-5 12.5 to 14.0 2-3-5 15.0 to 16.5 3-3-4 17.5 to 19.0 2-2-2 20.0 to 21.5 2-2-3 22.5 to 24.0 2-2-2 25.0 to 26.5 3-5-8 27.5 to 29.0 7-8-9 30.0 to 31.0 4-6-9 32.5 to 34.0 5-7-9 35.0 to 36.5 6-8-10 37.5 to 39.0 7-8-11 40.0 to 41.5 8-10-12 42.5 to 44.0 5-7-9 45.0 to 46.5 6-8-9 48.5 to 50.0 7-9-10 4. Alternated standard spoon & 4" rock bit. 5. Hole offset 8' South of orig. location, corrected elevation shown on log.
17					B	
27	10				C	
35					D	
41					E	
38	20				F	
34					G	
19					H	
26	30				I	
19					J	
19					K	
20	50				L	

DRILLING LOG — Hole No. 8A2S-1782

DIVISION: SWD | INSTALLATION: FWD | SHEET 1 OF 1 SHEETS

1. PROJECT: Ft. Polk
2. LOCATION (Coordinates or Station): Airfield Fac.
3. DRILLING AGENCY: USCS-C
4. HOLE NO. (As shown on drawing title and file number): 8A2S-1782
5. NAME OF DRILLER: Daniels
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 30.0
8. DEPTH DRILLED INTO ROCK: 0.0
9. TOTAL DEPTH OF HOLE: 30.0
10. SIZE AND TYPE OF BIT: 8" auger & 2" spoon
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): ____
12. MANUFACTURER'S DESIGNATION OF DRILL: DAMCO-500
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 8; UNDISTURBED 0
14. TOTAL NUMBER CORE BOXES: --
15. ELEVATION GROUND WATER: ****
16. DATE HOLE: STARTED 28 Apr. 78; COMPLETED 29 Aug 78
17. ELEVATION TOP OF HOLE: ~~283.5~~
18. TOTAL CORE RECOVERY FOR BORING: -- %
19. SIGNATURE OF INSPECTOR: J. Cobb

MOISTURE Excavation Content %	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS - (Drilling time, water loss, depth of weathering, etc., if significant) g
3	0.0		0.0' to 8.8' SAND, fine grained, loose, slt. moist to 2.5', moist from 2.5' to 8.8', silty. Colors as follows: 0.0' to 5.0- tan 5.0' to 6.2'- rust brown 6.2' to 8.8'- brown & grey 8.8' to 30.0' CLAY, high plast., moist. 8.8' to 14.0', stiff to soft, light grey W/ red. 14.0' to 25.5', soft, grey W/ tan, very moist. 25.5' to 30.0', med. stiff to stiff, light grey W/ trace of tan. -T.D.30.0'-		A	1. Hole left open overnight ¢ 14.0', water ¢ 12.1', 72 hour check, water ¢ 9.1'. 2. Jars: A. 0.0 to 5.0 B. 5.0 to 6.2 C. 6.2 to 8.8 D. 8.8 to 14.0 E. 14.0 to 17.5 F. 17.5 to 20.0 G. 20.0 to 25.5 H. 25.5 to 30.0 3. Standard penetration tests. DEPTH to BLOWS 2.5 4.0 7-9-10 5.0 6.5 6-6-11 7.5 9.0 10-7-6 10.0 11.5 4-7-7 12.5 14.0 3-2-5 15.0 17.5 3-2-3 17.5 19.0 2-2-3 20.0 21.5 2-2-3 22.5 24.0 2-2-3 25.0 25.5 2-4-7 28.5 30.0 8.9.12 4. Drilling Method; Alternated 2" standard spoon W/ 8" auger.
12					B	
14	10				C	
33					D	
42					E	
43	20				F	
35					G	
19	30				H	

DRILLING LOG — Hole No. 6D-1783

DIVISION: SWD | INSTALLATION: FWD | SHEET 1 OF 1 SHEETS

1. PROJECT: Ft. Polk, La.
2. LOCATION (Coordinates or Station): Airfield Fac.
3. DRILLING AGENCY: USCS-C
4. HOLE NO. (As shown on drawing title and file number): 6D-1783
5. NAME OF DRILLER: Daniels
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 30.0
8. DEPTH DRILLED INTO ROCK: 0.0
9. TOTAL DEPTH OF HOLE: 30.0
10. SIZE AND TYPE OF BIT: 4" Denison Wtl.
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): ____
12. MANUFACTURER'S DESIGNATION OF DRILL: DAMCO-500
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 5; UNDISTURBED 4
14. TOTAL NUMBER CORE BOXES: --
15. ELEVATION GROUND WATER: ****
16. DATE HOLE: STARTED 28 Apr. 78; COMPLETED 29 Aug 78
17. ELEVATION TOP OF HOLE: 277.3
18. TOTAL CORE RECOVERY FOR BORING: -- %
19. SIGNATURE OF INSPECTOR: J. Cobb

MOISTURE Excavation Content %	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
28	0.0		0.0' to 17.0' SAND: 0.0' to 4.5', fine grained, very loose, saturated, dark grey, silty. 4.5' to 7.5', fine grained, loose, saturated, dark grey, silty. 7.5' to 17.0', fine grained, very loose, saturated, light grey, silty. 17.0' to 30.0' CLAY, high plasticity, stiff to soft, moist, mostly grey W/ tan. -T.D.30.0'-		A	**** 1. Augered to 3.0', water rose to 0.4', 24 hour check, water at 0.4'. 2. Jars: A. 0.0 to 4.5 B. 4.5 to 7.5 C. 7.5 to 15.0 D. 15.0 to 17.0 E. 19.0' Rot. 3. Denison Cans: 1. 7.0 to 9.0 2. 17.0 to 19.0 3. 22.0 to 24.0 4. 28.0 to 30.0 4. Note: much of material from 3.0' to 17.0' classified on poor recovery, material adhering to denison can and/ or drilling action. Recovery as follows: Recovery 3.0' to 5.0-no 7.0- poor 9.0 to 11.0- no 11.0 to 13.0- 0.6' 13.0 to 15.0- no 15.0 to 17.0- no 5. See 6D-1783A, 10' East of this boring.
21					B	
28	10				Can 1 C	
28					D	
31					Can 2	10' Core
28	20				Can 3	6' Core
	30				Can 4	

DRILLING LOG — Hole No. 6D-1783A

DIVISION: SWD | INSTALLATION: FWD | SHEET 1 OF 1 SHEETS

1. PROJECT: Ft. Polk, La.
2. LOCATION (Coordinates or Station): Airfield
3. DRILLING AGENCY: USCS-C
4. HOLE NO. (As shown on drawing title and file number): 6D-1783A
5. NAME OF DRILLER: Daniels
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 18.0
8. DEPTH DRILLED INTO ROCK: 0.0
9. TOTAL DEPTH OF HOLE: 18.0
10. SIZE AND TYPE OF BIT: 2" std. Spoon
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): ____
12. MANUFACTURER'S DESIGNATION OF DRILL: DAMCO-500
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 7; UNDISTURBED 0
14. TOTAL NUMBER CORE BOXES: --
15. ELEVATION GROUND WATER: ****
16. DATE HOLE: STARTED 31 Aug 78; COMPLETED 31 Aug 78
17. ELEVATION TOP OF HOLE: 277.3
18. TOTAL CORE RECOVERY FOR BORING: -- %
19. SIGNATURE OF INSPECTOR: J. Cobb

MOISTURE Excavation Content %	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
1	0.0	No Sample	0.0' to 2.0' CLAY, medium plasticity, soft, moist, dark gray. 2.0' to 8.0' SAND 2.0'-7.0' medium plasticity, loose to medium, moist, tan and gray. 7.0'-8.0' fine grained, very loose, saturated, rust brown, silty. 8.0' to 9.5' CLAY, High plasticity, moist, red and gray, stiff, sandy. 9.5' to 16.5' SAND, fine grained, loose to very loose, saturated, gray, silty. 16.5' to 18.0' CLAY, high plasticity, soft, medium stiff, tan and gray. - T.D. 18.0'-		X	**** 1. Hole making water ¢ 7.0', water at 2.5' 30 minutes after completion. 2. Jars: A. 2.0 to 5.0 B. 5.0 to 7.0 C. 7.0 to 8.0 D. 8.0 to 9.5 E. 9.5 to 16.5 F. 16.5 to 18.0 3. Standard penetration tests. DEPTH to BLOWS 2.5 to 4.0 2-3-3 5.0 to 6.5 2-3-4 7.5 to 9.0 1-3-3 10.0 to 11.5 1-1-3 12.5 to 14.0 2-2-3 15.0 to 16.5 1-1-2 16.5 to 18.0 3-3-3 4. Location: 10' East of 6D-1785 5. Drilling method: Alternated 8" auger and 2" standard spoon.
17					A	
21	10				B	
28					C	
32					D	
28	20				E	
42					F	

NOTES
1. USE THIS SHEET FOR BORING LOGS ONLY.
2. OVERBURDEN SOILS WERE CLASSIFIED ACCORDING TO MILITARY STANDARD 619b
3. MOISTURE CONTENTS ARE EXPRESSED AS PERCENT OF DRY WEIGHT.

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
		18MAY83	[redacted]

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: J.I.S.
DRAWN BY: B.N.F.
CHECKED BY: CARR

FORT POLK LOUISIANA
AIRFIELD AND SUPPORT FACILITIES PHASE II
LOGS OF BORINGS

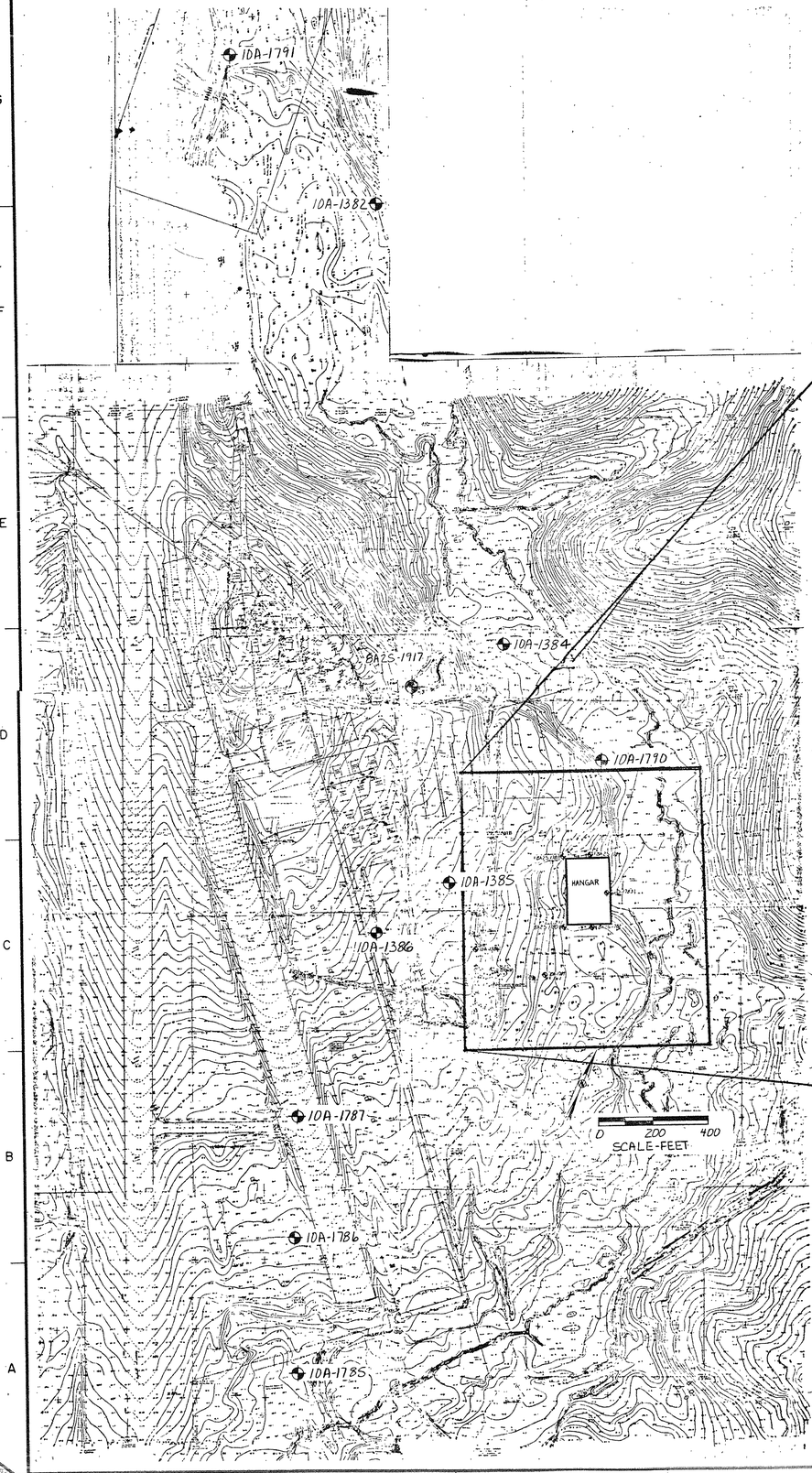
SUBMITTED BY: ____
ENGINEER: ____

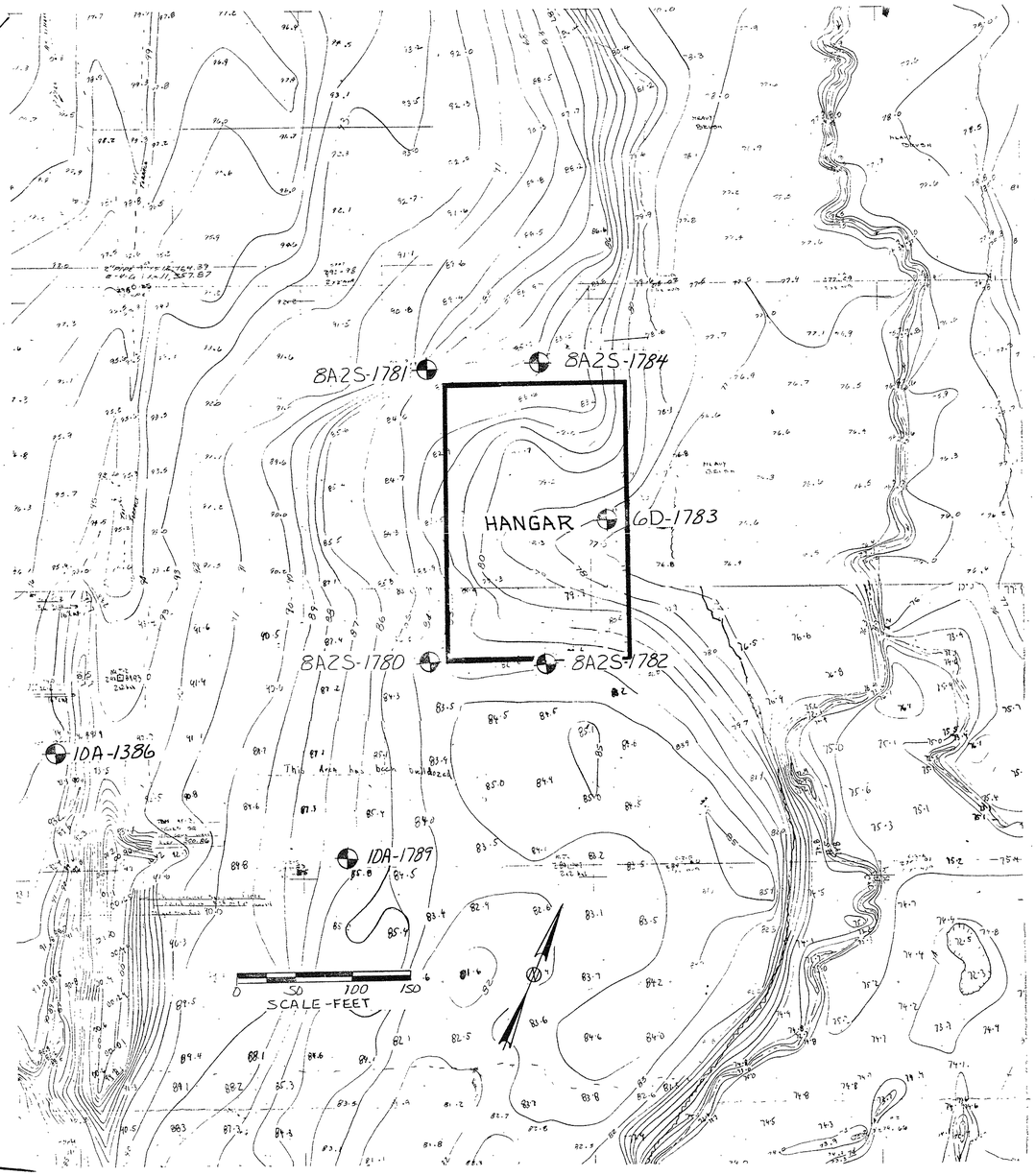
INV. NO. DACA63-81-B-0077 DATED: APR. 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER
SHEET NO. C-6 OF 42
SEQUENCE NO. 6

CONTR. NO. DACA63-81-C-0125

"DRAWING OF WORK AS BUILT"

PLATE 2




8A2S-1781
8A2S-1784
HANGAR
6D-1783
8A2S-1780
8A2S-1782
10A-1386
10A-1789
This Area has been bulldozed
0 50 100 150
SCALE-FEET

HANGAR AREA
BORING LOCATIONS

NOTE:
USE THIS SHEET FOR
BORING LOCATIONS ONLY

REVISION NO.	ACTION	DATE	DESCRIPTION OF REVISION
		18MAY83	REVISED AS-BUILT

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: M.I.S.
DRAWN BY: G.S.E.
CHECKED BY: G.A.B.R.
SUBMITTED BY:
ENGINEER:

FORT POLK LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

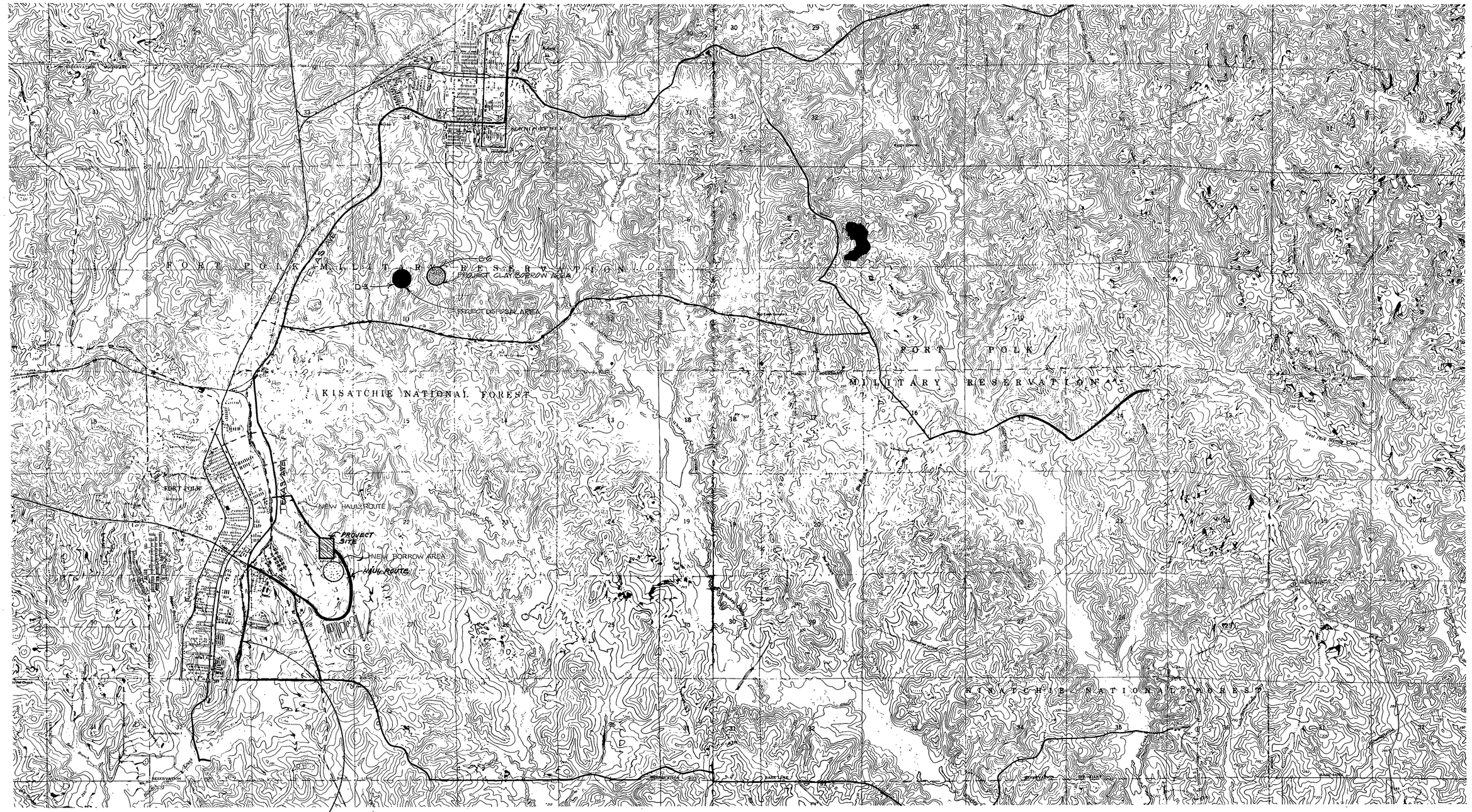
LOGS OF BORINGS

INV. NO. DACA63-81-B-0077 DATED APR. 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER
SHEET NO. C-5 OF 42
SEQUENCE NO. 5

CONTR. NO. DACA63-81-C-0125

DRAWING OF WORK AS BUILT

PLATE 1



NOTE:
CLASSIFIED BORROW SHALL BE OBTAINED OFF GOVERNMENT CONTROLLED PROPERTY AT THE CONTRACTORS EXPENSE.
ALL BASE COURSE MATERIALS SHALL BE OBTAINED OFF GOVERNMENT CONTROLLED PROPERTY AT THE CONTRACTORS EXPENSE.

SYM.	DO. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18 MAY 83	"REVISED AS-BUILT"

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: JIS
DRAWN BY: CAE/TLH
CHECKED BY: L.B.Carr

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

BORROW PITS, DISPOSAL AREAS AND HAUL ROUTE

SUBMITTED BY:
ENGINEER:

INV. NO. DACA63-81-B-0077 DATED: APR. 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER
SHEET NO. C4 OF 42
SEQUENCE NO. 4

CONTR. NO. DACA63-81-C-0125

"DRAWING OF WORK AS BUILT"

MASTER PLAN

POLYTRACE 033

EXISTING		EXISTING	
PERMANENT BUILDING		BRIDGE	
SEMI-PERMANENT BUILDING		CULVERT	
TEMPORARY BUILDING		DRAINAGE CHANNEL	
PAVEMENTS (ROADS, PARKING, AIRFIELD, ETC.)		DAM	
ROADS, UNIMPROVED		SHORELINE	
TRAIL		CENTER LINE	
RAILROAD		WOODPECKER INFLUENCE AREA	
SIDEWALK		BENCH MARK (WITH ELEVATION)	BM△875.75
FENCE (BARBED WIRE)		SPOT ELEVATION	×765.52
FENCE (CHAIN LINK)		INDEX CONTOUR	
AREA OUTLINE		INTERMEDIATE CONTOUR	
RESERVATION BOUNDARY		DEPRESSION	
RIGHT-OF-WAY OR EASEMENT		FLOOD OUTLINE	

SYM.	NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18MAY83	REVISED AS-BUILT

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: CARR
DRAWN BY: ENP
CHECKED BY: CARR
SUBMITTED BY:
ENGINEER:

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE II

PROJECT LOCATION MAP

INV. NO. DACA63-81-B-0077 DATED APR. 1981
CONTR. NO. DACA63-81-C-0125
DRAWING NUMBER
SHEET NO. C-3 OF 42
SEQUENCE NO. 3

CONTR. NO. DACA63-81-C-0125

"DRAWING OF WORK AS BUILT"

AF 11432

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76	S-12 OF 16	HANGAR DOOR DETAILS
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SIGNATURES AFFIXED BELOW INDICATE OFFICIAL RECOMMENDATION AND APPROVAL OF ALL DRAWINGS IN THIS SET AS INDEXED ON THIS SHEET

RECOMMENDED:	RECOMMENDED:	APPROVAL RECOMMENDED:
William Dykes, CHIEF DESIGN BRANCH	Frank Porter, CHIEF MILITARY BRANCH	Chief, ENGINEERING DIVISION

APPROVED FOR THE DISTRICT ENGINEER: Charles L. Rush, CORPS OF ENGINEERS, DEPUTY DISTRICT ENGINEER

SYM.	DO. NO.	ACTION	DATE	DESCRIPTION OF REVISION
			18MAY83	"REVISED AS-BUILT"
1	E4855	PM	3AUG81	ADDED SEQ. 17 & 42A
2	85249	CWPD0001	26MAY82	ADDED SEQ. 66A & SEQ. 66B

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: B.N. Porter
DRAWN BY: D. KELLEY
CHECKED BY: B. Porter

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE III

INDEX TO DRAWINGS

INV. NO. DACA63-81-B-0077 DATED APR 1981
CONST. NO. DACA63-81-C-0125
DRAWING NUMBER: SHEET NO. C-2 OF 42
SEQUENCE NO. 2
CONTR. NO. DACA63-81-C-0125

SUPERSEDES SHEET C-2.1 of 42

"DRAWING OF WORK AS BUILT"

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⚠ 66B	S-2E OF 16	PEDESTAL DETAILS AND COLUMN SCHEDULE

SIGNATURES AFFIXED BELOW INDICATE OFFICIAL RECOMMENDATION AND APPROVAL OF ALL DRAWINGS IN THIS SET AS INDEXED ON THIS SHEET

RECOMMENDED: William Parker, CHIEF DESIGN BRANCH

RECOMMENDED: Frank Parker, CHIEF [illegible] BRANCH

APPROVAL RECOMMENDED: [signature], CHIEF ENGINEERING DIVISION

APPROVED FOR THE DISTRICT ENGINEER: Charles Rush, COLONEL, CORPS OF ENGINEERS, DEPUTY DISTRICT ENGINEER

NO.	REVISION	BY	DATE	DESIGN AT TIME OF REVISION
⚠ 5	PERMANENT ADDED SEQ. 66A & SEQ. 66B			

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: W. Parker
DRAWN BY: D. KELLEY
CHECK BY: B. Ritter

FORT POLK, LOUISIANA

AIRFIELD AND SUPPORT FACILITIES PHASE III

INDEX TO DRAWINGS

INV NO DACA63-81-B-0077 DATED APR 1981

DRAWING NUMBER | SHEET NO | SEQUENCE NO. 2

SUBMITTED: [illegible]

Appendix C. ROOM DATA SHEETS

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	General Storage	**Room Number:**	101
Functional Area:	Storage	**Space Type:**	Storage

SPACE REQUIREMENT:

Allocated Space:	824 SF Net Area	No. of Occupants:	NA
Function:	Storage		
Occupancy Class:	Storage (NFPA) S-1 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU / Gyp	Floors:	clean & reseal existing concrete
Ceilings:	Paint existing structure	Ceiling Height:	OTS
Notes:			

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Ordinary ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	78	°F ±	_____	°F Cooling	68	°F ±	_____	°F Heating
Humidity:	50	% RH ±	_____	% RH Cooling	50	%RH ±	_____	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:			
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:			
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:			

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☐ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☐ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Hangar Bay	**Room Number:**	102
Functional Area:	Maintenance	**Space Type:**	Maintenance

SPACE REQUIREMENT:

Allocated Space:	19,548 SF Net Area	No. of Occupants:	NA
Function:	Maintenance and service bays		
Occupancy Class:	Storage (NFPA) S-1 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Existing to Remain	Floors:	Existing to Remain
Ceilings:	Existing to Remain	Ceiling Height:	OTS
Notes:	No interior work in the Hangar Bay		

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☑ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Special ☐ Wet System ☐ Preaction System ☑ Deluge

Fire Detection Type: Existing heat det. (to remain)

Notes: Existing deluge system installed. New pull stations by exit doors. Monitor existing fire sprinkler system risers with new fire alarm panel.

HVAC:

Temperature:	°F ±	°F Cooling		55	°F ±	°F Heating	
Humidity:	% RH ±	% RH Cooling			%RH ±	%RH Heating	
Room Pressurization:	Negative			Vibration Criteria:			
Air Changes/Hr:		☑ General Exhaust:	0.5 CFM/SF	☐ Chemical Exhaust:			
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:		☐ Smoke Exhaust:			

Notes: Heat and Vent only. Hangar exhaust required. Follow UFC 4-211-01

PLUMBING:

☑ Domestic Water:	Existing to remain	☑ Emergency Fixture:	Existing to remain
☑ Sanitary Sewer:	Existing to remain	☑ Wall Hydrant/Hose Bibb:	Existing to remain
☐ Industrial Waste:		☑ Floor Drain:	Existing to remain
☐ Compressed Air:		☑ Trench Drain:	Existing to remain
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:	
Lighting Lamp Type:	LED	No. : TBD V/PH/HZ:	Type:
Lighting Direction:	TBD by DB contractor		
Light Switching:	TBD by DB contractor	Clean Power:	
Lighting Level (FC):	IESNA/UFC	UPS:	
Ground:		Emergency Power:	

Notes:

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☑ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☑ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	MedEvac Flight Ops	**Room Number:**	103
Functional Area:	Office	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	335 SF Net Area	No. of Occupants:	NA
Function:	Office		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU	Floors:	VCT to match schedule
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	78	°F ±	_____	°F Cooling	68	°F ±	_____	°F Heating
Humidity:	50	% RH ±	_____	% RH Cooling	50	%RH ±	_____	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:			
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:			
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:			

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☑ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☑ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	MedEvac Flight Ops	**Room Number:**	103A
Functional Area:	Office	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	249 SF Net Area	No. of Occupants:	NA
Function:	Office		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU / Gyp	Floors:	VCT to match schedule
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing sprinkler system to remain

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☑ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☑ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Flight Ops Equip. Storage	**Room Number:**	103B
Functional Area:	Storage	**Space Type:**	Storage

SPACE REQUIREMENT:

Allocated Space:	379 SF Net Area	No. of Occupants:	NA
Function:	Storage		
Occupancy Class:	Storage (NFPA) S-1 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU / Gyp	Floors:	clean & reseal existing concrete
Ceilings:	Paint Gyp	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Ordinary ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	78	°F ±	_____ °F Cooling	68	°F ±	_____	°F Heating
Humidity:	50	% RH ±	_____ % RH Cooling	50	%RH ±	_____	%RH Heating
Room Pressurization:	Negative			Vibration Criteria:			
Air Changes/Hr:		☑ General Exhaust:	62.1 req. exhaust	☐ Chemical Exhaust:			
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:		☐ Smoke Exhaust:			
Notes:							

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☐ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☐ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Supply Room	**Room Number:**	104
Functional Area:	Storage	**Space Type:**	Storage

SPACE REQUIREMENT:

Allocated Space:	723 SF Net Area	No. of Occupants:	NA
Function:	Storage		
Occupancy Class:	Storage (NFPA) S-1 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU	Floors:	clean & reseal exisitng concrete
Ceilings:	OTS	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Ordinary ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Negative				Vibration Criteria:		
Air Changes/Hr:		☑ General Exhaust:	62.1 req. exhaust		☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☑ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☑ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Supply Room	**Room Number:**	104A
Functional Area:	Storage	**Space Type:**	Storage

SPACE REQUIREMENT:

Allocated Space:	411 SF Net Area	No. of Occupants:	NA
Function:	Storage		
Occupancy Class:	Storage (NFPA) S-1 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Painted CMU / GYP	Floors:	clean & reseal existing concrete
Ceilings:	OTS	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Ordinary ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Negative				Vibration Criteria:		
Air Changes/Hr:		☑ General Exhaust:	62.1 req. exhaust		☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:	
Lighting Lamp Type:	LED	No. : TBD V/PH/HZ:	Type:
Lighting Direction:	TBD by DB contractor		
Light Switching:	TBD by DB contractor	Clean Power:	
Lighting Level (FC):	IESNA/UFC	UPS:	
Ground:		Emergency Power:	
Notes:			

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☑ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☑ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Maint. Test Pilot Office	**Room Number:**	107
Functional Area:	Office	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	343 SF Net Area	No. of Occupants:	NA
Function:	Office		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU	Floors:	clean & reseal existing concrete
Ceilings:	OTS	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	78 °F ±		°F Cooling	68 °F ±		°F Heating	
Humidity:	50 % RH ±		% RH Cooling	50 %RH ±		%RH Heating	
Room Pressurization:	Neutral			Vibration Criteria:			
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☑ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☑ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Crew Chief Office	**Room Number:**	108
Functional Area:	Office	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	377 SF Net Area	No. of Occupants:	NA
Function:	Office		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU	Floors:	clean & reseal existing concrete
Ceilings:	OTS	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet: _____ ☐ Fume Hood: _____
- ☐ Casework: _____ ☐ Toxic / Hazardous Materials: _____
- ☑ Special Requirements: High traffic area; Re-use casework; Log Storage; Verify I.T. requirements

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☐ Domestic Water: _____ ☐ Emergency Fixture: _____
- ☐ Sanitary Sewer: _____ ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Industrial Waste: _____ ☐ Floor Drain: _____
- ☐ Compressed Air: _____ ☐ Trench Drain: _____
- ☐ Breathing Air: _____ ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☑ Phone / Voice: _____ ☐ Intrusion Detection: _____
- ☐ PA System: _____ ☐ Access Control: _____
- ☐ Leak Detection: _____ ☐ CCTV: _____
- ☑ Data (NIPRNET): _____ ☐ Mass Notification: _____
- ☐ SIPRNET: _____ ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Platoon Office	**Room Number:**	109
Functional Area:	Office	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	409 SF Net Area	No. of Occupants:	NA
Function:	Office		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU / Gyp	Floors:	clean & reseal existing concrete
Ceilings:	OTS	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☑ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☑ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Day Room	**Room Number:**	110
Functional Area:	Break Room	**Space Type:**	Support

SPACE REQUIREMENT:

Allocated Space:	566 SF Net Area	No. of Occupants:	NA
Function:	Break Room		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU / Gyp	Floors:	Carpet Tile
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☑ Casework:	Solid Surface Top	☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: Smoke

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	78	°F ±	_____	°F Cooling	68	°F ±	_____	°F Heating
Humidity:	50	% RH ±	_____	% RH Cooling	50	%RH ±	_____	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:			
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:			
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:			

Notes:

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☑ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☑ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Secure Equip Storage	**Room Number:**	111
Functional Area:	Storage	**Space Type:**	Storage

SPACE REQUIREMENT:

Allocated Space:	388 SF Net Area	No. of Occupants:	NA
Function:	Storage		
Occupancy Class:	Storage (NFPA) S-1 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU / Gyp	Floors:	clean & reseal existing concrete
Ceilings:	Paint existing structure	Ceiling Height:	OTS
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Ordinary ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Negative				Vibration Criteria:		
Air Changes/Hr:		☑ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		
Notes:							

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	
Notes:			

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☐ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☐ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	
Notes:			

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Equipment Room	**Room Number:**	112
Functional Area:	Admin	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	322 SF Net Area	No. of Occupants:	NA
Function:	Admin		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU / Gyp	Floors:	clean & reseal existing concrete
Ceilings:	ACT	Ceiling Height:	Match Existing
Notes:	Needs new acoustical ceiling and HVAC		

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Ordinary ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	_____ °F ±	_____ °F Cooling		_____ °F ±	_____ °F Heating		
Humidity:	_____ % RH ±	_____ % RH Cooling		_____ %RH ±	_____ %RH Heating		
Room Pressurization:	Negative			Vibration Criteria:			
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			

Notes:

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☑ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☑ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Flight Planning Office	**Room Number:**	113
Functional Area:	Office	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	319 SF Net Area	No. of Occupants:	NA
Function:	Office		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU	Floors:	Replace Vinyl Tile
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	78 °F ±		°F Cooling	68 °F ±		°F Heating	
Humidity:	50 % RH ±		% RH Cooling	50 %RH ±		%RH Heating	
Room Pressurization:	Neutral			Vibration Criteria:			
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☑ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☑ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Corridor	**Room Number:**	113A
Functional Area:	Corridor	**Space Type:**	Support

SPACE REQUIREMENT:

Allocated Space:	81 SF Net Area	No. of Occupants:	NA
Function:	Corridor		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU	Floors:	VCT
Ceilings:	Paint Gyp	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: Smoke

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☐ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☐ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Corridor	**Room Number:**	113B
Functional Area:	Corridor	**Space Type:**	Support

SPACE REQUIREMENT:

Allocated Space:	511 SF Net Area	No. of Occupants:	NA
Function:	Corridor		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU	Floors:	VCT
Ceilings:	Paint Gyp	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: Smoke

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☐ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☐ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Snack	**Room Number:**	113C
Functional Area:	Break Area	**Space Type:**	Support

SPACE REQUIREMENT:

Allocated Space:	57 SF Net Area	No. of Occupants:	NA
Function:	Snack alcove		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	Vinyl Tile
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: Smoke

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☑ Domestic Water: _____
- ☑ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☐ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☐ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Passage	**Room Number:**	113D
Functional Area:	Corrdior	**Space Type:**	Support

SPACE REQUIREMENT:

Allocated Space:	111 SF Net Area	No. of Occupants:	NA
Function:	Corridor		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU	Floors:	VCT
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: Smoke

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☐ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☐ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Stairs	**Room Number:**	115
Functional Area:	Stairs	**Space Type:**	Support

SPACE REQUIREMENT:

Allocated Space:	242 SF Net Area	No. of Occupants:	NA
Function:	Stairs		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU / Gyp	Floors:	clean & reseal concrete; new rubber treads
Ceilings:	Paint Gyp	Ceiling Height:	
Notes:	paint stringers and hand rails		

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	°F ±	°F Cooling		55 °F ±	°F Heating		
Humidity:	% RH ±	% RH Cooling		%RH ±	%RH Heating		
Room Pressurization:	Neutral			Vibration Criteria:			
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			

Notes:

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☐ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☐ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Men	**Room Number:**	116
Functional Area:	Restroom	**Space Type:**	Support

SPACE REQUIREMENT:

Allocated Space:	234 SF Net Area	No. of Occupants:	NA
Function:	Restroom		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU / Gyp / Ceramic Tile	Floors:	clean & reseal concrete /slip resistant
Ceilings:	Paint Gyp	Ceiling Height:	
Notes:	Ceramic Tile on wet walls only		

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Negative				Vibration Criteria:		
Air Changes/Hr:		☑ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		
Notes:	Restrooms exhaust and makeup air transferred in.						

PLUMBING:

☑ Domestic Water:	Restroom Fixtures	☐ Emergency Fixture:	
☑ Sanitary Sewer:	Existing to remain	☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☑ Floor Drain:	Existing to remain
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☐ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☐ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Women	**Room Number:**	117
Functional Area:	Restroom	**Space Type:**	Support

SPACE REQUIREMENT:

Allocated Space:	38 SF Net Area	No. of Occupants:	NA
Function:	Restroom		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU / Gyp / Ceramic Tile	Floors:	clean & reseal concrete /slip resistant
Ceilings:	Paint Gyp	Ceiling Height:	
Notes:	Ceramic Tile on wet walls only		

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Negative				Vibration Criteria:		
Air Changes/Hr:		☑ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes: Restrooms exhaust and makeup air transferred in.

PLUMBING:

☑ Domestic Water:	Restroom Fixtures	☐ Emergency Fixture:	
☑ Sanitary Sewer:	Existing to remain	☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☑ Floor Drain:	Existing to remain
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			

Notes:

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☐ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☐ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name: Corridor **Room Number:** 118
Functional Area: Corridor **Space Type:** Support

SPACE REQUIREMENT:

Allocated Space: 1,360 SF Net Area No. of Occupants: NA
Function: Corridor
Occupancy Class: Business (NFPA) B (IBC) STC Rating NA
General Notes:

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____
Notes:

FINISHES:

Walls: Paint CMU Floors: clean & reseal existing concrete
Ceilings: Paint Gyp Ceiling Height: _____
Notes:

SPECIAL REQUIREMENTS:

☐ Storage Cabinet: _____ ☐ Fume Hood: _____
☐ Casework: _____ ☐ Toxic / Hazardous Materials: _____
☐ Special Requirements: _____

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression
Fire Detection Type: None
Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature: 78 °F ± _____ °F Cooling 68 °F ± _____ °F Heating
Humidity: 50 % RH ± _____ % RH Cooling 50 %RH ± _____ %RH Heating
Room Pressurization: Neutral Vibration Criteria: _____
Air Changes/Hr: _____ ☐ General Exhaust: _____ ☐ Chemical Exhaust: _____
ASHARE 62.1 Air Class: TBD by Contractor ☐ Heat Exhaust: _____ ☐ Smoke Exhaust: _____
Notes:

PLUMBING:

☐ Domestic Water: _____ ☐ Emergency Fixture: _____
☐ Sanitary Sewer: _____ ☐ Wall Hydrant/Hose Bibb: _____
☐ Industrial Waste: _____ ☐ Floor Drain: _____
☐ Compressed Air: _____ ☐ Trench Drain: _____
☐ Breathing Air: _____ ☐ Other: _____
Notes:

ELECTRICAL:

Lighting Fixture Type: TBD by DB contractor Power Outlets:
Lighting Lamp Type: LED No. : TBD V/PH/HZ: _____ Type: _____
Lighting Direction: TBD by DB contractor
Light Switching: TBD by DB contractor Clean Power: _____
Lighting Level (FC): IESNA/UFC UPS: _____
Ground: _____ Emergency Power: _____
Notes:

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☐ Phone / Voice: _____ ☐ Intrusion Detection: _____
☐ PA System: _____ ☐ Access Control: _____
☐ Leak Detection: _____ ☐ CCTV: _____
☐ Data (NIPRNET): _____ ☐ Mass Notification: _____
☐ SIPRNET: _____ ☐ Special Comm/Radio: _____
Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Equip Storage	**Room Number:**	119
Functional Area:	Storage	**Space Type:**	Storage

SPACE REQUIREMENT:

Allocated Space:	312 SF Net Area	No. of Occupants:	NA
Function:	Storage		
Occupancy Class:	Storage (NFPA) S-1 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU	Floors:	clean & reseal existing concrete
Ceilings:	Paint existing structure	Ceiling Height:	OTS
Notes:			

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet:
- ☐ Casework:
- ☐ Special Requirements:
- ☐ Fume Hood:
- ☐ Toxic / Hazardous Materials:

FIRE PROTECTION:

Hazard Classification: Ordinary ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Negative				Vibration Criteria:		
Air Changes/Hr:		☑ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☐ Domestic Water:
- ☐ Sanitary Sewer:
- ☐ Industrial Waste:
- ☐ Compressed Air:
- ☐ Breathing Air:
- ☐ Emergency Fixture:
- ☐ Wall Hydrant/Hose Bibb:
- ☐ Floor Drain:
- ☐ Trench Drain:
- ☐ Other:

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:	
Lighting Lamp Type:	LED	No. : TBD V/PH/HZ:	Type:
Lighting Direction:	TBD by DB contractor		
Light Switching:	TBD by DB contractor	Clean Power:	
Lighting Level (FC):	IESNA/UFC	UPS:	
Ground:		Emergency Power:	
Notes:			

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☐ Phone / Voice:
- ☐ PA System:
- ☐ Leak Detection:
- ☐ Data (NIPRNET):
- ☐ SIPRNET:
- ☐ Intrusion Detection:
- ☐ Access Control:
- ☐ CCTV:
- ☐ Mass Notification:
- ☐ Special Comm/Radio:

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Kitchen	**Room Number:**	120
Functional Area:	Kitchen	**Space Type:**	Support

SPACE REQUIREMENT:

Allocated Space:	224 SF Net Area	No. of Occupants:	NA
Function:	Kitchen		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	LVT
Ceilings:	Kitchen Grade ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☑ Storage Cabinet:		☐ Fume Hood:	
☑ Casework:	Solid Surface Top	☐ Toxic / Hazardous Materials:	
☑ Special Requirements:	High End Durable Appliances		

FIRE PROTECTION:

Hazard Classification: Ordinary ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: CO/Smoke

Notes: Revamp existing fire sprinkler system to accommodate room layout changes.

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☑ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes: Kitchen Hood exhaust

PLUMBING:

☑ Domestic Water:	Kitchen Fixtures, Appliances	☐ Emergency Fixture:	
☑ Sanitary Sewer:	Existing to remain	☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			

Notes:

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☐ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☐ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name: Flight Equipment Storage **Room Number:** 121
Functional Area: Storage **Space Type:** Storage

SPACE REQUIREMENT:

Allocated Space: 354 SF Net Area No. of Occupants: NA
Function: Storage
Occupancy Class: Storage (NFPA) S-1 (IBC) STC Rating NA
General Notes:

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____
Notes:

FINISHES:

Walls: Paint CMU / Gyp Floors: VCT
Ceilings: ACT Ceiling Height: _____
Notes:

SPECIAL REQUIREMENTS:

☐ Storage Cabinet: _____ ☐ Fume Hood: _____
☐ Casework: _____ ☐ Toxic / Hazardous Materials: _____
☐ Special Requirements: _____

FIRE PROTECTION:

Hazard Classification: Ordinary ☑ Wet System ☐ Preaction System ☐ Foam Suppression
Fire Detection Type: None
Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature: 78 °F ± _____ °F Cooling 68 °F ± _____ °F Heating
Humidity: 50 % RH ± _____ % RH Cooling 50 %RH ± _____ %RH Heating
Room Pressurization: Negative Vibration Criteria: _____
Air Changes/Hr: _____ ☑ General Exhaust: _____ ☐ Chemical Exhaust: _____
ASHARE 62.1 Air Class: TBD by Contractor ☐ Heat Exhaust: _____ ☐ Smoke Exhaust: _____
Notes:

PLUMBING:

☐ Domestic Water: _____ ☐ Emergency Fixture: _____
☐ Sanitary Sewer: _____ ☐ Wall Hydrant/Hose Bibb: _____
☐ Industrial Waste: _____ ☐ Floor Drain: _____
☐ Compressed Air: _____ ☐ Trench Drain: _____
☐ Breathing Air: _____ ☐ Other: _____
Notes:

ELECTRICAL:

Lighting Fixture Type: TBD by DB contractor Power Outlets:
Lighting Lamp Type: LED No. : TBD V/PH/HZ: _____ Type: _____
Lighting Direction: TBD by DB contractor
Light Switching: TBD by DB contractor Clean Power: _____
Lighting Level (FC): IESNA/UFC UPS: _____
Ground: _____ Emergency Power: _____
Notes:

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☐ Phone / Voice: _____ ☐ Intrusion Detection: _____
☐ PA System: _____ ☐ Access Control: _____
☐ Leak Detection: _____ ☐ CCTV: _____
☐ Data (NIPRNET): _____ ☐ Mass Notification: _____
☐ SIPRNET: _____ ☐ Special Comm/Radio: _____
Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Contract Maint Office	**Room Number:**	122
Functional Area:	Office	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	345 SF Net Area	No. of Occupants:	NA
Function:	Office		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU	Floors:	clean & reseal concrete
Ceilings:	Paint existing structure	Ceiling Height:	OTS
Notes:			

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	78	°F ±	_____	°F Cooling	68	°F ±	_____	°F Heating
Humidity:	50	% RH ±	_____	% RH Cooling	50	%RH ±	_____	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:			
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:			
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:			

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☑ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☑ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Eng. Shop	**Room Number:**	123
Functional Area:	Maintenance	**Space Type:**	Maintenance

SPACE REQUIREMENT:

Allocated Space:	352 SF Net Area	No. of Occupants:	NA
Function:	Maintenance		
Occupancy Class:	Industrial (NFPA) F-1 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU	Floors:	clean & reseal concrete
Ceilings:	Paint existing structure	Ceiling Height:	OTS
Notes:			

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Ordinary ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Negative				Vibration Criteria:		
Air Changes/Hr:		☑ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☑ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☑ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☑ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Passage	**Room Number:**	124A
Functional Area:	Corrdior	**Space Type:**	Support

SPACE REQUIREMENT:

Allocated Space:	277 SF Net Area	No. of Occupants:	NA
Function:	Corridor		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU	Floors:	CPT
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: CO/Smoke

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☐ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☐ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Sleep Room	**Room Number:**	124B
Functional Area:	Bedroom	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	108 SF Net Area	No. of Occupants:	NA
Function:	Bedroom		
Occupancy Class:	Lodging (NFPA) R-3 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	Carpet Tile
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☑ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: CO/Smoke

Notes: Revamp existing fire sprinkler system to accommodate new room layout.

HVAC:

Temperature:	78	°F ±	_____	°F Cooling	68	°F ±	_____ °F Heating
Humidity:	50	% RH ±	_____	% RH Cooling	50	%RH ±	_____ %RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:	
Lighting Lamp Type:	LED	No. : TBD V/PH/HZ: _____	Type: _____
Lighting Direction:	TBD by DB contractor		
Light Switching:	TBD by DB contractor	Clean Power:	
Lighting Level (FC):	IESNA/UFC	UPS:	
Ground:		Emergency Power:	
Notes:			

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☑ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☑ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Sleep Room	**Room Number:**	124C
Functional Area:	Bedroom	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	105 SF Net Area	No. of Occupants:	NA
Function:	Bedroom		
Occupancy Class:	Lodging (NFPA) R-3 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	Carpet Tile
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☑ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: CO/Smoke

Notes: Revamp existing fire sprinkler system to accommodate new room layout

HVAC:

Temperature:	78	°F ±	_____ °F Cooling	68	°F ±	_____	°F Heating
Humidity:	50	% RH ±	_____ % RH Cooling	50	%RH ±	_____	%RH Heating
Room Pressurization:	Neutral			Vibration Criteria:			
Air Changes/Hr:		☐ General Exhaust:		☐ Chemical Exhaust:			
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:		☐ Smoke Exhaust:			

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:	
Lighting Lamp Type:	LED	No. : TBD V/PH/HZ: _____	Type: _____
Lighting Direction:	TBD by DB contractor		
Light Switching:	TBD by DB contractor	Clean Power:	
Lighting Level (FC):	IESNA/UFC	UPS:	
Ground:		Emergency Power:	
Notes:			

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☑ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☑ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Sleep Room	**Room Number:**	124D
Functional Area:	Bedroom	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	105 SF Net Area	No. of Occupants:	NA
Function:	Bedroom		
Occupancy Class:	Logding (NFPA) R-3 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	Carpet Tile
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☑ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: CO/Smoke

Notes: Revamp existing fire sprinkler system to accommodate new room layout.

HVAC:

Temperature:	78	°F ±	_____	°F Cooling	68	°F ±	_____ °F Heating
Humidity:	50	% RH ±	_____	% RH Cooling	50	%RH ±	_____ %RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:	
Lighting Lamp Type:	LED	No. : TBD V/PH/HZ: _____	Type: _____
Lighting Direction:	TBD by DB contractor		
Light Switching:	TBD by DB contractor	Clean Power:	
Lighting Level (FC):	IESNA/UFC	UPS:	
Ground:		Emergency Power:	
Notes:			

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☑ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☑ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Sleep Room	**Room Number:**	124E
Functional Area:	Bedroom	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	105 SF Net Area	No. of Occupants:	NA
Function:	Bedroom		
Occupancy Class:	Lodging (NFPA) R-3 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	Carpet Tile
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☑ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: CO/Smoke

Notes: Revamp existing fire sprinkler system to accommodate new room layout.

HVAC:

Temperature:	78	°F ±	_____	°F Cooling	68	°F ±	_____ °F Heating
Humidity:	50	% RH ±	_____	% RH Cooling	50	%RH ±	_____ %RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:	
Lighting Lamp Type:	LED	No. : TBD V/PH/HZ: _____	Type: _____
Lighting Direction:	TBD by DB contractor		
Light Switching:	TBD by DB contractor	Clean Power:	
Lighting Level (FC):	IESNA/UFC	UPS:	
Ground:		Emergency Power:	
Notes:			

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☑ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☑ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Sleep Room	**Room Number:**	124F
Functional Area:	Bedroom	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	105 SF Net Area	No. of Occupants:	NA
Function:	Bedroom		
Occupancy Class:	Lodging (NFPA) R-3 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	Carpet Tile
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☑ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: CO/Smoke

Notes: Revamp existing fire sprinkler system to accommodate new room layout.

HVAC:

Temperature:	78	°F ±	_____	°F Cooling	68	°F ±	_____ °F Heating
Humidity:	50	% RH ±	_____	% RH Cooling	50	%RH ±	_____ %RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:	
Lighting Lamp Type:	LED	No. : TBD V/PH/HZ: _____	Type: _____
Lighting Direction:	TBD by DB contractor		
Light Switching:	TBD by DB contractor	Clean Power:	
Lighting Level (FC):	IESNA/UFC	UPS:	
Ground:		Emergency Power:	
Notes:			

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☑ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☑ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Sleep Room	**Room Number:**	124G
Functional Area:	Bedroom	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	105 SF Net Area	No. of Occupants:	NA
Function:	Bedroom		
Occupancy Class:	Lodging (NFPA) R-3 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	Carpet Tile
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☑ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: CO/Smoke

Notes: Revamp existing fire sprinkler system to accommodate new room layout.

HVAC:

Temperature:	78	°F ±	_____	°F Cooling	68	°F ±	_____ °F Heating
Humidity:	50	% RH ±	_____	% RH Cooling	50	%RH ±	_____ %RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:	
Lighting Lamp Type:	LED	No. : TBD V/PH/HZ: _____	Type: _____
Lighting Direction:	TBD by DB contractor		
Light Switching:	TBD by DB contractor	Clean Power:	
Lighting Level (FC):	IESNA/UFC	UPS:	
Ground:		Emergency Power:	
Notes:			

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☑ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☑ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Sleep Room	**Room Number:**	124H
Functional Area:	Bedroom	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	103 SF Net Area	No. of Occupants:	NA
Function:	Bedroom		
Occupancy Class:	Lodging (NFPA) R-3 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	Carpet Tile
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☑ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: CO/Smoke

Notes: Revamp existing fire sprinkler system to accommodate new room layout.

HVAC:

Temperature:	78	°F ±	_____	°F Cooling	68	°F ±	_____ °F Heating
Humidity:	50	% RH ±	_____	% RH Cooling	50	%RH ±	_____ %RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:	
Lighting Lamp Type:	LED	No. : TBD V/PH/HZ: _____	Type: _____
Lighting Direction:	TBD by DB contractor		
Light Switching:	TBD by DB contractor	Clean Power:	
Lighting Level (FC):	IESNA/UFC	UPS:	
Ground:		Emergency Power:	
Notes:			

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☑ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☑ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Sleep Room	**Room Number:**	124J
Functional Area:	Bedroom	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	103 SF Net Area	No. of Occupants:	NA
Function:	Bedroom		
Occupancy Class:	Lodging (NFPA) R-3 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	Carpet Tile
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☑ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: CO/Smoke

Notes: Revamp existing fire sprinkler system to accommodate new room layout

HVAC:

Temperature:	78	°F ±	_____	°F Cooling	68	°F ±	_____ °F Heating
Humidity:	50	% RH ±	_____	% RH Cooling	50	%RH ±	_____ %RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:	
Lighting Lamp Type:	LED	No. : TBD V/PH/HZ: _____	Type: _____
Lighting Direction:	TBD by DB contractor		
Light Switching:	TBD by DB contractor	Clean Power:	
Lighting Level (FC):	IESNA/UFC	UPS:	
Ground:		Emergency Power:	
Notes:			

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☑ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☑ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Sleep Room	**Room Number:**	124K
Functional Area:	Bedroom	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	103 SF Net Area	No. of Occupants:	NA
Function:	Bedroom		
Occupancy Class:	Lodging (NFPA) R-3 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	Carpet Tile
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☑ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: CO/Smoke

Notes: Revamp existing fire sprinkler system to accommodate new room layout.

HVAC:

Temperature:	78	°F ±	_____	°F Cooling	68	°F ±	_____ °F Heating
Humidity:	50	% RH ±	_____	% RH Cooling	50	%RH ±	_____ %RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:	
Lighting Lamp Type:	LED	No. : TBD V/PH/HZ: _____	Type: _____
Lighting Direction:	TBD by DB contractor		
Light Switching:	TBD by DB contractor	Clean Power:	
Lighting Level (FC):	IESNA/UFC	UPS:	
Ground:		Emergency Power:	
Notes:			

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☑ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☑ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Sleep Room	**Room Number:**	124L
Functional Area:	Bedroom	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	106 SF Net Area	No. of Occupants:	NA
Function:	Bedroom		
Occupancy Class:	Lodging (NFPA) R-3 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	Carpet Tile
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☑ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: CO/Smoke

Notes: Revamp exiting fire sprinkler system to accommodate new room layout.

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☑ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☑ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Medical Supply	**Room Number:**	125
Functional Area:	Storage	**Space Type:**	Storage

SPACE REQUIREMENT:

Allocated Space:	580 SF Net Area	No. of Occupants:	NA
Function:	Storage		
Occupancy Class:	Storage (NFPA) S-1 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint	Floors:	clean & reseal concrete
Ceilings:	ACT	Ceiling Height:	
Notes:	Needs new ACT ceiling.		

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Ordinary ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Negative				Vibration Criteria:		
Air Changes/Hr:		☑ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☑ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☑ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Janitor Closet	**Room Number:**	126
Functional Area:	Storage	**Space Type:**	Storage

SPACE REQUIREMENT:

Allocated Space:	403 SF Net Area	No. of Occupants:	NA
Function:	Storage		
Occupancy Class:	Storage (NFPA) S-1 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU	Floors:	clean & reseal concrete
Ceilings:	Paint existing structure	Ceiling Height:	OTS
Notes:			

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Ordinary ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Negative				Vibration Criteria:		
Air Changes/Hr:		☑ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		
Notes:	Exhausted						

PLUMBING:

- ☑ Domestic Water: _____
- ☑ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☑ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☐ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☐ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Laundry	**Room Number:**	127
Functional Area:	Laundry	**Space Type:**	Support

SPACE REQUIREMENT:

Allocated Space:	127 SF Net Area	No. of Occupants:	NA
Function:	Laundry room		
Occupancy Class:	Storage (NFPA) S-1 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU / Gyp	Floors:	Ceramic Tile
Ceilings:	Humidity Resistant ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☑ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☑ Special Requirements:	Two sets of high end washer / dryer - durable residential grade - FFE Not part of contract - FIO		

FIRE PROTECTION:

Hazard Classification: Ordinary ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Negative				Vibration Criteria:		
Air Changes/Hr:		☑ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		
Notes:	Dryer booster fan may be required.						

PLUMBING:

☑ Domestic Water:	Appliances	☐ Emergency Fixture:	
☑ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	
Notes:			

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:		
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:	Type:
Lighting Direction:	TBD by DB contractor			
Light Switching:	TBD by DB contractor	Clean Power:		
Lighting Level (FC):	IESNA/UFC	UPS:		
Ground:		Emergency Power:		
Notes:				

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☐ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☐ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	
Notes:			

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Corridor	**Room Number:**	130
Functional Area:	Corrdior	**Space Type:**	Support

SPACE REQUIREMENT:

Allocated Space:	1,339 SF Net Area	No. of Occupants:	NA
Function:	Corridor		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU	Floors:	clean & reseal concrete
Ceilings:	Paint Gyp	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			

Notes:

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☐ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☐ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Exercise Room	**Room Number:**	132
Functional Area:	Gym	**Space Type:**	Business

SPACE REQUIREMENT:

Allocated Space:	707 SF Net Area	No. of Occupants:	NA
Function:	Gym		
Occupancy Class:	Assembly (NFPA) A-3 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU	Floors:	clean & reseal concrete
Ceilings:	OTS	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Ordinary ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☑ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☐ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☐ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Storage	**Room Number:**	133
Functional Area:	Storage	**Space Type:**	Storage

SPACE REQUIREMENT:

Allocated Space:	323 SF Net Area	No. of Occupants:	NA
Function:	Storage		
Occupancy Class:	Storage (NFPA) S-1 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU / Gyp	Floors:	clean & reseal concrete
Ceilings:	Paint existing structure	Ceiling Height:	OTS
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Ordinary ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☑ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☐ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☐ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Storage	**Room Number:**	134
Functional Area:	Storage	**Space Type:**	Storage

SPACE REQUIREMENT:

Allocated Space:	674 SF Net Area	No. of Occupants:	NA
Function:	Storage		
Occupancy Class:	Storage (NFPA) S-1 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU	Floors:	clean & reseal concrete
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Ordinary ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Negative				Vibration Criteria:		
Air Changes/Hr:		☑ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☐ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☐ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Storage	**Room Number:**	135
Functional Area:	Storage	**Space Type:**	Storage

SPACE REQUIREMENT:

Allocated Space:	361 SF Net Area	No. of Occupants:	NA
Function:	Storage		
Occupancy Class:	Storage (NFPA) S-1 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU	Floors:	clean & reseal concrete
Ceilings:	Paint Gyp	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Ordinary ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Negative				Vibration Criteria:		
Air Changes/Hr:		☑ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☐ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☐ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Weight Room	**Room Number:**	136
Functional Area:	Gym	**Space Type:**	Business

SPACE REQUIREMENT:

Allocated Space:	1,206 SF Net Area	No. of Occupants:	NA
Function:	Gym		
Occupancy Class:	Assembly (NFPA) A-3 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU / Gyp	Floors:	clean & reseal concrete
Ceilings:	Paint existing structure	Ceiling Height:	OTS
Notes:			

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Ordinary ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Negative				Vibration Criteria:		
Air Changes/Hr:		☑ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☐ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☐ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Game Room	**Room Number:**	138
Functional Area:	Office	**Space Type:**	Business

SPACE REQUIREMENT:

Allocated Space:	271 SF Net Area	No. of Occupants:	NA
Function:	Game Room		
Occupancy Class:	Assembly (NFPA) A-3 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU / Gyp	Floors:	clean & reseal concrete
Ceilings:	Paint existing structure	Ceiling Height:	OTS
Notes:			

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Ordinary ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78	°F ±	_____ °F Cooling	68	°F ±	_____	°F Heating
Humidity:	50	% RH ±	_____ % RH Cooling	50	%RH ±	_____	%RH Heating
Room Pressurization:	Negative			Vibration Criteria:			
Air Changes/Hr:		☑ General Exhaust:	_____	☐ Chemical Exhaust:	_____		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:	_____	☐ Smoke Exhaust:	_____		

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:	
Lighting Lamp Type:	LED	No. : TBD V/PH/HZ: _____	Type: _____
Lighting Direction:	TBD by DB contractor		
Light Switching:	TBD by DB contractor	Clean Power:	
Lighting Level (FC):	IESNA/UFC	UPS:	
Ground:		Emergency Power:	
Notes:			

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☐ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☐ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Mech. Equip. Room	**Room Number:**	139
Functional Area:	Storage	**Space Type:**	Maintenance

SPACE REQUIREMENT:

Allocated Space:	526 SF Net Area	No. of Occupants:	NA
Function:	Mechanical equipment		
Occupancy Class:	Storage (NFPA) S-1 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU / Gyp	Floors:	clean & reseal concrete
Ceilings:	Paint existing structure	Ceiling Height:	OTS
Notes:			

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Ordinary ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: CO

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	_____ °F ±	_____ °F Cooling		55 °F ±	_____ °F Heating		
Humidity:	_____ % RH ±	_____ % RH Cooling		_____ %RH ±	_____ %RH Heating		
Room Pressurization:	Negative			Vibration Criteria:			
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☑ Heat Exhaust:			☐ Smoke Exhaust:		

Notes: Heat and Ventilation. Ventilation air brought in to maintain space at 5°F above ambient.

PLUMBING:

- ☑ Domestic Water: _____
- ☑ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☑ Wall Hydrant/Hose Bibb: _____
- ☑ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☐ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☐ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Elect. Room	**Room Number:**	140
Functional Area:	Maintenance	**Space Type:**	Maintenance

SPACE REQUIREMENT:

Allocated Space:	86 SF Net Area	No. of Occupants:	NA
Function:	Maintenance		
Occupancy Class:	Storage (NFPA) S-1 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU	Floors:	clean & reseal concrete
Ceilings:	Paint existing Structure	Ceiling Height:	OTS
Notes:			

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Ordinary ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: Smoke

Notes: Existing fire sprinkler system to remain

Add smoke detector above new fire alarm panel

HVAC:

Temperature:	_____ °F ±	_____ °F Cooling		55 °F ±	_____ °F Heating		
Humidity:	_____ % RH ±	_____ % RH Cooling		_____ %RH ±	_____ %RH Heating		
Room Pressurization:	Negative			Vibration Criteria:			
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☑ Heat Exhaust:			☐ Smoke Exhaust:		
Notes:	Heat and Ventilation. Ventilation air brought in to maintain space at 5°F above ambient.						

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☐ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☐ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Corridor	**Room Number:**	201A
Functional Area:	Corridor	**Space Type:**	Support

SPACE REQUIREMENT:

Allocated Space:	374 SF Net Area	No. of Occupants:	NA
Function:	Corridor		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU / Gyp	Floors:	Vinyl Tile
Ceilings:	Paint Gyp	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☐ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☐ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Corridor	**Room Number:**	201B
Functional Area:	Corridor	**Space Type:**	Support

SPACE REQUIREMENT:

Allocated Space:	214 SF Net Area	No. of Occupants:	NA
Function:	Corridor		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU / Gyp	Floors:	Vinyl Tile
Ceilings:	Paint Gyp	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			

Notes:

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☐ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☐ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Corridor	**Room Number:**	201C
Functional Area:	Corridor	**Space Type:**	Support

SPACE REQUIREMENT:

Allocated Space:	96 SF Net Area	No. of Occupants:	NA
Function:	Corridor		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU / Gyp	Floors:	Vinyl Tile
Ceilings:	Paint Gyp	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☐ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☐ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Corridor	**Room Number:**	201D
Functional Area:	Corridor	**Space Type:**	Support

SPACE REQUIREMENT:

Allocated Space:	684 SF Net Area	No. of Occupants:	NA
Function:	Corridor		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint CMU / Gyp	Floors:	Vinyl Tile
Ceilings:	Paint Gyp	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☐ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☐ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Safety Office	**Room Number:**	202
Functional Area:	Office	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	718 SF Net Area	No. of Occupants:	NA
Function:	Office		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	clean & polish existing vinyl tile
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78 °F ±		°F Cooling	68 °F ±		°F Heating	
Humidity:	50 % RH ±		% RH Cooling	50 %RH ±		%RH Heating	
Room Pressurization:	Neutral			Vibration Criteria:			
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☑ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☑ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Admin	**Room Number:**	203
Functional Area:	Admin	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	414 SF Net Area	No. of Occupants:	NA
Function:	Admin		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	Clean existing carpet
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinklers system to remain

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☑ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☑ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	1st Sgt	**Room Number:**	204
Functional Area:	Office	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	111 SF Net Area	No. of Occupants:	NA
Function:	Office		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	Clean existing carpet
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☑ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☑ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	CPT Office	**Room Number:**	205
Functional Area:	Office	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	111 SF Net Area	No. of Occupants:	NA
Function:	Office		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	Clean existing carpet
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☑ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☑ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Conference Room	**Room Number:**	206
Functional Area:	Conference	**Space Type:**	Business

SPACE REQUIREMENT:

Allocated Space:	416 SF Net Area	No. of Occupants:	NA
Function:	Conference		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	Clean existing carpet
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78 °F ±	°F Cooling	68 °F ±	°F Heating	
Humidity:	50 % RH ±	% RH Cooling	50 %RH ±	%RH Heating	
Room Pressurization:	Neutral		Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:		☐ Chemical Exhaust:	
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:		☐ Smoke Exhaust:	

Notes:

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:	Type:	
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			

Notes:

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☑ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☑ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Office	**Room Number:**	207
Functional Area:	Office	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	229 SF Net Area	No. of Occupants:	NA
Function:	Office		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	Clean existing carpet
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	78 °F ±	°F Cooling	68 °F ±	°F Heating	
Humidity:	50 % RH ±	% RH Cooling	50 %RH ±	%RH Heating	
Room Pressurization:	Neutral		Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:		☐ Chemical Exhaust:	
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:		☐ Smoke Exhaust:	
Notes:					

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	
Notes:			

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:	Type:	
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☑ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☑ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	
Notes:			

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Medical Training	**Room Number:**	208
Functional Area:	Classroom	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	618 SF Net Area	No. of Occupants:	NA
Function:	Classroom		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	VCT
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78	°F ±	_____ °F Cooling	68	°F ±	_____	°F Heating
Humidity:	50	% RH ±	_____ % RH Cooling	50	%RH ±	_____	%RH Heating
Room Pressurization:	Neutral			Vibration Criteria:			
Air Changes/Hr:		☐ General Exhaust:	_____	☐ Chemical Exhaust:	_____		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:	_____	☐ Smoke Exhaust:	_____		

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:	
Lighting Lamp Type:	LED	No. : TBD V/PH/HZ: _____	Type: _____
Lighting Direction:	TBD by DB contractor		
Light Switching:	TBD by DB contractor	Clean Power:	
Lighting Level (FC):	IESNA/UFC	UPS:	
Ground:		Emergency Power:	
Notes:			

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☑ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☑ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Instructor Pilot Office	**Room Number:**	209
Functional Area:	Office	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	647 SF Net Area	No. of Occupants:	NA
Function:	Office		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	Clean existing carpet
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☑ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☑ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Men's Locker & Shower	**Room Number:**	210
Functional Area:	Restroom	**Space Type:**	Support

SPACE REQUIREMENT:

Allocated Space:	466 SF Net Area	No. of Occupants:	NA
Function:	Restroom		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp / Ceramic Tile	Floors:	Clean existing ceramic tile
Ceilings:	Paint Gyp	Ceiling Height:	
Notes:	Ceramic Tile on wet walls only		

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Negative				Vibration Criteria:		
Air Changes/Hr:		☑ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes: Restrooms exhaust and makeup air transferred in.

PLUMBING:

☑ Domestic Water:		☐ Emergency Fixture:	
☑ Sanitary Sewer:	Existing to remain	☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☑ Floor Drain:	Existing to remain
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			

Notes:

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☐ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☐ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Women's Latrine Locker & Shower	**Room Number:**	211
Functional Area:	Restroom	**Space Type:**	Support

SPACE REQUIREMENT:

Allocated Space:	204 SF Net Area	No. of Occupants:	NA
Function:	Restroom		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp / Ceramic Tile	Floors:	Clean ceramic tile
Ceilings:	Paint Gyp	Ceiling Height:	
Notes:	Ceramic tile on wet walls only		

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☑ Special Requirements:	Toilet Partitions		

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Negative				Vibration Criteria:		
Air Changes/Hr:		☑ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes: Restrooms exhaust and makeup air transferred in.

PLUMBING:

☑ Domestic Water:		☐ Emergency Fixture:	
☑ Sanitary Sewer:	Existing to remain	☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☑ Floor Drain:	Existing to remain
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			

Notes:

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☐ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☐ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Men's Latrine	**Room Number:**	212
Functional Area:	Restroom	**Space Type:**	Support

SPACE REQUIREMENT:

Allocated Space:	220 SF Net Area	No. of Occupants:	NA
Function:	Restroom		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp / Ceramic Tile	Floors:	Clean ceramic tile
Ceilings:	Paint Gyp	Ceiling Height:	
Notes:	Ceramic Tile on wet walls only		

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☑ Special Requirements:	Toilet partitions and urinal screens		

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Negative				Vibration Criteria:		
Air Changes/Hr:		☑ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes: Restrooms exhaust and makeup air transferred in.

PLUMBING:

☑ Domestic Water:		☐ Emergency Fixture:	
☑ Sanitary Sewer:	Existing to remain	☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☑ Floor Drain:	Existing to remain
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			

Notes:

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☐ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☐ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Janitor Closet	**Room Number:**	213
Functional Area:	Storage	**Space Type:**	Storage

SPACE REQUIREMENT:

Allocated Space:	33 SF Net Area	No. of Occupants:	NA
Function:	Storage		
Occupancy Class:	Storage (NFPA) S-1 (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint	Floors:	clean & reseal concrete
Ceilings:	Paint	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Ordinary ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Negative				Vibration Criteria:		
Air Changes/Hr:		☑ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		
Notes:	Exhaust and makeup air transferred in.						

PLUMBING:

☑ Domestic Water:		☐ Emergency Fixture:	
☑ Sanitary Sewer:	Existing to remain	☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☑ Floor Drain:	Existing to remain
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	
Notes:			

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☐ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☐ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	
Notes:			

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Education	**Room Number:**	214
Functional Area:	Classroom	**Space Type:**	Business

SPACE REQUIREMENT:

Allocated Space:	627 SF Net Area	No. of Occupants:	NA
Function:	Classroom		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	VCT
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☑ Special Requirements:	Replace Accordion room divider		

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☑ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☑ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Operations	**Room Number:**	215
Functional Area:	Classroom	**Space Type:**	Business

SPACE REQUIREMENT:

Allocated Space:	652 SF Net Area	No. of Occupants:	NA
Function:	Classroom		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	Clean existing carpet
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☑ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☑ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Operations	**Room Number:**	216
Functional Area:	Classroom	**Space Type:**	Business

SPACE REQUIREMENT:

Allocated Space:	442 SF Net Area	No. of Occupants:	NA
Function:	Classroom		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	Clean existing carpet
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78 °F ±	°F Cooling	68 °F ±	°F Heating	
Humidity:	50 % RH ±	% RH Cooling	50 %RH ±	%RH Heating	
Room Pressurization:	Neutral		Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:		☐ Chemical Exhaust:	
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:		☐ Smoke Exhaust:	
Notes:					

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:	Type:	
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☑ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☑ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Office	**Room Number:**	217
Functional Area:	Office	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	97 SF Net Area	No. of Occupants:	NA
Function:	Office		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	Clean existing carpet
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78 °F ±	°F Cooling	68 °F ±	°F Heating	
Humidity:	50 % RH ±	% RH Cooling	50 %RH ±	%RH Heating	
Room Pressurization:	Neutral		Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:		☐ Chemical Exhaust:	
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:		☐ Smoke Exhaust:	

Notes:

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:	Type:	
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			

Notes:

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☑ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☑ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Office	**Room Number:**	218
Functional Area:	Office	**Space Type:**	Office

SPACE REQUIREMENT:

Allocated Space:	99 SF Net Area	No. of Occupants:	NA
Function:	Office		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	Clean existing carpet
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78 °F ±	°F Cooling	68 °F ±	°F Heating	
Humidity:	50 % RH ±	% RH Cooling	50 %RH ±	%RH Heating	
Room Pressurization:	Neutral		Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:		☐ Chemical Exhaust:	
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:		☐ Smoke Exhaust:	
Notes:					

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	
Notes:			

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:		
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:	Type:
Lighting Direction:	TBD by DB contractor			
Light Switching:	TBD by DB contractor	Clean Power:		
Lighting Level (FC):	IESNA/UFC	UPS:		
Ground:		Emergency Power:		
Notes:				

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☑ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☑ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	
Notes:			

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Unit Maint. Admin.	**Room Number:**	219
Functional Area:	Office	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	442 SF Net Area	No. of Occupants:	NA
Function:	Office		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	Clean existing carpet
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☑ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☑ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Office	**Room Number:**	220
Functional Area:	Office	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	97 SF Net Area	No. of Occupants:	NA
Function:	Office		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	Clean existing carpet
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkle system to remain

HVAC:

Temperature:	78 °F ±	°F Cooling	68 °F ±	°F Heating	
Humidity:	50 % RH ±	% RH Cooling	50 %RH ±	%RH Heating	
Room Pressurization:	Neutral		Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:		☐ Chemical Exhaust:	
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:		☐ Smoke Exhaust:	
Notes:					

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	
Notes:			

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:	Type:	
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☑ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☑ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	
Notes:			

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Office	**Room Number:**	221
Functional Area:	Office	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	99 SF Net Area	No. of Occupants:	NA
Function:	Office		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	Clean existing carpet
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

☐ Storage Cabinet:		☐ Fume Hood:	
☐ Casework:		☐ Toxic / Hazardous Materials:	
☐ Special Requirements:			

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	78	°F ±		°F Cooling	68	°F ±	°F Heating
Humidity:	50	% RH ±		% RH Cooling	50	%RH ±	%RH Heating
Room Pressurization:	Neutral				Vibration Criteria:		
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

☐ Domestic Water:		☐ Emergency Fixture:	
☐ Sanitary Sewer:		☐ Wall Hydrant/Hose Bibb:	
☐ Industrial Waste:		☐ Floor Drain:	
☐ Compressed Air:		☐ Trench Drain:	
☐ Breathing Air:		☐ Other:	

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

TELECOMMUNICATION AND SPECIAL SYSTEMS:

☑ Phone / Voice:		☐ Intrusion Detection:	
☐ PA System:		☐ Access Control:	
☐ Leak Detection:		☐ CCTV:	
☑ Data (NIPRNET):		☐ Mass Notification:	
☐ SIPRNET:		☐ Special Comm/Radio:	

Notes:

JACOBS ROOM DATA SHEET - HANGAR B2495

Room Name:	Medic Office	**Room Number:**	222
Functional Area:	Office	**Space Type:**	Admin

SPACE REQUIREMENT:

Allocated Space:	612 SF Net Area	No. of Occupants:	NA
Function:	Medical office		
Occupancy Class:	Business (NFPA) B (IBC)	STC Rating	NA
General Notes:			

STRUCTURAL DATA:

Floor Live Load: _____ psf Floor Capacity Load: _____ psf Vibration Requirements: _____

Notes:

FINISHES:

Walls:	Paint Gyp	Floors:	Clean existing carpet
Ceilings:	ACT	Ceiling Height:	
Notes:			

SPECIAL REQUIREMENTS:

- ☐ Storage Cabinet: _____
- ☐ Casework: _____
- ☐ Special Requirements: _____
- ☐ Fume Hood: _____
- ☐ Toxic / Hazardous Materials: _____

FIRE PROTECTION:

Hazard Classification: Light ☑ Wet System ☐ Preaction System ☐ Foam Suppression

Fire Detection Type: None

Notes: Existing fire sprinkler system to remain.

HVAC:

Temperature:	78 °F ±		°F Cooling	68 °F ±		°F Heating	
Humidity:	50 % RH ±		% RH Cooling	50 %RH ±		%RH Heating	
Room Pressurization:	Neutral			Vibration Criteria:			
Air Changes/Hr:		☐ General Exhaust:			☐ Chemical Exhaust:		
ASHARE 62.1 Air Class:	TBD by Contractor	☐ Heat Exhaust:			☐ Smoke Exhaust:		

Notes:

PLUMBING:

- ☐ Domestic Water: _____
- ☐ Sanitary Sewer: _____
- ☐ Industrial Waste: _____
- ☐ Compressed Air: _____
- ☐ Breathing Air: _____
- ☐ Emergency Fixture: _____
- ☐ Wall Hydrant/Hose Bibb: _____
- ☐ Floor Drain: _____
- ☐ Trench Drain: _____
- ☐ Other: _____

Notes:

ELECTRICAL:

Lighting Fixture Type:	TBD by DB contractor	Power Outlets:			
Lighting Lamp Type:	LED	No. : TBD	V/PH/HZ:		Type:
Lighting Direction:	TBD by DB contractor				
Light Switching:	TBD by DB contractor	Clean Power:			
Lighting Level (FC):	IESNA/UFC	UPS:			
Ground:		Emergency Power:			
Notes:					

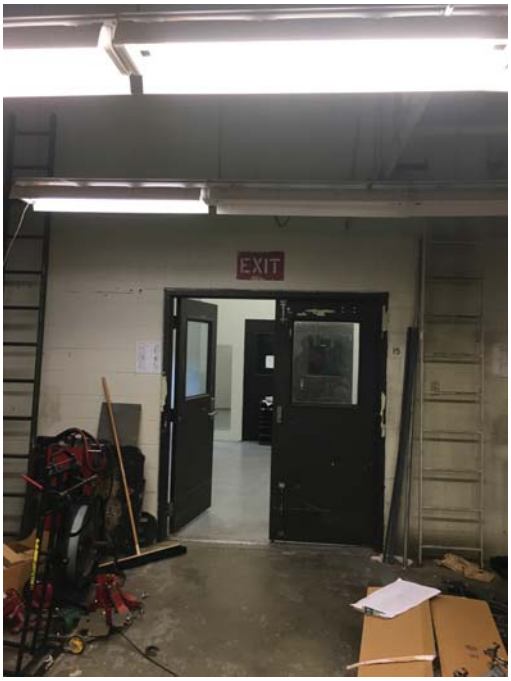
TELECOMMUNICATION AND SPECIAL SYSTEMS:

- ☑ Phone / Voice: _____
- ☐ PA System: _____
- ☐ Leak Detection: _____
- ☑ Data (NIPRNET): _____
- ☐ SIPRNET: _____
- ☐ Intrusion Detection: _____
- ☐ Access Control: _____
- ☐ CCTV: _____
- ☐ Mass Notification: _____
- ☐ Special Comm/Radio: _____

Notes:

Appendix D. PHOTOS

LOADING
ZONE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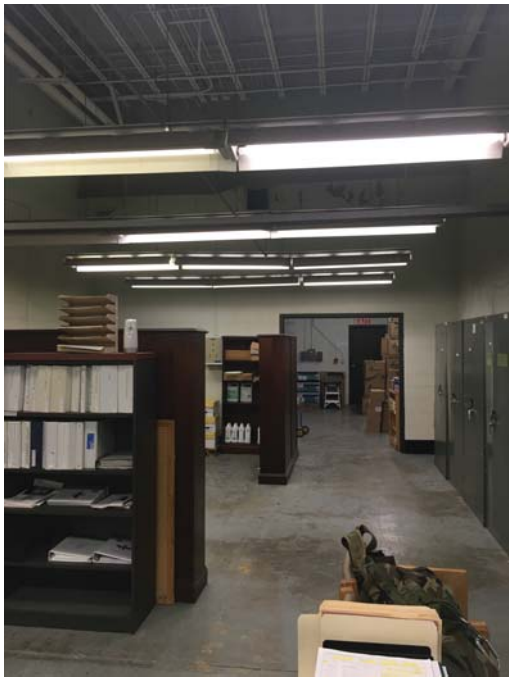

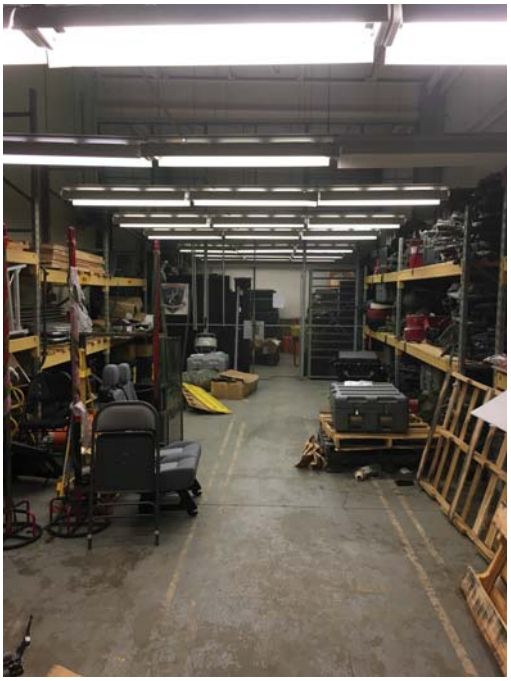

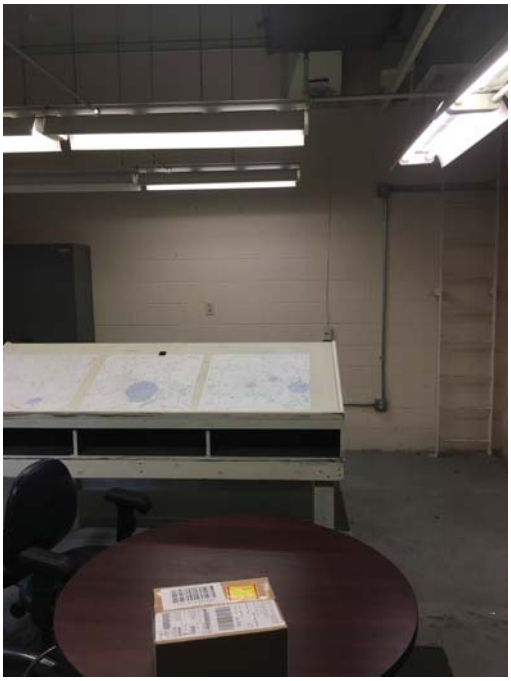

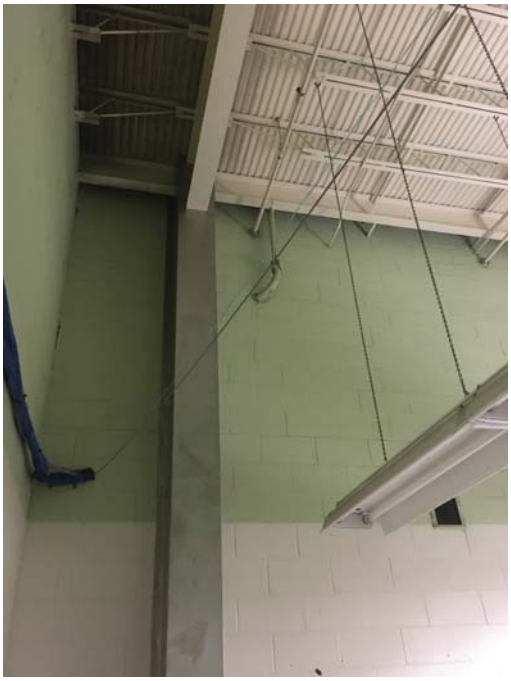

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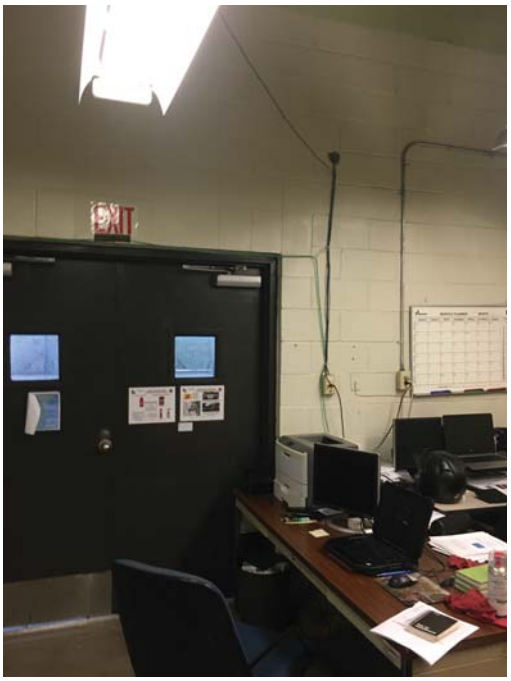
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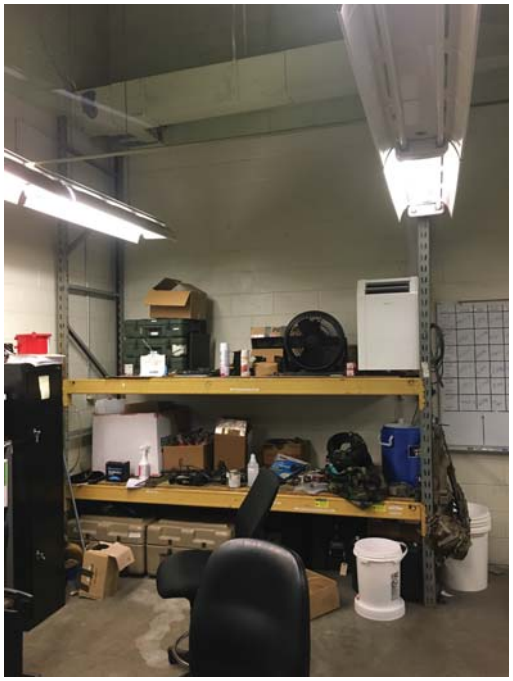

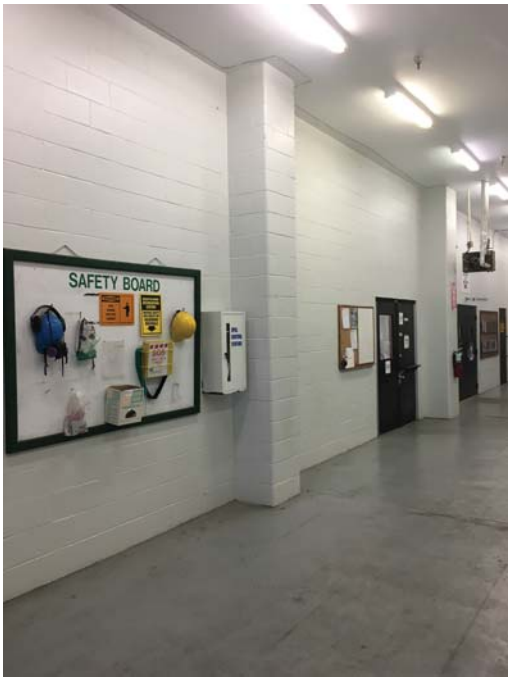
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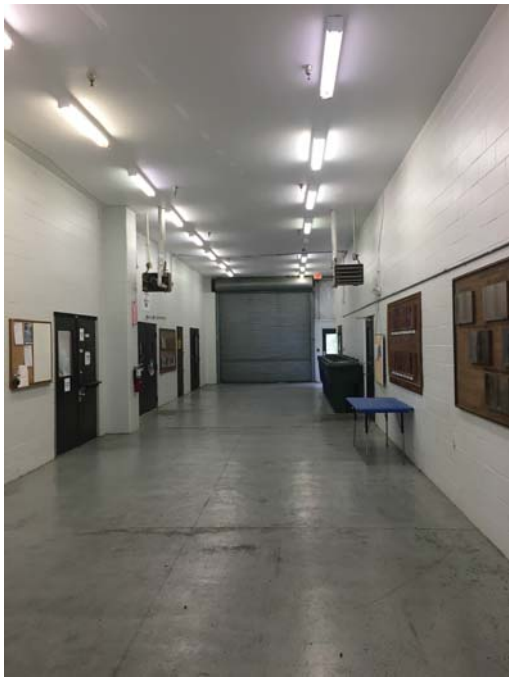
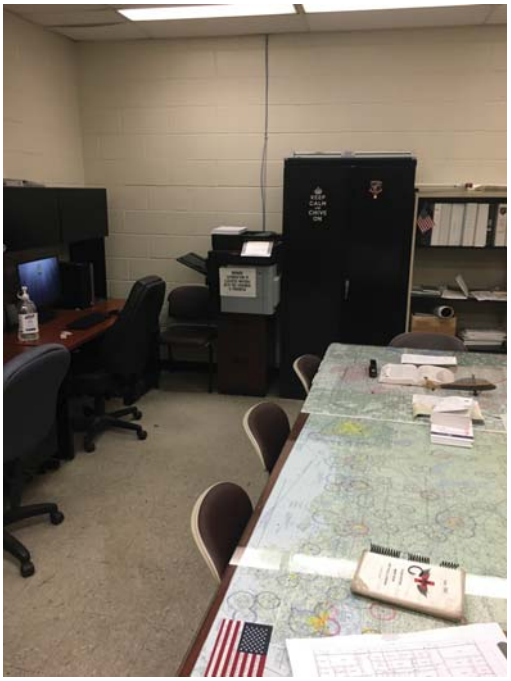
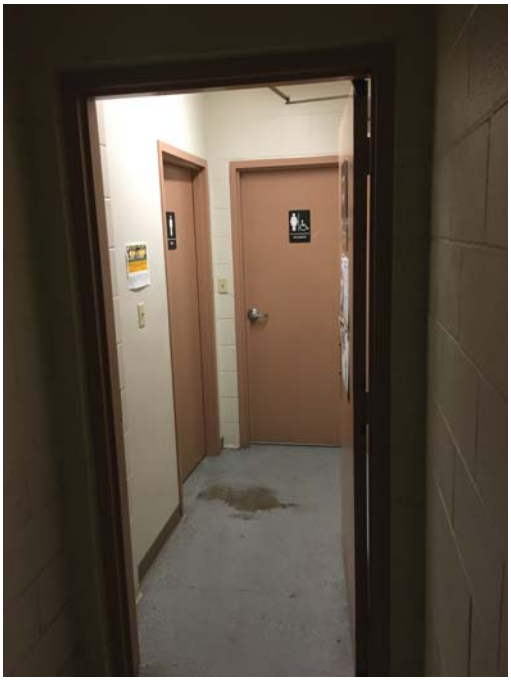
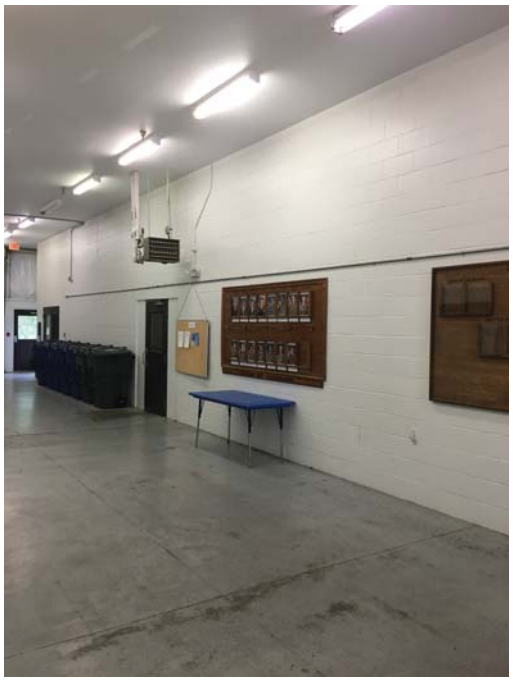
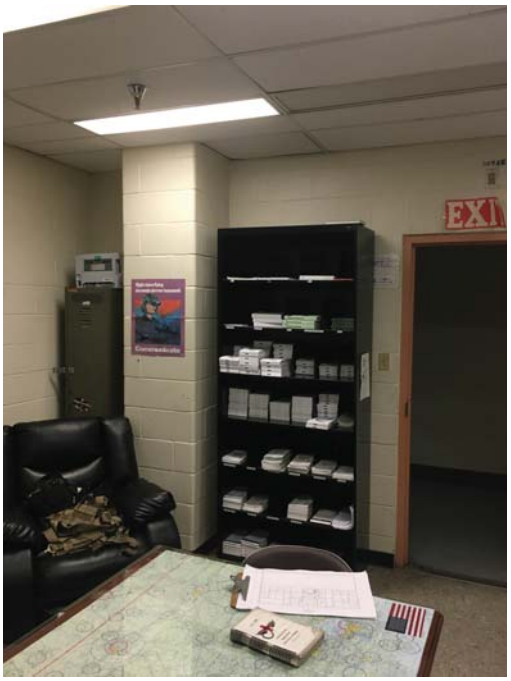
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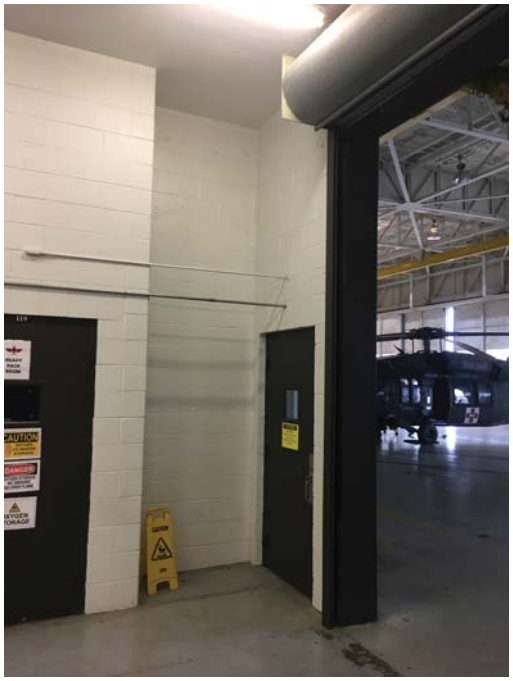
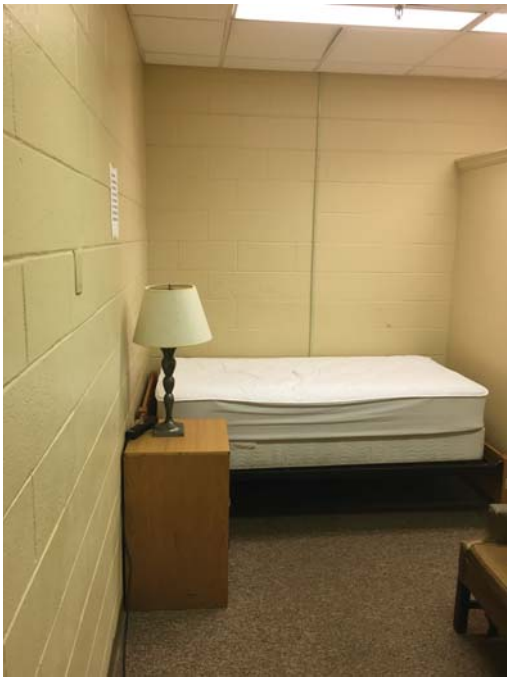

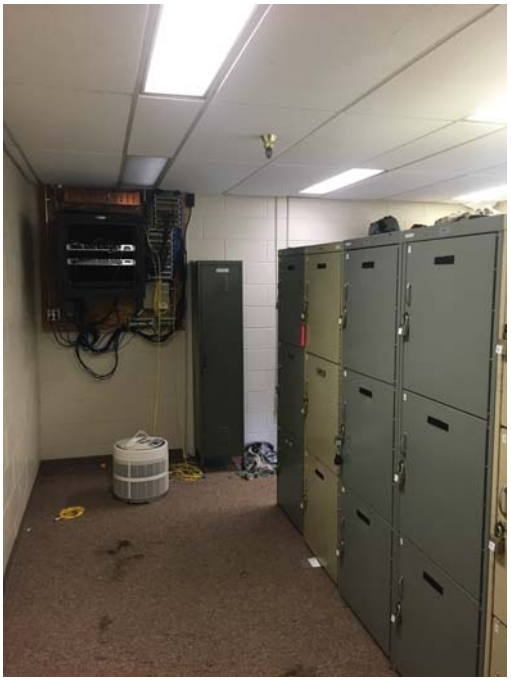

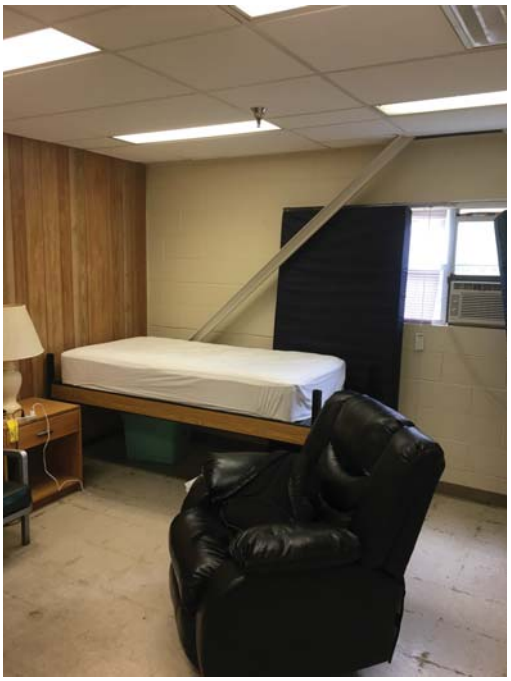

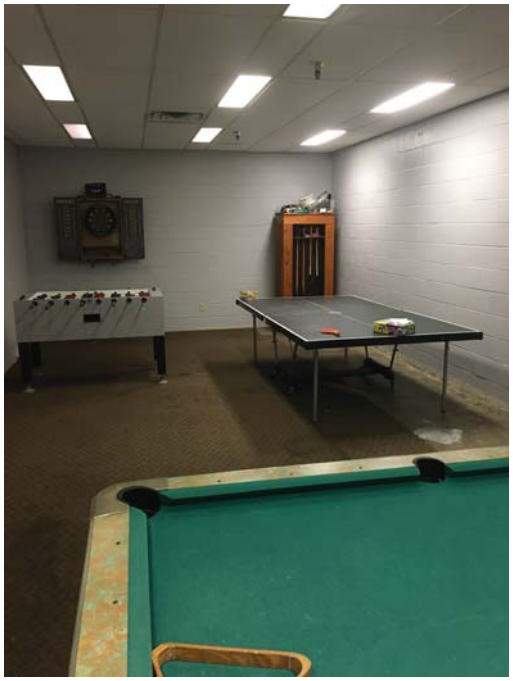

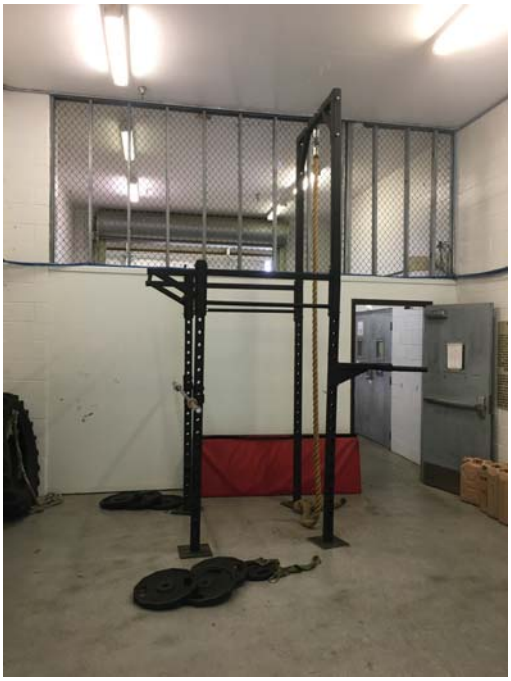

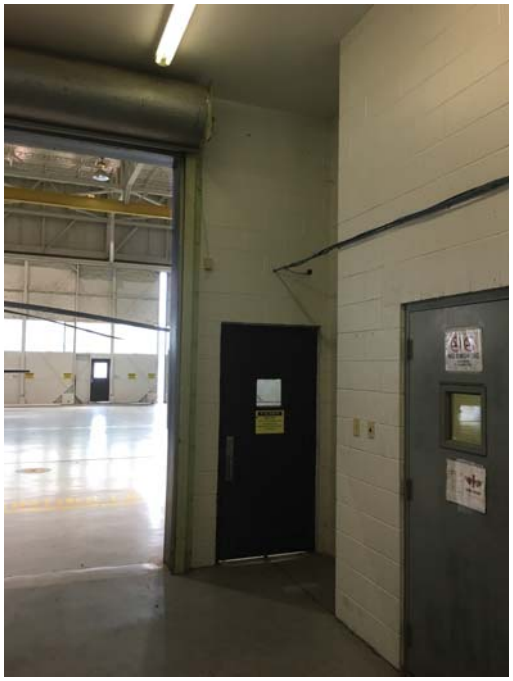

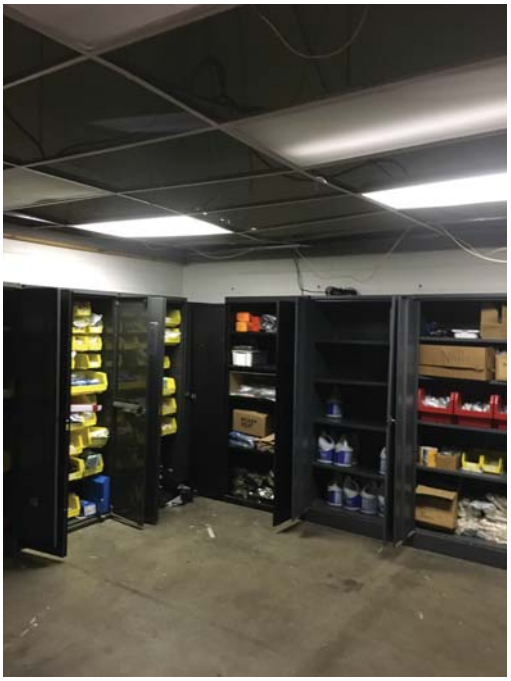

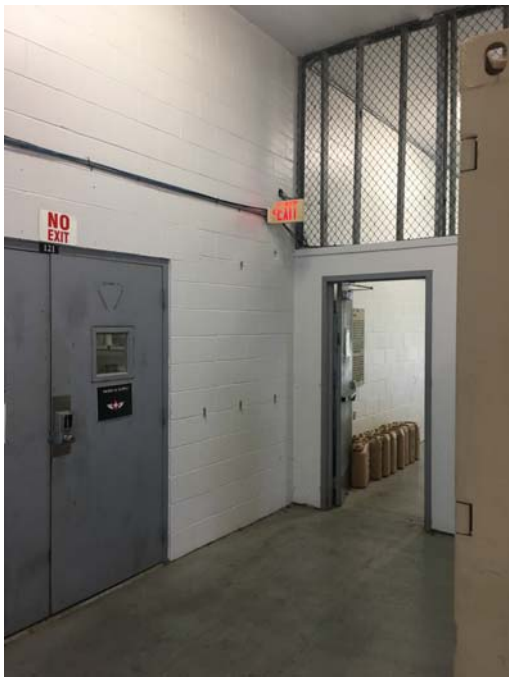
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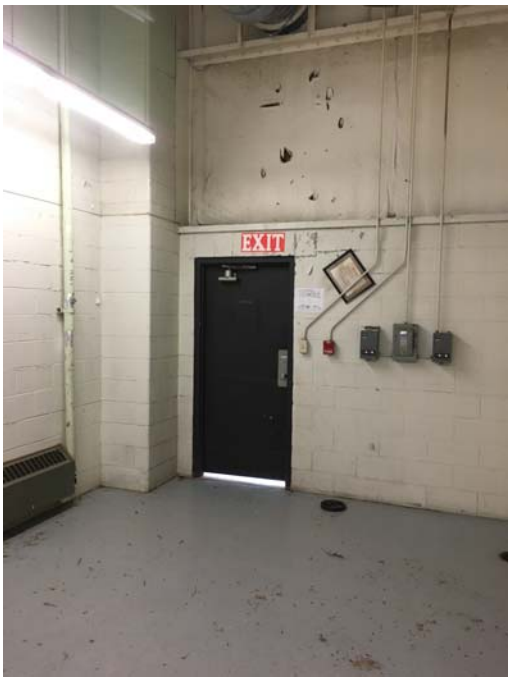
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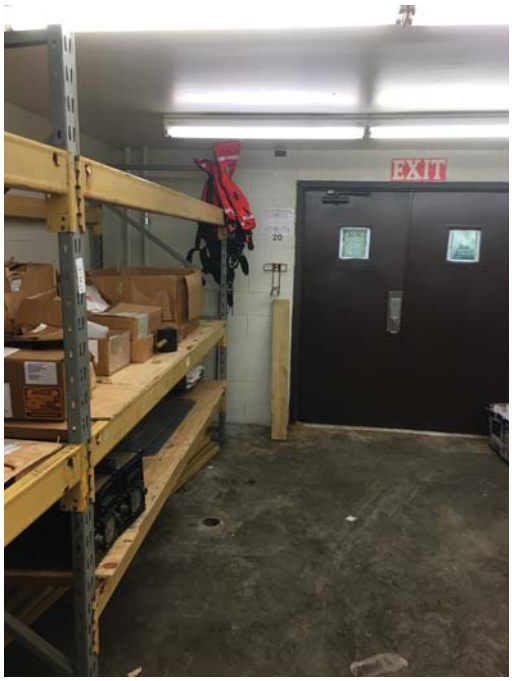
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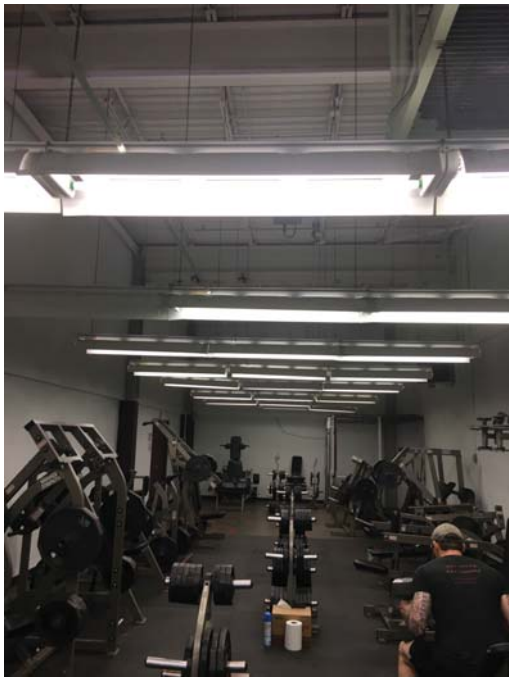

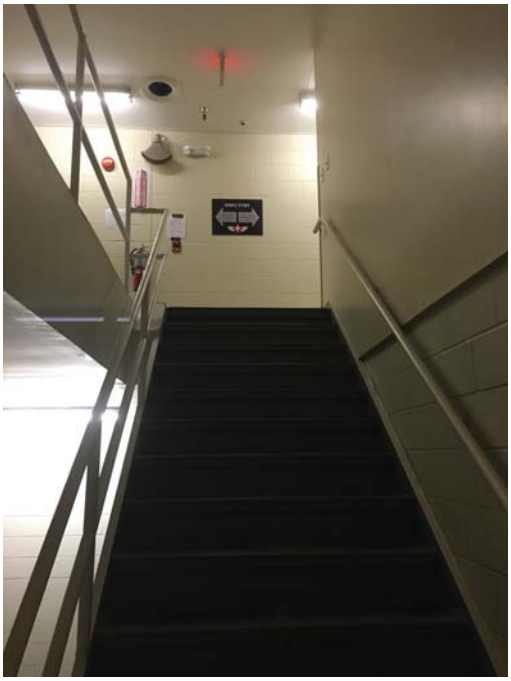

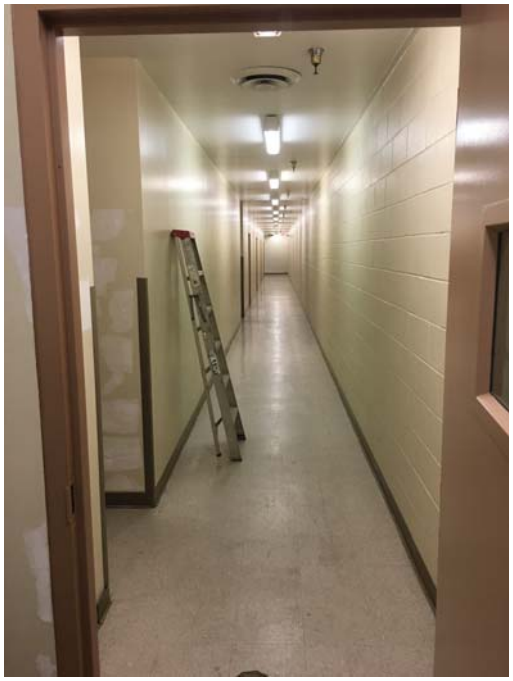

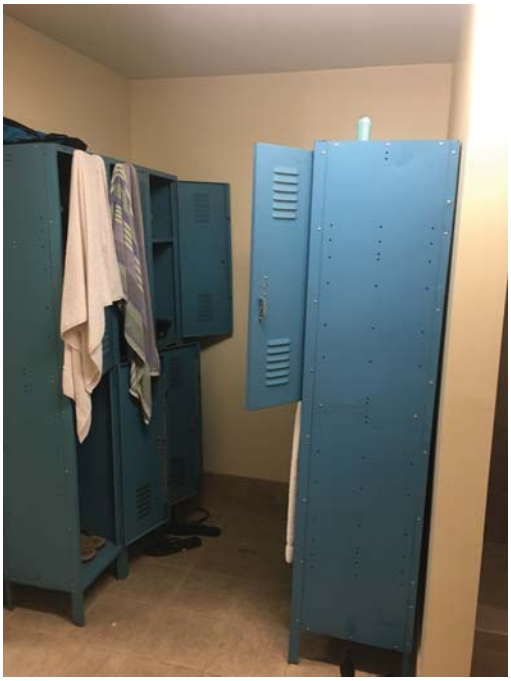

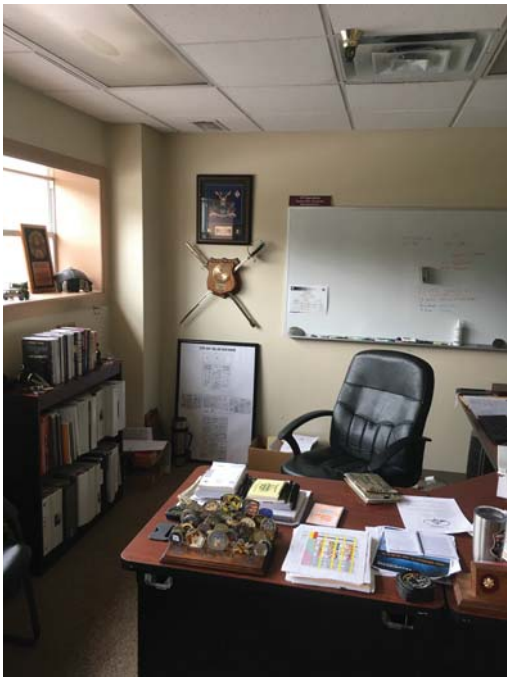

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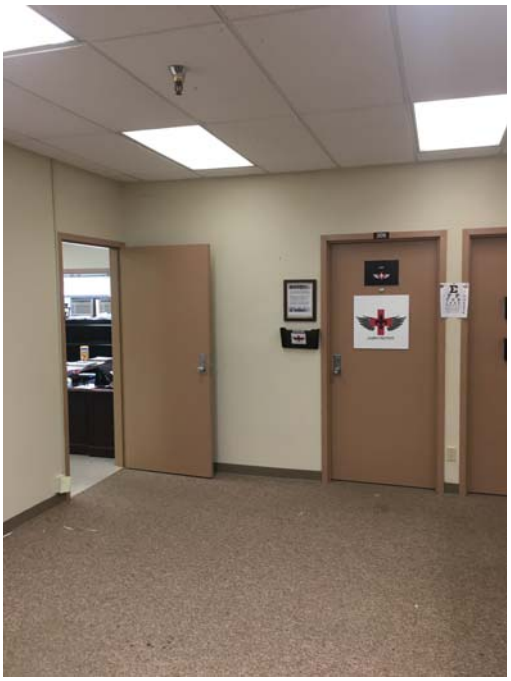

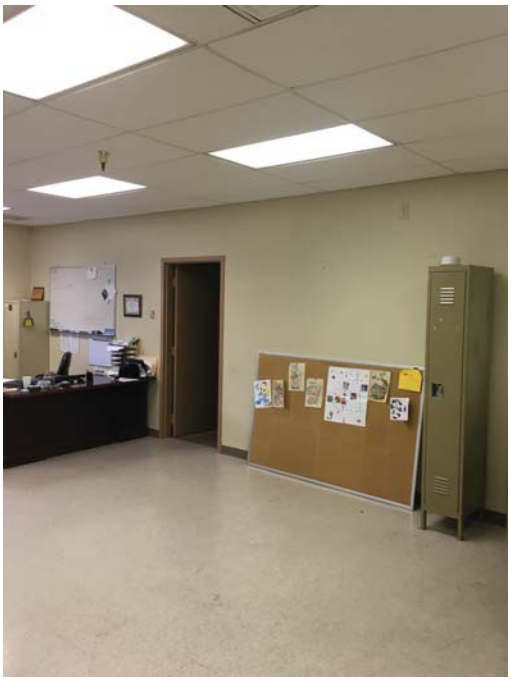

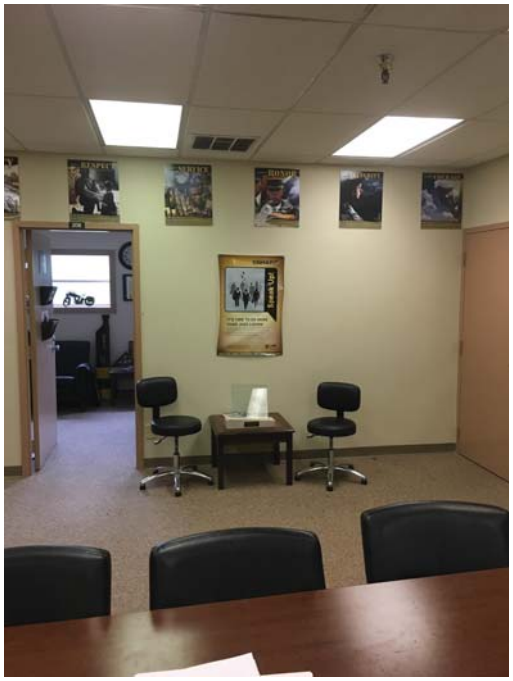

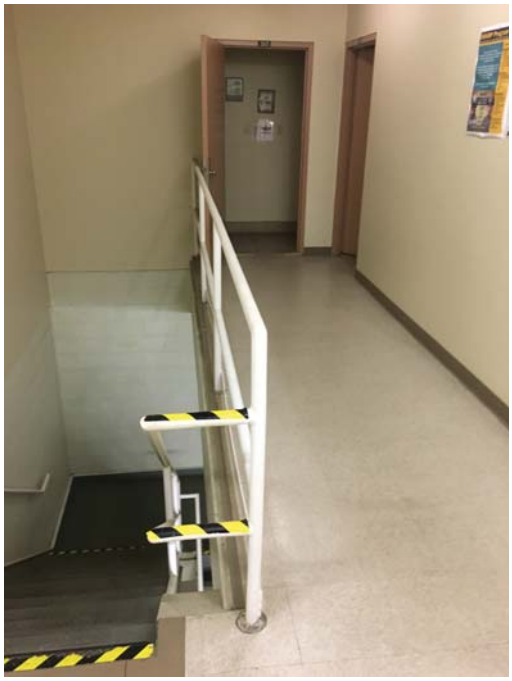

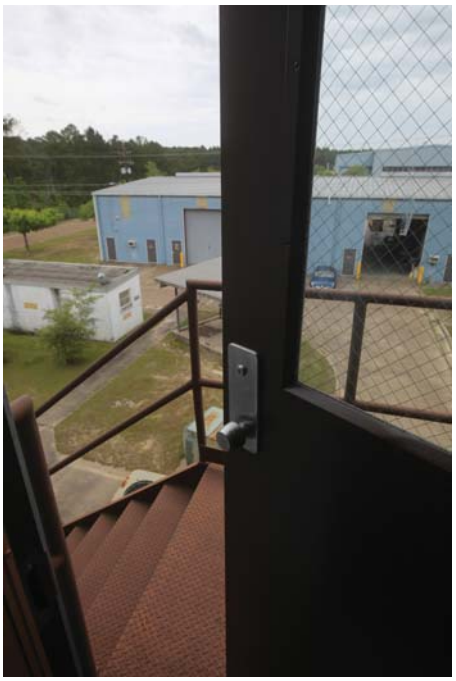

Appendix E. FURNITURE AND EQUIPMENT TO BE MOVED DURING CONSTRUCTION

Building 4925 Furniture List		
Room #	**Furniture Type/Quantity**	**Weight (Est.)**
101	DESK(2) LOCKERS(4) FRIDGE(1) FILING CABINET(1)	DESK 100lbs, LOCKERS 200lbs, FRIDGE 100lbs, FILING CABINET 50lbs
102	DESK(2) LOCKERS(2) MAP DESK (1) FILING CABINET (2)	DESK 100lbs, LOCKERS 200lbs, FRIDGE 100lbs, FILING CABINET 50lbs
103	DESK (1) SAFE(1) FILING CABINET (3)	DESK 100lbs, SAFE 50lbs , FILING CABINET 100lbs
103(A)	FILING CABINET (1) DESKS (3) SAFE (4)	FILING CABINET 100lbs DESKS 200lbs SAFE 400lbs
103(B)	WALL SHELVING (8) LOTS OF EQUIPMENT	WALL SHELVING 1000lbs LOTS OF EQUIPMENT 1000lbs
104	DESKS (4) FILING CABINETS (2) LOCKERS (5) FILING (12)	DESKS 200lBS FILING CABINETS 100lbs LOCKERS 300lbs FILING
104(A)	LOCKERS (2) METAL SHELVING (6)	LOCKERS 100lbs METAL SHELVING 300lbs
105	DESKS (4) LAZY BOYS (2) SOFA (1)CHAIRS (12) FILING(4)	DESKS 500lbs LAZY BOYS 300lbs SOFA 150lbs FILING CABINET 300lbs CHAIRS 200lbs
106	BEDS (4) CABINET (2) NIGHT STAND (3) OVEN(1)	BEDS 400lbs CABINET 150lbs NIGHT STAND 100lbs OVEN 300lbs
107	DESKS (4) FRIDGE (1) SHELVES (2) CABINET (1)	DESKS 300lbs FRIDGE 50 lbs SHELVES 100lbs CABINET 100lbs
108	DESKS (4) CHAIRS (6) SHELVING (1)	DESKS 300lbs CHAIR 200lbs SHELVING 500lbs
109	DESKS (4) FILING CABINETS (2) LOCKER (1)	DESKS 200lbs FILING CABINETS 200 lbs LOCKER 50lbs
110	POOL TABLE (1) FOOSBALL TABLE (1) PING PONG (1) CABINET (1)	POOL TABLE 500 lbs FOOSBALL 200lbs PING PONG 150lbs CABINET 150lbs
110(A)	LOCKERS (18)	LOCKERS 1000lbs
111	BEDS (2) NIGHT STAND (2) DESK(1) SOFA(1)	BEDS 400lbs NIGHT STAND 150lbs DESK 150lbs SOFA 150 lbs
112		
113	BEDS (2) DRESSERS (2) NIGHT STAND (3)	BEDS 400 lbs DRESSERS 300 lbs NIGHT STAND 100 lBS
114	LAY Z BOYS (2) WEIGHT LIFT (5) DESKS (3) CABINET (1)	LAYZ BOYS 300lbs WEIGHT 500lbs DESKS 200lbs CABINET 100lbs
115	MATTRESS (12) CHAIRS (20)	MATTRESS 500lbs CHAIRS 20 lbs
116	WEIGHT EQUIPMENT (14) PLATES (4) DUMBELLS (SET)	5000lbs
117	FANS (4) ELLIPITICAL(3) TREADMILL(3)	1000lbs
Kitchen	STOVE (1) FRIDGE (2) MICROWAVE(2) WATER MACHINE (1)	1000lbs
119	WOODEN SHELVES (2) BOOK SHELF (1) FILING CABINET (2)	WOODEN SHELVES 400 lbs BOOK SHELVES 100 lbs FILING CABINETS 100 lbs

120	WALL SHELVING (1) DESK(1) CABINETS (2)	WALL SHELVING 500 lbs DESK 100lbs CABINETS 150 lbs
121	DESKS (2) SHELVING (4)	DESKS 200 lbs SHELVING 500lbs
122	DESKS (4) CHAIRS (10)FRIDGE (2)	DESKS 300lbs CHAIRS 200lbs FRIDGE 200 lbs
123	SOFA (1) DESK (1) LOCKER (1)	SOFA 100lbs DESK 100lbs LOCKER 100 lbs
202	DESKS (5) FILING CABINETS (3) LOCKERS (3) 300 IBS CHAIRS (7)	DESKS 500lbs FILING 250lbs LOCKERS 300 lbs CHAIRS 200 lbs
203	DESKS (4) FILING CABINETS (2) CHAIRS (3)	DESKS 500 lbs CHAIRS 200 lbs FILING CABINETS 200 IBS
204		
205	DESKS (1) FILING CABINETS (3)	DESKS 200 lbs FILING CABINETS 200 lbs
206	TABLE (1) CHAIRS (12) TV CABINET (1)	TABLE 300 lbs TV CABINET 500 lbs CHAIRS 200 lbs
207	DESK (3) CABINET (1) SOFA (1) BED (1) BOOK SHELF (1)	DESK 200 lbs CABINET 200lbs SOFA 150 lbs BED 200 lbs BOOK 50 lbs
208		
209	DESKS (10) FILING CABINET (4) CHAIRS (10) SOFA (1)	DESKS 800 lbs FILING CABINET 300 lbs SOFA 200 lbs
210	LOCKERS (3)	300 lbs
211		
212		
214	DESKS (8) CHAIRS (20) DESKS (2) SHELVES (2) FILING (3)	DESKS 300 lbs CHAIRS 200 lbs SHELVES 150lbs FILING SYSTEM 300 lbs
215	DESKS (4)	DESKS 200 lbs
216		
217	DESK(1)	DESK 50 lbs
218		
219	DESKS (4)	DESKS 400 lbs
220		
221		
222	DESK(1) TABLE (1) CHAIRS (3)	

Appendix F. RECORD OF ENVIRONMENTAL CONSIDERATION

IMPO-PWF 18 December 2019

MEMORANDUM FOR: DPW, ENRMD, Conservation Branch, HWY 465, Fort Polk, LA 71459

SUBJECT: SB00062-5P, Repair Aircraft Maintenance Hangar B4295, Fort Polk, LA 71459

1. Request additional site-specific environmental evaluation for National Environmental Policy Act (NEPA) compliance, Clean Air Act (Title V) compliance, marketable timber, asbestos, lead, etc. as applicable to subject project.

2. Record of Environmental Consideration (REC) is enclosed for your review and concurrence. If your office concurs with the document enclosed, request a copy of REC with concurrence be returned to this office as soon as possible. The project scope and building floor plans are included with the REC.

3. Point of contact is Sidney Martin, 337-531-1371

Russell Castillo

Russell Castillo

Chief, Engineering Division

Encl

ENRMD Control Number CY20031

*** Note: REFER TO Attached (Report of Findings) which discloses presence or absence of Hazardous Materials.
If present, Hazardous Material(s) must be removed prior to renovation.
ENG Program Manager MUST Comply with attached Health and Safety Memorandums.

DEPARTMENT OF THE ARMY
JOINT READINESS TRAINING CENTER AND FORT POLK
FORT POLK, LOUISIANA 71459

RECORD OF ENVIRONMENTAL CONSIDERATION

To: Environmental Office

From: Directorate of Public Works

1. **Project Title**: SB00062-5P
2. **Brief Description of Proposed Action**: Repair Aircraft Maintenance Hangar B4295
3. **Project Engineer/ Manager Determination**:

Environmental Parameters	YES	NO
1. Action will require DHH approval of water system changes.		X
2. Action will require DHH approval of wastewater changes.		X
3. Project footprint between 1 and 5 acres (storm water permit).		X
4. Project footprint greater than 5 acres (storm water permit).		X
5. Action has the potential to disturb asbestos.	X	
6. Action has the potential to disturb lead based paint.	X	
7. Action is new construction (independent of existing structure).		X
8. If number 7 (above) was yes, were alternatives considered for the new construction.		
9. If number 7 or 8 (above) was yes, were Unexploded Ordnances/UXOs considered.		
10. If number 8 (above) was yes, was the Building Constraints map utilized for development of alternatives.		
11. If number 9 (above) was yes, are the maps for three alternatives included in this Record of Environmental Consideration.		

4. **Purpose and Need: Fort Polk Garrison wants** This project is needed now to support the Army's strategy to eliminate inadequate facilities and support mission readiness of Fort Polk's Charlie Company, 1ST Battalion, 5th Aviation and their MEDEVAC crews. Project replaces the exterior windows, and repairs exterior personnel doors, and metal wall panels. Repair includes replacement of the roof; repair of the interior walls, interior doors, insulation, floors, and ceilings; repair by replacement of the failing plumbing, Heating, Ventilation, & Air Condition (HVAC), fire protection, and the electrical systems. The project abates hazardous materials (HAZMAT).

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ENRMD Control Number CY20031

5. **Anticipated Date and/or duration of Proposed Action**: 2020
6. **A Map or Map(s) are attached**:

7. **Reason for using record of environmental consideration:** Action is categorically excluded under the provisions of categorical exclusion (CX) g-1 32 CFR 651, Appendix B [and no extraordinary circumstances exist and there are no adverse affects to sensitive resources, as defined in CFR 651.29(b), 651.29(c)] because: (1) See paragraph 8 below (Effects on the Environment), showing that there are no significant environmental impacts; and (2) this proposed action satisfies the screening conditions in 32 CFR 651.29(a), and meets all screening criteria in 32 CFR 651, Appendix B, Section I.

8. **Effects on the Environment:** The proposed action was evaluated by the proponent and an ENRMD Environmental Subject Matter Expert / Evaluator using the following parameters.

Valued Environmental Components	Positive Impact	Negative Impacts	No Significant Impacts	Subject Matter Expert
Air Quality				
Indoor Air Quality				
Storm Water				See Attachment 2
Drinking/Waste Water Systems				
Asbestos				See Attachment 4
Lead -based Paint				See Attachment 4
Solid/Hazardous Waste				See Attachment 3
Environmental Restoration/SWMU				
Qualified Recycling Program/QRP				See Attachment 3
Noise				
Cultural Resources				
Does the property qualify as historical property under the National Historic Preservation Act (NHPA)? x no __ yes (sign name) AGP				
Threatened/Endangered Species				
Sensitive Species – Terrestrial Animals				
Sensitive Species – Botanical				
Sensitive Species – Aquatic Animals				
Migratory Bird Treaty Act/MBTA				
Bogs or Wetlands				
Soils/Erosion Control				
Other Natural Resources				
Pest Management				
Timber				
Environmental Justice				
Protection of Children				
Unexploded Ordnances/UXOs				

Amanda G. Pagels
December 20, 2019

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ENRMD Control Number CY20031

9. Coordination with other agencies and installation departments:

Installation Organization or Other Agency	Coordination Date	Coordinating Person

10. NEPA Specialist survey report is attached as Appendix A.

11. Conclusion: This proposed action has been evaluated in accordance with 32 CFR Part 651. It has been determined that this proposed action does not individually or cumulatively have significant effects on the human or natural environment. There will be no environmentally controversial changes to existing environmental conditions. There are no circumstances which would require an Environmental Assessment (EA) or an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA). This proposed action: (1) satisfies all screening conditions in 32 CFR 651.29(a); (2) meets all screening criteria in 32 CFR 651, Appendix B, Section I; (3) does not involve any extraordinary circumstances, as defined in 32 CFR 651.29(b), that would preclude the use of a CX; (4) will not adversely affect environmentally sensitive resources as defined in 32 CFR 651.29(c); (5) qualifies for categorical exclusion (CX) number(s) g-1 in accordance with 32 CFR 651, Appendix B, Section II.

12. Other Environmental Laws: This document does not relieve the proponent of applicable federal and state laws and regulations.

Project Proponent

Concur / ~~Nonconcur~~

MARTIN.SIDNEY.RAY.1119045521 Digitally signed by MARTIN.SIDNEY.RAY.1119045521 Date: 2019.12.18 13:53:52 -06'00'

Name: Sidney Martin
Title: Prj. Mgr.
Date: 18 December 2019

Jonathan West
Chief, Conservation Branch
Directorate of Public Works
Date: 20 Dec 19

ENRMD Control Number CY20031

*** Note: REFER TO Attached (Report of Findings) which discloses presence or absence of Hazardous Materials.
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ENG Program Manager MUST Comply with attached Health and Safety Memorandums.

DEPARTMENT OF THE ARMY
JOINT READINESS TRAINING CENTER AND FORT POLK
FORT POLK LOUISIANA 71459
ENVIRONMENTAL ASSESSMENT REPORT
CY20031 - Aircraft Hangar Maintenance, B4295

On 20 December 2019 an assessment was conducted to evaluate potential environmental impacts of the proposed action at this location. The proposed action is to perform required maintenance on the current Aircraft Hanger, B4295. Work includes: replacing the exterior windows, and repairs to exterior personnel doors, and metal wall panels. Repair includes replacement of the roof; repair of the interior walls, interior doors, insulation, floors, and ceilings; repair by replacement of the failing plumbing, Heating, Ventilation, & Air Condition (HVAC), fire protection, and the electrical systems. The project abates hazardous materials (HAZMAT). If SME's stipulations are followed then no apparent significant environmental impacts are expected to occur during the construction. The action meets the screening criteria for a Record of Environmental Consideration (REC).

The proposed action is covered under categorical exclusion (CX) number (g-1), Code of Federal Regulations (CFR) Title 32 Part 651.29; CX (g-1) states – "(g-1) Routine repair and maintenance of buildings, airfields, grounds, equipment, and other facilities. Examples include, but are not limited to: Removal and disposal of asbestos-containing material (for example, roof material and floor tile) or lead-based paint in accordance with applicable regulations; removal of dead, diseased, or damaged trees; and repair of roofs, doors, windows, or fixtures (REC required for removal and disposal of asbestos-containing material and lead-based paint or work on historic structures)."

A CX may be used only when each of the following screening criteria is true:

- The action has NOT been segmented. **TRUE**
- The action does NOT have a reasonable likelihood of causing significant effects on public health, safety or the environment. **TRUE**
- This action does NOT cause an imposition of uncertain or unique environmental risks. **TRUE**
- This action is NOT of greater scope or size than is normal for this category of action. **TRUE**
- This action is NOT expected to produce reportable releases of hazardous or toxic substances as specified in CFR Title 40 Part 302, Designation, Reportable Quantities, and Notification. **TRUE**
- This action is NOT expected to produce releases of petroleum, oils, and lubricants (POL) except from a properly functioning engine or vehicle, application of pesticides and herbicides, where the proposed action results in requirement to develop or amend a Spill Prevention, Control, or Counter Measure Plan. **TRUE**
- There is NO reasonable likelihood of this action violating any federal, state, or local law or requirements imposed for the protection of the environment. **TRUE**
- This action does NOT involve effects on the environment that are highly uncertain, involve unique or unknown risks, or are scientifically controversial. **TRUE**
- This action does NOT establish a precedent for future actions that are reasonably likely to have a future significant effect. **TRUE**
- This action is NOT expected to potentially degrade an already existing poor environment or affect areas not already significantly modified from their natural condition. **TRUE**
- This action is NOT expected produce unresolved effects on (1) Proposed federally listed, threatened, or endangered species or their designated critical habitats, (2) Properties listed or eligible for listing on the Natural Register of Historic Places, (3) Areas having special designation or recognition such as prime or unique agriculture lands; coastal zones; designated wilderness or wilderness study areas; wild and scenic rivers; National Historic Landmarks; 100-year flood plains; wetlands; sole source aquifers; National Wildlife Refuges; national Parks; areas of critical environmental concern; or other areas of high environmental sensitivity, or (4) Cultural Resources as defined in AR 200-4. **TRUE**

ENRMD Control Number CY20031

*** Note: REFER TO Attached (Report of Findings) which discloses presence or absence of Hazardous Materials.
If present, Hazardous Material(s) must be removed prior to renovation.
ENG Program Manager MUST Comply with attached Health and Safety Memorandums.

Conclusion of Findings

A desktop assessment of the proposed project **Aircraft Hangar Maintenance, B4295** was conducted to evaluate the potential environmental impacts of the proposed project. For specific natural resources of concern such as: air quality, indoor air quality, storm water, drinking/waste water systems, cultural resources, timber, T&E species, species of concern, MBTA, sensitive plants, wetlands, soils/erosion control, noise, asbestos, lead-based paint, solid waste, hazardous materials, toxic substances and environmental contamination remediation/SWMU a member of the Natural Resources Management Branch, Compliance Branch, Conservation Branch or other agency conducted an evaluation. These reports will be attached to the REC as project requirements and as part of the NEPA administrative record. No apparent significant impacts were identified for the proposed action. If there are no changes to this scope of work or the location of the proposed action, no other environmental analysis is required. **This document does not relieve the proponent from complying with any applicable federal or state laws and regulations.** The proposed action meets the screening criteria for the completion of a Record of Environmental Consideration under categorical exclusion (g-1) CFR Title 32 Part 651.29.

For further information contact:

Amanda Pagels, Cooperator
NEPA Specialist, Colorado State University,
CEMML DPW-Environmental, Conservation Branch
Fort Polk, LA. 71459
Phone: (337) 531-1193
Email: amanda.g.pagels.ctr@mail.mil

Or

Peter Dunlevy
Ecologist/CIV
NEPA Program Manager
DPW-ENRMD, Conservation Branch
337.531.1363 (DSN 863)

ENRMD Control Number CY20031

*** Note: REFER TO Attached (Report of Findings) which discloses presence or absence of Hazardous Materials.
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ENG Program Manager MUST Comply with attached Health and Safety Memorandums.

Pagels, Amanda Gale CTR USARMY ID-READINESS (USA)

From: Martin, Tanner CIV USARMY ID-READINESS (USA)
Sent: Thursday, December 19, 2019 8:02 AM
To: Hoer, Joseph M Jr CTR USARMY ID-READINESS (USA); Green, Jessica M CTR USARMY ID-READINESS (USA); Deggs-Numbers, Roxanna CIV USARMY ID-READINESS (USA); Crawford, Ira B CIV USARMY ID-READINESS (USA); Hildebrand, Douglas Allen CTR USARMY ID-READINESS (USA)
Cc: Pagels, Amanda Gale CTR USARMY ID-READINESS (USA); Alexander, Scott J CIV USARMY ID-READINESS (USA); Dunlevy, Peter A CIV USARMY ID-READINESS (USA)
Subject: FW: REC CY20031 - Aircraft Hangar Maintenance, B4295
Attachments: IMPO-PWE_CY20031_V-1_20191219.pdf

Team ,

Please comment on the attached REC. The attached work described in the attached REC applies to the following areas of concern:

Asbestos- Joe Hoer, Jessica Green, Rocky Numbers Lead Based Paint- Joe Hoer, Jessica Green, Rocky Numbers Hazardous Waste/ Solid Waste- Ira Crawford
Stormwater- Broussard, Doug Hildebrand

The attached work described in the attached REC does not apply to the following areas of concern:

Air Quality - Harvey Skinner.
Indoor Air Quality- Jessica Green
Environmental Restoration/SWMU- Georgia Louis,
Drinking Water/Waste Water Systems/ Wells (Wells - Peek)Only - TBD on all the rest.
Noise- Robin Peeks
QRP- Terrill Turner
Toxic Substances- Ross/ Moltsau

ENRMD Control Number CY20031

V/R
Tanner Martin, P.E.
Environmental Engineer
DPW-ENRMD-CMB
Fort Polk, LA.
IMCOM - Readiness
Ph: 337-531-2039 (DSN 863)
Email: tanner.r.martin2.civ@mail.mil
We are the Army's home - Serving the Rugged Professional

IMCOM Civilian Career Planning & Development Program -
https://army.deps.mil/Army/cmds/imcom_HQ4/G1/CIVPER/C2P2/SitePages/Home.aspx

*** Note: REFER TO Attached (Report of Findings) which discloses presence or absence of Hazardous Materials.
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ENG Program Manager MUST Comply with attached Health and Safety Memorandums.

-----Original Message-----
From: Dunlevy, Peter A CIV USARMY ID-READINESS (USA)
Sent: Thursday, December 19, 2019 6:57 AM
To: Martin, Tanner CIV USARMY ID-READINESS (USA) <tanner.martin.civ@mail.mil>; Hildebrand, Douglas Allen CTR USARMY ID-READINESS (USA) <douglas.a.hildebrand.ctr@mail.mil>; Prince, Rj CTR USARMY ID-READINESS (USA) <rj.prince.ctr@mail.mil>
Cc: Pagels, Amanda Gale CTR USARMY ID-READINESS (USA) <amanda.g.pagels.ctr@mail.mil>; Alexander, Scott J CIV USARMY ID-READINESS (USA) <scott.j.alexander7.civ@mail.mil>
Subject: REC CY20031 - Aircraft Hangar Maintenance, B4295

All,

The following REC has been submitted for environmental review:

REC CY20031 - Aircraft Hangar Maintenance, B4295. Replace HVAC system, install fire alarm & mass notification system and replace interior lighting.

Project evaluator is Amanda Pagels.

Please submit all comments/responses to Scott Alexander, Amanda Pagels and Peter Dunlevy. Thanks

Sincerely,
Peter Dunlevy
NEPA Program Manager
DPW-ENRMD, Conservation Branch
JRTC and Fort Polk
IMCOM - Readiness
337.531.1363 (DSN 863)

IMCOM Civilian Career Planning & Development Program -
https://army.deps.mil/Army/cmds/imcom_HQ4/G1/CIVPER/C2P2/SitePages/Home.aspx

ENRMD Control Number CY20031

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ENG Program Manager MUST Comply with attached Health and Safety Memorandums.

Pagels, Amanda Gale CTR USARMY ID-READINESS (USA)

From: Hildebrand, Douglas Allen CTR USARMY ID-READINESS (USA)
Sent: Thursday, December 19, 2019 8:43 AM
To: Dunlevy, Peter A CIV USARMY ID-READINESS (USA); Alexander, Scott J CIV USARMY ID-READINESS (USA); Pagels, Amanda Gale CTR USARMY ID-READINESS (USA)
Cc: Martin, Tanner CIV USARMY ID-READINESS (USA)
Subject: REC CY20031
Attachments: Water Resouce REC Response.pdf

All,

Attached is the Water Resource response for REC CY20031.

V/R,

Douglas Hildebrand, CTR
Team Lead, Water Resource Management
Artemis Advantage, LLC.
DPW-ENRMD-CMB
IMCOM-Readiness
1647 23rd St Bldg. 2541
Fort Polk, LA 71459
Office: 337-531-4013
Cell: 337-353-3679
Fax- 337-531-8950

e-mail: douglas.a.hildebrand.ctr@mail.mil

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ENRMD Control Number CY20031

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Water Resources REC Response

1. In accordance with JRTC & Fort Polk 200-1 and the General Permit for Discharges from Small Municipal Separate Storm Sewer Systems, Master General Permit NO. LAR040000, Fort Polk Water Resources Management will provide educational and training measures for construction site operators. Training can be coordinated by contacting the Fort Polk Water Resources Program Lead at 531-4013.
2. Best Management Practices (BMPs) for construction activities of any size. BMPs must be installed PRIOR to any ground disturbance.
3. Only storm water should enter storm water conveyance systems, ditches and inlet systems; Fort Polk has a separate storm sewer system that drain directly to receiving waterways. Water that enters these systems DO NOT have benefit of treatment prior to being discharged.
    a. Siphoning water from natural water bodies or discharging or dumping into storm drain inlets is prohibited.
    b. Employ measures such as silt fence, hay bales and rock bags to prevent sediment from leaving a construction site and entering storm drain inlets or conveyance systems. If construction is being conducted with 100' of any creek, stream or body of water, employ proper BMPs (silt fence, hay bales, rock bags, etc.) to prevent silt and sediment from entering these areas.
    c. Concrete washouts directly on the ground is prohibited. Construction contractors are required to utilize a sturdy concrete washout pit what will contain concrete washout water and properly dispose of concrete once cured.
    d. Construction sites must reach 70% vegetative stabilization prior to removing any BMPs. Once construction has ceased, all BMPs MUST be removed from the site.
    e. A Small Construction Activity Completion Report (SCACR) must be submitted to the Louisiana Department of Environmental quality (LDEQ) and a copy provided to the Fort Polk Environmental and Natural Resources Management Division (ENRMD) once site stabilization has been achieved and all BMPs have been removed from the site.
4. **Small Construction Activities** (1 to 4.99999 acres) must obtain and follow the guidelines mandated in the Storm Water General Permit for SMALL CONSTRUCTION ACTIVITIES (LAR20000) www.deq.louisiana.gov/portal/portals/0/permits/lpdes/LAR20000.pdf
5. **Large Construction Activities** (>5 acres) must obtain and follow the guidelines mandated in the Storm Water General Permit for LARGE CONSTRUCTION ACTIVITIES (LAR10000) www.deq.louisiana.gov/portal/portals/0/permits/lpdes/LAR10000.pdf
6. **Low Impact Development/Design** (LID) must be considered on all new construction and renovations to ensure preservation of pre-construction hydrology. Pre and post hydrology analysis of the site is required to be compliant with Department of the Army guidelines. Retention/detention ponds ARE NOT to be used unless pre-approved by Master Planning (**Attachment 1**)
7. **Stormwater Assessments**: Monthly assessments of construction activities will be conducted by members for the Fort Polk's Water Resource team.

Potable/Non-potable Water

1. All potable water and wastewater taps and tie-ins will require coordination and approval with American Water and may also require Department of Health and Hospital approval.
2. Potable water will only be collected at either the South Fort Georgia Ave. (2900 Block) or the potable water point located at North Fort Polk on K Ave. Collection containers must be labeled "POTABLE WATER". Contractors must have backflow prevention device to collect water.
3. Collection of water from fire hydrants requires a submission of an application to the South Fort Water Plant located at the intersection of Pennsylvania and Texas Ave. (Bldg. 2902)
4. Non-potable water can only be collected at the South Fort Water Plant located on Pennsylvania Ave (Bldg. 2902. Contractors must have a backflow prevention device to obtain water
5. Garden hoses are not to be placed in non-potable water sources such as radiators, puddles, chemical tanks cement mixing trucks pools, etc.

ENRMD Control Number CY20031

*** Note: REFER TO Attached (Report of Findings) which discloses presence or absence of Hazardous Materials.
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Water Resources REC Response

6. The attachment of a chemical sprayer to a garden hose is prohibited
7. New or altered permanent backflow prevention assemblies must be installed in accordance with manufactures specifications and according to Louisiana Plumbing Codes. Backflow preventers will be tested and certified after installation, modification or alteration.
8. Report leaking or broken water lines, back siphonage and backflow prevention/cross connection issues to the American Water Service Order Desk. All water lines must be removed and/or capped prior to demolition activities. Contact American Water for line locations and approval for water/wastewater system modifications.

****Contact numbers for American Water are 531-2036 or 531-1161****

Water/Monitoring Wells & Geothermal Heat Pumps

1. Contractors shall drill, construct, register and plug wells and boreholes and meet the well drilling licensing requirements in accordance with the Water Well Rules, Regulation and Standards of the State of Louisiana issued by the Department of Transportation and Development Office of Public Works 1985 and the Construction of Geotechnical Boreholes and Groundwater Monitoring Systems Handbook prepared by the Louisiana Department of Environmental Quality and Louisiana Department of Transportation and Development, December, 2000.
2. Contractors will only use drilling additives approved by DPW-ENRMD.
3. Contractors will provide DPW-ENRMD a copy of the Well registration Short Form (DOTD-GW-1S0), drilling plan, GPS coordinates and site description for the borehole and/or well.
4. Contractors will notify DPW-ENRMD 24 hours prior to plugging and abandoning any well and/or borehole and provide a copy of the Well Plugging and Abandonment form (DOTD-GW-2) upon completion.

Surface Water Quality (Non-Point Source Run-off)

Tenants, organizations, contractors, and residents will prevent the discharge or causing of a discharge of any pollutant into Fort Polk's surface waters, ground water, drainage ditches, and storm drain inlets or on the ground.

Pollutants include, but are not limited to:

1. Chemicals, detergents, solvents, cleaning agents, POL's or antifreeze.
2. Discharge liquid wastes from field laundries, field shower, field kitchens, sanitary sewers, or water purification systems.
3. Pesticides and herbicides where the manufacturer's instructions for application have not been followed.
4. Garbage, litter, and universal wastes
5. Erosion and sediments
6. Sanitary Sewer
7. Washing of paint brushes, roller, buckets, drywall joint compound and related components (joint compound pans, joint compound knives and buckets)

*Report observation of the above discharges to the Illicit Discharge Reporting Hotline @ 337-531-9626

Storm Water Conveyance Maintenance

1. Contractors shall provide in writing by the 15th day of each March, June, September, and December, a quarterly report indicating the number of miles (approximated) of storm water conveyance-maintenance performed (mowing, cleaning, unplugging culverts, etc.) to the Storm Water Manager.
2. This report should also include a description and the location of any major repairs performed on storm water conveyance (culvert replacement, major grading or digging, or re-direction of storm water flow).

ENRMD Control Number CY20031

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Water Resources REC Response

Demolition of Building/Real Property

1. Best management Practices (BMPs) for Demolition activity of any size: Only storm water should enter the storm water conveyances and inlet systems; the installation has a separate storm sewer system that drains directly to receiving streams.
    a. Siphoning water from or dumping into the storm sewers or natural water bodies is prohibited.
    b. Employ soil erosion measures such as silt fences and inlet protection to prevent sediment from leaving the site and entering the storm drains.
    c. Remove BMPs (silt fences, hay bales, rock bags, etc.) after site stabilization has been achieved

Assignment of Environmental Compliance Officers

Contractor shall designate Environmental Compliance Officers (ECO) for all contract work periods exceeding 180 consecutive days. Contractor shall designate a primary and alternate ECO for each shop or work area that uses and/or stores hazardous material and/or generates hazardous wastes. Contractor ECOs shall monitor implementation of all environmental regulatory requirements, report all environmental noncompliance to the work site supervisor, correct all environmental non-compliances, and verify implementation of directed actions to correct identified environmental noncompliance. Contractor shall have at least one ECO on duty at all times at each shop or work area. Contractor shall re1quire all personnel designated as ECOs to complete the 40-hour certification course to maintain ECO certification. Failure to complete the 8-hour re-certification course within 365 days will necessitate re-tak9ing the 40-hour course to maintain ECO certification. Contractor personnel performance of ECO duties Contractors may request a waiver of this requirement through the COR to DPW-ENRMD, if using and/or storing very small quantities of hazardous materials.

For additional information contact:

Nathan "Jerry" Broussard

ENRMD

337-531-1962

ENRMD Control Number CY20031

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Water Resources REC Response

ATTACHMENT 1

Requirement	Description	Tracking		
Perform a pre-hydrology assessment and provide the calculation to the Planning Division at, or before, the 65% design review	Check the method used to assess pre and post hydrology of the site	☐ Soil Conservation Service/Natural Resource Conservation Service Method (>300 acres)	☐ TR-55 "Urban Hydrology for Small Watersheds"	☐ Rational Method (estimate for peak flows; accurate for small watersheds)
	Pre-construction hydrology assessment results:			
List the planned storm water BMPs that will be used to meet the LID requirements	Reference the types of BMPs that will be implemented	☐ Surface Sand Filters ☐ Bioretention Facilities ☐ Grassed Swales ☐ Dry & Wet Swales ☐ Vegetated Filter Strips ☐ Infiltration Facilities	☐ Permeable Pavement ☐ Subsurface Detention Systems ☐ Manufactured Treatment Units ☐ Other; Explain	

Post-Construction Checklist

Requirement	Description	Tracking			
Perform a post-construction hydrology assessment and provided to the Planning Division before submittal of form DA1594.	Check the method used to assess pre and post hydrology of the site	☐ Soil Conservation Service/Natural Resource Conservation Service Method (>300 acres)	☐ TR-55 "Urban Hydrology for Small Watersheds"	☐ Rational Method (estimate for peak flows; accurate for small watersheds)	
	Post-construction hydrology assessment results: What is the percentage difference between the pre and post hydrology assessment:				
LID techniques have been implemented to manage the storm water run-off from the 95th percentile storm.	Site has been engineered to manage run-off from the 95th percentile storm event which is 1.1 inches of storm water run-off	☐ Yes	☐ No	If not, explain why	
List the storm water BMPs that have been implemented to meet the LID requirements	Choose the types of BMPs that were installed to meet the LID requirements	☐ Surface Sand Filters ☐ Bioretention Facilities ☐ Grassed Swales ☐ Dry & Wet Swales ☐ Vegetated Filter Strips ☐ Infiltration Facilities		☐ Permeable Pavement ☐ Subsurface Detention Systems ☐ Manufactured Treatment Units ☐ Other; Explain	

ENRMD Control Number CY20031

*** Note: REFER TO Attached (Report of Findings) which discloses presence or absence of Hazardous Materials.
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ENG Program Manager MUST Comply with attached Health and Safety Memorandums.

Pagels, Amanda Gale CTR USARMY ID-READINESS (USA)

From: Crawford, Ira B CIV USARMY ID-READINESS (USA)
Sent: Friday, December 20, 2019 8:27 AM
To: Dunlevy, Peter A CIV USARMY ID-READINESS (USA); Pagels, Amanda Gale CTR USARMY ID-READINESS (USA)
Subject: REC
Attachments: REC Statements.docx; REC solid_waste_guidancev1.docx

Good morning. My input for Recs CY20032 and CY20031. Thank you.

Ira B. Crawford, Civ
Solid Waste Manager
DPW-ENRMD
1647 23rd Street Building 2516
Fort Polk, La 71459-5509
COMM: 337.531.6029

ENRMD Control Number CY20031

*** Note: REFER TO Attached (Report of Findings) which discloses presence or absence of Hazardous Materials.
If present, Hazardous Material(s) must be removed prior to renovation.
ENG Program Manager MUST Comply with attached Health and Safety Memorandums.

Hazardous Waste and Solid Waste Guidence

1. These guidelines are to ensure that all Fort Polk military units, garrison activities, civilians, tenants, and long-term contractors comply will all installation environmental policy, applicable, state, federal, and local environmental laws, regulations and Executive Orders and JRTC and Fort Polk 200-1 requirements.

2. All Fort Polk military units, garrison activities, civilians, tenants, and long-term contractors (contracts exceeding 180 calendar days) must appoint a primary and alternate Environmental Compliance Officer (ECO) to insure they are trained to oversee environmental compliance for their unit or organization. A copy of the appointment orders will be provided to the Environmental & Natural Resources Management Division (ENRMD) training within 90 days of assumption of duties. ECO training is provided at no cost to the activity and must be accomplished within 90 day of the contract start date. For the scheduling or course dates DPW-ENRMD training at (337) 531-7979.

3. Fort Polk is a Net Zero Waste Pilot facility with a goal to eliminate all solid waste from entering landfills by 2020. Toward that goal, all projects must recycle all material possible. All projects regardless of size will follow the guidelines as prescribed in the Installation Design Guide; initial guidance is provided to contractors during all planning and design charrettes. The following are Army mandated goals that should be achieved with each project:

Fiscal Year	Diversion Goal by Weight
2012	56%
2013	62%
2014	68%
2016	74%
2017	82%
2018	90%
2019	96%
2020	100%

4. The Qualified Recycling Program (QRP) will be utilized to the maximum extent possible in assisting the installation in meeting the diversion goals. Contact the QRP representative at (337) 531-5335 for more information on commodities presently being recycled on the installation.

5. All waste with the exception of concrete and asphalt will be disposed of offsite. **The contractor must ensure proper disposal of any waste generated. Disposal containers and rolloffs will be covered by a tarp or like item when debris is added. All solid waste with the exception of routine non contaminated construction and demolition debris must be properly characterized (TESTED) to determine the waste type (hazardous/non-hazardous/universal/PCB), and managed in accordance with LAC 33 Part V and VII.**

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a. Any hazardous waste must be properly manifested and packaged prior to leaving the installation. All manifests must be signed by a government representative in DPW-ENRMD. All hazardous waste must be disposed in a **permitted** facility

b. Any non-hazardous waste must be disposed in a **permitted** facility that accepts the type of material disposed. The quantities of the materials that are disposed or recycled must be report to DPW-ENRMD for tracking purposes.

c. Any universal waste must be tracked in some manner when shipped off-site. This tracking may take the form of a log, invoice, bill of lading, or other shipping document. Wastes that fall under the universal wastes are batteries, pesticides, mercury thermostats, fluorescent lights, and antifreeze. The quantities of universal waste shipped off site must be reported to DPW-ENRMD for tracking purposes. All universal waste must be disposed in permitted facility

d. Any PCB waste must be properly manifested prior to leaving the installation. Items that may contain PCB's are ballast and capacitors found in fluorescent light fixtures. All PCB waste must be disposed in permitted facility

6. Any products that are used in the project must be assessed to determine whether they are part of the EPA's Comprehensive Procurement Guidelines (40 CFR 247). Specified items are required to meet the Recommended Recovered Material Content levels unless the materials are not competitively available in a reasonable period of time, are not available at reasonable price, or do not meet performance standards. The EPA website (http://www.epa.goc.cpg) contains the most recent guidelines for the designated products.

For additional information contact:
Ira B. Crawford
Solid Waste Manager, ENRMD
(337)-531-6029

ENRMD Control Number CY20031

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Standard REC Statements

Solid Waste (Ira B. Crawford)
Please follow the guidance as prescribed in the solid/hazardous waste document attached for reporting requirements of all waste generated by this activity or project. All solid waste disposal and recyclable tonnages shall be reported through the appropriate channel to the installation solid waste manager for consolidation and reporting to the IMCOM Regional Headquarters. All concrete/asphalt shall be recycled through the installation recycling facilities. All land clearing debris shall be recycled through the appropriate facilities. All Construction and Debris waste shall be disposed of at an approved landfill. All waste generated by construction contractors or contractor conducting renovation project on the installation are not the responsibility of the installation and will be managed per the specification of the contract, this includes any office waste generated during daily operations or activities. The installation is mandated to divert at least 50% of the solid waste stream from the local landfills and is mandated to divert 60% of construction and debris waste from local landfills.

ENRMD Control Number CY20031

Attachment 4

IMPO-PWE

19 December 2019

MEMORANDUM FOR RECORD

SUBJECT: Status of Lead Based Paint Building 4295 as requested by REC CY20031

1. An inspection was conducted using x-ray fluorescence (XRF) on 9 December 2019 for Building 4295 in order to determine the presence of lead based paint or other lead containing surface coatings to be impacted specifically for the scope requested in this REC CY20031.

2. XRF analysis results of the samples indicate that **lead based paint (LBP), above the HUD regulatory level of 1.0 mg/cm2, is present** on the building materials or components in the facility which will be impacted by the scope of work as described in this REC CY20031. Descriptions and locations of LBP homogeneous areas are listed in the attached Table 2. Sampling locations are identified at Enclosure 2.

3. It is required that in child care or child occupied facilities (housing), areas listed in Table 2, if disturbed or to be removed to accomplish the scope of work, shall be abated by a Louisiana State certified abatement contractor in coordination with this office and in compliance with all sections and appendices of the Fort Polk Lead Management Plan (FPLMP), and LAC 33: Title III Chapter 28. A copy of the FPLMP can be attained (CD) by calling Compliance Management Branch at phone number 337-531-6008 or RoxAnna Deggs-Numbers, at 531-2640.

4. Abatement requirements shall not apply to lead-based paint activities or to persons performing such activities when such activities are performed wholly within an industrial facility and are performed by persons who are subject to the training requirements of the Occupational Safety and Health Administration's hazard communication standard. XRF results cannot be used to comply with OSHA worker protection requirements. Compliance with OSHA is the sole responsibility of the employer.

5. Toxicity Characteristic Leaching Procedure (TCLP) must be performed to determine if waste material is classified as "Hazardous". Perform TCLP on demolition debris, waste from paint removal projects or any other waste which might contain lead. Results of TCLP must be forwarded to ENRMD for review prior to disposal.

6. Please coordinate directly with RoxAnna Deggs-Numbers providing schedules of pre-award/site visit meetings, contract award information and submittal of state required notifications (LPN). This will ensure compliance with governing regulations, clarifications of questions, and further technical information about interpretation of asbestos types, material locations, and compliance with environmental regulations and full implementation of all requirements of the Fort Polk Lead Management Plan.

7. Compliance with Occupational Safety and Health Administration's requirements for workers protection are sole responsibility of the employer.

8. This inspection was performed by Ms. Jessica Green, Certified Lead Inspector (No. AI210669) and a representative of the Fort Polk ENRMD, Compliance Management Branch.

9. Point of contact the undersigned at (337)531-2640, or Roxanna.deggs-numbers.civ@mail.mil

2 Encls
as

RoxAnna Deggs-Numbers
Asbestos & Lead Program Manager
Compliance Management Branch

ENRMD Control Number CY20031

*** Note: REFER TO Attached (Report of Findings) which discloses presence or absence of Hazardous Materials.
If present, Hazardous Material(s) must be removed prior to renovation.
ENG Program Manager MUST Comply with attached Health and Safety Memorandums.

TABLE 2

BUILD.# 4 BUILD.#4295 ADDRESS AIRFIELD XRF SERIAL NUMBER 1772 Inspector: DAN HATCHER
Inspection Type: POTENTIAL LEAD BASE PAINTED COATED SURFACES La Cert #: Pb6100361
August 4, 2005 Unit # 27

Sample Identification		RM #	Building Component	Substrate Type	Paint Color	XRF Test Number	XRF Reading mg/cm2	Paint Condition			Hazard Classification (12)			Paint Chip Sample No.	Photo Number
								Intact	Fair	Poor	Immd Haz	Pont. Haz	Non-Haz		
70	CEILING	116	CEILING	METAL	CREAM	70	0.1	X							
72	A WALL	117	WALL	CB	CREAM	72	0.3	X							
125	B WALL	198	WALL	CER.TILE	WHT./GRN.SPOT	125	6.0	X							
127	D WALL	198	WALL	CER.TILE	WHT./GRN.SPOT	127	7.1	X							
139	CEILING	202	CEILING	CELLULOSE	WHITE	139	0.1	X							

Positive Results >1.3
Negative Results < 0.7

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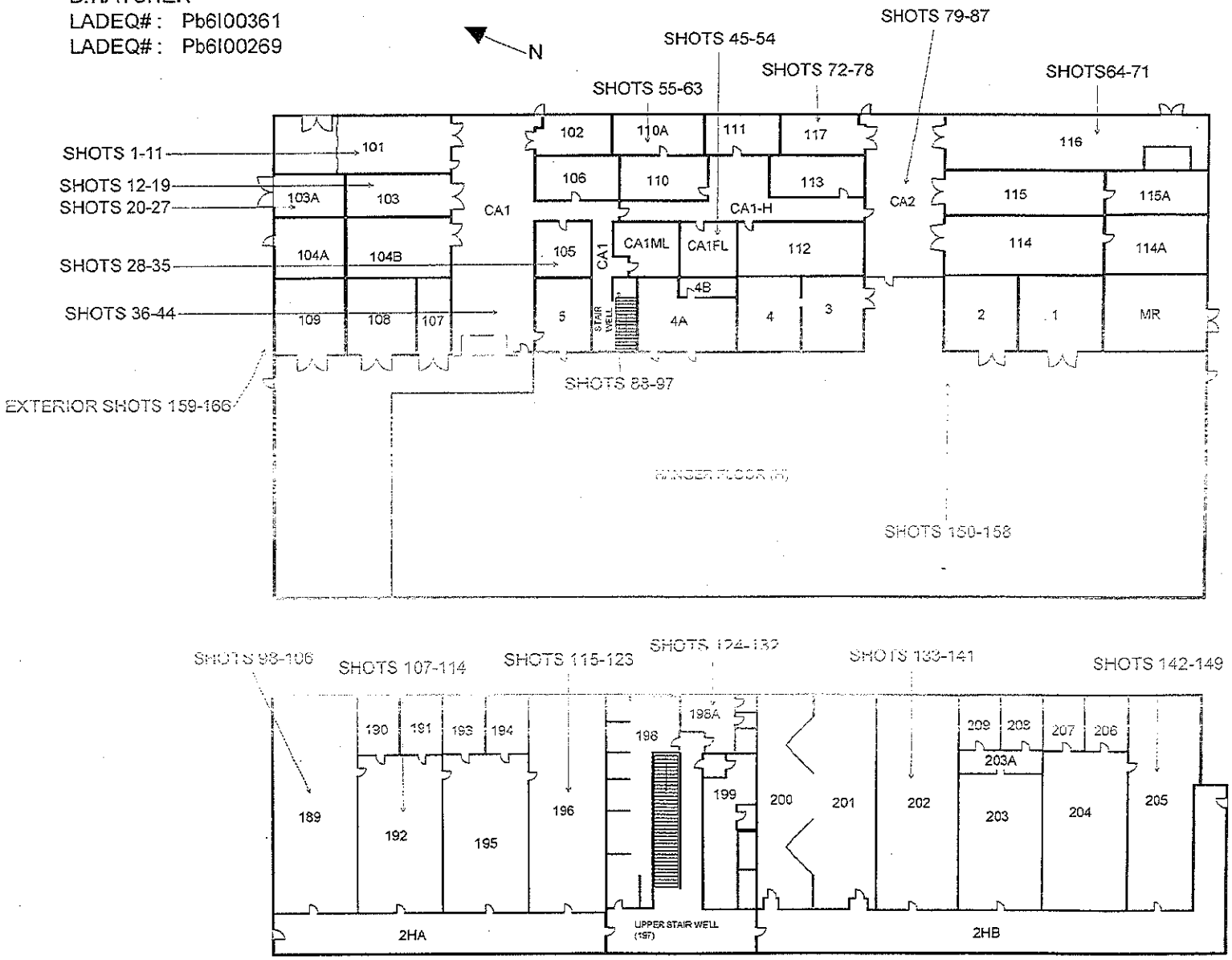
ENRMD Control Number CY20031

LEAD SAMPLING POINTS
BUILDING:4295
DATE: 8/4/2005
INSPECTOR: J. MAYES,
D.HATCHER
LADEQ# : Pb6I00361
LADEQ# : Pb6I00269



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ENC. 2

ENRMD Control Number CY20031

Attachment 4

IMPO-PWE

19 December 2019

MEMORANDUM FOR RECORD

SUBJECT: Status of Asbestos Containing Materials Building 4295 as requested by REC CY20031.

1. An inspection was conducted on 19 December 2019 for Building 4295 order to determine the presence of asbestos containing building materials (ACBM), specifically for the scop requested in this REC CY20031.

2. Analysis results of the samples indicate that **ACBM's are present** in specific materials in the facility which may be impacted by the scope of work as described in this REC CY20031. Descriptions and locations of asbestos containing homogeneous areas are listed in the attached Table 1. Sampling locations are identified at Enclosure 2.

3. Due to non-destructive sampling technique conducted during the initial asbestos inspection some areas may have been inaccessible. These areas are noted on the attached Table 1. If these inaccessible areas will be impacted by the REC, an asbestos inspection of these areas will be required prior to disturbing the building materials in these areas. Identification of ACBM is ultimately the responsibility of the prime contractor. For this reason, it is highly recommended that an independent inspection of the area under renovation is completed by a LDEQ Certified Asbestos Inspector. These inspection reports will be provided to the Fort Polk Asbestos and Lead Program Manager.

4. **ACBMs identified in this REC are for notification of hazard only**. Measurements of ACBM are approximations of rough order of magnitude and should not be used as part of the bid process.

5. It is required that these areas listed in Table 1, if disturbed or to be removed to accomplish the scope of work, shall be abated by a Louisiana State certified abatement contractor in coordination with this office and in compliance with all sections and appendices of the Fort Polk Asbestos Management Plan (FPAMP), and LAC 33: Title III Chapter 57. A copy of the FPAMP can be attained (CD) by calling Compliance Management Branch at phone number 337-531-6008 or RoxAnna Deggs-Numbers, at 531-2640.

6. In the event that suspect ACM not identified in Table 1 is discovered during the execution of this project the contractor must stop work immediately and contact Compliance Management Branch (CMB) at phone number 531-6008 or Tanner Martin, at 531-2039.

7. Please coordinate directly with RoxAnna Deggs-Numbers providing schedules of pre-award / site visit meetings, contract award information and submittal of state required notifications (AAC-2). This will ensure compliance with governing regulations, clarifications of questions, and further technical information about interpretation of asbestos types, material locations and compliance with environmental regulations and full implementation of all requirements of the FPAMP.

8. Compliance with Occupational Safety and Health Administration's requirements for workers protection are sole responsibility of the employer.

9. This inspection was performed by Ms. Jessica M. Green, Certified Asbestos Inspector (No. 9I210669) and a representative of the Fort Polk ENRMD, CMB. The samples were submitted to the ENRMD Laboratory for analysis.

10. Point of contact the undersigned at (337)531-2640, or Roxanna.deggs-numbers.civ@mail.mil

2 Encls
as

RoxAnna Deggs-Numbers
Asbestos & Lead Program Manager
Compliance Management Branch

ENRMD Control Number CY20031

*** Note: REFER TO Attached (Report of Findings) which discloses presence or absence of Hazardous Materials.
If present, Hazardous Material(s) must be removed prior to renovation.
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BUILDING 4295

Building Name: AIRFIELD HANGAR
Description/Use: ORGANIZATIONAL MAINTENANCE FACILITY
Year Constructed: 1983
Square Feet: 48923
Floors: 2
Full Survey: Yes
Certified: No

Are there areas that are inaccessible? Yes
Description of Inaccessible area(s): WALLS AND CEILING IN LATRINE, PIPING ON FIRST FLOOR ABOVE DROP CEILING
Reason Inaccessible:
Potential ACMs in inaccessible area(s):
Estimated quantity of ACMs in inaccessible area(s):

Table 1
Asbestos Containing Homogeneous Areas

HGA	Material Code	Description / Location	Quantity(LF or ft²)*	# of Elbows and Valves	Photo Frame Number	Asbestos	Friable	Material Type	Condition	Damaged Material Exposed and Visible (%)	Cause of Damage	Disturbance Factor	Air Movement	Damage Potential
HGA	SG	CARPET WITH MASTIC, RED, BLUE & PINK COMMERCIAL	800 SF		0	Chrysotile: 2								
HGA	AS	FLOOR TILE WITH MASTIC, 12" TAN WITH BROWN SPECKS	800 SF		0	Chrysotile: 5		Misc						
HGA	CQ	FLOOR TILE WITH MASTIC, 12" TAN WITH WHITE SPECKS ALL OFFICES SECOND FLOOR (UNDER CARPET)	1000 SF		113565	Chrysotile: 2	No	Misc	Damaged	<25%	Physical Deterioration	Visible	Low	Low Potential Damage
HGA	EI	FLOOR TILE WITH MASTIC, 12" GRAY WITH DARK GRAY SPECKS THROUGHT OUT SECOND FLOOR	6000 SF		113423	Chrysotile: 2	No	Misc	Good			Not Visible	Low	Low Potential Damage
HGA	M	MASTIC OR GLUE	800 SF		0	Chrysotile: 2		Misc	Damaged	<25%				

*** Yellow rows indicated abated areas. Blue rows indicate removed areas.

ENRMD Control Number CY20031

Assessment Index - TSI-TSID-DUCT 3, TSI-TSID-DUCT 1

Assessment Date : 7/22/2005
Assessment Grade : F

IMMEDIATE ACTION - Continue special O&M using certified personnel until major re novation or demolition requires removal or until assessment factors change.

- Periodic re-inspection.
- Place in long term abatement plan.
- Disturbance of ACM must be performed by appropriately trained personnel.
- Institute preventative measures to avoid damaging or disturbing ACM.
- When friable asbestos is disturbed the following applies: Restrict entry to area, Post sign to prevent entry, Restrict or control air movement in the area, Prevent the spread of fibers from the enclosure, Place asbestos debris in sealed, clear leak leak tight containers.
- If debris from the floor is discovered, immediately notify CMB.
- If friable asbestos containing TSI is damaged or significantly damaged the area shall be cleaned
- Label or place signs the Asbestos Containing Building Material (ACBM).
- Consider personnel and area sampling to define exposure.
- Notify Compliance Management Branch if damaged thermal system insulation is discovered.
- When friable asbestos or damaged or significantly damaged thermal system insulation is present, the area will be HEPA vacuumed and wet cleaned prior to beginning abatement of the area asbestos.
- Occupants/tenants and maintenance personnel will visually observe and report to CMB changes in the ACM being managed in place.
- If dust/debris is noticed in the vicinity of ACM and it is reasonably suspected of being dust/debris of the ACM immediately notify CMB.

19 December 2019

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following the inspection. Cleaning shall be performed by HEPA vacuuming or steam cleaning the carpet, HEPA vacuuming or wet cleaning horizonal surfaces, disposing of any debris, filters, mopheads, and clothing in sealed containers.

Assessment Index - FT-EI, FT-CQ

Assessment Date : **7/22/2005**
Assessment Grade : D

REPAIR - Initiate special O&M using certified personnel. Damaged areas should be repaired, where repair means returning damaged asbestos-containing building materials (ACBM) to an undamaged condition or to an intact state so as to contain fiber release. Schedule remo val when practical and cost effective. Take preventive measures to reduce further damage.

- Periodic re-inspection.
- Place in long term abatement plan.
- Notify Compliance Management Branch if floor tiles or mastic need to be removed.
- Maintenance and custodial workers who work around asbestos, but do not disturb asbestos shall have a minimum of two hours of awareness training.
- Disturbance of greater than 3 linear or 3 square feet shall require 40 hours training.
- Do not sand, grind, chip, abrade, drill, or mechanically disturb ACM containing floor tile.
- Dry buffer polish only.
- Label or place signs the Asbestos Containing Building Material (ACBM).
- Disturbance of ACM must be performed by appropriately trained personnel.
- Institute preventative measures to avoid damaging or disturbing ACM.
- Maintenance workers who disturb 3 linear or 3 square feet of ACM must have the appropriate 16 hours of training.
- Occupants/tenants and maintenance personnel will visually observe and report to CMB changes in the ACM being managed in place.
- When stripping ACM containing floors, the stripping machine must not exceed 300 rpm.
- If debris from the floor is discovered, immediately notify CMB.

ENRMD Control Number CY20031

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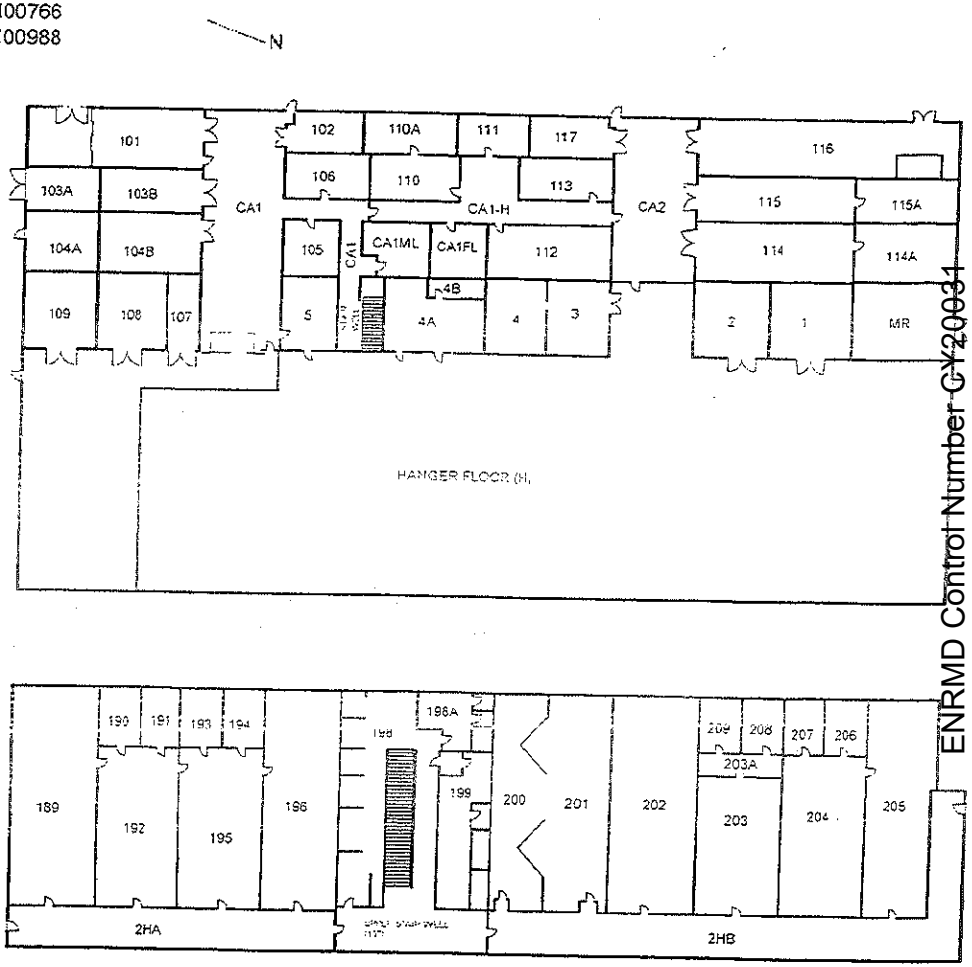
ASBESTOS SAMPLING POINTS
BUILDING:4295
DATE:7/22/2005
INSPECTOR: J. MAYES,
D.HATCHER
LADEQ# : 6100766
LADEQ# : 6100988

ROOM	SAMPLE
101	4295-TSI-101-1-TSIP-PIPE 1
101	4295-TSI-101-2-TSIP-PIPE 1
101	4295-TSI-101-3-TSIP-PIPE 1
101	4295-TSI-101-1-TSIP-PIPE 2
101	4295-TSI-101-2-TSIP-PIPE 2
101	4295-TSI-101-3-TSIP-PIPE 2
101	4295-TSI-101-1-TSIP-PIPE 3
101	4295-TSI-101-2-TSIP-PIPE 3
101	4295-TSI-101-3-TSIP-PIPE 3
101	4295-TSI-101-1-TSIP-PIPE 4
	4295-TSI-101-2-TSIP-PIPE 4
	4295-TSI-101-3-TSIP-PIPE 4
	4295-TSI-101-1-TSIP-PIPE 5
	4295-TSI-101-2-TSIP-PIPE 5
	4295-TSI-101-3-TSIP-PIPE 5
101	4295-TSI-101-1-TSID-DUCT 1
101	4295-TSI-101-2-TSID-DUCT 1
101	4295-TSI-101-3-TSID-DUCT 1
101	4295-TSI-101-1-TSIP-PIPE 6
101	4295-TSI-101-2-TSIP-PIPE 6
101	4295-TSI-101-3-TSIP-PIPE 6
101	4295-TSI-101-1-TSIP-PIPE 7
101	4295-TSI-101-2-TSIP-PIPE 7
101	4295-TSI-101-3-TSIP-PIPE 7
101	4295-TSI-101-1-TSIP-PIPE 8-CA
101	4295-TSI-101-2-TSIP-PIPE 8-CA
101	4295-TSI-101-3-TSIP-PIPE 8-CA
104	4295-TSI-104-1-TSIP-PIPE 1
104	4295-TSI-104-2-TSIP-PIPE 1
104	4295-TSI-104-3-TSIP-PIPE 1
104	4295-TSI-104-1-TSIP-PIPE 2
104	4295-TSI-104-2-TSIP-PIPE 2
104	4295-TSI-104-3-TSIP-PIPE 2
104	4295-TSI-104-1-TSIP-PIPE 3
104	4295-TSI-104-2-TSIP-PIPE 3
104	4295-TSI-104-3-TSIP-PIPE 3
104A	4295-TSI-104A-1-TSIP-PIPE 1
104A	4295-TSI-104A-2-TSIP-PIPE 1
104A	4295-TSI-104A-3-TSIP-PIPE 1
104A	4295-TSI-104A-1-TSIP-PIPE 2
104A	4295-TSI-104A-2-TSIP-PIPE 2
104A	TSI-104A-3-TSIP-PIPE 2
104A	TSI-104A-1-TSIP-PIPE 3
	4295-TSI-104A-2-TSIP-PIPE 3
	4295-TSI-104A-3-TSIP-PIPE 3
104A	4295-TSI-104A-1-TSIP-PIPE 4
104A	4295-TSI-104A-2-TSIP-PIPE 4
104A	4295-TSI-104A-3-TSIP-PIPE 4
104A	4295-TSI-104A-1-TSIP-PIPE 5
104A	4295-TSI-104A-2-TSIP-PIPE 5
104A	4295-TSI-104A-3-TSIP-PIPE 5
109	4295-TSI-109-1-TSIP-PIPE 1
109	4295-TSI-109-2-TSIP-PIPE 1
109	4295-TSI-109-3-TSIP-PIPE 1
109	4295-TSI-109-1-TSIP-PIPE 2
109	4295-TSI-109-2-TSIP-PIPE 2
109	4295-TSI-109-3-TSIP-PIPE 2
114	4295-TSI-114-1-TSIP-PIPE 1
114	4295-TSI-114-2-TSIP-PIPE 1
114	4295-TSI-114-3-TSIP-PIPE 1

ROOM	SAMPLE
114	4295-TSI-114-1-TSIP-PIPE 2
114	4295-TSI-114-2-TSIP-PIPE 2
114	4295-TSI-114-3-TSIP-PIPE 2
114	4295-TSI-114-1-TSIP-PIPE 3
114	4295-TSI-114-2-TSIP-PIPE 3
114	4295-TSI-114-3-TSIP-PIPE 3
114	4295-TSI-114-1-TSIP-PIPE 4
114	4295-TSI-114-2-TSIP-PIPE 4
114	4295-TSI-114-3-TSIP-PIPE 4
114	4295-TSI-114-1-TSIP-PIPE 5
114	4295-TSI-114-2-TSIP-PIPE 5
114	4295-TSI-114-3-TSIP-PIPE 5
114	4295-TSI-114-1-TSIP-PIPE 6
114	4295-TSI-114-2-TSIP-PIPE 6
114	4295-TSI-114-3-TSIP-PIPE 6
114A	4295-TSI-114A-1-TSIP-PIPE 1
114A	4295-TSI-114A-2-TSIP-PIPE 1
114A	4295-TSI-114A-3-TSIP-PIPE 1
114A	4295-TSI-114A-1-TSIP-PIPE 2
114A	4295-TSI-114A-2-TSIP-PIPE 2
114A	4295-TSI-114A-3-TSIP-PIPE 2
114A	4295-TSI-114A-1-TSIP-PIPE 3
114A	4295-TSI-114A-2-TSIP-PIPE 3
114A	4295-TSI-114A-3-TSIP-PIPE 3
4A	4295-TSI-4A-1-TSIP-PIPE 1
4A	4295-TSI-4A-2-TSIP-PIPE 1
4A	4295-TSI-4A-3-TSIP-PIPE 1
4A	4295-TSI-4A-1-TSIP-PIPE 2
4A	4295-TSI-4A-2-TSIP-PIPE 2
4A	4295-TSI-4A-3-TSIP-PIPE 2
4A	4295-TSI-4A-1-TSIP-PIPE 3
4A	4295-TSI-4A-2-TSIP-PIPE 3
4A	4295-TSI-4A-3-TSIP-PIPE 3
4A	4295-TSI-4A-1-TSIP-PIPE 4
4A	4295-TSI-4A-2-TSIP-PIPE 4
4A	4295-TSI-4A-3-TSIP-PIPE 4
4A	4295-TSI-4A-1-TSIP-PIPE 5
4A	4295-TSI-4A-2-TSIP-PIPE 5
4A	4295-TSI-4A-3-TSIP-PIPE 5
4A	4295-TSI-4A-1-TSIP-PIPE 6
4A	4295-TSI-4A-2-TSIP-PIPE 6
4A	4295-TSI-4A-3-TSIP-PIPE 6
4A	4295-TSI-4A-1-TSID-DUCT 1
4A	4295-TSI-4A-2-TSID-DUCT 1
4A	4295-TSI-4A-3-TSID-DUCT 1
CA1	4295-TSI-CA1-1-TSIP-PIPE 1
CA1	4295-TSI-CA1-2-TSIP-PIPE 1
CA1	4295-TSI-CA1-3-TSIP-PIPE 1
CA1	4295-TSI-CA1-1-TSIP-PIPE 2
CA1	4295-TSI-CA1-2-TSIP-PIPE 2
CA1	4295-TSI-CA1-3-TSIP-PIPE 2
CA1	4295-TSI-CA1-1-TSIP-PIPE 3
CA1	4295-TSI-CA1-2-TSIP-PIPE 3
CA1	4295-TSI-CA1-3-TSIP-PIPE 3
CA1	4295-TSI-CA1-1-TSIP-PIPE 4
CA1	4295-TSI-CA1-2-TSIP-PIPE 4
CA1	4295-TSI-CA1-3-TSIP-PIPE 4
CA1-H	4295-TSI-CA1-H-1-TSID-DUCT 1-AT
CA1-H	4295-TSI-CA1-H-2-TSID-DUCT 1-AT
CA1-H	4295-TSI-CA1-H-3-TSID-DUCT 1-AT

ROOM	SAMPLE
H	4295-TSI-H-4-TSIP-PIPE 1
H	4295-TSI-H-5-TSIP-PIPE 1
H	4295-TSI-H-1-TSIP-PIPE 2
H	4295-TSI-H-2-TSIP-PIPE 2
H	4295-TSI-H-3-TSIP-PIPE 2
H	4295-TSI-H-1-TSIP-PIPE 3
H	4295-TSI-H-2-TSIP-PIPE 3
H	4295-TSI-H-3-TSIP-PIPE 3
H	4295-TSI-H-1-TSIP-PIPE 4
H	4295-TSI-H-2-TSIP-PIPE 4
H	4295-TSI-H-3-TSIP-PIPE 4
H	4295-TSI-H-1-TSIP-PIPE 5
H	4295-TSI-H-2-TSIP-PIPE 5
H	4295-TSI-H-3-TSIP-PIPE 5
H	4295-TSI-H-1-TSIP-PIPE 6
H	4295-TSI-H-2-TSIP-PIPE 6
H	4295-TSI-H-3-TSIP-PIPE 6
H	4295-TSI-H-1-TSIP-PIPE 7
H	4295-TSI-H-2-TSIP-PIPE 7
H	4295-TSI-H-3-TSIP-PIPE 7
MR	4295-TSI-MR-1-TSIP-PIPE 1-MR
MR	4295-TSI-MR-2-TSIP-PIPE 1-MR
MR	4295-TSI-MR-3-TSIP-PIPE 1-MR
MR	4295-TSI-MR-4-TSIP-PIPE 1-MR
MR	4295-TSI-MR-1-TSIP-PIPE 2-MR
MR	4295-TSI-MR-2-TSIP-PIPE 2-MR
MR	4295-TSI-MR-3-TSIP-PIPE 2-MR
MR	4295-TSI-MR-4-TSIP-PIPE 2-MR
MR	4295-TSI-MR-1-TSIP-PIPE 3-MR
MR	4295-TSI-MR-2-TSIP-PIPE 3-MR
MR	4295-TSI-MR-3-TSIP-PIPE 3-MR
MR	4295-TSI-MR-4-TSIP-PIPE 3-MR
MR	4295-TSI-MR-1-TSIP-PIPE 4-MR
MR	4295-TSI-MR-2-TSIP-PIPE 4-MR
MR	4295-TSI-MR-3-TSIP-PIPE 4-MR
MR	4295-TSI-MR-4-TSIP-PIPE 4-MR
MR	4295-TSI-MR-1-TSIP-PIPE 5-MR
MR	4295-TSI-MR-2-TSIP-PIPE 5-MR
MR	4295-TSI-MR-3-TSIP-PIPE 5-MR
MR	4295-TSI-MR-4-TSIP-PIPE 5-MR
MR	4295-TSI-MR-1-TSIP-PIPE 6-MR
MR	4295-TSI-MR-2-TSIP-PIPE 6-MR
MR	4295-TSI-MR-3-TSIP-PIPE 6-MR
MR	4295-TSI-MR-4-TSIP-PIPE 6-MR
MR	4295-TSI-MR-1-TSIP-PIPE 7-MR
MR	4295-TSI-MR-2-TSIP-PIPE 7-MR
MR	4295-TSI-MR-3-TSIP-PIPE 7-MR
MR	4295-TSI-MR-4-TSIP-PIPE 7-MR
MR	4295-TSI-MR-1-TSIP-PIPE 8-MR
MR	4295-TSI-MR-2-TSIP-PIPE 8-MR
MR	4295-TSI-MR-3-TSIP-PIPE 8-MR
MR	4295-TSI-MR-4-TSIP-PIPE 8-MR
MR	4295-TSI-MR-1-TSIP-PIPE 9-MR
MR	4295-TSI-MR-2-TSIP-PIPE 9-MR
MR	4295-TSI-MR-3-TSIP-PIPE 9-MR
MR	4295-TSI-MR-4-TSIP-PIPE 9-MR
MR	4295-TSI-MR-1-TSIEQ-TANK 1-MR
MR	4295-TSI-MR-2-TSIEQ-TANK 1-MR
MR	4295-TSI-MR-3-TSIEQ-TANK 1-MR



ENRMD Control Number CY20031

ENC. 2

*** Note: REFER TO Attached (Report of Findings) which discloses presence or absence of Hazardous Materials.
If present, Hazardous Material(s) must be removed prior to renovation.
ENG Program Manager MUST Comply with attached Health and Safety Memorandums.

Appendix G. USACE ECB CHECKLIST

***Please Note: ECB No. 2018-11 Checklist Attachment must be inlcluded as part of Appendix for Design Narrative/Design Analysis/ Basis of Design

US Army Corps of Engineers

ECB No. 2018-11, Attachment (1)

USACE Cybersecurity Engineering & Construction Checklist

Project Phase	Required Activities	Deliverable	Status	Date Completed	Additional Comments
Planning					
1	Identify and document all control systems associated with the project	Draft Risk Management Plan (CW) Planning Charrette Validation Form (MP)	☑Completed	4/13/2020	DB-RFP only; A/E 2 to complete process
2	Identify and document the System Owner and Authorizing Official for each control system	Draft Risk Management Plan (CW) Planning Charrette Validation Form (MP)	☑Completed	4/14/2020	DPW is SO; AO is TBD
3	Discuss network connectivity requirements of project control system	Draft Risk Management Plan (CW) Planning Charrette Validation Form (MP)	☑Completed	4/14/2020	ATO for UMCS; PoC: Cary Long, Huntsville, AL
4	Determine if there are any existing control system Authorities to Operate (ATO) related to project scope	Draft Risk Management Plan (CW) Planning Charrette Validation Form (MP)	☑Completed	4/14/2020	See above
5	Identify and document any other control system constraints / interdependencies (Privatized Utilities, Existing 3rd Party Financed Energy Contracts, etc..)	Draft Risk Management Plan (CW) Planning Charrette Validation Form (MP)	☑Completed	4/14/2020	None identified
6	Include budgetary line item for control system Cybersecurity per system identified within project scope	Draft Risk Management Plan (CW) Completed 1391 (MP)	☑Completed	4/15/2020	Per FIG 2017, $250K total per FRCS; $500K was added to DD1391
7	Geographic District inform and provide USACE Cybersecurity CX's (CICS-MCX Civil Works & CSC-MCX Military Programs) project scope.	Draft Risk Management Plan (CW) Completed 1391 (MP)	☐Completed	NOT COMPLETED	This has to done by USACE, Mobile, AL
Design (Refer to UFC 4-010-06 "Cybersecurity of Facility Related Control Systems with Change 1")					
1	Ensure UFC 4-010-06 Cybersecurity requirements are in A/E SOW & include cybersecurity in contract evaluation (for AE designs) -OR- that the designer has reviewed and understands UFC 4-010-06 requirements (for in-house design)	Design SOW/PWS or Designer Review	☑Completed	4/15/2020	Requirements included in DD1391 and SOW
2	Ensure a single submittal indicating the Confidentiality (C), Integrity (I) and Availability (A) impact level for each control system (s) within the project scope is delivered by the designer of record	Design Submittal (Basis of Design)	☐Completed	NOT COMPLETED	This is DB-RFP; A/E 2 to complete
3	Ensure a listing of the security controls are generated and delivered by the designer of record. Security Controls should correspond to the system(s) determined (C-I-A) impact level.	Design Submittal (Basis of Design)	☐Completed	NOT COMPLETED	This is DB-RFP; A/E 2 to complete
4	Ensure the designer of record generates and delivers a list of corresponding control correlation identifiers (CCIs) which are derived from the selected security controls	Design Submittal (10-15% Parametric Design)	☐Completed	NOT COMPLETED	This is DB-RFP; A/E 2 to complete
5	Ensure the designer of record categorizes all CCIs and address all identified as "Designer" specific.	Design Submittal (35% Design Submittal)	☐Completed	NOT COMPLETED	This is DB-RFP; A/E 2 to complete
6	Ensure designer of record incorporates minimum cybersecurity design requirements IAW Chapter 4 UFC 4-010-06	Design Submittal (60% Design Submittal)	☐Completed	NOT COMPLETED	This is DB-RFP; A/E 2 to complete
7	Ensure designer of record incorporates any required changes from previous design submittal as a pre-final design	Design Submittal (90% Design Submittal)	☐Completed	NOT COMPLETED	This is DB-RFP; A/E 2 to complete
8	Ensure designer of record submits final and complete design	Design Submittal (100% Design Submittal)	☐Completed	NOT COMPLETED	This is DB-RFP; A/E 2 to complete
9	Post Design Effort inform and report to USACE Cybersecurity CX's (CICS-MCX Civil Works & CSC-MCX Military Programs)	Email	☐Completed	NOT COMPLETED	This is DB-RFP; A/E 2 to complete
Construction (Refer to UFGS 25-05-11 "Cybersecurity for Facility Related Control Systems")					

US Army Corps of Engineers

ECB No. 2018-11, Attachment (1)

USACE Cybersecurity Engineering & Construction Checklist

1	Ensure Construction RFP includes Unified Facilities Guide Specification (UFGS) 25-05-11 Cybersecurity for Facility Related Control Systems in SOW/PWS specifications section	Construction SOW/PWS	☐ Completed		
2	Ensure a cross reference to other functional UFGS conducted and incorporated into the Construction RFP	Construction SOW/PWS	☐ Completed		
3	Ensure all Construction Submittals identified in section 1.6 of UFGS 25-05-11 are delivered and proper Government acceptance is documented	Construction Submittal	☐ Completed		
4	Ensure coordination with Facility Owner, System(s) Owner for scheduling of Security Control Assessor-Validator (SCA-V) Assessment **(Coordination of Master Schedule in line with Systems Commissioning Efforts should occur at this time)**	Schedule Confirmation	☐ Completed		
5	Confirm System Owner has submitted Risk Management Framework (RMF) Authorization Package to Authorization Official (AO) via eMASS	Confirmation	☐ Completed		
6	Confirm RMF Authority to Operate (ATO) for all systems is granted prior to facility acceptance BOD i.e. DD1354	Confirmation	☐ Completed		
7	Inform and report to USACE Cybersecurity CX's (CICS-MCX Civil Works & CSC-MCX Military Programs)	Email	☐ Completed		
Post Construction / Project Closeout					
1	Provide All Closeout Documentation to Facility Owner and System Owner	User Manuals, Warranty Documentation, Updated Redline Drawings & As-Builts	☐ Completed		
2	Inform and report to USACE Cybersecurity CX's (CICS-MCX Civil Works & CSC-MCX Military Programs)	Email	☐ Completed		

Appendix H. LIFE CYCLE COST ANALYSIS

JACOBS

Life Cycle Cost Analysis Report

1. Executive Summary

Jacobs evaluated and compared the life cycle cost of the different HVAC systems for Hangar B4295 at Fort Polk in Louisiana. This memorandum provides a summary of the analysis and the results for the building HVAC system. LCCA was not performed on the building envelope as it is not part of the scope of work and is not required to be part of the scope per UFC 1-200-02. Please refer to each section for the results of the analyses. The analysis contained in the documents is a Life Cycle Cost Analysis (LCCA) over the longest lifespan for each calculation. Building loads information, equipment sizing and associated costs are pre-liminary and shall not be used for determining final equipment sizes and associated costs.

2. Methodology

Methodology for these analyses included using estimated costs of the alternatives in each model, equipment replacement costs, and using Whitestone Facility Maintenance and Repair Cost Reference to gather yearly maintenance costs, as applicable. ASHRAE HVAC Application (2019), chapter 38, Owning and Operating Costs, was used to determine HVAC equipment life. When equipment analyzed is not specifically called out in table, the closest approximate equipment with the shortest service life was used. These costs and information were then input into Building Life Cycle Cost (BLCC 5.3) software to perform a Life Cycle Cost Analysis of the alternatives, based on the life span of the equipment having the longest life. A real discount rate of 3.1% was used in all options in compliance with the latest site energy costs, local utility costs and Discount Factors for the Life-Cycle Cost Analysis

3. Cost Assumptions

Utility costs for electricity and natural gas were given in the charrette report.

Electricity: $0.065/kwh

Natural Gas: $6.18/MBtu

Equipment costs estimate from the cost estimator is provided at the end of this report.

Equipment maintenance cost estimates were obtained from Whitestone Facility Maintenance and Repair Cost Reference.

4. Envelope

The existing building constructions were used as the basis for the LCCA. The existing building is estimated to have 8” CMU wall with 1.1 R value, metal siding with R-13 insulation, built up roof with R-10 insulation and 1” double pane low-e glazing with no tint. LCCA was not performed on the building envelope as it is not part of the scope of work and is not required to be part of the scope per UFC 1-200-02.

5. HVAC

The life cycle cost analysis compared the HVAC systems for the building using the existing building constructions. As a result of the evaluation, it has been determined that Alternative 1, VAV Air Handling System was the most life cycle cost effective. The analysis contained in the documents is a Life Cycle Cost Analysis over the longest lifespan of the equipment.

5.1 Options

The four options for the HVAC systems serving the building are broken down as follows:

a) Alternative 1, VAV Air Handling System:

1) VAV Air handling system with pre-treated outside air, chilled water and hot water coilers. VAV boxes with HW re-heat coils.
2) Heat and Ventilation unit with HW coil to serve Hangar
3) High Efficiency Air cooled Chiller
4) High Efficiency Condensing Gas Boilers.

b) Alternative 2, VAV Air Handling System with DOAS:
1) VAV Air handling system with chilled water and hot water coilers. VAV boxes with HW re-heat coils. DOAS unit to pre-condition the outside air.
2) Heat and Ventilation unit with HW coil to serve Hangar
3) High Efficiency Air cooled Chiller
4) High Efficiency Condensing Gas Boilers.

c) Alternative 3, VAV Air Handling System with DOAS and Heat Recovery:
1) VAV Air handling system with chilled water and hot water coilers. VAV boxes with HW re-heat coils. DOAS unit to pre-condition the outside air with energy recovery device to recover energy from the exhaust air stream.
2) Heat and Ventilation unit with HW coil to serve Hangar
3) High Efficiency Air cooled Chiller
4) High Efficiency Condensing Gas Boilers.

d) Alternative 4, FCU's with DOAS
1) One four pipe FCU per zone. FCU provides sensible cooling and heating. DOAS unit with room direct distribution.
2) Heat and Ventilation unit with HW coil to serve Hangar
3) High Efficiency Air cooled Chiller
4) High Efficiency Condensing Gas Boilers.

5.2 Analysis

Economic analysis for the HVAC systems is based on the following assumptions:

a) Alternative 1, VAV Air Handling System
1) The VAV Air Handling system shall have yearly maintenance and have an expected lifespan of 15 years.
2) The air cooled chiller shall have yearly maintenance and have an expected lifespan of 25 years.
3) The gas fired boiler shall have yearly maintenance and an expected lifespan of 22 years.

b) Alternative 2, VAV Air Handling System with DOAS
1) The VAV Air Handling system and DOAS shall have yearly maintenance and have an expected lifespan of 15 years.
2) The air cooled chiller shall have yearly maintenance and have an expected lifespan of 25 years.

3) The gas fired boiler shall have yearly maintenance and an expected lifespan of 22 years.

c) Alternative 3, VAV Air Handling System with DOAS and Heat Recovery

1) The VAV Air Handling system and DOAS shall have yearly maintenance and have an expected lifespan of 15 years.

2) The air cooled chiller shall have yearly maintenance and have an expected lifespan of 25 years.

3) The gas fired boiler shall have yearly maintenance and an expected lifespan of 22 years.

d) Alternative 4, FCU's with DOAS

1) The FCU's shall have yearly maintenance estimated lifespan of 10 years. Higher maintenance and repair costs associated with this system type.

2) The DOAS system shall have yearly maintenance and have an expected lifespan of 15 years.

3) The air cooled chiller shall have yearly maintenance and have an expected lifespan of 25 years.

4) The gas fired boiler shall have yearly maintenance and an expected lifespan of 22 years.

Costs for all system equipment, controls and piping have been provided by the cost estimator.

Replacement, maintenance and major repair costs are from Whitestone M&R Manual.

5.3 HVAC Summary of Results

Of the HVAC systems analyzed, it has been determined that Alternative 1, VAV Air Handling System is the most life cycle cost effective system for this project. The results of the analysis are provided on the following pages. A summary of the results is present in the follow tables.

HVAC System Option	Initial Cost	Life Cycle Cost
*Alternative 1, VAV Air Handling System	$437,220	$1,932,958
Alternative 2, VAV Air Handling System with DOAS	$489,828	$2,041,628
Alternative 3, VAV Air Handling System with DOAS and Heat Recovery	$532,874	$2,124,451
Alternative 4, FCU's with DOAS	$491,883	$2,153,189

*Indicates lowest life cycle cost option

See attached documents for more detailed documentation.

NIST BLCC 5.3-19: Summary LCC

Consistent with Federal Life Cycle Cost Methodology and Procedures, 10 CFR, Part 436, Subpart A

General Information

File Name:	\\ftwfil13\Projects\DFW\BLDG\USACE Fort Worth District\FDZD7624 - Fort Polk Repair Hangar B4295\Engineering\Calculations\Mechanical\LCCA\Fort Polk BlCC.xml
Date of Study:	Sun Apr 26 10:37:40 CDT 2020
Analysis Type:	MILCON Analysis, Energy Project
Project Name:	Fort Polk LCCA
Project Location:	Louisiana
Analyst:	Charles Wang
Base Date:	February 1, 2020
Beneficial Occupancy Date:	February 1, 2020
Study Period:	40 years 0 months (February 1, 2020 through January 31, 2060)
Discount Rate:	3.1%
Discounting Convention:	End-of-Year

Discount and Escalation Rates are NOMINAL (inclusive of general inflation)

Alternative: SYSTEM1

LCC Summary

	Present Value	Annual Value
Initial Cost Paid By Agency	$437,220	$19,223
Energy Consumption Costs	$1,033,834	$45,454
Energy Demand Costs	$0	$0
Energy Utility Rebates	$0	$0
Water Usage Costs	$0	$0
Water Disposal Costs	$0	$0
Routine Annually Recurring OM&R Costs	$142,764	$6,277
Routine Non-Annually Recurring OM&R Costs	$0	$0
Major Repair and Replacement Costs	$319,139	$14,031
Less Remaining Value	$0	$0
Total Life-Cycle Cost	$1,932,958	$84,984

Alternative: SYSTEM2

LCC Summary

	Present Value	Annual Value
Initial Cost Paid By Agency	$489,828	$21,536
Energy Consumption Costs	$1,032,255	$45,384
Energy Demand Costs	$0	$0
Energy Utility Rebates	$0	$0
Water Usage Costs	$0	$0
Water Disposal Costs	$0	$0
Routine Annually Recurring OM&R Costs	$181,502	$7,980
Routine Non-Annually Recurring OM&R Costs	$0	$0
Major Repair and Replacement Costs	$338,042	$14,862

Less Remaining Value	$0	$0
Total Life-Cycle Cost	$2,041,628	$89,762

Alternative: SYSTEM3

LCC Summary

	Present Value	Annual Value
Initial Cost Paid By Agency	$532,874	$23,428
Energy Consumption Costs	$1,021,117	$44,894
Energy Demand Costs	$0	$0
Energy Utility Rebates	$0	$0
Water Usage Costs	$0	$0
Water Disposal Costs	$0	$0
Routine Annually Recurring OM&R Costs	$181,502	$7,980
Routine Non-Annually Recurring OM&R Costs	$0	$0
Major Repair and Replacement Costs	$388,959	$17,101
Less Remaining Value	$0	$0
Total Life-Cycle Cost	$2,124,451	$93,404

Alternative: System 4

LCC Summary

	Present Value	Annual Value
Initial Cost Paid By Agency	$491,883	$21,626
Energy Consumption Costs	$802,766	$35,294
Energy Demand Costs	$0	$0
Energy Utility Rebates	$0	$0
Water Usage Costs	$0	$0
Water Disposal Costs	$0	$0
Routine Annually Recurring OM&R Costs	$499,500	$21,961
Routine Non-Annually Recurring OM&R Costs	$0	$0
Major Repair and Replacement Costs	$359,039	$15,786
Less Remaining Value	$0	$0
Total Life-Cycle Cost	$2,153,189	$94,667

Entered Values

TRACE® 700 version 6.3.4

By Jacobs

Project Name:
Dataset Name: C:\USERS\SCHNEIBM\DOCUMENTS\TRACE 700\POLK\FORT POLK MECH.TRC
Location:
Building Owner:
Program User:
Company:
Comments:

Cooling Design Period:	January thru December
Peak Hour Override:	0
Daylight Savings Period:	
Summer Period:	
Cooling Methodology:	TETD-TA1
Heating Methodology:	UATD
Infiltration Methodology:	No wind speed adjustment
Outside Film Methodology:	Vary with wind speed
Terrain Methodology:	Center of a large city
Room Circ Rate:	Medium
Wall Load To Plenum:	YES
Building Orientation:	0 degrees from north
Simulation Hours:	Reduced year
Calendar Code:	Standard (1978)
Energy Simulation Period:	January thru December

Location:	Fort Polk	
Summer Design Dry Bulb:	93.70	°F
Summer Design Wet Bulb:	76.20	°F
Winter Design Dry Bulb:	26.60	°F
Summer Clearness Number:	1.00	
Winter Clearness Number:	1.00	
Summer Ground Reflectance:	0.20	
Winter Ground Reflectance:	0.20	
Carbon Dioxide Level:	400	ppm

Force VAV Min => Nominal Ventilation at Design:	No
Allow Energy Recovery/Transfer at Design:	Yes
Retest Design Peaks:	Yes
Calculate Building Block Loads:	No
Close ventilation dampers during unoccupied hours:	Yes

ENTERED VALUES
ROOM BY ROOM
By Jacobs

Room Description: Living Corridors **Zone Description: No Zone** **System Description: System - 001**

GENERAL INFORMATION

Floor Area: 6,460 ft² Flr-Flr Height: 19.0 ft
Plenum Height: 0.0 ft Height Above Flr: 0 ft
Slab Cnstr Type: 4* LW Concrete
Room Mass: Time delay based on actual mass
Ceiling R-Value: 1.786 hr·ft²·°F/Btu
Is There Carpet?: YES
Design Clg DB / Drift Point: 78.0 °F / 81.0 °F
Design Htg DB / Drift Point: 68.0 °F / 64.0 °F
Design Relative Humidity: 50 %
Moisture Capacitance: Medium
Clg Tstat: None
Htg Tstat: None

Thermostat Location: Room Floor Multiplier: 1
Humidistat Location: Room Room Multiplier: 1
CO2 Sensor Location: None
Room Type: Conditioned

PEOPLE

People Type: Lobby
# of People: 100 sq ft/person
People Sensible: 300 Btu/h
People Latent : 345 Btu/h
People Schedule: Cooling Only (Design)

Workstation: 0.5 workstation/person

LIGHTS

Lighting Type: Recessed fluorescent, not vented, 80% load to space
Fixture Type: RECFL-NV
% Load to RA: 20 %
Lighting Schedule: Available (100%)
Lighting Amount: 0.660 W/sq ft
Ballast Factor: 1.0

AIRFLOW INFORMATION

	Cooling (Peop-based)	Heating (Area-based)
Vent Type:	Default Std62	Default Std62
Vent Value:	5.00 cfm/person	0.06 cfm/sq ft
Vent Schedule:	Available (100%)	
Infil Type:	Neutral, Average Const.	Neutral, Average Const.
Infil Value:	0.60 air changes/hr	0.60 air changes/hr
Infil Schedule:	Available (100%)	
Vav Airflow:		Max: 50.00 % Clg Airflow
Vav Sched:	Available (100%)	
Supply:	To be calculated	To be calculated
Aux Supply:	To be calculated	To be calculated
Room Exhaust:		
Rm Exh Sched:	Available (100%)	

Std 62.1-2004

Cooling Ez: Ceiling clg supply, ceiling return 100 %
Heating Ez: Ceiling supply > Trm+15°F(8°C), ceiling return 80 %
Er: Default based on system type

Description	Area/ Amount	Dir	Tilt	Const Type / Schedule	U Value Btu/h·ft²·°F	Alpha	Glass: Type / Energy Type	Area ft²	Shade Coef	U Value Btu/h·ft²·°F	External Shading	Internal Shading	Adj Temp/ Grnd Refl	Pct Sen/ Cool Tmp	Pct Rm/ Heat Tmp	Pct Ret/ Perm Len	Rad Frc/ Loss Coef
North	1,615 ft²	0	0	EXISTING ENVELOPE	0.4240	0.90											
window				Window			Double Clear 1/4*	128	0.82	0.60	Overhang - None	None	0.00				
Misc Load 1	0.50 W/sq ft			Available (100%)			None							100	100	0	60.00
Partition - 1	1,615 ft²			0.75* Gyp Frame	0.0776								Adjacent Room: Hangar				

ENTERED VALUES
ROOM BY ROOM
By Jacobs

Room Description: Office Space **Zone Description: No Zone** **System Description: System - 001**

GENERAL INFORMATION

Floor Area: 9,720 ft² Flr-Flr Height: 19.0 ft
Plenum Height: 0.0 ft Height Above Flr: 19 ft
Slab Cnstr Type: 4* LW Concrete
Room Mass: Time delay based on actual mass
Ceiling R-Value: 1.786 hr·ft²·°F/Btu
Is There Carpet?: YES
Design Clg DB / Drift Point: 78.0 °F / 81.0 °F
Design Htg DB / Drift Point: 68.0 °F / 64.0 °F
Design Relative Humidity: 50 %
Moisture Capacitance: Medium
Clg Tstat: None
Htg Tstat: None

Thermostat Location: Room Floor Multiplier: 1
Humidistat Location: Room Room Multiplier: 1
CO2 Sensor Location: None
Room Type: Conditioned

PEOPLE

People Type: Office-Enclosed
# of People: 100 sq ft/person
People Sensible: 250 Btu/h
People Latent : 200 Btu/h
People Schedule: Available (100%)

Workstation: 1.0 workstation/person

LIGHTS

Lighting Type: LED Lighting 100% load to space

Fixture Type: LED Lighting
% Load to RA: 0 %
Lighting Schedule: Available (100%)
Lighting Amount: 0.660 W/sq ft
Ballast Factor: 1.0

AIRFLOW INFORMATION

	Cooling (Peop-based)	Heating (Area-based)
Vent Type:	Default Std62	Default Std62
Vent Value:	5.00 cfm/person	0.06 cfm/sq ft
Vent Schedule:	Available (100%)	
Infil Type:	Neutral, Average Const.	Neutral, Average Const.
Infil Value:	0.30 air changes/hr	0.30 air changes/hr
Infil Schedule:	Available (100%)	
Vav Airflow:		
Vav Sched:	Available (100%)	
Supply:	To be calculated	To be calculated
Aux Supply:	To be calculated	To be calculated
Room Exhaust:		
Rm Exh Sched:	Available (100%)	

Std 62.1-2004

Cooling Ez: Ceiling clg supply, ceiling return 100 %
Heating Ez: Ceiling supply > Trm+15°F(8°C), ceiling return 80 %
Er: Default based on system type

Description	Area/ Amount	Dir	Tilt	Const Type / Schedule	U Value Btu/h·ft²·°F	Alpha	Glass Type / Energy Type	Area ft²	Shade Coef	U Value Btu/h·ft²·°F	External Shading	Internal Shading	Adj Temp/ Grnd Refl	Pct Sen/ Cool Tmp	Pct Rm/ Heat Tmp	Pct Ret/ Perm Len	Rad Frc/ Loss Coef
Roof - 1	9,720 ft²	0	90	Buit-up Roof	0.1000	0.90		0			Overhang - None	None					
North	4,617 ft²	0	0	EXISTING ENVELOPE	0.0769	0.90											
window				Window			Double Clear 1/4*	384	0.82	0.60	Overhang - None	None	0.00				
East	760 ft²	90	0	EXISTING ENVELOPE	0.0769	0.90											
door1				Door			90.1-13 Min Swinging	25	0.00	0.70	Overhang - None	None	0.00				
West	760 ft²	270	0	EXISTING ENVELOPE	0.0769	0.90											
door1				Door			90.1-13 Min Swinging	25	0.00	0.70	Overhang - None	None	0.00				
Misc Load 1	0.50 W/sq ft			Cooling Only (Design)			None							100	100	0	60.00
Partition - 1	4,617 ft²			0.75* Gyp Frame	0.0769								Adjacent Room: Hangar				

ENTERED VALUES
ROOM BY ROOM
By Jacobs

Room Description: Workshop02 **Zone Description: No Zone** **System Description: System - 001**

GENERAL INFORMATION

Floor Area: 5,928 ft² Flr-Flr Height: 19.0 ft
Plenum Height: 0.0 ft Height Above Flr: 0 ft
Slab Cnstr Type: 4* LW Concrete
Room Mass: Time delay based on actual mass
Ceiling R-Value: 1.786 hr·ft²·°F/Btu
Is There Carpet?: YES
Design Clg DB / Drift Point: 78.0 °F / 81.0 °F
Design Htg DB / Drift Point: 68.0 °F / 64.0 °F
Design Relative Humidity: 50 %
Moisture Capacitance: Low
Clg Tstat: None
Htg Tstat: None

Thermostat Location: Room Floor Multiplier: 1
Humidistat Location: Room Room Multiplier: 1
CO2 Sensor Location: None
Room Type: Conditioned

PEOPLE

People Type: Warehouse
# of People: 200 sq ft/person
People Sensible: 275 Btu/h
People Latent : 275 Btu/h
People Schedule: Cooling Only (Design)

Workstation: 0.0 workstation/person

LIGHTS

Lighting Type: LED Lighting 100% load to space

Fixture Type: LED Lighting
% Load to RA: 0 %
Lighting Schedule: Available (100%)
Lighting Amount: 0.660 W/sq ft
Ballast Factor: 1.0

AIRFLOW INFORMATION

	Cooling (Peop-based)	Heating (Area-based)
Vent Type:	Default Std62	Default Std62
Vent Value:	5.00 cfm/person	0.06 cfm/sq ft
Vent Schedule:	Available (100%)	
Infil Type:	Neutral, Average Const.	Neutral, Average Const.
Infil Value:	0.60 air changes/hr	0.60 air changes/hr
Infil Schedule:	Available (100%)	
Vav Airflow:		
Vav Sched:	Available (100%)	
Supply:	To be calculated	To be calculated
Aux Supply:	To be calculated	To be calculated
Room Exhaust:		
Rm Exh Sched:	Available (100%)	

Std 62.1-2004

Cooling Ez: Ceiling clg supply, ceiling return 100 %
Heating Ez: Ceiling supply > Trm+15°F(8°C), ceiling return 80 %
Er: Default based on system type

Description	Area/ Amount	Dir	Tilt	Const Type / Schedule	U Value Btu/h·ft²·°F	Alpha	Glass Type / Energy Type	Area ft²	Shade Coef	U Value Btu/h·ft²·°F	External Shading	Internal Shading	Adj Temp/ Grnd Refl	Pct Sen/ Cool Tmp	Pct Rm/ Heat Tmp	Pct Ret/ Perm Len	Rad Frc/ Loss Coef
North	1,482 ft²	0	0	EXISTING ENVELOPE	0.4240	0.90											
Door1				Door			90.1-13 Min Swinging	56	0.00	0.70	Overhang - None	None	0.00				
East	1,444 ft²	90	0	EXISTING ENVELOPE	0.4240	0.90											
Door1				Door			90.1-13 Min Swinging	56	0.00	0.70	Overhang - None	None	0.00				
Door2				Door			90.1-13 Min Swinging	28	0.00	0.70	Overhang - None	None	0.00				
Misc Load 1	0.50 W/sq ft			Available (100%)			None							100	100	0	60.00
Partition - 1	1,520 ft²			0.75* Gyp Frame	0.0776								Adjacent Room: Hangar				

ENTERED VALUES
ROOM BY ROOM
By Jacobs

Room Description: Workshop1 **Zone Description: No Zone** **System Description: System - 001**

GENERAL INFORMATION

Floor Area: 6,080 ft² Flr-Flr Height: 19.0 ft
Plenum Height: 0.0 ft Height Above Flr: 0 ft
Slab Cnstr Type: 4* LW Concrete
Room Mass: Time delay based on actual mass
Ceiling R-Value: 1.786 hr·ft²·°F/Btu
Is There Carpet?: YES
Design Clg DB / Drift Point: 78.0 °F / 100.0 °F
Design Htg DB / Drift Point: 68.0 °F / 64.0 °F
Design Relative Humidity: 50 %
Moisture Capacitance: Low
Clg Tstat: None
Htg Tstat: None

Thermostat Location: Room Floor Multiplier: 1
Humidistat Location: Room Room Multiplier: 1
CO2 Sensor Location: None
Room Type: Conditioned

PEOPLE

People Type: Warehouse
# of People: 200 sq ft/person
People Sensible: 275 Btu/h
People Latent : 275 Btu/h
People Schedule: Cooling Only (Design)

Workstation: 0.0 workstation/person

LIGHTS

Lighting Type: LED Lighting 100% load to space

Fixture Type: LED Lighting
% Load to RA: 0 %
Lighting Schedule: Available (100%)
Lighting Amount: 0.660 W/sq ft
Ballast Factor: 1.0

AIRFLOW INFORMATION

	Cooling (Peop-based)	Heating (Area-based)
Vent Type:	Default Std62	Default Std62
Vent Value:	5.00 cfm/person	0.06 cfm/sq ft
Vent Schedule:	Available (100%)	
Infil Type:	Neutral, Average Const.	Neutral, Average Const.
Infil Value:	0.60 air changes/hr	0.60 air changes/hr
Infil Schedule:	Available (100%)	
Vav Airflow:	Min: 20.00 % Clg Airflow	
Vav Sched:	Available (100%)	
Supply:	To be calculated	To be calculated
Aux Supply:	To be calculated	To be calculated
Room Exhaust:		
Rm Exh Sched:	Available (100%)	

Std 62.1-2004

Cooling Ez: Ceiling clg supply, ceiling return 100 %
Heating Ez: Ceiling supply > Trm+15°F(8°C), ceiling return 80 %
Er: Default based on system type

Description	Area/ Amount	Dir	Tilt	Const Type / Schedule	U Value Btu/h·ft²·°F	Alpha	Glass Type / Energy Type	Area ft²	Shade Coef	U Value Btu/h·ft²·°F	External Shading	Internal Shading	Adj Temp/ Grnd Refl	Pct Sen/ Cool Tmp	Pct Rm/ Heat Tmp	Pct Ret/ Perm Len	Rad Frc/ Loss Coef
North	1,520 ft²	0	0	EXISTING ENVELOPE	0.4240	0.90											
Door1				Door			90.1-13 Min Swinging	56	0.00	0.70	Overhang - None	None	0.00				
West	1,444 ft²	270	0	EXISTING ENVELOPE	0.4240	0.90											
Door1				Door			90.1-13 Min Swinging	56	0.00	0.70	Overhang - None	None	0.00				
Door2				Door			90.1-13 Min Swinging	28	0.00	0.70	Overhang - None	None	0.00				
Misc Load 1	0.50 W/sq ft			Available (100%)			None							100	100	0	60.00
Partition - 1	1,520 ft²			0.75* Gyp Frame	0.0776								Adjacent Room: Hangar				

ENTERED VALUES
ROOM BY ROOM
By Jacobs

Room Description: Hangar **Zone Description: No Zone** **System Description: System - 002**

GENERAL INFORMATION

Floor Area: 19,537 ft² Flr-Flr Height: 38.0 ft
Plenum Height: 0.0 ft Height Above Flr: 0 ft
Slab Cnstr Type: 4* LW Concrete
Room Mass: Time delay based on actual mass
Ceiling R-Value: 1.786 hr·ft²·°F/Btu
Is There Carpet?: YES
Design Clg DB / Drift Point: 120.0 °F / 125.0 °F
Design Htg DB / Drift Point: 55.0 °F / 55.0 °F
Design Relative Humidity: 50 %
Moisture Capacitance: Medium
Clg Tstat: None
Htg Tstat: None

Thermostat Location: Room Floor Multiplier: 1
Humidistat Location: Room Room Multiplier: 1
CO2 Sensor Location: None
Room Type: Conditioned

PEOPLE

People Type: Warehouse
# of People: 5 People
People Sensible: 275 Btu/h
People Latent : 275 Btu/h
People Schedule: Off (0%)

Workstation: 0.0 workstation/person

LIGHTS

Lighting Type: Recessed fluorescent, not vented, 80% load to space
Fixture Type: RECFL-NV
% Load to RA: 20 %
Lighting Schedule: Available (100%)
Lighting Amount: 0.660 W/sq ft
Ballast Factor: 1.0

AIRFLOW INFORMATION

	Cooling	Heating
Vent Type:	None	None
Vent Value:	0.50 cfm/sq ft	0.50 cfm/sq ft
Vent Schedule:	Available (100%)	
Infil Type:	None	None
Infil Value:	3,700.00 cfm	3,700.00 cfm
Infil Schedule:	Available (100%)	
Vav Airflow:		
Vav Sched:	Available (100%)	
Supply:	To be calculated	To be calculated
Aux Supply:	To be calculated	To be calculated
Room Exhaust:	0.50 cfm/sq ft	
Rm Exh Sched:	Available (100%)	

Description	Area/ Amount	Dir	Tilt	Const Type / Schedule	U Value Btu/h·ft²·°F	Alpha	Glass Type / Energy Type	Glass Area ft²	Glass Shade Coef	Glass U Value Btu/h·ft²·°F	Glass External Shading	Glass Internal Shading	Adj Temp/ Grnd Refl	Pct Sen/ Cool Tmp	Pct Rm/ Heat Tmp	Pct Ret/ Perm Len	Rad Frc/ Loss Coef
Roof - 1	19,537 ft²	0	90	Upgrade ASHRAE Min	0.1000	0.90		0			Overhang - None	None					
South	9,234 ft²	180	0	EXISTING ENVELOPE	0.2504	0.90											
Door1				Door			90.1-13 Min Swinging	112	0.00	0.70	Overhang - None	None	0.00				
Door2				Door			90.1-13 Min	576	0.00	0.50	Overhang - None	None	0.00				
East	3,055 ft²	90	0	EXISTING ENVELOPE	0.2504	0.90											
door1				Door			90.1-13 Min Swinging	28	0.00	0.70	Overhang - None	None	0.00				
West	3,055 ft²	270	0	EXISTING ENVELOPE	0.2504	0.90											
door1				Door			90.1-13 Min Swinging	28	0.00	0.70	Overhang - None	None	0.00				
Misc Load 1	0.25 W/sq ft			Available (100%)			None							100	100	0	60.00

ENTERED VALUES
ROOM BY ROOM
By Jacobs

Room Description: Living Corridors **Zone Description: No Zone** **System Description: System - 001**

GENERAL INFORMATION

Floor Area: 6,460 ft² Flr-Flr Height: 19.0 ft
Plenum Height: 0.0 ft Height Above Flr: 0 ft
Slab Cnstr Type: 4* LW Concrete
Room Mass: Time delay based on actual mass
Ceiling R-Value: 1.786 hr·ft²·°F/Btu
Is There Carpet?: YES
Design Clg DB / Drift Point: 78.0 °F / 81.0 °F
Design Htg DB / Drift Point: 68.0 °F / 64.0 °F
Design Relative Humidity: 50 %
Moisture Capacitance: Medium
Clg Tstat: None
Htg Tstat: None

Thermostat Location: Room Floor Multiplier: 1
Humidistat Location: Room Room Multiplier: 1
CO2 Sensor Location: None
Room Type: Conditioned

PEOPLE

People Type: Lobby
# of People: 100 sq ft/person
People Sensible: 300 Btu/h
People Latent : 345 Btu/h
People Schedule: Cooling Only (Design)

Workstation: 0.5 workstation/person

LIGHTS

Lighting Type: Recessed fluorescent, not vented, 80% load to space
Fixture Type: RECFL-NV
% Load to RA: 20 %
Lighting Schedule: Available (100%)
Lighting Amount: 0.660 W/sq ft
Ballast Factor: 1.0

AIRFLOW INFORMATION

	Cooling (Peop-based)	Heating (Area-based)
Vent Type:	Default Std62	Default Std62
Vent Value:	5.00 cfm/person	0.06 cfm/sq ft
Vent Schedule:	Available (100%)	
Infil Type:	Neutral, Average Const.	Neutral, Average Const.
Infil Value:	0.60 air changes/hr	0.60 air changes/hr
Infil Schedule:	Available (100%)	
Vav Airflow:		Max: 50.00 % Clg Airflow
Vav Sched:	Available (100%)	
Supply:	To be calculated	To be calculated
Aux Supply:	To be calculated	To be calculated
Room Exhaust:		
Rm Exh Sched:	Available (100%)	

Std 62.1-2004

Cooling Ez: Ceiling clg supply, ceiling return 100 %
Heating Ez: Ceiling supply > Trm+15°F(8°C), ceiling return 80 %
Er: Default based on system type

Description	Area/ Amount	Dir	Tilt	Const Type / Schedule	U Value Btu/h·ft²·°F	Alpha	Glass: Type / Energy Type	Area ft²	Shade Coef	U Value Btu/h·ft²·°F	External Shading	Internal Shading	Adj Temp/ Grnd Refl	Pct Sen/ Cool Tmp	Pct Rm/ Heat Tmp	Pct Ret/ Perm Len	Rad Frc/ Loss Coef
North	1,615 ft²	0	0	EXISTING ENVELOPE	0.4240	0.90											
window				Window			Double Clear 1/4*	128	0.82	0.60	Overhang - None	None	0.00				
Misc Load 1	0.50 W/sq ft			Available (100%)			None							100	100	0	60.00
Partition - 1	1,615 ft²			0.75* Gyp Frame	0.0776								Adjacent Room: Hangar				

ENTERED VALUES
ROOM BY ROOM
By Jacobs

Room Description: Office Space **Zone Description: No Zone** **System Description: System - 001**

GENERAL INFORMATION

Floor Area: 9,720 ft² Flr-Flr Height: 19.0 ft
Plenum Height: 0.0 ft Height Above Flr: 19 ft
Slab Cnstr Type: 4* LW Concrete
Room Mass: Time delay based on actual mass
Ceiling R-Value: 1.786 hr·ft²·°F/Btu
Is There Carpet?: YES
Design Clg DB / Drift Point: 78.0 °F / 81.0 °F
Design Htg DB / Drift Point: 68.0 °F / 64.0 °F
Design Relative Humidity: 50 %
Moisture Capacitance: Medium
Clg Tstat: None
Htg Tstat: None

Thermostat Location: Room Floor Multiplier: 1
Humidistat Location: Room Room Multiplier: 1
CO2 Sensor Location: None
Room Type: Conditioned

PEOPLE

People Type: Office-Enclosed
# of People: 100 sq ft/person
People Sensible: 250 Btu/h
People Latent : 200 Btu/h
People Schedule: Available (100%)

Workstation: 1.0 workstation/person

LIGHTS

Lighting Type: LED Lighting 100% load to space

Fixture Type: LED Lighting
% Load to RA: 0 %
Lighting Schedule: Available (100%)
Lighting Amount: 0.660 W/sq ft
Ballast Factor: 1.0

AIRFLOW INFORMATION

	Cooling (Peop-based)	Heating (Area-based)
Vent Type:	Default Std62	Default Std62
Vent Value:	5.00 cfm/person	0.06 cfm/sq ft
Vent Schedule:	Available (100%)	
Infil Type:	Neutral, Average Const.	Neutral, Average Const.
Infil Value:	0.30 air changes/hr	0.30 air changes/hr
Infil Schedule:	Available (100%)	
Vav Airflow:		
Vav Sched:	Available (100%)	
Supply:	To be calculated	To be calculated
Aux Supply:	To be calculated	To be calculated
Room Exhaust:		
Rm Exh Sched:	Available (100%)	

Std 62.1-2004

Cooling Ez: Ceiling clg supply, ceiling return 100 %
Heating Ez: Ceiling supply > Trm+15°F(8°C), ceiling return 80 %
Er: Default based on system type

Description	Area/ Amount	Dir	Tilt	Const Type / Schedule	U Value Btu/h·ft²·°F	Alpha	Glass Type / Energy Type	Glass Area ft²	Glass Shade Coef	Glass U Value Btu/h·ft²·°F	Glass External Shading	Glass Internal Shading	Adj Temp/ Grnd Refl	Pct Sen/ Cool Tmp	Pct Rm/ Heat Tmp	Pct Ret/ Perm Len	Rad Frc/ Loss Coef
Roof - 1	9,720 ft²	0	90	Buit-up Roof	0.1000	0.90		0			Overhang - None	None					
North	4,617 ft²	0	0	EXISTING ENVELOPE	0.0769	0.90											
window				Window			Double Clear 1/4*	384	0.82	0.60	Overhang - None	None	0.00				
East	760 ft²	90	0	EXISTING ENVELOPE	0.0769	0.90											
door1				Door			90.1-13 Min Swinging	25	0.00	0.70	Overhang - None	None	0.00				
West	760 ft²	270	0	EXISTING ENVELOPE	0.0769	0.90											
door1				Door			90.1-13 Min Swinging	25	0.00	0.70	Overhang - None	None	0.00				
Misc Load 1	0.50 W/sq ft			Cooling Only (Design)			None							100	100	0	60.00
Partition - 1	4,617 ft²			0.75* Gyp Frame	0.0769								Adjacent Room: Hangar				

ENTERED VALUES
ROOM BY ROOM
By Jacobs

Room Description: Workshop02 **Zone Description: No Zone** **System Description: System - 001**

GENERAL INFORMATION

Floor Area: 5,928 ft² Flr-Flr Height: 19.0 ft
Plenum Height: 0.0 ft Height Above Flr: 0 ft
Slab Cnstr Type: 4* LW Concrete
Room Mass: Time delay based on actual mass
Ceiling R-Value: 1.786 hr·ft²·°F/Btu
Is There Carpet?: YES
Design Clg DB / Drift Point: 78.0 °F / 81.0 °F
Design Htg DB / Drift Point: 68.0 °F / 64.0 °F
Design Relative Humidity: 50 %
Moisture Capacitance: Low
Clg Tstat: None
Htg Tstat: None

Thermostat Location: Room Floor Multiplier: 1
Humidistat Location: Room Room Multiplier: 1
CO2 Sensor Location: None
Room Type: Conditioned

PEOPLE

People Type: Warehouse
# of People: 200 sq ft/person
People Sensible: 275 Btu/h
People Latent : 275 Btu/h
People Schedule: Cooling Only (Design)

Workstation: 0.0 workstation/person

LIGHTS

Lighting Type: LED Lighting 100% load to space

Fixture Type: LED Lighting
% Load to RA: 0 %
Lighting Schedule: Available (100%)
Lighting Amount: 0.660 W/sq ft
Ballast Factor: 1.0

AIRFLOW INFORMATION

	Cooling (Peop-based)	Heating (Area-based)
Vent Type:	Default Std62	Default Std62
Vent Value:	5.00 cfm/person	0.06 cfm/sq ft
Vent Schedule:	Available (100%)	
Infil Type:	Neutral, Average Const.	Neutral, Average Const.
Infil Value:	0.60 air changes/hr	0.60 air changes/hr
Infil Schedule:	Available (100%)	
Vav Airflow:		
Vav Sched:	Available (100%)	
Supply:	To be calculated	To be calculated
Aux Supply:	To be calculated	To be calculated
Room Exhaust:		
Rm Exh Sched:	Available (100%)	

Std 62.1-2004

Cooling Ez: Ceiling clg supply, ceiling return 100 %
Heating Ez: Ceiling supply > Trm+15°F(8°C), ceiling return 80 %
Er: Default based on system type

Description	Area/ Amount	Dir	Tilt	Const Type / Schedule	U Value Btu/h·ft²·°F	Alpha	Glass Type / Energy Type	Area ft²	Shade Coef	U Value Btu/h·ft²·°F	External Shading	Internal Shading	Adj Temp/ Grnd Refl	Pct Sen/ Cool Tmp	Pct Rm/ Heat Tmp	Pct Ret/ Perm Len	Rad Frc/ Loss Coef
North	1,482 ft²	0	0	EXISTING ENVELOPE	0.4240	0.90											
Door1				Door			90.1-13 Min Swinging	56	0.00	0.70	Overhang - None	None	0.00				
East	1,444 ft²	90	0	EXISTING ENVELOPE	0.4240	0.90											
Door1				Door			90.1-13 Min Swinging	56	0.00	0.70	Overhang - None	None	0.00				
Door2				Door			90.1-13 Min Swinging	28	0.00	0.70	Overhang - None	None	0.00				
Misc Load 1	0.50 W/sq ft			Available (100%)			None							100	100	0	60.00
Partition - 1	1,520 ft²			0.75* Gyp Frame	0.0776								Adjacent Room: Hangar				

ENTERED VALUES
ROOM BY ROOM
By Jacobs

Room Description: Workshop1 **Zone Description: No Zone** **System Description: System - 001**

GENERAL INFORMATION

Floor Area: 6,080 ft² Flr-Flr Height: 19.0 ft
Plenum Height: 0.0 ft Height Above Flr: 0 ft
Slab Cnstr Type: 4* LW Concrete
Room Mass: Time delay based on actual mass
Ceiling R-Value: 1.786 hr·ft²·°F/Btu
Is There Carpet?: YES
Design Clg DB / Drift Point: 78.0 °F / 100.0 °F
Design Htg DB / Drift Point: 68.0 °F / 64.0 °F
Design Relative Humidity: 50 %
Moisture Capacitance: Low
Clg Tstat: None
Htg Tstat: None

Thermostat Location: Room Floor Multiplier: 1
Humidistat Location: Room Room Multiplier: 1
CO2 Sensor Location: None
Room Type: Conditioned

PEOPLE

People Type: Warehouse
# of People: 200 sq ft/person
People Sensible: 275 Btu/h
People Latent : 275 Btu/h
People Schedule: Cooling Only (Design)

Workstation: 0.0 workstation/person

LIGHTS

Lighting Type: LED Lighting 100% load to space

Fixture Type: LED Lighting
% Load to RA: 0 %
Lighting Schedule: Available (100%)
Lighting Amount: 0.660 W/sq ft
Ballast Factor: 1.0

AIRFLOW INFORMATION

	Cooling (Peop-based)	Heating (Area-based)
Vent Type:	Default Std62	Default Std62
Vent Value:	5.00 cfm/person	0.06 cfm/sq ft
Vent Schedule:	Available (100%)	
Infil Type:	Neutral, Average Const.	Neutral, Average Const.
Infil Value:	0.60 air changes/hr	0.60 air changes/hr
Infil Schedule:	Available (100%)	
Vav Airflow:	Min: 20.00 % Clg Airflow	
Vav Sched:	Available (100%)	
Supply:	To be calculated	To be calculated
Aux Supply:	To be calculated	To be calculated
Room Exhaust:		
Rm Exh Sched:	Available (100%)	

Std 62.1-2004

Cooling Ez: Ceiling clg supply, ceiling return 100 %
Heating Ez: Ceiling supply > Trm+15°F(8°C), ceiling return 80 %
Er: Default based on system type

Description	Area/ Amount	Dir	Tilt	Const Type / Schedule	U Value Btu/h·ft²·°F	Alpha	Glass Type / Energy Type	Area ft²	Shade Coef	U Value Btu/h·ft²·°F	External Shading	Internal Shading	Adj Temp/ Grnd Refl	Pct Sen/ Cool Tmp	Pct Rm/ Heat Tmp	Pct Ret/ Perm Len	Rad Frc/ Loss Coef
North	1,520 ft²	0	0	EXISTING ENVELOPE	0.4240	0.90											
Door1				Door			90.1-13 Min Swinging	56	0.00	0.70	Overhang - None	None	0.00				
West	1,444 ft²	270	0	EXISTING ENVELOPE	0.4240	0.90											
Door1				Door			90.1-13 Min Swinging	56	0.00	0.70	Overhang - None	None	0.00				
Door2				Door			90.1-13 Min Swinging	28	0.00	0.70	Overhang - None	None	0.00				
Misc Load 1	0.50 W/sq ft			Available (100%)			None							100	100	0	60.00
Partition - 1	1,520 ft²			0.75* Gyp Frame	0.0776								Adjacent Room: Hangar				

ENTERED VALUES
ROOM BY ROOM
By Jacobs

Room Description: Hangar **Zone Description: No Zone** **System Description: System - 002**

GENERAL INFORMATION

Floor Area: 19,537 ft² Flr-Flr Height: 38.0 ft
Plenum Height: 0.0 ft Height Above Flr: 0 ft
Slab Cnstr Type: 4* LW Concrete
Room Mass: Time delay based on actual mass
Ceiling R-Value: 1.786 hr·ft²·°F/Btu
Is There Carpet?: YES
Design Clg DB / Drift Point: 120.0 °F / 125.0 °F
Design Htg DB / Drift Point: 55.0 °F / 55.0 °F
Design Relative Humidity: 50 %
Moisture Capacitance: Medium
Clg Tstat: None
Htg Tstat: None

Thermostat Location: Room Floor Multiplier: 1
Humidistat Location: Room Room Multiplier: 1
CO2 Sensor Location: None
Room Type: Conditioned

PEOPLE

People Type: Warehouse
# of People: 5 People
People Sensible: 275 Btu/h
People Latent : 275 Btu/h
People Schedule: Off (0%)

Workstation: 0.0 workstation/person

LIGHTS

Lighting Type: Recessed fluorescent, not vented, 80% load to space
Fixture Type: RECFL-NV
% Load to RA: 20 %
Lighting Schedule: Available (100%)
Lighting Amount: 0.660 W/sq ft
Ballast Factor: 1.0

AIRFLOW INFORMATION

	Cooling	Heating
Vent Type:	None	None
Vent Value:	0.50 cfm/sq ft	0.50 cfm/sq ft
Vent Schedule:	Available (100%)	
Infil Type:	None	None
Infil Value:	3,700.00 cfm	3,700.00 cfm
Infil Schedule:	Available (100%)	
Vav Airflow:		
Vav Sched:	Available (100%)	
Supply:	To be calculated	To be calculated
Aux Supply:	To be calculated	To be calculated
Room Exhaust:	0.50 cfm/sq ft	
Rm Exh Sched:	Available (100%)	

Description	Area/ Amount	Dir	Tilt	Const Type / Schedule	U Value Btu/h·ft²·°F	Alpha	Glass Type / Energy Type	Glass Area ft²	Glass Shade Coef	Glass U Value Btu/h·ft²·°F	Glass External Shading	Glass Internal Shading	Adj Temp/ Grnd Refl	Pct Sen/ Cool Tmp	Pct Rm/ Heat Tmp	Pct Ret/ Perm Len	Rad Frc/ Loss Coef
Roof - 1	19,537 ft²	0	90	Upgrade ASHRAE Min	0.1000	0.90		0			Overhang - None	None					
South	9,234 ft²	180	0	EXISTING ENVELOPE	0.2504	0.90											
Door1				Door			90.1-13 Min Swinging	112	0.00	0.70	Overhang - None	None	0.00				
Door2				Door			90.1-13 Min	576	0.00	0.50	Overhang - None	None	0.00				
East	3,055 ft²	90	0	EXISTING ENVELOPE	0.2504	0.90											
door1				Door			90.1-13 Min Swinging	28	0.00	0.70	Overhang - None	None	0.00				
West	3,055 ft²	270	0	EXISTING ENVELOPE	0.2504	0.90											
door1				Door			90.1-13 Min Swinging	28	0.00	0.70	Overhang - None	None	0.00				
Misc Load 1	0.25 W/sq ft			Available (100%)			None							100	100	0	60.00

ENTERED VALUES
ROOM BY ROOM
By Jacobs

Room Description: Living Corridors **Zone Description: No Zone** **System Description: System - 001**

GENERAL INFORMATION

Floor Area:	6,460 ft²	Flr-Flr Height:	19.0 ft
Plenum Height:	0.0 ft	Height Above Flr:	0 ft
Slab Cnstr Type:	4* LW Concrete		
Room Mass:	Time delay based on actual mass		
Ceiling R-Value:	1.786 hr·ft²·°F/Btu		
Is There Carpet?:	YES		
Design Clg DB / Drift Point:	78.0 °F / 81.0 °F		
Design Htg DB / Drift Point:	68.0 °F / 64.0 °F		
Design Relative Humidity:	50 %		
Moisture Capacitance:	Medium		
Clg Tstat:	None		
Htg Tstat:	None		
Thermostat Location:	Room	Floor Multiplier:	1
Humidistat Location:	Room	Room Multiplier:	1
CO2 Sensor Location:	None		
Room Type:	Conditioned		

PEOPLE

People Type:	Lobby
# of People:	100 sq ft/person
People Sensible:	300 Btu/h
People Latent :	345 Btu/h
People Schedule:	Cooling Only (Design)
Workstation:	0.5 workstation/person

LIGHTS

Lighting Type:	Recessed fluorescent, not vented, 80% load to space
Fixture Type:	RECFL-NV
% Load to RA:	20 %
Lighting Schedule:	Available (100%)
Lighting Amount:	0.660 W/sq ft
Ballast Factor:	1.0

AIRFLOW INFORMATION

	Cooling (Peop-based)	Heating (Area-based)
Vent Type:	Default Std62	Default Std62
Vent Value:	5.00 cfm/person	0.06 cfm/sq ft
Vent Schedule:	Available (100%)	
Infil Type:	Neutral, Average Const.	Neutral, Average Const.
Infil Value:	0.60 air changes/hr	0.60 air changes/hr
Infil Schedule:	Available (100%)	
Vav Airflow:		Max: 50.00 % Clg Airflow
Vav Sched:	Available (100%)	
Supply:	To be calculated	To be calculated
Aux Supply:	To be calculated	To be calculated
Room Exhaust:		
Rm Exh Sched:	Available (100%)	

Std 62.1-2004

Cooling Ez:	Ceiling clg supply, ceiling return	100 %
Heating Ez:	Ceiling supply > Trm+15°F(8°C), ceiling return	80 %
Er:	Default based on system type	

Description	Area/ Amount	Dir	Tilt	Const Type / Schedule	U Value Btu/h·ft²·°F	Alpha	Glass Type / Energy Type	Area ft²	Shade Coef	U Value Btu/h·ft²·°F	External Shading	Internal Shading	Adj Temp/ Grnd Refl	Pct Sen/ Cool Tmp	Pct Rm/ Heat Tmp	Pct Ret/ Perm Len	Rad Frc/ Loss Coef
North	1,615 ft²	0	0	EXISTING ENVELOPE	0.4240	0.90											
window				Window			Double Clear 1/4*	128	0.82	0.60	Overhang - None	None	0.00				
Misc Load 1	0.50 W/sq ft			Available (100%)			None							100	100	0	60.00
Partition - 1	1,615 ft²			0.75* Gyp Frame	0.0776								Adjacent Room: Hangar				

ENTERED VALUES
ROOM BY ROOM
By Jacobs

Room Description: Office Space **Zone Description: No Zone** **System Description: System - 001**

GENERAL INFORMATION

Floor Area: 9,720 ft² Flr-Flr Height: 19.0 ft
Plenum Height: 0.0 ft Height Above Flr: 19 ft
Slab Cnstr Type: 4* LW Concrete
Room Mass: Time delay based on actual mass
Ceiling R-Value: 1.786 hr·ft²·°F/Btu
Is There Carpet?: YES
Design Clg DB / Drift Point: 78.0 °F / 81.0 °F
Design Htg DB / Drift Point: 68.0 °F / 64.0 °F
Design Relative Humidity: 50 %
Moisture Capacitance: Medium
Clg Tstat: None
Htg Tstat: None

Thermostat Location: Room Floor Multiplier: 1
Humidistat Location: Room Room Multiplier: 1
CO2 Sensor Location: None
Room Type: Conditioned

PEOPLE

People Type: Office-Enclosed
# of People: 100 sq ft/person
People Sensible: 250 Btu/h
People Latent : 200 Btu/h
People Schedule: Available (100%)

Workstation: 1.0 workstation/person

LIGHTS

Lighting Type: LED Lighting 100% load to space

Fixture Type: LED Lighting
% Load to RA: 0 %
Lighting Schedule: Available (100%)
Lighting Amount: 0.660 W/sq ft
Ballast Factor: 1.0

AIRFLOW INFORMATION

	Cooling (Peop-based)	Heating (Area-based)
Vent Type:	Default Std62	Default Std62
Vent Value:	5.00 cfm/person	0.06 cfm/sq ft
Vent Schedule:	Available (100%)	
Infil Type:	Neutral, Average Const.	Neutral, Average Const.
Infil Value:	0.30 air changes/hr	0.30 air changes/hr
Infil Schedule:	Available (100%)	
Vav Airflow:		
Vav Sched:	Available (100%)	
Supply:	To be calculated	To be calculated
Aux Supply:	To be calculated	To be calculated
Room Exhaust:		
Rm Exh Sched:	Available (100%)	

Std 62.1-2004

Cooling Ez: Ceiling clg supply, ceiling return 100 %
Heating Ez: Ceiling supply > Trm+15°F(8°C), ceiling return 80 %
Er: Default based on system type

Description	Area/ Amount	Dir	Tilt	Const Type / Schedule	U Value Btu/h·ft²·°F	Alpha	Glass Type / Energy Type	Area ft²	Shade Coef	U Value Btu/h·ft²·°F	External Shading	Internal Shading	Adj Temp/ Grnd Refl	Pct Sen/ Cool Tmp	Pct Rm/ Heat Tmp	Pct Ret/ Perm Len	Rad Frc/ Loss Coef
Roof - 1	9,720 ft²	0	90	Buit-up Roof	0.1000	0.90		0			Overhang - None	None					
North	4,617 ft²	0	0	EXISTING ENVELOPE	0.0769	0.90											
window				Window			Double Clear 1/4*	384	0.82	0.60	Overhang - None	None	0.00				
East	760 ft²	90	0	EXISTING ENVELOPE	0.0769	0.90											
door1				Door			90.1-13 Min Swinging	25	0.00	0.70	Overhang - None	None	0.00				
West	760 ft²	270	0	EXISTING ENVELOPE	0.0769	0.90											
door1				Door			90.1-13 Min Swinging	25	0.00	0.70	Overhang - None	None	0.00				
Misc Load 1	0.50 W/sq ft			Cooling Only (Design)			None							100	100	0	60.00
Partition - 1	4,617 ft²			0.75* Gyp Frame	0.0769								Adjacent Room: Hangar				

ENTERED VALUES
ROOM BY ROOM
By Jacobs

Room Description: Workshop02 **Zone Description: No Zone** **System Description: System - 001**

GENERAL INFORMATION

Floor Area:	5,928 ft²	Flr-Flr Height:	19.0 ft
Plenum Height:	0.0 ft	Height Above Flr:	0 ft
Slab Cnstr Type:	4* LW Concrete		
Room Mass:	Time delay based on actual mass		
Ceiling R-Value:	1.786 hr·ft²·°F/Btu		
Is There Carpet?:	YES		
Design Clg DB / Drift Point:	78.0 °F / 81.0 °F		
Design Htg DB / Drift Point:	68.0 °F / 64.0 °F		
Design Relative Humidity:	50 %		
Moisture Capacitance:	Low		
Clg Tstat:	None		
Htg Tstat:	None		
Thermostat Location:	Room	Floor Multiplier:	1
Humidistat Location:	Room	Room Multiplier:	1
CO2 Sensor Location:	None		
Room Type:	Conditioned		

PEOPLE

People Type:	Warehouse
# of People:	200 sq ft/person
People Sensible:	275 Btu/h
People Latent :	275 Btu/h
People Schedule:	Cooling Only (Design)
Workstation:	0.0 workstation/person

LIGHTS

Lighting Type:	LED Lighting 100% load to space
Fixture Type:	LED Lighting
% Load to RA:	0 %
Lighting Schedule:	Available (100%)
Lighting Amount:	0.660 W/sq ft
Ballast Factor:	1.0

AIRFLOW INFORMATION

	Cooling (Peop-based)	Heating (Area-based)
Vent Type:	Default Std62	Default Std62
Vent Value:	5.00 cfm/person	0.06 cfm/sq ft
Vent Schedule:	Available (100%)	
Infil Type:	Neutral, Average Const.	Neutral, Average Const.
Infil Value:	0.60 air changes/hr	0.60 air changes/hr
Infil Schedule:	Available (100%)	
Vav Airflow:		
Vav Sched:	Available (100%)	
Supply:	To be calculated	To be calculated
Aux Supply:	To be calculated	To be calculated
Room Exhaust:		
Rm Exh Sched:	Available (100%)	

Std 62.1-2004

Cooling Ez:	Ceiling clg supply, ceiling return	100 %
Heating Ez:	Ceiling supply > Trm+15°F(8°C), ceiling return	80 %
Er:	Default based on system type	

Description	Area/ Amount	Dir	Tilt	Const Type / Schedule	U Value Btu/h·ft²·°F	Alpha	Glass Type / Energy Type	Glass Area ft²	Glass Shade Coef	Glass U Value Btu/h·ft²·°F	Glass External Shading	Glass Internal Shading	Adj Temp/ Grnd Refl	Pct Sen/ Cool Tmp	Pct Rm/ Heat Tmp	Pct Ret/ Perm Len	Rad Frc/ Loss Coef
North	1,482 ft²	0	0	EXISTING ENVELOPE	0.4240	0.90											
Door1				Door			90.1-13 Min Swinging	56	0.00	0.70	Overhang - None	None	0.00				
East	1,444 ft²	90	0	EXISTING ENVELOPE	0.4240	0.90											
Door1				Door			90.1-13 Min Swinging	56	0.00	0.70	Overhang - None	None	0.00				
Door2				Door			90.1-13 Min Swinging	28	0.00	0.70	Overhang - None	None	0.00				
Misc Load 1	0.50 W/sq ft			Available (100%)			None							100	100	0	60.00
Partition - 1	1,520 ft²			0.75* Gyp Frame	0.0776								Adjacent Room: Hangar				

ENTERED VALUES
ROOM BY ROOM
By Jacobs

Room Description: Workshop1 **Zone Description: No Zone** **System Description: System - 001**

GENERAL INFORMATION

Floor Area: 6,080 ft² Flr-Flr Height: 19.0 ft
Plenum Height: 0.0 ft Height Above Flr: 0 ft
Slab Cnstr Type: 4* LW Concrete
Room Mass: Time delay based on actual mass
Ceiling R-Value: 1.786 hr·ft²·°F/Btu
Is There Carpet?: YES
Design Clg DB / Drift Point: 78.0 °F / 100.0 °F
Design Htg DB / Drift Point: 68.0 °F / 64.0 °F
Design Relative Humidity: 50 %
Moisture Capacitance: Low
Clg Tstat: None
Htg Tstat: None

Thermostat Location: Room Floor Multiplier: 1
Humidistat Location: Room Room Multiplier: 1
CO2 Sensor Location: None
Room Type: Conditioned

PEOPLE

People Type: Warehouse
# of People: 200 sq ft/person
People Sensible: 275 Btu/h
People Latent : 275 Btu/h
People Schedule: Cooling Only (Design)

Workstation: 0.0 workstation/person

LIGHTS

Lighting Type: LED Lighting 100% load to space

Fixture Type: LED Lighting
% Load to RA: 0 %
Lighting Schedule: Available (100%)
Lighting Amount: 0.660 W/sq ft
Ballast Factor: 1.0

AIRFLOW INFORMATION

	Cooling (Peop-based)	Heating (Area-based)
Vent Type:	Default Std62	Default Std62
Vent Value:	5.00 cfm/person	0.06 cfm/sq ft
Vent Schedule:	Available (100%)	
Infil Type:	Neutral, Average Const.	Neutral, Average Const.
Infil Value:	0.60 air changes/hr	0.60 air changes/hr
Infil Schedule:	Available (100%)	
Vav Airflow:	Min: 20.00 % Clg Airflow	
Vav Sched:	Available (100%)	
Supply:	To be calculated	To be calculated
Aux Supply:	To be calculated	To be calculated
Room Exhaust:		
Rm Exh Sched:	Available (100%)	

Std 62.1-2004

Cooling Ez: Ceiling clg supply, ceiling return 100 %
Heating Ez: Ceiling supply > Trm+15°F(8°C), ceiling return 80 %
Er: Default based on system type

Description	Area/ Amount	Dir	Tilt	Const Type / Schedule	U Value Btu/h·ft²·°F	Alpha	Glass Type / Energy Type	Area ft²	Shade Coef	U Value Btu/h·ft²·°F	External Shading	Internal Shading	Adj Temp/ Grnd Refl	Pct Sen/ Cool Tmp	Pct Rm/ Heat Tmp	Pct Ret/ Perm Len	Rad Frc/ Loss Coef
North	1,520 ft²	0	0	EXISTING ENVELOPE	0.4240	0.90											
Door1				Door			90.1-13 Min Swinging	56	0.00	0.70	Overhang - None	None	0.00				
West	1,444 ft²	270	0	EXISTING ENVELOPE	0.4240	0.90											
Door1				Door			90.1-13 Min Swinging	56	0.00	0.70	Overhang - None	None	0.00				
Door2				Door			90.1-13 Min Swinging	28	0.00	0.70	Overhang - None	None	0.00				
Misc Load 1	0.50 W/sq ft			Available (100%)			None							100	100	0	60.00
Partition - 1	1,520 ft²			0.75* Gyp Frame	0.0776								Adjacent Room: Hangar				

ENTERED VALUES
ROOM BY ROOM
By Jacobs

Room Description: Hangar **Zone Description: No Zone** **System Description: System - 002**

GENERAL INFORMATION

Floor Area: 19,537 ft² Flr-Flr Height: 38.0 ft
Plenum Height: 0.0 ft Height Above Flr: 0 ft
Slab Cnstr Type: 4* LW Concrete
Room Mass: Time delay based on actual mass
Ceiling R-Value: 1.786 hr·ft²·°F/Btu
Is There Carpet?: YES
Design Clg DB / Drift Point: 120.0 °F / 125.0 °F
Design Htg DB / Drift Point: 55.0 °F / 55.0 °F
Design Relative Humidity: 50 %
Moisture Capacitance: Medium
Clg Tstat: None
Htg Tstat: None

Thermostat Location: Room Floor Multiplier: 1
Humidistat Location: Room Room Multiplier: 1
CO2 Sensor Location: None
Room Type: Conditioned

PEOPLE

People Type: Warehouse
# of People: 5 People
People Sensible: 275 Btu/h
People Latent : 275 Btu/h
People Schedule: Off (0%)

Workstation: 0.0 workstation/person

LIGHTS

Lighting Type: Recessed fluorescent, not vented, 80% load to space
Fixture Type: RECFL-NV
% Load to RA: 20 %
Lighting Schedule: Available (100%)
Lighting Amount: 0.660 W/sq ft
Ballast Factor: 1.0

AIRFLOW INFORMATION

	Cooling	Heating
Vent Type:	None	None
Vent Value:	0.50 cfm/sq ft	0.50 cfm/sq ft
Vent Schedule:	Available (100%)	
Infil Type:	None	None
Infil Value:	3,700.00 cfm	3,700.00 cfm
Infil Schedule:	Available (100%)	
Vav Airflow:		
Vav Sched:	Available (100%)	
Supply:	To be calculated	To be calculated
Aux Supply:	To be calculated	To be calculated
Room Exhaust:	0.50 cfm/sq ft	
Rm Exh Sched:	Available (100%)	

Description	Area/ Amount	Dir	Tilt	Const Type / Schedule	U Value Btu/h·ft²·°F	Alpha	Glass Type / Energy Type	Glass Area ft²	Glass Shade Coef	Glass U Value Btu/h·ft²·°F	Glass External Shading	Glass Internal Shading	Adj Temp/ Grnd Refl	Pct Sen/ Cool Tmp	Pct Rm/ Heat Tmp	Pct Ret/ Perm Len	Rad Frc/ Loss Coef
Roof - 1	19,537 ft²	0	90	Upgrade ASHRAE Min	0.1000	0.90		0			Overhang - None	None					
South	9,234 ft²	180	0	EXISTING ENVELOPE	0.2504	0.90											
Door1				Door			90.1-13 Min Swinging	112	0.00	0.70	Overhang - None	None	0.00				
Door2				Door			90.1-13 Min	576	0.00	0.50	Overhang - None	None	0.00				
East	3,055 ft²	90	0	EXISTING ENVELOPE	0.2504	0.90											
door1				Door			90.1-13 Min Swinging	28	0.00	0.70	Overhang - None	None	0.00				
West	3,055 ft²	270	0	EXISTING ENVELOPE	0.2504	0.90											
door1				Door			90.1-13 Min Swinging	28	0.00	0.70	Overhang - None	None	0.00				
Misc Load 1	0.25 W/sq ft			Available (100%)			None							100	100	0	60.00

ENTERED VALUES
ROOM BY ROOM
By Jacobs

Room Description: Living Corridors **Zone Description: No Zone** **System Description: System - 001**

GENERAL INFORMATION

Floor Area: 6,460 ft² Flr-Flr Height: 19.0 ft
Plenum Height: 0.0 ft Height Above Flr: 0 ft
Slab Cnstr Type: 4* LW Concrete
Room Mass: Time delay based on actual mass
Ceiling R-Value: 1.786 hr·ft²·°F/Btu
Is There Carpet?: YES
Design Clg DB / Drift Point: 78.0 °F / 81.0 °F
Design Htg DB / Drift Point: 68.0 °F / 64.0 °F
Design Relative Humidity: 50 %
Moisture Capacitance: Medium
Clg Tstat: None
Htg Tstat: None

Thermostat Location: Room Floor Multiplier: 1
Humidistat Location: Room Room Multiplier: 1
CO2 Sensor Location: None
Room Type: Conditioned

PEOPLE

People Type: Lobby
# of People: 100 sq ft/person
People Sensible: 300 Btu/h
People Latent : 345 Btu/h
People Schedule: Cooling Only (Design)

Workstation: 0.5 workstation/person

LIGHTS

Lighting Type: Recessed fluorescent, not vented, 80% load to space
Fixture Type: RECFL-NV
% Load to RA: 20 %
Lighting Schedule: Available (100%)
Lighting Amount: 0.660 W/sq ft
Ballast Factor: 1.0

AIRFLOW INFORMATION

	Cooling (Peop-based)	Heating (Area-based)
Vent Type:	Default Std62	Default Std62
Vent Value:	5.00 cfm/person	0.06 cfm/sq ft
Vent Schedule:	Available (100%)	
Infil Type:	Neutral, Average Const.	Neutral, Average Const.
Infil Value:	0.60 air changes/hr	0.60 air changes/hr
Infil Schedule:	Available (100%)	
Vav Airflow:		Max: 50.00 % Clg Airflow
Vav Sched:	Available (100%)	
Supply:	To be calculated	To be calculated
Aux Supply:	To be calculated	To be calculated
Room Exhaust:		
Rm Exh Sched:	Available (100%)	

Std 62.1-2004

Cooling Ez: Ceiling clg supply, ceiling return 100 %
Heating Ez: Ceiling supply > Trm+15°F(8°C), ceiling return 80 %
Er: Default based on system type

Description	Area/ Amount	Dir	Tilt	Const Type / Schedule	U Value Btu/h·ft²·°F	Alpha	Glass: Type / Energy Type	Area ft²	Shade Coef	U Value Btu/h·ft²·°F	External Shading	Internal Shading	Adj Temp/ Grnd Refl	Pct Sen/ Cool Tmp	Pct Rm/ Heat Tmp	Pct Ret/ Perm Len	Rad Frc/ Loss Coef
North	1,615 ft²	0	0	EXISTING ENVELOPE	0.4240	0.90											
window				Window			Double Clear 1/4*	128	0.82	0.60	Overhang - None	None	0.00				
Misc Load 1	0.50 W/sq ft			Available (100%)			None							100	100	0	60.00
Partition - 1	1,615 ft²			0.75* Gyp Frame	0.0776								Adjacent Room: Hangar				

ENTERED VALUES
ROOM BY ROOM
By Jacobs

Room Description: Office Space **Zone Description: No Zone** **System Description: System - 001**

GENERAL INFORMATION

Floor Area: 9,720 ft² Flr-Flr Height: 19.0 ft
Plenum Height: 0.0 ft Height Above Flr: 19 ft
Slab Cnstr Type: 4* LW Concrete
Room Mass: Time delay based on actual mass
Ceiling R-Value: 1.786 hr·ft²·°F/Btu
Is There Carpet?: YES
Design Clg DB / Drift Point: 78.0 °F / 81.0 °F
Design Htg DB / Drift Point: 68.0 °F / 64.0 °F
Design Relative Humidity: 50 %
Moisture Capacitance: Medium
Clg Tstat: None
Htg Tstat: None

Thermostat Location: Room Floor Multiplier: 1
Humidistat Location: Room Room Multiplier: 1
CO2 Sensor Location: None
Room Type: Conditioned

PEOPLE

People Type: Office-Enclosed
# of People: 100 sq ft/person
People Sensible: 250 Btu/h
People Latent : 200 Btu/h
People Schedule: Available (100%)

Workstation: 1.0 workstation/person

LIGHTS

Lighting Type: LED Lighting 100% load to space

Fixture Type: LED Lighting
% Load to RA: 0 %
Lighting Schedule: Available (100%)
Lighting Amount: 0.660 W/sq ft
Ballast Factor: 1.0

AIRFLOW INFORMATION

	Cooling (Peop-based)	Heating (Area-based)
Vent Type:	Default Std62	Default Std62
Vent Value:	5.00 cfm/person	0.06 cfm/sq ft
Vent Schedule:	Available (100%)	
Infil Type:	Neutral, Average Const.	Neutral, Average Const.
Infil Value:	0.30 air changes/hr	0.30 air changes/hr
Infil Schedule:	Available (100%)	
Vav Airflow:		
Vav Sched:	Available (100%)	
Supply:	To be calculated	To be calculated
Aux Supply:	To be calculated	To be calculated
Room Exhaust:		
Rm Exh Sched:	Available (100%)	

Std 62.1-2004

Cooling Ez: Ceiling clg supply, ceiling return 100 %
Heating Ez: Ceiling supply > Trm+15°F(8°C), ceiling return 80 %
Er: Default based on system type

Description	Area/ Amount	Dir	Tilt	Const Type / Schedule	U Value Btu/h·ft²·°F	Alpha	Glass Type / Energy Type	Area ft²	Shade Coef	U Value Btu/h·ft²·°F	External Shading	Internal Shading	Adj Temp/ Grnd Refl	Pct Sen/ Cool Tmp	Pct Rm/ Heat Tmp	Pct Ret/ Perm Len	Rad Frc/ Loss Coef
Roof - 1	9,720 ft²	0	90	Buit-up Roof	0.1000	0.90		0			Overhang - None	None					
North	4,617 ft²	0	0	EXISTING ENVELOPE	0.0769	0.90											
window				Window			Double Clear 1/4*	384	0.82	0.60	Overhang - None	None	0.00				
East	760 ft²	90	0	EXISTING ENVELOPE	0.0769	0.90											
door1				Door			90.1-13 Min Swinging	25	0.00	0.70	Overhang - None	None	0.00				
West	760 ft²	270	0	EXISTING ENVELOPE	0.0769	0.90											
door1				Door			90.1-13 Min Swinging	25	0.00	0.70	Overhang - None	None	0.00				
Misc Load 1	0.50 W/sq ft			Cooling Only (Design)			None							100	100	0	60.00
Partition - 1	4,617 ft²			0.75* Gyp Frame	0.0769								Adjacent Room: Hangar				

ENTERED VALUES
ROOM BY ROOM
By Jacobs

Room Description: Workshop02 **Zone Description: No Zone** **System Description: System - 001**

GENERAL INFORMATION

Floor Area:	5,928 ft²	Flr-Flr Height:	19.0 ft
Plenum Height:	0.0 ft	Height Above Flr:	0 ft
Slab Cnstr Type:	4* LW Concrete		
Room Mass:	Time delay based on actual mass		
Ceiling R-Value:	1.786 hr·ft²·°F/Btu		
Is There Carpet?:	YES		
Design Clg DB / Drift Point:	78.0 °F / 81.0 °F		
Design Htg DB / Drift Point:	68.0 °F / 64.0 °F		
Design Relative Humidity:	50 %		
Moisture Capacitance:	Low		
Clg Tstat:	None		
Htg Tstat:	None		
Thermostat Location:	Room	Floor Multiplier:	1
Humidistat Location:	Room	Room Multiplier:	1
CO2 Sensor Location:	None		
Room Type:	Conditioned		

PEOPLE

People Type:	Warehouse
# of People:	200 sq ft/person
People Sensible:	275 Btu/h
People Latent :	275 Btu/h
People Schedule:	Cooling Only (Design)
Workstation:	0.0 workstation/person

LIGHTS

Lighting Type:	LED Lighting 100% load to space
Fixture Type:	LED Lighting
% Load to RA:	0 %
Lighting Schedule:	Available (100%)
Lighting Amount:	0.660 W/sq ft
Ballast Factor:	1.0

AIRFLOW INFORMATION

	Cooling (Peop-based)	Heating (Area-based)
Vent Type:	Default Std62	Default Std62
Vent Value:	5.00 cfm/person	0.06 cfm/sq ft
Vent Schedule:	Available (100%)	
Infil Type:	Neutral, Average Const.	Neutral, Average Const.
Infil Value:	0.60 air changes/hr	0.60 air changes/hr
Infil Schedule:	Available (100%)	
Vav Airflow:		
Vav Sched:	Available (100%)	
Supply:	To be calculated	To be calculated
Aux Supply:	To be calculated	To be calculated
Room Exhaust:		
Rm Exh Sched:	Available (100%)	

Std 62.1-2004

Cooling Ez:	Ceiling clg supply, ceiling return	100 %
Heating Ez:	Ceiling supply > Trm+15°F(8°C), ceiling return	80 %
Er:	Default based on system type	

Description	Area/ Amount	Dir	Tilt	Const Type / Schedule	U Value Btu/h·ft²·°F	Alpha	Glass Type / Energy Type	Glass Area ft²	Glass Shade Coef	Glass U Value Btu/h·ft²·°F	Glass External Shading	Glass Internal Shading	Adj Temp/ Grnd Refl	Pct Sen/ Cool Tmp	Pct Rm/ Heat Tmp	Pct Ret/ Perm Len	Rad Frc/ Loss Coef
North	1,482 ft²	0	0	EXISTING ENVELOPE	0.4240	0.90											
Door1				Door			90.1-13 Min Swinging	56	0.00	0.70	Overhang - None	None	0.00				
East	1,444 ft²	90	0	EXISTING ENVELOPE	0.4240	0.90											
Door1				Door			90.1-13 Min Swinging	56	0.00	0.70	Overhang - None	None	0.00				
Door2				Door			90.1-13 Min Swinging	28	0.00	0.70	Overhang - None	None	0.00				
Misc Load 1	0.50 W/sq ft			Available (100%)			None							100	100	0	60.00
Partition - 1	1,520 ft²			0.75* Gyp Frame	0.0776								Adjacent Room: Hangar				

ENTERED VALUES
ROOM BY ROOM
By Jacobs

Room Description: Workshop1 **Zone Description: No Zone** **System Description: System - 001**

GENERAL INFORMATION

Floor Area: 6,080 ft² Flr-Flr Height: 19.0 ft
Plenum Height: 0.0 ft Height Above Flr: 0 ft
Slab Cnstr Type: 4* LW Concrete
Room Mass: Time delay based on actual mass
Ceiling R-Value: 1.786 hr·ft²·°F/Btu
Is There Carpet?: YES
Design Clg DB / Drift Point: 78.0 °F / 100.0 °F
Design Htg DB / Drift Point: 68.0 °F / 64.0 °F
Design Relative Humidity: 50 %
Moisture Capacitance: Low
Clg Tstat: None
Htg Tstat: None

Thermostat Location: Room Floor Multiplier: 1
Humidistat Location: Room Room Multiplier: 1
CO2 Sensor Location: None
Room Type: Conditioned

PEOPLE

People Type: Warehouse
# of People: 200 sq ft/person
People Sensible: 275 Btu/h
People Latent : 275 Btu/h
People Schedule: Cooling Only (Design)

Workstation: 0.0 workstation/person

LIGHTS

Lighting Type: LED Lighting 100% load to space

Fixture Type: LED Lighting
% Load to RA: 0 %
Lighting Schedule: Available (100%)
Lighting Amount: 0.660 W/sq ft
Ballast Factor: 1.0

AIRFLOW INFORMATION

	Cooling (Peop-based)	Heating (Area-based)
Vent Type:	Default Std62	Default Std62
Vent Value:	5.00 cfm/person	0.06 cfm/sq ft
Vent Schedule:	Available (100%)	
Infil Type:	Neutral, Average Const.	Neutral, Average Const.
Infil Value:	0.60 air changes/hr	0.60 air changes/hr
Infil Schedule:	Available (100%)	
Vav Airflow:	Min: 20.00 % Clg Airflow	
Vav Sched:	Available (100%)	
Supply:	To be calculated	To be calculated
Aux Supply:	To be calculated	To be calculated
Room Exhaust:		
Rm Exh Sched:	Available (100%)	

Std 62.1-2004

Cooling Ez: Ceiling clg supply, ceiling return 100 %
Heating Ez: Ceiling supply > Trm+15°F(8°C), ceiling return 80 %
Er: Default based on system type

Description	Area/ Amount	Dir	Tilt	Const Type / Schedule	U Value Btu/h·ft²·°F	Alpha	Glass Type / Energy Type	Glass Area ft²	Glass Shade Coef	Glass U Value Btu/h·ft²·°F	Glass External Shading	Glass Internal Shading	Adj Temp/ Grnd Refl	Pct Sen/ Cool Tmp	Pct Rm/ Heat Tmp	Pct Ret/ Perm Len	Rad Frc/ Loss Coef
North	1,520 ft²	0	0	EXISTING ENVELOPE	0.4240	0.90											
Door1				Door			90.1-13 Min Swinging	56	0.00	0.70	Overhang - None	None	0.00				
West	1,444 ft²	270	0	EXISTING ENVELOPE	0.4240	0.90											
Door1				Door			90.1-13 Min Swinging	56	0.00	0.70	Overhang - None	None	0.00				
Door2				Door			90.1-13 Min Swinging	28	0.00	0.70	Overhang - None	None	0.00				
Misc Load 1	0.50 W/sq ft			Available (100%)			None							100	100	0	60.00
Partition - 1	1,520 ft²			0.75* Gyp Frame	0.0776								Adjacent Room: Hangar				

ENTERED VALUES
ROOM BY ROOM
By Jacobs

Room Description: Hangar **Zone Description: No Zone** **System Description: System - 002**

GENERAL INFORMATION

Floor Area: 19,537 ft² Flr-Flr Height: 38.0 ft
Plenum Height: 0.0 ft Height Above Flr: 0 ft
Slab Cnstr Type: 4* LW Concrete
Room Mass: Time delay based on actual mass
Ceiling R-Value: 1.786 hr·ft²·°F/Btu
Is There Carpet?: YES
Design Clg DB / Drift Point: 120.0 °F / 125.0 °F
Design Htg DB / Drift Point: 55.0 °F / 55.0 °F
Design Relative Humidity: 50 %
Moisture Capacitance: Medium
Clg Tstat: None
Htg Tstat: None

Thermostat Location: Room Floor Multiplier: 1
Humidistat Location: Room Room Multiplier: 1
CO2 Sensor Location: None
Room Type: Conditioned

PEOPLE

People Type: Warehouse
# of People: 5 People
People Sensible: 275 Btu/h
People Latent : 275 Btu/h
People Schedule: Off (0%)

Workstation: 0.0 workstation/person

LIGHTS

Lighting Type: Recessed fluorescent, not vented, 80% load to space
Fixture Type: RECFL-NV
% Load to RA: 20 %
Lighting Schedule: Available (100%)
Lighting Amount: 0.660 W/sq ft
Ballast Factor: 1.0

AIRFLOW INFORMATION

	Cooling	Heating
Vent Type:	None	None
Vent Value:	0.50 cfm/sq ft	0.50 cfm/sq ft
Vent Schedule:	Available (100%)	
Infil Type:	None	None
Infil Value:	3,700.00 cfm	3,700.00 cfm
Infil Schedule:	Available (100%)	
Vav Airflow:		
Vav Sched:	Available (100%)	
Supply:	To be calculated	To be calculated
Aux Supply:	To be calculated	To be calculated
Room Exhaust:	0.50 cfm/sq ft	
Rm Exh Sched:	Available (100%)	

Description	Area/ Amount	Dir	Tilt	Const Type / Schedule	U Value Btu/h·ft²·°F	Alpha	Glass Type / Energy Type	Glass Area ft²	Glass Shade Coef	Glass U Value Btu/h·ft²·°F	Glass External Shading	Glass Internal Shading	Adj Temp/ Grnd Refl	Pct Sen/ Cool Tmp	Pct Rm/ Heat Tmp	Pct Ret/ Perm Len	Rad Frc/ Loss Coef
Roof - 1	19,537 ft²	0	90	Upgrade ASHRAE Min	0.1000	0.90		0			Overhang - None	None					
South	9,234 ft²	180	0	EXISTING ENVELOPE	0.2504	0.90											
Door1				Door			90.1-13 Min Swinging	112	0.00	0.70	Overhang - None	None	0.00				
Door2				Door			90.1-13 Min	576	0.00	0.50	Overhang - None	None	0.00				
East	3,055 ft²	90	0	EXISTING ENVELOPE	0.2504	0.90											
door1				Door			90.1-13 Min Swinging	28	0.00	0.70	Overhang - None	None	0.00				
West	3,055 ft²	270	0	EXISTING ENVELOPE	0.2504	0.90											
door1				Door			90.1-13 Min Swinging	28	0.00	0.70	Overhang - None	None	0.00				
Misc Load 1	0.25 W/sq ft			Available (100%)			None							100	100	0	60.00

Entered Values

TRACE® 700 version 6.3.4

By Jacobs

Project Name:
Dataset Name: C:\USERS\SCHNEIBM\DOCUMENTS\TRACE 700\POLK\FORT POLK MECH.TRC
Location:
Building Owner:
Program User:
Company:
Comments:

Cooling Design Period:	January thru December
Peak Hour Override:	0
Daylight Savings Period:	
Summer Period:	
Cooling Methodology:	TETD-TA1
Heating Methodology:	UATD
Infiltration Methodology:	No wind speed adjustment
Outside Film Methodology:	Vary with wind speed
Terrain Methodology:	Center of a large city
Room Circ Rate:	Medium
Wall Load To Plenum:	YES
Building Orientation:	0 degrees from north
Simulation Hours:	Reduced year
Calendar Code:	Standard (1978)
Energy Simulation Period:	January thru December

Location:	Fort Polk	
Summer Design Dry Bulb:	93.70	°F
Summer Design Wet Bulb:	76.20	°F
Winter Design Dry Bulb:	26.60	°F
Summer Clearness Number:	1.00	
Winter Clearness Number:	1.00	
Summer Ground Reflectance:	0.20	
Winter Ground Reflectance:	0.20	
Carbon Dioxide Level:	400	ppm

Force VAV Min => Nominal Ventilation at Design:	No
Allow Energy Recovery/Transfer at Design:	Yes
Retest Design Peaks:	Yes
Calculate Building Block Loads:	No
Close ventilation dampers during unoccupied hours:	Yes

SYSTEM ENTERED VALUES

By Jacobs

System - 001 - Variable Volume Reheat (30% Min Flow Default)

Design Air Conditions

	Max	Min				
Cooling supply:			Supply duct temperature diff:	0.0 °F	Design humidity ratio diff:	
Leaving cooling coil:			Reheat Temperature diff:	0.0 °F	Min room relative humidity:	
Heating supply:	88.0 °F					

Economizer

Type: Dry Bulb	"On" Point: 65 °F	Max Percent OA: 100%	Schedule: Available (100%)

Advanced Options

Cooling coil sizing method:	Block	Supply fan motor location:	Supply	Night purge schedule:	Off (0%)
Cooling coil location:	System	Return fan motor location:	Return	Optimum start schedule:	Off (0%)
Block cooling airflow:		Supply fan cofiguration:	Draw Thru	Optimum stop schedule:	Off (0%)
Ventilation deck location:	Return/Outdoor Deck	Supply fan sizing:	Block		
Supply duct location:	Return Air	Fan mechanical efficiency :	75%	CO2-based DCV:	None
Return air path:	PLENUM	Apply Std62 People Avg:	No		
		Std62 Max Vent (Z) Ratio:		System ventilation flag:	ASHRAE Std 62.1-2004-2010

Reset per worst case room schedule:	Off (0%)	Supply air path / duct location:	Return Air
Max reset:		Space convective gains to occupied layer:	100 %
Use system default outside air reset:	Yes	Underfloor plenum height:	
		Conductive resistance of raised floor:	0.8 hr·ft²·°F/Btu
		Upstream nominal leakage fraction:	0 %
		Downstream constant leakage fraction:	0 %
		Aux cooling coil losses to plenum:	0 %

	Control Method	Control Type
Auxiliary cooling coil	Activate After Primary System	None
Auxiliary heating coil	Activate After Primary System	None
Auxiliary fan	No Fan	

Coils

	Capacity	Schedule	Diversity	
Main cooling:	100.0 % of Design Capacity by adjust	Available (100%)	People	100%
Aux cooling:		Available (100%)	Lights	100%
Main heating:	100.0 % of Design Capacity	Available (100%)	Misc loads	100%
Aux heating:		Available (100%)		
Preheat:	100.0% of Design Capacity	Available (100%)		
Reheat:	100.0 % of Design Capacity	Available (100%)		
Humidification:	100.0 % of Design Capacity	Available (100%)		

Fans

	Type	Static Press.	90.1 SP Adj	Full Load Energy Rate	Schedule	Efficiency	Priority
Primary	90.1-13 Min VAV AF Centrifugal	4.0 in. wg	0.0 in. wg	0.00022 kW/Cfm-in wg	Available (100%)	90	
Secondary	None	0.0 in. wg	NA	0.00000 kW	Available (100%)	85	
Return	90.1-13 Min VAV AF Centrifugal	2.0 in. wg	0.0 in. wg	0.00022 kW/Cfm-in wg	Available (100%)	90	
System Exhaust	90.1-13 Min VAV AF Centrifugal	2.0 in. wg	0.0 in. wg	0.00022 kW/Cfm-in wg	Available (100%)	90	
Room Exhaust	None	0.0 in. wg	0.0 in. wg	0.00000 kW	Available (100%)	85	
Optional ventilation	None	0.0 in. wg	NA	0.00000 kW	Available (100%)	90	
Auxiliary	None	0.0 in. wg	NA	0.00000 kW	Available (100%)	85	
Fan Cycling					Cycle with occupancy 0.0 ft		

SYSTEM ENTERED VALUES

By Jacobs

System - 002 - Ventilation and Heating

Design Air Conditions

	Max	Min				
Cooling supply:			Supply duct temperature diff:	0.0 °F	Design humidity ratio diff:	
Leaving cooling coil:			Reheat Temperature diff:	0.0 °F	Min room relative humidity:	
Heating supply:	70.0 °F					

Advanced Options

Cooling coil sizing method:	No Coil	Supply fan motor location:	Supply	Night purge schedule:	Off (0%)
Cooling coil location:	Room	Return fan motor location:	Return	Optimum start schedule:	Off (0%)
Block cooling airflow:		Supply fan cofiguration:	Blow Thru	Optimum stop schedule:	Off (0%)
Ventilation deck location:	Return/Outdoor Deck	Supply fan sizing:	No Fan		
Supply duct location:	Return Air	Fan mechanical efficiency :	75%	CO2-based DCV:	None
Return air path:	PLENUM	Apply Std62 People Avg:	No		
		Std62 Max Vent (Z) Ratio:		System ventilation flag:	Sum Room OA Reqs

Reset per worst case room schedule:	Off (0%)		Supply air path / duct location:	Return Air
Max reset:			Space convective gains to occupied layer:	100 %
Use system default outside air reset:	Yes		Underfloor plenum height:	
			Conductive resistance of raised floor:	0.8 hr·ft²·°F/Btu
			Upstream nominal leakage fraction:	0 %
			Downstream constant leakage fraction:	0 %
	Control Method	Control Type	Aux cooling coil losses to plenum:	0 %
Auxiliary cooling coil	Activate After Primary System	None		
Auxiliary heating coil	Activate After Primary System	None		
Auxiliary fan	No Fan			

Coils

	Capacity	Schedule	Diversity	
Main cooling:	0.0 % of Design Capacity by adjusting	Available (100%)	People	100%
Aux cooling:		Available (100%)	Lights	100%
Main heating:	100.0 % of Design Capacity	Available (100%)	Misc loads	100%
Aux heating:		Available (100%)		
Preheat:	100.0% of Design Capacity	Available (100%)		
Reheat:	100.0 % of Design Capacity	Available (100%)		
Humidification:	100.0 % of Design Capacity	Available (100%)		

Fans

	Type	Static Press.	90.1 SP Adj	Full Load Energy Rate	Schedule		Efficiency	Priority
Primary	None	0.0 in. wg	0.0 in. wg	0.00000 kW	Available (100%)		90	
Secondary	90.1-13 Min VAV AF Centrifugal	2.0 in. wg	NA	0.00022 kW/Cfm-in wg	Available (100%)		85	
Return	None	0.0 in. wg	0.0 in. wg	0.00000 kW	Available (100%)		90	
System Exhaust	90.1 Non-mechanical cooling fan	2.0 in. wg	0.0 in. wg	0.00005 kW/Cfm	Available (100%)		90	
Room Exhaust	None	0.0 in. wg	0.0 in. wg	0.00000 kW	Available (100%)		85	
Optional ventilation	None	0.0 in. wg	NA	0.00000 kW	Off (0%)		90	
Auxiliary	None	0.0 in. wg	NA	0.00000 kW	Available (100%)		85	
Fan Cycling					Cycle with all loads	0.0 ft		

SYSTEM ENTERED VALUES

By Jacobs

System - 001 - Variable Volume Reheat (30% Min Flow Default)

Design Air Conditions

	Max	Min				
Cooling supply:			Supply duct temperature diff:	0.0 °F	Design humidity ratio diff:	
Leaving cooling coil:			Reheat Temperature diff:	0.0 °F	Min room relative humidity:	
Heating supply:	88.0 °F					

Optional Ventilation

Configuration:	Cool / Heat	Cooling SADB:	55 °F	Cooling SADB hi limit:		Cooling schedule:	Available (100%)
Control method:	Fixed Setpoints	Heating SADB:	55 °F	Cooling SADB low limit:		Heating schedule:	Available (100%)
Deck location:	Return/Outdoor Deck	Cooling SADP:		Cooling SADP hi limit:			
Level location:				Cooling SADP low limit:			

Economizer

Type:	Dry Bulb	"On" Point:	65 °F	Max Percent OA:	100%	Schedule:	Available (100%)

Advanced Options

Cooling coil sizing method:	Block	Supply fan motor location:	Supply	Night purge schedule:	Off (0%)
Cooling coil location:	System	Return fan motor location:	Return	Optimum start schedule:	Off (0%)
Block cooling airflow:		Supply fan cofiguration:	Draw Thru	Optimum stop schedule:	Off (0%)
Ventilation deck location:	Return/Outdoor Deck	Supply fan sizing:	Block		
Supply duct location:	Return Air	Fan mechanical efficiency :	75%	CO2-based DCV:	None
Return air path:	PLENUM	Apply Std62 People Avg:	No		
		Std62 Max Vent (Z) Ratio:		System ventilation flag:	ASHRAE Std 62.1-2004-2010

Reset per worst case room schedule:	Off (0%)	Supply air path / duct location:	Return Air
Max reset:		Space convective gains to occupied layer:	100 %
Use system default outside air reset:	Yes	Underfloor plenum height:	
		Conductive resistance of raised floor:	0.8 hr·ft²·°F/Btu
		Upstream nominal leakage fraction:	0 %
		Downstream constant leakage fraction:	0 %
		Aux cooling coil losses to plenum:	0 %

	Control Method	Control Type
Auxiliary cooling coil	Activate After Primary System	None
Auxiliary heating coil	Activate After Primary System	None
Auxiliary fan	No Fan	

Coils

	Capacity	Schedule	Diversity	
Main cooling:	100.0 % of Design Capacity by adjust	Available (100%)	People	100%
Aux cooling:		Available (100%)	Lights	100%
Main heating:	100.0 % of Design Capacity	Available (100%)	Misc loads	100%
Aux heating:		Available (100%)		
Preheat:	100.0% of Design Capacity	Available (100%)		
Reheat:	100.0 % of Design Capacity	Available (100%)		
Humidification:	100.0 % of Design Capacity	Available (100%)		

SYSTEM ENTERED VALUES

By Jacobs

System - 001 - Variable Volume Reheat (30% Min Flow Default)

Fans	Type	Static Press.	90.1 SP Adj	Full Load Energy Rate	Schedule	Efficiency	Priority
Primary	90.1-13 Min VAV AF Centrifugal	4.0 in. wg	0.0 in. wg	0.00022 kW/Cfm-in wg	Available (100%)	90	
Secondary	None	0.0 in. wg	NA	0.00000 kW	Available (100%)	85	
Return	90.1-13 Min VAV AF Centrifugal	2.0 in. wg	0.0 in. wg	0.00022 kW/Cfm-in wg	Available (100%)	90	
System Exhaust	90.1-13 Min VAV AF Centrifugal	2.0 in. wg	0.0 in. wg	0.00022 kW/Cfm-in wg	Available (100%)	90	
Room Exhaust	None	0.0 in. wg	0.0 in. wg	0.00000 kW	Available (100%)	85	
Optional ventilation	None	0.0 in. wg	NA	0.00000 kW	Available (100%)	90	
Auxiliary	None	0.0 in. wg	NA	0.00000 kW	Available (100%)	85	
Fan Cycling					Cycle with occupancy 0.0 ft		

SYSTEM ENTERED VALUES

By Jacobs

System - 002 - Ventilation and Heating

Design Air Conditions

	Max	Min				
Cooling supply:			Supply duct temperature diff:	0.0 °F	Design humidity ratio diff:	
Leaving cooling coil:			Reheat Temperature diff:	0.0 °F	Min room relative humidity:	
Heating supply:	70.0 °F					

Advanced Options

Cooling coil sizing method:	No Coil	Supply fan motor location:	Supply	Night purge schedule:	Off (0%)
Cooling coil location:	Room	Return fan motor location:	Return	Optimum start schedule:	Off (0%)
Block cooling airflow:		Supply fan cofiguration:	Blow Thru	Optimum stop schedule:	Off (0%)
Ventilation deck location:	Return/Outdoor Deck	Supply fan sizing:	No Fan		
Supply duct location:	Return Air	Fan mechanical efficiency :	75%	CO2-based DCV:	None
Return air path:	PLENUM	Apply Std62 People Avg:	No		
		Std62 Max Vent (Z) Ratio:		System ventilation flag:	Sum Room OA Reqs

Reset per worst case room schedule:	Off (0%)		Supply air path / duct location:	Return Air
Max reset:			Space convective gains to occupied layer:	100 %
Use system default outside air reset:	Yes		Underfloor plenum height:	
			Conductive resistance of raised floor:	0.8 hr·ft²·°F/Btu
			Upstream nominal leakage fraction:	0 %
			Downstream constant leakage fraction:	0 %
	Control Method	Control Type	Aux cooling coil losses to plenum:	0 %
Auxiliary cooling coil	Activate After Primary System	None		
Auxiliary heating coil	Activate After Primary System	None		
Auxiliary fan	No Fan			

Coils

	Capacity	Schedule	Diversity	
Main cooling:	0.0 % of Design Capacity by adjusting	Available (100%)	People	100%
Aux cooling:		Available (100%)	Lights	100%
Main heating:	100.0 % of Design Capacity	Available (100%)	Misc loads	100%
Aux heating:		Available (100%)		
Preheat:	100.0% of Design Capacity	Available (100%)		
Reheat:	100.0 % of Design Capacity	Available (100%)		
Humidification:	100.0 % of Design Capacity	Available (100%)		

Fans

	Type	Static Press.	90.1 SP Adj	Full Load Energy Rate	Schedule		Efficiency	Priority
Primary	None	0.0 in. wg	0.0 in. wg	0.00000 kW	Available (100%)		90	
Secondary	90.1-13 Min VAV AF Centrifugal	2.0 in. wg	NA	0.00022 kW/Cfm-in wg	Available (100%)		85	
Return	None	0.0 in. wg	0.0 in. wg	0.00000 kW	Available (100%)		90	
System Exhaust	90.1 Non-mechanical cooling fan	2.0 in. wg	0.0 in. wg	0.00005 kW/Cfm	Available (100%)		90	
Room Exhaust	None	0.0 in. wg	0.0 in. wg	0.00000 kW	Available (100%)		85	
Optional ventilation	None	0.0 in. wg	NA	0.00000 kW	Off (0%)		90	
Auxiliary	None	0.0 in. wg	NA	0.00000 kW	Available (100%)		85	
Fan Cycling					Cycle with all loads	0.0 ft		

SYSTEM ENTERED VALUES

By Jacobs

System - 001 - Variable Volume Reheat (30% Min Flow Default)

Design Air Conditions

	Max	Min				
Cooling supply:			Supply duct temperature diff:	0.0 °F	Design humidity ratio diff:	
Leaving cooling coil:			Reheat Temperature diff:	0.0 °F	Min room relative humidity:	
Heating supply:	88.0 °F					

Optional Ventilation

Configuration: Cool / Heat	Cooling SADB: 55 °F	Cooling SADB hi limit:	Cooling schedule: Available (100%)
Control method: Fixed Setpoints	Heating SADB: 55 °F	Cooling SADB low limit:	Heating schedule: Available (100%)
Deck location: Return/Outdoor Deck	Cooling SADP:	Cooling SADP hi limit:	
Level location:		Cooling SADP low limit:	

Economizer

Type: Dry Bulb	"On" Point: 65 °F	Max Percent OA: 100%	Schedule: Available (100%)

Stage 1 Exhaust Air Heat Recovery

Type: Fixed-plate HX (OA preconditioning) Sup-side deck: Ventilation upstream Exh-side deck: Room exhaust Schedule: Available (100%)

Sensible

Clg effectiveness at 100% airflow:	64%	Htg effectiveness at 100% airflow:	66%
Clg effectiveness at 75% airflow:	65%	HTg effectiveness at 75% airflow:	67%

Latent

Clg effectiveness at 100% airflow:	0%	Htg effectiveness at 100% airflow:	0%
Clg effectiveness at 75% airflow:	0%	HTg effectiveness at 75% airflow:	0%

Supply Side Options

Design air leaving dry bulb:		Economizer lockout:	Yes
Design air leaving humidity ratio:		Part load control:	Modulated
Coolant type:	N/A	Static pressure drop:	0.9 in. wg
Coolant approach:	N/A	Bypass dampers:	No

Parasitic energy: 0.0 kW

Exhaust Side Options

Heat source:	200 °F
Fan static pressure :	0.0 in. wg
Fan static pressure drop:	0.9 in. wg
Integral heat recovery:	No
Bypass dampers:	Yes

Frost prevention

Type:	Variable effectiveness
Set point:	40 °F
OA threshhold:	30 °F

Evap precooler

Type:	None
Default Eff:	
Dry Eff:	
Max OA:	
Min OA:	
Swovr Oadb:	
Drift Fraction:	
Blowdown Rat:	
Circ Pump:	

Advanced Options

Cooling coil sizing method:	Block	Supply fan motor location:	Supply	Night purge schedule:	Off (0%)
Cooling coil location:	System	Return fan motor location:	Return	Optimum start schedule:	Off (0%)
Block cooling airflow:		Supply fan cofiguration:	Draw Thru	Optimum stop schedule:	Off (0%)
Ventilation deck location:	Return/Outdoor Deck	Supply fan sizing:	Block		
Supply duct location:	Return Air	Fan mechanical efficiency :	75%	CO2-based DCV:	None
Return air path:	PLENUM	Apply Std62 People Avg:	No		
		Std62 Max Vent (Z) Ratio:		System ventilation flag:	ASHRAE Std 62.1-2004-2010

Reset per worst case room schedule:	Off (0%)			Supply air path / duct location:	Return Air
Max reset:				Space convective gains to occupied layer:	100 %
Use system default outside air reset:	Yes			Underfloor plenum height:	
				Conductive resistance of raised floor:	0.8 hr·ft²·°F/Btu
				Upstream nominal leakage fraction:	0 %
				Downstream constant leakage fraction:	0 %
	Control Method	Control Type		Aux cooling coil losses to plenum:	0 %
Auxiliary cooling coil	Activate After Primary System	None			
Auxiliary heating coil	Activate After Primary System	None			
Auxiliary fan	No Fan				

SYSTEM ENTERED VALUES

By Jacobs

System - 001 - Variable Volume Reheat (30% Min Flow Default)

Coils	Capacity	Schedule	Diversity	
Main cooling:	100.0 % of Design Capacity by adjust	Available (100%)	People	100%
Aux cooling:		Available (100%)	Lights	100%
Main heating:	100.0 % of Design Capacity	Available (100%)	Misc loads	100%
Aux heating:		Available (100%)		
Preheat:	100.0% of Design Capacity	Available (100%)		
Reheat:	100.0 % of Design Capacity	Available (100%)		
Humidification:	100.0 % of Design Capacity	Available (100%)		

Fans	Type	Static Press.	90.1 SP Adj	Full Load Energy Rate	Schedule	Efficiency	Priority
Primary	90.1-13 Min VAV AF Centrifugal	4.0 in. wg	0.0 in. wg	0.00022 kW/Cfm-in wg	Available (100%)	90	
Secondary	None	0.0 in. wg	NA	0.00000 kW	Available (100%)	85	
Return	90.1-13 Min VAV AF Centrifugal	2.0 in. wg	0.0 in. wg	0.00022 kW/Cfm-in wg	Available (100%)	90	
System Exhaust	90.1-13 Min VAV AF Centrifugal	2.0 in. wg	0.0 in. wg	0.00022 kW/Cfm-in wg	Available (100%)	90	
Room Exhaust	None	0.0 in. wg	0.0 in. wg	0.00000 kW	Available (100%)	85	
Optional ventilation	None	0.0 in. wg	NA	0.00000 kW	Available (100%)	90	
Auxiliary	None	0.0 in. wg	NA	0.00000 kW	Available (100%)	85	
Fan Cycling					Cycle with occupancy 0.0 ft		

SYSTEM ENTERED VALUES

By Jacobs

System - 002 - Ventilation and Heating

Design Air Conditions

	Max	Min				
Cooling supply:			Supply duct temperature diff:	0.0 °F	Design humidity ratio diff:	
Leaving cooling coil:			Reheat Temperature diff:	0.0 °F	Min room relative humidity:	
Heating supply:	70.0 °F					

Advanced Options

Cooling coil sizing method:	No Coil	Supply fan motor location:	Supply	Night purge schedule:	Off (0%)
Cooling coil location:	Room	Return fan motor location:	Return	Optimum start schedule:	Off (0%)
Block cooling airflow:		Supply fan cofiguration:	Blow Thru	Optimum stop schedule:	Off (0%)
Ventilation deck location:	Return/Outdoor Deck	Supply fan sizing:	No Fan		
Supply duct location:	Return Air	Fan mechanical efficiency :	75%	CO2-based DCV:	None
Return air path:	PLENUM	Apply Std62 People Avg:	No		
		Std62 Max Vent (Z) Ratio:		System ventilation flag:	Sum Room OA Reqs

Reset per worst case room schedule:	Off (0%)		Supply air path / duct location:	Return Air
Max reset:			Space convective gains to occupied layer:	100 %
Use system default outside air reset:	Yes		Underfloor plenum height:	
			Conductive resistance of raised floor:	0.8 hr·ft²·°F/Btu
			Upstream nominal leakage fraction:	0 %
			Downstream constant leakage fraction:	0 %
	Control Method	Control Type	Aux cooling coil losses to plenum:	0 %
Auxiliary cooling coil	Activate After Primary System	None		
Auxiliary heating coil	Activate After Primary System	None		
Auxiliary fan	No Fan			

Coils

	Capacity	Schedule	Diversity	
Main cooling:	0.0 % of Design Capacity by adjusting	Available (100%)	People	100%
Aux cooling:		Available (100%)	Lights	100%
Main heating:	100.0 % of Design Capacity	Available (100%)	Misc loads	100%
Aux heating:		Available (100%)		
Preheat:	100.0% of Design Capacity	Available (100%)		
Reheat:	100.0 % of Design Capacity	Available (100%)		
Humidification:	100.0 % of Design Capacity	Available (100%)		

Fans

	Type	Static Press.	90.1 SP Adj	Full Load Energy Rate	Schedule		Efficiency	Priority
Primary	None	0.0 in. wg	0.0 in. wg	0.00000 kW	Available (100%)		90	
Secondary	90.1-13 Min VAV AF Centrifugal	2.0 in. wg	NA	0.00022 kW/Cfm-in wg	Available (100%)		85	
Return	None	0.0 in. wg	0.0 in. wg	0.00000 kW	Available (100%)		90	
System Exhaust	90.1 Non-mechanical cooling fan	2.0 in. wg	0.0 in. wg	0.00005 kW/Cfm	Available (100%)		90	
Room Exhaust	None	0.0 in. wg	0.0 in. wg	0.00000 kW	Available (100%)		85	
Optional ventilation	None	0.0 in. wg	NA	0.00000 kW	Off (0%)		90	
Auxiliary	None	0.0 in. wg	NA	0.00000 kW	Available (100%)		85	
Fan Cycling					Cycle with all loads	0.0 ft		

SYSTEM ENTERED VALUES

By Jacobs

System - 001 - Single Zone Variable Air Volume

Design Air Conditions

	Max	Min				
Cooling supply:			Supply duct temperature diff:	0.0 °F	Design humidity ratio diff:	
Leaving cooling coil:			Reheat Temperature diff:	0.0 °F	Min room relative humidity:	
Heating supply:	88.0 °F					

Optional Ventilation

Configuration:	Dehumidify (priority) or Cool / H	Cooling SADB:	55 °F	Cooling SADB hi limit:		Cooling schedule:	Available (100%)
Control method:	Fixed Setpoints	Heating SADB:	55 °F	Cooling SADB low limit:		Heating schedule:	Available (100%)
Deck location:	Room Direct	Cooling SADP:	55 °F	Cooling SADP hi limit:			
Level location:				Cooling SADP low limit:			

Economizer

Type:	Dry Bulb	"On" Point:	65 °F	Max Percent OA:	100%	Schedule:	Available (100%)

Advanced Options

Cooling coil sizing method:	Block	Supply fan motor location:	Supply	Night purge schedule:	Off (0%)
Cooling coil location:	Zone	Return fan motor location:	Return	Optimum start schedule:	Off (0%)
Block cooling airflow:		Supply fan cofiguration:	Draw Thru	Optimum stop schedule:	Off (0%)
Ventilation deck location:	Room Direct	Supply fan sizing:	Block		
Supply duct location:	Return Air	Fan mechanical efficiency :	75%	CO2-based DCV:	None
Return air path:	PLENUM	Apply Std62 People Avg:	Yes		
		Std62 Max Vent (Z) Ratio:		System ventilation flag:	ASHRAE Std 62.1-2004-2010

Reset per worst case room schedule:	Off (0%)	Supply air path / duct location:	Return Air
Max reset:		Space convective gains to occupied layer:	100 %
Use system default outside air reset:	Yes	Underfloor plenum height:	
		Conductive resistance of raised floor:	0.8 hr·ft²·°F/Btu
		Upstream nominal leakage fraction:	0 %
		Downstream constant leakage fraction:	0 %
		Aux cooling coil losses to plenum:	0 %

	Control Method	Control Type
Auxiliary cooling coil	Activate After Primary System	None
Auxiliary heating coil	Activate After Primary System	None
Auxiliary fan	No Fan	

Coils

	Capacity	Schedule	Diversity	
Main cooling:	100.0 % of Design Cooling Capacity	Available (100%)	People	100%
Aux cooling:		Available (100%)	Lights	100%
Main heating:	100.0 % of Design Capacity	Available (100%)	Misc loads	100%
Aux heating:		Available (100%)		
Preheat:	100.0% of Design Capacity	Available (100%)		
Reheat:	100.0 % of Design Capacity	Available (100%)		
Humidification:	100.0 % of Design Capacity	Available (100%)		

SYSTEM ENTERED VALUES

By Jacobs

System - 001 - Single Zone Variable Air Volume

Fans	Type	Static Press.	90.1 SP Adj	Full Load Energy Rate	Schedule		Efficiency	Priority
Primary	90.1-13 Min VAV AF Centrifugal	4.0 in. wg	0.0 in. wg	0.00022 kW/Cfm-in wg	Available (100%)		90	
Secondary	None	0.0 in. wg	NA	0.00000 kW	Available (100%)		85	
Return	90.1-13 Min VAV AF Centrifugal	2.0 in. wg	0.0 in. wg	0.00022 kW/Cfm-in wg	Available (100%)		90	
System Exhaust	90.1-13 Min VAV AF Centrifugal	2.0 in. wg	0.0 in. wg	0.00022 kW/Cfm-in wg	Available (100%)		90	
Room Exhaust	None	0.0 in. wg	0.0 in. wg	0.00000 kW	Available (100%)		85	
Optional ventilation	None	0.0 in. wg	NA	0.00000 kW	Available (100%)		90	
Auxiliary	None	0.0 in. wg	NA	0.00000 kW	Available (100%)		85	
Fan Cycling					Cycle with all loads	0.0 ft		

SYSTEM ENTERED VALUES

By Jacobs

System - 002 - Ventilation and Heating

Design Air Conditions

	Max	Min				
Cooling supply:			Supply duct temperature diff:	0.0 °F	Design humidity ratio diff:	
Leaving cooling coil:			Reheat Temperature diff:	0.0 °F	Min room relative humidity:	
Heating supply:	70.0 °F					

Advanced Options

Cooling coil sizing method:	No Coil	Supply fan motor location:	Supply	Night purge schedule:	Off (0%)
Cooling coil location:	Room	Return fan motor location:	Return	Optimum start schedule:	Off (0%)
Block cooling airflow:		Supply fan cofiguration:	Blow Thru	Optimum stop schedule:	Off (0%)
Ventilation deck location:	Return/Outdoor Deck	Supply fan sizing:	No Fan		
Supply duct location:	Return Air	Fan mechanical efficiency :	75%	CO2-based DCV:	None
Return air path:	PLENUM	Apply Std62 People Avg:	No		
		Std62 Max Vent (Z) Ratio:		System ventilation flag:	Sum Room OA Reqs

Reset per worst case room schedule:	Off (0%)		Supply air path / duct location:	Return Air
Max reset:			Space convective gains to occupied layer:	100 %
Use system default outside air reset:	Yes		Underfloor plenum height:	
			Conductive resistance of raised floor:	0.8 hr·ft²·°F/Btu
			Upstream nominal leakage fraction:	0 %
			Downstream constant leakage fraction:	0 %
	Control Method	Control Type	Aux cooling coil losses to plenum:	0 %
Auxiliary cooling coil	Activate After Primary System	None		
Auxiliary heating coil	Activate After Primary System	None		
Auxiliary fan	No Fan			

Coils

	Capacity	Schedule	Diversity	
Main cooling:	0.0 % of Design Capacity by adjusting	Available (100%)	People	100%
Aux cooling:		Available (100%)	Lights	100%
Main heating:	100.0 % of Design Capacity	Available (100%)	Misc loads	100%
Aux heating:		Available (100%)		
Preheat:	100.0% of Design Capacity	Available (100%)		
Reheat:	100.0 % of Design Capacity	Available (100%)		
Humidification:	100.0 % of Design Capacity	Available (100%)		

Fans

	Type	Static Press.	90.1 SP Adj	Full Load Energy Rate	Schedule		Efficiency	Priority
Primary	None	0.0 in. wg	0.0 in. wg	0.00000 kW	Available (100%)		90	
Secondary	90.1-13 Min VAV AF Centrifugal	2.0 in. wg	NA	0.00022 kW/Cfm-in wg	Available (100%)		85	
Return	None	0.0 in. wg	0.0 in. wg	0.00000 kW	Available (100%)		90	
System Exhaust	90.1 Non-mechanical cooling fan	2.0 in. wg	0.0 in. wg	0.00005 kW/Cfm	Available (100%)		90	
Room Exhaust	None	0.0 in. wg	0.0 in. wg	0.00000 kW	Available (100%)		85	
Optional ventilation	None	0.0 in. wg	NA	0.00000 kW	Off (0%)		90	
Auxiliary	None	0.0 in. wg	NA	0.00000 kW	Available (100%)		85	
Fan Cycling					Cycle with all loads	0.0 ft		

System Checksums

By Jacobs

System - 001 **Variable Volume Reheat (30% Min Flow Default)**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 14
Outside Air: OADB/WB/HR: 93 / 77 / 112

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	100,972	0	100,972	11
Glass Solar	17,196	0	17,196	2
Glass/Door Cond	9,267	0	9,267	1
Wall Cond	118,817	0	118,817	12
Partition/Door	33,667		33,667	4
Floor	0		0	0
Adjacent Floor	0.00	0.00	0.00	0.00
Infiltration	197,519		197,519	21
Sub Total ==>	477,439	0	477,439	50
Internal Loads				
Lights	60,585	2,910	63,496	7
People	118,429	0	118,429	12
Misc	48,103	0	48,103	5
Sub Total ==>	227,117	2,910	230,028	24
Ceiling Load	0	0	0	0
Ventilation Load	0	0	167,686	18
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-10,547	-10,547	-1
Sup. Fan Heat			57,289	6
Ret. Fan Heat		33,897	33,897	4
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	704,556	26,261	955,791	100.00

CLG SPACE PEAK

Mo/Hr: 7 / 15
OADB: 94

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	97,845	18
Glass Solar	16,488	3
Glass/Door Cond	9,641	2
Wall Cond	128,610	24
Partition/Door	33,667	6
Floor	0.00	0
Adjacent Floor	0.00	0.00
Infiltration	77,259	15
Sub Total ==>	363,510	68
Internal Loads		
Lights	60,585	11
People	60,191	11
Misc	48,103	9
Sub Total ==>	168,879	32
Ceiling Load	0	0
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	532,389	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 27

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	-40,241	-40,241	6.51
Glass Solar	0	0	0.00
Glass/Door Cond	-23,267	-23,267	3.76
Wall Cond	-142,739	-142,739	23.08
Partition/Door	-9,312	-9,312	1.51
Floor	0	0	0.00
Adjacent Floor	0.00	0.00	0.00
Infiltration	-203,856	-203,856	32.97
Sub Total ==>	-419,415	-419,415	67.83
Internal Loads			
Lights	60,585	63,496	-10.27
People	24,300	24,300	-3.93
Misc	31,516	31,516	-5.10
Sub Total ==>	116,401	119,311	-19.29
Ceiling Load	0	0	0.00
Ventilation Load	0	-173,067	27.99
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		-1,427	0.23
OA Preheat Diff.		-14,689	2.38
RA Preheat Diff.		-129,078	20.87
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-303,014	-618,363	100.00

TEMPERATURES

	Cooling	Heating
SADB	58.5	88.0
Ra Plenum	78.0	68.0
Return	79.2	68.1
Ret/OA	81.3	56.7
Fn MtrTD	0.2	0.0
Fn BldTD	0.5	0.0
Fn Frict	1.4	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	24,579	13,638
Terminal	24,579	13,638
Main Fan	24,579	13,638
Sec Fan	0	0
Nom Vent	3,763	3,763
AHU Vent	3,763	3,763
Infil	4,432	4,432
MinStop/Rh	12,470	13,638
Return	29,011	18,070
Exhaust	8,195	8,195
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	15.3	27.6
cfm/ft²	0.87	0.48
cfm/ton	308.59	
ft²/ton	353.90	
Btu/hr·ft²	33.91	-21.42
No. People	222	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB °F	Enter WB °F	Enter HR gr/lb	Leave DB °F	Leave WB °F	Leave HR gr/lb
Main Clg	79.7	955.8	670.5	24,169	81.3	67.4	78.9	56.4	54.9	62.3
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	79.7	955.8								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	28,188		
Part	9,272		
Int Door	0		
ExFlr	0		
Roof	9,720	0	0
Wall	13,313	512	4
Ext Door	329	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-479.2	13,638	56.4	88.0
Aux Htg	0.0	0	0.0	0.0
Preheat	-124.5	3,763	26.6	56.4
Reheat	-176.2	13,638	56.4	68.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-603.7			

System Checksums

By Jacobs

System - 002

Ventilation and Heating

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 0 / 0
Outside Air: OADB/WB/HR: 0 / 0 / 0

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	0	0	0
Glass Solar	0	0	0	0
Glass/Door Cond	0	0	0	0
Wall Cond	0	0	0	0
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0.00	0.00	0.00	0.00
Infiltration	0		0	0
Sub Total ==>	0	0	0	0
Internal Loads				
Lights	0	0	0	0
People	0	0	0	0
Misc	0	0	0	0
Sub Total ==>	0	0	0	0
Ceiling Load	0	0	0	0
Ventilation Load	0	0	0	0
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		0	0	0
Sup. Fan Heat			0	0
Ret. Fan Heat		0	0	0
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	0	0	0	100.00

CLG SPACE PEAK

Mo/Hr: 0 / 0
OADB: 0

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	0	0
Glass/Door Cond	0	0
Wall Cond	0	0
Partition/Door	0	0
Floor	0.00	0
Adjacent Floor	0.00	0.00
Infiltration	0	0
Sub Total ==>	0	0
Internal Loads		
Lights	0	0
People	0	0
Misc	0	0
Sub Total ==>	0	0
Ceiling Load	0	0
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	0	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 27

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	-55,486	-55,486	10.41
Glass Solar	0	0	0.00
Glass/Door Cond	-11,898	-11,898	2.23
Wall Cond	-103,828	-103,828	19.47
Partition/Door	6,447	6,447	-1.21
Floor	0	0	0.00
Adjacent Floor	0.00	0.00	0.00
Infiltration	-116,738	-116,738	21.89
Sub Total ==>	-281,502	-281,502	52.79
Internal Loads			
Lights	35,207	44,009	-8.25
People	0	0	0.00
Misc	16,670	16,670	-3.13
Sub Total ==>	51,877	60,679	-11.38
Ceiling Load	0	0	0.00
Ventilation Load	0	-308,207	57.80
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		-4,223	0.79
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-229,625	-533,254	100.00

TEMPERATURES

	Cooling	Heating
SADB	0.0	70.0
Ra Plenum	0.0	55.0
Return	0.0	56.0
Ret/OA	0.0	35.2
Fn MtrTD	0.0	0.2
Fn BldTD	0.0	0.2
Fn Frict	0.0	0.7

AIRFLOWS

	Cooling	Heating
Diffuser	0	13,780
Terminal	0	13,780
Main Fan	0	13,780
Sec Fan	0	0
Nom Vent	0	9,769
AHU Vent	0	9,769
Infil	0	3,700
MinStop/Rh	0	0
Return	0	7,711
Exhaust	0	3,700
Rm Exh	0	9,769
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	0.0	70.9
cfm/ft²	0.00	0.71
cfm/ton	0.00	
ft²/ton	0.00	
Btu/hr·ft²	0.00	-27.29
No. People	5	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB °F	Enter WB °F	Enter HR gr/lb	Leave DB °F	Leave WB °F	Leave HR gr/lb
Main Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	19,537		
Part	9,272		
Int Door	0		
ExFlr	0		
Roof	19,537	0	0
Wall	14,600	0	0
Ext Door	744	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-533.3	13,780	35.2	70.0
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-533.3			

System Checksums

By Jacobs

System - 001 **Variable Volume Reheat (30% Min Flow Default)**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 94 / 76 / 109

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	97,845	0	97,845	14
Glass Solar	16,488	0	16,488	2
Glass/Door Cond	9,641	0	9,641	1
Wall Cond	128,610	0	128,610	19
Partition/Door	33,667		33,667	5
Floor	0		0	0
Adjacent Floor	0.00	0.00	0.00	0.00
Infiltration	193,079		193,079	28
Sub Total ==>	479,331	0	479,331	70
Internal Loads				
Lights	60,585	2,910	63,496	9
People	118,429	0	118,429	17
Misc	48,103	0	48,103	7
Sub Total ==>	227,117	2,910	230,028	34
Ceiling Load	0	0	0	0
Ventilation Load	0	0	-115,598	-17
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-10,492	-10,492	-2
Sup. Fan Heat			62,094	9
Ret. Fan Heat		36,300	36,300	5
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	706,448	28,719	681,663	100.00

CLG SPACE PEAK

Mo/Hr: 7 / 15
OADB: 94

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	97,845	18
Glass Solar	16,488	3
Glass/Door Cond	9,641	2
Wall Cond	128,610	24
Partition/Door	33,667	6
Floor	0.00	0
Adjacent Floor	0.00	0.00
Infiltration	77,259	15
Sub Total ==>	363,510	68
Internal Loads		
Lights	60,585	11
People	60,191	11
Misc	48,103	9
Sub Total ==>	168,879	32
Ceiling Load	0	0
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Exhaust Heat		
OA Preheat Diff.		
RA Preheat Diff.		
Additional Reheat		
Underflr Sup Ht Pkup		
Supply Air Leakage		
Grand Total ==>	532,389	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 27

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	-40,241	-40,241	6.62
Glass Solar	0	0	0.00
Glass/Door Cond	-23,267	-23,267	3.83
Wall Cond	-142,739	-142,739	23.49
Partition/Door	-9,312	-9,312	1.53
Floor	0	0	0.00
Adjacent Floor	0.00	0.00	0.00
Infiltration	-203,856	-203,856	33.55
Sub Total ==>	-419,415	-419,415	69.02
Internal Loads			
Lights	60,585	63,496	-10.45
People	24,300	24,300	-4.00
Misc	31,516	31,516	-5.19
Sub Total ==>	116,401	119,311	-19.63
Ceiling Load	0	0	0.00
Ventilation Load	0	-54,345	8.94
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		-1,419	0.23
OA Preheat Diff.		-133,838	22.02
RA Preheat Diff.		-117,978	19.41
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-303,014	-607,684	100.00

TEMPERATURES

	Cooling	Heating
SADB	59.7	87.7
Ra Plenum	78.0	68.0
Return	79.2	68.1
Ret/OA	75.7	64.6
Fn MtrTD	0.2	0.0
Fn BldTD	0.5	0.0
Fn Frict	1.4	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	26,196	13,819
Terminal	26,196	13,819
Main Fan	26,196	13,819
Sec Fan	0	0
Nom Vent	3,763	3,763
AHU Vent	3,763	3,763
Infil	4,432	4,432
MinStop/Rh	12,651	13,819
Return	30,628	18,251
Exhaust	8,195	8,195
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	14.4	27.2
cfm/ft²	0.93	0.49
cfm/ton	324.15	
ft²/ton	348.80	
Btu/hr·ft²	34.40	-21.02
No. People	222	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB °F	Enter WB °F	Enter HR gr/lb	Leave DB °F	Leave WB °F	Leave HR gr/lb
Main Clg	56.8	681.7	527.1	26,196	75.7	64.0	70.9	57.6	55.5	62.6
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	24.0	288.1	159.6	3,763	93.2	76.6	112.4	55.0	54.9	64.6
Total	80.8	969.8								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	28,188		
Part	9,272		
Int Door	0		
ExFlr	0		
Roof	9,720	0	0
Wall	13,313	512	4
Ext Door	329	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-463.1	13,819	57.6	87.7
Aux Htg	0.0	0	0.0	0.0
Preheat	-10.8	3,763	55.0	57.6
Reheat	-160.1	13,819	57.6	68.0
Humidif	0.0	0	0.0	0.0
Opt Vent	-118.7	3,763	26.6	55.0
Total	-592.6			

System Checksums

By Jacobs

System - 002

Ventilation and Heating

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 0 / 0
Outside Air: OADB/WB/HR: 0 / 0 / 0

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	0	0	0
Glass Solar	0	0	0	0
Glass/Door Cond	0	0	0	0
Wall Cond	0	0	0	0
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0.00	0.00	0.00	0.00
Infiltration	0		0	0
Sub Total ==>	0	0	0	0
Internal Loads				
Lights	0	0	0	0
People	0	0	0	0
Misc	0	0	0	0
Sub Total ==>	0	0	0	0
Ceiling Load	0	0	0	0
Ventilation Load	0	0	0	0
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		0	0	0
Sup. Fan Heat			0	0
Ret. Fan Heat		0	0	0
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	0	0	0	100.00

CLG SPACE PEAK

Mo/Hr: 0 / 0
OADB: 0

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	0	0
Glass/Door Cond	0	0
Wall Cond	0	0
Partition/Door	0	0
Floor	0.00	0
Adjacent Floor	0.00	0.00
Infiltration	0	0
Sub Total ==>	0	0
Internal Loads		
Lights	0	0
People	0	0
Misc	0	0
Sub Total ==>	0	0
Ceiling Load	0	0
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Exhaust Heat		
OA Preheat Diff.		
RA Preheat Diff.		
Additional Reheat		
Underflr Sup Ht Pkup		
Supply Air Leakage		
Grand Total ==>	0	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 27

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	-55,486	-55,486	10.41
Glass Solar	0	0	0.00
Glass/Door Cond	-11,898	-11,898	2.23
Wall Cond	-103,828	-103,828	19.47
Partition/Door	6,447	6,447	-1.21
Floor	0	0	0.00
Adjacent Floor	0.00	0.00	0.00
Infiltration	-116,738	-116,738	21.89
Sub Total ==>	-281,502	-281,502	52.79
Internal Loads			
Lights	35,207	44,009	-8.25
People	0	0	0.00
Misc	16,670	16,670	-3.13
Sub Total ==>	51,877	60,679	-11.38
Ceiling Load	0	0	0.00
Ventilation Load	0	-308,207	57.80
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		-4,223	0.79
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-229,625	-533,254	100.00

TEMPERATURES

	Cooling	Heating
SADB	0.0	70.0
Ra Plenum	0.0	55.0
Return	0.0	56.0
Ret/OA	0.0	35.2
Fn MtrTD	0.0	0.2
Fn BldTD	0.0	0.2
Fn Frict	0.0	0.7

AIRFLOWS

	Cooling	Heating
Diffuser	0	13,780
Terminal	0	13,780
Main Fan	0	13,780
Sec Fan	0	0
Nom Vent	0	9,769
AHU Vent	0	9,769
Infil	0	3,700
MinStop/Rh	0	0
Return	0	7,711
Exhaust	0	3,700
Rm Exh	0	9,769
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	0.0	70.9
cfm/ft²	0.00	0.71
cfm/ton	0.00	
ft²/ton	0.00	
Btu/hr·ft²	0.00	-27.29
No. People	5	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB °F	Enter WB °F	Enter HR gr/lb	Leave DB °F	Leave WB °F	Leave HR gr/lb
Main Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	19,537		
Part	9,272		
Int Door	0		
ExFlr	0		
Roof	19,537	0	0
Wall	14,600	0	0
Ext Door	744	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-533.3	13,780	35.2	70.0
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-533.3			

System Checksums

By Jacobs

System - 001 **Variable Volume Reheat (30% Min Flow Default)**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 94 / 76 / 109

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	97,845	0	97,845	14
Glass Solar	16,488	0	16,488	2
Glass/Door Cond	9,641	0	9,641	1
Wall Cond	128,610	0	128,610	18
Partition/Door	33,667		33,667	5
Floor	0		0	0
Adjacent Floor	0.00	0.00	0.00	0.00
Infiltration	193,111		193,111	28
Sub Total ==>	479,362	0	479,362	69
Internal Loads				
Lights	60,585	2,910	63,496	9
People	118,429	0	118,429	17
Misc	48,103	0	48,103	7
Sub Total ==>	227,117	2,910	230,028	33
Ceiling Load	0	0	0	0
Ventilation Load	0	0	-115,571	-17
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-10,468	-10,468	-1
Sup. Fan Heat			77,996	11
Ret. Fan Heat		37,417	37,417	5
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	706,479	29,858	698,763	100.00

CLG SPACE PEAK

Mo/Hr: 7 / 15
OADB: 94

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	97,845	18
Glass Solar	16,488	3
Glass/Door Cond	9,641	2
Wall Cond	128,610	24
Partition/Door	33,667	6
Floor	0.00	0
Adjacent Floor	0.00	0.00
Infiltration	77,259	15
Sub Total ==>	363,510	68
Internal Loads		
Lights	60,585	11
People	60,191	11
Misc	48,103	9
Sub Total ==>	168,879	32
Ceiling Load	0	0
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Exhaust Heat		
OA Preheat Diff.		
RA Preheat Diff.		
Additional Reheat		
Underflr Sup Ht Pkup		
Supply Air Leakage		
Grand Total ==>	532,389	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 27

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	-40,241	-40,241	6.63
Glass Solar	0	0	0.00
Glass/Door Cond	-23,267	-23,267	3.83
Wall Cond	-142,739	-142,739	23.52
Partition/Door	-9,312	-9,312	1.53
Floor	0	0	0.00
Adjacent Floor	0.00	0.00	0.00
Infiltration	-203,856	-203,856	33.58
Sub Total ==>	-419,415	-419,415	69.10
Internal Loads			
Lights	60,585	63,496	-10.46
People	24,300	24,300	-4.00
Misc	31,516	31,516	-5.19
Sub Total ==>	116,401	119,311	-19.66
Ceiling Load	0	0	0.00
Ventilation Load	0	-54,345	8.95
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		-1,415	0.23
OA Preheat Diff.		-133,817	22.05
RA Preheat Diff.		-117,331	19.33
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-303,014	-607,011	100.00

TEMPERATURES

	Cooling	Heating
SADB	60.3	87.6
Ra Plenum	78.0	68.0
Return	79.2	68.1
Ret/OA	75.8	64.6
Fn MtrTD	0.3	0.0
Fn BldTD	0.6	0.0
Fn Frict	1.8	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	27,138	13,939
Terminal	27,138	13,939
Main Fan	27,138	13,939
Sec Fan	0	0
Nom Vent	3,763	3,763
AHU Vent	3,763	3,763
Infil	4,432	4,432
MinStop/Rh	12,772	13,939
Return	31,570	18,372
Exhaust	8,195	8,195
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	13.9	27.0
cfm/ft²	0.96	0.49
cfm/ton	329.98	
ft²/ton	342.76	
Btu/hr·ft²	35.01	-21.00
No. People	222	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB °F	Enter WB °F	Enter HR gr/lb	Leave DB °F	Leave WB °F	Leave HR gr/lb
Main Clg	58.2	698.8	544.1	27,138	75.8	64.1	71.1	57.8	55.6	63.0
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	24.0	288.1	159.6	3,763	93.2	76.6	112.4	55.0	54.9	64.6
Total	82.2	986.9								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	28,188		
Part	9,272		
Int Door	0		
ExFlr	0		
Roof	9,720	0	0
Wall	13,313	512	4
Ext Door	329	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-461.7	13,939	57.8	87.6
Aux Htg	0.0	0	0.0	0.0
Preheat	-11.5	3,763	55.0	57.8
Reheat	-158.7	13,939	57.8	68.0
Humidif	0.0	0	0.0	0.0
Opt Vent	-118.7	3,763	26.6	55.0
Total	-591.9			

System Checksums

By Jacobs

System - 002

Ventilation and Heating

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 0 / 0
Outside Air: OADB/WB/HR: 0 / 0 / 0

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	0	0	0
Glass Solar	0	0	0	0
Glass/Door Cond	0	0	0	0
Wall Cond	0	0	0	0
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0.00	0.00	0.00	0.00
Infiltration	0		0	0
Sub Total ==>	0	0	0	0
Internal Loads				
Lights	0	0	0	0
People	0	0	0	0
Misc	0	0	0	0
Sub Total ==>	0	0	0	0
Ceiling Load	0	0	0	0
Ventilation Load	0	0	0	0
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		0	0	0
Sup. Fan Heat			0	0
Ret. Fan Heat		0	0	0
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	0	0	0	100.00

CLG SPACE PEAK

Mo/Hr: 0 / 0
OADB: 0

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	0	0
Glass/Door Cond	0	0
Wall Cond	0	0
Partition/Door	0	0
Floor	0.00	0
Adjacent Floor	0.00	0.00
Infiltration	0	0
Sub Total ==>	0	0
Internal Loads		
Lights	0	0
People	0	0
Misc	0	0
Sub Total ==>	0	0
Ceiling Load	0	0
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	0	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 27

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	-55,486	-55,486	10.41
Glass Solar	0	0	0.00
Glass/Door Cond	-11,898	-11,898	2.23
Wall Cond	-103,828	-103,828	19.47
Partition/Door	6,447	6,447	-1.21
Floor	0	0	0.00
Adjacent Floor	0.00	0.00	0.00
Infiltration	-116,738	-116,738	21.89
Sub Total ==>	-281,502	-281,502	52.79
Internal Loads			
Lights	35,207	44,009	-8.25
People	0	0	0.00
Misc	16,670	16,670	-3.13
Sub Total ==>	51,877	60,679	-11.38
Ceiling Load	0	0	0.00
Ventilation Load	0	-308,207	57.80
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		-4,223	0.79
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-229,625	-533,254	100.00

TEMPERATURES

	Cooling	Heating
SADB	0.0	70.0
Ra Plenum	0.0	55.0
Return	0.0	56.0
Ret/OA	0.0	35.2
Fn MtrTD	0.0	0.2
Fn BldTD	0.0	0.2
Fn Frict	0.0	0.7

AIRFLOWS

	Cooling	Heating
Diffuser	0	13,780
Terminal	0	13,780
Main Fan	0	13,780
Sec Fan	0	0
Nom Vent	0	9,769
AHU Vent	0	9,769
Infil	0	3,700
MinStop/Rh	0	0
Return	0	7,711
Exhaust	0	3,700
Rm Exh	0	9,769
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	0.0	70.9
cfm/ft²	0.00	0.71
cfm/ton	0.00	
ft²/ton	0.00	
Btu/hr·ft²	0.00	-27.29
No. People	5	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB °F	Enter WB °F	Enter HR gr/lb	Leave DB °F	Leave WB °F	Leave HR gr/lb
Main Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	19,537		
Part	9,272		
Int Door	0		
ExFlr	0		
Roof	19,537	0	0
Wall	14,600	0	0
Ext Door	744	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-533.3	13,780	35.2	70.0
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-533.3			

System Checksums

By Jacobs

System - 001 — **Single Zone Variable Air Volume**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 94 / 76 / 109

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	97,845	0	97,845	14
Glass Solar	16,488	0	16,488	2
Glass/Door Cond	9,641	0	9,641	1
Wall Cond	128,610	0	128,610	19
Partition/Door	33,667		33,667	5
Floor	0		0	0
Adjacent Floor	0.00	0.00	0.00	0.00
Infiltration	186,897		186,897	27
Sub Total ==>	473,148	0	473,148	69
Internal Loads				
Lights	60,585	2,910	63,496	9
People	118,429	0	118,429	17
Misc	48,103	0	48,103	7
Sub Total ==>	227,117	2,910	230,028	34
Ceiling Load	0	0	0	0
Ventilation Load	-111,931	0	-111,931	-16
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		-10,089	-10,089	-1
Sup. Fan Heat			60,911	9
Ret. Fan Heat		39,858	39,858	6
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	588,334	32,680	681,925	100.00

CLG SPACE PEAK

Mo/Hr: 7 / 15
OADB: 94

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	97,845	22
Glass Solar	16,488	4
Glass/Door Cond	9,641	2
Wall Cond	128,610	29
Partition/Door	33,667	8
Floor	0.00	0
Adjacent Floor	0.00	0.00
Infiltration	77,259	17
Sub Total ==>	363,510	82
Internal Loads		
Lights	60,585	14
People	60,191	14
Misc	48,103	11
Sub Total ==>	168,879	38
Ceiling Load	0	0
Ventilation Load	-89,446	-20
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	442,942	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 27

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	-40,241	-40,241	14.68
Glass Solar	0	0	0.00
Glass/Door Cond	-23,267	-23,267	8.49
Wall Cond	-142,739	-142,739	52.06
Partition/Door	-9,312	-9,312	3.40
Floor	0	0	0.00
Adjacent Floor	0.00	0.00	0.00
Infiltration	-203,856	-203,856	74.35
Sub Total ==>	-419,415	-419,415	152.96
Internal Loads			
Lights	60,585	63,496	-23.16
People	24,300	24,300	-8.86
Misc	31,516	31,516	-11.49
Sub Total ==>	116,401	119,311	-43.51
Ceiling Load	0	0	0.00
Ventilation Load	-50,557	-50,557	18.44
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	188,457	188,457	-68.73
Exhaust Heat		-1,548	0.56
OA Preheat Diff.		-110,447	40.28
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-165,113	-274,198	100.00

TEMPERATURES

	Cooling	Heating
SADB	62.5	89.3
Ra Plenum	78.0	68.0
Return	79.1	68.2
Ret/OA	79.1	68.2
Fn MtrTD	0.2	0.0
Fn BldTD	0.5	0.0
Fn Frict	1.4	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	23,152	6,976
Terminal	23,152	6,976
Main Fan	23,152	6,976
Sec Fan	0	0
Nom Vent	3,501	3,501
AHU Vent	3,501	3,501
Infil	4,432	4,432
MinStop/Rh	6,420	6,976
Return	31,085	14,909
Exhaust	7,933	7,933
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	15.1	50.2
cfm/ft²	0.82	0.25
cfm/ton	292.46	
ft²/ton	356.08	
Btu/hr·ft²	33.70	-9.73
No. People	222	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB °F	Enter WB °F	Enter HR gr/lb	Leave DB °F	Leave WB °F	Leave HR gr/lb
Main Clg	56.8	681.9	536.5	25,697	79.1	65.7	73.6	60.4	57.3	65.7
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	22.3	268.0	148.4	3,501	93.2	76.6	112.4	55.0	54.9	64.6
Total	79.2	950.0								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	28,188		
Part	9,272		
Int Door	0		
ExFlr	0		
Roof	9,720	0	0
Wall	13,313	512	4
Ext Door	329	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-163.8	6,976	68.2	89.3
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	-110.5	3,501	26.6	55.0
Total	-274.2			

System Checksums

By Jacobs

System - 002

Ventilation and Heating

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 0 / 0
Outside Air: OADB/WB/HR: 0 / 0 / 0

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	0	0	0
Glass Solar	0	0	0	0
Glass/Door Cond	0	0	0	0
Wall Cond	0	0	0	0
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0.00	0.00	0.00	0.00
Infiltration	0		0	0
Sub Total ==>	0	0	0	0
Internal Loads				
Lights	0	0	0	0
People	0	0	0	0
Misc	0	0	0	0
Sub Total ==>	0	0	0	0
Ceiling Load	0	0	0	0
Ventilation Load	0	0	0	0
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		0	0	0
Sup. Fan Heat			0	0
Ret. Fan Heat		0	0	0
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	0	0	0	100.00

CLG SPACE PEAK

Mo/Hr: 0 / 0
OADB: 0

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	0	0
Glass/Door Cond	0	0
Wall Cond	0	0
Partition/Door	0	0
Floor	0.00	0
Adjacent Floor	0.00	0.00
Infiltration	0	0
Sub Total ==>	0	0
Internal Loads		
Lights	0	0
People	0	0
Misc	0	0
Sub Total ==>	0	0
Ceiling Load	0	0
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Exhaust Heat		
OA Preheat Diff.		
RA Preheat Diff.		
Additional Reheat		
Underflr Sup Ht Pkup		
Supply Air Leakage		
Grand Total ==>	0	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 27

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	-55,486	-55,486	10.41
Glass Solar	0	0	0.00
Glass/Door Cond	-11,898	-11,898	2.23
Wall Cond	-103,828	-103,828	19.47
Partition/Door	6,447	6,447	-1.21
Floor	0	0	0.00
Adjacent Floor	0.00	0.00	0.00
Infiltration	-116,738	-116,738	21.89
Sub Total ==>	-281,502	-281,502	52.79
Internal Loads			
Lights	35,207	44,009	-8.25
People	0	0	0.00
Misc	16,670	16,670	-3.13
Sub Total ==>	51,877	60,679	-11.38
Ceiling Load	0	0	0.00
Ventilation Load	0	-308,207	57.80
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		-4,223	0.79
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-229,625	-533,254	100.00

TEMPERATURES

	Cooling	Heating
SADB	0.0	70.0
Ra Plenum	0.0	55.0
Return	0.0	56.0
Ret/OA	0.0	35.2
Fn MtrTD	0.0	0.2
Fn BldTD	0.0	0.2
Fn Frict	0.0	0.7

AIRFLOWS

	Cooling	Heating
Diffuser	0	13,780
Terminal	0	13,780
Main Fan	0	13,780
Sec Fan	0	0
Nom Vent	0	9,769
AHU Vent	0	9,769
Infil	0	3,700
MinStop/Rh	0	0
Return	0	7,711
Exhaust	0	3,700
Rm Exh	0	9,769
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	0.0	70.9
cfm/ft²	0.00	0.71
cfm/ton	0.00	
ft²/ton	0.00	
Btu/hr·ft²	0.00	-27.29
No. People	5	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB °F	Enter WB °F	Enter HR gr/lb	Leave DB °F	Leave WB °F	Leave HR gr/lb
Main Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	19,537		
Part	9,272		
Int Door	0		
ExFlr	0		
Roof	19,537	0	0
Wall	14,600	0	0
Ext Door	744	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-533.3	13,780	35.2	70.0
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-533.3			

ENERGY CONSUMPTION SUMMARY

By Jacobs

	Elect Cons. (kWh)	Gas Cons. (kBtu)	Water Cons. (1000 gals)	% of Total Building Energy	Total Building Energy (kBtu/yr)	Total Source Energy* (kBtu/yr)
Alternative 1						
Primary heating						
Primary heating		527,244		19.8 %	527,244	554,994
Other Htg Accessories	2,086		25	0.3 %	7,120	21,361
Heating Subtotal	**2,086**	**527,244**	**25**	**20.0** %	**534,364**	**576,354**
Primary cooling						
Cooling Compressor	154,865			19.8 %	528,553	1,585,816
Tower/Cond Fans	12,806			1.6 %	43,706	131,130
Condenser Pump				0.0 %	0	0
Other Clg Accessories	636			0.1 %	2,171	6,515
Cooling Subtotal....	**168,306**			**21.5** %	**574,430**	**1,723,461**
Auxiliary						
Supply Fans	155,323			19.9 %	530,118	1,590,512
Pumps	25,901			3.3 %	88,400	265,227
Stand-alone Base Utilities				0.0 %	0	0
Aux Subtotal....	181,224			23.2 %	618,518	1,855,738
Lighting						
Lighting	275,928			35.3 %	941,742	2,825,510
Receptacle						
Receptacles				0.0 %	0	0
Cogeneration						
Cogeneration				0.0 %	0	0
Totals						
Totals**	**627,545**	**527,244**	**25**	**100.0** %	**2,669,053**	**6,981,065**

* Note: Resource Utilization factors are included in the Total Source Energy value.
** Note: This report can display a maximum of 7 utilities. If additional utilities are used, they will be included in the total.

ENERGY CONSUMPTION SUMMARY

By Jacobs

	Elect Cons. (kWh)	Gas Cons. (kBtu)	Water Cons. (1000 gals)	% of Total Building Energy	Total Building Energy (kBtu/yr)	Total Source Energy* (kBtu/yr)
Alternative 2						
Primary heating						
Primary heating		539,602		20.2 %	539,602	568,003
Other Htg Accessories	1,967		23	0.3 %	6,712	20,137
Heating Subtotal	**1,967**	**539,602**	**23**	**20.4** %	**546,314**	**588,140**
Primary cooling						
Cooling Compressor	152,514			19.5 %	520,530	1,561,747
Tower/Cond Fans	12,602			1.6 %	43,010	129,043
Condenser Pump				0.0 %	0	0
Other Clg Accessories	672			0.1 %	2,294	6,883
Cooling Subtotal....	**165,788**			**21.2** %	**565,834**	**1,697,673**
Auxiliary						
Supply Fans	154,034			19.7 %	525,719	1,577,313
Pumps	27,268			3.5 %	93,064	279,220
Stand-alone Base Utilities				0.0 %	0	0
Aux Subtotal....	181,302			23.2 %	618,783	1,856,533
Lighting						
Lighting	275,928			35.2 %	941,742	2,825,510
Receptacle						
Receptacles				0.0 %	0	0
Cogeneration						
Cogeneration				0.0 %	0	0
Totals						
Totals**	**624,984**	**539,602**	**23**	**100.0** %	**2,672,674**	**6,967,856**

* Note: Resource Utilization factors are included in the Total Source Energy value.
** Note: This report can display a maximum of 7 utilities. If additional utilities are used, they will be included in the total.

ENERGY CONSUMPTION SUMMARY

By Jacobs

	Elect Cons. (kWh)	Gas Cons. (kBtu)	Water Cons. (1000 gals)	% of Total Building Energy	Total Building Energy (kBtu/yr)	Total Source Energy* (kBtu/yr)
Alternative 3						
Primary heating						
Primary heating		507,709		19.3 %	507,709	534,430
Other Htg Accessories	1,857		22	0.2 %	6,338	19,016
Heating Subtotal	**1,857**	**507,709**	**22**	**19.6** %	**514,047**	**553,446**
Primary cooling						
Cooling Compressor	149,983			19.5 %	511,893	1,535,832
Tower/Cond Fans	12,392			1.6 %	42,292	126,890
Condenser Pump				0.0 %	0	0
Other Clg Accessories	672			0.1 %	2,294	6,883
Cooling Subtotal....	**163,047**			**21.2** %	**556,479**	**1,669,605**
Auxiliary						
Supply Fans	153,081			19.9 %	522,466	1,567,555
Pumps	27,500			3.6 %	93,857	281,598
Stand-alone Base Utilities				0.0 %	0	0
Aux Subtotal....	180,581			23.5 %	616,323	1,849,153
Lighting						
Lighting	275,928			35.8 %	941,742	2,825,510
Receptacle						
Receptacles				0.0 %	0	0
Cogeneration						
Cogeneration				0.0 %	0	0
Totals						
Totals**	**621,413**	**507,709**	**22**	**100.0** %	**2,628,591**	**6,897,713**

* Note: Resource Utilization factors are included in the Total Source Energy value.
** Note: This report can display a maximum of 7 utilities. If additional utilities are used, they will be included in the total.

ENERGY CONSUMPTION SUMMARY

By Jacobs

	Elect Cons. (kWh)	Gas Cons. (kBtu)	Water Cons. (1000 gals)	% of Total Building Energy	Total Building Energy (kBtu/yr)	Total Source Energy* (kBtu/yr)
Alternative 4						
Primary heating						
Primary heating		224,962		11.4 %	224,962	236,802
Other Htg Accessories	1,035		9	0.2 %	3,531	10,593
Heating Subtotal	**1,035**	**224,962**	**9**	**11.5** %	**228,492**	**247,395**
Primary cooling						
Cooling Compressor	123,447			21.3 %	421,326	1,264,104
Tower/Cond Fans	9,887			1.7 %	33,745	101,244
Condenser Pump				0.0 %	0	0
Other Clg Accessories	672			0.1 %	2,294	6,883
Cooling Subtotal....	**134,007**			**23.1** %	**457,365**	**1,372,231**
Auxiliary						
Supply Fans	78,676			13.6 %	268,522	805,648
Pumps	24,683			4.3 %	84,245	252,759
Stand-alone Base Utilities				0.0 %	0	0
Aux Subtotal....	103,360			17.8 %	352,767	1,058,408
Lighting						
Lighting	275,928			47.6 %	941,742	2,825,510
Receptacle						
Receptacles				0.0 %	0	0
Cogeneration						
Cogeneration				0.0 %	0	0
Totals						
Totals**	**514,329**	**224,962**	**9**	**100.0** %	**1,980,367**	**5,503,544**

* Note: Resource Utilization factors are included in the Total Source Energy value.
** Note: This report can display a maximum of 7 utilities. If additional utilities are used, they will be included in the total.

Appendix I. FIRE INSPECTION REPORT

Fort Polk F&ES

Form: Fort Polk Fire Inspection Form*

Occupancy: **Aircraft Maint 4295**
Occupancy ID: **4295**
Address: **7590 California AVE**
Fort Polk LA 71459

Inspection Type: **Quarterly**
Inspection Date: **2/18/2020** By: Jackson , Carlos J (5035)
Time In: **00:00** Time Out: **00:00**
Authorized Date: **02/24/2020** By: Jackson , Carlos J (5035)
Next Inspection Date:

Inspection Description:

An inspection has been conducted at this location to determine if any NFPA or UFC code violations exist. If you do not understand any of the listed violations ask your fire inspector to explain each violation. This fire inspection is intended for your safety and the safety of the citizens of Fort Polk. Your cooperation is greatly appreciated.

Inspection Topics:

No Discrepancies Noted

There are no code discrepancies found in this facility.

There were no violations or deficiencies found at this location.

Status:
Notes:

Fire Protection Access and Equipment

All Fire and Sprinkler alarm devices must be operational.

All installed Fire/Sprinkler alarm devices must be operational in case of an emergency.

Status:
Notes:

All fire suppression system components are being maintained and operational. (i.e. pipe hangers, sprinklers for obstructions, piping for leaks and riser condition, etc.)

As part of the building inspection the fire suppression system should be visibly inspected to ensure pipe hangers arenâ€™t broken, sprinklers are not obstructed, pipe is not leaking and general condition of the riser is acceptable.

Status:
Notes:

Fire and Sprinkler alarm systems equipped with a transmitter transmit a signal to dispatch.

Fire and Sprinkler alarm systems equipped with a transmitter must be able to transmit a signal to dispatch in case of an emergency.

Status:
Notes:

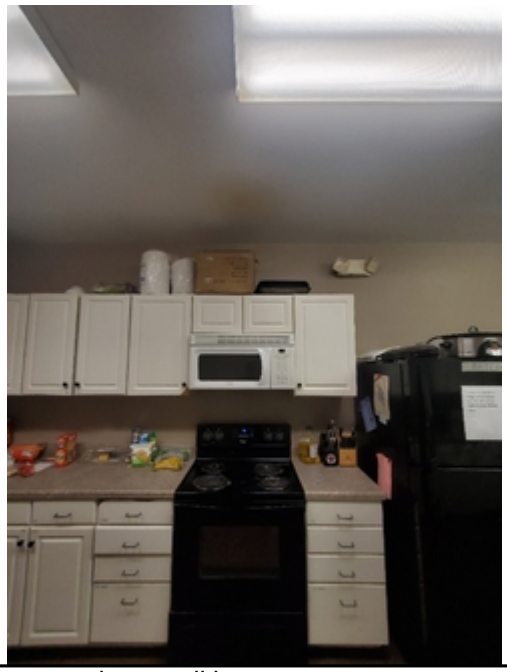
Vent hoods and fire suppression equipment above commercial type stoves are properly maintained and certified for use.

Vent hoods and fire suppression equipment above commercial type stoves must be properly maintained and certified by certified personnel before use. Regular cleaning of the hood, duct, and filters will eliminate flammable grease build-up and provide proper ventilation of head through the exhaust outlet.

Status: Info.

Notes: NFPA 96: 4.1.1 Cooking equipment used in processes producing smoke or grease-laden vapors shall be equipped with an exhaust system that complies with all the equipment and performance requirement of Chapter 96.

As seen in the picture cooking has produced grease laden vapors that has made a stain on the ceiling. Propose getting the proper vent system for protection of the said area.



Smoke detectors are in proper operating condition.

The proper installation and maintenance of smoke detectors is of the utmost importance. In the event of a fire, they will notify occupants, and, in some cases, may automatically notify the Fire Department.

Status:

Notes:

All Fire Alarm components (Horns, Strobes and Pulls) are free of obstruction and operational.

The Fire alarm Horns, Strobes and Pulls must be visible, accessible and operational.

Status:

Notes:

There is clear fire department access to standpipes, sprinkler valves, fire hydrants, fire lanes, and other fire protection equipment.

Fire protection equipment must have clear access and be operational at all times to be effective in an emergency.

Status:

Notes:

Other:

Other

Status:

Notes:

Exits

Is there a Fort Polk Form 1145 posted at the main entrance to the building?

The Fort Polk Form 1145 is an Emergency Contact Form that must be visibly posted for after hour responses.

Status:

Notes:

Do Exit doors and hardware operate properly?

Well maintained exit doors and panic hardware provide safe and easy egress from a building.

Status:

Notes:

Are exits, aisles, corridors, and stairways accessible?

Clear exit access is essential to prevent panic or accidental falling of occupants during evacuation.

Status:

Notes:

Is there any storage beneath stairs?

Items stored beneath stairs present a fire risk that can endanger persons using that escape route.

Status:

Notes:

Are all exit doors unlocked during business hours?

Locked exit doors make it impossible for occupants to escape safely and quickly.

Status:

Notes:

Are there any unapproved locks or latches on exit doors?

Exit doors must be free to open without delay in the event of an emergency.

Status:

Notes:

Other:

Other

Status:

Notes:

Exit and Emergency Lighting

Is proper lighting for exits, aisles, corridors, and stairways provided?

Well lighted exit ways prevent panic, and provide safer egress for occupants.

Status:

Notes:

Are exit signs or emergency lighting in place and working properly?

Exit signs and emergency illumination are essential during evacuations. The exit sign will indicate to occupants the correct door to reach safely.

Status:

Notes:

Other:

Other:

Status:

Notes:

Fire Extinguishers

Have fire extinguishers received their 6 and 12 year maintenance and certifications?

Fire extinguishers must receive 6 and 12 year maintenance and certifications?

Status:

Notes:

Are fire extinguishers free of obstruction?

Fire extinguishers are to be clearly visible and accessible to help occupants find the equipment in a hurry.

Status:

Notes:

Are fire extinguishers mounted properly?

Extinguishers must be easily within reach of all occupants, but not where they will be subject to damage.

Status:

Notes:

Are Portable fire extinguishers being inspected monthly?

Annual Fire Extinguishers will be inspected monthly for proper charge and assure proper operation if needed to fight a small fire.

Status:

Notes:

Other:

Other

Status:

Notes:

Fire Separations

Are attic scuttle covers closed, and ceiling tiles in place?

Ceilings are an integral part of the building feets fire protection. If kept in place, the ceiling will protect roof structures from premature collapse.

Status:

Notes:

Are there any unapproved openings or breaches in the fire walls/doors?

Flame, smoke, and hot gases can easily travel through holes and pipe chases, thus creating more damage and a hazard to occupants.

Status: Info.

Notes: multiple breaches (unapproved openings) in the firewalls throughout the structure.

Are there any obstructions or props preventing fire doors from operating properly?

Fire and smoke doors should not be blocked open or obstructed or fire and smoke will easily travel through the opening and cause excessive risk to life and property.

Status:

Notes:

Other:

Other

Status:

Notes:

Flammable Liquids

Are flammable liquids stored in an approved cabinet?

In the event of a fire, flammable liquids can readily accelerate its spread. Confining the stored liquids to secure cabinets will limit this fire exposure.

Status:

Notes:

Are flammable liquids away from exits, aisles, corridors, or stairways?

The accelerating effect of flammable liquids in a fire can quickly make safe exit impossible.

Status:

Notes:

Other:

Other

Status:

Notes:

Housekeeping

Are fire and/or heat producing items used in unapproved areas? (i.e. candles, hot plates and other cooking equipment)

The use of Fire and/or heat producing items are prohibited in unapproved areas, i.e. candles, hot plates and other cooking equipment, could cause a fire.

Status:

Notes:

Is storage to at least 18 inches below level of sprinklers?

Storage too close to a sprinkler will not allow the water spray to properly penetrate the fire and extinguish it.

Status:

Notes:

Are people smoking within 50 ft of the building?

'No Smoking' areas are designated because the use of smoking materials in those areas could cause a fire.

Status:

Notes:

Are approved waste containers for combustible waste being used?

Heavy duty or metal containers are necessary to confine a fire in the receptacle to prevent if spreading to the building.

Status:

Notes:

Have rubbish, waste material, oily rags been removed or stored in closed metal containers?

Safety containers for oily and greasy rags are designed to prevent spontaneous ignition of their contents. Other highly flammable wastes must be separated from sources of ignition.

Status:

Notes:

Is storage arranged in an orderly manner to provide for exiting and fire department access?

Good housekeeping makes an area safer for occupants and contributes less fuel to a fire. When storage is orderly, fire fighters can get fast access to minimize fire damage.

Status:

Notes:

Are Boiler, mechanical, and electrical panel rooms being used for anything other than the intended use of the room?

Items stored or used in these areas can cause damage to important equipment in these areas. Combustible materials in these equipment rooms often get put too close to sources of heat and a fire will likely result.

Status:

Notes:

Are compressed gas cylinders secured in an upright position and their protective caps in place?

Compressed gas cylinders, empty or full, can take off like a rocket in any direction if they fail and rupture.

Status:

Notes:

Is there an excessive amount of combustible Load?

The combustible load is high in the bldg. (i.e. shredded paper, empty boxes, improper/unauthorized storage or use of wood construction materials in noncombustible bldgs.)

Status:

Notes:

Other:

Other

Status:

Notes:

Electrical

Are space heaters being used w/o a permit of use from DPW?

Could cause a fire.

Status:

Notes:

Is there permanent use of extension cords or misuse of non-approved multi-plug adapters?

Temporary wire does not afford the durability, safety, and protection from shock or fire that is found in the construction of an enclosed electrical system. Multi-plug adapters invite the overuse of the circuit that can result in overheating and a fire.

Status:

Notes:

Do electrical outlet and Light switches have a cover faceplate or fixture canopy?

Covers protect people from being shocked by exposed wires, prevent spread of electrical current, and heat and flame during short circuits.

Status:

Notes:

Other:

Other

Status:

Notes:

Additional Time Spent on Inspection:

Category	Start Date / Time	End Date / Time

Notes: No Additional time recorded

Total Additional Time: 0 minutes

Inspection Time: 0 minutes

Total Time: 0 minutes

Summary:

Overall Result: Passed with Comments

Inspector Notes:

Closing Notes:

In the course of this general fire safety inspection, your mechanical equipment such as furnaces, water heaters, kitchen appliances, etc. received a visual check for obvious deficiencies. This general fire safety inspection is not intended to serve as a complete inspection of the equipment. It is the responsibility of the owner or other person responsible of the property to see that all mechanical equipment is fully inspected and adequately maintained by competent and licensed personnel.

Inspector:

Name: Jackson , Carlos J
Work Phone(s): 337-692-2947
Email(s): carlos.j.jackson.civ@mail.mil, Clos1646@yahoo.com
Jackson , Carlos J:

Signed on: 02/18/2020 13:54

Signature *Date*

Representative Signature:

Signature of: Elin Garcia on 02/18/2020 13:53

Signature *Date*

Appendix J. HYDRANT FLOW TEST

Hydrant Flow Test Report

Project Name: Fort Polk MEDEVAC
Project Location: Fort Polk, LA
Test Performed by: Am. Water. S&S Sprinkler **Date:** April 23, 2020
Representative of: Jacobs Eng. **Time:** 8:30 AM
Witnessed by: Am Water/ Ft. Polk.

Purpose: Determine available flow and pressure for fire suppression sprinkler systems

Notes: Height from gauge hydrant to building finished floor elevation: 0 feet

	ID	Outlet Size	Outlet Coefficient
Gauge Hydrant:	A2	2.5	0.90
Flow Hydrant 1 (F1):	A1	2.5	0.90
Flow Hydrant 2 (F2):	N/A	2.5	0.90
Flow Hydrant 3 (F3):	N/A	2.5	0.90

Coefficient Note: Hydrant outlet discharge coefficients shall be determined per NFPA 291 -
Outlet with flow tube (stream straightener): 0.95
Outlet smooth and rounded: 0.90
Outlet square and sharp: 0.80
Outlet square and projecting into barrel: 0.70

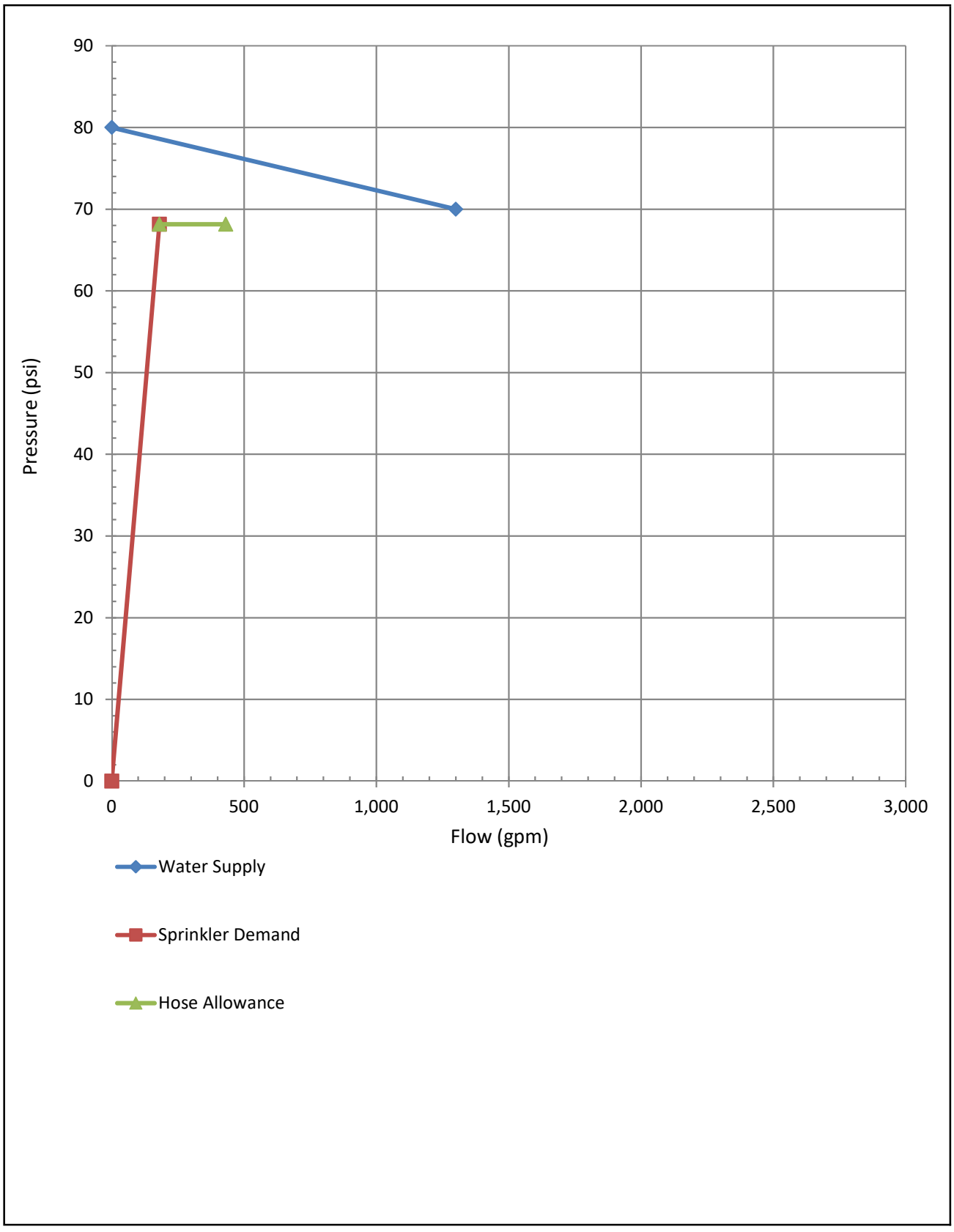
Static Pressure:	(before test)	80 psig
Static Pressure:	(after test)	80 psig

Residual Pressure:	(one hydrant flowing)	70 psig
	(two hydrants flowing)	0 psig
	(three hydrants flowing)	0 psig

	Pitot Reading	Calculated Flow
Hydrant Flow Rate F1	60 psig	1,300 gpm
Hydrant Flow Rate F2	0 psig	0 gpm
Hydrant Flow Rate F3	0 psig	0 gpm
	Total Flow:	1,300 gpm
	Available Flow @ 20 psig:	3,420 gpm

Water Supply and Sprinkler Demand Graph

Project Name: Fort Polk MEDEVAC
Project Location: Fort Polk, LA
Calcs Performed by: Jacobs Engineering **Date:** April 23, 2020



SPRINKLER CO.,LLC
FIRE PROTECTION CONTRACTORS

Corporate

Branch
2481 Borden Lane
Mobile, AL 36617
Tel: 251.478.6000
Fax: 251.478.6030

Branch
14054 Jefferson Hwy
Baton Rouge, LA 70817
Tel: 225.753.8312
Fax: 225.753.7056

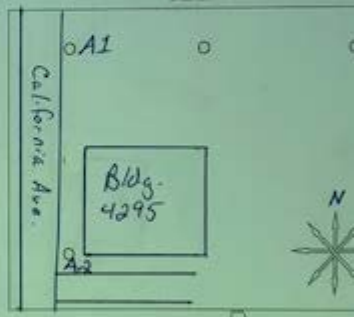
Hydrant Flow Test Report

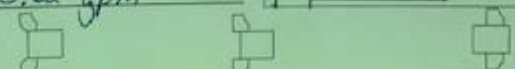
Building: 4295 *Date:* 4-23-20
Address: *Time:* 8:30 Am
City, State, Zip:
Test performed by: S & S Sprinkler Co., LLC *Rep:*
Witnessed By: American Water *Rep:*
State purpose of test:
Consumption rate during test:
If pumps affect test, indicate pumps operation:

Flowing Hydrants:
A1: Flow / Pitot
A2: Static / Resid.
A3:
A4:

Size Nozzle: 2.5"
Pitot Reading: 60 psi
Discharge coefficient: 0.9 **GPM**
GPM: 1300.62 gpm

MAP





Smooth (C=0.9) **Squared (C=0.8)** **Nipple (C=0.7)**

Static A: 80 **Residual B:** 70 **Pitot Reading:** 60
Remarks: Test performed by Byron Woods and Brandon C

Indicate B: **Hydrant:** **Sprinkler:** **Other:**

Location map: Show line sizes and distance to next cross-connected line. Show valves and hydrant branch size. Indicate north. Show flowing hydrants- Label A1 A2, A3, A4. Show location of static and residual – Label B

Appendix K. FF&E DATA SHEETS

CEQ ORDER DATA SHEET

Item			Item Code
WASHER			**AP1**
Manufacturer			
Name	For Information Only - Basis of Design to establish utility and space requirements		
Address			
Telephone Number			
Email / Website			
Item Description			
Manufacturer	BASIS OF DESIGN - BOSCH		
Product Name	500 SERIES 24" COMPACT WASHER		
Product Number	WAT28401UC		
Dimensions	33 1/4" H x 23 1/2" W x 25" D		
Description	Non-coin. Energy Star Designed. Front load washer. Can be stackable, under counter or stand alone.		
Finishes	Finish : White		
General Notes	**This is only Basis of Design; Not included in construction contract; will be procured in a separate contract.**		

Location and Quantity

Room Number	Room Name	Quantity
127	LAUNDRY ROOM	2
	TOTAL	**2**

CEQ ORDER DATA SHEET

Item			Item Code
DRYER			**AP2**
Manufacturer			
Name	For Information Only - Basis of Design to establish utility and space requirements		
Address			
Telephone Number			
Email / Website			

Item Description		
Manufacturer	BASIS OF DESIGN - BOSCH	
Product Name	500 SERIES 24" Compact Condensation Dryer	
Product Number	WTG86401UC	
Dimensions	23 1/2" W x 25" D x 33 1/4" H	
Description	Electric. Energy Star Designed. Front load dryer. Can be stackable, under counter or stand alone.	
Finishes	Finish : White	
General Notes	**This is only Basis of Design; Not included in construction contract; will be procured in a separate contract.**	

Location and Quantity

Room Number	Room Name	Quantity
127	LAUNDRY ROOM	2
	TOTAL	**2**

CEQ ORDER DATA SHEET

Item			Item Code
MICROWAVE			**AP3**
Manufacturer			
Name	For Information Only - Basis of Design to establish utility and space requirements		
Address			
Telephone Number			
Email / Website			
Item Description			
Manufacturer	BASIS OF DESIGN - GE Appliances		
Product Name	Profile 1.5 Cu. Ft. Countertop Convection/Microwave Oven		
Dimensions	21-3/4" W x 20" D x 13" H		
Description	Countertop microwave (1.5 Cu. Ft.) with 1,000 Watt cooking power. Electronic digital display, sensor cooking, and 10 power levels. Recessed glass turntable (13-1/2" diameter). ADA Compliant.		
Finishes	Finish (Exterior): Stainless Steel		
General Notes	**This is only Basis of Design; Not included in construction contract; will be procured in a separate contract.**		

Location and Quantity

Room Number	Room Name	Quantity
120	KITCHEN	2
	TOTAL	**2**

CEQ ORDER DATA SHEET

Item			Item Code
COFFEE MAKER			**AP4**
Manufacturer			
Name	For Information Only - Basis of Design to establish utility and space requirements		
Address			
Telephone Number			
Email / Website			
Item Description			
Manufacturer	BASIS OF DESIGN - Bunn		
Product Name	Dual Voltage Thermal Carafe Automatic Coffee Brewer		
Dimensions	9" W x 21.5" D x 18.4" H		
Description	Automatic coffee brewer with hot water faucet (requires plumbing connection). Dual voltage adapatable. Include 8.5" thermal carafe (ordered separately). Pourover feature.		
Finishes	Finish: Stainless Steel		
General Notes	**This is only Basis of Design; Not included in construction contract; will be procured in a separate contract.**		

Location and Quantity

Room Number	Room Name	Quantity
120	KITCHEN	1
	TOTAL	**1**

CEQ ORDER DATA SHEET

Item			Item Code
REFRIGERATOR			**AP5**
Manufacturer			
Name	For Information Only - Basis of Design to establish utility and space requirements		
Address			
Telephone Number			
Email / Website			
Item Description			
Manufacturer	BASIS OF DESIGN - GE Appliances		
Product Name	Energy Star 24.8 Cu. Ft. Bottom-Freezer Drawer Refrigerator		
Dimensions	32-3/4" W x 37-1/2" D x 69-7/8" H		
Description	Bottom freezer drawer refrigerator with 24.8 cu ft capacity, LED interior lighting, and factory installed icemaker. (1) Sliding snack drawer and (2) humidity controlled drawers. Energy Star qualified. Reversible door swing with door alarm.		
Finishes	Finish: Stainless Steel		
General Notes	**This is only Basis of Design; Not included in construction contract; will be procured in a separate contract.**		

Location and Quantity

Room Number	Room Name	Quantity
120	KITCHEN	2
113C	SNACK	1
	TOTAL	**3**

CEQ ORDER DATA SHEET

Item			Item Code
ICE MAKER			**AP6**
Manufacturer			
Name	For Information Only - Basis of Design to establish utility and space requirements		
Address			
Telephone Number			
Email / Website			
Item Description			
Manufacturer	BASIS OF DESIGN - GE Appliances		
Product Name	GE Profile Ice Maker with tank		
Dimensions	16 1/2" H x 10 1/2" W x 15 1/2" D		
Description	Makes up to 24 lbs of ice per day with attached tank. Has a 3 lb capacity. Automatically powers on when ice is running low.		
Finishes	Finish: Stainless Steel		
General Notes	**This is only Basis of Design; Not included in construction contract; will be procured in a separate contract.**		

Location and Quantity

Room Number	Room Name	Quantity
120	KITCHEN	1
	TOTAL	**1**

CEQ ORDER DATA SHEET

Item			Item Code
TWIN BED			**B1**
Manufacturer			
Name	For Information Only - Basis of Design to establish utility and space requirements		
Address			
Telephone Number			
Email / Website			
Item Description			
Manufacturer	BASIS OF DESIGN - University Loft Co.		
Product Name	Enlisted Twin Bed		
Dimensions	42 1/2" W x 85 3/8" L		
Description	Option A - G32208 38" Bed Ends 38"x80" Height Adjustable with Tool-less bed system to optmize space, storage and function.		
Finishes	TBD		
General Notes	**This is only Basis of Design; Not included in construction contract; will be procured in a separate contract.**		

Location and Quantity

Room Number	Room Name	Quantity
VARIES	SLEEP ROOMS	10
	TOTAL	**10**

CEQ ORDER DATA SHEET

Item			Item Code
DISHWASHER			**AP7**
Manufacturer			
Name	For Information Only - Basis of Design to establish utility and space requirements		
Address			
Telephone Number			
Email / Website			
Item Description			
Manufacturer	BASIS OF DESIGN - GE Appliances		
Product Name	GE Top Control with Sanitize Cycle		
Dimensions	34" H x 23 3/4" W x 24" D		
Description	Top Control Dishwasher with Sanitize Cycle and Dry Boost. 4 Bottle Wash Jets. Steams and Sanitizes. Wash Zones. 1 Hr. Wash; Adjustable upper rack; Piranha Hard Food Disposer; Three level 600 Series Wash system with Quiet Package.		
Finishes	Finish: Stainless Steel		
General Notes	**This is only Basis of Design; Not included in construction contract; will be procured in a separate contract.**		

Location and Quantity

Room Number	Room Name	Quantity
120	KITCHEN	1
	TOTAL	**1**

CEQ ORDER DATA SHEET

Item			Item Code
ELECTRIC SLIDE-IN RANGE			**AP8**
Manufacturer			
Name	For Information Only - Basis of Design to establish utility and space requirements		
Address			
Telephone Number			
Email / Website			
Item Description			
Manufacturer	BASIS OF DESIGN - GE Appliances		
Product Name	GE Profile 30" Smart Slide-In Double Oven Range		
Dimensions	37 1/4 H x 29 7/8" W x 28 1/4" D		
Description	6.7 cu. ft. total double oven capacity; glide touch controls; 12"/ 9"/ 6" 3,600W Power Boil; Pots and Pans fit perfectly on the flexible heating elements; fast preheat; 8"/5" and 8" synchoronized elements to create a larger cooking surface for griddles.		
Finishes	Finish: Stainless Steel		
General Notes	**This is only Basis of Design; Not included in construction contract; will be procured in a separate contract.**		

Location and Quantity

Room Number	Room Name	Quantity
120	KITCHEN	1
	TOTAL	**1**

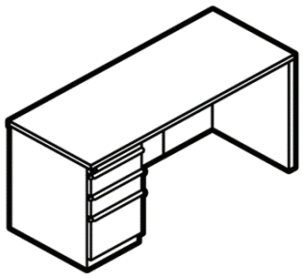
CEQ ORDER DATA SHEET

Item			Item Code
RANGE HOOD			**AP9**
Manufacturer			
Name	For Information Only - Basis of Design to establish utility and space requirements		
Address			
Telephone Number			
Email / Website			
Item Description			
Manufacturer	BASIS OF DESIGN - Broan		
Product Name	Broan Elite RMIP Series Pro		
Dimensions	33 3/4" W x 18 7/16" D x 11 1/2" H		
Description	Cabinet mount _ custom application Halogen lighting (33''_ 2 x 50 watt; 45''_ 3 x 50 watt PAR20) Lamps not included Controls: rocker switches for lighting and on-off, knob for infinite speed Heat Sentry™ turns blower ON to HIGH speed when excess heat is detected. 120 Vac, 60 Hz Amps (without blower): 0.8 (RMIP33) 1.3 (RMIP45		
Finishes	Finish: Stainless Steel		
General Notes	Included in Construction Contract		

Location and Quantity

Room Number	Room Name	Quantity
120	KITCHEN	1
	TOTAL	**1**

CEQ ORDER DATA SHEET

Item			Item Code
DESK			**D1**
Manufacturer			
Name	For Information Only - Basis of Design to establish utility and space requirements		
Address			
Telephone Number			
Email / Website			
Item Description			
Manufacturer	BASIS OF DESIGN - Knoll		
Product Name	Dividends Preconfigured Desk		
Dimensions	60" W x 30" d		
Description	Straight desk with box/box/file. Lockable storage. Provide back panels such that power can be accessed from wall beneath worksurface (Ensure panels do not cover wall receptacles). Laminate worksurface. Painted steel strorage. Box/box/file will be painted. Stainless steel pull.		
Finishes	TBD		
General Notes	**This is only Basis of Design; Not included in construction contract; will be procured in a separate contract.**		

Location and Quantity

Room Number	Room Name	Quantity
113	FLIGHT PLANNING OFFICE	3
	TOTAL	**3**

CEQ ORDER DATA SHEET

Item			Item Code
CHAIR, TASK			**CH1**
Manufacturer			
Name	For Information Only - Basis of Design to establish utility and space requirements		
Address			
Telephone Number			
Email / Website			
Item Description			
Manufacturer	BASIS OF DESIGN - Knoll		
Product Name	Generation		
Dimensions	28.5" W x 26" D x 39.25-44.5" H		
Description	Ergonomic task chair with upholstered seat. Flexible back, top, and seat with dynamic suspension control and recline. Adjustable seat depth and height , seat height 16.5-21.75". 5 Star base with soft casters for hard flooring. Adjustable lumbar support. Tilt preference selector. High performance, pnumatic height padded adjustable arms.		
Finishes	TBD		
General Notes	**This is only Basis of Design; Not included in construction contract; will be procured in a separate contract.**		

Location and Quantity

Room Number	Room Name	Quantity
113	FLIGHT PLANNING OFFICE	7
	TOTAL	**7**

CEQ ORDER DATA SHEET

Item			Item Code
CHAIR, DINING			**C2**
Manufacturer			
Name	For Information Only - Basis of Design to establish utility and space requirements		
Address			
Telephone Number			
Email / Website			
Item Description			
Manufacturer	BASIS OF DESIGN - Alcott Hill		
Product Name	Warsaw Cross Back Side Chair		
Dimensions	19 1/2 "H x 17" W x 18 1/2" D		
Description	Solid Wood Construction; .		
Finishes	TBD		
General Notes	**This is only Basis of Design; Not included in construction contract; will be procured in a separate contract.**		

Location and Quantity

Room Number	Room Name	Quantity
112	DAY ROOM	10
	TOTAL	**10**

CEQ ORDER DATA SHEET

Item			Item Code
CHAIR, STOOL			**C3**
Manufacturer			
Name	For Information Only - Basis of Design to establish utility and space requirements		
Address			
Telephone Number			
Email / Website			
Item Description			
Manufacturer	BASIS OF DESIGN - Alcott Hill		
Product Name	York 24" Bar Stool		
Dimensions	43" H x 22" W x 20" D		
Description	Solid Wood Construction; Floor to Seat height is 24"' Counter height bar stool		
Finishes	TBD		
General Notes	**This is only Basis of Design; Not included in construction contract; will be procured in a separate contract.**		

Location and Quantity

Room Number	Room Name	Quantity
120	KITCHEN	4
	TOTAL	**4**

CEQ ORDER DATA SHEET

Item			Item Code
LOCKER			**L1**
Manufacturer			
Name	For Information Only - Basis of Design to establish utility and space requirements		
Address			
Telephone Number			
Email / Website			
Item Description			
Manufacturer	BASIS OF DESIGN - SPACESAVER		
Product Name	Freestyle Personal Storage Locker		
Dimensions	18" W x 24" D x 90" H		
Description	Single door, diamond perforated. Hasp for combination lock. Adjustable shelf. Hanging rod. Closed base, and a sloped top.		
Finishes	Paint : Locker Grey GL (239)		
General Notes	**This is only Basis of Design; Not included in construction contract; will be procured in a separate contract.**		

Location and Quantity

Room Number	Room Name	Quantity
121	FLIGHT EQUIP STORAGE	12
	TOTAL	**12**

CEQ ORDER DATA SHEET

Item			Item Code
TWO DRAWER CHEST			**S1**
Manufacturer			
Name	For Information Only - Basis of Design to establish utility and space requirements		
Address			
Telephone Number			
Email / Website			
Item Description			
Manufacturer	BASIS OF DESIGN - University Loft Co.		
Product Name	Solid Wood 2 Drawer Chest		
Dimensions	36 1/2" W x 21 13/16" D x 18 13/16" H		
Description	Two drawer chest designed to and fit under the twin bed for added storage to maximize space. A part of the GSA Enlisted Series.		
Finishes	TBD		
General Notes	**This is only Basis of Design; Not included in construction contract; will be procured in a separate contract.**		

Location and Quantity

Room Number	Room Name	Quantity
VARIES	SLEEP ROOMS	10
	TOTAL	**10**

CEQ ORDER DATA SHEET

Item			Item Code
SINGLE DRAWER NIGHTSTAND			**S2**
Manufacturer			
Name	For Information Only - Basis of Design to establish utility and space requirements		
Address			
Telephone Number			
Email / Website			
Item Description			
Manufacturer	BASIS OF DESIGN - University Loft Co.		
Product Name	Solid Wood Single Drawer Nightstand		
Dimensions	20 5/8" W x 15 1/2" D x 26 1/4" H		
Description	Single Drawer solid wood nightstand from the solid wood GSA Enlisted collection. Dovetail joints and 100 lb. ball bearing glides.		
Finishes	TBD		
General Notes	**This is only Basis of Design; Not included in construction contract; will be procured in a separate contract.**		

Location and Quantity

Room Number	Room Name	Quantity
VARIES	SLEEP ROOMS	10
	TOTAL	**10**

CEQ ORDER DATA SHEET

Item			Item Code
STORAGE CABINET / FILE, 3 HIGH W/ TOP			**S3**
Manufacturer			
Name	For Information Only - Basis of Design to establish utility and space requirements		
Address			
Telephone Number			
Email / Website			
Item Description			
Manufacturer	BASIS OF DESIGN - Allsteel		
Product Name	Essential Storage		
Dimensions	Overall 72" W x 18" D x 39 1/2" H		
Description	(1) Metal storage cabinets (3-high) and (1) metal lateral file with continous laminate top..		
Finishes	TBD		
General Notes	**This is only Basis of Design; Not included in construction contract; will be procured in a separate contract.**		

Location and Quantity

Room Number	Room Name	Quantity
113	FLIGHT PLANNING OFFICE	2
	TOTAL	**2**

CEQ ORDER DATA SHEET

Item			Item Code
TABLE, CONFERENCE			**T1**
Manufacturer			
Name	For Information Only - Basis of Design to establish utility and space requirements		
Address			
Telephone Number			
Email / Website			
Item Description			
Manufacturer	BASIS OF DESIGN - Knoll		
Product Name	Dividends Horizon		
Dimensions	96" W x 42" D		
Description	Racetrack Laminate top with Y Leg painted metal base. Two power ports with cable management under table. Each power port with two power receptacles / two data ports / two usb ports on either end of the table.		
Finishes	TBD		
General Notes	**This is only Basis of Design; Not included in construction contract; will be procured in a separate contract.**		

Location and Quantity

Room Number	Room Name	Quantity
113	FLIGHT PLANNING OFFICE	1
	TOTAL	**1**

CEQ ORDER DATA SHEET

Item			Item Code
TABLE, DINING			**T2**
Manufacturer			
Name	For Information Only - Basis of Design to establish utility and space requirements		
Address			
Telephone Number			
Email / Website			
Item Description			
Manufacturer	BASIS OF DESIGN - Alcott Hill		
Product Name	Warsaw Extendable Dining Table		
Dimensions	90" W x 42" D x 30"H (When fully extended)		
Description	Seating capacity 10 fully extended; Solid Wood Table Top and Base; Butterfly leaf table mechanism; .		
Finishes	TBD		
General Notes	**This is only Basis of Design; Not included in construction contract; will be procured in a separate contract.**		

Location and Quantity

Room Number	Room Name	Quantity
112	DAY ROOM	1
	TOTAL	**1**

Appendix L. UMCS APPROVED COMPONENTS

Fort Polk Directorate of Public Works (DPW)
6661 Warrior Trail
Building 350
Fort Polk, LA 71459

25 Jan 2019

MEMORANDUM FOR SEE DISTRBUTION

SUBJECT: Approved system components of the FT Polk Utility Monitoring and Control System (UMCS).

1. References:

a. NIST Special Publications (SP) 800-53, Revision 4, April 2013

b. Department of Defense Instruction (DoDI) 8510.01, March 12, 2014

2. Background: This document is meant to define cyber security approved system components of the Ft. Polk UMCS system. Components are approved and maintained via the system's Authority to Operate (ATO). ICS components not listed herein are not approved for use within the network boundary defined by the ATO and cannot be maintained via the approved change management, and component cyber security maintenance process. Processes have been developed and implemented to conform to requirements published in DoDI 8510.01 and NIST SP 800-53.

3. Instruction: Listed components have been evaluated for security compliance and approved for use in the UMCS system. System components that are not listed, but have been installed in Ft. Polk facilities, prior to the attainment of the ATO, (Legacy components) will be evaluated for cyber security compliance prior to their integration into the UMCS system. If legacy components are found to be non-compliant, a suitable replacement must be found prior to integration into the approved system. If legacy components are found to be compliant, or can be made compliant without loss of functionality, they may be approved for inclusion on this list at the discretion of the UMCS System Owner or his/her designated representative.

4. Proposal Guidance: All HVAC Controls Equipment shall meet the Fort Polk Cybersecurity requirements. Any proposed equipment must first be approved via the Ft. Polk Change Control Board (CCB), prior to any equipment being integrated into the UMCS system. All ICS components must be able to meet cyber security guidelines that are published in the continuous monitoring and evaluation plan. ICS components that are installed but are not approved will result in the loss of Ft Polk's ATO, and could irreparably damage the security posture of the system, thereby opening the system to attack by outside entities. ICS components not on the approved list, and not brought before the Ft. Polk CCB, shall NOT be proposed and will NOT be approved.

5. POC for this action is Gregory A. Prudhomme, 337-531-6186,
gregory.a.prudhomme.civ@mail.mil

Fort Polk Directorate of Public Works (DPW)
6661 Warrior Trail
Building 350
Fort Polk, LA 71459

Approved Hardware Components:

1	ICS Device	Vykon branded Tridium J-8000 – JACE 8100 Controllers	Tridium	J-8100	J-8100	Niagara 4.4
2	ICS Device	Vykon branded Tridium J-600 – JACE 600 Controllers	Tridium	J-600	J-600	Niagara 4.4
3	Server	Dell Power Edge R720	Dell	Power Edge R720	3DTCY12	ESXI Ver 6.0 Build 3620759
4	Workstation	Dell Desktop	Dell	Dell D18M	6QSWHQ2	SHB-A Windows 10 Enterprise (1703)
5	ICS Device	Spyder BACnet ILC Programmable Controller	Honeywell	Spyder	PUB6438SR-ILC	Tridium Niagara
6	ICS Device	Spyder BACnet ILC Programmable Controller	Honeywell	Spyder	PUB4024S-ILC	Tridium Niagara
7	ICS Device	Sylk I/O Module	Honeywell	Sylk	SIO4022	Tridium Niagara
8	ICS Device	Sylk I/O Module	Honeywell	Sylk	SIO6042	Tridium Niagara
9	ICS Device	Sylk I/O Module	Honeywell	Sylk	SIO12000	Tridium Niagara
10	ICS Device	Spyder BACnet ILC Programmable Controller	Honeywell	Spyder	PVB4022AS-ILC	Tridium Niagara

Table 1- Approved Hardware Components

Approved Software Components:

MS Windows Server 2012, R2	MSWindows Server 2012, R2	Microsoft
Niagra 4.X		Tridium
Niagra AX 3.8		Tridium
.NET 4.0	Version 4.0.30319	Microsoft
Vmware ESXi 6 Hypervisor Software	Vmware ESXi 6	Vmware
LONworks Driver	DR-LON-AX	Tridium
Bacnet IP Driver	DR-BACNET-AX	Tridium
License for JCI N2 driver	DR-IS-N2-AX-J6	JCI
License for Siemens Sys600 Driver	DR-IS-N2-AX-J6	Siemens

License for Bacnet MS/TP Driver	DR-MSTP-AX	Honeywell
EIG Communicator EXT	4	Electro Industries
MS Windows 10 Enterprise	Windows 10 Enterprise	Microsoft
Unitary Web-AX; Web-N4	Unitary	HoneyWell

Table 2- Approved Software Components

Approved Legacy Components: ***Not authorized for new integrations***

1	ICS Device	Spyder LONWORKS ILC Programmable Controller	Honeywell	Spyder	PVL4022AS-ILC	Tridium Niagara
2	ICS Device	Spyder LONWORKS Programmable Controller	Honeywell	Spyder	PUL4024S-ILC	Tridium Niagara
3	ICS Device	Spyder LONWORKS Programmable Controller	Honeywell	Spyder	PUL6438SR-ILC	Tridium Niagara

Table 3- Approved legacy Components

_____

Greg Corum

Ft. Polk DPW Engineer

_____

Justin L Winks

Ft. Polk UMCS ISSM

_____

Greg Prudhomme

Ft. Polk UMCS System Owner

DISTRIBUTION:

FT. POLK UMCS

Appendix M. DOAS REQUIREMENTS

DOAS Requirements

Dedicated Outdoor Air Systems

Design shall incorporate and the contractor shall furnish dedicated outside air unit(s) (DOAU) with dual wheel energy recovery, direct expansion (DX) cooling and hot water emergency heating, and below design features located on contractor supplied pad, to satisfy the building outside air requirements for fully conditioned spaces.

The DOAS shall provide air to each zone at space neutral temperature, and at a maximum supply dew point of 48F.

DOAS supply air shall be ducted directly to the space. Exhaust to be taken from stand alone return air grilles. The design shall incorporate ducted intake and exhaust with louvers meeting International Mechanical Code (IMC) for distance and elevation separation requirements.

The DOAS shall meet at a minimum all the following:

1. Unit Structure - Unit shall be ETL listed. Units shall be factory pre-assembled, tested and shipped complete with all components necessary to maintain humidity control levels independent of load variations within design limits. The unit casing shall be constructed using a double wall panel and frame system using galvanized steel and solid interior and exterior skins. All panels shall be 2” insulated, this includes walls, floors and ceilings. The unit casing shall also meet the following criteria based on ASTM E84-90. The unit casing shall be manufactured as an air and vapor tight system. There shall be a gasket system which seals the panels to the structure.

2. Access - Access shall be provided through large hinged, tightly sealed doors or removable access panels. Access doors shall be of the same construction as the unit casing. Handles shall be internal and external for opening from the inside or outside of the unit. All doors shall open against the air pressure. Removable panels shall be provided for heating and cooling coils. All major components such as coils, filters, blowers, etc., within the air handling structure shall be easily removable through access panels without dismantling plenums or distributing ductwork. Panels without gaskets shall not be acceptable.

3. Desiccant Wheel - The media shall have a flame spread of less than 25 and a smoke developed of less than 50 when rated in accordance with ASTM E84. The process and reactivation air streams shall be separated by air seals and internal partitions so that the humid reactivation air does not mix with the dry process air.

4. Enthalpy Recovery Wheel - The rotor media shall be made of aluminum or galvanized steel, which is coated to prohibit corrosion. Media surfaces shall be completely water washable. The media has a flame spread of less than 25 and a smoke developed of less than 50 when rated in accordance with ASTM E84.

5. Wheel Face Seals - The dehumidifier shall have full-face seals or labyrinth seals. Full face seals shall be on both the process air entering and the process air leaving sides of the wheel and shall seal the entire perimeter of both air streams as they enter and leave the wheel. Labyrinth seals shall at no time make contact with any rotating surface of the exchanger rotor face. These multi-pass seals shall utilize four labyrinth stages for optimum performance.

6. Drain pan - Cooling coils shall be mounted in an insulated pitched 304 stainless steel condensation pan.

7. Filter - Air filters shall be 2" thick, pleated, disposable type. The included filter media shall have an average efficiency of 25-30% on ASHRAE Test Standard. These filters shall be mounted on sliding or lift racks and accessible through access or doors.

8. Fans - All fans shall be rated in accordance with AMCA Standard 210. Fans shall use 1” spring isolation.

9. Weather Protection (Outdoor Units) - The dehumidification system shall be capable of continuous outdoor operation. The air inlets shall be protected from water entry by hoods, louvers, mist eliminators or connected duct work. Consequently, all access panels shall be weather tight, as shall all joints between casing and electrical conduits and between the unit casing and any components mounted in separate enclosures. The roof shall be fabricated using a capped standing seam or single piece style construction.

10. Chilled Water, DX and Hot Water Coils - Coil performance shall be rated in accordance with ARI standards and compatible with all other components. Coils shall be arranged to condition the full volume of process air. Direct expansion cooling coils will be fin and tube type constructed of copper tubes and .006 inch thickness aluminum fins mechanically bonded to tubes. The complete coil core shall be tested with a minimum 315 psig air pressure under warm water and be suitable for operation at a minimum 250 psig working pressures. Direct expansion coils are rated in accordance with ARI Standard 410 and are compatible with all other components of the same refrigeration circuit.

11. Condensing Section - Condensing section shall be complete with compressors, condenser heat exchanger, and all controls and accessories required to regulate refrigerant pressure, flow rates and temperatures. The condensing unit will be piped together with the evaporator coil and sized and controlled to operate at all design conditions.

12. Controls - Unit shall be capable of communicating with a building management system (BMS) through BACnet protocol. Controls shall include the ability to determine stages of heating and dehumidification required to maintain space conditions when an “enable” command is given via the BMS, or direct control via commands issued from the BMS. The control system shall consist of a controller, I/O board(s), back-lit LCD display, and modem. Sensors include temperature and RH sensors mounted in the outdoor, supply, and return plenums, plus cooling coil entering and leaving air temperature sensors.

13. Electrical - The electrical control cabinet shall be weather tight to NEMA 12 or NEMA 3R standard. Components shall be UL, ETL or CSA approved. Operating and

maintenance manual, the control cabinet shall include a copy of the O&M manual, mounted in a separate compartment or pocket to allow access to critical information by maintenance personnel after installation. The electric panel shall consist of a non-fused disconnect, fused IEC full voltage starters for each fan and constant speed wheel, control power transformer, and HOA switch for the unit. Wiring to comply with the current National Electrical Code with further fuse and wiring sizing to meet or exceed UL 508A Industrial Control Panel. Wires shall be color-coded or numbered at both ends and all terminal block connection points shall be numbered. These markings shall correspond with the electrical diagram provided in the operating and maintenance manual."

Appendix N. FORT POLK ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTS

JRTC and FORT POLK
ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTS
As of 4 DEC 2019

X. Contractors performing activities on Fort Polk shall comply with the following applicable environmental requirements:

X1.**Compliance with Environmental Laws and Regulations:** Comply with all applicable federal, state, and local environmental laws, statutes, regulations, executive orders, permits, Army regulations (with supplements), and JRTC and Fort Polk Regulations. Immediately report any conflicts between applicable federal, state, local environmental laws, statutes, executive orders, provisions of Army Regulation 200-1, JRTC and Fort Polk Regulation 200-1, and any specifications within this contract to the Contracting Officer Representative (COR) and the Directorate of Public Works, Environmental and Natural Resources Management Division (DPW-ENRMD).

X2. **Compliance with all Federal Acquisition Regulation Provisions**: Comply with all applicable Federal Acquisition Regulation (FAR) clauses outlined in FAR Subpart 52.223-1 Biobased Product Certification; FAR Subpart 52.223-2 Affirmative Procurement of Biobased Products Under Service and Construction Contracts; FAR Subpart 52.223-3 Hazardous Material Identification and Material Safety Data; FAR Subpart 52.223-4 Recovered Material Certification; 52.223-5 Pollution Prevention and Right-to-Know Information; 52.223-7 Notice of Radioactive Materials; 52.223-9 Estimate of Percentage of Recovered Material Content for EPA-Designated Items; 52.223-10 Waste Reduction Program; 52.223-11 Ozone-Depleting Substances and High Global Warming Potential Hydrofluorocarbons; 52.223-12 Maintenance, Service, Repair, or Disposal of Refrigeration Equipment and Air Conditioners; 52.223-15 Energy Efficiency in Energy-Consuming Products; 52.223-17 Affirmative Procurement of EPA-designated Items in Service and Construction Contracts; 52.223-19 Compliance with Environmental Management Systems; 52.223-20 Aerosols; and 52.223-21 Foams.

X3. **Compliance with Green Procurement Requirements**: Follow Federal EPA Comprehensive Procurement guidelines (www.epa.gov/cpg) for acquisition of building materials and products and select materials that have a long life cycle; the least toxic materials; recyclable materials; materials that are resource-efficient; materials with the maximum recycled content; materials harvested on a sustained yield basis; and products causing the least pollution during their manufacture, use, and reuse.

X4. **Compliance with Licenses and Certifications Requirements**: Obtain all licenses and certifications required by federal, state, and local environmental laws and regulations necessary to adhere to the specifications of this contract. The Contractor shall submit all plans, notifications, reports, submittal documents, and fees required by federal, state, and local environmental laws and regulations to the appropriate federal, state, and local authority and/or agency as necessary to adhere to the specification of this contract.

X5. **Notification of Federal and State Regulators**: Notify immediately DPW-ENRMD and COR of the arrival on site of any federal, state, and/or DoD environmental regulator or

enforcement agent and/or the receipt of any correspondence from a federal or state environmental agency.

X6. **Inspections of Work Sites**: Submit to potential federal, state, Army and installation work site environmental regulatory inspections and/or investigations into non-compliances, and fully cooperate with such inspections/investigations by providing the appropriate records and documentation. Environmental regulatory agencies are authorized by law to inspect any work site for environmental compliance with regulatory requirements. If an inspection is conducted, it will not stop or disrupt ongoing contract activities. The inspection will only require the work site environmental officer, or supervisor/manager to answer questions and/or escort the inspector to specific work site areas with the potential to affect environmental quality. Typical environmental work site inspections are conducted in less than 15 minutes with an approximate frequency of one inspection every two months.

X7. **Reporting Non-Compliance**: Report immediately any nonconformance and/or noncompliance with applicable federal, state or local environmental laws, Army and installation environmental regulations to the COR and DPW-ENRMD.

X8. **Verification of National Environmental Policy Act Documents**: Obtain from the COR and/or DPW-ENRMD, a copy of the installation's completed National Environmental Policy Act analysis and associated decision document (Environmental Impact Statement and Record of Decision); Environmental Assessment and Finding of No Significant Impact; or Record of Environmental Consideration on the proposed contract actions prior to commencement of such actions.

X9. **Environmental Management System**: Contractors shall take the necessary actions to identify, monitor, and control those operations and activities that pose risk of contamination, or can negatively impact the natural and/or human environment in accordance with Fort Polk's ISO 14001 Environmental Management System procedures.

X10. **Assigning Environmental Compliance Officer**s: Contractors shall designate the appropriate number of personnel to perform Environmental Compliance Officer (ECO) functions in accordance with the requirements of Army Regulation 200-1 and JRTC and Fort Polk Regulation 200-1 for all contract work periods exceeding 180 consecutive days. Contractors will designate a primary and alternate ECO for each shop or work area that uses and/or stores hazardous materials and/or generates hazardous wastes. An ECO is an individual from the Contractor's staff appointed to ensure that environmental requirements are met. Work areas will have at least one ECO on duty at all times. Within 15 days of start of contract performance, each designated ECO and alternate must successfully complete the 40-hour ECO course provided on post by DPW-ENRMD. In addition, each ECO must successfully complete an 8-hour annual refresher. Annual re-certification (e.g., refresher training) must be completed within each anniversary of the 40-hour ECO course. Failure to meet this requirement will necessitate re-taking the 40-hour course. The positions of ECO are not full time positions. Individuals so designated may perform other duties provided they are available to perform ECO duties when required. Contractors using and/or storing very small quantities of hazardous materials may request a waiver of this requirement through the COR to DPW-ENRMD.

X11. **Competency Training for Contractor Personnel**: Contractor shall not allow personnel to perform any activities and/or tasks on Fort Polk without proper and adequate qualifications or job competency training. In the event of any identified noncompliance, the Contractor shall, if requested, provide proof of contract personnel training or qualification (individual name, training/qualification type, training/qualification certificate, and date of training/qualification) to perform those contract activities associated with the identified noncompliance.

X12. **Use of Ozone Depleting Compounds**: Submit in writing the quantity, type, and location of Ozone Depleting Compounds used on the installation quarterly and within 48 hours prior to the expiration of the contract to the DPW-ENRMD. The Contractor shall submit within 10 working days of completing any work on equipment containing more than 50 pounds of refrigerant charge: the building location, name, model, serial number, and capacity of the unit; the amount of refrigerant removed and replaced; description of work performed and results of the subsequent verification testing to the DPW-ENRMD and COR. The Contractor shall complete and submit an Emissions Inventory Questionnaire in accordance with JRTC and Fort Polk Regulation 200-1, Appendix G, to the DPW-ENRMD for actions that modify or add an air emission source on the installation prior to adding or altering any emission source.

X13. **Generation of Solid Waste**: Remove from the installation and dispose of all solid waste generated, which cannot be recycled to an approved and permitted off-post disposal facility. Contractors shall make every effort to divert 50 percent of all construction and demolition debris waste and 40 percent of all other solid waste to comply with the Army Integrated Solid Waste Management Policy. Prior to removing any waste from Fort Polk for disposal, the Contractor shall coordinate with the installation Qualified Recycling Program Manager and DPW-ENRMD to arrange for recyclable materials to be removed and diverted from the waste stream and provided to the installation to receive credit toward meeting diversion requirements. Submit in writing the quantities of waste removed and recycled to the DPW-ENRMD Solid Waste Manager on a monthly basis and at the expiration of the contract. The submittal shall include the date of disposal/recycling, the disposal/recycling facility, the types of material disposed/recycled, and the quantities of materials disposed/recycled by weight. The Contractor shall establish a program to promote cost-effective waste reduction in all operations and facilities covered by the contract. This includes collection, separation, and processing products or other materials recovered from solid waste streams for use in the form of raw materials. The Contractor shall make maximum effort to reduce and prevent waste and comply with Executive Order 13423.

X14. **Generation of Hazardous Waste**: Properly profile all waste generated as part of this contract to determine if any waste is hazardous waste as defined by 40 CFR. Contractor shall accumulate hazardous waste prior to disposal shipment in a satellite accumulation point at or near the point of generation or in a less-than-90-day site, in accordance with federal, state, Army, and installation regulations. The Contractor shall properly package the hazardous waste and complete the hazardous waste manifest, then take the manifest to DPW-ENRMD for approval and signature prior to removing any hazardous waste from the installation. Contractor shall contact DPW-ENRMD to obtain the installation's hazardous waste EPA ID number for the hazardous waste manifest. The Contractor shall notify DPW-ENRMD 24 hours prior to removing any hazardous waste from the installation. The contractor shall remove and dispose of

manifested hazardous waste generated by contract activities from the installation, to an approved off-post permitted hazardous waste disposal facility. The DPW-ENRMD shall assist contractors with profiling their waste upon request. The final signed hazardous waste manifest must be returned to DPW-ENRMD, CMB within 30 days of hazardous waste removal from the installation. The final HW Manifest must contain the proper HW method disposal codes as specified in 40 CFR 262.41, 264.75 and 265.75.

X15. **Use of Hazardous Materials**: Submit a hazardous material inventory list for all contract work periods exceeding 180 consecutive days. The inventory list will contain the hazardous material type and maximum quantities of materials on hand utilizing Fort Polk Form 156 and submitted within 30 days of work site establishment. The hazardous material will be properly identified and include any applicable identification number, such as National Stock Number or Special Item Number. The Contractor shall maintain copies of Material Safety Data Sheets (MSDSs) for all hazardous materials used and stored on site during performance of the contract. Contractor shall not supply or deliver any hazardous materials or chemicals to Fort Polk that are listed on the EPA toxic chemical list (see JRTC and Fort Polk Regulation 200-1) without prior written approval from DPW-ENRMD.

X16. **Prevention of Storm Water Pollution**: The Contractor shall prepare and implement a site-specific Storm Water Pollution Prevention Plan (SWPPP) in accordance with the Louisiana Pollution Discharge Elimination System (LPDES) general storm water permits for small (1-4.9 acres) and large (5 acres and larger) construction activities (totals are cumulative across all portions of the project). The Contractor shall prepare the SWPPP prior to any soil disturbance and make the SWPPP available upon request. The Contractor shall designate an individual to receive a 30 minute "Annual Strom Water Construction Training" class prior to any soil disturbance. DPW-ENRMD will provide the training at no cost to the Contractor at the construction site. The Contractor shall contact DPW-ENRMD to schedule the training. The Contractor shall have a trained individual on the work site at all times during activities at the construction site. The Contractor shall monitor activities to prevent pollution of surface and ground waters as identified in the site specific SWPPP. The Contractor shall maintain and make available upon request all SWPPP inspection records. For construction activities 5 acres and larger, Contractors shall prepare and submit a Notice of Intent (NOI) to Louisiana Department of Environmental Quality (LDEQ) and present the NOI and NOT to installation personnel upon request. The Contractor shall not apply any toxic or hazardous chemicals and pesticides to soil or vegetation without prior DPW-ENRMD approval. The Contractor shall comply with state and installation storm water requirements and protect all water bodies and/or tributaries potentially affected by Contractor activities. For construction activities immediately adjacent to impaired surface water bodies, the Contractor shall quantify sediment or pollutant loading when requested by Federal, State, or installation personnel. The list of installation impaired surface waters bodies is available at the DPW-ENRMD.

X17. **Control of Erosion**: Provide erosion and sediment control measures in accordance with federal, state, Army, and installation laws and regulations when required. The erosion and sediment controls selected and maintained by the Contractor shall ensure that water quality standards are not violated because of ongoing activities. The Contractor shall construct or install temporary and permanent erosion and sediment control measures as required. The Contractor

shall use Best Management Practices (BMPs) for storm water pollution prevention measures in accordance with the LPDES General Permit. No ground disturbance activities shall be initiated until all appropriate Best Management Practices are installed as required per manufactures specifications. All permanent and temporary control measures will be removed after final stabilization and project acceptance by the COR.

X18. **Use of Pesticides**: Submit the type and quantity of regulated pesticides, herbicides, or fungicides to be applied, the application purpose, and location to the DPW-ENRMD and COR for approval 10 working days prior to the initial application. The Contractor shall submit the actual quantities applied to the DPW-ENRMD and COR within 2 working days (48 hours) after each approved application. The Contractor shall utilize Integrated Pest Management (IPM) technology and procedures in strict compliance with all applicable federal, state, Army, and installation regulations, to include Fort Polk's Pest Management Plan. Pesticide applicators shall be certified, licensed and maintained in accordance with the State of Louisiana and/or Department of Defense regulations. The Contractor shall provide evidence of personnel licenses and certification to the Contracting Officer and the DPW-ENRMD prior to the initial application of pesticides, herbicides, or fungicides. Only those pesticides registered with the USEPA and approved by the Command Consultant at the Army Environmental Command and the DPW-ENRMD shall be utilized and then only in strict accordance with product labeling. The installation reserves the right to prohibit and limit the amount and type of pesticides used.

X19. **Drilling of Wells and Boreholes**: Contractors shall only drill and/or install boreholes and/or wells in accordance with the Louisiana Department of Natural Resources Regulations. Contractors shall meet the well drilling licensing requirements as defined in the Natural Resources regulations. Contractor shall provide to DPW-ENRMD a copy of the Well Registration Short Form (DNR-GW-1S) drilling plan, GPS coordinates, and site description for the borehole and/or well. Contractor shall only use the additive bentonite to assist with the drilling process without DPW-ENRMD approval. Contractors shall notify DPW-ENRMD 24 hours prior to plugging and abandoning any well and/or borehole, and provide a copy of the Well Plugging and Abandonment Form (DNR-GW-2) upon completion.

X20. **Protection of Work Site Resources**: Confine all activities to areas defined by the drawings and specifications. Prior to the beginning of any work, the Contractor shall identify any land resources to be preserved within the work area. Except in areas indicated on the drawings or specified to be cleared, the Contractor shall not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and landforms. The Contractor shall provide effective protection for land and vegetative resources at all times. Prior to site clearing and grubbing, the Contractor shall coordinate harvesting of saleable timber with the DPW-ENRMD. Contractor shall notify the DPW-ENRMD if any trees are required to be disposed or removed. The Contractor is not authorized to remove or dispose of any tree greater than 6 inches in diameter unless permission has been granted in writing by the DPW-ENRMD.

X21. **Prevention of Spills**: Develop, maintain, and post at the worksite a written site specific Spill Response Plan if transporting, processing, storing, or in any way managing hazardous waste, hazardous material, Petroleum-Oils-Lubricants (POL), or other restricted items. In case of a spill, the person in control of the spill site or their designated representative shall take

appropriate action to protect workers and bystanders; contain the spill (if it can be done safely); secure the spill site; restrict ignition sources; and immediately contact the installation Fire and Emergency Services (Fire Department) for assistance (911 or 531-2026). Contractors storing 1,320 gallons or more of any oil-based product in an aboveground storage tank at a construction site shall develop a Spill Prevention Control Countermeasure (SPCC) Plan and present such plan to the DPW-ENRMD prior to placement. Immediately respond to actual emergencies and accidents, prevent or mitigate associated adverse environmental impacts, and contact the installation Fire and Emergencies Services at 911.

X22. **Demolition of Facilities with Asbestos and Lead Based Paint**: Submit AAC-2 and Lead Paint Notification (LPN) environmental notification forms to the DPW-ENRMD for review prior to submission to the LDEQ when performing demolition and/or renovation activities, and/or abating asbestos or lead-based paint. The Contractor must allow enough time for a review by the DPW-ENRMD and notification to the LDEQ 10 working days prior to the project start date. The Contractor shall assume that materials on Fort Polk contain asbestos and/or Lead Based Paint (LBP) unless otherwise documented. The Contractor shall notify the State of Louisiana of asbestos and lead-based paint abatement. In the notification, the Contractor shall describe procedures to be used to prevent the release of asbestos and lead contaminants into the work area and the environment. Air monitoring is required for all abatement projects as specified in the Fort Polk Asbestos and Lead-Based Paint Management Plans. A DPW-ENRMD government representative must sign all waste manifests. The Contractor shall be responsible for ensuring his/her employees and Subcontractors are adequately trained and qualified for the classification of work they are performing (29 CFR 1926.62 and 1926.1101). The Contractor's on-site manager shall be trained and qualified as a "Competent Person" (29 CFR 1926.1101) capable of identifying asbestos or lead-based paint hazards in workplaces, capable of selecting the appropriate control strategy, and having the authority to take prompt corrective measures.

X22.1 **Asbestos Abatement Plan.** This plan shall meet all requirements listed in the EM 3851-1 as well as the following. The report shall contain an abatement plan and schedule and drawing for the abatement of any asbestos work and surrounding area, both identified by type, percent and location. This plan shall contain removal procedures. The plan shall contain all certificates required by LDEQ of all employees working on the abatement project, as well as the certifications of the individuals performing 3rd party air monitoring. The plan shall include a master list of abatement personnel who will be onsite. If any additional personnel are added, an addendum to the abatement plan shall be submitted listening the new employees, and their credentials. The Contractor shall be responsible for coordinating with the COR to schedule the following required signatures and inspections from Fort Polk DPW Environmental Compliance Management Branch. Asbestos Abatement Containment must leave the site as ACBM after abatement has can be completed, and shall not be used for any additional lead or mold remediation activities.

- Abatement plan must be reviewed and approved by the Government.

In addition to the plan the following are mandatory for all asbestos abatements on Fort Polk.

- Fort Polk DPW Compliance Management Branch shall sign all AAC2 forms prior to their submission to the state.

- The Contractor shall schedule a Pre-Containment inspection, and onsite certification inspection (LDEQ certification and AI no.(s) of workers and supervisors and 3rd party air monitors) with Fort Polk DPW Compliance Management Branch.

- The Contractor shall schedule a Post-Containment inspection with Fort Polk DPW Compliance Management Branch.

- The Contractor shall schedule an inspection of disposal containers prior to placing asbestos containing materials in the container.

-Disposal manifest inspection, and manifest owner signature by Fort Polk DPW Compliance Management.

X22.**2 Lead Abatement Spec.** This plan shall meet all requirements listed in the EM 3851-1 as well as the following. The report shall contain an abatement plan and schedule and drawing for the abatement of any Lead work and surrounding area, both identified by type, percent and location. This plan shall contain removal procedures. For Child occupied facilities, or HUD housing all workers, supervisors, and 3rd party air monitors must be certified by LDEQ. Lead content shall be determined. The TCLP test is used to determine if lead-contaminated material is classified as hazardous waste. Specific TCLP laboratory analysis procedures are outlined in EPA regulation 40 CFR, Part 261, Identification and Listing of Hazardous Waste. The TCLP test can be directed to analyze for all eight heavy metals and organic and inorganic compounds. Primarily, lead- contaminated waste is considered to be hazardous waste if TCLP laboratory analysis results indicate a concentration of lead equal to or greater than 5.0 mg/L or parts per million (ppm). Materials used in LBP abatement may also become hazardous waste due to ignitable reactive or corrosive characteristics. Compounds and threshold limits for hazardous materials are outlined in 40 CFR, Part 261. It is the responsibility of the Contractor to classify and dispose of lead waste properly. Waste generated from abatements must be tested if the waste contains lead or disposed as hazardous waste All Hazardous Waste Manifests shall be signed by the DPW Compliance Management Branch Hazardous Waste Program Manager.

X23. **Use of Asbestos and Lead-Based Paint**: Contractor shall not provide asbestos-containing materials or products, or paint with a lead content higher than 0.06 percent by weight, to the installation without written approval of the DPW-ENRMD. Contractors must provide a certificate to the COR at the conclusion of the contract verifying that contract materials and products used are asbestos free. Common asbestos-containing materials include, but are not limited to adhesives, mastics, sheetrock muds, and vinyl and tile flooring. Contractors installing new thermal system insulation must identify the new insulation with a blue band or cap at the locations where the new insulation begins and ends, and stencil “Non ACM” or “Asbestos Free” on the new insulation.

X24. **Protection of Sensitive Areas**: Comply with all installation designated sensitive and/or off-limit area restrictions. Sensitive areas are marked with orange carsonite signs with reflective stickers indicating what activities (e.g., driving, digging, foot traffic) are prohibited. These stakes are placed on the boundary of the sensitive area. The stakes will show one or a combination of symbols. The Contractor shall also adhere to the following installation sensitive areas requirements:

X24.1. **Cultural Resources Sites**: Do not excavate, remove, damage, or otherwise deface any archeological resource located on public lands.

X24.2 **Endangered Species Habitats**: Do not initiate any action that may disturb, endanger, or damage to any degree the habitat of a Red-Cockaded Woodpecker (RCW) or cavity tree. Individual RCW cavity trees are marked with two, 6-inch-wide white bands at 4 feet above ground level and a 200-foot buffer zone marked with yellow signs extends around each RCW cavity tree.

X24.3 **Wetlands**: Do not excavate or take any action that could fill or damage any wetland unless working under a project-specific Corps of Engineers 404 permit. Wetlands include streams, riparian areas, bogs, marshes, and swamps.

X25. **Corrective Action for Noncompliance**: Contractor shall when given a verbal and/or written notice of environmental noncompliance or nonconformance by the COR, take immediate corrective action. Failure or refusal to comply promptly may be grounds for the Contracting Officer to invoke the appropriate contractual remedies. This may cause all or part of the work to be stopped immediately until satisfactory corrective action has been taken.

X26. **Environmental Contact Information**: Contact the Fort Polk Directorate of Public Works, Environmental and Natural Resources Management Division (DPW-ENRMD) at 531-6008/7008 or visit Building 2516 located at the intersection of Mississippi Avenue and 23rd Street for assistance. The environmental staff is available during non-duty hours and non-emergencies through the installation Field Officer of the Day (FOD) at 531-1726. For environmental emergencies, contact the installation Fire Department at 911.

NOTE:

1. In accordance JRTC and Fort Polk Regulation 200-1, all mission and garrison organizations, tenants, and installation contractors are required to incorporate all appropriate environmental specifications into contracts and agreements issued for execution on JRTC and Fort Polk. The appropriate environmental specifications must be incorporated into the procurement data package prior to forwarding the packet to the appropriate contracting agency or Contracting Officer for processing or issuance.

2. The type contracts that require the incorporation of environmental specifications include construction and renovation contracts, service contracts that require services to be performed outside a facility, and supply contracts that include the acquisition of hazardous materials.

Organizations should contact DPW-ENRMD with questions, concerns and/or requests for assistance with the application of the environmental specifications.

3. Point of contact for this document is DPW-ENRMD (337) 531-7008, DSN 863-7008.

Appendix O. FAA FORM 7460-1 2017 NOTICE OF CONSTRUCTION OR ALTERATION

NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION

§ 77.7 Form and time of notice.

(a) If you are required to file notice under §77.9, you must submit to the FAA a completed FAA Form 7460–1, Notice of Proposed Construction or Alteration. FAA Form 7460–1 is available at FAA regional offices and on the Internet.

(b) You must submit this form at least 45 days before the start date of the proposed construction or alteration or the date an application for a construction permit is filed, whichever is earliest.

(c) If you propose construction or alteration that is also subject to the licensing requirements of the Federal Communications Commission (FCC), you must submit notice to the FAA on or before the date that the application is filed with the FCC.

(d) If you propose construction or alteration to an existing structure that exceeds 2,000 ft. in height above ground level (AGL), the FAA presumes it to be a hazard to air navigation that results in an inefficient use of airspace. You must include details explaining both why the proposal would not constitute a hazard to air navigation and why it would not cause an inefficient use of airspace.

(e) The 45-day advance notice requirement is waived if immediate construction or alteration is required because of an emergency involving essential public services, public health, or public safety. You may provide notice to the FAA by any available, expeditious means. You must file a completed FAA Form 7460–1 within 5 days of the initial notice to the FAA. Outside normal business hours, the nearest flight service station will accept emergency notices.

§ 77.9 Construction or alteration requiring notice.

If requested by the FAA, or if you propose any of the following types of construction or alteration, you must file notice with the FAA of:

(a) Any construction or alteration that is more than 200 ft. AGL at its site.

(b) Any construction or alteration that exceeds an imaginary surface extending outward and upward at any of the following slopes:

(1) 100 to 1 for a horizontal distance of 20,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway more than 3,200 ft. in actual length, excluding heliports.

(2) 50 to 1 for a horizontal distance of 10,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway no more than 3,200 ft. in actual length, excluding heliports.

(3) 25 to 1 for a horizontal distance of 5,000 ft. from the nearest point of the nearest landing and takeoff area of each heliport described in paragraph (d) of this section.

(c) Any highway, railroad, or other traverse way for mobile objects, of a height which, if adjusted upward 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance, 15 feet for any other public roadway, 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road, 23 feet for a railroad, and for a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it, would exceed a standard of paragraph (a) or (b) of this section.

(d) Any construction or alteration on any of the following airports and heliports:

(1) A public use airport listed in the Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement of the U.S. Government Flight Information Publications;

(2) A military airport under construction, or an airport under construction that will be available for public use;

(3) An airport operated by a Federal agency or the DOD.

(4) An airport or heliport with at least one FAA-approved instrument approach procedure.

(e) You do not need to file notice for construction or alteration of:

(1) Any object that will be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height, and will be located in the congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation;

(2) Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or meteorological device meeting FAA-approved siting criteria or an appropriate military service siting criteria on military airports, the location and height of which are fixed by its functional purpose;

(3) Any construction or alteration for which notice is required by any other FAA regulation.

(4) Any antenna structure of 20 feet or less in height, except one that would increase the height of another antenna structure.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193
Fax: (817) 321-7765
Phone: (817) 321-7750

Website: https://oeaaa.faa.gov

INSTRUCTIONS FOR COMPLETING FAA FORM 7460-1

PLEASE TYPE or PRINT

ITEM #1. Please include the name, address and phone number of a personal contact point as well as the company name.

ITEM #2. Please include the name, address and phone number of a personal contact point as well as the company name.

ITEM #3. New Construction would be a structure that has not yet been built.

Alteration is a change to an existing structure such as the addition of a side mounted antenna, a change to the marking and lighting, a change to power and/or frequency, or a change to the height. The nature of the alteration shall be included in ITEM #21 "Complete Description of Proposal".

Existing would be a correction to the latitude and/or longitude, a correction to the height, or if filing on an existing structure which has never been studied by the FAA. The reason for the notice shall be included in ITEM #21 "Complete Description of Proposal".

ITEM #4. If Permanent, so indicate. If Temporary, such as a crane or drilling derrick, enters the estimated length of time the temporary structure will be up.

ITEM #5. Enter the date that construction is expected to start and the date that construction should be completed.

ITEM #6. Please indicate the type of structure. DO NOT LEAVE BLANK.

ITEM #7. In the event that obstruction marking and lighting is required, please indicate type desired. If no preference, check "other" and indicate "no preference" DO NOT LEAVE BLANK. NOTE: High Intensity lighting shall be used only for structures over 500' AGL. In the absence of high intensity lighting for structures over 500' AGL, marking is also required.

ITEM #8. If this is an existing tower that has been registered with the FCC, enter the FCC Antenna Structure Registration number here.

ITEM #9 and #10. Latitude and longitude must be geographic coordinates, accurate to within the nearest second or to the nearest hundredth of a second if known. Latitude and longitude derived solely from a hand-held G P S instrument is NOT acceptable. A hand-held GPS is only accurate to within 100 meters (328 feet) 95 percent of the time. This data, when plotted, should match the site depiction submitted under ITEM #20.

ITEM #11. NAD 83 is preferred; however, latitude and longitude may be submitted in NAD 27. Also, in some geographic areas where NAD 27 and NAD 83 are not available other datum may be used. It is important to know which datum is used. DO NOT LEAVE BLANK.

ITEM #12. Enter the name of the nearest city and state to the site. If the structure is or will be in a city, enter the name of that city and state.

ITEM #13. Enter the full name of the nearest public-use (not private-use) airport or heliport or military airport or heliport to the site.

ITEM #14. Enter the distance from the airport or heliport listed in #13 to the structure.

ITEM #15. Enter the direction from the airport or heliport listed in #13 to the structure.

ITEM #16. Enter the site elevation above mean sea level and expressed in whole feet rounded to the nearest foot (e.g. 17'3" rounds to 17', 17'6" rounds to 18'). This data should match the ground contour elevations for site depiction submitted under ITEM #20.

ITEM #17. Enter the total structure height above ground level in whole feet rounded to the next highest foot (e.g. 17'3" rounds to 18'). The total structure height shall include anything mounted on top of the structure, such as antennas, obstruction lights, lightning rods, etc.

ITEM #18. Enter the overall height above mean sea level and expressed in whole feet. This will be the total of ITEM #16 + ITEM #17.

ITEM #19. If an FAA aeronautical study was previously conducted, enter the previous study number.

ITEM #20. Enter the relationship of the structure to roads, airports, prominent terrain, existing structures, etc. Attach an 8-1/2" x 11" non-reduced copy of the appropriate 7.5 minute U.S. Geological Survey (USGS) Quadrangle Map MARKED WITH A PRECISE INDICATION OF THE SITE LOCATION. To obtain maps, contact USGS at 1-888-275-8747 or via internet at "http://store.usgs.gov". If available, attach a copy of a documented site survey with the surveyor's certification stating the amount of vertical and horizontal accuracy in feet.

ITEM #21.

- For transmitting stations, include maximum effective radiated power (ERP) and all frequencies.
- For antennas, include the type of antenna and center of radiation (Attach the antenna pattern, if available).
- For microwave, include azimuth relative to true north.
- For overhead wires or transmission lines, include size and configuration of wires and their supporting structures (Attach depiction).
- For each pole/support, include coordinates, site elevation, and structure height above ground level or water.
- For buildings, include site orientation, coordinates of each corner, dimensions, and construction materials.
- For alterations, explain the alteration thoroughly.
- For existing structures, thoroughly explain the reason for notifying the FAA (e.g. corrections, no record or previous study, etc.).

Filing this information with the FAA does not relieve the sponsor of this construction or alteration from complying with any other federal, state or local rules or regulations. If you are not sure what other rules or regulations apply to your proposal, contact local/state aviation's and zoning authorities.

Paperwork Reduction Work Act Statement: This information is collected to evaluate the effect of proposed construction or alteration on air navigation and is not confidential. Providing this information is mandatory or anyone proposing construction or alteration that meets or exceeds the criteria contained in 14 CFR, part 77. We estimate that the burden of this collection is an average 19 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, completing and reviewing the collection of information. A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB Control Number. The OMB control number associated with this collection is 2120-0001. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at: 800 Independence Ave SW, Washington, DC 20591, Attn: Information Collection Clearance Officer, AES-200.

Please Type or Print on This Form

Form Approved OMB No.2120-0001
Expiration Date: 10/31/2017

U.S. Department of Transportation
Federal Aviation Administration

Failure To Provide All Requested Information May Delay Processing of Your Notice

Notice of Proposed Construction or Alteration

FOR FAA USE ONLY

Aeronautical Study Number

1. Sponsor *(person, company, etc. proposing this action):*

Attn. of:

Name:

Address:

City: State: Zip:

Telephone: Fax:

2. Sponsor's Representative *(if other than #1):*

Attn. of:

Name:

Address:

City: State: Zip:

Telephone: Fax:

3. Notice of: ☐ New Construction ☐ Alteration ☐ Existing

4. Duration: ☐ Permanent ☐ Temporary (___ months, ____days)

5. Work Schedule: Beginning End

6. Type: ☐ Antenna Tower ☐ Crane ☐ Building ☐ Power Line
☐ Landfill ☐ Water Tank ☐ Other

7. Marking/Painting and/or Lighting Preferred:
☐ Red Lights and Paint ☐ Dual - Red and Medium Intensity
☐ White-Medium Intensity ☐ Dual - Red and high Intensity
☐ White -High Intensity ☐ Other

8. FCC Antenna Structure Registration Number *(if applicable)*:

9. Latitude: 0 , , "

10. Longitude: 0 , ,

11. Datum: ☐ NAD 83 ☐ NAD 27 ☐ Other

12. Nearest: City: State

13. Nearest *Public-use* *(not private-use)* or Military Airport or Heliport:

14. Distance from #13. to Structure:

15. Direction from #13. to Structure:

16. Site Elevation ***(AMSL)***: ft.

17. Total Structure Height ***(AGL)***: ft.

18. Overall Height (#16 + #17) ***(AMSL)***: ft.

19. Previous FAA Aeronautical Study Number *(if applicable)*:

-OE

20. Description of Location: *(Attach a USGS 7.5 minute Quadrangle Map with the precise site marked and any certified survey)*

21. Complete Description of Proposal:

Frequency/Power (kW)	

Notice is required by 14 Code of Federal Regulations, part 77 pursuant to 49 U.S.C., Section 44718. Persons who knowingly and willingly violate the notice requirements of part 77 are subject to a civil penalty of $1,000 per day until the notice is received, pursuant to 49 U.S.C., Section 46301(a)

I hereby certify that all of the above statements made by me are true, complete, and correct to the best of my knowledge. In addition, I agree to mark and/or light the structure in accordance with established marking & lighting standards as necessary.

Date	Typed or Printed Name and Title of Person Filing Notice	Signature