STATEMENT OF WORK

INSTALL REACT VII FACILITY, B9001, POST V19

Project #: WWYK250063
Work Task #: 17109050

Revision: 0
Issued: 27 Mar 2026

1. SCOPE

1.1 GENERAL

The work to be performed under the terms of this contract consists of furnishing all materials, labor, plant, tools, transportation, equipment, testing services, quality control and incidentals required to accomplish the install of the React VII Facility at Tinker Air Force Base (AFB), Oklahoma (reference the project drawings for additional location information).

The Contractor shall perform a site investigation to verify existing conditions. If necessary, additional as-built drawings are available from 72 ABW/CE - Engineering Support, located in B400.

The Contractor shall be responsible for identifying the necessary logistical, architectural, and structural work elements required to perform this project as described herein. Assemblies, framework, fixtures, or apparatus not readily identified on the project drawings, specifications, or this Statement of Work (SOW) shall be provided by the Contractor as required for a complete, fully operating, and functioning system or systems ready for use by the Government.

Information such as floor plan layouts and dimensions; structural, mechanical and electrical data; and location of underground utilities provided by the Government for existing and new construction are based on available as-built documentation, field observation, and equipment selected as design basis by the Government. This information is to be considered approximate and shall be field verified by the Contractor.

1.2 DEFINITIONS

1.2.1 Contracting Officer (CO)

An individual with the authority to enter into, administer, and/or terminate contracts and make related determinations and findings. The term includes certain authorized representatives of the contracting officer acting within the limits of their authority as delegated by the CO.

The CO is the ONLY person authorized to make any commitments or changes that will affect price, quality, quantity, delivery, or any other term or condition of the contract.

1.2.2 Contracting Officer's Representative (COR)

An individual designated by the Contracting Officer to perform specific technical or administrative functions.

The COR is not authorized to make any commitments or changes that will affect price, quality, quantity, delivery, or any other term or condition of the contract. It shall be the Contractor's responsibility to contact the CO concerning any matters where the Contractor believes that the direction received from the COR may affect price, quality, quantity, delivery, or any other term or condition of the contract prior to performing work or purchase of material.

1.3 CONTRACTOR PERSONNEL

1.3.1 General Requirements

The Contractor shall ensure that employees and subcontractor employees have current/valid licenses and certifications necessary to perform their functions. Any cost or time associated with obtaining licenses or certifications shall be at the Contractor's expense.

Personnel shall be easily recognized as a Contractor employee or sub-contractor. This may be accomplished by wearing distinctive clothing bearing the name of the company or by wearing appropriate badges that contain the company name and employee name. The badge shall be displayed on the outer clothing, on the front of the body between the neck and waist and must be visible at all times. The badge shall clearly identify the individual as a Contractor employee.

1.3.2 Key Personnel

The Contractor shall, at a minimum, provide the following key personnel. Submit resumes for personnel fulfilling each of the key positions described below within five (5) calendar days after NTP.

Exceptions or variances to experience requirements require prior approval from the Contracting Officer (CO)/Contracting Officer's Representative (COR); exceptions/variances will be considered where the Contractor can demonstrate comparable experience and/or competency.

Forward any requests for variance to the CO; include resumes for personnel listing the qualifications to be considered (e.g. education, experience, professional certifications, etc.).

Required experience levels shall be maintained throughout the duration of the contract. When personnel changes are required, resumes and a revised organization chart shall be submitted to the CO within five (5) business days of a vacated or filled position.

One Contractor employee may hold up to two (2) key positions; exceptions are noted below (e.g. a project superintendent cannot fulfill the role of the Quality Control Manager). Contractor employees holding more than one key position must meet the minimum requirements for both positions.

1.3.2.1 Project Manager (PM)

The PM will be responsible for the overall performance of this contract. The PM shall have a minimum of ten (10) years combined experience in the following positions: Project Superintendent, Quality Control Manager, Project Manager, Project Engineer or Construction Manager with general contracting firm(s) engaged in multi-trade commercial construction contracts. The individual must have at least two (2) years' experience as a Project/Program Manager. Provide the name of PM, in writing, to the CO upon award of the contract.

The Contractor shall designate an Alternate PM who may act on behalf of the Contractor when the PM is absent. Qualifications for the Alternate(s) are the same as for the PM. Provide the name of the Alternate, in writing, to the CO upon award of the contract.

The PM or designated Alternate shall have direct oversight of project planning and construction activities. The PM shall provide overall project management, including full authority to develop proposals, negotiate and sign contract modifications; provide

subcontract administration; review material submittals and shop drawings; and shall attend all status meetings, site visits, and pre-final/final inspections.

The CO must be able to contact the PM or designated Alternate by phone at all times. Throughout the life the contract, the PM or Alternate shall be available to meet with the CO, at Tinker AFB, within one (1) hour of telephone notification during normal duty hours.

1.3.2.2 Quality Control Manager (QCM)

The QCM is responsible for management of the Contractor Quality Control (CQC) Program. The QCM shall have the minimum qualifications set forth in the specification section 01 45 00.00 10, *Quality Control* (for purposes of this SOW, QCM is equivalent to CQC System Manager).

The Contractor shall designate an Alternate QCM who may act on behalf of the Contractor when the QCM is absent. Qualifications for the Alternate are the same as for the QCM.

Contractor may designate additional quality control (QC) staff as specified in 01 45 00.00 10 (e.g. Assistant QC Manager or QC specialists).

Provide the names of QC staff to the CO upon award of the contract as a part of the Quality Control Plan.

The QCM and their staff shall coordinate and review all material and shop drawing submittals, including those of subcontractors, offsite fabricators, and suppliers; prepare quality control (QC) reports; schedule and coordinate testing procedures; and attend all status meetings, site visits, and pre-final/final inspections.

The Contractor's QC staff shall maintain a presence at the site at all times when work is being performed to ensure that the materials and workmanship are in accordance with the project drawings and technical specifications, as well as approved shop drawings and material submittals. The QCM or Alternate shall visit the project site daily.

For additional information regarding the requirements for Contractor’s Quality Control Program, refer to specification section 01 45 00.00 10.

The QCM may serve as the Site Safety and Health Officer.

1.3.2.3 Site Safety and Health Officer (SSHO)

The SSHO is responsible for management of the Contractor Health and Safety Program (for purposes of this SOW, the Health and Safety Program is equivalent to Safety and Occupational Health Program in EM 385-1-1, *U.S. Army Corps of Engineers Safety and Health Requirements Manual)*. The SSHO shall have the minimum qualifications set forth in EM 385-1-1.

The Contractor shall designate an Alternate SSHO who may act on behalf of the Contractor when the SSHO is absent. Qualifications for the Alternate(s) are the same as for the SSHO.

Provide the names of the SSHO and Alternate to the CO upon award of the contract as a part of the Health and Safety Plan. The SSHO or Alternate shall visit the construction site daily to ensure full compliance with all health and safety requirements.

When the SSHO or an Alternate is not on site, a Designated Representative (DR) may be used (reference EM 385-1-1). The SSHO, an Alternate, or DR shall be at the construction site at all times when work is being performed.

1.3.2.4 Project Superintendent

The Superintendent must have a minimum of five (5) years' experience in construction with at least two (2) of those years as a superintendent on commercial projects similar in size and complexity to the requirements of this contract. The individual must have documented training in the requirements of EM 385-1-1 and have experience in the areas of hazard identification and safety compliance.

The Contractor shall designate an Alternate Superintendent who may act on behalf of the Contractor when the Superintendent is absent. Qualifications for the Alternate(s) are the same as for the Superintendent, except previous experience as a superintendent is not required; subcontractors will not be used as Alternates.

Provide the names of the Superintendent and the Alternate to the CO upon award of the contract.

The Superintendent is primarily responsible for managing and coordinating day-to-day production and schedule adherence to the contract. The Superintendent shall provide on-site supervision; submit progress reports; schedule and coordinate subcontractors and material suppliers; and attend all status meetings, site visits and pre-final/final inspections.

An individual Superintendent may be assigned to more than one contract; however, the Superintendent shall not be assigned to more than 5 active contracts at Tinker AFB unless approved by the CO. Alternates may only be assigned to a single contract/job.

The Superintendent shall visit the contract/job site daily. Either the Superintendent or the designated Alternate shall be at the project site at all times when work is being performed. The Superintendent must arrive at the job site within 30 minutes of telephone direction from the CO, Contract Specialist or Construction QA Inspector.

The Superintendent or Alternate cannot be a member of the QC staff.

The Superintendent or Alternate can be the Designated Representative (reference paragraph SITE SAFETY AND HEALTH OFFICER).

1.3.3 Subcontractors

Subcontractor firms performing design shall be authorized to offer engineering or architectural services in a US State or Territory. An Oklahoma license will not be required for individuals responsible for signing/sealing documents.

All subcontractor firms shall be licensed in their specialty where required; Contractor will provide a copy of these licenses as part of the QC Plan.

1.4 BADGE(S)

AFMC Form 387, *Air Force Material Command Identification Cards* (i.e. contractor badges) are required for Contractor personnel to access/work on Tinker AFB. The Contractor must have all personnel badged prior to commencing work.

Contractor shall designate an employee to act as Certifying Official for all personnel requiring badges. The designated Certifying Official shall complete the *Appointment of Security Representative* letter and submit it to the COR upon award of the contract; a copy of this letter (Attachment 1) is included on the attached CD.

Upon approval, Contractor's Certifying Official will be responsible for completing AFMC Form 496, *Application for AFMC Identification Card*, for all personnel requiring a contractor badge. Badges are issued at Bldg. 6611, Pass and ID.

Badges shall be displayed on the outer clothing, on the front of the body between the neck and waist and must be visible at all times.

1.5 QUALITY CONTROL

It is the Contractor's responsibility to provide, inspect, and document the level of quality that has been established by the minimum standards of the project drawings, specifications, and this SOW. The QCM shall direct the execution of the Contractor's QC Plan.

Quality control shall be executed in accordance with specification section 01 45 00.00 10. The QC program shall include, but is not limited to the following:

1.5.1 Inspection System

The Contractor shall establish an inspection system which monitors the execution of any task completed under this contract. The Contractor must specify the areas to be inspected on a scheduled or unscheduled basis, how often inspections will be accomplished, and titles of the individuals who will perform the inspections.

1.5.2 Deficiency Prevention

The Contractor shall establish a method for identifying, correcting, and preventing future recurrence of quality deficiencies.

1.5.3 Inspection Files

In accordance with specification section 01 45 00.00 10, the Contractor shall maintain records of all required inspections conducted by the QCM and the necessary corrective actions taken. This documentation shall be submitted to the Government weekly with the progress reports (reference section PROGRESS REPORTING elsewhere in this document) throughout the life of the contract.

1.6 HEALTH AND SAFETY

1.6.1 Commander's Statement of Safety Intent

The safety of everyone on Tinker AFB is our top priority. All individuals must accept personal responsibility for safety and seek opportunities for improving the safety of our work environment. Everyone working on Tinker AFB is challenged to find, fix (if able) and report all hazards and near-misses. It is our shared duty to take every reasonable step and precaution to prevent accidents and preserve the health/safety of each contractor and government employee.

1.6.2 Occupational Safety and Health Administration (OSHA) Voluntary Protection Program (VPP)

The Contractor is hereby notified that TAFB has achieved or is pursuing VPP Star ratings across multiple sites. Additional information regarding VPP can be found at the following link:

http://www.osha.gov/dcsp/vpp/index.html

The Voluntary Protection Plan applies to all construction and service contracts that have Contractor employees working more than 1000 hours per quarter on Tinker AFB. Refer to specification section 00 71 00, *General Safety Requirements for Construction on Tinker Air Force Base*, for additional requirements related to VPP.

1.6.3 Emergency Evacuation Procedures

Contractor employees shall follow the direction of Government employees in regard to emergency evacuation procedures, i.e. fire, tornado, or bomb threats. It is the responsibility of the Contractor to provide guidance and establish procedures for responding to an emergency for their employees. It is the Contractor's responsibility to account for their employees following an emergency evacuation. The Contractor personnel shall participate with the Government personnel in all fire and tornado drills at no additional cost to the Government.

1.6.4 Mishap Reporting

The Contractor shall notify the CO and the COR as soon as practical after any mishaps, including recordable accidents, incidents, and near misses, as defined in EM 385-1-1 Appendix Q; and any injuries, illness, or property damage which occur on the installation while performing work under this contract.

Refer to specification section 00 71 00 for additional requirements related to mishap reporting.

1.7 BIOENVIRONMENTAL REGULATIONS

(1) To assist in the evaluation of health hazards & to provide emergency medical treatment, Contractor must have Material Data Sheets (MDS) for hazardous materials reviewed and exchange of HAZCOM information accomplished prior to use. Process hazardous material in accordance with specification section 00 72 00, *Environmental Requirements for Construction on Tinker AFB*.

(2) Ventilation measurements must be in accordance with current edition of ACGIH Ventilation Manual and 29 CFR 1910.94.

(3) Welding, cutting, or brazing operations must be in accordance with 29 CFR 1910.252. The Contractor shall not operate welders near chlorinated hydrocarbons.

(4) Hazardous noise levels in the vicinity of DoD Active Duty and Civilian personnel must be in accordance with OSHA 29 CFR 1910.95 and AFI 48-127, *Occupational Noise and Hearing Conservation Program*.

(5) Where confined spaces may be involved, ensure confined space entry permits are acquired prior to entering a confined space. Personal Protective Equipment (PPE) must be in accordance with 29 CFR 1910.146 and AFOSH Std 91-25.

1.8 OUTAGES AND CLOSURES

Request utility outages and/or closures in accordance with TAFB Standard Operating Procedure *Planned and Emergency Outages*. Outages may be required to be performed outside of normal duty hours. The Contractor shall provide temporary lighting and power that may be required for continued performance of User's mission during outages.

1.9 EXISTING WORK

In accordance with FAR 52.236-9, *Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements, t*he Contractor shall take necessary precautions to avoid damage to

existing items to remain in place, to be reused, or to remain the property of the Government; any damaged items shall be repaired or replaced as directed by the CO.

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

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

2. PROJECT SPECIFIC REQUIREMENTS

2.1 GOVERNMENT OCCUPANCY OF FACILITIES

The facility will remain occupied throughout construction.

The construction area, a reasonable buffer area, and any approved staging areas will be cleared of all Government materials and personnel prior to the start of construction.

Contractor shall consult with the Government Project Manager/Construction Inspector and the Using Agency to coordinate procedures; means of access; space for storage of materials and equipment; and use of approaches, corridors, and stairways in such a way that accommodates the continued performance of the User's mission during construction.

2.2 WORKING HOURS

In accordance with specification section 00 70 00, *General Requirements for Construction on Tinker Air Force Base*, construction shall take place during normal duty hours (0700 – 1600 Monday-Friday); utility outages will be the exception.

The contractor has the responsibility to manage and maintain the construction schedule; the Contractor may request authorization to work weekends, holidays and additional shifts as required to accomplish the work per the baseline schedule (reference section CONSTRUCTION SCHEDULE elsewhere in this document).

Work outside normal duty hours to meet schedule will be performed at no additional cost to the government; this is to include all testing, inspection and acceptance actions.

2.3 PHASING

There is no Government-required construction phasing for this contract.

2.4 FOD AWARENESS AND PREVENTION TRAINING

In accordance with specification section 00 71 00 all Contractor personnel working on this contract will be required to complete Foreign Object Debris (FOD) awareness and prevention training.

The work to be performed for this contract will require Contractor personnel to work in or travel through areas near operational and/or production aircraft or related components.

2.5 AIRFIELD OPERATIONS

The work to be performed under this contract is not located in an airfield operations area.

2.6 CONTROLLED/RESTRICTED AREA(S) – B9001

Work to be performed under this Contract is located within the controlled area of Bldg. 9001 (the Industrial Floor).

Contractor shall designate an employee(s) to act as escort for all personnel requiring access to the controlled area/work site; subcontractors will not be used as escorts.

Note: the minimum requirement is one (1) escort for every ten (10) Contractor personnel; Contractor should anticipate providing at least two (2) escorts for every ten (10) personnel.

The designated escorts shall complete Bldg. 9001 controlled area training; training slides and video (Attachments 2a/b) are included on the attached CD. Document completion by signing the certificate (Attachment 2c) included in the training materials; designated escorts shall maintain a copy of the signed certificate on their person at all times while working in the controlled area.

Contractor must provide an Entry Access List (EAL) for all personnel and a Vehicle Entry Access List (VEAL) for approval prior to construction. EAL/VEAL must be submitted to the COR a minimum of fourteen (14) days prior to when access will be required to the work site. Work may not commence until the EAL/VEAL is approved.

Note: Any change to contractor personnel or vehicles being brought into the controlled area will require a resubmission of the EAL/VEAL; timelines for approval will be the same as for the initial submission. New personnel or vehicles may not be brought onto the worksite until the revised EAL/VEAL is approved.

2.7 AFFIRMATIVE PROCUREMENT

The Government has determined that the following products listed in the EPA Comprehensive Procurement Guideline, USDA Biopreferred, Energy Star, or FEMP Low Standby Power programs are included in the scope of this contract:

(1) EPA-designated items

- (a) Building Insulation Products
- (b) Concrete containing coal fly ash

(2) USDA-designated biobased items

- (a) Carpets
- (b) Concrete and asphalt release fluids

(3) Energy Star products

- (a) Seal and insulate
- (b) Windows, doors, and skylights
- (c) Fans, ventilating
- (d) Light commercial heating and cooling
- (e) Commercial LED lighting
- (f) Light fixtures

(4) FEMP Low Standby Power products - NA

A copy of the Government's Recovered Materials Determination Form (RMDF) has been provided as an attachment to this SOW (Attachment 3). If at any time during the contract, it is determined that an applicable, designated product cannot be used due to availability, price, or not meeting required performance specification, the Contractor shall complete Page 5 of the

RMDF (for each product) to provide justification for not utilizing the designated product(s). forward the completed form to the CO and the COR for review and approval.

2.8 ENVIRONMENTAL MANAGEMENT (EM) SURVEY

An EM survey indicates there are no asbestos containing materials (ACM), heavy metals (HM) or lead based paint (LBP) concerns for area(s) where work is to be performed. If at any time the Contractor encounters suspect environmental conditions, they shall notify the CO and the COR.

3. PRECONSTRUCTION SERVICES BY CONTRACTOR

3.1 CORRESPONDENCE

All electronic correspondence related to the awarded contract shall be addressed to the CO, Contract Specialist, Government Project Manager, Construction QA Inspector, the COR, and the respective organizational workflow accounts. Hardcopy correspondence will be addressed to the CO, the Contract Specialist, and the COR.

Contact information for the above will be provided at the Pre-Construction meeting.

All electronic correspondence from the Contractor regarding a specific contract shall follow a standardized subject line naming convention. Subject line for all electronic correspondence shall be as follows:

- WWYK###### Project Title: Subject of E-mail

3.2 DOCUMENTATION

All documents shall be submitted in accordance with specification section 01 33 00, *Submittal Requirements*. The Contractor shall submit all documents electronically via optical disk, e-mail, or a file transfer service such as DoD SAFE.

All documents submitted by the Contractor requiring a signature shall be submitted to the CO and the COR with an electronic digital signature. All documents submitted by the Contractor requiring further action and signature by the Government shall be capable of being digitally signed and saved by the Government representative(s) as required.

3.2.1 Document Format

3.2.1.1 Specifications/Reports/Material Submittals

Specifications, design analyses, reports for calculations, material submittals, warranty information, and similar documents shall be letter sized (8-1/2” x 11”), submitted in Adobe Acrobat (.pdf) format. Black and white documents are preferred but color copies will be accepted if they are necessary to convey intent.

3.2.1.2 Drawings

All drawings produced by the Contractor shall be created utilizing Computer-Aided Design and Drafting (CADD) software. The drawing files shall be in AutoCAD (.dwg) format and adhere to the drawing standards contained in Tri-Services A/E/C CADD Standard Release 6.0.

Drawing size shall be ANSI D (22” x 34”). Drawing scale shall be at least 1"=30' for civil/site drawings and 1/8"=1' for all other plan drawings; text and other non-scale annotation elements shall be sized to produce clear and legible prints at half-size. Contractor shall use English scales and dimensions.

Drawings submitted by the Contractor shall be .pdf format; in addition, final design drawings and as-built record drawings shall be submitted in .dwg format. Hard copy submittals, when required, shall be printed at half-size (11" x 17").

Reference specification section 01 33 00; 01 33 16.00 10, *Design Data (Design After Award)*; and 01 78 00, *Closeout Submittals*, for additional requirements regarding developing and submitting design, shop and as-built drawings.

3.2.2 File Naming Conventions

All documents submitted by the Contractor shall follow a standardized file naming convention as indicated below. File naming conventions shall be strictly adhered to and may only be modified by the Contracting Officer and/or the COR. File names shall have no spaces.

The following items in the below naming conventions are defined as followed:

- WWYK###### = Project number as defined by Civil Engineering
  Example: WWYK201234
- YYYYMMDD = Effective date of document or report
- ZZZ = Contractor's Company Initials
- 001 = Submittal Number or Serial Report Number

(1) Proposals:
WWYK######_Proposal#_ZZZ_Document Description
Example: WWYK201234_Proposal1_ACS_Cost Proposal

(2) RFIs:
WWYK######_RFI_001

(3) Submittals:
WWYK######_FORM#_001 (Brief Description of Submittal)
Example: WWYK201234_AF3000_004 CeramicTile

(4) Daily Reports:
WWYK######_Daily Report_001_YYYYMMDD

(5) Progress Reports:
WWYK######_PR_001_YYYYMMDD

(6) Other Miscellaneous Documents/Reports:
WWYK######_Form Name, Number, Or Description_YYYYMMDD

3.3 CONSTRUCTION SCHEDULE

In accordance with FAR 52.236-15, *Schedules for Construction Contracts*, the Contractor shall submit a baseline construction schedule to the COR for approval within ten (10) calendar days after the NTP is issued. An approved schedule will be required prior to commencement of work.

Contractor's schedule must demonstrate a reasonable and realistic sequence of activities which represent all work through the contract performance period. The schedule shall consider the major work elements, as well as submittal reviews, mobilization, material delivery times, anticipated weather delays, and final inspection/closeout.

3.3.1 Schedule Format

The schedule shall be developed in accordance with specification section 01 32 16.00 20, *Small Project Construction Progress Schedules*, utilizing the Network Analysis Schedule/Critical Path Method format.

The schedule shall generally match the schedule submitted with the Contractor's accepted proposal, with the following additional information included:

(1) Contract start (NTP) and end dates.

(2) Additional detail/breakdown of major work elements, as necessary.

(3) Cost loading data entered for all work items. Cost loading must total to 100 percent of the value of the contract.

Any partial progress payments for materials, as approved by the CO, shall be entered separately on the schedule.

The schedule will reserve, as a minimum, the final 10% of the contract cost for final acceptance. No progress payments will be made against this final 10% of the contract until all closeout items have been submitted, all punch list items have been resolved, and final inspection/acceptance has been completed.

3.3.2 Schedule Updates

Contractor shall keep the schedule current, reflecting actual start and end dates for work elements, activity progress, and plan for completing the remaining work. The Contractor shall submit the updated schedule at monthly intervals, with the first progress report of the month. Reference specification section 01 32 16.00 20 for additional information.

In addition, the Contractor shall submit updated baseline schedules when directed by the CO or the COR. Examples of when a new baseline schedule may be required include instances where the period of performance has been revised through modification to the contract; or as part of a 'get well plan' for construction that is significantly behind schedule.

3.3.3 Coordination with Government Activities

In developing the schedule, the Contractor shall account for the following milestones and Government review times in addition to construction activities:

DELIVERY SCHEDULE & SUBMITTALS		
Item of Work & Deliverables	**Government Review Time (calendar days)**	**Remarks**
Post-Award Conference/ Pre-construction Conference/ Notice to Proceed (NTP)	1 day	At Tinker AFB
Baseline Construction Schedule and Schedule of Values/Draft Progress Report	14 days	Provide within 10 days of NTP
SD-01 Preconstruction Submittals (except as noted below)	14 days	Provide all preconstruction submittals within 15 days of NTP

DELIVERY SCHEDULE & SUBMITTALS		
Item of Work & Deliverables	**Government Review Time (calendar days)**	**Remarks**
Health and Safety Plan	21 days	
Internal Combustion Engines Plan	21 days	
Entry Access List / Vehicle Entry Access List	14 days	Must be approved prior to obtaining access to controlled/secure areas
Notice of Proposed Construction (FAA Form 7460-1)	60 days	Must be provided by 1st business day of month
Request for Contractor Staging Area	30 days	Must be approved prior to mobilization
Chemical/Hazardous Material Request/Authorization	21 days	
Spray Painting Plan	21 days	
Material Submittals (SD-03, SD-04, SD-07, SD-08)	14 days	Provide within 30 days of NTP
Outages	21 days	
Closures (roadway, parking aisles, etc.)	45 days	
Construction Submittals (SD-06, SD-09)	14 days	
Final/Closeout Submittals (SD-10, SD-11)	14 days	Must be approved prior to final inspection.
Pre-final Inspection	7-day Minimum Notice	Contractor must have completed internal pre-final and resolved all punch list items from this inspection
Final Inspection	7-day Minimum Notice	All final/closeout submittals must be approved. Contractor must have resolved all punch list items from pre-final inspection

Note: Information provided in this table is provided to assist the Contractor in developing the construction schedule. Review times may vary depending on the complexity of the submittal.

3.4 PROGRESS REPORTING

Progress reports are used for computing payments, and for monitoring the progress against the Contractor's baseline schedule.

The Contractor shall develop a Progress Report utilizing the 'Reports' feature of the scheduling software. Contractor developed reports shall provide the same information as AF Form 3065, *Contract Progress Report*. The progress report shall utilize the same work elements and schedule of values/cost loading data developed for the construction schedule.

Contractor shall submit a draft version of the Progress Report to the CO and the COR for approval within ten (10) calendar days after the NTP is issued (with the Baseline Schedule).

After approval, the Contractor shall submit Progress Reports weekly, or as directed by the CO, throughout the life of the contract. For each progress report, the Contractor shall include the following:

(1) Percentage of work completed for each work element during the reporting period.

(2) Cumulative percentage of work completed for each work element to date.

(3) Cumulative percentage of work completed for all work elements (percent of contract completion).

(4) Scheduled cumulative percentage of work completed for all work elements, based on the baseline contract schedule (scheduled percent of contract completion).

Progress report's will be reviewed by the Construction QA Inspector and/or the Project Manager, who will in turn provide a recommendation to the COR to approve/disapprove the progress report; approval of the Contractor's progress report does not constitute acceptance of the work as being 100% in compliance with the contract requirements (i.e. project specifications, drawings, and this SOW).

In the event the Contractor's reported progress deviates from the baseline schedule, the CO may elect to hold progress meetings.

3.5 WORKING DOCUMENTS

The Government has provided this SOW and the attached drawings for the Contractor's use in preparing working documents for use during construction. Working documents shall provide sufficient detail to prevent construction errors or code violations and minimize general coordination errors.

The Contractor shall provide the following working documents:

(1) Structural systems analysis, drawings, and specifications.

  (a) Design documents shall be in accordance with UFC 3-301-01, Structural engineering.
  (b) Drawings shall be signed/sealed by a licensed structural engineer; an Oklahoma license will not be required.

(2) Fire alarm shop/detail drawings.

  (a) Drawings shall be prepared in accordance with specification section 28 31 76, *Interior Fire Alarm and Mass Notification System, Addressable*.

(b) Drawings shall be signed/sealed by a licensed fire protection engineer; an Oklahoma license will not be required.

(3) Sprinkler System shop drawings.

(a) Drawings shall be prepared in accordance with specification section 21 13 13, *Wet Pipe Sprinkler System, Fire Protection*. Provide supporting calculations.

(b) Drawings shall be signed/sealed by a licensed fire protection engineer; an Oklahoma license will not be required.

(4) Sheetmetal shop drawings.

(a) Drawings shall be prepared in accordance with specification section 23 00 00*, Air Supply, Distribution, Ventilation and Exhaust*.

(b) Drawings shall be to scale, preferably 1/4”=1’-0” with equipment locations and floor plan backgrounds.

Unless otherwise directed by the CO, the Contractor shall not begin construction activities until the required documents have been reviewed and approved by the Government.

3.6 MINIMUM GUIDANCE DOCUMENTS

Contractor generated working documents shall comply with the project documents (SOW, drawings, and specifications) and the most current editions of each of the publications listed below.

The term 'most current' is understood to mean, "Most current as of date the solicitation is issued."

Codes/standards/regulations referenced by these publications are included as a part of this SOW to the extent referenced.

In case of conflict between the project documents, the Unified Facilities Criteria (UFC), the governing codes/standards, and the Tinker AFB facility standards, the Contractor shall submit a request for information (RFI) to the Government for resolution.

3.6.1 General

(1) UFC 1-200-01, DoD Building Code

(2) UFC 1-200-02, High Performance and Sustainable Building Requirements

(3) UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings

(4) Tinker AFB Facility Standard

3.6.2 Architectural

(1) UFC 3-101-01, Architecture

(2) UFC 3-110-03, Roofing

(3) UFC 3-120-10, Interior Design

(4) Architectural Barriers Act (ABA)

(5) Uniform Federal Accessibility Standard (UFAS)

3.6.3 Structural

(1) UFC 3-301-01, 2025, Structural Engineering, Change 4

(2) ASCE 7-22 Design loads for Buildings and Other Structures

(3) AISC 360-22 Specification for Structural Steel Buildings

(4) AWS D1.4-2018 Structural Welding Code – Steel

(5) ACI 318-19 Building Code Requirements for Structural Concrete

(6) AISI S100-16 (2020) w/ S2-20 North American Specification for the Design of Cold-Formed Steel Structural Members

3.6.4 Mechanical

(1) UFC 3-401-01, Mechanical Engineering

(2) UFC 3-410-01, Heating, Ventilating, and Air Conditioning Systems

(3) UFC 3-410-02, Direct Digital Control for HVAC and Other Building Control Systems

(4) UFC 3-410-04, Industrial Ventilation

(5) UFC 3- 420-01, Plumbing Systems

(6) UFC 3-450-01, Noise and Vibration Control

(7) Tinker AFB Mechanical Standard

3.6.5 Electrical

(1) UFC 3-501-01, Electrical Engineering

(2) UFC 3-520-01, Interior Electrical Systems

(3) UFC 3-530-01, Interior and Exterior Lighting Systems and Controls

(4) Air Force Manual (AFMAN) 32-1065, Grounding and Electrical Systems

(5) Tinker AFB Electrical Standard

3.6.6 Fire Protection

(1) Department of Air Force Instruction (DAFI) 32-2001, Fire and Emergency Services (F&ES) Program

(2) UFC 3-600-01, Fire Protection Engineering for Facilities

(3) UFC 3-601-02, Fire Protection Systems Inspection, Testing, and Maintenance

(4) UFC 4-021-01, Design and O&M: Mass Notification Systems

(5) Tinker AFB Fire Protection Standard

3.7 SUBMITTAL REGISTER

Contractor has been provided with an editable version of the Government's submittal register as a part of the solicitation.

Within ten (10) calendar days after issue of the NTP, the Contractor shall review, revise, and submit the submittal register for approval in accordance with specification section 01 33 00. As

part of the review, Contractor is to add submittals for additional equipment or materials that they believe should be reviewed and approved by the Government.

For any items that the Contractor believes should be removed, provide a separate submittal which lists each item and an explanation memo as to why each submittal should not be included.

4. CONSTRUCTION SERVICES BY CONTRACTOR

All construction shall comply with the project documents (SOW, drawings, and specifications); and any approved Contractor generated working documents.

Contractor's work items include, but are not limited to the following:

4.1 ARCHITECTURAL DEMOLITION

4.1.1 Remove existing south Door, Hardware, Door Frame, existing infill metal panel, and foam,

(1) Remove existing foam on interior Face insulated panel joints.

(2) Remove existing foam located near or on existing concrete curbs and from around the columns and the floor area.

(3) Remove the existing metal panel infill in the south exterior wall, located just east of the existing pedestrian door in the south wall.

4.1.2 Remove epoxy floor repair material and joint material at floor joint locations.

4.1.2.1 Locations include the following:

(1) The north-south floor joint is located in the approximate center of the React VII area.

(2) The east- west floor joint is located in the approximate center of the React VII area.

(3) The north-south floor joint located on the west side of Aisle 19 at the existing opening between column lines U and V.

(4) The north-south floor joint located on the west side of Aisle 19 at the existing opening between column lines V and W.

4.2 ARCHITECTURAL CONSTRUCTION

4.2.1 Refer to drawings for the extent of architectural work. Provide shop drawings of all systems including details of connection of differing systems where they meet. Document continuity of fire rated systems as well as documenting weather tight assemblies at exterior wall locations for approval prior to construction.

4.2.2 Wall Ceiling and Roof Construction

(1) All <u>new</u> React VII Perimeter walls shall be insulated with mineral wool. Refer to structural for the structural metal framing materials that will be nested inside the shaft wall UL Design U415, system C and 6” metal framed interior assemblies.

(2) At the exterior side of the React VII facility perimeter that are parallel to existing walls shall be faced with 1” Shaft Liner panels.

(3) Unless otherwise noted, the exterior side the React VII facility perimeter that are not parallel in close proximity to existing walls and are exposed the surrounding open area shall be face with 5/8” gypsum board facing over the 1” Shaft Liner panels. Finish shall be Finish level 4 with an orange peel texture and shall be painted bright white.

(4) At the interior of the React VII facility all walls shall be faced with gypsum board, with an orange peel texture and shall be painted bright white and shall extend from the floor to the underside of the hard cap ceiling. Walls shall be filled with mineral wool insulation.

(5) The roof framing cavity shall be insulated with mineral wool insulation.

(6) The underside of the roof framing shall be 5/8” gypsum board attached to hat channels that are secured to the bottom of the open web steel joists. The gypsum board ceiling shall be finished to finish level4 with an orange peel texture and shall be painted bright white.

(7) Where monitors are to be mounted to the wall a 4’ high by 6’ wide 1/8” thick carbon steel sheet metal shall be attached to the wall with the top located at 8’ above the finished floor. Once installed a layer of ½” gypsum board shall be installed over the sheet metal to match depth the 5/8” gypsum board.

(8) All walls Except at locations noted in 4.2.2 (2) above shall be finished to Level 4 with an orange peel texture and shall be painted bright white.

(9) On top of the roof deck the roof surface shall be faced with STRUTO-CRETE structural roof panels. Refer to 4.4.(3) below.

(10) The exposed ceiling system shall be a suspended acoustical 2x2 grid system. No insulation shall rest on top of the suspended acoustical 2x2 grid system.

(11) Wall base shall be 4.5” top set base. Inside and outside corners shall be pre-formed. All base shall be continuous except for the pre molded corners.

4.2.3 Pedestrian doors/door frames, overhead doors and windows

4.2.3.1 Pedestrian doors

(1) The new pedestrian door to the exterior, located at the south end of React VII shall be an insulated hollow metal door, with a 4” x 25” vision lite in compliance with ABA r404.2.11. The bottom of the glazed panel shall be located a maximum of 43” above the adjacent walking surfaces and shall be located on the strike side of the door.

(2) Door frames shall be welded hollow metal frames. A viable option that may be considered for the south exterior door frame may be a welded split remodel frame.

(3) All perimeter doors shall be gasketed and shall have door sweeps.

(4) Pedestrian entry doors shall have 5 button cypher locks with key over-ride. Keyway shall be Best 7-pin compatible.

(5) All doors and hardware shall be ABA compliant, inclusive of the thresholds and transition strips transition between flooring materials.

4.2.3.2 Overhead doors

(1) Overhead doors shall be coiling overhead doors with a hood, shall be gasketed, and shall have safety features inclusive of safety door bottom/warning lights. The coiling

overhead doors shall be electrically operated and fire rated based upon the walls in which they are located.

(2) Reference Electrical SOW and drawings for power requirements.

4.2.3.3 Windows

(1) The Window shall have a welded metal frame with a tempered fixed glazed panel.

4.2.4 Guard Railings, Perimeter Coping and gap at the roof between the React VII structure and the exterior wall at the roof level

(1) All guard rails and bollards shall be safety yellow. Refer to structural for mounting requirements.

4.2.5 Floors

(1) Floor finish shall be epoxy at the full footprint of the React VII facility.

(2) The offices shall have carpet tiles installed over the epoxy floor system with walk off carpet tile at the door openings.

(3) Refer to 4.2.7 below for detailed Flooring system requirements.

4.2.6 Netting, Coping, and Guard rails

(1) Install a net system between the guardrail toe board and the exterior wall that has enough slack to move with the differential structural movements of the two buildings while remaining intact.

(2) The gap between the two structures shall be large enough to allow for the running of supply air ducts to provide air flow to prevent condensation in the air space between the two structures where there is an exterior wall of the existing building and the new perimeter wall of the new React VII facility.

(3) Perimeter coping at the roof level shall be ¼” steel angle with 2-Hour intumescent coating.

(4) Entire perimeter shall be protected with a safety railing system IAW OSHA requirements.

4.2.7 Flooring and Wall remedial measures

4.2.7.1 Water issues

(1) The floor exhibits efflorescent deposits from water coming up through the concrete slab. In other locations water is infiltrating through cracks in the concrete slab and under the infilled overhead door.

(2) Water is leaking in from the exterior walkway/concrete slab level through the location where an overhead door was removed and replaced with metal panels

(3) Water is entering in the area of the jambs and threshold of the south door.

(4) Water is entering in through a an ¼” approximate gap in the slab that is located at the northwest corner near the location of the new react VII facility. The crack is on the west side of the loading dock retaining wall.

4.2.7.2 Remedial work

(1) Remove damaged infill panels at the south exterior wall, just east of the existing pedestrian door. Infill with like kind panel material and finish along with a bottom J channel set in a bed of silicone. Installation when complete shall be weatherproof.

(2) The concrete slab in the area of the React VII location will require remedial work to remove the efflorescent deposits and measures to prevent water intrusion.

(3) The rehabilitation of the concrete interior floor will require patching and sealing with product intended for this purpose. Where structural and mechanical scope of work require cutting of the existing concrete slab, the new concrete shall be placed with a vapor barrier and remedial water stops to prevent water and water vapor from migrating up from below the new concrete floor – similar to 4.2.5.2 (3) requirement for the remedial water stop application. Note: Anchors for all work in existing concrete shall be epoxy capsule anchors. Expansion anchors and powder driven anchors shall not be used. All anchors shall be self-sealing and shall prevent moisture intrusion.

(4) Prior to installation of the floor coating materials the concrete floor shall be tested for moisture content.

(5) To the east of the south exterior door install a concrete curb with a remedial water stop that runs the full width of the infill where a previous overhead door was removed. The water stop system shall meet the side framing and shall extend vertically up approximately 4 ½".

(6) From 6" above the 1st horizontal joint up from the floor of the inner face of exterior wall to the new REACT VII wall location:
   (a) Preparation: sand blast or diamond grind.
   (b) Moisture Mitigation: SLABLOC 50 & 100 applied at 200 square feet per gallon each.

(7) **Interior floor Area:**
   (a) Preparation: shot blast body of the floor to CSP 3 and diamond grind perimeter.
   (b) Moisture Mitigation: SLABLOC 50 & 100 applied at 200 square feet per gallon each.
   (c) Joint Filler: Fill control joints with SLABFLEX 300 Paste.
   (d) Build Coats: Apply two coats of pigmented SLABHARD GPE at 120 square feet per gallon each.
   (e) Top Coat: Apply SLABSEAL 300 Pigmented at 400-450 square feet per gallon. Mix in Slabhard non-slip Aluminum Oxide in the topcoat.

(8) A fluid applied membrane that is compatible with epoxy floor systems shall be applied on the floor area once the new remedial work and concrete has cured sufficiently. The membrane shall extend up the exterior wall to at least 6" above the horizontal joint in the exterior wall panels to form a continuous waterproof membrane. At the exterior wall assembly, this includes the area around and over concrete curbs, columns to form a continuous water/water vapor barrier system.

(9) At the South exterior door separate REACT VII from the exterior wall with a 2-hour expansion Joint inclusive of expansion joint covers at the walls, ceiling & roof deck level.

4.2.7.3 1 HOUR Barrier Wall:

Work required at the wall along Aisle 19 paralleling the area west of this wall and 20 feet north and 20 feet south beyond on the east side of this wall to create a 1-Hour Barrier wall:

1) West face of the wall:
   (a) The wall shall have all existing damage repaired and/or patched.
   (b) All Unistrut and attached items shall be removed prior to application of an intumescent coating
   (c) The wall shall receive a 1-Hour rated intumescent coating.
   (d) All penetrations shall be fire stopped. Refer also to 4.5.1 below for additional requirements.
   (e) Upon completion of coating and curing of the intumescent coating and fire stopping, necessary elements shall be reinstalled.
2) East face of the wall:
   (a) The wall shall have all existing damage repaired and/or patched.
   (b) All abandoned Unistrut and attached items that have been abandoned in place or are not necessary shall be removed prior to installation of the new shaft wall system. Verify status before removal.
   (c) The purlins and columns shall receive a 1-Hour rated intumescent coating.
   (d) Install new shaft wall systems from the concrete floor to the roof deck above. These are to be installed from the concrete floor to the first purlin above the floor and between the purlins above, with the upper most spacing being between the upper most purlin and the bottom of the roof deck.
   (e) The shaft wall system shall comply with UL Design U415, system A or UL 469 requirements.
   (f) All penetrations shall be fire stopped. Refer also to 4.5.1 below for additional requirements.
3) Doors:
   a) The doors, frames and hardware shall be 45-minute rated.
   b) The doors, door frames and hardware shall be 45-minute rated. Door bottoms shall be rated for 45 minutes and shall be air infiltration tested.

4.3 STRUCTURAL DEMOLITION

4.3.1 Existing Guardrails and Bollards

(1) Demolish and remove existing steel guardrails at perimeter of work area (Grids U-V/18-19).

(2) Demolish and remove existing bollards at the two existing overhead doors along Grid 19.

(3) Care shall be taken to limit damage to existing structure and foundations. Repair concrete slab-on-grade as required for guardrail and bollard removal in accordance with ACI RAP-7. Including repair of grade beam on the exterior of the work area.

(4) Demolish and remove existing slab-on-grade as required to install underground piping. Avoid other utilities and footings.

4.3.2 New Footings

(1) Demolish and remove concrete slab-on-grade to construct new footing to support columns with loads that cannot be supported by the slab.

4.4 STRUCTURAL CONSTRUCTION

4.4.1 Structural Design

(1) Provide a design for all structural components for the new construction.

(a) Design shall comply with UFC 1-200-01 and UFC 3-301-01.
(b) Design shall include design analysis, drawings, and specifications.
(c) Design shall be signed and sealed by a licensed structural engineer.

4.4.2 Foundations

(1) Verify existing 8” concrete slab-on-grade with #4 at 16” OC EW top and #3 at 16” OC EW bottom can support the loads from the superstructure by analysis. Existing slab is based on the main portion of B9001, as no as-builts for the work area are available. It is anticipated that some column loads exceed the slab capacity to support a point load.

(2) Construct new concrete pile caps on helical piers as required if existing slab-on-grade cannot support the loads required.

(3) Construct new concrete curb at the existing exterior overhead door opening that has been in-filled with girts and metal panel. Opening is located on the existing south exterior wall.

(4) Construct new slab infill for new underground piping. Dowel into existing slab.

4.4.3 New Superstructure

(1) Construct structural steel framed structure independent of host building’s superstructure.

(a) All walls shall be non-load bearing light gauge stud walls and shaft liners at existing walls. Exterior walls are required to be fire-rated.
(b) Lateral design shall utilize moment frames to avoid interference with fire rated shaft walls at existing.
(c) Roof framing shall be comprised of open-web steel joists spanning between steel wide flange girders. Utilize steel wide flange beams on gridlines as required for lateral system. Joists/beam/girders shall be designed for roof top MEP equipment. Include roof penetration framing.
(d) Decking shall be metal roof deck attached to joists and beams.
(e) Provide and install concrete structural panels over the roof deck for walking surface and fire rating. Attach as required.
(f) All connections shall be fully detailed for structural components. Include roof top units supports, ducts, piping , ceilings, electrical, compressed air hosing, and retractable reel connections to light gauge joists.

4.4.4 Overhead Door Support

(1) New overhead door at the existing opening shall utilize the existing channels, provide and install new structural steel header as required.

(2) New overhead door at the north wall shall utilize new structural steel at the jambs and header.

(3) Provide and install support for the door tracks.

(4) Infill existing overhead door opening not receiving a new overhead door on the east side of the work area. Provide furring on the stud wall to receive the new metal siding.

4.4.5 New Guardrails, Bollards, and Ladder

(1) Provide and install new vehicle guardrails at the exterior side of the south overhead door infill and each sided new double door location that opens to Aisle 19.

(2) Provide and install new guardrails and toe plate at the north, east, west, and south edges of the roof. Attach to the new roof structure.

(3) Provide and install new pipe bollards at the new overhead door located at the north wall of the new React VII facility. Surface mount to the existing slab-on-grade at the north and south sides of the wall at each side of the overhead door.

(4) Provide and install new steel ladder to access the roof. Include side flares at the top of the ladder along with a landing area at the top of the ladder. Include a self-closing swing gate. Attach ladder to the new wall structure and existing slab-on-grade.

4.4.6 Existing Structure

(1) Provide and install opening reinforcement as required for new penetrations to the existing host building.

(2) Verify by analysis the existing structure can support new loads from new mechanical work such as ducts, piping, electrical, and compressed air hosing.

4.5 FIRE PROTECTION CONSTRUCTION

4.5.1 Fire and Smoke Protection Features

(1) Any new penetrations into or through fire-and smoke rated barriers and walls shall be in accordance with IBC §714.

(2) Interior finishes will be provided in accordance with NFPA 101, Chapter 40. All current interior finishes outside of the work area will be maintained.

(3) Fire and Smoke Dampers, the protection of duct penetrations through fire and smoke resistive rated construction shall be in accordance with NFPA 90A and IBC §717.

4.5.2 Automatic Sprinkler Protection

(1) Refer to drawings for the extent of automatic sprinkler protection work.

4.5.3 Fire Extinguishers

(1) Install portable Fire Extinguishers compliant with NFPA 10 using 2-A Extinguisher and maximum travel distance to the extinguisher of 75 feet.

4.5.4 Fire Alarm / Mass Notification

(1) Refer to drawings for the extent of fire alarm and mass notification work.

4.6 MECHANICAL DEMOLITION

4.6.1 Ductwork

(1) Refer to drawings for the extent of mechanical work.

4.7 MECHANICAL CONSTRUCTION

4.7.1 HVAC

(1) Refer to drawings for the extent of mechanical work. Provide shop drawings of all systems for approval prior to construction.

(2) Provide vibration isolation IAW Mason industries design guides to include spring isolators or rubber isolation pads.

(3) Provide HVAC controls submittals to include equipment, schematics, sequence of operation and points schedule for review and approval prior to construction.

(4) Provide TAB and DALT reports for review and approval.

(5) Provide as-built drawings in AutoCAD dwg format.

4.8 PLUMBING CONSTRUCTION

4.8.1 Sanitary Sewer

(1) Refer to drawings for the extent of the plumbing work. Provide shop drawings of all systems for approval prior to construction.
(2) Provide as-built drawings in AutoCAD dwg format.

4.8.2 Domestic Water Piping and Equipment

(1) Provide as-built drawings in AutoCAD dwg format.

4.9 ELECTRICAL DEMOLITION

The scope of electrical demolition includes the removal of existing electrical conduits and associated conductors back to their source of power. This work shall also include the removal of the designated existing EXIT sign and fire alarm pull station in the project area.

4.9.1 Existing high bay overhead lights shall remain providing lighting for the electrical and mechanical equipment that will be located on the Roof of the React VII Lab Foundry. Contractor to verify the operational status of these lights and report any deficiencies.

4.10 NEW ELECTRICAL CONSTRUCTION

All new electrical construction shall adhere to the following standards and specifications. The Electrical contractor's responsibility is to coordinate with all other trades (mechanical, plumbing, fire alarm, etc.) to avoid conflicts and ensure a fully integrated systems.

4.10.1 Power Source

React Lab VII Lab power will be from Bus Duct 5D3 via a proper sized Bus Plug sized.

4.10.2 Distribution Panelboards.

(1) All new distribution panelboards shall utilize bolt-on type circuit breakers.

(2) Verify panelboard and breaker sizes against both the electrical and mechanical drawings.

(3) Each panel shall include a minimum of 20% spare braker capacity and physical space for future circuits.

(4) Any panelboard fed from K-rated transformer shall be rated for non-linear loads and equipped with a 200% rated neutral bus.

4.10.3 Step-Down Transformer.

(1) Provide K-rated, dry-type step-down transforms to handle loads that generate harmonic currents.

(2) Bond all transformers in compliance with National Electric Code (NEC) Article 250 and latest Tinker Air Force Base (TAFB) Electrical Standards, Paragraph 3.4.2.

(3) Ensure neutral Conductors are sized appropriately to accommodate harmonic currents.

(4) All Transformers shall have copper windings.

(5) Size Primary feeder conductors to a minimum of 125% of the transformer's full load (FLA) rating.

4.10.4 Conductors and Raceways

(1) Install dedicated neutral conductors for each branch circuit where required by code or design.

(2) Size all equipment conductors (e.g. for electrical water heater) in accordance with NEC Table 310.16 ampacity guidelines. The electrical contractor shall coordinate with the mechanical contractor to verify all equipment load requirements prior to conductor sizing.

(3) Clearly label all junction boxes with the panel nomenclature, circuit number and voltage.

(4) The use of Flexible Metal Conduit (FMC) shall be limited to final equipment connections only.

(5) Provide power circuits for all shown receptacles and receptacle reels

(6) Provide power circuits for the two motorized overhead electrical doors.

4.10.5 Lighting and Controls

4.10.5.1 Interior Lighting:

(1) Install new interior LED lighting system. Illumination levels shall not exceed the maximum intensities specified in the latest edition of the Unified Facilities Criteria (UFC) 3-530-01.

(2) All light fixtures shall have a 4000K color temperature and rated for 120V operation.

4.10.5.2 Lighting Controls**:**

(1) Install dual-technology (Passive Infrared and Ultrasonic) motion detection sensors for lighting control and all applicable areas.

(2) Provide Dimming switches in Room 101 and Room 102.

4.10.5.3 Emergency lighting:

(1) Install emergency lighting along all routes of egress in accordance with the latest TAFB standards, Paragraph 3.7.

(2) Within the React Lab VII Foundry has a (ceiling 10 ft above finished floor), provided a single remote test switch for all emergency light fixtures. Mount this switch with its center 6'-0" Above Finished Floor (AFF).

4.10.6 Low-Voltage and Specials Systems

(1) System Furniture: Install branch circuits for systems furniture in accordance with TAFB Electrical standards, Paragraph 3.7.

(2) Low-Voltage Rough-In: Provide a complete conduit rough-in for all low voltage systems, including telecommunications (computer /phone), controls , and audio-visual (TVs)

(3) Doorbell System: Provide a complete and operational doorbell system for the east set of doors between React Lab VII and Building 9001, including :

(a) A push-button station mounted adjacent to the door frame at 42” AFF to centerline.
(b) An electronic chime at the designated locations in Lab Two (2) and the large office.
(c) A low-voltage transformer installed in an accessible, dedicated 4”X4” junction box located above the lay-in ceiling.

4.10.7 Commissioning: The electrical contractor is required to test and verify the proper operation of all new electrical systems, including lighting controls, emergency lighting and any other automated systems, before the project is considered complete.

4.11 ELECTRICAL SYSTEM RELOCATION FOR FIRE-RATED WALL ASSEMBLY UPGRADE

4.11.1 Overview and Objective. The required electrical scope of work is to facilitate the upgrade of the existing East wall to a certified fire-rated assembly.

4.11.1.1 The primary objective is the temporary removal of all surface-mounted and in-wall electrical components to provide a clean, unobstructed substrate for the complete and uninterrupted construction of the fire-rated wall. Following the wall completion, the electrical systems will be reinstalled and commissioned.

4.11.1.2 The work is to be performed on the East wall of the area separating the workspace from the B9001 West corridor. The electrical systems attached to or within this wall assembly include, but are not limited to:

(a) Electrical power and lighting panel(s).
(b) Surface-mounted and recessed junction boxes
(c) Electrical conduits (EMT, RMC, etc.) and associated supports
(d) Receptacles and outlets and light switches
(e) Low-voltage data and communication outlets and cabling

4.11.1.3 Abandoned electrical items, such as: conduit, exterior lights, and etc. shall be permanently removed.

4.11.1.4 Prior to the commencement of any physical work, the Contractor shall perform a thorough evaluation of the existing electrical infrastructure. The purpose of this evaluation is to verify site conditions and identify any observable deficiencies or deviations from current applicable electrical codes (NEC, NFPA 70E) and site standards. All such findings shall be documented and immediately reported to the Government Representative for review and direction before proceeding

4.11.2 Electrical System Deconstruction and Demolition. All work performed under this SOW shall be executed in strict accordance with the latest editions of all applicable federal, state, and local safety codes and standards.

4.11.3 Reinstallation and Commissioning. This phase defines the requirements for the complete installation, functional testing, and formal commissioning of the new electrical systems and components after the fire rated wall assembly work is completed.

4.11.3.1 Upon completion of reinstallation, all systems will be re-energized and thoroughly tested to ensure full functionality is restored.

4.11.3.2 All electrical work shall comply with the appropriate National Electrical Code (NEC) and all relevant life safety standards.

5. ORDER OF PRECEDENCE

In the event of a conflict or inconsistency between any of the provisions of this contract, precedence shall be applied in the following order:

(1) Those portions of the accepted proposal both conform to and exceed the requirements of the solicitation.

(2) The provisions of the solicitation, including:

(a) The Solicitation, Offer and Award
(b) Specifications
(c) Drawings
(d) SOW

(3) All other provisions of the accepted proposal.

(4) Contractor generated working documents, including, but not limited to: plans, engineering studies and analyses, shop drawings, and equipment installation drawings.

5.1 RECORD DRAWINGS

5.1.2 Working As-Built Drawings ('Redline' Set)

Working as-built drawings shall be maintained at the job site, and clearly indicate authorized field changes, updates based on existing conditions, and corrections to the drawings. Reference specification section 01 78 00 for additional information related to markups to be included in working as-built drawings.

Within five (5) days of substantial completion (i.e. completion of Contractor’s punch-out inspection) and prior to pre-final inspection, the Contractor shall submit working as-built drawings for Government use during the inspection. At the conclusion of the pre-final

inspection, the Government and Contractor will identify any additional changes or corrections required for final approval.

5.1.3 Record Drawings

Within ten (10) days after the pre-final inspection and approval of the working as-built drawings, the Contractor shall incorporate the redlines into the CAD files and submit this final set as the Record Drawings. These drawings shall be labeled 'RECORD DRAWING AS-BUILTS' and submitted for Government approval. Reference specification section 01 78 00 for additional information.

Shop drawings shall be in accordance with the 'additional record drawings' requirements of specification section 01 78 00.

5.2 OPERATION & MAINTENANCE (O&M) MANUALS AND TRAINING

The Contractor shall provide O&M manuals for Government approval a minimum of 30 calendar days prior to the final inspection. Reference specification sections 01 78 00 and 01 78 23, *Operation and Maintenance Data*, for additional information.

The Contractor shall provide O&M training for Government operations and maintenance personnel. Provide a training plan for Government approval a minimum of 30 calendar days prior to the final inspection. Reference specification sections 01 78 00 and 01 78 23 for additional information.

5.3 DD FORM 1354 REQUIREMENT

The Contractor shall submit a DD Form 1354, *Transfer and Acceptance of Military Real Property*, for Government approval a minimum of 14 calendar days prior to the final inspection. Reference specification section 01 78 00 for additional information.

5.4 EQUIPMENT LIST

The contractor shall submit an editable, electronic spreadsheet listing the equipment that has been removed/installed as a part of the project. Utilize the *SMS Builder Equipment List* spreadsheet (Attachment 5), included on the attached CD.

Removed equipment will include any equipment that is removed or replaced as a part of this project. As a minimum, complete the following columns on the spreadsheet:

- Equipment Type
- UID/Unit Tag
- Manufacturer
- Model # and Serial #
- Location/Floor/Room#/Column #

Installed equipment will generally include equipment listed O&M Manuals, which contain the information required to start a preventive maintenance program; to the extent possible, complete all columns in the spreadsheet.

NOTE: Completed *SMS Builder Equipment List* spreadsheet fulfills the requirements for the following submittals:

- Checklist for DD FORM 1354 (specification section 01 78 00)
- O&M Database (specification section 01 78 23)

6. GOVERNMENT FURNISHED DRAWINGS, SPECIFICATIONS & ATTACHMENTS

6.1 DRAWINGS

Refer to Appendix A, DRAWING INDEX. Drawing files, in PDF and AutoCAD format, are included on the attached CD.

6.2 SPECIFICATIONS

Refer to Appendix B, SPECIFICATIONS for a list of specification sections developed by the Government and applicable to the work. Specification files, in PDF format, are included on the attached CD.

6.3 BASE STANDARDS / REFERENCE DOCUMENTS / FORMS

Refer to Appendix C, TINKER AFB FACILITY STANDARDS AND REFERENCE DOCUMENTS.
Tinker AFB facility standards and reference files, in PDF format, are included on the attached CD.

6.4 FACILITY AS-BUILT INFORMATION

Relevant as-built drawings for B9001 are included on the attached CD. If necessary, additional as-built drawings are available from 72 ABW/CE - Engineering Support, located in B400.

7. GOVERNMENT FURNISHED PROPERTY:

There is no Government Furnished Property included in this contract.

8. STAGING/STORAGE AREA(S):

Contractor shall limit storage of materials, equipment, and incidentals to the immediate construction site while work is being performed. If the Contractor requires additional storage area(s) other than the construction site, a request shall be submitted in accordance with specification section 01 50 00, *Contractor Facilities*.

It is recommended that the Contractor arrange for storage of equipment between its delivery and its installation, as availability of space and security during non-working hours cannot be guaranteed.

9. 'OR EQUAL' CLAUSE:

Where reference is made in the specifications or on the drawings to specific manufacturers and/or model numbers of equipment or materials, the information is provided to indicate design intent and to establish the minimum quality standards, physical attributes, and performance characteristics which are required for the referenced item. The use of specific names and/or model number is not intended to limit selection of other manufacturers; equipment or materials meeting these criteria may be submitted to the COR for consideration and shall be clearly identified, in writing, as a substitution.

The burden of proving equality for proposed substitutions shall be the responsibility of the Contractor and submittals for said substitutions shall include detailed manufacturer's specifications, dimensioned drawings, performance data and any other information necessary to clearly indicate that the proposed item meets or exceeds the quality standards, physical characteristics, and performance criteria established by the SOW, specifications, and drawings. Submittals, which do not provide proof of equality, will be rejected.

Approval of a substitute by the COR shall not result in a change to contract price or schedule; such changes can only be approved by the CO.

10. ATTACHMENTS

The following project specific attachments referenced within this SOW are included on the attached CD.

- Attachment 1 – Appointment of Security Representative Letter
- Attachment 2a – Controlled Area Training
- Attachment 2b – Controlled Area Entrance Procedures
- Attachment 2c – Controlled Area Training Certificate
- Attachment 3 – Recovered Materials Determination Form
- Attachment 4 – Not used
- Attachemnt 5 – SMS Builder Equipment List

End of SOW

APPENDIX A
Drawing Index

General

G-001	General Notes and Vicinity Map
G-002	Fire Protection General Notes
G-003	General Code Analysis
G-004	General Code Analysis
G-005	General Life Safety Plan

Structural

S-001	Structural General Notes
S-002	Structural General Notes and Special Inspections
S-003	Structural Special Inspections
SD-101	Structural Demolition Plan
S-101	Structural Foundation Plan
S-102	Structural Roof Framing Plan
S-201	Structural Elevations
S-501	Foundation Details
S-502	Framing Details
S-503	Guardrail and Ladder Details
S-504	Guardrail and O.H. Door Details

Architecture

AD-101	Architectural Demolition Plan
A-101	React VII and Loading Dock Floor Plan
A-102	Floor Plan
A-103	Mezzanine Plan
A-104	Reflected Ceiling Plan
A-105	Wall Type Plan
A-106	Architectural Roof Plan
A-301	Sections
A-401	Enlarged Plan, Elevation and Schedule
A-501	Details
A-502	Details
A-601	Window and Door Schedules
A-602	Window and Door Schedules

Mechanical

M-001	Mechanical Symbols and Abbreviations
MD-101	Mechanical Demolition Plan
M-101	Mechanical Mezzanine Plan
M-102	Mechanical Floor Plan
M-103	HVAC Piping Floor Plan
M-501	Details
M-601	Schedules

APPENDIX A (Continued)

M-602 HVAC Schematic

Plumbing

P-101 Underfloor Plumbing Plan
P-102 Plumbing Floor Plan
P-501 Details

Electrical

E-001 Electrical Symbols, Legend, and Abbreviations
ED-101 Electrical Demolition Plan
E-101 Electrical Power Plan
E-102 Lighting Conceptual Plan
E-103 Electrical Mechanical Mezzanine Plan
E-104 Overhead Door Electrical Specifications
E-601 Electrical Panel Schedules
E-602 Easy Power Model

Fire Protection

FP-101 Fire Protection Plan
FA-101 Fire Alarm and Mass Notification Plan

APPENDIX B
Specifications

TINKER AFB GENERAL REQUIREMENTS SPECIFICATIONS

Division 00 – Procurement and Contracting Requirements

00 70 00	General Requirements for Construction on Tinker AFB
00 71 00	General Safety Requirements for Construction on Tinker AFB
00 72 00	Environmental Requirements for Construction on Tinker AFB
00 80 00	Special Provisions for Working on Tinker AFB
00 80 05	Special Provisions for Working on or Near the Airfield on Tinker AFB

Division 01 - General Requirements

01 32 16.00 20	Small Project Construction Progress Schedules
01 33 00	Submittal Procedures
01 33 16.00 10	Design Data (Design After Award)
01 42 00	Sources for Reference Publications
01 45 00.00 10	Quality Control
01 50 00	Contractor Facilities
01 78 00	Closeout Submittals
01 78 23	Operation and Maintenance Data

UNIFIED FACILITIES GUIDE SPECIFICATIONS (UFGS)

Division 02 - Existing Conditions

02 41 00	Demolition and Deconstruction

Division 03 – Concrete

03 01 00	Rehabilitation of Concrete
03 30 00	Cast-In-Place Concrete
03 15 13	WaterStops

Division 05 - Metals

05 05 23.16	Structural Welding
05 12 00	Structural Steel
05 21 00	Steel Joist Framing
05 30 00	Steel Decks
05 40 00	Cold-Formed Metal Framing
05 50 13	Miscellaneous Metal Fabrications
05 51 33	Metal Ladders

APPENDIX B (Continued)

Division 06 - Wood, Plastics, and Composites

06 41 16.00 10	Plastic-Laminate-Clad Architectural Cabinets

Division 07 - Thermal and Moisture Protection

07 14 00	Fluid-Applied Waterproofing
07 21 16	Mineral Fiber Blanket Insulation
07 60 00	Flashing and Sheet Metal
07 81 00	Spray applied Fireproofing
07 84 00	Firestopping
07 92 00	Joint Sealants

Division 08 - Openings

08 11 13	Steel Doors and Frames
08 33 23	Overhead Coiling Doors
08 51 23	Steel Windows
08 71 00	Door Hardware
08 81 00	Glazing

Division 09 - Finishes

09 22 00	Supports for Plaster and Gypsum Board
09 29 00	Gypsum Board
09 67 23. 13	Resinous Flooring systems (Epoxy) 3 coat
09 68 00	Carpeting
09 90 00	Paints and Coatings

Division 10 - Specialties

10 14 00.10	Exterior Signage
10 14 00.20	Interior Signage
10 26 00	Wall and Door Protection
10 44 16	Fire Extinguishers

Division 21 - Fire Suppression

21 13 13	Wet Pipe Sprinkler System, Fire Protection

Division 22 - Plumbing

22 00 00	Plumbing, General Purpose
22 05 48.00 20	Mechanical Sound, Vibration, And Seismic Control

APPENDIX B (Continued)

Division 23 - Heating, Ventilating, And Air Conditioning (HVAC)

23 00 00	Air Supply, Distribution, Ventilation, and Exhaust Systems
23 03 00	Basic Mechanical Materials and Methods
23 05 15	Common Piping for HVAC
23 05 48.00 40	Vibration and Seismic Controls for HVAC Piping and Equipment
23 05 93	Testing, Adjusting, and Balancing for HVAC
23 07 00	Thermal Insulation for Mechanical Systems
23 08 00	Commissioning of HVAC Systems
23 09 13	Instrumentation and Control Devices for HVAC
23 09 23.02	BACnet Direct Digital Control for HVAC and Other Building Control Systems
23 31 13.00 40	Metal Ducts
23 36 00.00 40	Air Terminal Units
23 64 26	Chilled, Chilled-Hot, And Condenser Water Piping Systems

Division 26 - Electrical

26 05 73	Power System Studies
26 20 00	Interior Distribution System
26 51 00	Interior Lighting

Division 28 - Electronic Safety and Security

28 31 76	Interior Fire Alarm and Mass Notification System, Addressable

Division 31 - Earthwork

31 00 00	Earthwork
31 23 16	Excavation, Trenching, and Backfilling for Utilities

APPENDIX C
Tinker AFB Facility Standards and Reference Documents

Base Facility Standards

Tinker Air Force Base Facility Standard

Tinker Air Force Base Mechanical Standard

Tinker Air Force Base Electrical Standard

Tinker Air Force Base Fire Protection Standard

Tinker AFB General Specifications (Div 00 and Div 01) Reference Documents

Sections 00 7x 00

DoDOP-2000.16V1 AFI 10-245-0	Antiterrorism (AT) Program Implementation
DAFI 13-213	Airfield Driving
DAFI 13-213 TINKERAFBSUP	Airfield Driving (Tinker AFB Supplement to AFI 13-213)
DAFI 21-101	Aircraft and Equipment Maintenance Management
DAFI 21-101 AFMCSUP	Aircraft and Equipment Maintenance Management (AFMC Supplement to AFI 21-101)
AFI 48-104	Tobacco Free Living
DAFI 91-202	The US Air Force Mishap Prevention Program
AFI 91-202 AFMCSUP	The US Air Force Mishap Prevention Program (AFMC Supplement to AFI 91-202)
AFMAN 32-7003	Environmental Conservation
AFMAN 40-201	Radioactive Material (RAM) Management
AFMAN 48-148	Ionizing Radiation Protection
DAFMAN 91-203	Air Force Occupational Safety, Fire, and Health Standards
AFMAN 91-203 OC-ALCSUP	Air Force Occupational Safety, Fire, and Health Standards (OC-ALC Supplement to AFMAN 91-203)
TINKERAFBI 13-204	Airfield Operations
TINKERAFBI 21-100	Foreign Object Damage (FOD) and Dropped Object Prevention (DOP) Programs
TINKERAFB_SOP_Outages	Planned and Emergency Outages Standard Operating Procedures
TINKERAFB HWMP	Tinker AFB Hazardous Waste Management Plan
TINKERAFB INRMP	Tinker AFB Integrated Natural Resources Management Plan
TINKERAFB INRMP_APP E	Tinker AFB Integrated Natural Resources Management Plan – Appendix E, Native Landscaping Plant Materials
TINKERAFB INRMP_APP G	Tinker AFB Integrated Natural Resources Management Plan – Appendix G, Urban Forestry Management Procedures
EM 385-1-1	Safety -- Safety and Health Requirements Manual
UFC 3-260-01	Airfield and Heliport Planning and Design
UFC 3-260-04	Airfield and Heliport Marking

APPENDIX C (CONTINUED)

UFC 3-535-01	Visual Air Navigation Facilities
UFC 3-600-01	Fire Protection Engineering for Facilities
UFC 3-601-02	Fire Protection Systems Inspection, Testing, and Maintenance
Section 00 78 00	
ERDC/ITL TR-12-1	A/E/C Graphics Standard
ERDC/ITL TR-12-6	A/E/C CAD Standard
URML	Unified Master Reference List

Tinker AFB General Requirements Specifications Attachments/Forms

00 70 00, Attachment 1	Tinker AFB Outage Request Form
00 71 00, Attachment 1	Airfield Construction Waiver
00 71 00, Attachment 2	EAL Template
00 71 00, Attachment 3	VEAL Template
00 72 00, Attachment 7a	AF3952, Chemical/Hazardous Material Request Authorization Form
00 72 00, Attachment 7b	Monthly Hazardous Material Usage Report
00 72 00, Attachment 8	Recovered Materials Determination Form
00 72 00, Attachment 9	EMS Awareness Training
00 72 00, Attachment 13	AF487, Generator Operating Log
00 72 00, Attachment 14	Information for New Boilers
01 33 00, Attachment 1	TAFB Form 3000, Material Approval Submittal
00 15 00, Attachment 1	Staging Request Form
01 78 00, Attachment 1	DD1354, Transfer and Acceptance of Military Real Property
01 78 00, Attachment 2	DD1354 Checklist
SOW, Section BADGES	Appointment of Security Representative

Tinker AFB General Requirements Specifications Required Training Materials

EMS General Awareness Training for Contractors
AFMC FOD/DOP Program
Controlled Area Training (B9001)