STATEMENT OF WORK FOR DESIGN-BUILD PROJECT

REPAIR (NAF-R&M) TLF BLDG 952

NKAK 235002

Air Mobility Command
LITTLE ROCK AIR FORCE BASE
ARKANSAS
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PART 1 - INTRODUCTION

1.01 SOLICITATION

The *19th Contracting Squadron* is soliciting a proposal for the design and construction of Repair (NAF) TLF, Building 952, NKAK 235002 at Little Rock AFB, Arkansas.

1.02 BEST VALUE EVALUATION

This requirement will be awarded on Best Value, Tradeoff Process. A written narrative that fully articulates intention and qualifications will be required by Design Build Firm.

The following criteria will be evaluated in addition to Price or Cost:

1. Technical Solution
2. Relevant Experience/ Past Performance
3. Project Staffing
4. Schedule – Refer to Section 01 32 00 Construction Progress Schedules
5. Value Considerations

1.03 DESIGN-BUILD FIRM SERVICES

The *Design-Build Firm* shall perform all necessary studies, meetings, analyses, design, coordination, Schematic Design, Design Development, Specifications, preparation of contract documents, preconstruction submittals, construction submittals, and total demolition and construction for the project, closeout submittals, and warranty work. The facility shall be sited in the general location as shown on the provided location map. The design shall include all related items as required to safely accomplish all necessary work.

(Note: Design Build Firm and Contractor are used interchangeably)

1.04 DESIGN-BUILD FIRM AE SERVICES

The *Design-Build Firm* shall have an architectural & engineering staff within the firm and/or shall partner with or have a direct relationship with a professional architect/engineer firm (AE) who shall furnish all services, materials, supplies, and supervision required to fully investigate and design this project. The survey and design of architectural and engineering features of the work shall be accomplished by the appropriate licensed design professional(s) who are experienced in the design of those systems. The final drawings and specifications shall be stamped and signed by the registered professional architect(s) and registered professional engineer(s) responsible for the design in their respective area of expertise and, if applicable, a principal of the firm registered in architecture and/or engineering as applicable.

1.05 ARCHITECT-ENGINEER SERVICES

The *Design-Build Firm* shall provide licensed design professional architectural and engineering services throughout the design and construction process. The *Design-Build Firm* shall provide all services, materials, supplies, and supervision required to review and approve construction submittals, prepare any change orders, revise construction documents to incorporate changes during construction, and provide office quality control inspection services onsite for the duration of the construction phase of the project.

1.06 PERMITS

The *Design-Build Firm* and/or the licensed design professional architect/engineer of record shall be responsible for obtaining all necessary permits/approvals from the Arkansas Department of Health (ADH), Arkansas Department of Energy and Environment Division of Environmental Quality (DEQ) and the City of Jacksonville. Contractor is required to submit NOI (Notice of Intent) to DEQ 10 days prior to start of all renovation or demolition work regardless of whether or not asbestos and lead based paint exists on site.

1.07 COMPLETE AND USABLE

A. The *Design-Build Firm* shall provide a design for a complete and usable facility within the negotiated and accepted contract construction cost and meeting all requirements of this statement of work. The *Government* will not accept requests for additional funds except for changes in project scope, unforeseen site conditions (such as rock removal) or as directed by the *Contracting Officer*. The Design-Build Firm shall be financially and technically responsible for resolving any design errors or omissions in its design products.

B. Neither the *Government*'s review, approval or acceptance of, nor payment for, the services required under this contract shall be construed to operate as a waiver of any rights under this contract or of any cause of action arising out of the performance of this contract, and the *Contractor* shall be and remain liable to the *Government* in accordance with applicable law for all damages to the *Government* caused by the *Contractor*'s negligent performance of any of the services furnished under this contract.

PART 2 - TECHNICAL DESCRIPTION OF PROJECT

2.01 GENERAL

A. The Design-Build Firm is required to provide all services necessary for the design and construction of this project.

B. The purpose of this project is to evaluate and repair the building envelope and all damaged equipment to mitigate the risk of future freezing. Fire lines and potable water lines are located in ventilated attic, unconditioned spaces, and uninsulated exterior walls. Subsequently, the project includes the restoration of interior finishes, including but not limited to drywall, cabinets, plumbing fixtures, light fixtures, flooring, and acoustical ceiling tile, that were removed during the remediation of the facility.

C. Project also replaces the entire fire alarm system, replacement of non-operable mechanical equipment, repair of damaged plumbing lines, and reroof

of the facility with a metal standing seam roof. Refer to below bid items for more extensive requirements.

D. The Design-Build Firm shall be responsible for locating all utilities in the area of construction, and for accommodating them, protecting them, and/or modifying them as required for the construction of this project.

E. Building will be unoccupied during construction, so phasing is not required. The Design Build Firm shall propose a construction schedule per Section 01 32 00, which may include phasing and will be coordinated with the user.

F. Inspection of all completed work is required prior to closing any wall or ceiling. Refer to “Quality Control”.

G. Bid Items include the following:

0001 FIRE ALARM SYSTEM

1. The entire fire alarm system must be replaced with a system that meets UFC and current NEC requirements, including but not limited to, annunciator panels, detectors, boxes, wiring etc. A graphic annunciator is not required; LCD annunciator is acceptable. Alarm panel shall be Monaco.

2. **Compliance with UFC 3-600-01 and UFC 4-021-01 is mandatory for fire alarm and required mass notification system. New FA system is required to transmit emergency event at B952 to B883, Lodging Facility Department, and fire department. B883 LFD must also have the capability to remotely engage new mass notification system that is installed in B952.**

3. Reuse of existing conduit is not acceptable due to condition of conduit.

4. Refer to appropriate UFC for required signage at every exit door, including mass notification system, related to life safety and egress.

0002 INSULATION

1. Potable water lines serving the kitchen/laundry in all suites are located on the exterior wall. The as-built drawings identified 6” batt insulation in exterior walls. Batt insulation and pipe/duct insulation was removed during remediation therefore will require replacement. The Design Build Firm is to repair exterior envelope and verify pipe is located on warm-side of wall. All exterior walls are to be R-19 minimum and meet requirements of UFC_1_200_02 High Performance and Sustainable Building Req. Pipe insulation at exterior walls is to meet requirements of UFC 3-420-01 Plumbing. Any pipe preventing insulation from covering all sides of line must be reconfigured to allow for a continuous exterior envelope. This requirement is applicable to all 50 suites and support spaces with plumbing on exterior walls. The minimum R-19 requirement applies to all exterior walls and insulation is to be fully restored and repaired for a continuous building envelope.

2. Insulation at bottom chord of truss at second floor is currently a combination of batt and blown-in insulation. During remediation this insulation was removed but some areas were left behind to prevent removal of mechanical and electrical equipment. All insulation at the bottom chord is to be fully removed, including but not limited to blown-in cellulose, batt insulation and sheetrock backer board. The building envelope is to be repaired by providing continuous and cavity insulation at underside of roof. This will be accomplished with spray

foam insulation and intumescent thermal barrier coating to meet a minimum R-38 requirement.

3. Fire suppression lines or domestic water lines located within mechanical chase in unconditioned stairwells require adequate insulation to prevent future freezing.

4. Sound attenuation is required in all corridors and suite demising walls to meet STC requirements in UFC 4-720-01F Facility Criteria for Air Force Lodging, Visitor's Quarters and Temporary Lodging Facilities, to prevent interruption of sleep of Airmen temporarily lodging at facility. Demising walls separating mechanical and laundry rooms from guest areas also require sound attenuation. Refer to FC 4-720-01F Facility Criteria for Air Force Lodging, Visitor's Quarters and Temporary Lodging Facilities for acoustic requirements for ceilings and doors.

0003 RESTORATION

1. During remediation, majority of finishes, fixtures, and equipment were removed down to studs and concrete. The restoration of the facility shall replace all finishes, plumbing fixtures, ceilings, cabinets, doors/frames and equipment with new finishes and fixtures to restore original function of building.
2. Reference the as-builts for information on the typical suite configuration that is to be restored with new finishes, ceilings, cabinets, plumbing fixtures, and doors/frames. Appliances were stored by user and shall be coordinated accordingly. Furniture and equipment that is not permanently adhered within facility shall be provided by user.
3. Restoration of support spaces shall include new fixtures, ceilings, cabinets, and finishes to restore original function of building. Appliances were stored by user and shall be coordinated accordingly.
4. Lobby and corridors shall be restored with new finishes, ceilings, and fixtures to return the facility to working condition. Wall coverings appropriate for heavy-duty and hospitality use shall be installed in all corridors, lobbies, and common areas. The wall coverings must be washable and antimicrobial to prevent mold/mildew and other environmental concerns. The finish must meet a minimum Class A or Class B finish in all corridors and common areas.
5. A field survey of domestic water lines was performed by LRAFB. Domestic water lines with damage are marked with tape and will require restoration accordingly. Refer to 2.06 Mechanical and Plumbing for additional information.
6. Refer to **Section 2.05 ARCHITECTURAL** for typical restoration requirements throughout facility.

0004 DESIGN SERVICES

Architectural and Engineering services required for the extent of the work outlined in the Statement of Work. The following evaluations are to be performed by the designers of record to inform the design development and project documentation, including but not limited to:

1. Evaluate attic ventilation, including calculations of required ventilation verses calculation of provided ventilation, for reduction of functional louvers required following revision to building envelope. The current attic space is ventilated with multiple fixed louvers and perforated soffit ventilation. It is assumed that the attic ventilation exceeds requirements

and has contributed to misplacement of blown-in insulation and consequently freezing of pipes.
2. Evaluate ventilation in Rm 8233, Mech Rm. and provide a temperature-controlled motorized louver that would meet outside air requirements for high-heat days and control outside air on alternative days.
3. Evaluate unconditioned stairways and design a solution for maintaining appropriate temperature to mitigate freezing of wet pipes that pass through the stair shafts. Including, but not limited to, addition of unit heaters and temperature controls. Include costs of these items in CLIN 009 Mechanical and Plumbing.
4. Evaluate the building envelope and provide a continuous and congruent solution that meets the minimum requirements of the facility.
5. Evaluate the humidity issues within the facility and design a system that relieves humidity concerns. The current facility uses ERV units in attic for pre-conditioning. The Design-Build Firm is to provide an HVAC design that meets the heating and cooling needs of the facility. Refer to CLIN 0009 Mechanical for additional requirements.

0005 MILDEW/MOLD CLEANING.

During demolition if the Contractor encounters additional mildew/mold the Contractor shall notify Contracting/CE. CE will inspect and determine if cleaning is required and utilize this CLIN. Contractor and CE shall determine the amount of square feet cleaned of any mildew/mold. Provide a unit cost of remediation for 300 SF within this CLIN.

0006 ROOF REPAIR/REPLACEMENT

There are several areas on the existing shingled roof that had faulty construction and are now leaking. The existing roof assembly is architectural shingles over 5/8” OSB with radiant barrier. This CLIN will replace roof assembly entirely, including all elements as described in Section 2.04 Structural and Section 2.05 Architectural. The re-roof will include a metal standing seam roof.

Design-Build Firm to replace roof to UFC 3-110-03 Roofing with Change 5 dated June 2020, UFGS specifications, as applicable, and the requirements of LRAFB Civil Design Criteria dated Sept 2023.

0007 FIRE SUPPRESSION

Upon field survey, it was discovered multiple sprinkler heads are recessed into ceiling, which affects radius of suppression and coverage of fire event. Design-Build Firm and FPE to assess all sprinkler heads to meet requirements of UFC 3-600-01 and UL listing. During installation of ceilings, adjust sprinklers as needed to ensure the appropriate distance from the sprinkler deflector to the ceiling and walls is maintained IAW NFPA 13 or 13R as appropriate, and the sprinkler listing. Confirm sprinkler head is functional without debris, corrosion, or dust.

0008 ELECTRICAL

1. Heat lamps located in suite bathrooms are to be removed including, but not limited to, circuit wiring, fixture support brackets, housing, and switch.

2. All light fixtures located in suites and common areas on first and second floor are to be removed and replaced in similar location.
3. Refer to 2.08 Electrical and Communication for additional requirements.

0009 MECHANICAL AND PLUMBING

1. Stairwell shafts are currently unconditioned spaces with fire suppression lines located in mechanical chases. The mechanical chases did not provide adequate protection and main fire suppression lines were damaged. In addition to design services required to engineer a solution for providing conditioned air to these spaces, Design-Build firm is to include, but not limited to, the equipment and controls necessary to condition the space.
2. Much of the mechanical equipment and controls within the facility are nearing the end of their intended life cycle. The ageing equipment and lack of mechanical maintenance has led to poorly performing or inoperative equipment that has resulted elevated moister levels within the facility causing mold/mildew issues. In addition to design services and calculations of new/updated mechanical equipment The Design-Build Firm shall be responsible for any surveys, excavations, soil borings, soil analyses, chemical tests, laboratory tests, pressure tests, electrical tests, corrosion and cathodic protection tests, asbestos and lead-based paint surveys, and any other tests required for a complete design and construction of this project.

0010 GENERAL CONDITIONS

The Design Build Firm shall separate General Conditions required to meet the Statement of Work and Division 01 Specifications, including but not limited to, staffing, field office rentals, vehicles, field office supplies, scheduling, equipment/dumpster rentals and certifications. Accordingly, the cost shall not be includes in CLIN 0001 through CLIN 0009 unless provided by a subcontractor to complete the scope of the appropriate CLIN.

2.02 DEMOLITION

A. Demolition shall be limited to that which is required to achieve the primary goal as specified in paragraph 2.01.

B. Selective demolition occurred during remediation, which included all finishes, sheetrock, ceiling tiles, and insulation. Some areas were left behind to prevent damage to electrical and mechanical systems. These areas shall be demolished to the extent required to meet the requirements of the Statement of Work.

C. All elements of construction that are existing to remain must be fully-protected during the selective demolition of the facility. If damage occurs to existing facility, the Design Build Firm shall be responsible for replacing and restoring to original function.

2.03 CIVIL

A. Use of LRAFB 19th CES CIVIL/STRUCTURAL DESIGN CRITERIA AND EXPECTATIONS is mandatory.

B. CONCRETE MIX DESIGNS (Not applicable)

2.04 STRUCTURAL

A. Use of LRAFB 19th CES CIVIL/STRUCTURAL DESIGN CRITERIA AND EXPECTATIONS is mandatory.

Roof Replacement CLIN 0006

1. Verification of structural integrity of existing substrate and replacement of substrate prior to installation of new roof system.

2. Refer to 2.05 Architectural for fully list of requirements of reroof.

Restoration CLIN 0003

1. During remediation of building, damage to interior light gauge metal studs occurred largely from impact. Contractor shall replace damaged metal framing, including studs, top plate and sill plates, with like materials. Damage includes but is not limited to dents due to impact, twisting, cut or broken, and rusting that has compromised the structural integrity of the member. Any metal framing discovered to have missing fasteners requires fasteners to be replaced to restore structural integrity of framing members.

2. All light gauge metal studs to be galvanized, 16 gauge minimum located at 16” O.C. unless interior non-load bearing studs. Interior non-load bearing studs to be minimum 25 gauge located at 16” O.C. unless otherwise noted in the as-built drawings. Soffits above cabinets and/or equipment shall be a minimum of 20 gauge galvanized metal studs at 12” O.C. unless otherwise noted.

2.05 ARCHITECTURAL

A. Use of Little Rock AFB Architectural Compatibility Guide is mandatory.

B. Use of Little Rock Air Force Base Architectural Design Guide Supplement is mandatory.

C. Users may require specialty architectural items per Air Force Lodging Facility Criteria and Interior Design Standards. The Design-Build Firm shall determine all needs during pre-bid and predesign site visits.

Insulation CLIN 0002

1. The Design-Build Firm shall meet the requirements of UFC_1_200_02 High Performance and Sustainable Building Req while repairing the exterior envelope of the entire facility.

2. The Design-Build Firm shall provide a complete and congruent building envelope that meets minimum requirements of LRAFB for roof assembly: R-38 and wall assembly: R-19.

3. Ventilated attic space will be included in the building envelope by providing roof insulation at the bottom of roof deck. The Design Build Firm shall accomplish this with spray foam including intumescent thermal barrier coating. The existing ridge vent and louvers shall be modified or removed to reduce the ventilation requirement to the minimum required by IBC Chapter 12. In lieu of removing louvers in exterior walls, the louvers shall be closed with a like-metal plate and sealed with a flexible membrane. Ridge ventilation will be removed during roof replacement, as required, to meet ventilation requirements.

4. Insulation at exterior walls shall be provided with rigid insulation, mineral wool insulation, spray foam insulation or a combination of the following that meets or exceeds R-19.

Restoration CLIN 0003.

1. The Design-Build Firm is required to do site visits to B952 to verify extent of restoration, including quantities and square footage.

2. **All fire ratings and rated separations are to be restored as needed for the use group and per UFC 03-600-01 Fire Protection Engineering for Facilities and NFPA 101 Life Safety Code. The required fire separation includes the entire assembly, including but not limited to ceilings, doors/frames, and walls**.

3. Doors and Frames:

    a. All damaged steel door frames to be removed and replaced with 16 gauge welded corner steel door frames. Provide surface preparation, welding, grinding of all steel door frames, existing and new, and install filler, primer and paint coats to restore all steel door frames to a like new appearance and function.

    b. All wood veneer doors to be replaced throughout facility with 1-3/4" solid core doors finished with high-pressure laminate veneer. Maintain existing fire rating on all doors located in a rated wall assembly. Replace all door hardware to meet requirements of LRAFB Arch Supplemental Design Guide and the function of the room. Hospitality hardware that meets current IBC requirements, including but not limited to deadbolt, peephole, and card-reader door access is required on all suite entrance doors.

    c. Wood door frames are to be removed and replaced with 16 gauge welded corner steel door frames, mechanically anchored to existing structure. Wood door frames are not acceptable.

    d. All damage metal doors shall be replaced with 16 Gauge hot dipped galvanized, and factory primed hollow metal doors. Paint as required for new finish. See Section 08 11 13 STEEL DOOR AND FRAMES.

4. Interior Finish Requirements:

    a. UFC 4-720-01F Facility Criteria for Air Force Lodging, Visitor's Quarters and Temporary Lodging Facilities plus Air Force Lodging Interior Design Scheme 'D' shall be followed for selection of interior finishes, including but not limited to paint, all flooring, and light fixtures. These specifications cannot be deviated without prior approval from AFSVC, FSS, and CES. The Design Build Firm shall work with user to make final selections during the design phase.

    b. Summary of Finish Requirements by Room Type:

Lobby/ Hallways

Ceiling	Install new acoustical ceiling tile system, as required, by USGS specifications. Ceiling tile shall be fine fissured, 2' x 2' panels, with a tegular edge. All field cuts shall be beveled and field painted to match per manufactures instructions

Wallcovering	- Walls to receive a washable, durable, heavy-duty paint intended for high-traffic areas. - Chair rail to comply with Interior Design standards, intended for hospitality use installed at between 32” and 36”. Continuous from corner to corner. - Corner guards installed in all common areas that meet Interior Design Standards.
Flooring	- Lobbies to have porcelain ceramic tile with continuous color, minimum 12x12, and ceramic tile cove base. Ceramic tile is to be installed per Tile Council of North America standards and meet all USFG specification requirements. - Corridors to have heavy-duty Durken “Illuminations” carpet that meets proprietary specifications outlined in Interior Design Scheme ‘D’. All areas with carpeting shall also have wall base compatible with design guide. A compatible backing from the same manufacturer that provides sound mitigation is required in all corridors.

Guest Suites

Kitchen	- Cabinets to be high-pressure laminate with 3/4” 7-ply hardwood core. Core shall be marine board below sink. Cabinet doors to be shaker style or transitional style for residential appearance including stainless steel soft-close hinges and bar door/drawer pulls. All edges to be finished with edge banding made of same laminate as face panels. Upper cabinets to extend to ceiling without soffit. Provide under-cabinet lighting in lieu of soffit lighting. Final color to be coordinated with user. - Counters to be solid surface and provide continuous 4” backsplash. - Ceiling to be gypsum board and finished with epoxy paint for washable, antimicrobial surface. - Flooring to be porcelain ceramic tile with continuous color, minimum 12x12, and ceramic tile cove base. Ceramic tile is to be installed per Tile Council of North America standards and meet all USFG specification requirements
Bedrooms/ Living Room	- Flooring to be LVT with corresponding wall base. No carpet in bedrooms or living room in guest suites. - Walls to receive medium orange peel and finished per LRAFB standards. - Ceiling to be gypsum board.
Bathroom	- Cabinets to be high-pressure laminate with 3/4” 7-ply hardwood core. Core shall be marine board below sink. Cabinet doors to be shaker style or transitional style for residential appearance including stainless steel soft-close hinges and bar door/drawer pulls. All edges to be finished with edge banding made of same laminate as face panels. Upper cabinets to extend to ceiling without soffit. Provide under-cabinet lighting in lieu of soffit lighting. - Counters to be solid surface and provide continuous 4” backsplash. - Ceiling to be gypsum board and finished with epoxy paint for washable, antimicrobial surface.

	- Flooring to be porcelain ceramic tile with continuous color, minimum 12x12, and ceramic tile cove base. Ceramic tile is to be installed per Tile Council of North America standards and meet all USFG specification requirements - Plumbing fixtures per Mechanical Design Criteria. Showers to be removed and replaced with a solid surface shower/tub system, including wall panels and shower/tub pans. Prefabricated fiberglass shower surround are not acceptable. This is an upgrade that deviates from Interior Design Guide.

Support Spaces

Breakroom/ Housekeeping/ Linen	- Cabinets to be high-pressure laminate with 3/4" 7-ply hardwood core. Core shall be marine board below sink. Flat slab doors are acceptable. All edges to be finished with edge banding made of same laminate as face panels. Upper cabinets to extend to ceiling without soffit. Provide under-cabinet lighting in lieu of soffit lighting. - Counters to be solid surface and provide continuous 4" backsplash. - Ceiling to be gypsum board and finished with epoxy paint for washable, antimicrobial surface. - Flooring to be porcelain ceramic tile with continuous color, minimum 12x12, and ceramic tile cove base. Ceramic tile is to be installed per Tile Council of North America standards and meet all USFG specification requirements
Administration	- Flooring to be carpet with corresponding wall base that meets interior design standards.
Janitor/ Storage	- Sealed concrete with vinyl wall base
Bathroom	- Flooring to be porcelain ceramic tile with continuous color, minimum 12x12, and ceramic tile cove base. Ceramic tile is to be installed per Tile Council of North America standards and meet all USFG specification requirements - ABA Standards including fixtures, toilet accessories, grab bars etc - Vanity surround to be ¾" marine board with high-pressure laminate

Roof Repair – CLIN 0006

1. All existing shingles and roofing felts are to be removed and disposed off-site.
2. Design-Build Firm shall replace the existing roof per requirements below.

Structural Standing Seam Metal Roof (SSSMR) Requirements.

c. HYDROSTATIC (WATERTIGHT) STANDING SEAM METAL ROOFS:

The LRAFB standard roofing for construction is a sloped hydrostatic standing seam metal roof. Reference AMC Roof Policy dated 22 July 2002. The Structural Standing Seam Metal Roof (SSSMR) shall meet the minimum design requirements of Specification 07 61 13 Structural Standing Seam Metal Roof. Roof shall be a mechanically seamed standing seam metal roof with concealed articulating fasteners.

d. At masonry walls the counter-flashing shall be installed in a sawed reglet. Where practical counter-flashing shall extend all the way up adjoining walls.

e. The Design-Build Firm shall incorporate design guidance of UFC 3-320-03a, Structural Considerations for Metal Roofing.

f. Design-Build Firm shall provide permanent safety harness tie-offs meeting OSHA/ANSI in adequate quantity to allow for maintenance on the entire roof system.

g. The Design-Build Firm shall ensure the SSSMR meets or exceeds the following definition of a “Green Roof”: “A roofing system that through its design and construction garners one LEED point for reduction of heat island effect and substantially contributes to at least three more LEEDS points.”

h. The Design-Build Firm shall ensure the SSSMR meets or exceeds the requirements of Engineering Technical Letter (ETL) 08-13, Incorporating Sustainable Design and Development (SDD) and Facility Energy Attributes in the Air Force Construction Program, paragraph 13.11, Roofing, which states: In other than Northern Tier Installations, roofing shall meet or exceed Cool Roof Rating Council Solar Reflectance Index (RFI) of ≥ 78 for low slope roofs (≤ 2:12) and ≥29 for high-slope roofs (> 2:12). “Northern Tier” is defined as heating degree days (HDD) greater than 7,000 and cooling degree days (CDD) less than 2,000.

i. The Design-Build Firm shall match the existing roof slope. With existing roof slopes of less than 4:12, additional waterproofing measures shall be taken to further ensure a weather-tight facility.

j. The Design-Build Firm shall provide SSSMR metal roofing components that are Galvalume having a minimum of 0.55 ounces per square foot of aluminum-zinc alloy coating having a 0.9 mil thickness per side, meeting ASTM A 792/A 792M coating designation AZ55. The Galvalume SSSMR metal roofing components shall have a polyvinylidene fluoride (PVDF) protective coating with a 70% PVDF resin content having a 1.0 mil nominal thick coating meeting ASTM D 3222-05 requirements.

k. The Design-Build Firm shall provide SSSMR Roofing Panels with 22 gauge (0.025 inch) minimum thickness.

l. The Design-Build Firm shall provide SSSMR metal roofing components including all soffit, fascia, downspouts, and counter-flashing shall be minimum 22 gauge. Residential style gutters and downspouts shall not be installed. Color to be selected by LRAFB Architect.

m. The Design-Build Firm shall provide and install minimum 22 gauge pre-finished PVDF on galvalume on steel, fascia, drip edge, box guttering, box

downspouts, flashing, et cetera. Color to be selected by LRAFB Architect. Match existing overhang.

n. The Design-Build Firm shall provide and install cast iron downspout boots/shoes to protect lower portions of each down spout from grounds maintenance high speed mower impacts.

o. The Design-Build Firm shall provide all seams with butyl sealant. SSSMR seams shall have factory applied butyl sealant. SSSMR shall be mechanically seamed.

p. The Design-Build Firm shall replace all damaged roof deck with modern materials that are equivalent to the existing deck. Design-Build Firm shall provide an underlayment. Underlayment shall be 55 mil, fiberglass reinforced, flexible SBS modified asphalt “Peel & Stick, Moisture Guard Plus” or equivalent on entire roof.

q. The Design-Build Firm shall submit colors in full range of manufacturer’s standard colors to be selected by LRAFB Architect.

r. The Design-Build Firm shall extend all penetrations to remain above the roof line. Provide drawing details for each type of penetration to be used to show flashing and sealant. The designer is responsible for coordinating the penetration location in order to avoid an installation that would interrupt the panel seams. No penetration is allowed within min 3inches of a panel seam. Weatherproof characteristics and independent movement must be accounted for by the designer at all penetrations. All penetration shall be installed per metal roofing system manufacturer’s requirements for 20 year weather-tightness warranty. Water shall not be trapped at curbs. Provide crickets made of the same metal type and gauge as the metal panel or change the orientation of the roof curb so that it allows water to flow around it. Curb heights shall be a minimum of 8 inches. For small penetrations provide EPDM or Silicone pre-manufactured pipe collars; install per manufacturers recommendations.

s. Ventilation requirements: The Design-Build Firm shall design to meet ventilation requirements. For hipped roofs, ventilation shall be provided to furnish cross ventilation of each separate attic space with weather tight ridge vents. All vents shall be screened to protect the interior from intrusion of birds and insects. The ratio of total net free ventilating area to the area of the ceiling shall be not less than 1/150. That ratio may be reduced to 1/300 provided that all conditions are met. If the building envelope is located at the bottom of roof decking, the need for ventilation in full attic space is reduced and ridge vents are not appropriate method of cross ventilation. The ventilation calculation shall only apply to areas outside of the building envelope.

t. At least 50% of the required ventilating area is provided by ventilators located in the upper portion of the space to be ventilated (at least 3 feet above eave or cornice vents) with the balance of the required ventilation provided by eave or cornice vents. The building envelope with determine the ventilation design intent.

u. All calculations determining the appropriate ventilation requirements for proper air exchange shall be provided by the appropriate design professional, not by the manufacturer of the roof assembly.

CLIN 0010 BID ALTERNATE #1: Roof repair to include the restoration of internal gutter and concealed downspouts located at cupola above exterior entrances. Reference the as-builts detail 3/A15 for original design intent of internal gutter system. The membrane and flashing is to be inspected for damage and verified to be functional. If damaged or failing, the replacement is required. Photos and/or video with a site demonstration is required prior to acceptance of repair. Include repair of internal gutters as a Bid Alternate #1. The concealed downspout is to be replaced if non-functional. Base Bid shall include the cleaning of the internal gutters and downspouts of all debris.

3. Warranties

Warranties including Manufacturers and General Contractor's Workmanship warranties that require periodic inspections or repairs at the Government's expense to maintain the warranty are not permitted. The warranty terms, exclusions, and limits must be enumerated in the specifications and require that all roof curbs and penetration flashings integrated into the roof system are covered under the warranty including penetrations, flashing, counter flashing, and metal work. Roof Warranties shall be submitted for review and approval prior to material ordering. The General Contractor shall submit a letter of transmittal from the roofing system manufacturer with the roofing warranty information, stating that they have the requirements of this document and all referenced roofing requirements, and that the roof warranty is in compliance with the requirements of this document and all referenced roofing requirements. Warranties with unreasonable exclusions will be disapproved. Roof warranties shall clearly explain the warranty claim process. It is the General Contractor's responsibility to select a roofing system that meets the roofing requirements in this document, the referenced roofing requirements, the contract documents, and to ensure the roof is installed to meet all the requirements of the roof warranties. A roof warranty that allows standards of installation below the requirements of this document will not override the requirements of this document; as stated previously it is the General Contractor's responsibility to select a roofing system that will meet these requirements.

a) Single Source Roof System Manufacturer's Minimum 20 year, Non-Prorated, No Dollar Limit, Water-Tightness and Material Finish Warranties:

The roofing system shall be provided with a fully executed Single Source Roof System Manufacturer's Minimum 20 year, Non-Prorated, No Dollar Limit, Water-Tightness and Material Finish Warranties. The manufacturer's warranties shall be from a single source manufacturer. Repairs required due to a breach in the warranties, to include material and labor, shall be covered by the warranty without any additional cost to the Government. Signatures on manufacturer's warranties will include the manufacturer, the General Contractor, and the Government representative (the contracting officer or a delegated representative). The Warranty shall be written such that the warranty will remain in affect between the manufacturer and the Government if the General Contractor goes out of business.

b) General Contractor's Bonded 5 Year, Non-Prorated, No Dollar Limit, Water-Tightness Warranty:

The roofing system shall be provided with a fully executed General Contractor's Bonded 5 Year Non-Prorated, No Dollar Limit, Water-Tightness Warranty. Leaks during the 5 year period starting at acceptance shall be repaired by the General Contractor with no cost to the Government. This warranty shall be with the General Contractor and the Government. It shall not be acceptable for the General Contractor to pass this responsibility onto a sub-contractor. The required wording of the warranty will be provided in the applicable UFGS.

4. Re-roof projects:

The LRAFB Standard Roofing System types will be used for re-roof projects. Re-roof projects include roof replacement, metal roofing retrofit (hat system), and metal roofing overbuild (roof-slope conversion) projects; reference UFC 3-110-03, Paragraph 6-2.1 for terminology. Reference UFC 3-110-03 Chapter 6.

a) Facilities shall remain weatherproof during construction.

b) Re-roof projects shall repair by replacement, retrofit, or overbuild all components of the roofing system including coping, flashing, counter-flashing, edge metal, gutters, downspouts, scuppers, and insulation.

c) All decks shall be inspected and repaired to accept new roofing system. Repairs shall not affect the levelness of the insulation boards cover boards taper system or other components of the roof system. Use >5% of deck surface for replacement in base bid unless the Statement of Work explicitly lists otherwise. Provide the cost per square foot to replace damaged deck surface with your proposal. The cost per square foot will be used for a modification if quantities of repair required go over 5%.

d) Wood deck damage is considered but not limited to: swelling, rot, detached fasteners, split-through solid boards, delaminated plywood panels, unlevel, defection, sagging, and dips, and moisture laden boards. All repairs shall be made to ensure proper adhesion, application and drainage of roof system. Provide documentation of moisture content (by moisture meter). Document with photo verification.

5. Identify existing rooftop equipment that is no longer in use. Verify all equipment to remain is functioning. Protect all equipment to remain from construction damage. Remove and reinstall equipment to remain as required to install the new roof system. Reinstallation shall be as required to meet manufacturer's warranty requirements and design criteria requirements of this document. Remove all abandoned rooftop equipment including curbs and replace decking.

6. Designer shall incorporate safety requirements into the roofing project drawing and specifications. Safety is of paramount importance. Protect occupants from fumes by coordinating the shutdown of air handling units. Protect occupants in areas where roofing work is taking place directly overhead by directly cordoning off the area, especially if deck repairs are taking place. Protect all occupants entering or leaving the building from falling materials. Identify the location of underground tanks and other sensitive, sub-surface items so that heavy vehicles do not overload these areas. Occupants include users of facility and contractors.

2.06 MECHANICAL & PLUMBING

A. Use of the 19th Civil Engineer Squadron Mechanical Engineering Design Criteria and Expectations is mandatory.

Restoration CLIN – 0003

1. Pipe insulation removed at time of repair must be restored with new insulation.

    i. Piping insulation to meet or exceed 19th Civil Engineer Squadron Mechanical Engineering Design Criteria and Expectations Heating, Ventilation, and Air Conditioning Systems 11. D.

    b. All piping insulation be sized, installed, and met or exceed all ASHRAE 90.1, IECC, and UFC standards/codes.

    c. Additional requirement to 01 10 01 2.06 D 1 1 b - Pipe insulation to be sized by Design-Build Firm to prevent condensation of piping sweating through insulation and freezing of piping during inclement weather.

2. Domestic water lines were tested for leaks and marked with tape in facility. Contractors to repair pipe with like material and configuration as a portion of CLIN 0003 Restoration.

Mechanical CLIN – 0009

1. Procurement and installation of unit heaters and/or radiant heat grills in all stairwells of the facility to include:

    a. Unit heater shall have external disconnect switch and shall be enabled by simple mechanical thermostat in the stairwell

    b. Unit heaters shall be non-condensing units.

    c. Start-up, and commissioning

    d. All power or natural gas required to operate per manufactures recommendations.

    e. Installation per all manufacture’s recommendations.

    f. Design-Build Firm to perform and provide 19 CONS and 19CES all calculations to appropriately size and quantity the number of unit heater(s) and/or radiant grills for each area to ensure stairwells will not freeze during inclement weather conditions. All variables in calculation are to be stated to include, but not limited to, ambient air temperature, stairwell air temperature, free air flow into stairwell, etc..

2. Procurement and installation of motorized louvers, as determined by the Design Build Firm, in the mechanical room of the facility. Current nonmotorized louver is possibly oversized and provides the mechanical room with excessive fresh air movement.

    a. New motorized louvers shall be designed to protect all mechanical equipment during inclement weather and provide all fresh air/combustion air requirements.

3. Removal of existing unit heater(s) in mechanical room with procurement and installation of natural gas unit heater(s) to include following components/features:

a. Unit heater(s) to be natural gas Trane equipment and other related components sized by the Design-Build firm for the needs of the facility.

b. Unit heater shall have external disconnect switch and shall be enabled by simple mechanical thermostat in the mechanical room OR by plant controller output

c. Unit heaters shall be non-condensing units.

d. Start-up, and commissioning

e. Additional work to be performed on mechanical room unit heaters:

1) Existing conduit may be reused if in undamaged condition. Confirm all conduit is clean and in good condition. If existing conduit is used, a warranty of reused conduit will be required to ensure installer performs proper due diligence on condition of existing conduit.

2) New natural gas unit heater(s) may require additional conduit to be installed. Design-Build firm to include additional conduit as required.

3) New natural gas unit heater(s) may require additional wiring to be installed. Design-Build firm to include additional appropriately sized wiring as required for natural gas unit heater(s) to be operational.

4) New natural gas unit heater(s) may require additional natural gas piping to include piping supports as required to be installed. Design-Build firm to include additional appropriately sized piping and pipe supports as required for unit heater(s) to be operational.

5) Mechanical rooms may require more unit heater than existing to adequately heat the area. Design-Build Firm shall be responsibility for adding additional natural gas unit heater(s), including, but not limited to conduit, wiring, gas piping, gas piping supports, etc., as required to ensure mechanical room will not freeze during inclement weather conditions.

f. Design-Build Firm to perform and provide 19 CONS and 19CES all calculations to appropriately size and quantity the number of natural gas unit heater(s) for each area to ensure mechanical room will not freeze during inclement weather conditions. All variables in calculation are to be stated to include, but not limited to, ambient air temperature, mechanical room air temperature, free air flow into mechanical room, etc..

4. Retrofitting/installation of a complete BAS (Building Automated System) to include the following features:

a. Tracer SC+ Web Based Building Controller

1) All plant controllers (controllers enabling/disabling chillers, boilers, pumps, etc..) shall have H-O-A capability and setpoint overwrite access for operators.

2) All plant controllers to be Trane controllers.

b. Tracer SC+ Building Controller will be connected to Tracer Ensemble Head End Software

c. System, unit, and floor plan graphics

d. Alarm and message routing via email

e. BAS to communicate on owner's IT network

f. Control system programming, start-up, and commissioning

g. (5) year detailed plan for BAS maintenance to include regular maintenance/service and major overhauls as required.

h. BAS shall be connected to the network and communicating to the server and CES EMS facility. Data and reports that certify the system meets specifications shall be provided to Construction Inspector prior to BOD

5. (1) Redundant chiller located alongside the existing chiller for the facility to include following components/features:

a. Redundant chiller with vibration elimination to be Trane equipment, controls, and other related components sized by the Design-Build firm for the needs of the facility.

b. All design calculations for sizing and quantity shall be submitted to 19CONS and 19CES for review and approval prior to ordering/purchasing of equipment and controls.

c. BACnet communication card

d. Alarms/status viewable via BACnet

e. Chiller Enable/Disable

f. Chiller shall have H-O-A capability and setpoint overwrite access for operators

g. Unit graphics

h. Unit programming, start-up, and commissioning

i. Additional work to be performed on redundant chiller:

1) New air separator shall be procured and installed.

2) Power source including, but not limited to, breakers and safety features for chiller and controls as required.

3) All chiller piping shall be insulated to meet or exceed 19th Civil Engineer Squadron Mechanical Engineering Design Criteria and Expectations Heating, Ventilation, and Air Conditioning Systems 11. D.

4) Chiller shall have quick-connect fittings per 19th Civil Engineer Squadron Mechanical Engineering Design Criteria and Expectations Heating, Ventilation, and Air Conditioning Systems 11. G.

j. (5) year detailed plan for chiller maintenance to include regular maintenance/service and major overhauls as required.

6. Existing chiller repair to include the following:

a. Existing chilled water PVC piping from chiller pad to the chiller shall be replaced with welded black iron pipe that reduces stress on system. Portable connection hook ups shall be available Chiller Supply & Return piping shall have vibration eliminators, pressure gauges mounted on a pig tail with an isolation valve, and well mounted manual temperature gauges. Manufacturer guidelines and drawings shall be followed. 19CONS and 19CES will consider a flexible type of connection but will require a submittal for the alternative connection.

b. Design-Build Firm shall provide pipe supports for all new piping as required to reduce stress on all chiller piping connections.

c. Piping to be reinsulated per code and 19th Civil Engineer Squadron Mechanical Engineering Design Criteria and Expectations Heating, Ventilation, and Air Conditioning Systems 11. D.

7. Modifications/equipment to the chilled water system to include the following components/features:

a. Chilled water system to be Trane equipment, controls, and other related components sized by the Design-Build firm for the needs of the facility.

b. All design calculations for sizing and quantity shall be submitted to 19CONS and 19CES for review and approval prior to ordering/purchasing of equipment and controls.

c. BACnet DDC controller with enclosure

d. Chilled water loop supply temperature sensor with well

e. Chilled water loop return temperature sensor with well

f. Removal and replacement of chilled water pump 1 speed control, start/stop, and run status, BACnet integration to VFD

g. Removal and replacement of chilled water pump 2 speed control, start/stop, run status, BACnet integration to VFD

1) Removal of all unused heating water system pumps is required.

2) Chilled water system pumps shall comply with 19th Civil Engineer Squadron Mechanical Engineering Design Criteria and Expectations Heating, Ventilation, and Air Conditioning Systems 11. K.

h. Chilled water pump/equipment shall have H-O-A capability and setpoint overwrite access for operators

i. Replacement of existing valve actuators

j. Replacement of existing thermistors

k. Replacement of existing flow meters

l. Chilled water loop flow measuring (meter)

m. Unit graphics

n. Unit programming, start-up, and commissioning

o. Additional work to be performed on chilled water system:

1) Remove all insulation.
2) Remove, inspect, and reinstall strainers. Replace as required.
3) Remove, inspect, and reinstall pump insert “End Suction” screen. Replace as required.
4) Chemical flush complete chilled water system.
5) Prior to re-insulation of piping the chilled water system shall be pressure tested for leaks. All leaks shall be repaired. 19CONS and 19CES to verify no leaks.
6) Replace all dielectric unions with an isolation valve and new dielectric union.
7) Re-insulate distribution lines. 19CONS and 19CES to verify all chilled water lines are insulated per code and 19th Civil Engineer Squadron Mechanical Engineering Design Criteria and Expectations.
8) Piping insulation to meet or exceed Piping insulation to meet or exceed 19th Civil Engineer Squadron Mechanical Engineering Design Criteria and Expectations Heating, Ventilation, and Air Conditioning Systems 11. D.
9) All piping insulation be sized, installed, and met or exceed all ASHRAE 90.1, IECC, and UFC standards/codes.
10) Additional requirement to 01 10 01 2.06 E 6 vii 2 - Pipe insulation to be sized by Design-Build Firm to prevent condensation of piping sweating through insulation and freezing of piping during winter months.
11) Install filter feeder Filtration Plus Model #8-15-1P-1-150-CS-VS-PB-DP. provided by 19CES.
12) Test & Balance of hydronic system. 19CONS and 19CES to verify all chilled water lines are tested and balanced per code and 19th Civil Engineer Squadron Mechanical Engineering Design Criteria and Expectations.
13) Test and Balance report of chilled water system shall be submitted to 19CONS and 19CES for approval.
14) Existing conduit may be reused if in undamaged condition. Confirm all conduit is clean and in good condition. If existing conduit is used, a warranty of reused conduit will be required to ensure installer performs proper due diligence on condition of existing conduit.
15) New chilled water pump(s) may require additional conduit to be installed. Design-Build firm to include additional conduit as required.
16) New chilled water pump(s) may require additional wiring to be installed. Design-Build firm to include additional appropriately sized wiring as required for chilled water system pump(s) to be operational.
17) Glycol of 30% shall be added to the chilled water system to help prevent freezing during winter months.

18) All chilled water piping, if not already identified, shall be clearly identified for maintenance, tracking of lines, and repairs. Design-Build Firm to evaluate prior to bid if mechanical identification for the chilled water system is needed.

p. Mechanical identification to meet or exceed:

1) Color: Meet requirements of ANSI A13.1, unless specified otherwise.

2) Plastic Nameplates: Laminated three-layer plastic with engraved white letters on a black background; minimum size 3 inches long and 1 inch high. Minimum lettering height for numbers and names is 1/4-inch and other data is 1/8-inch.

3) Metal Tags: Brass with stamped letters; tag size minimum 1-1/2 inch diameter with smooth edges.

4) Stencils: With clean cut symbols and letters 2-1/2 inch high for ductwork and equipment.

5) Stencil Paint: Semi-gloss, high build epoxy ester or alkyd paint.

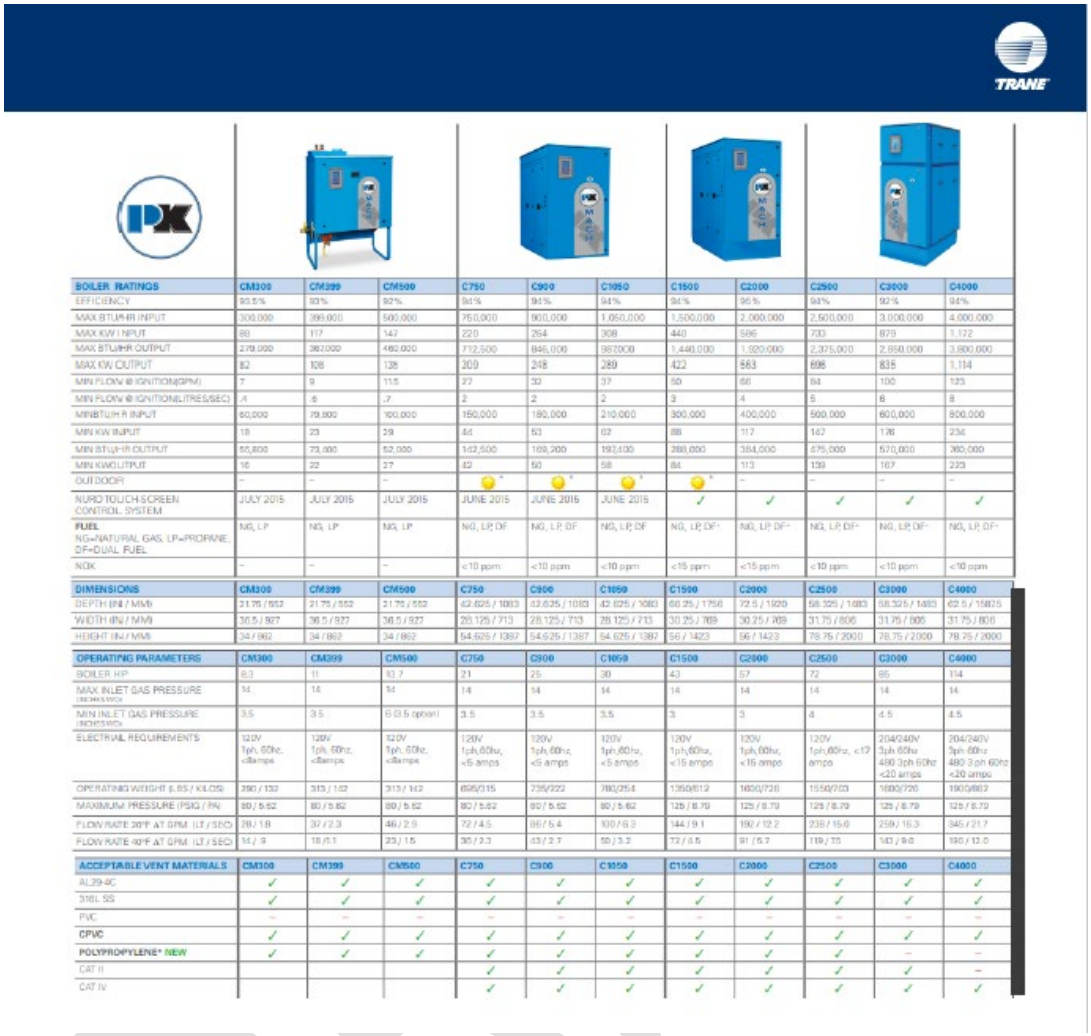
6) Plastic Pipe Markers: Factory fabricated, flexible, semi-rigid plastic, preformed to fit around pipe or pipe covering; minimum information indicating flow direction arrow and fluid being conveyed.

7) Plastic Tape Pipe Markers: Flexible, vinyl film tape with pressure sensitive adhesive backing and printed markings.

q. (5) year detailed plan for chilled water system maintenance to include regular maintenance/service and major overhauls as required.

8. Removal of existing boilers in mechanical room with procurement and installation of new vertical boilers to include following components/features:

a. Boilers to be Trane equipment, controls, and other related components sized by the Design-Build firm for the needs of the facility.



TRANE

BOILER RATINGS	CM300	CM399	CM500	C750	C900	C1050	C1500	C2000	C2500	C3000	C4000
EFFICIENCY	93.5%	93%	92%	94%	94%	94%	94%	95%	93%	92%	94%
MAX BTU/HR INPUT	300,000	399,000	500,000	750,000	900,000	1,050,000	1,500,000	2,000,000	2,500,000	3,000,000	4,000,000
MAX KW INPUT	88	117	147	220	264	308	440	586	733	879	1,172
MAX BTU/HR OUTPUT	279,000	382,000	480,000	712,500	846,000	987,000	1,440,000	1,920,000	2,375,000	2,850,000	3,800,000
MAX KW OUTPUT	82	108	138	209	248	289	422	563	696	835	1,114
MIN FLOW @ IGNITION(GPM)	7	9	11.5	27	33	37	55	66	84	100	123
MIN FLOW @ IGNITION(LITRES/SEC)	.4	.6	.7	2	2	2	3	4	5	6	8
MIN BTU/H R INPUT	60,000	79,800	100,000	150,000	180,000	210,000	300,000	400,000	500,000	600,000	800,000
MIN KW INPUT	18	23	29	44	53	62	88	117	147	176	234
MIN BTU/HR OUTPUT	55,800	73,000	92,000	142,500	169,200	197,400	288,000	384,000	475,000	570,000	760,000
MIN KW OUTPUT	16	22	27	42	50	58	84	113	139	167	223
OUTDOOR	–	–	–	● *	● *	● *	● *	–	–	–	–
NURO TOUCH-SCREEN CONTROL SYSTEM	JULY 2015	JULY 2015	JULY 2015	JUNE 2015	JUNE 2015	JUNE 2015	✓	✓	✓	✓	✓
FUEL NG=NATURAL GAS, LP=PROPANE, DF=DUAL FUEL	NG, LP	NG, LP	NG, LP	NG, LP, DF	NG, LP, DF	NG, LP, DF	NG, LP, DF*	NG, LP, DF*	NG, LP, DF*	NG, LP, DF*	NG, LP, DF*
NOX	–	–	–	<10 ppm	<10 ppm	<10 ppm	<15 ppm	<15 ppm	<10 ppm	<10 ppm	<10 ppm

DIMENSIONS	CM300	CM399	CM500	C750	C900	C1050	C1500	C2000	C2500	C3000	C4000
DEPTH (IN) / (MM)	21.75 / 553	21.75 / 553	21.75 / 553	42.625 / 1083	42.625 / 1083	42.625 / 1083	60.25 / 1756	72.5 / 1920	58.325 / 1483	58.325 / 1483	62.5 / 15825
WIDTH (IN) / (MM)	36.5 / 927	36.5 / 927	36.5 / 927	28.125 / 713	28.125 / 713	28.125 / 713	30.25 / 769	30.25 / 769	31.75 / 806	31.75 / 806	31.75 / 806
HEIGHT (IN) / (MM)	34 / 862	34 / 862	34 / 862	54.625 / 1387	54.625 / 1387	54.625 / 1387	56 / 1423	56 / 1423	78.75 / 2000	78.75 / 2000	78.75 / 2000

OPERATING PARAMETERS	CM300	CM399	CM500	C750	C900	C1050	C1500	C2000	C2500	C3000	C4000
BOILER HP	8.3	11	13.7	21	25	30	43	57	72	86	114
MAX INLET GAS PRESSURE (INCHES WC)	14	14	14	14	14	14	14	14	14	14	14
MIN INLET GAS PRESSURE (INCHES WC)	3.5	3.5	5 (3.5 option)	3.5	3.5	3.5	3	3	4	4.5	4.5
ELECTRIAL REQUIREMENTS	120V 1ph, 60hz, <8amps	120V 1ph, 60hz, <8amps	120V 1ph, 60hz, <8amps	120V 1ph,60hz, <5 amps	120V 1ph,60hz, <5 amps	120V 1ph,60hz, <5 amps	120V 1ph,60hz, <15 amps	120V 1ph,60hz, <15 amps	120V 1ph,60hz, <17 amps	204/240V 3ph 60hz 480 3ph 60hz <20 amps	204/240V 3ph 60hz 480 3 ph 60hz <20 amps
OPERATING WEIGHT (LBS / KILOS)	260 / 132	313 / 142	313 / 142	695/315	735/322	780/354	1350/612	1600/726	1550/703	1600/726	1900/862
MAXIMUM PRESSURE (PSIG / PA)	80 / 5.62	80 / 5.62	80 / 5.62	80 / 5.62	80 / 5.62	80 / 5.62	125 / 8.79	125 / 8.79	125 / 8.79	125 / 8.79	125 / 8.79
FLOW RATE 20°F AT GPM: (LT / SEC)	28 / 1.8	37 / 2.3	46 / 2.9	72 / 4.5	86 / 5.4	100 / 6.3	144 / 9.1	192 / 12.2	238 / 15.0	259 / 16.3	345 / 21.7
FLOW RATE 40°F AT GPM: (LT / SEC)	14 / .9	18 /1.1	23 / 1.5	36 / 2.3	43 / 2.7	50 / 3.2	72 / 4.5	91 / 5.7	119 / 7.5	143 / 9.0	190 / 12.0

ACCEPTABLE VENT MATERIALS	CM300	CM399	CM500	C750	C900	C1050	C1500	C2000	C2500	C3000	C4000
AL29-4C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
316L SS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PVC	–	–	–	–	–	–	–	–	–	–	–
CPVC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
POLYPROPYLENE* NEW	✓	✓	✓	✓	✓	✓	✓	✓	✓	–	–
CAT II				✓	✓	✓	✓	✓	✓	✓	–
CAT IV				✓	✓	✓	✓	✓	✓	✓	✓

b. All design calculations for sizing and quantity of new boilers shall be submitted to 19CONS and 19CES for review and approval prior to ordering/purchasing of equipment and controls.

c. BACnet communication card

d. Alarms/status viewable via BACnet

e. Boiler Enable/Disable

f. Boiler(s) shall have H-O-A capability and setpoint overwrite access for operators

g. Boiler hot water supply temperature sensor

h. Boiler shutdown switch (interlock with boilers) and one BMS input point

i. Unit graphics

j. Unit programming, start-up, and commissioning

k. New boiler outdoor reset to be controlled by boiler manufacture software not BMS. Outdoor reset shall be calculated as “Minimum” temperature necessary to meet dehumidification/reheat design requirements when the OSA

temperature is 80 degrees or above and “Maximum” temperature of 190 degree at 40 degree and below.

l. Additional work to be performed to boiler:

1) New air separator shall be procured and installed.

2) New equipment pad(s) as required taking into consideration maintenance and repair of equipment.

3) All boiler piping shall be insulated to meet or exceed 19th Civil Engineer Squadron Mechanical Engineering Design Criteria and Expectations Heating, Ventilation, and Air Conditioning Systems 11. D.

4) Unused equipment pads shall be demolished to reduce tripping hazards.

5) Existing conduit may be reused if in undamaged condition. Confirm all conduit is clean and in good condition. If existing conduit is used, a warranty of reused conduit will be required to ensure installer performs proper due diligence on condition of existing conduit.

6) New boiler(s) may require additional conduit to be installed. Design-Build firm to include additional conduit as required.

7) New boiler(s) may require additional wiring to be installed. Design-Build firm to include additional appropriately sized wiring as required for heating water system pump(s) to be operational.

8) Design-Build Firm shall follow all manufacturer minimum equipment clearances for maintenance. Maintenance clearances shall be verified by Construction Inspector and 19CES.

m. (5) year detailed plan for boiler maintenance to include regular maintenance/service and major overhauls as required.

9. Removal of existing water heaters in mechanical room with procurement and installation of new water heaters to include following components/features:

a. Water heater(s) to be Trane equipment, controls, and other related components sized by the Design-Build firm for the needs of the facility.

b. All design calculations for sizing and quantity shall be submitted to 19CONS and 19CES for review and approval prior to ordering/purchasing of equipment and controls.

c. Water heater Enable/Disable

d. Water heater shall have H-O-A capability and setpoint overwrite access for operators

e. Water heater hot water supply temperature sensor

f. Water heater shutdown switch (interlock with water heaters) and one BMS input point

g. Unit graphics

h. Unit programming, start-up, and commissioning

i. Additional work to be performed to water heater:

1) New equipment pad(s) as required taking into consideration maintenance and repair of equipment.

2) Unused equipment pads shall be demolished to reduce tripping hazards.

3) All water heater piping shall be insulated to meet or exceed 19th Civil Engineer Squadron Mechanical Engineering Design Criteria and Expectations Heating, Ventilation, and Air Conditioning Systems 11. D.

4) Existing conduit may be reused if in undamaged condition. Confirm all conduit is clean and in good condition. If existing conduit is used, a warranty of reused conduit will be required to ensure installer performs proper due diligence on condition of existing conduit.

5) New water heater(s) may require additional conduit to be installed. Design-Build firm to include additional conduit as required.

6) New water heater(s) may require additional wiring to be installed. Design-Build firm to include additional appropriately sized wiring as required for heating water system pump(s) to be operational.

j. (5) year detailed plan for water heater maintenance to include regular maintenance/service and major overhauls as required.

10. Modifications/equipment to the heating water system to include the following components/features:

a. Heating water to be Trane equipment, controls, and other related components sized by the Design-Build firm for the needs of the facility.

b. All design calculations for sizing and quantity shall be submitted to 19CONS and 19CES for review and approval prior to ordering/purchasing of equipment and controls.

c. BACnet DDC controller w/enclosure

d. Heating water loop supply temperature sensor with well

e. Heating water loop return temperature sensor with well

f. Removal and replacement of heating water pump 1 speed control, start/stop, and run status, BACnet integration to VFD

g. Removal and replacement of heating water pump 2 speed control, start/stop, and run status, BACnet integration to VFD

1) Removal of all unused heating water system pumps is required.

2) Chilled water system pumps shall comply with 19th Civil Engineer Squadron Mechanical Engineering Design Criteria and Expectations Heating, Ventilation, and Air Conditioning Systems 11. K.

h. Heating water pump/equipment shall have H-O-A capability and setpoint overwrite access for operators

i. Heating water loop bypass valve

j. Replacement of existing valve actuators

k. Replacement of existing thermistors

l. Replacement of existing flow meters

m. Heating water loop flow measuring (meter)

n. HW pump 1 & 2 Variable Frequency Drive (VFD) with Bypass

o. Unit graphics

p. Unit programming, start-up, and commissioning

q. Additional work to be performed on heating water system:

1) Remove all insulation.

2) Remove, inspect, and reinstall strainers. Replace as required.

3) Remove, inspect, and reinstall pump insert “End Suction” screen. Replace as required.

4) Chemical flush complete chilled water system.

5) Pressure test system for leaks and repair all leaks. 19CONS and 19CES to verify no leaks.

6) Replace all dielectric unions with an isolation valve and new dielectric union.

7) Re-insulate distribution lines. 19CONS and 19CES to verify all heating water lines are insulated per code and 19th Civil Engineer Squadron Mechanical Engineering Design Criteria and Expectations.

8) Piping insulation to meet or exceed 19th Civil Engineer Squadron Mechanical Engineering Design Criteria and Expectations Heating, Ventilation, and Air Conditioning Systems 11. D.

9) All piping insulation be sized, installed, and met or exceed all ASHRAE 90.1, IECC, and UFC standards/codes.

10) Additional requirement to 01 10 01 2.06 E 9 vii 2 - Pipe insulation to be sized by Design-Build Firm to prevent condensation of piping sweating through insulation and freezing of piping during winter months.

11) Existing Filter Feeders are to be removed, stored, reinstalled and insulated for the chilled water feeder and hot water feeder.

12) Test & Balance of hydronic system. 19CONS and 19CES to verify all heating water lines are tested and balanced per code and 19th Civil Engineer Squadron Mechanical Engineering Design Criteria and Expectations.

13) Test and Balance report of heating water system shall be submitted to 19CONS and 19CES for approval.

14) Existing conduit may be reused if in undamaged condition. Confirm all conduit is clean and in good condition. If existing conduit is used, a warranty of reused conduit will be required to ensure installer performs proper due diligence on condition of existing conduit.

15) New heating water system pump(s)/control(s)/equipment may require additional conduit to be installed. Design-Build firm to include additional conduit as required.

16) New heating water system pump(s)/control(s)/equipment may require additional wiring to be installed. Design-Build firm to include additional appropriately sized wiring as required for heating water system pump(s) to be operational.

17) Glycol of 30% shall be added to the heating water system to help prevent freezing during winter months.

18) All heating water piping, if not already identified, shall be clearly identified for maintenance, tracking of lines, and repairs. Design-Build Firm to evaluate prior to bid if mechanical identification for the heating water system is needed.

r. Mechanical identification to meet or exceed:

1) Color: Meet requirements of ANSI A13.1, unless specified otherwise.

2) Plastic Nameplates: Laminated three-layer plastic with engraved white letters on a black background; minimum size 3 inches long and 1 inch high. Minimum lettering height for numbers and names is 1/4-inch and other data is 1/8-inch.

3) Metal Tags: Brass with stamped letters; tag size minimum 1-1/2 inch diameter with smooth edges.

4) Stencils: With clean cut symbols and letters 2-1/2 inch high for ductwork and equipment.

5) Stencil Paint: Semi-gloss, high build epoxy ester or alkyd paint.

6) Plastic Pipe Markers: Factory fabricated, flexible, semi-rigid plastic, preformed to fit around pipe or pipe covering; minimum information indicating flow direction arrow and fluid being conveyed.

7) Plastic Tape Pipe Markers: Flexible, vinyl film tape with pressure sensitive adhesive backing and printed markings.

s. (5) year detailed plan for heating water system maintenance to include regular maintenance/service and major overhauls as required.

11. Removal of existing fan coil units (FCU) within the individual rooms of the facility with procurement and installation of (Estimated 75 - Design-Build Firm to confirm total amount prior to submitting proposal) FCU to include following components/features:

a. FCUs to be Trane equipment, controls, and other related components sized by the Design-Build firm for the needs of the facility.

Unit Overview

Model Number	Design Airflow	Elevation	External Dimensions			Weight	
			Length	Width	Height	Shipping	Operating
BCVE036	900 cfm	0.00 ft	22.950 in	29.800 in	49.900 in	169.9 lb	180.7 lb

Unit Features

Insulation type	1 in. Matte Face Insulation
Filter type	2" Pleated MERV 8

Motor/Electrical Information

Unit voltage	208/60/1
Motor full load amps	4.26 A
Fan electrical power	408.0 W
Min circuit ampacity	5.33 A
Maximum overcurrent protection	15.00 A
Nominal horsepower	0.5 hp
Brake horsepower	0.404 hp
ECM horsepower	0.554 hp
ESP	1.000 in H2O
TSP	1.595 in H2O
Design fan speed	1461 rpm
Medium fan speed	1241 rpm
Low fan speed	964 rpm
Certification	Certified in accordance with AHRI 430-2020

Unit Overview

Model Number	Design Airflow	Elevation	External Dimensions			Weight	
			Length	Width	Height	Shipping	Operating
BCVE036	1200 cfm	0.00 ft	22.950 in	29.800 in	49.900 in	182.6 lb	196.6 lb

Unit Features

Insulation type	1 in. Matte Face Insulation
Filter type	2" Pleated MERV 8

Motor/Electrical Information

Unit voltage	208/60/1
Motor full load amps	7.73 A
Fan electrical power	747.0 W
Min circuit ampacity	9.66 A
Maximum overcurrent protection	15.00 A
Nominal horsepower	1 hp
Brake horsepower	0.771 hp
ECM horsepower	1.003 hp
ESP	1.000 in H2O
TSP	2.146 in H2O
Design fan speed	1736 rpm
Medium fan speed	1475 rpm
Low fan speed	1145 rpm
Certification	Certified in accordance with AHRI 430-2020

Unit Overview

Model Number	Design Airflow	Elevation	External Dimensions			Weight	
			Length	Width	Height	Shipping	Operating
BCHE024	800 cfm	0.00 ft	30.100 in	30.000 in	17.000 in	130.4 lb	135.8 lb

Unit Features

Insulation type	1 in. Matte Face Insulation
Filter type	1" Throwaway

Motor/Electrical Information

Unit voltage	208/60/1
Motor full load amps	7.73 A
Fan electrical power	666.0 W
Min circuit ampacity	9.66 A
Maximum overcurrent protection	15.00 A
Nominal horsepower	1 hp
Brake horsepower	0.690 hp
ECM horsepower	0.978 hp
ESP	1.000 in H2O
TSP	1.720 in H2O
Design fan speed	1901 rpm
Medium fan speed	1615 rpm
Low fan speed	1254 rpm
Certification	Certified in accordance with AHRI 430-2020

Coil Information

Coil #1	4R Hydronic	Cooling face velocity	480 ft/min
Coil #2	1R Hydronic Htg.	Reheat face velocity	480 ft/min
		Cooling fluid type	Water
		Reheat fluid type	Water
		Motor heat calculation	Include

Unit Overview

Model Number	Design Airflow	Elevation	External Dimensions			Weight	
			Length	Width	Height	Shipping	Operating
BCHE024	600 cfm	0.00 ft	30.100 in	30.000 in	17.000 in	125.4 lb	130.8 lb

Unit Features

Insulation type	1 in. Matte Face Insulation
Filter type	1" Throwaway

Motor/Electrical Information

Unit voltage	208/60/1
Motor full load amps	4.26 A
Fan electrical power	348.0 W
Min circuit ampacity	5.33 A
Maximum overcurrent protection	15.00 A
Nominal horsepower	0.5 hp
Brake horsepower	0.344 hp
ECM horsepower	0.549 hp
ESP	1.000 in H2O
TSP	1.442 in H2O
Design fan speed	1543 rpm
Medium fan speed	1311 rpm
Low fan speed	1018 rpm
Certification	Certified in accordance with AHRI 430-2020

Coil Information

Coil #1	4R Hydronic	Cooling face velocity	360 ft/min
Coil #2	1R Hydronic Htg.	Reheat face velocity	360 ft/min
		Cooling fluid type	Water
		Reheat fluid type	Water
		Motor heat calculation	Include

b. All design calculations for sizing and quantity shall be submitted to 19CONS and 19CES for review and approval prior to ordering/purchasing of equipment and controls.

c. BACnet DDC controller

d. Fan stainless steel

e. FCU hot water coil shall be upstream of cold-water coil to prevent freezing of coils.

f. Zone temperature

g. Condensate switch

h. Removal and replacement of all valves including balancing valves

i. Discharge air duct temperature (Horizontal units only)

j. Fan run status

k. Unit graphics

l. Unit programming, start-up, and commissioning

m. Additional work to be performed on FCUs:

1) Removal and replacement of all (Estimated 75 - Design-Build Firm to confirm total amount prior to submitting proposal) FCU return plenums/stands with a material that will not absorb water and mildew.

2) A goal of this project is to ensure all mechanical equipment is accessible for routine maintenance and servicing. This includes the relocation of all existing FCU(s) located in the attic (Design-Build Firm to confirm total amount prior to submitting proposal) of the facility to unused areas of the facility i.e. janitors' closets, etc.

3) All areas where FCUs are relocated must meet all IBC, UFC, NFPA, and all other codes.

4) Cleaning of all return and supply ductwork per each FCU.

5) Remove and replace all existing diffusers. Current diffusers cause rattle noises therefore Design-Build Firm shall submit (specifications, model, etc.) a new style aluminum diffuser with noise and maintainability taken into consideration to 19CONS and 19CES to review and approve before purchase/ordering.

6) Existing conduit may be reused if in undamaged condition. Confirm all conduit is clean and in good condition. If existing conduit is used, a warranty of reused conduit will be required to ensure installer performs proper due diligence on condition of existing conduit.

7) New FCUs may require additional conduit to be installed. Design-Build firm to include additional conduit as required.

8) New FCUs may require additional wiring to be installed. Design-Build firm to include additional appropriately sized wiring as required for FCUs to be operational.

9) Design-Build Firm to perform all calculations for FCUs to confirm sizing or units and ductwork. All calculation to be submitted for 19CONS and 19CES to review and approve prior to purchase/ordering of equipment/components.

n. (5) year detailed plan for FCUs maintenance to include regular maintenance/service and major overhauls as required.

12. Removal of existing energy recovery units (ERU) within the facility with procurement and installation of (Estimated 76 - Design-Build Firm to confirm total amount prior to submitting proposal) ERU to include following components/features:

a. ERUs to be Trane equipment, controls, and other related components sized by the Design-Build firm for the needs of the facility.

SL75 Shown

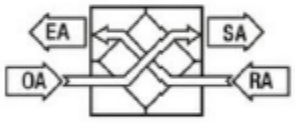
Specifications

Ventilation Type:	Static plate, heat and humidity transfer
Motors:	EC Motors Standard
Typical Airflow Range:	30-130 CFM
OA Filters:	Total Qty: 1, Merv 8: spun polyester media, 7 1/2" x 10 1/2" x 1"
RA Filters:	Total Qty: 1, Merv 8: spun polyester media, 7 1/2" x 10 1/2" x 1"
Unit Weight:	35 lbs.

Configuration

120V / 1 Phase / 60 Hz
Variable Speed / EC Motorized Impellers
Line Cord Power Connection
White Paint

Airflow Orientation



	SUMMER			WINTER		
	Outdoor Air	**Return Air**	**Fresh Air**	**Outdoor Air**	**Return Air**	**Fresh Air**
Standard Flow Rate **SCFM**	100	100	100	100	100	100
Actual Flow Rate **ACFM**	108	103	104	91	102	98
Dry Bulb **°F**	99.5	75.0	82.4	17.5	70.0	54.0
Wet Bulb **°F**	77.4	62.5	70.5	14.3	51.4	40.8
Enthalpy (H) **BTU/lb**	40.9	28.2	34.5	5.3	21.1	15.6
Moisture Ratio (MR) **grains/lb**	107.8	65.4	94.0	7.1	27.4	17.0
Fresh Air - External Static Pressure **in w.g.**		0.60			0.60	
Exhaust Air - External Static Pressure **in w.g.**		0.60			0.60	
Sensible effectiveness **%**		69.6			69.6	
Total effectiveness **%**		50.3			65.4	
Load savings ratio **%**		50.3			65.4	
Moisture removed **grains/lb**		13.8			-9.9	
	Sen	**Lat**	**Tot**	**Sen**	**Lat**	**Tot**
Original load **BTUH [Tons]**	2646 [0.2]	3059 [0.3]	5705 [0.5]	5670	1436	7106
Load with RenewAire **BTUH [Tons]**	804 [0.1]	2032 [0.2]	2836 [0.2]	1723	734	2457
Total energy saved **BTUH [Tons]**	1842 [0.2]	1027 [0.1]	2869 [0.2]	3947	703	4649

Note: Sensible cooling design conditions were used for the summer performance results.

EV Premium M shown

Specifications

Ventilation Type:	Static plate, heat and humidity transfer
Typical Airflow Range:	30-225 CFM
OA Filters:	Total Qty: 1, Merv 8: spun polyester media, 10 1/2" x 10 1/2" x 1"
RA Filters:	Total Qty: 1, Merv 8: spun polyester media, 10 1/2" x 10 1/2" x 1"
Unit Weight:	36 lbs.

Configuration

120V / 1 Phase / 60 Hz
Variable Speed / EC Motorized Impellers
Line Cord Power Connection
White Paint

Airflow Orientation

	SUMMER			WINTER		
	Outdoor Air	Return Air	Fresh Air	Outdoor Air	Return Air	Fresh Air
Standard Flow Rate **SCFM**	125	125	125	125	125	125
Actual Flow Rate **ACFM**	135	129	130	114	127	123
Dry Bulb **°F**	99.5	75.0	81.8	17.5	70.0	55.4
Wet Bulb **°F**	77.4	62.5	70.0	14.3	51.4	41.7
Enthalpy (H) **BTU/lb**	40.9	28.2	34.1	5.3	21.1	16.1
Moisture Ratio (MR) **grains/lb**	107.8	65.4	92.1	7.1	27.4	17.9
Fresh Air - External Static Pressure **in w.g.**		0.60			0.60	
Exhaust Air - External Static Pressure **in w.g.**		0.60			0.60	
Sensible effectiveness **%**		72.1			72.1	
Total effectiveness **%**		53.8			68.3	
Load savings ratio **%**		53.8			68.3	
Moisture removed **grains/lb**		15.7			-10.8	
	Sen	**Lat**	**Tot**	**Sen**	**Lat**	**Tot**
Original load **BTUH [Tons]**	3308 [0.3]	3824 [0.3]	7131 [0.6]	7088	1795	8883
Load with RenewAire **BTUH [Tons]**	922 [0.1]	2371 [0.2]	3293 [0.3]	1976	842	2818
Total energy saved **BTUH [Tons]**	2385 [0.2]	1453 [0.1]	3838 [0.3]	5112	953	6065

Note: Sensible cooling design conditions were used for the summer performance results.

b. All design calculations for sizing and quantity shall be submitted to 19CONS and 19CES for review and approval prior to ordering/purchasing of equipment and controls.

c. BACnet communication card

d. Alarms/status viewable via BACnet

e. Manufacture BACnet device shall be connected to Base EMS system.

f. Fan Coil Interlock

g. Unit graphics

h. Unit programming, start-up, and commissioning

i. Additional work to be performed on ERUs:

1) Removal and replacement of all (Estimated 76 - Design-Build Firm to confirm total amount prior to submitting proposal) ERU access panels. Design-build Firm shall submit an updated access panel with accessibility, maintenance, repair, and complete unit replacement taken into consideration to 19CONS and 19CES to review and approve before purchase/ordering.

2) Cleaning of all return and supply ductwork per each ERU.

3) Existing conduit may be reused if in undamaged condition. Confirm all conduit is clean and in good condition. If existing conduit is used, a warranty of reused conduit will be required to ensure installer performs proper due diligence on condition of existing conduit.

4) New ERUs may require additional conduit to be installed. Design-Build firm to include additional conduit as required.

5) New ERUs may require additional wiring to be installed. Design-Build firm to include additional appropriately sized wiring as required for ERUs to be operational.

j. (5) year detailed plan for ERUs maintenance to include regular maintenance/service and major overhauls as required.

13. Removal of existing ductless split systems within the facility with procurement and installation of new ductless split systems to include following components/features:

a. Ductless split system(s) to be Trane equipment, controls, and other related components sized by the Design-Build firm for the needs of the facility.

b. All design calculations for sizing and quantity shall be submitted to 19CONS and 19CES for review and approval prior to ordering/purchasing of equipment and controls.

c. BACnet communication card

d. Alarms/status viewable via BACnet

e. Manufacture BACnet device shall be connected to Base EMS system.

f. Standalone DDC controller (NO BMS)

g. Ductless split system(s) shall have H-O-A capability and setpoint overwrite access for operators

h. Space temperature sensor

i. Additional work to be performed on ductless split systems:

1) Existing conduit may be reused if in undamaged condition. Confirm all conduit is clean and in good condition. If existing conduit is used, a warranty of reused conduit will be required to ensure installer performs proper due diligence on condition of existing conduit.

2) New ductless split systems may require additional conduit to be installed. Design-Build firm to include additional conduit as required.

3) New ductless split systems may require additional wiring to be installed. Design-Build firm to include additional appropriately sized wiring as required for ductless split systems to be operational.

j. (5) year detailed plan for ductless split systems maintenance to include regular maintenance/service and major overhauls as required.

14. Remove and replacement of all (estimated 6– Design-Build Firm to confirm total amount prior to submitting proposal) exhaust fan equipment and controls. Equipment and controls shall be updated to limit maintenance and repairs.

a. Design-build Firm shall submit an updated exhaust fan with accessibility, maintenance, repair, and complete unit replacement taken into consideration to 19CONS and 19CES to review and approve before purchase/ordering.

b. Existing conduit may be reused if in undamaged condition. Confirm all conduit is clean and in good condition. If existing conduit is used, a warranty of reused conduit will be required to ensure installer performs proper due diligence on condition of existing conduit.

c. New exhaust fans may require additional conduit to be installed. Design-Build firm to include additional conduit as required.

d. New exhaust fans may require additional wiring to be installed. Design-Build firm to include additional appropriately sized wiring as required for suite bathroom exhaust fans to be operational.

e. (5) year detailed plan for suite bathroom exhaust fans maintenance to include regular maintenance/service and major overhauls as required.

15. General Plumbing:

a. All domestic water supplies (hot and cold) shall have isolation valves as follows:

- All domestic water supplies (hot and cold) shall have isolations valves to each wing of the facility for maintenance and repair purposes.
- All domestic water supplies (hot and cold) at individual suites shall have an additional isolation valve for minimal interruption of operations.
- All domestic water fixtures shall have their own (hot and cold) angle stop valves

b. All new plumbing fixtures shall meet or exceed IBC, UFC, IPC, LRABF 19th Civil Engineer Squadron Mechanical Engineering Design Criteria, and all other applicable code/standards.

c. Procurement and installation of new (Design-Build Firm to confirm total amount prior to submitting proposal) shower fixtures. Design-build Firm shall submit a shower fixture with maintenance, repair, and complete unit replacement taken into consideration to 19CONS and 19CES to review and approve before purchase/ordering.

i. All shower fixtures shall have the capability of being repaired and maintained from inside the shower. This includes the ability to turn off the water to the fixture from inside the shower.

d. Procurement and installation of new (Design-Build Firm to confirm total amount prior to submitting proposal) tanked style toilets. Toilets shall be gravity fed, non-pressure tank type toilets Design-Build Firm shall submit a tanked style toilet with maintenance, repair, and complete unit replacement taken into consideration to 19CONS and 19CES to review and approve before purchase/ordering.

   1) All tank style toilets shall comply with minimum ADA codes/requirements.

   2) All tank style toilets shall not be taller than 17”.

e. Procurement and installation of new (Design-Build Firm to confirm total amount prior to submitting proposal) lavatory fixtures. Faucets shall be manual type. No electronic/sensor type. Design-Build Firm shall submit a lavatory fixture with maintenance, repair, and complete unit replacement taken into consideration to 19CONS and 19CES to review and approve before purchase/ordering.

f. Procurement and installation of new (Design-Build Firm to confirm total amount prior to submitting proposal) kitchen sink fixtures. Faucets shall be manual type. No electronic/sensor type. Design-Build Firm shall submit a kitchen sink fixture with maintenance, repair, and complete unit replacement taken into consideration to 19CONS and 19CES to review and approve before purchase/ordering.

16. Remove and replacement of control devices to existing service lines:

a. Monitor Electric Meter

   1) Meter to produce monthly usage report for building 952 and be accessible by 19 FSS Facility Manager.

b. Monitor Natural Gas Meter

   1) Meter to produce monthly usage report for building 952 and be accessible by 19 FSS Facility Manager.

c. Monitor Domestic Water Meter

   1) Meter to produce monthly usage report for building 952 and be accessible by 19 FSS Facility Manager.

d. (5) year detailed plan for all meter maintenance to include regular maintenance/service and major overhauls as required.

CLIN 0011 BID ALTERNATE #2

Removal of all existing FCU ductwork, including insulation, within the facility with procurement and installation of new ductwork and insulation to include following components/features:

e. Removal and replacement of all strap hangers Design-Build Firm shall tour the facility prior to submitting proposal to quantify strap hangers.

f. Removal and replacement of all rod type hangers as required. Design-Build Firm shall tour the facility prior to submitting proposal to quantify rod type hangers.

g. Ductwork to meet or exceed all standards stated in 19th Civil Engineer Squadron Mechanical Engineering Design Criteria and Expectations Heating, Ventilation, and Air Conditioning Systems 10.

h. Duct insulation to meet or exceed all standards stated in 19th Civil Engineer Squadron Mechanical Engineering Design Criteria and Expectations Heating, Ventilation, and Air Conditioning Systems 10.

i. Removal of all existing ERU ductwork, including insulation, within the facility with procurement and installation of new ductwork and insulation to include following components/features:

j. Removal and replacement of all strap hangers Design-Build Firm shall tour the facility prior to submitting proposal to quantify strap hangers.

k. Removal and replacement of all rod type hangers as required. Design-Build Firm shall tour the facility prior to submitting proposal to quantify rod type hangers.

l. Ductwork to meet or exceed all standards stated in 19th Civil Engineer Squadron Mechanical Engineering Design Criteria and Expectations Heating, Ventilation, and Air Conditioning Systems 10.

m. Duct insulation to meet or exceed all standards stated in 19th Civil Engineer Squadron Mechanical Engineering Design Criteria and Expectations Heating, Ventilation, and Air Conditioning Systems 10.

2.07 FIRE DETECTION & SUPPRESSION

A. Compliance with UFC 3-600-1 Fire Protection Engineering for Facilities is mandatory.

Fire Detection CLIN 0001 & Fire Suppression CLIN 0007

1. It is the responsibility of the Contractor to hire a FPE for all design elements as shown below.

2. Use of the 19th Civil Engineer Squadron Mechanical Engineering Design Criteria and Expectations is mandatory.

3. Design-Build Firm shall design and install the fire alarm system to meet all requirements of NFPA 72, UFC 3-600-01 and other applicable standards. (e.g. Low frequency sounder bases, ADA appliances, CO detection, etc)

4. Fire alarm system design shall be designed and stamped by the Design-Build Firm's registered Fire Protection Engineer, having a minimum of five years registered FPE experience. Fire Detection Installation shop drawings must reconcile any site-specific departures from the FPE's design and shall be coordinated with the FPE (FPE statement of acknowledgment shall be required on shop drawing submittal).

5. Design-Build Firm's FPE shall inspect rough-in and be present for acceptance testing.

6. If manufacturer specific software or training is required for 19CES alarm technicians to access, program, troubleshoot, maintain or repair the fire alarm system (as required by the manufacturer), it will be provided by the contractor within this contract.

7. Analog notification appliances are required (addressable are not permitted).

8. Remove existing detectors and fire suppression heads as necessary for ceiling tile replacement and reinstall at appropriate height. "Abandon in Place" is not permitted.

9. All wiring for the alarm system shall be removed and replaced with new wiring.

10. The above general outline of the principal features does not in any way limit the responsibility of the Contractor to perform all work required by the plans and specifications.

11. The designer-contractor shall provide a digital set of plans and specifications of the Fire suppression and fire alarm system at approximately 65% design to the Government for review and comments. The Contractor shall also provide a hard copy of the full set (22"x 34") and letter size specifications.

B. Contractor shall provide a **1-year no-dollar-limit warranty on fire alarm system** and panel. Use of the 19th Civil Engineer Squadron Mechanical Engineering Design Criteria and Expectations is mandatory. Monaco Panel is required.

C. Remove existing detectors and fire suppression heads as necessary for ceiling tile replacement and reinstall at appropriate height.

2.08 ELECTRICAL AND COMMUNICATIONS

A. Use of LRAFB Electrical Design Standards is mandatory.

B. Use of the 19th COMMUNICATIONS SQUADRON DESIGN STANDARDS is mandatory.

C. Remove all existing light fixtures and replace per LRAFB Electrical Design Standards, FC 4-720-01F, and Air Force Lodging Interior Design Standards. A cutsheet of proprietary AF logo hallway wall sconce is provided in the Scheme 'D' Interior Design Package.

D. Design and install LED fixtures throughout the facility that meet AF Lodging requirements, utilizing existing fixture circuit locations. Fixture lumens shall be justified by photometric plans as part of the design submittals.

E. Design and construction shall incorporate removal and replacement all electrical receptacles, light switches, RJ45 data jacks and occupancy sensors throughout the facility.

F. Replacement ceiling fans shall be installed and existing switch legs shall be connected for control.

G. Provide circuits for all new mechanical equipment. This will require the electrical subcontractor to closely review the mechanical section of this Statement of Work to capture new mechanical equipment prior to bid.

H. Replace three damaged panelboard covers/doors for existing panelboards. Provide per unit pricing on the bid schedule for additional panelboard covers in the event more damage is.

2.09 RECYCLING AND CONSTRUCTION DEBRIS DIVERSION – Not Applicable

A. See specifications for complete requirements.

B. All removed carpet shall be recycled and the Design-Build firm shall provide written certification that the carpet was not placed in a landfill in accordance with ETL 07-4 Air Force Carpet Standard. Design-Build Firm certification shall indicate how the material was recycled and provide the address where it was delivered.

C. All removed ceiling tile shall be recycled and the Design-Build firm shall provide written certification that the ceiling was not placed in a landfill. Design-Build Firm certification shall indicate how the material was recycled and provide the address where it was delivered.

D. All vinyl wall covering, vinyl wall protection, vinyl corner guards and vinyl wall guards shall be recycled and the Design-Build firm shall provide written certification that the vinyl products were not placed in a landfill. Design-Build Firm certification shall indicate how the material was recycled and provide the address where it was delivered.

2.10 ENERGY CONSERVATION

UFC 1-200-02 HIGH PERFORMANCE AND SUSTAINABLE BUILDING REQUIREMENTS implements the following public laws and industry standards for most design and construction:

A. ASHRAE Standard 90.1, Energy Standard for Buildings Except Low-Rise Residential Buildings, American Society of Heating Refrigeration and Air Conditioning Engineers, Inc., Atlanta Georgia

B. USC Title 10, Part 433, Energy Efficient Standards for the Design and Construction of New Federal and Commercial and Multi-Family High Rise Residential Buildings

C. USC Title 10, Part 435, Energy Efficient Standards for New Federal Low Rise Residential Buildings

D. Title 10 Code of Federal Regulations, Part 436 – Federal Energy Management and Planning Programs, Subpart A – Methodology and Procedures for Life Cycle Cost Analysis

E. ICC International Energy Conservation Code 2015

F. Executive Order 13221 - Energy Efficient Standby Power Devices

G. Executive Order 13423 – Strengthening Federal Environmental, Energy, and Transportation Management

H. Energy Independence and Security Act of 2007

2.11 REFERENCES AND STANDARDS

The Design-Build Firm shall design in adherence to the following documents, including all recommended practices documented in these standards. Although some publication dates are given, the design shall be by current references and standards. The Design-Build Firm shall determine through the pre-design meeting if other codes, standards or references not specifically cited also apply to the design of this project, and incorporate those requirements into this project. All work accomplished by the Design-Build Firm shall comply with this criteria unless a wavier is obtained from the Air Force when conditions warrant such consideration

A. Air Force Instructions (AFI), Air Force Manuals (AFM), Air Force Joint Manual (AFJAM), Air Force Pamphlets (AFPAM) plus Supplements, Unified Facilities Criteria (UFC), the Unified Facility Criteria (UFC) System as prescribed by MIL-STD 3007, Military Handbooks, Engineering Technical Letters (ETL) and Operating Instructions that are applicable to the design of this project. This includes all Air Mobility Command and Little Rock AFB supplements to these references.

B. AF Lodging Facility Criteria FC 4-720-01F dated 27 August 2015

C. Current state and national codes, regulations, and specifications involving architectural, civil, structural, electrical, environmental, fire protection, mechanical, and other applicable design disciplines associated with the design and construction of this project with the exception of cases in which these codes, regulations, and specifications are superseded by or are less stringent than specific codes, regulations, standards, specifications indicated or referenced in this statement of work, UFC 1-200-01, or other UFCs and referenced documents, and/or other Government or Air Force Standard, code, or reference.

D. National Fire Codes published by the National Fire Protection Association.

E. All other Air Force documents deemed applicable by the *Contracting Officer* for this project. These documents will be made available for review to the Design-Build Firm by the *Government*.

F. Architectural Barriers Act (ABA)

G. AFJMAN 32-1008, Installation Design

H. MIL-HDBK-1190; "Military Handbook Facility Planning and Design Guide – Technical Guidance

I. UFC 1-200-01 DoD BUILDING CODE Change 1, 24 February 2023

J. UFC 1-200-02 HIGH PERFORMANCE AND SUSTAINABLE BUILDING REQUIREMENTS, Change 02, 01 June 2022

K. UFC 3-120-10 INTERIOR DESIGN Change 2, 15 June 2021

L. UFC 3-301-01 STRUCTURAL ENGINEERING, Change 1, 4 February 2022

M. UFC 3-401-01 MECHANICAL ENGINEERING Change 1, October 2015

N. UFC 3-410-01 HEATING, VENTILATING, AND AIR CONDITIONING SYSTEMS Change 8, 21 July 2021

O. UFC 3-600-01 FIRE PROTECTION ENGINEERING FOR FACILITIES Change 6, 6 May 2021

P. UFC 4-010-01 DoD MINIMUM ANTITERRORISM STANDARDS FOR BUILDINGS Change 2, 30 July 2022

Q. Air Force ETL 04-3 Design Criteria for Prevention of Mold in Air Force Facilities

R. AFP 32-1097 Air Force Sign Standards Pamphlet

S. AMC Commander's Guide to Facility Excellence

T. Little Rock AFB Architectural Compatibility Guide

U. Little Rock Air Force Base Architectural Design Guide Supplement

V. Little Rock AFB Electrical Design Standards

W. 19 Communications Squadron Telecommunications Systems Design Standards

X. 19th Civil Engineer Squadron Mechanical Engineering Design Criteria and Expectations

Y. National Electrical Contractors Association (NECA) 1, Standard Practices for Good Workmanship in Electrical Construction

Z. ETL 08-13: Incorporating Sustainable Design and Development (SDD) and Facility Energy Attributes in the Air Force Construction Program

PART 3 - PROJECT MANAGEMENT

3.01 PRE-PROPOSAL SITE VISIT & MEETING

The Government will host an initial pre-proposal meeting and site visit. The purpose of the site visit is to allow the Design-Build Firms to visit the project site, observe and verify existing construction details, coordinate the proposed scope of work with existing site conditions and constraints, and incorporate findings and observations into their proposals. Government furnished items noted elsewhere in this Statement of Work (SOW) will be available at, or prior to this meeting. A project site visit will be accomplished after the initial pre-proposal meeting. Subsequent site visits are authorized at the concurrence of the government. The Design-Build Firms shall have appropriate representation present at this meeting, but no less than the proposed design team and project superintendent.

3.02 PRICE PROPOSAL

The Design-Build Firm shall submit a price proposal in accordance with the provided bid schedule.

3.03 PROJECT MANAGER

The Design-Build Firm shall appoint a project manager to serve as the single point of contact for this project and liaison between the Design-Build Firm’s employees/subcontractors and the *Government*. A registered professional architect is preferred to serve as the project manager; however, if this is not possible, the design architect-in–charge of the design shall attend all design related meetings, sites visits, presentations, official construction inspections and review, initial and date all material submittals. Upon issuance of the Notice to Proceed for the design of this project, the

Design-Build Firm shall advise the *Contracting Officer* in writing of the name of the individual so designated. The Design-Build Firm's project manager shall be responsible for the complete coordination of all work required for this project. The Project manager shall attend all formal and informal meetings related to the execution of the requirements of the contract. The Project manager shall ensure that quality control review of each submittal is performed prior to delivery of submittal to the *Government*. The Project manager shall complete the Reliability and Maintainability (R&M) Design Checklist and Design Review Checklist Including Constructability and include the completed forms in the Design Analysis.

3.04 CE PROJECT MANAGER

The CE Project Manager will provide technical support to the *Contracting Officer*, who is the official agent of the *United States Government* for this contract. The CE project manager will serve as the point of contact for the Design-Build Firm on all technical matters and, all work performed by the Design-Build Firm on base will be coordinated with the CE project manager. Contact information for both the *Contracting Officer* and the CE Project Manager is provided at the end of this Statement of Work. During both the design and building phases, the Design-Build Firm shall take direction only from the *Contracting Officer*.

3.05 PROJECT COST CONTROL

The Design-Build Firm shall be solely responsible for managing the costs of this contract during its design and construction. The *Government* will not accept requests for additional funds except for changes in project scope, unforeseen site conditions (such as rock removal) or as directed by the *Contracting Officer*.

3.06 MATERIAL SUBMITTALS

A. During the design process, the Design-Build Firm shall ensure that the A-E coordinates material selection with the appropriate subcontractors such that the materials specified in the design documents are what will be purchased and installed.

B. During the construction phase, the Design-Build firm shall submit material submittals on all products used in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.

3.07 SECURITY REGULATIONS

A. All members of the Design-Build Firm, including subcontractors, who are working on this contract, shall follow Air Force security regulations.

B. The Design-Build Firm shall take precautions and make every effort to prevent public disclosure of any information made available to the Design-Build Firm during the performance of this contract. All data contained in the design documents for each project shall be treated as privileged information.

PART 4 - PROJECT SCHEDULE AND PRODUCT DISTRIBUTION:

4.01 SCHEDULE

The Design-Build Firm shall develop a schedule based on the performance period and other data below. The A-E shall submit this design schedule no later than 10 days after project award.

A. Performance period: **Best Value Evaluation of DBC**

B. The performance period includes both the design and construction phases of this contract. It is the *contractor*'s responsibility to manage design and construction within the performance period for this project.

C. Design Submittals and *Government* Design Review Milestones: Preliminary Design (65%), Pre-final Design Submittal (95%).

D. Typically each *Government* design review lasts 14 calendar days, at the end of which the *Government* will submit its comments to the Design-Build Firm. See paragraph below for additional calendar days for Government reviews at federal holidays. The Design-Build Firm's schedule shall include a design review meeting, approximately 7 days after receipt of *Government* comments, to officially disposition all comments.

E. Because of reduced availability of Air Force and civilian personnel during federal holidays, additional calendar days will be added to the Government's review duration for design submittals in the Government's court over federal holidays as follows.

Federal Holiday/Holiday Period	Calendar Days Added to the Government Review Period
25 December through January 1	10
Birthday of Martin Luther King, Jr. (Third Monday in January)	1
Washington's Birthday (Third Monday in February)	1
Memorial Day (Last Monday in May)	2
Juneteenth National Independence Day (19 June)	1
Independence Day (4 July)	2
Labor Day (First Monday in September)	2
Columbus Day (Second Monday in October)	1
Veteran's Day (Fourth Thursday in November)	2
Thanksgiving Day (Fourth Thursday in November)	2

For example; a design submittal received by the Government for review on 28 June will be logged as received and distributed on 29 June. The Government review comments to the Design-Build Firm will be due 15 July instead of 13 July because 2 calendar days for the Independence Day holiday are added to the Government's 14 calendar day review period. If the review period ends on a weekend or holiday, submittal is to be returned to the Contractor on the following business day.

F. Construction will begin following the approval of the final design plans which includes receipt of required approval(s) from ADH, DEQ, and City of Jacksonville. A preconstruction meeting will be set up no later than 2 weeks after approved design is submitted.

4.02 SUBMITTALS

The Design-Build Firm shall deliver all copies of all submittals to the *Contracting Officer*, except for those as identified in paragraph 4.09. A-E Firm shall develop a detailed submittal schedule for required elements identified in the design phase.

4.03 PRE DESIGN CONFERENCE

Pre-Design Conference will be conducted by the Design-Build Firm for this project after this contract is awarded. The Design-Build Firm shall request this meeting within 10 business days of the issue of this contract, at a date, time, location, and format (in-person, web based, etc.) agreeable to all parties. The Design-Build Firm shall utilize this conference to obtain any additional details necessary to clarify the project scope, coordinate design and construction means and methods, coordinate laydown requirements, and to verify the *Government*'s desires as to type of systems, controls, or architectural preference to ensure project compatibility with the base master plan or to simplify operation or maintenance procedures and costs.

4.04 INCLUDED IN 65% DESIGN SUBMITTAL AS APPLICABLE

A. A Narrative/Design Analysis will be provided to indicate a description of the facility, design assumptions, design factors used, energy savings considerations, and any other data not otherwise indicated or needed for architectural/engineering analysis. All design calculations made to date shall be included. Narrative discussions of methods and procedures shall be included. The Design-Build Firm shall address each item required from but not yet provided by the *Government* to conclude the design.

B. Drawings. Preliminary drawings shall be provided as applicable to reflect progress to date. Typical are:

1. Vicinity map and location plan showing geographic location and access to the work site.

2. Site plan, including location of all above and below grade utilities in the area.

3. Code Review Sheet, indicating construction type, travel distances, egress, life safety, seismic, ATFP, et cetera, sufficient to indicate due diligence has been performed in review of applicable codes, laws and regulations to ensure completed project is designed and constructed in compliance with such codes, laws and regulations.

4. Floor plan at a scale not less than 1/8" per foot, showing functional arrangement of all areas, including corridors, exits, and utility spaces. Major dimensions shall be shown.

5. Elevations and sections will be developed to a point to indicate heights, fenestrations, ceilings, and partitions. Typical interior wall sections will be provided at a minimum scale of 1" = 1'-0", indicating materials, thicknesses, and relation of fenestration, if any.

6. A room finish schedule shall be included on a separate drawing and shall be in compliance with Section 09 06 89 TYPICAL FINISH SCHEDULE.

7. Generic furnishings plan, showing desks, chairs, conference tables, bookcases, display cases, millwork, printers, copiers, shredders, recycling bins, appliances, et cetera. Plan will

be used to confirm functionality of the space for the users and for verifying locations of phone, data, television, water, lighting and power outlets. Plan will also be used for furniture ordering under a separate contract.

8. Mechanical details will be sufficiently developed to clearly define changes to the existing heating, cooling, ventilation, and plumbing systems. Existing and replacement heating/cooling equipment will be located and fully described on a plan view of the project.

9. Electrical details will include lighting and power features. Lighting features will include proposed fixtures and arrangements. Design analysis will include lighting calculations, fire alarm system schematics, etc.

10. Exterior utilities (gas, water, sewer, electrical, etc.) will be located in sufficient detail to clearly define sizes, routing, and avoidance of conflicts with existing systems.

11. Erosion Control plan, if applicable.

C. Specifications: The Design-Build Firm shall submit outline specifications. Specifications shall follow the CSI Masterformat 2004 (three-part specifications, six digit section numbering, 49 divisions) and contain Unified Facility Guide Specification (UFGS) content. If UFGS raw specifications are not utilized to prepare project specifications, all UFGS content shall be captured in the as-produced project specifications. The Design-Build Firm shall submit all information in 8 1/2" x 11" booklet form.

4.05 PRELIMINARY DESIGN (65%) SUBMITTAL

A. A Preliminary Design (65%) Submittal is design from the concept design approval to approximately 65% completion.

B. A Narrative/Design Analysis will be provided to indicate a description of the facility, design assumptions, design factors used, energy savings considerations, and any other data not otherwise indicated or needed for architectural/engineering analysis. All design calculations made to date shall be included. Narrative discussions of methods and procedures shall be included. The Design-Build Firm shall address each item required from but not yet provided by the *Government* to conclude the design.

C. The Design-Build Firm shall incorporate all approved comments from previous design reviews.

4.06 PRE-FINAL DESIGN (95%) SUBMITTAL

A. Pre-Final Design (95%) Submittal is design continuation through the 95% unchecked final submittal.

B. Construction drawings and specifications shall be complete in all details to the extent that a construction *Design-Build Firm* can construct the facilities from the information, with a minimum of interaction between the *Government* and the *Design-Build Firm*. The Design-Build Firm shall incorporate all approved comments from previous design reviews.

C. Completed submittal schedules shall be furnished for review.

D. The Design Analysis shall include the completed Reliability and Maintainability (R&M) Design Checklist and Design Review Checklist Including Constructability.

E. NOTE: Equipment submittals are due no later than 10 business days after acceptance of the 100% design.

4.07 FINAL DESIGN (100%) SUBMITTAL

A. A Final Design (100%) Submittal is the corrected final submittal.

B. All previous design comments shall be incorporated and/or addressed.

C. The Design-Build Firm shall furnish two full size and two half size paper copies of the drawings; two paper copies of the specifications; and one paper copy of the material submittal schedule, design analysis and proposed construction schedule. The drawings and specifications shall bear the registration seal of the A-E firm member who is responsible for the design below the Air Force Insignia. If “Structural Interior Design”, “Comprehensive Interior Design” or Audio-Visual Designs are required then 2 sets of each will be included in this submittal.

D. The final electronic files shall be submitted at this time to include one AutoCAD and one Adobe Acrobat copy of drawings; one Adobe Acrobat copy of specifications, material submittal schedule, design analysis and proposed construction schedule; one Microsoft Word copy of specifications (all specification sections combined in one file); one Microsoft Excel copy of material submittal schedule.

4.08 GOVERNMENT REVIEW PERIOD & REVIEW CONFERENCE

A review of the Preliminary (65%) and the Pre-Final (95%) Submittals will be conducted by the *Government*. At the conclusion of the review, the Design-Build Firm may be required to attend a Review Conference to discuss the technical review comments and general project progress. The Design-Build Firm will be furnished one set of comments to be annotated and returned to the *Government*. Comments shall be annotated with a C - concur, D - do not concur, E - exception or X - delete. Comments annotated with a D, E, or X shall have an explanatory note added to justify the noncompliance with the comment. The Design-Build Firm shall furnish these annotated comments to the *Contracting Officer* with the next scheduled submittal. The Design-Build Firm shall notify the *Government* immediately upon determining that there will be noncompliance with a comment to explain the reasoning. If the *Government* discovers comments annotated as 'concur'-or its equivalent and no change to plans and specifications have occurred, the *Government* will disapprove the submittal and require a full explanation

4.09 DISTRIBUTION COPIES

At each *Government* review milestone, the Design-Build Firm shall deliver 2 CDS with the electronic design products as described in Part 5 of this statement of work. (See paragraph 4.07 for 100% final design deliverables.) In addition, the A-E will provide the following paper copies;

1. 2 - full-size copies of drawings
2. 2 - 11x17 copies of drawings
3. 2 - copies of specifications
4. 2 - copies of submittal schedules
5. 2 - copies of the Structural Interior Design (65% and 95% only)

6. 2 – copies of the Comprehensive Interior Design (65% and 95% only)
7. 2 – copies of the Audio-Visual Design (65% and 95% only)

4.10 ADDITIONAL REVIEWS

(As Applicable) One full size set of drawings and paper copy of all other required documents for the submittal shall be delivered to:

PART 5 - DESIGN PRODUCT DETAILS

5.01 CONSTRUCTION DRAWINGS

A. Drawings shall be 22" X 34" and shall be accomplished in AutoCAD (latest version) in National CAD Standard (NCS) format Version 6.

B. Drawings shall be in English units.

C. Drawings shall be accurate and in sufficient detail to enable proper and satisfactory construction of the entire project. Designs and construction drawings requiring *Design-Build Firm* site visits will not be acceptable. The quality and workmanship of the drawings shall permit clear and legible reproductions. Reference drawings may be used only with specific permission of the *Contracting Officer* (CO) and shall not be used as substitutes for demolition, plan, and detail drawings.

D. The Design-Build Firm will be provided with a border and title block on CDROM. The border shall be inserted in paper space at a base point of 0,0 and with a scale of 1. This border shall not be modified except with specific permission of the *Contracting Officer*. The drawings shall be designed using model space at full scale. The Design-Build Firm shall use Roman Simplex as font style unless an alternate font is approved by the *Contracting Officer*. Text shall be in the same drawing space as the object the text is describing. For example, text describing an object that is drawn in model space shall also be placed in model space.

E. The Design-Build Firm shall produce drawings that are capable of being opened and edited in the latest version of AutoCAD without damaging the information on them.

F. The Design-Build Firm shall include all cross-referenced drawings, fonts, shapes, linetypes, etc. with each submittal. AutoCAD's e-Transmit command may be used to gather all files necessary to open a drawing.

G. The Design-Build Firm will be given a cover sheet to edit. The haul route and index of drawings shall be added to the cover sheet. This cover sheet contains a "10 signature block" which shall only appear on the cover sheet. The "revision/Issue" block is for subsequent changes made after the 100% design submittal is accepted; it shall not be used for submittal tracking or other reasons by the design team.

H. The Design-Build Firm shall provide AutoCAD drawings on CD to the Base at each submittal, in both AutoCAD and Adobe Acrobat format, in addition to the requested paper copies. The A-E shall provide a graphic scale on each sheet.

I. The Design-Build Firm shall begin drawing file names with the sheet number, i.e. 01,02,03 etc, with the remaining name describing what is on the sheet. See table II-1 for use of line type colors.

SCREEN COLOR	PEN WEIGHT	PRINT COLOR	USED FOR:
gray (8)	**.2286mm**	**252**	**existing conditions**
white (7)	**.2286mm**	**black**	**text**
all others	**.4572mm**	**black**	**normal lines**
(10)	**1.143mm**	**black**	**border**

Table II-1

5.02 SPECIFICATIONS

A. The specifications shall be complete, clear, and shall amplify all information shown on the drawings and shall include detail requirements for materials and equipment. Material items shall be specified using industry standards. The specifications shall be prepared using this document. Specifications shall be provided in 8 ½" x 11" format.

B. The Little Rock AFB Standard Division 01 GENERAL REQUIREMENTS specifications are included in this document and are mandatory for use on all projects. Division 01 GENERAL REQUIREMENTS specifications are updated a few times each year, Little Rock AFB will not accept use of an older project's Division 01 for use on this project. Current Division 01 GENERAL REQUIREMENTS shall be provided in Microsoft Office Word format on a CD to the A&E firm.

C. The complete set of specifications shall be combined into one file and shall have the table of contents set up to automatically update when pages or sections are added or deleted. Paragraphs shall use the same style format as this document.

D. The Design-Build Firm shall provide specifications on compact disk as well as the required hard copies at all submittals. The Design-Build Firm shall number the pages consecutively, with page numbers justified right and the section title justified left. The Design-Build Firm shall provide a minimum one-inch margin on all sides is required.

E. SEE SECTION 00 00 02 LRAFB SPECIFICATIONS FORMAT STANDARD for further clarification. Standard section 00 00 02 shall be included on reference disk provided to *contractor* at the pre-design meeting. This Statement of Work (SOW) incorporates all of the standard format requirements.

5.03 DESIGN AND ECONOMIC ANALYSIS

A. The design calculations and analyses shall be prepared on the Design-Build Firm's standard form. Legible hand lettering, sketches, diagrams and calculations, will be accepted. The design shall be based on the criteria set forth in this Statement of Work and standard practices and methods used in

modern engineering design. The design analysis shall incorporate all engineering computations necessary for the project and other information necessary to clearly express the designer's intentions and methods. HVAC loads shall be accomplished using the methods recommended in the ASHRAE Fundamentals handbook. The Design Analysis shall include the completed Reliability and Maintainability (R&M) Design Checklist and Design Review Checklist Including Constructability.

B. At the final submittal, these analyses shall be given to the *Contracting Officer* in electronic format in one document. An Adobe Acrobat file is preferred. An alternate format may be used if approved by the *Contracting Officer*.

5.04 MATERIAL SUBMITTAL SCHEDULE

The Design-Build Firm will be provided a template form to use. The Design-Build Firm shall fill-in the appropriate information for materials that shall be submitted to the *Government* for approval. Template will be provided in Microsoft Office Excel format on a CD to the A&E firm.

5.05 COMPUTER FILES

The CAD and word processing files shall not be stored on disks using compression software. The media for delivery of computer data shall be by compact disk (CD) unless approved by the *Contracting Officer*. All media for computer data shall be certified by the Design-Build Firm to be free of known computer viruses. The name(s) and release date(s) of virus scanning software used to analyze the media shall be furnished at the time of delivery of the media. If analysis of the media by the *Government* finds evidence of a virus, the media will be returned to the Design-Build Firm. The Design-Build Firm shall resubmit the clean media at no cost to the *Government*.

PART 6 - GOVERNMENT FURNISHED ITEMS

6.01 GOVERNMENT FURNISHED ITEMS

The *Government* will provide copies of plans, studies, and/or services identified below and represent them to be the latest information available. Use of the *Government* provided information does not relieve the Design-Build Firm of the responsibility to verify the information with respect to the performance of the Design-Build Firm’s scope of work.

A. PLANS (Electronic Copies)

1. Base Map
2. Little Rock AFB Title Page
3. AutoCAD border, title block and signature block.
4. Record drawings of existing facilities.
5. Record drawings of existing utility systems in the vicinity of the work.

B. DOCUMENTS (Electronic Copies)

1. LRAFB Design Specification Cover Page and Division 01 General Requirements
2. LRAFB CAD Operating Procedures
3. AF 3052 cost estimate form
4. Submittal Tracker form

5. Bid Schedule form
6. AMC Architectural Standards
7. Little Rock Air Force Base Architectural Compatibility Guide

6.02 ARCHITECT-ENGINEER FIRM RESPONSIBILITY

It is the Design-Build Firm and the A-E's responsibility to verify the validity of all material provided by Little Rock AFB and conduct all field investigations, including any survey work, at the site as required to resolve design issues and to ensure that design submittals reflect and accommodate existing conditions. The A-E shall notify LRAFB a minimum of 14 days before any survey or geo-technical team arrives on the base to permit marking of underground utilities.

6.03 AS-BUILT INFORMATION/DETAILS

Applicable information/details found on the as-built drawings shall be transferred to the demolition sheets. Referenced as-built drawings shall not be utilized as a substitute for demolition sheets. The Design-Build Firm shall be responsible to verify all as-built information.

PART 7 - MISCELLANEOUS

7.01 MEETING MINUTES

The Design-Build Firm shall provide the *Contracting Officer*, in writing, meeting minutes from each design review meeting These meeting minutes shall be provided to the *Contracting Officer* a maximum of 7 calendar days after the date of the design conference or meeting. Any such notification will be submitted separately.

7.02 BRIEFINGS

The Design-Build Firm may have to support briefings to the base's management, in addition to submittal briefings to the technical staff. The supporting of such briefings is considered to be part of this Contract, and no additional consideration will be given for Design-Build Firm support of and participation in such briefings.

7.03 CLAIMS

The Design-Build Firm and all of its subcontractors shall relinquish all claims to additional monetary compensation for the whole or partial use by the *Government* of documents submitted under this contract in the modification, alteration, or construction of projects not included under this contract.

7.04 CORRECTIONS

A. In the event corrections or changes to the design are required during construction, the Design-Build Firm shall provide the following to the *Contracting Officer* for *Government* review and concurrence prior to construction.

B. Four full size paper (reproducible), one AutoCAD and one Adobe Acrobat copies of the revised drawings.

C. One paper, one Microsoft Word and one Adobe Acrobat copy of the revised specifications.

D. Revised documentation shall be provided with appropriate seals and signatures.

PART 8 - GOVERNMENT POINTS OF CONTACT

A. A.J. BROWN, III

Contracting Officer

19 Contracting Squadron

Little Rock Air Force Base, AR

COMM 501-987-3836 (w) DSN 731

501-412-7853 (work cell)

E-mail address: arthur.brown.17@us.af.mil

B. Alena Miller, NCARB

Project Manager

19 CES/CENMP

528 Thomas Avenue

Little Rock AFB, Arkansas 72099-4987

Phone # (501) 987-3520

e-mail: alena.miller@us.af.mil

END OF SECTION – STATEMENT OF WORK FOR DESIGN-BUILD

SECTION 01 11 00 – SUMMARY OF WORK

PART 1 - GENERAL

1.01 PROJECT SCOPE

Contractor shall provide all design, plant, labor, materials and equipment necessary to fully meet all requirements of this Summary of Work, Construction Specifications, Construction Drawings and all other Contract Documents related to and/or titled: Repair (NAF-R&M) TLF, Building 952, NKAK 23- 5002 at Little Rock AFB, Arkansas.

1.02 PRINCIPAL FEATURES

A. Principal features of the work are as described in Part 2 Technical Description of Project of Section 01 10 01 Statement of Work for Design-Build above.

B. The above general outline of the principal features does not in any way limit the responsibility of the *Contractor* to perform all work required by the plans and specifications.

1.03 PROJECT AREA LIMITATIONS

All work shall be performed in the immediate project area. Refer to the drawings.

1.04 DOCUMENTS

A. The *Contractor* shall:

1. Check any *Government* furnished construction drawings immediately upon receipt.

2. Compare any *Government* furnished construction drawings and verify the figures before laying out the work.

3. Compare Government furnished construction drawings to existing conditions and actual in-place construction and incorporate into design.

4. Promptly notify the *Contracting Officer* of any discrepancies

5. Be responsible for any errors which might have been avoided by complying with this paragraph (1.04 A).

B. Large scale drawings shall, in general, govern over small scale drawings. Figures marked on drawings shall, in general, be followed in preference to scale measurements.

C. Omissions from the drawings or specifications or the misdescription of details of work which are manifestly necessary to carry out the intent of the drawings and specifications, or which are customarily performed, shall not relieve the *Contractor* from performing such omitted or misdescribed details of the work, but shall be performed as if fully and correctly set forth and described in the drawings and specifications.

D. The *Contractor* shall maintain a complete set of construction drawings, construction specifications, project related sketches, pictures, approved Contract modifications (if any) and all approved submittals on the job site at all times. One set of such construction drawings shall be designated the "Record Drawings" upon which as-built data shall be neatly recorded and dated in red ink by the *Contractor*. Contemporaneous annotation of accurate As-Built data

on the Record Drawings is to be verified by the *Contracting Officer* and the *Contracting Officer's Representative*, as a prerequisite to the *Contractor* receiving progress payments. Upon completion of construction, the *Contractor* shall submit a copy of record drawings and update *Contractor* furnished AutoCAD drawing files (*.dwg) with As-Built information and digitally stamp these all of these drawings as "As-Built". The digital stamp shall include the wording "As Built," the name of the construction *Contractor* and the month and year of construction completion. These drawing files shall be turned over to the *Contracting Officer* on 3 compact disks (CD) prior to final payment. Each CD shall have one complete set of AutoCAD drawings and a complete set (single PDF file) in Adobe Acrobat format.

E. The *Contractor* shall perform an as-built geographic information survey (GIS) survey of all new or modified exterior construction and provide this information to the *Government* as specified in Section 01 33 00 SUBMITTAL PROCEDURES.

F. Where conflicts between the drawings and specifications occur, specifications shall govern in accordance with FAR 52.236-21.

1.05 EXISTING WORK

A. Remove or alter existing work in such a manner as to prevent injury or damage to any portions of the existing work, which remain.

B. Repair or replace portions of existing work, which have been altered during construction operations to match existing or adjoining work, as approved by the *Contracting Officer*. At the completion of operations, existing work shall be in a condition equal to or better than that which existed before new work started.

C. *Contractor* shall protect all *Government* property against damage, to include but not limited to dust, fumes, impact, scratching, water, paint, joint compound, power failure, power surges, weather, heavy equipment, et cetera. All damages caused by the *Contractor*, whether to equipment, furniture, roads, landscaping, building components or any other type of *Government* property encountered at or near the project site shall be repaired or replaced to match existing and to the satisfaction of the *Contracting Officer* at no cost to the *Government*.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – SUMMARY OF WORK

SECTION 01 14 16 – OCCUPANCY

PART 1 - GENERAL

1.01 OCCUPANCY

A. Facilities designated for work under this contract will be unoccupied during construction.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – OCCUPANCY

SECTION 01 14 19 – COORDINATION

PART 1 - GENERAL

1.01 TERMS

The initials "*CO*" shall mean the *Contracting Officer*. The initials "*COR*" refer to the *Contracting Officer's Representative*. The *Contracting Officer's Representative* will be the Construction Manager assigned from the 19th Civil Engineer Squadron to monitor this contract during construction. This is applicable to all specification sections.

1.02 WORK SCHEDULE

A. Little Rock Air Force Base work hours are 7:30 a.m. to 4:30 p.m. all days of the week except Saturday, Sunday, Federal Holidays and AMC Family Days (listing to be provided annually once received by the Government). *Contractor* shall not perform any work outside of these work hours without obtaining written approval from the *Contracting Officer.* If weekend or evening work is required due to utility outages or other requirements, such work shall not be performed without prior written approval of the *Contracting Officer* and such work shall be accomplished at no additional cost to the *Government*. The *Contracting Officer* requires at least three (3) business days' notice, in writing, from the *Contractor* to provide written approval or disapproval.

B. NORMAL FLYING OPERATIONS will continue on other areas of the airfield.

1. To ensure that normal flying operations may resume at the scheduled date, the *Contractor* shall prosecute the work with sufficient work force, including extended daily work hours and work week, if necessary, to complete the entire work within the stated number of calendar days. Work shall be accomplished during daylight hours only. Any extension of daily work hours and/or work week shall be approved by the *CO* and at no additional cost to the Government.

2. To closely coordinate work under this project, the *Contractor* shall prepare for and attend a weekly coordinating meeting with the *Contracting Officer's Representative* (COR) and *Base Operations Officer* at which time the *Contractor* shall submit for approval his proposed daily work schedule for the next two-week period. Temporary interruptions and protection of adjoining areas shall be included with the *Contractor's* proposed two-week work schedule. Additional coordinating meetings shall also be held on an as-needed basis when, in the opinion of the COR, they are required for safety or timely completion of the work.

3. There may be short periods of time due to in flight emergencies or unannounced visit from dignitaries when the *Contractor* shall be required to vacate the work site and move his personnel and equipment. Such removals, if required, may be given on short notice and expeditious action will be required. (See paragraph 1.02.B.8 of this section for details).

4. *Contractor* vehicles, equipment, or personnel will not be on or crossing the runway or taxiways, except during construction period closures as scheduled, or when clearance is given from the control tower. Crossings shall be controlled by flagmen with radio contact with the tower as required by the *Government*.

5. The *Contractor* shall schedule the work areas and airfield vehicle operation through the CO. The *Contractor* is responsible for obtaining general airfield operating instructions, to include a safety and flight line driving briefing, prior to beginning work. This is accomplished at Airfield Operations (Bldg 120). The *Contractor* shall provide the CO a complete list of all

employees and shall provide updates to this list as they occur. The *Contractor* is responsible for ensuring all workmen are in compliance with these instructions.

6. The All-American Landing Zone is located between the point of artillery firing and the artillery impact zone used by the U.S. Army Reserve and Arkansas National Guard Units on Camp Robinson. The artillery firing is primarily on weekends. The *Contractor* shall avoid weekend work or closely coordinate weekend work with Camp Robinson authorities so as to avoid any work when artillery firing is planned. The *Contractor* shall coordinate his work schedule with Camp Robinson's Operation and Plans Specialist (phone 212-5232).

7. The All-American Landing Zone and adjacent area may be used for air drops during the construction period. The *Contractor* shall coordinate and schedule his work with the *Base Operations Officer*.

8. Downtime Due to Aircraft Operations

   a. CLEARING THE RUNWAY: Upon notification by a representative of the *Contracting Officer*, Base Operations, Air Traffic Control, Fire Department, or Security Police, the *Contractor* shall immediately cease operations and move all equipment and personnel a minimum distance of 250 feet from the edge of the runway or taxiway as directed. Equipment and personnel necessary to accomplish this condition shall be the responsibility of the *Contractor*. Upon notification that the runway is clear, the *Contractor* shall immediately move his equipment back to the runway and resume construction operations.

   b. MEASUREMENT OF DOWNTIME: Downtime will be measured by the crew hour, to the nearest ten minutes, from the actual time construction operations cease until the time operations resume or to the end of the regular work period; excluding scheduled breaks such as lunch or rain or other. Any delay in vacating the runway or returning to the runway and resuming construction, due to the breakdown of equipment, negligence or convenience of the *Contractor*, will not be measured as downtime. The *Contracting Officer's Representative* will keep a log of each period of downtime, showing the time it started, time it stopped, actual hours of downtime. The log shall be initialed each time by the *Contracting Officer's Representative* and the *Contractor*. In the event there is a disagreement over time, the *Contractor* shall notify the *Contracting Officer* of this disagreement within 24 hours. Failure to do so within the time specified shall constitute acceptance by the *Contractor* of time on the *Contracting Officer's Representative*'s log. The minimum amount of downtime measured will be ten minutes. Any downtime measured less than ten minutes shall be recorded as ten minutes. Measurement of downtime will not begin until the temporary threshold is complete to include the distance to go markers and the changing of the edge lights.

   c. PAYMENT for downtime measured as specified shall be paid for at the contract unit price per crew hour. A crew hour consists of all equipment, personnel, and related costs, including benefits, payroll taxes, FICA, and all overhead and profit

1.03 UTILITIES

A. Existing electrical service to the facility shall be maintained until new electrical service is in place and ready for operation.

B. Utility interruptions shall be approved by the *Contracting Officer*. The *Contractor* shall submit to the *Contracting Officer* a written request for such work at least three (3) weeks prior to the desired date. The following shall apply:

1. Electrical primary power outages will be performed by Entergy Arkansas Inc. and shall be fully coordinated with the *Contracting Officer's Representative*, *LRAFB Utility Privatization Liaison* and Entergy Arkansas Inc. The *Contractor* shall submit to the *Contracting Officer's Representative* and *LRAFB Utility Privatization Liaison* a written request for such work at least three (3) weeks prior to the desired date. Electrical primary outages shall be limited to four (4) hours.

2. Water outages will be performed by the 19th Civil Engineer Squadron and shall be fully coordinated with the *Contracting Officer's Representative*.

3. Communications Utilities.

The *Contractor* shall not disturb communication wiring to facilities. Where such facilities require removal of communication equipment and wiring to accomplish the work involved, the *Contractor* shall notify the *Contracting Officer* at least five (5) workdays in advance of the requirement, for scheduling such removals by the *Government*. The *Contractor* shall allow for the accomplishment of such removals by the telephone company or communications personnel for the systems they service. If construction activities damage any communication equipment or wiring, the *Contractor* shall restore services as soon as possible, but no later than 24-hours, and at no cost to the *Government*.

4. Excavating Around or Locating Existing Utilities.

Prior to the start of work, the *Contractor* shall identify and locate all valve or utility shut-off locations for use in the event of accidental damage. To preclude accidental damage, the *Contractor* shall locate all known utilities (i.e., communication, natural gas, fuel supply, etc.) by hand digging prior to any excavation with power equipment. The *Contractor* shall note any utilities discovered during excavations that are missing or incorrect on the contract drawings (including any erroneous dimensions on *Government* record drawings), or those utilities staked by the user, and clearly identify those discoveries on the as-built drawings.

5. Ground Penetrating Radar

On all projects where excavation and/or below grade utility locating is required, Ground Penetrating Radar (GPR) shall be accomplished by the Contractor to locate all subsurface structures, utilities, etc. The GPR equipment shall identify all underground structures to a depth of 8 feet. Coordinates provided shall be within an accuracy of 4 inches. GPR equipment shall include GPR antenna, electromagnet pipe locator, Traceable Rodder and GPS as required to meet depth and accuracy described above. Deliverables shall include the following:

a. AutoCAD showing all utilities found using GPR.

b. All information in GIS.

c. See section 01 33 00 1.03 Geographic Information System (GIS) Service for detailed information regarding requirements for GPR deliverables.

Excavation as related to GPR is defined as digging earth materials or penetrating earth materials to a depth greater than that of the topsoil in vegetative areas, below the top of subgrade surfaces in paved areas or areas under existing or proposed structures, or deeper

than 4 inches in other areas. Inserting soil anchors, driving ground rods, and similar activities are considered excavation and require GPR in advance of these activities.

1.04 PROTECTION OF EXISTING FACILITIES

A. The *Contractor* shall conduct and schedule all work in a manner to cause as little disruption as possible to the existing facilities and operation. Phase work as may be required by this contract.

B. The *Contractor* shall ensure that the existing building is maintained weatherproof at all times. The buildings HVAC system shall also be maintained in full operating order by the *Contractor*. The *Contractor* shall provide and install 40% efficient construction filters and shall maintain the filters throughout the construction timeframe in all return air, outside air and exhaust air inlets in the construction area or where dust and debris may enter the duct.

1.05 SITE VISITATION

A. The *Contractor* shall be responsible to visit the project site prior to, and during, the course of construction to verify existing conditions, actual sizes, and other requirements outlined in the other sections of the specifications.

B. Existing Facilities/Job Site Verification.

Record drawings, showing existing facilities and underground utilities, are available to the *Contractor* through the Base Civil Engineer office. The *Government* does not guarantee the accuracy, availability or adequacy of existing as-built/record drawings. The *Contractor* is responsible to verify all dimensions and actual conditions when developing their contract proposal. Failure to verify the dimensions and locations will be at the *Contractor's* risk and shall not relieve the *Contractor* from accomplishing the work required by the contract at the price awarded by the *Government*. The *Contractor* shall immediately repair any utility line shown on a record drawing (or made known to the *Contractor*) and damaged during construction work, at no cost to the *Government*.

1.06 BASE REGULATIONS

The *Contractor* shall conform to all base regulations and directives pertaining to security, safety, debris removal, fire, traffic and personnel clearances, insofar as they pertain to the *Contractor*'s activities on Little Rock Air Force Base. *Contractor* shall ensure conformance by all employees and Sub-*Contractor*s.

1.07 FIRE PROTECTION

The *Contractor* shall be responsible for conformance with base fire regulations and NFPA 241, including Appendix A. These regulations are available for review during duty hours at the Base Fire Station located in Building 239. Fire extinguishers required during the construction period shall be furnished and maintained by the *Contractor* and removed by the *Contractor* upon acceptance of the facility by the *Contracting Officer*. No welding/cutting and open flame operation shall be allowed in facilities when automatic fire detection and suppression systems are out of service unless the *Contractor* posts a fire guard for 24 hours after welding/cutting and open flame operation or certifies the facility fire safe.

1.08 WELDING PERMIT

A. Prior to performing any welding, cutting or brazing, the *Contractor* shall obtain a properly completed AF Form 592 (Burning Permit) from the 19 CES Fire

Department. A permit is required per job, per day. *Contractor* shall return all welding, cutting, or brazing permits to the 19 CES Fire Department at the end of each week, at a minimum. The *Contractor* shall maintain a fully charged fire extinguisher on site at all times regardless as to whether or not welding, cutting, or brazing is being performed.

B. Hot Welding (delete paragraph if no JP8 pipeline welding, UST/AST work, or other fuels work is being done): A step-by-step plan shall be submitted 15 days prior to hot welding to the *Contracting Officer* and accepted by AMC. The plan shall cover the location of the weld, material to be used, size of the line, material in the line, safety precautions, welding procedures, etc. The *Contractor* shall comply with 29 CFR 1917.152 welding, cutting, heating (Hot work) and 29 CFR 1926 subpart J welding, cutting Fire prevention. The *Contractor* shall be responsible to verify a vapor free environment as defined by 29 CFR 1917 with a Backarach 514M meter. The *Government* will not supply the meter. The plan shall also contain the dates of the proposed welds and the estimated time the fuel lines will be down. A Command Certified Liquid Fuels Manager (LFM) shall be on site during all hot work. NO WORK SHALL PROCEED UNTIL THIS PLAN IS APPROVED.

1.09 CONSTRUCTION PERMIT (DIGGING PERMIT)

A. A properly completed AF Form 103, Base Civil Engineering Work Clearance Request, shall be obtained by the *Contractor* prior to performing any excavation.

B. A separate AF Form 103 shall be obtained by the *Contractor* for each excavation to be accomplished.

C. *Contractor* shall submit a request for AF Form 103 a minimum of 14 calendar days and a maximum of 28 days prior to desired start of excavation. The *Contractor* shall allow a minimum of 14 calendar days for processing.

D. Each request shall be in writing and designate the location of the proposed excavation and the scheduled date.

E. The completed AF Form 103 will contain information for locating existing utilities and telephone lines. The *Contractor* shall keep the AF Form 103 at the excavation site and shall comply with instructions for hand excavation and with other methods of safeguarding the buried utilities.

F. In addition to the requirement to obtain a construction permit and prior to any excavation, the *Contractor* shall perform a pipe/cable location survey using a variety of modern locating equipment suitable for locating various types of pipe and cable. The *Contractor* shall use a signal generating locator such as a Goldak Gold Digger 4400 for metallic pipe and cable. For non-metallic pipe use a vibration generator such as a Fuji Tecom PL-130 or an RD-500. For non-metallic sewer pipe use a snake with attached generator. The *Contractor* shall mark all locations on the ground. The *Contractor* shall submit a sketch showing the found locations of utilities to the *Contracting Officer's Representative* for approval prior to beginning excavation. The *Contracting Officer's Representative* will provide available information as to the existence and location of known utilities with the approved construction permit. The *Contractor* shall be responsible for repairing damage to utilities, whether

known or unknown, due to any failure on the *Contractor's* part to perform a rigorous survey.

1.10 OCCUPANCY OF GOVERNMENT FACILITIES

When the *Contractor* has complete or partial occupancy of any building or facility, the *Contractor* shall be responsible for properly informing the *Contracting Officer's Representative* of any condition which would jeopardize the building or its contents, such as loss of heat, air conditioning, danger of pipes freezing, loss of electric power, water, sewer or gas services or loss of building security. *Contractor* shall call telephone number 987-6874 and inform the *Contracting Officer's Representative* or, if after duty hours, call 987-6553, *CE Service Call*. *Contractor* is responsible for correcting all situations under the scope of this contract or caused by the *Contractor* and shall notify the *Contracting Officer's Representative* and/or *CE Service Call* immediately for situations not covered by this contract, or emergency situations beyond the *Contractor's* control.

1.11 ASBESTOS: Removal of Asbestos Containing Material (ACM) shall be accomplished by this contract per the requirements of Arkansas Department of Energy and Environment (ADEE) Regulation 21. ACM shall be removed as a part of lump sum cost for this contract. The Contractor shall be responsible for notifying the Contracting Officer and Contracting Officer's Representative of any additional asbestos discovered during construction/demolition. The Contracting Officer will obtain testing of the material in question and instruct the Contractor accordingly.

B. Abatement Contractor shall submit for approval a copy of the company's license to do abatement in the state of Arkansas and date of expiration. Insurance shall be in compliance with and as required by ADEE for abatement in the state of Arkansas. All workers and supervisors shall have current certification issued by the state of Arkansas.

C. LRAFB requires its contractors to comply with Arkansas Pollution Control and Ecology Commission (#014.00-021) Regulation No 21. Arkansas Asbestos Abatement Regulation. ACM surveys, removal, transportation and disposal shall be completed by an ADEE approved/licensed abatement contractor. An ACM Abatement Contractor is responsible for providing ADEE Notice of Intent (NOI) 10 days prior to starting removal. The Abatement Contractor shall provide clean air documentation that the facility is safe to return to normal activities upon completion of abatement. The Abatement Contractor shall provide a separate report including waste shipment records signed by the disposal facility showing all asbestos was removed and disposed of per regulatory requirements within 30 days of removal.

1.12 CHLOROFLUOROCARBON (CFC) REFRIGERANTS: Restrictions, Precautions and Controls

A. The *Contractor* shall not vent or cause to be vented chlorofluorocarbon (CFC) and hydrochlorofluorocarbon (HCFC) refrigerants (R-11, R-12, R-22, R-113, R-114, R-115, R-501, R-502, or any other mixtures containing CFCs) to the atmosphere during repair or maintenance work on the equipment covered by this Contract.

B. The *Contractor* shall have available refrigerant recovery or reclaim equipment to perform the work. The *Contractor* shall submit to the *Contracting Officer* a copy of the EPA registration of the recovery equipment. This registration shall

also be provided during warranty work, if the equipment used is different than that used during construction.

C. *Contractor* personnel who operate refrigerant reclaim or recycling equipment shall possess the necessary state and local certificates for operating that equipment. The *Contractor* shall submit to the *Contracting Officer* a copy of the CFC certification for the personnel removing the refrigerant. This certification shall also be provided during warranty work, if the personnel involved are different than those who installed the equipment.

D. *Contractor* shall be responsible for meeting all requirements, permitting the licensing and certification required by state or local ordinance to work on refrigeration systems.

E. The *Contractor* shall provide containers for the reclaimed refrigerant and shall return all reclaimed refrigerant and containers to the *Government* and provide documentation of the quantity recovered.

F. Replacement compressors and other replacement equipment used in repairing CFC-containing systems shall be compatible with CFC replacement refrigerants. If such would result in an increase in cost, the *Contractor* shall notify the *Contracting Officer* prior to the replacement.

1.13 LEAD BASED PAINT (LBP) AND COATINGS CONTAINING LEAD

A. This Contract may involve disturbance or demolition of construction material coated with LBP and/or coatings that may contain some level of lead. The *Contractor* will test representative surfaces to be disturbed under this contract using an X-ray fluorescence (XRF) analyzer or Laboratory Analysis and results will be provided with each project. If a laboratory is used for lead analysis, the lab must be accredited by the National Lead Laboratory Accreditation Program (NLLAP). The *Government* will not be the removal agent for LBP or coatings containing lead.

B. Results of the XRF analysis with readings from .0 mg/cm2 up to .9 mg/cm2 are considered inconclusive and indicate only that a trace amount of lead may be present, but still may easily present an exposure hazard to workers. Lead-based paint means paint or other surface coatings that contain lead equal to or greater than 1 mg/cm2. The *Contractor* at no additional cost to the *Government* shall accomplish any further sampling or testing required to comply with any law, standard, or regulation. The *Contractor* shall provide a copy of all test results to the *Contracting Officer's Representative*.

C. The *Contractor* shall submit a written plan prepared by a competent person detailing demolition, removal, disposal and clean-up processes and procedures to be followed when dealing with the items addressed in this section. Precautions to ensure *Government* or other personnel near the work are not exposed to lead above accepted levels shall be included in the plan.

D. The *Contractor* shall handle and dispose of all construction materials coated with LBP and/or coatings containing lead in accordance with all federal, state, local, and base laws/regulations. The *Contractor* shall collect and analyze samples of demolition debris coated with LBP or coatings containing lead, including surface coatings that have been removed, to determine if the debris should be characterized as hazardous waste. All waste that has been deemed

hazardous shall be disposed of through the base Defense Reutilization and Marketing Office (DRMO). *Contractor* shall adhere to the following requirements and procedures for disposal: Some waste may be recycled in accordance with Section 01 45 00 QUALITY CONTROL of this specification.

1. Present HAZMO/CAP (Bldg. 1575, 987-5247) with analytical results and ORG shop code.

2. Make appointment with DRMO, 987-3715. Waste must be to DRMO within 3 days after HAZMO/CAP has logged in the waste.

3. Deliver waste (Properly containerized and labeled per DOT 49 CFR 173) along with analytical results sheet, and paperwork provided by HAZMO/CAP (DRMS Form 1930, DD Form 1348 and AF Form 2005) to DRMO per scheduled appointment.

1.14 FLUORESCENT BALLAST AND LAMP DISPOSAL

A. All ballasts from demolished light fixtures shall be examined for markings, labels, etc. that identify the presence (or absence) of PCB's. If no identifying non-PCB characteristics can be determined, the ballast shall be considered as being PCB ballast. It shall be containerized, processed through the Hazardous Material Office (HAZMO), and then turned into DRMO for PCB disposal. The ballasts that are clearly identifiable as non-PCB may be recycled or disposed as solid wastes. The hours of the HAZMO office are 0700 to 1600, M-F, 987-5247. The *Contractor* shall call DRMO in advance for a turn-in appointment @ 987-3715. The *Contractor* shall not attempt to (1) turn-in PCB ballast without processing said items through the HAZMO and (2) deliver same to DRMO without an appointment.

B. Container: *Contractor* shall store all PCB ballasts in either new UN approved steel or plastic open head drums as specified in 49 CFR 178.504 and 509. All used and/or reconditioned containers are unacceptable. The steel or plastic drums may not exceed 55 gallons in size. The total weight of container and PCB ballasts must not exceed the inscribed manufacturer container weight specifications. *Contractor* may store PCB containers on-site up to one week (five days), at which time the container shall be turned in to DRMO. The *Contractor* may turn in PCB containers at a more frequent rate, e.g., daily, etc., if so desired. PCB containers shall be stored within the confines of the immediate project site. The PCB containers shall not be exposed to the elements, placed in the open, nor allowed to collect rainwater. When not in use, each PCB container shall be covered with its appropriate lid. *Contractor* shall label each container as specified in 40 CFR 761 and 49 CFR 172.101. The number of PCB ballasts in each container shall be provided to the *Contracting Officer's Representative* prior to turn into DRMO.

C. Detached light fixtures that are clearly identified as having non-PCB ballasts shall be placed in *Government* supplied dumpsters which will be picked up, on site, by the Base Recycling Center.

D. *Contractor* shall be responsible for all QA/QC functions required in segregating PCB ballasts from non-PCB ballasts. The HAZMO will not perform any inspection, segregation, or identification of said ballast for the *Contractor*. The *Contractor* is fiscally responsible for any improper disposal of PCB ballasts. The Arkansas Department of Environmental Quality shall be notified

should any *Contractor* be found violating any State or Federal regulations on PCB ballast disposal.

E. Fluorescent lamps shall be packaged, processed through the HAZMO, and then delivered to DRMO. *Contractor* may store fluorescent tubes in their original container or an appropriately sized cardboard box. In the event a cardboard box is used, each tube shall be protected from breakage by using appropriate egg crate or bubble-wrap packing.

1.15 OIL FILLED TRANSFORMER DISPOSAL

Any demolished transformer and medium voltage equipment that contains insulating liquid shall be tested for PCBs prior to turn into DRMO. The turn in procedure is as follows:

A. Oil filled transformers and other equipment containing insulating liquid must be tested for the presence of PCB's by the *Contractor* at the *Contractor*'s expense.

B. Equipment cannot be leaking. All caps/covers etc. must be tight.

C. *Contractor* shall unload equipment themselves; there is no forklift support at DRMO on LRAFB.

D. *Contractor* shall present HAZMO/CAP (Bldg. 1575, 501-987-5247) with analytical results, KVA rating, serial number, manufacturer, date equipment was taken out of service and an estimate of the original cost of the equipment. HAZMO will send proper forms to DRMO and inform *Contractor* to set up a turn-in appointment with DRMO.

E. The *Contractor* shall call DRMO in advance of delivering the equipment to DRMO for a turn-in appointment @ (501) 987-3715.

F. *Contractor* shall deliver and unload equipment to DRMO site on base per scheduled appointment.

G. The *Contractor* shall provide DRMO a copy of the complete analysis at the time of turn-in.

H. The *Contractor* will affix a single page of the analysis that reflects the PCB results for that particular piece of equipment to the side of the equipment.

I. Equipment must be secured to a pallet prior to transport to DRMO.

1.16 RADIOACTIVE MATERIALS

A. A request to bring radioactive materials onto Little Rock AFB shall be provided to the government at least 30 days prior to bringing materials onto the base. A copy will be given to the Bioenvironmental Engineer by the *Contracting Officer's Representative*.

B. Before bringing any radioactive materials onto Little Rock AFB, the *Contractor* shall first submit the following information on an AF Form 3000, for review and approval by the 19th AW Bioenvironmental Engineer. Examples of materials that may contain radioactive materials are soil moisture and soil density testing instruments. Additional information on this subject can be found in AF 40-201 *MANAGING RADIOACTIVE MATERIALS IN THE U.S. AIR FORCE.*

http://static.e-publishing.af.mil/production/1/af_sg/publication/afi40-201/afi40-201.pdf

C. Proper Nuclear regulatory Committee (NRC) or Arkansas State license (Includes NRC Reciprocity Form 241 and Arkansas State License). For DoE organizations and DoE C*ontractor's* written certification that they are exempt from NRC license requirements is required.

D. Copies of training certification for instrument operators.

E. Dates and location of use on Little Rock AFB.

F. Acknowledgement that instrument is transported in compliance with 49 CFR requirements.

G. All testing equipment, containing a radioactive source, shall be operated in accordance with an approved radioactive equipment plan. This plan shall be submitted to the *Contracting Officer* and approved by the 19th AW Bioenvironmental Engineer, prior to bringing the equipment on to Little Rock AFB.

This plan shall include:

1. The name and type of equipment.
2. The type and size of radiation source.
3. The dates and locations of the equipment's usage.
4. The radiological controls that the *Contractor* will use while operating the equipment.

H. A different radioactive equipment plan will be required for each different type of equipment, type of radioactive source, or size of radioactive source. A data sheet for each piece of radioactive equipment shall be submitted to the *Contracting Officer* to forward to the 19th AW Bioenvironmental Engineer. The data sheet shall contain the following information:

1. Name of equipment.
2. Name and address of equipment manufacturer.
3. Type and size of radiation source.
4. The location of the radioactive equipment on LRAFB.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – COORDINATION

SECTION 01 32 00 – CONSTRUCTION PROGRESS SCHEDULES

PART 1 - GENERAL

1.01 SUBMITTALS

Government approval is required for submittals. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

A. PRECONSTRUCTION SUBMITTALS

1. Baseline Construction Schedule
2. Baseline Design Schedule

B. CERTIFICATES

1. Monthly Updates

1.02 PRE-CONSTRUCTION SCHEDULE REQUIREMENT

A. Within 30 calendar days after contract award and prior to the start of work, prepare and submit to the Contracting Officer a Baseline Design Schedule and Baseline Construction Schedule in the form of a Network Analysis Schedule (NAS) Bar Chart Schedule in accordance with the terms in Contract Clause FAR 52.236-15 Schedules for Construction Contracts, except as modified in this contract. The approval of a Baseline Construction Schedule is a condition precedent to:

1. The Contractor starting demolition work or construction stage(s) of the contract.
2. Processing Contractor's invoice(s) for construction activities/items of work.
3. Review of any schedule updates.

B. Submittal of the Baseline Design and Construction Schedule, and subsequent schedule updates, is understood to be the Contractor's certification that the submitted schedule meets the requirements of the Contract Documents, represents the Contractor's plan on how the work will be accomplished, and accurately reflects the work that has been accomplished and how it was sequenced (as-built logic).

1.03 SCHEDULE FORMAT

A. NETWORK ANALYSIS SCHEDULE (NAS)

1. Critical Path Method

Use the critical path method (CPM) to schedule and control project activities. The scheduling software that will be utilized by the Government on this project is Microsoft Project 2021 by Microsoft, Inc. Notwithstanding any other provision in the contract, schedules submitted for this project must be prepared using Microsoft Project and submitted in Adobe *.pdf and Microsoft Project. Submission of data from another software system where data conversion techniques or software is used to import into Microsoft Projects scheduling software is not acceptable and will be cause for rejection of the submitted schedule.

2. Activity Requirements

a. At a minimum, identify the following in the schedule:

i. Design and Construction time for major systems and components.

ii. Each activity assigned with its appropriate Responsibility Code

iii. Each activity assigned with its appropriate Phase and Area Codes

iv. Major submittals and submittal processing time

v. Major equipment lead time

b. Build the Schedule as follows:

i. Show design periods, submittals, Government review periods, material/equipment delivery, utility outages, on-site construction, inspection, testing, and closeout activities. Government and Contractor on-site work activities must be driven by calendars that reflect Saturdays, Sundays and all Federal Holidays as non-workdays for 5-day work week calendars.

ii. With the exception of the Contract Award and End Contract milestone activities, use of open-ended activities is not allowed; each activity must have predecessor and successor ties. No activity must have open start or open finish (dangling) logic. Minimize redundant logic ties. Once an activity exists on the schedule it must not be deleted or renamed to change the scope of the activity and must not be removed from the schedule logic without approval from the Contracting Officer. While an activity cannot be deleted, where said activity is no longer applicable to the schedule but must remain within the logic stream for historical record, it can be changed to a milestone. Document any such change in the milestone's "Notebook," including a date and explanation for the change. The ID number for a deleted activity must not be re-used for another activity.

iii. Assign each activity its appropriate Responsibility Code and Area Code, indicating location and responsibility to accomplish the work indicated by the activity, Phase Code, and Work Location Code. Include anticipated tasks to be assigned Government responsibility.

iv. Date/time constraints or lags, other than those required by the contract, are not allowed unless approved by the Contracting Officer. Include as the last activity in the contract schedule, a milestone activity named "Contract Completion Date".

v. Include the following Contract Milestones:

1) Include as the first activity on the schedule a start milestone titled "Contract Award", which must have a Mandatory Start constraint equal to the Contract Award Date.

2) Include Interim or Phased Completion Milestones required by the Contract or as approved by the Contracting Officer.

3) Include Facility Turnover Planning Meeting Milestones.

4) Include an unconstrained finish milestone on the schedule titled "Substantial Completion". Substantial Completion is defined as the point in time the Government would consider the project ready for beneficial occupancy wherein by mutual agreement of the Government and Contractor. Government use of the facility is allowed while construction access continues in order to complete remaining items (e.g. punch list and other close out submittals).

5) Include an unconstrained finish milestone on the schedule titled "Projected Completion". Projected Completion is defined as the point in time the Government would consider the project complete. This milestone must have the Contract Completion Date (CCD) milestone as its only successor.

6) Include as the last activity on the schedule a finish milestone titled "Contract Completion (CCD)" with constraint type "Must Finish No Later Than". Calculation of schedule updates must be such that if the finish of the "Projected Completion" milestone falls after the contract completion date, then negative float will be calculated on the longest path and if the finish of the "Projected Completion" milestone falls before the contract completion date, the float calculation must reflect positive float on the longest path. This milestone must be set to 5:00 pm.

vi. Provide lead time for major equipment.

3. Anticipated Weather Lost Workdays

a. Use the National Oceanic and Atmospheric Administration's (NOAA) Summary of Monthly Normals report to obtain the historical average number of days each month with precipitation, using a nominal 30-year, greater than 2.5 mm 0.10 inch precipitation amount parameter, as indicated on the Station Report for the NOAA location closest to the project site as the basis for establishing a "Weather Calendar" showing the number of anticipated non-workdays for each month due to adverse weather, in addition to Saturdays, Sundays and all Federal Holidays as non-work days.

b. Assign the Weather Calendar to any activity that could be impacted by adverse weather. The Contracting Officer will issue a modification in accordance with the contract clauses, giving the Contractor a time extension for the difference of days between the anticipated and actual adverse weather delay if the number of actual adverse weather delay days exceeds the number of days anticipated for the month in which the delay occurs and the adverse weather delayed activities are on the longest path to contract completion in the period when delay occurred. A lost workday due to weather conditions is defined as a day in which the Contractor cannot work at least 50 percent of the day on the impacted activity.

c. Impacts resulting from adverse weather must be documented in Narrative Report for the month that it occurred. Make changes to Microsoft Projects 2021 calendars to reflect as-built conditions where work occurred where originally anticipated as non-workdays, and where work did not occur (lost work day).

4. Activity Identification

a. Identify Government, Construction Quality Management (CQM), Construction activities planned for the project and other activities that could impact project completion if delayed.

b. Identify administrative type activity/milestones including pre-construction submittal and permit requirements prior to demolition or construction stage.

c. Create separate activities for each Phase, Area, Floor Level, and Location the activity is occurring.

d. Do not use construction category activity to represent non-work type reference (Such as, Serial Letter or Request for Information) in NAS.

e. Place non-work reference within P6 activity details notebook. Activity categories included in the schedule are specified below.

5. Responsibility Code

Assign each activity its appropriate Responsibility Code indicating responsibility to accomplish the work indicated by the activity, Phase Code and Work Location Code.

6. Microsoft Project 2021 Settings and Parameters

Use the following MS Project 2021 settings and parameters in preparing the Baseline Schedule:

a. The Network must have a minimum of 30 construction activities.

b. No on-site construction activity may have durations in excess of 20 working days.

c. Critical is defined as having zero days of Total Slack. Within the Baseline Schedule no more than 20 percent of the activities shall be critical.

d. Logic: include the following setting: File, Options, Schedule tab - Split in-progress tasks - must be selected.

e. Status Date gridline is displayed in the Gantt Chart view.

f. Task Type is set to Fixed Work for "boots-on-the-ground" construction activities.

g. Task Type is set to Fixed Duration for design activities, submittals, Government reviews, procurement, material/equipment delivery, and utility outages.

h. "Effort Driven" is turned ON for Fixed Duration tasks.

i. Time Periods established for the project are set to 8 Hrs/Day, 40 Hrs/Week and 20 days/month.

j. Week starts on Monday must be selected.

k. Default start time is set to 8 am (0800).

l. Default end time is set to 5 pm (1700).

7. Cost Loading Microsoft Project 2021 Schedules

Assign material, labor, and equipment costs to their respective Construction Activities. Assign material and equipment costs, for which payment will be requested in advance of installation, to their respective procurement activity (i.e. the material/equipment on-site activity). Evenly disperse overhead and profit to each activity over the duration of the project. Cost loading must total to 100 percent of the value of the contract.

a. Software Settings

i. a. Resource Sheet

1) Resource Name: Enter each code and resource for the project
2) Type: Set to "Material"
3) Material Label: Enter units of measurement for each resource
4) Std. Rate: Enter unit cost for each resource
5) Accrue at: Set to "Prorated"

ii. Assigning Resources to Each Activity

1) Select each activity in Gantt Chart
2) Assign resources, Resource Tab
3) Select each resource and enter the quantity of the units; then, assign the resource(s) to the activity

iii. Baseline for Earned Value Calculation, File Tab, Options, Advanced, Default task Earned Value method: Set to "Physical Percent Complete" or as directed by the Contracting Officer

b. Tabular Reports

i. Tracking Gantt Schedule with Cost Table

Submit a Tracking Gantt Schedule with each schedule update showing activity baseline cost, cost percent complete, and Budgeted Cost of Work Performed (BCWP), as directed by the Contracting Officer.

ii. Earned Value Over Time Report

1) With each schedule submission, submit Earned Value Over Time Report S-Curves indicating Planned Value to the contract completion date based on projected early and late activity finish dates and Earned Value.
2) Revise Earned Value Over Time Report S-Curves when the contract is modified, or as directed by the Contracting Officer.

B. Schedule Submittals and Procedures

Submit Schedules and updates in hard copy and on electronic media that is acceptable to the Contracting Officer. Submit an electronic back-up of the project schedule in an import format compatible with the Government's scheduling program.

1.04 SCHEDULE MONTHLY UPDATES

Update the Design and Construction Schedule at monthly intervals or when the schedule has been revised. Keep the updated schedule current, reflecting actual activity progress and plan for completing the remaining work. Submit copies of purchase orders and confirmation of delivery dates as directed by the Contracting Officer.

A. Narrative Report: Identify and justify the following:

1. Progress made in each area of the project.
2. Longest Path: Include printed copy on 11 by 17-inch paper, landscape setting;
3. Date/time constraint(s), other than those required by the contract.

4. Listing of changes made between the previous schedule and current updated schedule including added or removed activities, original and remaining durations for activities that have not started, logic (sequence, constraint, lag/lead), milestones, planned sequence of operations, longest path, calendars or calendar assignments, and cost loading.

5. Any decrease in previously reported activity Earned Amount.

6. Pending items and status thereof, including permits, changes orders, and time extensions.

7. Status of Contract Completion Date and interim milestones.

8. Current and anticipated delays (describe cause of delay and corrective actions(s) and mitigation measures to minimize).

9. Description of current and future schedule problem areas.

For each entry in the narrative report, cite the respective Activity ID and Activity Name, the date and reason for the change, and description of the change.

1.05 CONTRACT MODIFICATION

Submit a Time Impact Analysis (TIA) with each cost and time proposal for a proposed change. TIA must illustrate the influence of each change or delay on the Contract Completion Date or milestones. No time extensions will be granted nor delay damages paid unless a delay occurs which consumes all available Project Float and extends the Projected Finish beyond the Contract Completion Date.

A. Each TIA must be in both narrative and schedule form. The narrative must define the scope and conditions of the change; provide start and finish dates of impact, successor, and predecessor activity to impact period, responsible party, describe how it originated, and how it impacts the schedule. The schedule submission must consist of three native files:

1. Fragnet used to define the scope of the changed condition

2. Most recent accepted schedule update as of the time of the proposal or claim submission that has been updated to show all activity progress as of the time of the impact start date.

3. The impacted schedule that has the fragnet inserted in the updated schedule and the schedule "run" so that the new completion date is determined.

B. For claimed as-built project delay, the inserted fragnet TIA method must be modified to account for as-built events known to occur after the data date of schedule update used.

C. TIAs must include any mitigation and must determine the apportionment of the overall delay assignable to each individual delay. Apportionment must provide identification of delay type and classification of delay by compensable and non-compensable events. The associated narrative must clearly describe analysis methodology used, and the findings in a chronological listing beginning with the earliest delay event.

1. Identify and classify types of delays as follows:

a. Force majeure delay (e.g. weather delay): Any delay event caused by something or someone other than the Government (including its agents) or the Contractor, or the risk of which has not been assigned solely to the Government or the Contractor. If the force majeure delay is on the critical

path, in absence of other types of concurrent delays, the Contractor is granted an extension of contract time, classified as a non-compensable event.

b. A Contractor-delay: Any delay event caused by the Contractor, or the risk of which has been assigned solely to the Contractor. If the contractor-delay is on the critical path, in absence of other types of concurrent delays, Contractor is not granted extension of contract time and classified as a non-compensable event. Where absent other types of delays, and having impact to project completion, provide a Corrective Action Plan, identifying plan to mitigate delay, to the Contracting Officer.

c. A Government-delay: Any delay event caused by the Government, or the risk of which has been assigned solely to the Government. If the Government-delay is on the longest path, in absence of other types of concurrent delays, the Contractor is granted an extension of contract time and classified as a compensable event.

2. Use functional theory to analyze concurrent delays, where:

Separate delay issues delay project completion, do not necessarily occur at same time, rather occur within same monthly schedule update period at minimum, or within same as-built period under review. If a combination of functionally concurrent delay types occurs, it is considered Concurrent Delay, which is defined in the following combinations:

a. Government-delay concurrent with Contractor-delay: Excusable time extension, classified non-compensable event.

b. Government-delay concurrent with force majeure delay:

Excusable time extension classified non-compensable event.

c. Contractor-delay concurrent with force majeure delay:

Excusable time extension classified non-compensable event.

3. A pacing delay, reacting to another delay (parent delay) equally or more critical than paced activity, must be identified prior to pacing. Contracting Officer will notify Contractor prior to pacing. Contractor must notify Contracting Officer prior to pacing. Notification must include identification of parent delay issue, estimated parent delay time period, paced activity(s) identity, and pacing reason(s). Pacing Concurrency is defined as follows:

a. Government-delay concurrent with Contractor-pacing:

Excusable time extension classified compensable event.

b. Contractor-delay concurrent with Government-pacing:

Inexcusable time extension classified non-compensable event.

1.06 3-WEEK LOOK AHEAD SCHEDULE

Prepare and issue a 3-Week Look Ahead schedule to provide a more detailed day-to-day plan of upcoming work identified on the Construction Schedule. Key the work plans to activity numbers when a NAS is required and update each week to show the planned work for the current and following two-week period. Additionally, include upcoming outages, closures, preparatory meetings, and initial meetings. Identify critical path activities on the Three-Week Look Ahead Schedule. The detail work plans are to be bar chart type schedules, maintained separately from the Construction Schedule on an electronic

spreadsheet program and printed on 8-1/2 by 11-inch sheets as directed by the Contracting Officer. Activities must not exceed 5 working days in duration and have sufficient level of detail to assign crews, tools and equipment required to complete the work. Deliver three hard copies and one electronic file of the 3-Week Look Ahead Schedule to the Contracting Officer no later than 8 a.m. each Monday, and review during the weekly Contractor Quality Control Coordination or Production Meeting.

1.07 CORRESPONDENCE AND TEST REPORTS:

Correspondence (e.g., letters, Requests for Information (RFIs), e-mails, meeting minute items, Production and Quality Control Daily Reports, material delivery tickets, photographs) must reference Schedule Activities that are being addressed. Test reports (e.g., concrete, soil compaction, weld, pressure) must reference Schedule Activities that are being addressed.

1.08 ADDITIONAL SCHEDULING REQUIREMENTS

Any references to additional scheduling requirements, including systems to be inspected, tested, and commissioned, that are located throughout the remainder of the Contract Documents, are subject to all requirements of this section.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – SMALL PROJECT CONSTRUCTION PROGRESS SCHEDULE

SECTION 01 33 00 – SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 SUBMITTALS

A. Catalog cut sheets, brochures, shop drawings and/or samples shall be clearly marked/indicated by the *Contractor* and submitted to the *Contracting Officer* for the items on the schedule, drawings and other sections of the specifications. All salient features of materials required to be submitted shall be easily found in the submittal package for each item and not require research on the part of the *Government* to determine compliance with Contract requirements. Related items such as mechanical/electrical components shall be submitted at one time for coordination purposes. Color coordinated items such as paint, carpet, vinyl wall covering, vinyl composition tile, ceramic tile, toilet partitions, and so forth shall be submitted at one time to facilitate color comparison/selection by the *Contracting Officer*. An AF Form 3000 shall be utilized for each numbered submittal. Different categories of submittal items are not to be grouped on the same AF Form 3000. Contractor shall submit equipment submittals for items being installed in the contract within 10 working days of acceptance of 100% design.

B. All items shall be approved by the *Contracting Officer* prior to purchase, delivery or installation.

C. All items shall be submitted electronically in pdf format not more than twenty (20) calendar days after *Contractor*'s notification that they can proceed with construction. Samples of all items requiring color selection shall be submitted along with the electronic submittal. Operations and Maintenance (O&M) manuals shall be submitted for approval by the *Contracting Officer,* prior to final inspection.

D. Not less than fourteen (14) calendar days shall be allowed for review of submittals by the *Government*.

1. Because of reduced availability of Air Force and civilian personnel during federal holidays, additional calendar days will be added to the Government's review duration for submittals in the Government's court over federal holidays as follows.

Federal Holiday/Holiday Period	Calendar Days Added to the Government Review Period
25 December through January 1	10
Birthday of Martin Luther King, Jr. (Third Monday in January)	1
Washington's Birthday (Third Monday in February)	1
Memorial Day (Last Monday in May)	2

Juneteenth National Independence Day (19 June)	1
Independence Day (4 July)	2
Labor Day (First Monday in September)	2
Columbus Day (Second Monday in October)	1
Veteran's Day (Fourth Thursday in November)	2
Thanksgiving Day (Fourth Thursday in November)	2

For example, a submittal received by the Government for review on 28 June will be logged as received and distributed on 29 June. The Government review comments to the Design-Build Firm will be due 15 July instead of 13 July because 2 calendar days for the Independence Day holiday are added to the Government's 14 calendar day review period. If the review period ends on a weekend or holiday, submittal is to be returned to the Contractor on the following business day.

E. Submittals will be returned to the *Contractor* unless otherwise specified. A sample of all items requiring color selection will be retained by the *Contracting Officer's Representative* for reference.

F. Refer to Section 01 63 00 - Substitutions and Product Options.

G. *Contractor* shall be responsible for complying with the EPA's buy recycled program. See Section 01 62 35 RECYCLED/RECOVERED MATERIALS.

1.02 OPERATION AND MAINTENANCE MANUALS

The *Contractor* shall furnish three (3) copies, one (1) hard copy and two (2) CD ROM, of all operation and maintenance (O&M) manuals. O&M manuals shall contain complete instructions for the operation, inspection, testing and maintenance of the system, and shall include complete parts breakdown diagrams. Manuals shall also contain complete wiring schematics and diagrams. Manuals shall be in booklet form with binder and shall be arranged in logical sections for easy reference.

1.03 GEOGRAPHIC INFORMATION SYSTEM (GIS) SERVICE

A. The *Contractor* shall perform a geographic information system (GIS) survey of all exterior construction that is installed or modified in this contract. This includes changes to the building footprint, all at-grade or above-grade structures and pavements, all underground utilities and associated appurtenances, and newly planted trees.

B. The *Contractor* shall deliver all as-built survey data files in a format that is directly readable and compatible with the 19 CES Geospatial Data System (GDS). The database of the GIS shall include all files, both graphic and non-graphic, required for the project that are not included in the GDS/CADD software (i.e., color tables, pen tables, font libraries, symbol libraries, user command files, plot configuration files, AML plot routines, etc.).

C. Nongraphic data shall be developed and delivered to 19 CES in the format specified in the Spatial Data Standard for Facilities, Infrastructure, and Environment (SDSFIE) Standards. The *Contractor* will provide the nongraphic data in a format, which can be directly imported to, displayed and edited within, and output from the database software specified by the *Government*.

D. All GIS development (including geospatial data acquisition and map development for use in a GIS) shall conform to the most current release of SDSFIE. The most current release of the SDSFIE is available for download from the CADD/GIS Technology Center's Internet Website (http:/tsc.wes.army.mil). All delivered digital GIS data files shall also be submitted in strict compliance with the SDSFIE for the target GIS software system (i.e., the most current version of the Environmental Systems Research Institute Inc. (ESRI) ArcGIS). The *Contractor* shall submit a written request for approval of any deviations from the *Government*'s established standards. No deviations from the *Government*'s established standards will be permitted unless the *Contracting Officer* has issued prior written approval of such deviation.

E. The *Contractor* shall be required to provide professional services specific to the use and application of ESRI ArcGIS, including all components and extensions. The ArcGIS components and extensions shall include, but not be limited to, ArcView, ArcEditer, ArcInfo, ArcReader, ArcPac, ArcScene, ArcObjects, ArcSDE, ArcIMS, and relational database management systems (RDMS) software (e.g., Microsoft Access and SQL Server). The *Contractor* will be required to provide digital products directly supported by ArcGIS with no intermediate file translation required.

F. All surveying/mapping work performed as part of this contract shall conform to the Geospatial Positioning Accuracy Standards for Architecture, Engineering, Construction (A/E/C), and Facility Management. The most current standards of the Geospatial Positioning Accuracy Standards are available for download from the Federal Geographic Data Committee's Internet Website http://www.fgdc.gov .

G. The *Contractor* shall provide metadata files for all geospatial data. Geospatial data are defined as information that identifies the geographic location and characteristics of natural or constructed features and boundaries on the earth. The Metadata file shall conform to the Federal Geographic Data Committee Metadata Standards. The most current standards of the Federal Geographic Data Committee are available for download from the Federal Geographic Data Committee's Internet Website http://www.fgdc.gov . The digital metadata files shall be provided to the *Government* along with each final product deliverables.

H. The *Contractor* shall have the capability to submit digital products or deliverables on read-only memory (CD-ROM).

I. The *Contractor* shall be required to develop, deliver, install, and test the digital media containing the geospatial data at the *Government*'s target GDS.

J. The *Government* will only accept the final product for full operation, without conversion or reformatting, in the target software format for use on the target

platform specified herein. The target platform is a Microsoft Windows Based, with a Microsoft Windows XP operating system.

1.04 MATERIAL SAFETY DATA SHEET (MSDS)/SAFETY DATA SHEET (SDS) SUBMITTALS

A. All submittals for products shall include the MSDS/SDS when an MSDS/SDS is required by law for that product.

B. MSDS/SDS's shall also be submitted on AF Form 3000 for all products to be used during the course of the project, not otherwise requiring a submittal, but which may be of a toxic, hazardous, flammable or otherwise dangerous nature.

C. Approval by the Hazardous Materials Office (HAZMO), Building 1575, 987-5247, is required before bringing the materials on base. Little Rock AFB AF-EMIS *Contractor* Worksheet and an MSDS/SDS must accompany the submitted material. This *Contractor* worksheet will be furnished by the *Government* along with an instruction guide. Additionally, the *Contractor* shall submit a *Government* supplied *Contractor* Hazardous Material Usage Data sheet to the *Government* once a month once the materials are brought on base and until the materials are used or removed from the base. The form shall list the amount of materials used and shall also list any materials which are considered a hazardous waste when the *Contractor* can no longer use the material for its intended form or reuse as a virgin product at a later date. All hazardous waste shall be turned in to the base Hazardous Material Office (HAZMO), 987-5247.

D. All HAZMAT that is not used on the project but is still in usable condition must be removed from the base by the *Contractor* upon completion of the project. HAZMO will not accept unused HAZMAT such as paint, thinners etc. that are still usable as they belong to the *Contractor*.

1.05 DISAPPROVED 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, give notice to the Contracting Officer as required under the FAR clause titled CHANGES. The Contractor is responsible for the dimensions and design of connection details and the construction of work. Failure to point out variations may cause the Government to require rejection and removal of such work at the Contractor's expense.

If changes are necessary to submittals, make such revisions and resubmit in accordance with the procedures above. No item of work requiring a submittal change is to be accomplished until the changed submittals are approved.

1.06 APPROVED SUBMITTALS

The Contracting Officer's approval of submittals is not to be construed as a complete check, and indicates only that approval or acceptance by the Government for a submittal does not relieve the Contractor of the responsibility for meeting the contract requirements or for any error that may exist, because under the Quality Control (QC) requirements of this contract, the Contractor is responsible for ensuring information contained within each submittal accurately conforms with the requirements of the contract documents.

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.

1.07 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, provide assurance 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 that may be damaged in testing, will be returned to the Contractor, at its expense, upon completion of the contract. Unapproved samples 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 as that material. The Government reserves the right to disapprove any material or equipment that has previously 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. Replace such materials or equipment to meet contract requirements.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – SUBMITTAL PROCEDURES

SECTION 01 45 00 – QUALITY CONTROL

PART 1 - GENERAL

1.01 WORKMANSHIP

All materials and equipment shall be installed in a manner accepted by standard trade practice. Workmen skilled in the type of work required shall accomplish the installation.

1.02 TRAFFIC SAFETY

Special efforts shall be made not to interfere with traffic flow or create safety hazards to traffic.

1.03 ENVIRONMENTAL MANAGEMENT SYSTEM

Environmental Management System (EMS) is an ISO 14,001 tool used by the USAF to identify and mitigate threats to our environment. LRAFB's ultimate goal is to protect our environment (work environment and the natural environment) while accomplishing our mission. All *Contractor*s working on LRAFB are expected to acknowledge their role in EMS while completing their mission. Threats associated with construction sites include, but are not limited to: hazardous materials, spills, equipment leaks, air-born dust, soil erosion, track-out, and lack of recycling. This will be communicated and documented initially for each project with monthly updates provided to the government *Contracting Officer's Representative*. *Contractor* shall sign a LRAFB supplied form monthly acknowledging that they have kept subcontractor's aware of EMS.

1.04 DEBRIS DISPOSAL

A. Debris shall be removed from the Base promptly, and as feasible, all equipment and materials shall be removed or secured at the end of each day. The *Contractor* is responsible for the daily cleanup of all construction areas and construction debris that has escaped from the construction site.

B. Work located on or near the airfield: It is imperative to maintain all work areas in a clean and orderly condition, subject to the satisfaction of the *Contracting Officer* and the *Contracting Officer's Representative*, to prevent Foreign Object Damage (FOD) to aircraft. Equipment, materials, etc. that can be transported by high winds shall be tied down and secured at all times when not in use during the day and secured at the end of each day. *Contractor* equipment and materials shall not be permitted to blow outside the construction site and the surrounding FOD fence. The *Contractor* shall promptly clean up all items (dirt, debris, etc.) that he, his employees or Subcontractors, drop onto areas traversed by aircraft. The use of sweeping equipment with metal bristled brooms is prohibited along the flight-line and on all airfield pavements.

C. The *Contractor* shall exercise caution in not disturbing adjacent facilities, finishes, materials, grounds and other items not a part of this project. The *Contractor* shall clean daily all areas outside the project area of dirt, dust, and debris generated by this contract.

D. The *Contractor* shall use designated haul routes for both delivery and removals. Haul routes are noted on the drawings.

E. The *Contractor* shall direct all concrete washings, or slurries resulting from saw cutting activities that contain Portland cement, to areas on the

construction site where the sediments will be filtered out into the soil and not directed towards trees. Do not allow washings to enter the storm drain system or any water course. The *Contractor* shall coordinate with the *Contracting Officer's Representative* prior to any concrete truck arriving on base to determine an appropriate wash out area. If concrete wash water cannot be directed to a suitable area on the construction site, it must be properly contained, collected, and disposed of as construction debris. Excess concrete not used in construction activities shall not be dumped, and must be removed and disposed of off base. Spills of concrete, concrete wash water, or chemicals used with exposed aggregate, must be contained and cleaned up immediately to prevent the spill from entering any part of the storm sewer system.

F. All debris generated by the contract shall be properly disposed of by the *Contractor* off the base. Removal of debris and other material shall be handled, transported, stored, and disposed of by the *Contractor* and his Subcontractors in accordance with all applicable federal, state or local laws, ordinances, regulations, court orders or other types of rules or rulings having the effect of laws. These restrictions shall apply both on and off base.

G. The *Contractor* shall submit with the regular progress reports a *Government* supplied *Contractor* Construction and Demolition Debris Report. This form lists the amount of materials disposed at a landfill, recycled or otherwise reused. This submittal is required before progress payments can be made and also applies to any debris by subcontractors.

H. The *Contractor* shall take all precautions to prevent spillage of materials from *Contractor* vehicles on base pavements. The *Contractor* shall provide adequate labor and equipment to keep paved areas free of debris, and to contain loose materials at all times.

I. RECYCLING MATERIALS

1. The *Contractor* shall notify the *Contracting Officer's Representative* a minimum of two weeks prior to removing recyclable materials identified to be turned in to the *Government*. The *Contracting Officer's Representative* will arrange with the Recycling Center for *Government* furnished dumpsters to be placed near the construction site. Each type of material will be placed in separate dumpsters. The following recyclable materials are to be turned in to the *Government*.

a. Electrical wire, conduit, junction boxes, etc.

b. Metal pipe and plumbing fixtures

c. Sheet metal, such as in ductwork and flashing

d. Metal HVAC equipment (air handlers, chillers, pumps, condensers, etc.)

e. Metal components from roofs, framing, siding, doors and windows and ceiling grids

f. Window glass, except for wire reinforced safety glass.

g. Cardboard

h. All plastic that has the recycle emblem arrows (1, 2, 3, 4, etc.). This includes empty plastic pails, drums and shrink wrap.

2. All removed carpet shall be recycled and the *Contractor* shall provide written certification that the carpet was not placed in a landfill. *Contractor* certification shall indicate how the material was recycled and provide the address where it was delivered.

3. All removed ceiling tile shall be recycled and the *Contractor* shall provide written certification that the ceiling was not placed in a landfill. *Contractor* certification shall indicate how the material was recycled and provide the address where it was delivered.

1.05 CULTURAL RESOURCE MANAGEMENT

For the protection of cultural, historic and prehistoric resources, the *Contractor* shall submit a signed certification that the selected land borrow area is free of all materials of this type. This includes anything of an archeological nature as well as any Native American sites to include tribal burial grounds.

1.06 TEMPORARY EROSION CONTROL MEASURES

GENERAL: All construction that disturbs the ground cover, either natural or manmade, shall be subject to erosion control measures. The *Contractor* shall evaluate the scope of work to determine the level of erosion control measures to be implemented. As a minimum, the requirements of Section 01 57 23 Storm Water Pollution Prevention Measures and LRAFB standard details shall be adhered to when developing and implementing temporary measures.

1.07 GROUNDS MAINTENANCE

The *Contractor* shall be responsible for up keep of building appearance, grass cutting and trimming, shrub trimming, weeding, etc within project limits. Grass cutting shall be completed every week during growing season.

1.08 WARRANTY REQUIREMENTS

The Contractor shall provide a standard Warranty of Construction for all work associated with this contract in accordance with FAR Clause 52.246-21 and any other additional warranties outlined within this Statement of Work/Specifications.

1.09 FINAL INSPECTION AND ACCEPTANCE OF WORK

As construction nears completion, the *Contracting Officer's Representative* and the *Contractor*'s Quality Control representative and Superintendent shall thoroughly inspect the work and generate a deficiency (punch) list. When this list has been cleared, the *Contractor* shall request a preliminary inspection through the *Contracting Officer*; then the *Contracting Officer's Representative* will schedule the preliminary inspection using *Government* specialists of the systems installed under the Contract. When all deficiencies are corrected, the *Contractor* shall request a final inspection through the *Contracting Officer*, to be conducted by the *Contracting Officer* and *Contracting Officer's Representative*. For phased work, this process may be repeated for each phase.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION – QUALITY CONTROL

SECTION 01 50 00 – CONSTRUCTION FACILITIES & TEMPORARY CONTROLS

PART 1 - GENERAL

1.01 GOVERNMENT FURNISHED UTILITIES

A. All reasonable quantities of utilities required in performance of this contract will be furnished by the *Government* at no cost to the *Contractor*. The *Contractor* shall be responsible for all charges associated with temporary power connections via Entergy Arkansas. Entergy Arkansas shall make such temporary connections from existing points of supply as required. Such temporary connections shall be removed by Entergy Arkansas at the completion of work and prior to final inspection.

B. USE OF POTABLE WATER.

1. The water distribution system located on LRAFB is owned, operated and maintained by the City of Jacksonville, AR. Therefore, all matters concerning potable water are directed to the City of Jacksonville. Contact Jacksonville Water Works (JWW) at 501-982-6563 for all related matters including obtaining water, line breaks, etc.

2. All *Contractor*s shall obtain water from a designated Base water fill stand(s). A fill stand is located on Contractor's Hill.

3. **NO** contractor, contractor employees, or sub-contractor(s) shall obtain water by a direct connection between a potable water outlet and a water tank or vessel.

a. If the contractor, contractor employees, or sub-contractor is discovered obtaining water from a non-authorized source, the following actions will be taken:

i. The operation will immediately cease.

ii. Water samples will be taken from the water tank or vessel, the water main outlet, and from other related water sources as deemed necessary.

iii. All samples will be obtained and analyzed on an expedited schedule.

iv. If any samples are found to be contaminated, the system will be disinfected in accordance with the Arkansas Department of Health (ADH) standards.

v. The contractor will reimburse JWW for any costs associated with sampling, analysis, and disinfection incurred by this event.

4. For projects where the contractor is permitted to obtain water on the job site, the contractor will contact JWW. JWW will approve the specific fire hydrant locations for use by the contractor. No other fire hydrant locations will be used without prior approval by JWW. JWW will conduct fire hydrant operation training for any contractor, contractor employees, or sub-contractors who will be using the fire hydrants. No one will operate a fire hydrant without prior training by JWW. Each contractor will provide the following at their own expense:

a. A Reduced Pressure Zone Valve Assembly (RPZA) on the water outlet, fire plug, etc. (see diagram)

b. Provide certified test results for the assembly prior to installation/use.

c. The certified tester must be licensed by the ADH.

d. Contractor MUST install a vacuum breaker on outside faucet hose bibs prior to connecting to any garden hose or soaker hose for lawn irrigation. Contractor shall not install garden or soaker hoses to a bare outside faucet hose bib.

e. If you have any questions, please contact JWW at 501-982-6563.

1.02 HEATING OF FACILITIES

The *Contractor* shall provide temporary heat at least 65 degrees F but not to exceed 70 degrees F between November 1st and April 1st, unless the heating system is fully operational. The proposed method and temporary heating appliances shall be submitted to, and approved by, the *Contracting Officer* prior to November 1st. Only UL Approved appliances will be considered.

1.03 STORAGE

A. Enclosed storage space shall be provided by the *Contractor* at no cost to the *Government*. The *Contractor* shall remove all storage enclosures prior to the final inspection.

B. As feasible, all equipment and materials shall be removed or secured at the end of each day. Storage, protection and security of material and equipment when not in use shall be the responsibility of the *Contractor*.

C. A material storage/staging area will be made available to the *Contractor*, but close proximity to the project site may not be possible. All fenced areas, portable buildings, house trailers, semi-trailers, or other temporary constructions by the *Contractor* shall be in good condition and bear a sign showing the name and address of the *Contractor* and a day and night local telephone number where the *Contractor* can be reached. Construction debris, salvaged materials, and/or trash shall not be stored in staging area. Grass inside and adjacent to the fenced area shall be neatly mowed regularly by the *Contractor* during the period of usage by the *Contractor*.

1.04 CONSTRUCTION SIGN

A construction sign is required for each project unless otherwise noted. Sign shall be 4 foot by 8 foot, 15/32” plywood mounted on minimum 2 inch by 4 inch treated posts. Provide light at base of sign. Sign shall be as detailed on figure 1.04a.

Figure 1.04a

LEGEND

- AMC LOGO upper left corner
- 19 AW LOGO upper right corner
- PROJECT IS FOR : 19TH Airlift Wing
- CE LOGO lower left corner
- CONTRACTING LOGO lower right corner

1.05 TEMPORARY AND PERMANENT TRAFFIC CONTROL

A. *Contractor* shall provide and install all required temporary traffic control signs or device, as applicable for this contract. The traffic signs or devices shall conform with the Manual on Uniform Traffic Control Devices for streets and highways, U.S. Department of Transportation, Federal Highway Administration, latest edition. Provide amber flashing lights to protect the construction area from intrusion by traffic. Location of lights shall be approved by the *Contracting Officer*. Lights shall be weighted and made secure from possible movement until the area is open to traffic.

B. Street closings will be limited to partial, one lane closings whenever possible. Any partial or full street closing shall be requested in writing at least two (2) weeks prior to the desired date. The *Contractor* shall provide Road Closed or Detour signs.

1.06 CONTRACTOR'S USAGE OF FACILITIES:

A. The *Contractor* shall provide a properly and regularly maintained portable toilet for use by workers.

B. *Contractor* shall not enter the occupied portion of the building to use restrooms, telephones, or other facilities.

C. Tobacco use is prohibited in all *Government* facilities under this contract. Tobacco use is defined as smoking or chewing tobacco and using e-cigarettes. Tobacco use is only authorized in marked designated areas.

1.07 GRADE AND ALIGNMENT CONTROL:

The *Contractor* shall furnish a competent construction surveyor and survey party on the job site as needed to establish and maintain proposed grades and alignment for all increments of construction. The party shall be composed of skillful and competent personnel equipped with accurate and latest model equipment.

1.08 WINTER SHUTDOWN

Typically the *Contractor* shall stop construction for winter shutdown. Winter shutdown runs from 15 November through 15 March. The *Contractor* shall protect all construction from damage by adverse weather during the winter shutdown. The *Contractor* shall conduct work so that no area will have incomplete work at the beginning of the winter shutdown period. The *Contractor* shall turn over the entire area for use by the *Government* during the winter shutdown period. This period may be adjusted based on actual weather conditions and project type (i.e. not applicable to inside work).

1.09 WORK SEQUENCE

In addition to Progress Schedule, the *Contractor* shall submit for approval by the *Contracting Officer* four copies of a work sequence schedule showing the sequence of work by area including estimated dates for beginning work in each area. No work shall commence until approval of the work sequence schedule.

1.10 POLICE PROTECTION

19th Security Forces Squadron (SFS) is responsible for overall base security and traffic control of vehicles entering or leaving *Little Rock Air Force Base*. The *Contractor* is required to conform to all appropriate Air Force Security Regulations and shall not interfere with the performance of *Security Forces* duties and responsibilities. The *Contractor* shall be responsible for obtaining all necessary security passes for personnel, sub-contractor's personnel and all vehicles.

1.11 SAFETY

Contractor shall conform to all applicable portions of the latest Corps of Engineers Safety and Health Requirements Manual EM 385-1-1.

1.12 ROCK REMOVAL: (As applicable)

A. Excavate and remove exposed rock where encountered. Do not use explosives. Excavate and remove by mechanical methods. The *Contracting Officer's Representative* will determine when rock is to be excavated.

Measurement and agreement of rock removed shall be accomplished before rock is removed.

B. Rock shall consist of boulders measuring 1/2 cubic yard or more and material that cannot be excavated without systematic drilling and blasting such as rock material in ledges, bedded deposits, unstratified masses and conglomerate deposits, and below ground concrete or masonry structures exceeding 1/2 cubic yard in volume, except that pavements will not be considered as rock. Rock removal shall include all authorized over depth rock excavation and include all necessary mechanical methods and all incidentals necessary to excavate and dispose the rock. Backfill replacing rock excavation shall not be paid separately, but shall be included in the Unit Price for rock excavation.

C. Remove excavated materials to an off-base location secured by the *Contractor*.

D. For measurement and payment, the *Contractor* shall survey and calculate the amount of rock removed. The *Contractor* is to provide certified survey notes and calculations to the *Contracting Officer* and the *Contracting Officer's Representative* for approval. Payment will be based upon the Contract Unit Prices per cubic yard.

1.13 CONTRACTOR FURNISHED COMMUNICATIONS

A. *Contractor*'s Superintendent shall be equipped with a cellular telephone and be reachable by telephone at any time during the normal workday. The cellular phone number shall be a local call from Little Rock AFB.

B. *Contractor*'s Superintendent shall be reachable, by telephone and/or cellular phone, 24 hours a day, seven days a week. (We need this for emergencies particularly on re-roofing of occupied buildings, airfield lighting work and airfield paving work.)

1.14 CLEANUP

Construction debris, waste materials, packaging material and the like shall be removed from the work site daily. Any dirt or mud which is tracked onto paved or surfaced roadways shall be cleaned away. Materials resulting from demolition activities which are salvageable shall be stored within the fenced area described above or at the supplemental storage area. Stored material not in trailers, whether new or salvaged, shall be neatly stacked when stored.

1.15 TEMPORARY CONSTRUCTION WAIVER/NOTIFICATION

A. *Contractor* is responsible for ensuring that a temporary construction waiver is accomplished prior to using equipment on base that will exceed elevation 461 feet when equipment is extended to its highest possible point at the construction site. *Contractor* shall make a written request for waiver to the *Contracting Officer's Representative*.

B. *Contractor* shall also notify *Contracting Officer's Representative* in writing if any equipment will be used that will be higher than existing structures at the construction site. This may require a waiver or notification by 19 CES to Airfield Operations Personnel.

C. The waiver process will take up to 60 days from date *Contractor* notifies *Contracting Officer's Representative* in writing requesting the waiver. Waiver request letter shall include type of equipment, dates and times equipment will be used, maximum height of equipment, ground elevation at highest point of construction site and why equipment is needed.

D. Equipment which requires a waiver shall not be used until waiver is completed.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

SECTION 01 57 23 – STORM WATER POLLUTION PREVENTION MEASURES

PART 1 - GENERAL

1.01 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 D 4439	(2004) Geosynthetics
ASTM D 4491	(1999; R 2004) Water Permeability of Geotextiles by Permittivity
ASTM D 4533	(2004) Trapezoid Tearing Strength of Geotextiles
ASTM D 4632	(1991; R 2003) Grab Breaking Load and Elongation of Geotextiles
ASTM D 4751	(2004) Determining Apparent Opening Size of a Geotextile
ASTM D 4873	(2002) Identification, Storage, and Handling of Geosynthetic Rolls and Samples

1.02 GENERAL REQUIREMENTS

The *Contractor* shall implement the storm water pollution prevention measures specified in this section in a manner which will meet the requirements of the National Pollution Discharge Elimination System (NPDES) permit attached to that Section.

1.03 SUBMITTALS

A. The *Contractor* shall prepare an Erosion Control Plan and Storm Water Pollution Prevention Plan for this project that meets the requirements of this section

B. The *Contractor* shall submit an Erosion Control Plan and a Storm Water Pollution Prevention Plan for review and approval prior to being released to start construction activities.

1.04 EROSION AND SEDIMENT CONTROLS

The controls and measures required by the *Contractor* are described below.

A. Stabilization Practices

The stabilization practices to be implemented shall include, but not be limited to, temporary seeding, mulching, sod stabilization, vegetative buffer strips, protection of trees, preservation of mature vegetation, silt fences, ditch checks, hay bale buffers, etc. On his daily CQC Report, the *Contractor* shall record the dates when the major grading activities occur, (e.g., clearing and grubbing, excavation, embankment, and grading); when construction activities temporarily or permanently cease on a portion of the site; and when stabilization practices are initiated.

B. Structural Practices

1. Structural practices shall be implemented to divert flows from exposed soils, temporarily store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of

the site. Structural practices shall be implemented in a timely manner during the construction process to minimize erosion and sediment runoff. Structural practices may include some or all of the following devices:

a. Silt fences
b. Straw bales
c. Diversion dikes
d. Drainage swales
e. Check dams
f. Subsurface drains
g. Pipe Slope drains
h. Level spreaders
i. Storm drain inlet protection
j. Rock outlet protection
k. Sediment traps
l. Reinforced soil retaining systems
m. Gabions
n. Sediment basins
o. Other devices are the job-site requires

2. The permanent stabilization practices which are to be installed under the contract may be specified in other section of the specifications. These are measures that shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. Structural measures should be placed on upland soils to the degree attainable. The installation of these devices may be subject to Section 404 of the Clean Water Act.

3. A goal of 80 percent removal of total suspended solids from these flows which exceed predevelopment levels should be used in designing and installing storm water management controls (where practicable). Where this goal is not met, the *Contractor* shall provide justification for rejecting each practice listed above based on site conditions.

4. Velocity dissipation devices shall be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive velocity flow from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected.

5. Silt Fences: The *Contractor* shall provide silt fences as a temporary structural practice to minimize erosion and sediment runoff. Silt fences shall be properly installed to effectively retain sediment immediately after completing each phase of work where erosion would occur in the form of sheet and rill erosion (e.g. clearing and grubbing, excavation, embankment, and grading). Silt fences shall be installed in the locations indicated on the drawings. Final removal of silt fence barriers shall be upon approval by the *Contracting Officer*.

6. Straw Bales: The *Contractor* shall provide bales of straw as a temporary structural practice to minimize erosion and sediment runoff. Bales shall be properly placed to effectively retain sediment immediately after completing each phase of work (e.g., clearing and grubbing, excavation, embankment, and grading) in each independent runoff area (e.g., after clearing and grubbing in a area between a ridge and drain, bales shall be placed as work progresses, bales shall be removed/replaced/relocated as needed for work to progress in the drainage area). Areas where straw bales are to be used are shown on the drawings. Final removal of straw bale barriers shall be upon approval by the *Contracting Officer*. Rows of bales of straw shall be provided as follows:

a. Along the downhill perimeter edge of all areas disturbed.

b. Along the top of the slope or top bank of drainage ditches, channels, swales, etc. that traverse disturbed areas.

c. Along the toe of all cut slopes and fill slopes of the construction areas.

d. Space rows a maximum of 200 feet apart in drains with slopes equal to or less than 5 percent and 100 feet apart in drains with slopes steeper than 5 percent. If drainage ditches have slopes above and below the 5 percent limit the spacing should be shown on the drawings.

e. Perpendicular to the flow in the bottom of existing drainage ditches, channels, swales, etc. that traverse disturbed areas or carry runoff from disturbed areas. Rows shall be spaced as shown on the drawings.

f. Perpendicular to the flow in the bottom of new drainage ditches, channels, and swales. Rows shall be spaced as shown on the drawings.

g. At the entrance to culverts that receive runoff from disturbed areas.

7. Diversion Dikes: Diversion dikes shall have a maximum channel slope of 2 percent and shall be adequately compacted to prevent failure. The minimum height measured from the top of the dike to the bottom of the channel shall be 18 inches. The minimum base width shall be 6 feet and the minimum top width shall be 2 feet. The *Contractor* shall ensure that the diversion dikes are not damaged by construction operations or traffic. Diversion dikes shall be located as shown on the drawings.

1.05 TEMPORARY EROSION CONTROL MEASURES

A. GENERAL: All construction that disturbs the ground cover, either natural or manmade, shall be subject to erosion control measures. The *Contractor* shall evaluate the scope of work to determine the level of erosion control measures to be implemented. The goal of this work is to save valuable topsoil and prevent environmentally damaging non-point source pollution to waters of the U.S. from vegetation, soil, and construction debris released from construction sites. The *Contractor* shall be responsible for the design of site-specific temporary measures and implementation of work procedures, which ensure compliance with the storm water permits issued to Little Rock AFB. As a minimum, the requirements of this section shall be adhered to when developing and implementing temporary measures. This does not preclude the *Contractor* from proposing other methods on a site-specific basis. If the *Contractor* proposes other methods, typical installation details and specifications shall be provided by the *Contractor* for approval prior to implementation. Performance will be determined by the effectiveness of the

program in preventing soil and other contaminants from leaving the construction site. Final stabilization will be achieved when a uniform perennial vegetative cover with a density of 80% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures.

1. CONSTRUCTION SITES LESS THAN ONE ACRE: *Contractor* shall adopt best management practices and prevent direct flow of storm water from construction sites or staging areas into the storm drainage system. The site shall be maintained visually free of gully erosion and runoff shall not be allowed to increase turbidity at the receiving streams immediately downstream of the construction site or the base boundary. The “storm water system” is defined as permanently maintained open channels, pipes, culverts, and combinations of these features that carry storm water across the base boundaries. Roadway culverts 18 inches or less in diameter, which drain into a grass roadway ditch or swale, are not considered part of the storm water system.

2. CONSTRUCTION SITES EQUAL TO OR GREATER THAN 1.0 ACRE BUT LESS THAN 5.0 ACRES OUTSIDE WATERCOURSES: *Contractor* shall post an On-site completed Notice of Coverage (NOC), develop a Storm Water Pollution Prevention Plan (SWPPP), utilize best management practices (BMP’s) to design and implement temporary control measures which reduce total suspended solids by 80% during an annual storm event (two year recurrence), conduct required inspections of storm water control measures and submit reports detailing inspection results. These measures shall ensure the water quality of receiving streams remains at or above the standards set by the base storm water permit during an event of this magnitude. Quality control may be exercised by monitoring storm flows in the receiving streams immediately downstream of the construction site or the base National Pollutant Discharge Elimination System (NPDES) discharge point whichever is most critical

3. CONSTRUCTION SITES EQUAL TO OR GREATER THAN 5.0 ACRES: *Contractor* shall post an ADEE Notice of Coverage (NOC), develop a Storm Water Pollution Prevention Plan (SWPPP), utilize best management practices (BMP’s) to design and implement temporary control measures which reduce total suspended solids by 80% during an annual storm event (two year recurrence), conduct required inspections of storm water control measures and submit reports detailing inspection results. *Contractor* shall design and implement temporary control measures which reduce total suspended solids by 80% during an annual storm event (two year recurrence). These measures shall ensure the water quality of receiving streams remains at or above the standards set by the base storm water permit during an event of this magnitude. Quality control may be exercised by monitoring storm flows in the receiving streams immediately downstream of the construction site or the base National Pollutant Discharge Elimination System (NPDES) discharge point whichever is most critical. The *Contractor* shall submit the Arkansas Department of Energy and Environment (ADEE) form, “Notice of Intent (NOI) for Discharges of Storm water Associated with Industrial Activity (From Construction Activity)”. The NOI will be prepared under Permit No. ARR150000 for the base and transmitted with the annual fee to: Arkansas Department of Environmental Quality, Discharge Permits Section, 5301 Northshore Drive, North Little Rock, AR 72118-5317. The *Contractor* shall pay the initial ADEE fee as a part of this item at no additional cost to the *Government*. A certified copy of the receipt from ADEE for the NOI and payment shall be submitted to the *Contracting Officer* before a Notice to Proceed is issued. Projects under construction more than one year require an additional payment by the *Contractor* for each additional year of construction. All fees for this activity shall be billed

to the *Contractor* and paid by the *Contractor* at no additional cost to the *Government*. Certified copies of subsequent annual payment receipts shall be furnished to the *Contracting Officer*.

B. CONSTRUCTION SITES WITHIN WATER COURSES AND FLOODPLAINS: The *Contractor* shall adopt a combination of management practices and control measures which maintain the stability of channels and slopes within the two-year storm flow cross section. In addition to performing all the requirements of item 1.05 A, for projects built within the 100 year floodplain, the *Contractor* shall submit engineering drawings showing the plan and profile of proposed construction work to the *Contracting Officer*. These drawings, along with plans for temporary erosion control measures, will be used by the base to obtain a dredging permit from the Little Rock District Army Corps of Engineers.

C. STORM WATER PERMITS LIMITS: The storm water permit limits for all waters leaving Little Rock AFB are assumed to be the same as the four permitted outfalls. These perimeters will be satisfied by waters flowing in watercourses immediately below all construction sites. The limiting daily maximums are as follows:

Chemical Oxygen Demand: 120 milligrams/liter

Total Suspended Solids: 100 milligrams/liter

Oil and Grease: 15 milligrams/liter

pH: Range from 6.0 to 9.0

D. MAINTENANCE AND RESTORATION: The *Contractor* shall repair and maintain all erosion control measures throughout the project area until permanent erosion control measures (seeding, sod, pavement, building construction, etc) that eliminate project generated non-point source pollution from entering the storm water system are established. Maintenance and repair of the temporary erosion control measures may extend into the warranty period until such time as the permanent measures are fully established. Upon completion of the permanent erosion control measures the *Contractor* shall remove and dispose or recycle all materials used for this work at no additional cost to the *Government*. When temporary erosion control requires the use of temporary settling basins (dry ponds), they shall be drained and the ground returned to it's original or finished contour and ground cover at the completion of the contract.

E. PREVENTION OF HAZARDOUS SUBSTANCE DISCHARGE: The *Contractor* shall prepare a pollution prevention plan and site specific spill prevention and countermeasures plan for all hazardous substances and petroleum products temporarily stored on site in excess of reportable quantities as defined in 40 CFR 302.

F. SUBMITTALS:

1. For submittal requirements, go to Paragraph 1.05 A. Where required the *Contractor* shall supply three (3) copies of the NOI, certified receipt from ADEE for the NOI and payment of the initial fee, and temporary storm water erosion control plans and specifications, affidavit or pollution prevention plan, and site specific spill prevention and countermeasures plan. These submittals shall be required before a notice to proceed is issued on projects in this category.

2. For all projects requiring an NOI, the *Contractor* shall submit a termination notice to ADEE upon completion of site stabilization with permanent measures and site restoration. This notice shall be mailed to the address given in Paragraph 1.05 A (3) and copied to the *Contracting Officer* along with a receipt from ADEE as a condition of the final payment.

Contractor shall provide 19CES/CEIEC written notification 5 days prior to submittal of Notice of Termination to ADEE.

G. It is the policy of the Air Force to minimize construction and maintenance activities in streams, wetlands and 100-year flood plains. Any temporary construction, such as falsework or coffer dams, constructed within these areas shall be approved by the Air Force at higher headquarters and by other Federal agencies before work is begun. When such activities are unavoidable, due to the nature of the work, the *Contractor* shall abide by all Federal, state and Air Force policy regarding streams, flood plains and wetlands. Detailed plans of proposed temporary construction shall be submitted to the *Contracting Officer* and approval received from all approval agencies and higher headquarters before work is begun.

PART 2 - PRODUCTS

2.01 COMPONENTS FOR SILT FENCES

A. Filter Fabric: The geotextile shall comply with the requirements of ASTM D 4439, and shall consist of polymeric filaments, which are formed into a stable network such that filaments retain their relative positions. The filament shall consist of a long-chain synthetic polymer composed of at least 85 percent by weight of ester, propylene, or amide, and shall contain stabilizers and/or inhibitors added to the base plastic to make the filaments resistance to deterioration due to ultraviolet and heat exposure. Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable construction life at a temperature range of 0 to 120 degrees F. The filter fabric shall meet the following requirements:

FILTER FABRIC FOR SILT SCREEN FENCE

PHYSICAL PROPERTY	TEST PROCEDURE	STRENGTH REQUIREMENT
Grab Tensile	ASTM D 4632	100 lbs. min.
Elongation (%)		30 % max.
Trapezoid Tear	ASTM D 4533	55 lbs. min.
Permittivity	ASTM D 4491	0.2 sec-1
AOS (U.S. Std Sieve)	ASTM D 4751	20-100

B. Silt Fence Stakes and Posts

The *Contractor* may use either wooden stakes or steel posts for fence construction. Wooden stakes utilized for silt fence construction, shall have a minimum cross section of 2 inches by 2 inches when oak is used and 4 inches by 4 inches when pine is used, and shall have a minimum length of 5 feet. Steel posts (standard "U" or "T" section) utilized for silt fence construction, shall have a minimum weight of 1.33 pounds per linear foot and a minimum length of 5 feet.

C. Mill Certificate or Affidavit

A mill certificate or affidavit shall be provided attesting that the fabric and factory seams meet chemical, physical, and manufacturing requirements specified above. The mill certificate or affidavit shall specify the actual Minimum Average Roll Values and shall identify the fabric supplied by roll identification numbers. The *Contractor* shall submit a mill certificate or affidavit signed by a legally authorized official from the company manufacturing the filter fabric.

D. Identification Storage and Handling

Filter fabric shall be identified, stored and handled in accordance with ASTM D 4873.

2.02 COMPONENTS FOR STRAW BALES:

The straw in the bales shall be stalks from oats, wheat, rye, barley, rice, or from grasses such as byhalia, bermuda, etc., furnished in air dry condition. The bales shall have a standard cross section of 14 inches by 18 inches. All bales shall be either wire-bound or string-tied. The *Contractor* may use either wooden stakes or steel posts to secure the straw bales to the ground. Wooden stakes utilized for this purpose, shall have minimum dimensions of 2 inches x 2 inches in cross section and shall have a minimum length of 3 feet. Steel posts (standard "U" or "T" section) utilized for securing straw bales, shall have a minimum weight of 1.33 pounds per linear foot and a minimum length of 3 feet.

PART 3 - EXECUTION

3.01 INSTALLATION OF SILT FENCES

Silt fences shall extend a minimum of 16 inches above the ground surface and shall not exceed 34 inches above the ground surface. Filter fabric shall be from a continuous roll cut to the length of the barrier to avoid the use of joints. When joints are unavoidable, filter fabric shall be spliced together at a support post, with a minimum 6 inch overlap, and securely sealed. A trench shall be excavated approximately 4 inches wide and 4 inches deep on the upslope side of the location of the silt fence. The 4-inch by 4-inch trench shall be backfilled and the soil compacted over the filter fabric. Silt fences shall be removed upon approval by the *Contracting Officer*.

3.02 INSTALLATION OF STRAW BALES

Straw bales shall be placed in a single row, lengthwise on the contour, with ends of adjacent bales tightly abutting one another. Straw bales shall be installed so that bindings are oriented around the sides rather than along the tops and bottoms of the bales in order to prevent deterioration of the bindings. The barrier shall be entrenched and backfilled. A trench shall be excavated the width of a bale and the length of the proposed barrier to a minimum depth of 4 inches. After the bales are staked and chinked (gaps filled by wedging with straw), the excavated soil shall be backfilled against the barrier. Backfill soil shall conform to the ground level on the downhill side and shall be built up to 4 inches against the uphill side of the barrier. Loose straw shall be scattered over the area immediately uphill from a straw bale barrier to increase barrier efficiency. Each bale shall be securely anchored by at least two stakes driven through the bale. The first stake or steel post in each bale shall be driven toward the previously laid bale to force the bales together. Stakes or steel pickets shall be driven a minimum 18 inches deep into the ground to securely anchor the bales.

3.03 MAINTENANCE

A. The *Contractor* shall maintain the temporary and permanent vegetation, erosion and sediment control measures, and other protective measures in good and effective operating condition by performing routine inspections to

determine condition and effectiveness, by restoration of destroyed vegetative cover, and by repair of erosion and sediment control measures and other protective measures. The following procedures shall be followed to maintain the protective measures.

B. Silt Fence Maintenance

Silt fences shall be inspected in accordance with paragraph 3.04 INSPECTIONS. Any required repairs shall be made promptly. Close attention shall be paid to the repair of damaged silt fence resulting from end runs and undercutting. Should the fabric on a silt fence decompose or become ineffective, and the barrier is still necessary, the fabric shall be replaced promptly. Sediment deposits shall be removed when deposits reach one-third of the height of the barrier. When a silt fence is no longer required, it shall be removed. The immediate area occupied by the fence and any sediment deposits shall be shaped to an acceptable grade. The areas disturbed by this shaping shall be sodded.

C. Straw Bale Maintenance

Straw bale barriers shall be inspected in accordance with paragraph 3.04 INSPECTIONS. Close attention shall be paid to the repair of damaged bales, end runs and undercutting beneath bales. Necessary repairs to barriers or replacement of bales shall be accomplished promptly. Sediment deposits shall be removed when deposits reach one-half of the height of the barrier. Bale rows used to retain sediment shall be turned uphill at each end of each row. When a straw bale barrier is no longer required, it shall be removed. The immediate area occupied by the bales and any sediment deposits shall be shaped to an acceptable grade. The areas disturbed by this shaping shall, be sodded.

D. Diversion Dike Maintenance

Diversion dikes shall be inspected in accordance with paragraph 3.04 INSPECTIONS. Close attention shall be paid to the repair of damaged diversion dikes and necessary repairs shall be accomplished promptly. When diversion dikes are no longer required, they shall be shaped to an acceptable grade. The areas disturbed by this shaping shall be sodded.

3.04 INSPECTIONS

A. General

The *Contractor* shall inspect disturbed areas of the construction site, areas used for storage of materials that are exposed to precipitation that have not been finally stabilized, stabilization practices, structural practices, other controls, and area where vehicles exit the site at least once every fourteen (14) calendar days and within 24 hours of the end of any storm that produces 0.5 inches or more rainfall at the site. Where sites have been finally stabilized, such inspection shall be conducted at least once every month.

B. Inspections Details

Disturbed areas and areas used for material storage that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the Storm Water Pollution Prevention Plan shall be observed to ensure that they are operating correctly. Discharge locations or points shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles exit the site shall be inspected for evidence of offsite sediment tracking.

C. Inspection Reports

For each inspection conducted, the *Contractor* shall prepare a report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the Storm Water Pollution Prevention Plan, maintenance performed, and actions taken. The report shall be furnished to the *Contracting Officer* within 24 hours of the inspection as a part of the *Contractor's* daily CQC REPORT. A copy of the inspection report shall be maintained on the job site.

END OF SECTION – STORM WATER POLLUTION PREVENTION MEASURES

SECTION 01 62 35 – RECYCLED / RECOVERED MATERIALS

PART 1 - GENERAL

1.01 AFFIRMATIVE PROCUREMENT

Affirmative Procurement (Recycled/Recovered Materials) is a mandatory component of the Air Force pollution prevention program. The AF Installation Pollution Prevention Program Guide includes this goal for Affirmative Procurement: “100% of all products purchased each year in each year in each of U.S. EPA’s Guideline Item’ categories shall contain recycled materials meeting U.S. EPA’s Guideline Criteria.” Currently, reporting of affirmative procurement purchases is limited to contracts having a total value greater than $100,000, which includes the purchase of any amount of U.S. EPA-designated items. This section contains guidelines for implementing the RCRA, EO, DOD, and Air Force requirements. This Section includes administrative and procedural requirements for submitting Product Data, Samples, and other miscellaneous submittals.

1.02 REFERENCES

The publications listed below form a part of this specification to the extent referenced.

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 247 Comprehensive Procurement Guideline for Products Containing Recovered Material

The Resource Conservation and Recovery Act (RCRA), Section 6002 (42 U.S.C. 6962)

Executive Order (EO) 13101, Greening the *Government* through Waste Prevention, Recycling, and Federal Acquisition.

EO 12873

Federal Acquisition Regulations (FAR)

AF Engineering Technical Letter (ETL) 00-1

Air Force Instruction (AFI) 32-7080

24 July 1995 Air Force Pollution Prevention Strategy

Department of Defense (DOD) Instruction 4715.4, Pollution Prevention

1.03 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.

1.04 EPA DESIGNATED ITEMS INCORPORATED IN THE WORK

Various sections of the specifications may 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.

1.05 EPA PROPOSED ITEMS INCORPORATED IN THE WORK

The items listed below have been identified by EPA as being products which 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.

1.06 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.

1.07 DEFINITIONS

A. AFFIRMATIVE PROCUREMENT: The purchase of environmentally preferable products manufactured from recycled and reclaimed materials.

B. ACQUISITION: The acquiring by construction contract by and for the use of the Federal *Government* through purchase or lease, whether the supplies or services are already in existence or must be created, developed, demonstrated, and evaluated. Acquisition begins at the point when agency needs are established and includes the description of requirements to satisfy agency needs, solicitation and selection of sources, award of contracts, contract financing, contract performance, contract administration, and those technical and management functions directly related to the process of fulfilling agency needs by contract.

C. POSTCONSUMER MATERIAL: A material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. “Postconsumer material” is a part of the broader category of “recovered material”.

D. RECOVERED MATERIALS: Waste materials and by-products which have been recovered or diverted from solid waste, but such term does not include those materials and by-products generated from, and commonly reused within, and original manufacturing process.

E. RECYCLABILITY: The ability of a product or material to be recovered from or otherwise diverted from the solid waste stream for the purpose of recycling.

F. RECYCLING: The series of activities, including collection, separation, and processing by which products or other materials are recovered from the solid waste stream for use in form of raw materials in the manufacture of new products other than fuel for producing heat or power by combustion.

G. RECYCLED MATERIAL: A material utilized in place of raw or virgin material in product manufacturing consisting of materials derived from postconsumer waste, industrial scrap, material derived from agricultural wastes, and other items, all of which can be used in new product manufacturer.

H. RECYCLED PRODUCT: A recycled product is one made completely or partially from waste materials or by-products recovered or diverted form the solid waste stream.

I. WASTE REDUCTION: Preventing or decreasing the amount of waste being generated through waste prevention, recycling, or purchasing recycled and environmentally preferable products.

J. PRODUCT: Materials and equipment that will be used in the construction of a project.

K. PROCUREMENT: The purchase and providing of products to be used in the construction of a project.

L. UNREASONABLE PRICE: If the cost of the recycled content product exceeds the cost of a non-recycled item, the Air Force considers the cost to be unreasonable. (Air Force Affirmative Procurement Plan)

1.08 DOD AND AIR FORCE REQUIREMENTS

Affirmative Procurement programs are required of all Air Force (USAF) installations. Department of Defense (DOD) Instruction 4715.4, Pollution Prevention, calls for program establishment in accordance with RCRA and EO 12873. Affirmative Procurement is also addressee in Air Force Instruction (AFI) 32-7080, Pollution Prevention Program, and the 24 July 1995 Air Force Pollution Prevention Strategy. The Strategy sets program goals, and the AFI provides program guidance.

1.09 EXEMPTIONS

A. EPA Recommendations: The U.S. EPA recommends minimum content levels for those items listed in the AETC IMT 47, 20041101, V1, Recovered Materials Determination. These levels are mandatory for Air Force procurements unless one of the following exemptions applies. RCRA provides the following exemptions from the requirement to purchase EPA-designated items:

Web Link: http://www.e-publishing.af.mil/contentmgmt/download.asp (PureEdge Viewer)

1. The product is not available from a sufficient number of sources to maintain a satisfactory level of competition (i.e., available from two or more sources).

2. The product is not available within a reasonable period of time.

3. The product does not meet the performance standards in applicable specifications or fails to meet reasonable performance standards of the procuring agency.

4. The product is not available at a reasonable price. For Air Force purposes, “unreasonable price” is defined as follows: If the price of the recycled-content product exceeds the cost of a non-recycled item, then the price is considered unreasonable.

B. *Contractor* Responsibility: The *Contractor* is responsible for completion of the AETC IMT 51, 20010901, V1) Recovered Materials Exemption with respect to the work and products being provided. The *Contractor* is responsible for insuring that all sub-contractors comply with this order. The *Contractor* shall provide written documentation to support their decision not to acquire items meeting the minimum content levels. This documentation shall be forwarded to the *Contracting Officer* for review and findings; the *Contracting Officer's Representative* shall return the documentation to the *Contractor* citing the reason(s) for disapproval. The *Contractor* shall resubmit and address the deficiencies.

Web Link: http://www.e-publishing.af.mil/contentmgmt/download.asp (PureEdge Viewer)

1.10 U. S. EPA DESIGNATED & PROPOSED ITEMS (http://www.epa.gov/cpg/products.htm)

Construction Products: Building insulation products, structural fiberboard products for applications other than building insulation, laminated paperboard products for applications other than building insulation, cement and concrete containing fly ash, carpet made of polyester fiber for use in low-and medium-wear applications, carpet cushion, floor tiles containing recovered rubber or plastic, patio blocks containing recovered rubber or plastic, shower and restroom dividers/partitions containing recovered steel or plastic and reprocessed and consolidated latex paint for specific uses, flowable fill, patio blocks and railroad grade crossing surfaces.

1.11 INTENT

The intent of this section is to increase the awareness of all *Contractor*s as to the availability of products manufactured from, or that contain recycled materials, thereby increasing the use of these products in the construction of a project.

1.12 QUALITY ASSURANCE

Companies specializing in the manufacture of products that comply with the requirements of this section shall have a minimum of three (3) years documented experience.

PART 2 - PRODUCTS

2.01 EPA LIST OF PRODUCT SOURCES & INFORMATION:

The following link is a current list of companies that manufacturer products using recycled materials. This list is presented to establish a standard of quality and does not infer that other manufacturers do not qualify. All products intended for use on this project, whether listed or not, shall be submitted to the *Contracting Officer* in accordance with specification Section 01 33 00 SUBMITTALS PROCEDURES.

EPA COMPREHENSIVE PROCUREMENT GUIDELINES PRODUCTS WEBSITE

Web Link: http://www.epa.gov/cpg/products.htm

PART 3 - EXECUTION

3.01 INSTALLATION:

All products used shall be installed per manufacturer's preferred instructions.

END OF SECTION – RECYCLED/RECOVERED MATERIALS

SECTION 01 63 00 – SUBSTITUTIONS AND PRODUCT OPTIONS

PART 1 - GENERAL

1.01 BRAND NAMES

"Brand Names" are specified in several places throughout the specifications. The use of specific "names" is intended only to define type, quality, size, and other salient features required. Therefore, all brand name items listed are to be interpreted as "or approved equal" unless specifically noted otherwise.

1.02 PROPOSED SUBSTITUTIONS

The burden of ascertaining product/performance equality of proposed substitutions from those items specified is to be borne by the *Contractor*. Product substitutions will be accepted for review, and potential acceptance, by the *Contracting Officer*. If data provided by the *Contractor* is deemed inadequate to make a determination as to the equality of the proposed substitute, without additional research by the *Government*, it will be rejected. Approval by the *Contracting Officer* shall not relieve the *Contractor* from responsibility for any errors or omissions, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved by the *Contracting Officer*.

1.03 EXACT PRODUCT SPECIFIED

If exact products are specified in the construction drawings or construction specifications, and the *Contractor* intends to use those same products in the construction work, submittal requirements in Schedule of Material Submittals and the technical specifications for catalog cuts, manufacturer's literature, and samples are waived. The *Contractor* shall provide a list of products that fall into this "intended use of exact product specified" category along with the manufacturer's installation/application instruction, for each product on the list. This list and manufacturer's installation application instructions shall be provided within twenty (20) days after the Notice-to-Proceed for review and approval by the *Contracting Officer*. Note that this will not take the place or affect the requirement for operations and maintenance (O&M) manuals.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – SUBSTITUTIONS AND PRODUCT OPTIONS

SECTION 01 63 50 – MATERIAL SHIPMENTS

PART 1 - GENERAL

1.01 MATERIAL SHIPMENTS

The *Government* will not receive material shipments for construction projects and the *Contractor* shall not ship materials to himself addressed in care of 19th Civil Engineer, Squadron or the Base Contracting Office. Receiving and storage of all construction shipments is entirely the responsibility of the *Contractor*.

1.02 SHIPMENT AND PROTECTION OF MATERIAL AND EQUIPMENT

Shipments shall be addressed to the *Contractor* who shall be responsible for their receipt, unloading, handling, and storage at the site. *Government* will not accept deliveries on behalf of the *Contractor* or his sub-contractors or assume responsibility for security of materials, equipment, or supplies delivered to the site. *Contractor* shall protect and preserve materials, supplies, and equipment of every description (including property which may be *Government* furnished or owned) and work performed.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION - MATERIAL SHIPMENTS

SECTION 01 69 99 – REAL PROPERTY RECORDS

PART 1 - GENERAL

1.01 REAL PROPERTY CHECKLIST

A. The *Contractor* shall complete and submit Real Property Checklist (DD Form 1354) 30 days before pre-final inspection for acceptance at the final inspection. The checklist will be provided to the *Contractor* prior to pre-final inspection and will be annotated as to what portions shall be required to be completed.

B. The checklist contains items of construction for Real Property records. Examples are: square footage of facility/additions, linear feet of utility lines, sizes and cost of HVAC systems, etc.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – REAL PROPERTY RECORD

DIVISION 02 – EXISTING CONDITIONS

SECTION 02 00 00 – EXISTING CONDITIONS

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Existing Conditions and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – EXISTING CONDITIONS

SECTION 02 42 00 – CONSTRUCTION & DEMOLITION WASTE MANAGEMENT

PART 1 - GENERAL

1.01 GOVERNMENT POLICY

A. Military installations are required to direct at least 40% of their non-hazardous solid wastes, including waste from construction and demolition operations, from the waste stream.

B. *Government* policy is to apply sound environmental principles in the design, construction and use of facilities. As part of the implementation of that policy the *Contractor* shall: (1) practice efficient waste management when sizing, cutting, and installing products and materials and (2) use all reasonable means to divert construction and demolition waste from landfills and incinerators and to facilitate their recycling or reuse.

1.02 MANAGEMENT

The *Contractor* shall take a pro-active, responsible role in the management of construction and demolition waste and require all sub-contractors, vendors, and suppliers to participate in the effort. Construction and demolition waste includes products of demolition or removal, excess or unusable construction materials, packaging materials for construction products, and other materials generated during the construction process but not incorporated into the work. In the management of waste consideration shall be given to the availability of viable markets, the condition of the material, the ability to provide the material in suitable condition and in a quantity acceptable to available markets, and time constraints imposed by internal project completion mandates. The *Contractor* shall be responsible for implementation of any special programs involving rebates or similar incentives related to recycling of waste. Revenues or other savings obtained for salvage, or recycling shall accrue to the *Contractor*. Firms and facilities used for recycling, reuse, and disposal shall be appropriately permitted for the intended use to the extent required by federal, state, and local regulations.

1.03 DEBRIS DISPOSAL

See section 01 45 00 paragraph 1.04.

1.04 RECORDS

Records shall be maintained to document the quantity of waste generated; the quantity of waste diverted through sale, reuse, or recycling; and the quantity of waste disposed by landfill or incineration. The records shall be made available to the *Contracting Officer* during construction, and a copy of the records shall be delivered to the *Contracting Officer* upon completion of the construction.

1.05 COLLECTION

The necessary containers, bins and storage areas to facilitate effective waste management shall be provided and shall be clearly and appropriately identified. Recyclable materials shall be handled to prevent contamination of materials from incompatible products and materials and separated by one of the following methods:

A. Source Separated Method.

Waste products and materials that are recyclable shall be separated from trash and sorted into appropriately marked separate containers and then transported to the respective recycling facility for further processing.

B. Co-Mingled Method.

Waste products and recyclable materials shall be placed into a single container and then transported to a recycling facility where the recyclable materials are sorted and processed.

C. Other Methods.

Other methods proposed by the *Contractor* may be used when approved by the *Contracting Officer*.

1.06 DISPOSAL

Except as otherwise specified in other sections of the specifications, disposal shall be in accordance with the following:

A. Reuse.

First consideration shall be given to salvage for reuse since little or no re-processing is necessary for this method, and less pollution is created when items are reused in their original form. Sale or donation of waste suitable for reuse shall be considered. Salvaged materials, other than those specified in other sections to be salvaged and reinstalled, shall not be used in this project.

B. Recycle.

Waste materials not suitable for reuse, but having value as being recyclable, shall be made available for recycling whenever economically feasible.

C. Waste.

Materials with no practical use or economic benefit shall be disposed at a landfill or incinerator.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT

DIVISION 03 – CONCRETE

SECTION 03 00 00 – CONCRETE

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Concrete and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – CONCRETE

DIVISION 04 – MASONRY

SECTION 04 00 00 – MASONRY

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Masonry and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – MASONRY

DIVISION 05 – METALS

SECTION 05 00 00 – METALS

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Metals and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION - METALS

DIVISION 06 – WOOD, PLASTICS AND COMPOSITES

SECTION 06 00 00 – WOOD, PLASTICS AND COMPOSITES

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Wood, Plastics and Composites and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – WOOD, PLASTICS AND COMPOSITES

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

SECTION 07 00 00 – THERMAL AND MOISTURE PROTECTION

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Thermal and Moisture Protection and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – THERMAL AND MOISTURE PROTECTION

DIVISION 08 – OPENINGS

SECTION 08 00 00 – OPENINGS

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Openings and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – OPENINGS

DIVISION 09 – FINISHES

SECTION 09 00 00 – FINISHES

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Finishes and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – FINISHES

DIVISION 10 – SPECIALTIES

SECTION 10 00 00 – SPECIALTIES

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Specialties and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – SPECIALTIES

DIVISION 11 – EQUIPMENT

SECTION 11 00 00 – EQUIPMENT

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Equipment and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – EQUIPMENT

DIVISION 12 – FURNISHINGS

SECTION 12 00 00 – FURNISHINGS

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Furnishings and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – FURNISHINGS

DIVISION 13 – SPECIAL CONSTRUCTION

SECTION 13 00 00 – SPECIAL CONSTRUCTION

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Special Construction and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – SPECIAL CONSTRUCTION

DIVISION 14 – CONVEYING EQUIPMENT

SECTION 14 00 00 – CONVEYING EQUIPMENT

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Conveying Equipment and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – CONVEYING EQUIPMENT

DIVISION 15 – RESERVED

SECTION 15 00 00 – RESERVED

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Reserved and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION - RESERVED

DIVISION 16 – RESERVED

SECTION 16 00 00 – RESERVED

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Reserved and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – RESERVED

DIVISION 17 – RESERVED

SECTION 17 00 00 – RESERVED

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Reserved and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – RESERVED

DIVISION 18 – RESERVED

SECTION 18 00 00 – RESERVED

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Reserved and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – RESERVED

DIVISION 19 – RESERVED

SECTION 19 00 00 – RESERVED

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Reserved and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – RESERVED

DIVISION 20 – RESERVED

SECTION 20 00 00 – RESERVED

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Reserved and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – RESERVED

DIVISION 21 – FIRE SUPPRESSION

SECTION 21 00 00 – FIRE SUPPRESSION

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Fire Suppression and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – FIRE SUPPRESSION

DIVISION 22 – PLUMBING

SECTION 22 00 00 – PLUMBING

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Plumbing and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – PLUMBING

DIVISION 23 – HEATING VENTILATING AND AIR CONDITIONING

SECTION 23 00 00 – HEATING VENTILATING AND AIR CONDITIONING

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Heating, Ventilating and Air Conditioning and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – HEATING VENTILATING AND AIR CONDITIONING

DIVISION 24 – RESERVED

SECTION 24 00 00 – RESERVED

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Reserved and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – RESERVED

DIVISION 25 – INTEGRATED AUTOMATION

SECTION 25 00 00 – INTEGRATED AUTOMATION

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Integrated Automation and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – INTEGRATED AUTOMATION

DIVISION 26 – ELECTRICAL

SECTION 26 00 00 – ELECTRICAL

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Electrical and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – ELECTRICAL

DIVISION 27 – COMMUNICATIONS

SECTION 27 00 00 – COMMUNICATIONS

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Communications and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – COMMUNICATIONS

DIVISION 28 – ELECTRONIC SAFETY AND SECURITY

SECTION 28 00 00 – ELECTRONIC SAFETY AND SECURITY

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Electronic Safety & Security and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – ELECTRONIC SAFETY AND SECURITY

DIVISION 29 – RESERVED

SECTION 29 00 00 – RESERVED

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Reserved and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – RESERVED

DIVISION 30 – RESERVED

SECTION 30 00 00 – RESERVED

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Reserved and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – RESERVED

DIVISION 31 – EARTHWORK

SECTION 31 00 00 – EARTHWORK

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Earthwork and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – EARTHWORK

DIVISION 32 – EXTERIOR IMPROVEMENTS

SECTION 32 00 00 – EXTERIOR IMPROVEMENTS

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Exterior Improvements and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – EXTERIOR IMPROVEMENTS

DIVISION 33 – UTILITIES

SECTION 33 00 00 – UTILITIES

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Utilities and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – UTILITIES

DIVISION 34 – TRANSPORTATION

SECTION 34 00 00 – TRANSPORTATION

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Transportation and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – TRANSPORTATION

DIVISION 35 – WATERWAY & MARINE CONSTRUCTION

SECTION 35 00 00 – WATERWAY & MARINE CONSTRUCTION

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Waterway & Marine Construction and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – WATERWAY & MARINE CONSTRUCTION

DIVISION 36 – RESERVED

SECTION 36 00 00 – RESERVED

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Reserved and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – RESERVED

DIVISION 37 – RESERVED

SECTION 37 00 00 – RESERVED

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Reserved and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – RESERVED

DIVISION 38 – RESERVED

SECTION 38 00 00 – RESERVED

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Reserved and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – RESERVED

DIVISION 39 – RESERVED

SECTION 39 00 00 – RESERVED

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Reserved and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – RESERVED

DIVISION 40 – PROCESS INTEGRATION

SECTION 40 00 00 – PROCESS INTEGRATION

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Process Integration and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – PROCESS INTEGRATION

DIVISION 41 – MATERIAL PROCESSING & HANDLING EQUIPMENT

SECTION 41 00 00 – MATERIAL PROCESSING & HANDLING EQUIPMENT

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Material Processing & Handling Equipment and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – MATERIAL PROCESSING & HANDLING EQUIPMENT

DIVISION 42 – PROCESS HEATING COOLING & DRYING EQUIPMENT

SECTION 42 00 00 – PROCESS HEATING COOLING & DRYING EQUIPMENT

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Process Heating Cooling & Drying Equipment and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – PROCESS HEATING COOLING & DRYING EQUIPMENT

DIVISION 43 – PROCESS GAS & LIQUID HANDLING PURIFICATION & STORAGE EQUIPMENT

SECTION 43 00 00 – PROCESS GAS & LIQUID HANDLING PURIFICATION & STORAGE EQUIPMENT

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Process Gas & Liquid Handling Purification & Storage Equipment and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – PROCESS GAS & LIQUID HANDLING PURIFICATION & STORAGE EQUIPMENT

DIVISION 44 – POLLUTION CONTROL EQUIPMENT

SECTION 44 00 00 – POLLUTION CONTROL EQUIPMENT

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Pollution Control Equipment and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – POLLUTION CONTROL EQUIPMENT

DIVISION 45 – INDUSTRY SPECIFIC MANUFACTURING EQUIPMENT

SECTION 45 00 00 – INDUSTRY SPECIFIC MANUFACTURING EQUIPMENT

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Industry Specific Manufacturing Equipment and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – INDUSTRY SPECIFIC MANUFACTURING EQUIPMENT

DIVISION 46 – RESERVED

SECTION 46 00 00 – RESERVED

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Reserved and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – RESERVED

DIVISION 47 – RESERVED

SECTION 47 00 00 – RESERVED

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Reserved and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – RESERVED

DIVISION 48 – ELECTRICAL POWER GENERATION

SECTION 48 00 00 – ELECTRICAL POWER GENERATION

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Electrical Power Generation and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – ELECTRICAL POWER GENERATION

DIVISION 49 – RESERVED

SECTION 49 00 00 – RESERVED

PART 1 - GENERAL

1.01 UNIFIED FACILITY GUIDE SPECIFICATIONS (UFGS)

All standard UFGS specifications, pertaining to Reserved and applicable to the scope of effort identified in this contract, in the most recent version of the Unified Facilities Guide Specifications are incorporated into this specification by reference. The *Contractor* may download the latest version of these specifications for free from the Whole Building Design Guide, Construction Criteria Base Web Site for the Unified Facilities Guide Specifications at http://www.wbdg.org/ccb/browse_org.php?o=70.

1.02 LITTLE ROCK AIR FORCE BASE SPECIFICATIONS

The specifications described within this Division are local modifications or addendums to the Unified Facilities Guide Specifications. If there is a conflict between these specifications, and those contained in the Unified Facilities Guide Specifications, the local specifications contained herein will take precedence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION – RESERVED

LRAFB ENVIRONMENTAL MANAGEMENT SYSTEM (EMS) AWARENESS AND DOCUMENTATION

Contractor:_____

Contract Title:_____

Contract No:_____

Environmental Management System (EMS) is an ISO 14,001 tool used by the USAF to identify and mitigate threats to our environment. LRAFB's ultimate goal is to protect our environment (work environment and the natural environment) while accomplishing our mission. All Contractors working on LRAFB are expected to acknowledge their role in EMS while completing their mission. Threats associated with construction sites include, but are not limited to: hazardous materials, spills, equipment leaks, air-born dust, soil erosion, track-out, and lack of recycling. This will be communicated and documented initially for each project with monthly updates provided to the Government Contracting Officer's Representative. Contractor shall sign form monthly acknowledging that they have kept subcontractor's aware of EMS.

Name	Signature	Company	Date

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