DIRECTORATE OF PUBLIC WORKS
ENGINEERING DIVISION
FORT BENNING, GEORGIA

DPW Project #: 44569

STATEMENT OF WORK

1. General Information

a. Project Title:

REPAIR CONTROL TOWER, CACTUS RANGE, M6929

b. Project Information:

i. Schedule

Contract Period	210
Contractor's Project Walk	TBD
Proposal Due	TBD
Contract Start/Award Date Construction	TBD
Start Date	TBD
Construction Completion Date	TBD

c. Document Level:

i. Document level will vary from 0% to approximately 35%. It is the Contractor's responsibility to bring all documents to 100%.

d. Bid Documents:

i. Statement of Work
ii. Drawings (for reference only, contractor to field verify existing measurements and conditions)
iii. 144R (record of Environmental Consideration)
iv. Specifications (Guide Specifications and List)

e. Bidding Questions

i. All questions should be submitted in written form either by hand delivered hard copies or electronic mail (e-mail). The Contracting Officer (KO / COR) shall determine the final date for submission of questions.

f. Liquidated Damages

In the event of delay (caused by contractor only) in project completion, **Repair Control Tower, Cactus Range, M929,** the contractor shall pay liquidated damages to government in the amount of $1,054.98 for the total LD Rate/Day.

g. Submittals

i. The government review and response time for ALL submittals will be **15 business days.**

2. General Requirements

a. Project Description:

DIRECTORATE OF PUBLIC WORKS
ENGINEERING DIVISION
FORT BENNING, GEORGIA

DPW Project #: 44569

1. M6929 Range M6530 - Cactus Rd 300 sqft approx. built 1983 approx.

The project consists of repairing the tower located at Cactus Range. The contractor will demolish the existing tower down to the bare metal structural members and concrete slab and replace/repair all other elements. Contractor to repair/remedy existing corrosion and paint all exposed steel structural members in weather resistant coating meant for metal application to mitigate future corrosion. Exterior siding to be replaced with new insulated sandwich panels. Ceiling to be replaced. Interior flooring to be removed and replaced with new luxury vinyl tile flooring system to be installed. Contractor to replace wood floor girders and joists with steel. Contractor to replace all doors and windows (windows to be fixed and blast resistant). The existing metal staircase and balcony around the upper tower level is in disrepair and must be replaced with a new minimum 3ft wide galvanized steel metal staircase, landing, balcony, and railings for code compliance. Stairs to be painted in weather resistant coating meant for metal application to mitigate future corrosion. The exterior metal siding and interior wall elements must be demolished and replaced. Replace the makeshift flooring with new flooring. Replace the existing roof and roof decking with a new minimum 24-gauge standing seam metal roof and APA structurally rated plywood roof decking. **The new standing seam metal roof to have a minimum 20-year NDL, No Dollar Limit, warranty with additional and additional finish warranty that includes color fading**. All walls, doors, and windows, both interior and exterior, and roof to be painted and refinished. Paint new roof panels with paint meant for metal applications that also heave weather/water resistance to help mitigate future corrosion. Facility number sign to be saved and reinstalled. Contractor to install new 30-inch counter the length of the tower interior along windows facing the fire line. Contractor to remove the existing fence surrounding the tower. Contractor to remove vegetation overgrowth surrounding the tower and ensure proper drainage.

Lightning Protection does not currently exist. Install new lightning protection and obtain new UL Master Label. All existing electrical elements to be demolished and replaced including lighting; refer to the electrical work requirements on pages 4-5. Size, provide, and install new ductless mini-split HVAC system or PTAC to replace existing. If a PTAC is chosen, provide with brown heavy-duty grill and occupancy thermostat. Ensure thermostat occupancy control shut the unit off after 1 hour without motion.

Follow all manufacturers' instructions to keep warranty in force. **Metal roof warranty requirements NDL, include coverage for wind speeds up to and including the wind design speed, system weathertightness, from a single source manufacturer, and minimum duration of 20 years with an additional minimum 20 years finish warranty that includes color fading.** Contractor to field verify all existing conditions and measurements. No swing space is needed. Return site to pre-construction condition. The building is to be u n occupied for the duration of construction. **All work must adhere to the US Army Corps of Engineers Range Design Guide.**

a. Additional details

The Contactor shall perform all work as described below per the project documents, contract, drawings, specifications, and any addendum issued by the Government for completion of this work.

Hours of Work: Work shall be accomplished between the hours of 0800 through 1630 hours daily, Monday through Friday on non-Government holidays. Legal holidays falling on Saturday are observed on the preceding Friday and those falling on Sunday are observed on the following Monday. Work schedule and facility security to be coordinated with the Directorate of Public Works for facility access and security maintenance during duration of work. Contractor shall not work outside of stated hours of work, without first obtaining approval

from the Directorate of Public Works.

Warranty: The contractor shall provide a minimum of one (1) year warranty on all materials and workmanship from the date of the Government's acceptance of the work.

All work shall be In Accordance With (IAW) all applicable Federal, State, and Local codes and standards.

-DoD UFC 3-110-03 Roofing, with change 5, 12 June 2020.

- Fort Benning is in ASHRAE Climate Zone 3A. ASHRAE 90.1 Requires a minimum R-Value for Continuous Insulation (c.i.) in Climate Zone 3A of R-25.

-ASHRAE 7-16 shall be used to determine the Design Wind Speed for the building.

b. General Execution Requirements:

i. The Work will be performed in accordance with the approved A/E firm's drawings and specifications, approved construction submittals, and based on the Directorate of Public Works (DPW) drawings, specification, and SOW.

ii. All work will be performed per industry standards or to meet federal, state, or local codes and regulation. Work will not be sloppy or carelessly performed.

iii. Mobilization and lay-down shall be pre-determined prior to commencement of work. Request guidance from DPW for how to approach the project with material and where to stage materials. Final approval of specific location shall be determined by DPW Real Property.

iv. The customer shall be notified by contractor of any changes in staging and/or set-up of equipment that may affect parking and daily disruptions to flow in or out of building. Contractor shall establish temporary safety barricades/areas to ensure all persons are safe when loading or off-loading from the roof above.

v. Contractor to provide temporary wood construction covered egress at entrances/exits, if required.

vi. Where feasible, the contractor shall secure all materials in a high chain link fenced lay-down area with wide gate near the project site. Sandbag fence post bases rather than core into the ground.

vii. All work will be performed per industry standards or to meet federal, state, or local codes and regulation and also manufacturer's recommendations to not void warranty. Work must be performed in a craftsman-like manner.

viii. Any drawings provided with this drawing package are to be reference only.

ix. Add wall signage for all bathrooms and offices if applicable.

x. **Lightning Protection Requirements**.

xi. Provided drawings are for information only and are to be used as a guide. Final engineered design may vary from provided drawings.

xii. Provide and install lightning protection system for Range Tower M6929. The following are the air terminals' lightning protection system requirements:

1. The building will be provided with a lightning protection system including air terminals, connector bonding, ground rods, primary and secondary conductors. The system will be installed with UL 96A and NFPA 780 code requirements. Upon completion, the lightning protection system must obtain the "Master Label" certification.
2. The contractors shall complete the lightning protection system design for this building. The system shall include four (4) 24-inch air terminals, down conductors, equipotential bonding system, four (4) ½"X10' long grounding rods, AWG #6 bonding wires, AWG #1/0 grounding loop wires etc.
3. Provide bonding to the fence IAW NFPA 780 and other codes and standards. Metal rack, fence, steel tower, electrical grounding shall be bonded to the grounding rods and grounding loop.
4. To design a lightning protection system for a steel tower, you must use the tower itself as a lightning conductor by connecting it to the earth through its foundation, after installing air terminals at the highest points.
5. The design requires a thorough risk assessment to determine the necessary protection level, followed by the installation of a complete system that includes terminals, down conductors (or the structure steel itself), an equipotential bonding system, and adequate grounding, all while adhering to relevant standards like NFPA 780.
6. The contractor should design, provide, and install a lightning protection system in the buildings per UL96A and NFPA 780.
7. Provide and install the lightning protection system in accordance with the manufacturer's written instructions, UL 96A, and NFPA 780, and other referenced codes and standards.
8. Install air terminals 24 inches higher than the structure and equipment for which they are protecting.
9. DC resistance of solid wires or stranded cables shall not be greater than 0.176 ohms per 1000 feet.
10. Down conductor bends shall not have a radius less than 8 inches or bends greater than 90 degrees.
11. Any metal object within six (6) feet of the lightning down-lead shall be bonded to the down conductor.
12. The Range Tower shall be bonded to the new lightning protection system. Bonded all the existing fences, PTAC unit and Steel Support Structure for PTAC unit, as well as Antenna Steel Support Structure to the new lightning protection system.
13. The interval between down conductors around the perimeters shall not be less than 50 feet nor greater than 100 feet.
14. Down conductors shall be bonded to the earth electrode subsystem.
15. All bonds between elements of the lightning protection subsystems shall be made by welding or brazing or UL approved high compression clamping devices.
16. A minimum of two (2) conductive paths shall exist between any two (2) air terminals and between any air terminal and the earth electrode subsystem (except for dead ends less than 16 feet).
17. Down conductors connecting cables to the earth electrode subsystem shall be protected against mechanical damage. Connecting cables passing through foundations or footings shall be installed in plastic or non-metallic conduit.
18. All exterior handrails, ladders, stairways, antenna pedestals, HVAC and antenna steel structure holding supports and antenna elements operating at ground potential shall be bonded to the lightning protection subsystem with a No. 6 AWG copper wire or larger.
19. Exposed and underground power lines shall be provided with UL approved lightning arrestors at the point of entrance into the building. The lightning arrestors shall be installed in accordance with Article 280 of the National Electrical Code.
20. All security of perimeter fences shall be grounded in accordance with procedures outlined in MIL-HDBK-419.

21. Ground rods shall be installed at all corners of the building and around the building with maximum spacing 50 feet between ground rods. The minimum separation between any two rods shall be equal to the sum of the rod's length.
22. A ground rod shall be installed at each location and installed at a depth of 10 inches below grade.
23. Each conductor shall be clearly labeled and identified.
24. Bond all metallic underground services entering the building, and other underground and above ground metallic objects within 6 feet of the building.
25. For externally routed down conductors, protect each conductor from possible damage with an 8-foot-long PVC pipe protector above grade level. Where conductors are run through metal pipe, or otherwise protected by metal strips, the conductor shall be bonded to each end of the metal pipe.
26. Bond ladders at top and bottom and bond handrails at each end but not more than 50 feet apart. Protect handrails, ladders, HVAC equipment, etc., with air terminals and main conductors when metal thickness is less than 3/16-inch. If HVAC piping or ducting protrudes outside the zone of protection, bond at bottom of pipe/duct and place air terminal at the top of pipe or duct.
27. Attach lightning protection components to HVAC equipment on the roof and wall metallic items with sheet metal screws. Apply sealant to prevent ingress of moisture around screws.
28. Placement of air terminals on roof equipment is identical to that of roof (e.g. air terminals must be within 2 feet of the corner of equipment).
29. Connect guy wire supports for exhaust stacks and poles to the lightning protection system at their lower ends.
30. Position splices flat with roof surface. Install all LPS components to reduce tripping hazard.

xiii. **Electrical**

Electrical Guidelines (New Work):

The electrical new work shall comply with the design criteria specified in the Technical Instructions TI 800-01 Design Criteria, TI 800-03 Technical Requirements for Design-Build, TI 811-16 Lighting Design; Technical Manual TM 5-811-1 Electric Power Supply and Distribution, TM 5-811-2 Electrical Design - Interior Electrical System, and Engineering Technical Letters ETL 1110-3-432 Exit Signs, UFGS 26-51-00 Interior Lighting, Unified Facilities Criteria, National Electrical Codes (NEC) and all referenced documents.

Electrical Service and Distribution (New Work):

The new electrical system for the building will use high efficiency equipment. All interior luminaries will be LED. All interior feeders and wiring will use copper conductors.

Electrical Service and Distribution (New Work):

The primary distribution system at Fort Benning is owned, operated and maintained by Flint Energies (Flint Electric), a private sector electric utility company. The primary distribution to and within the project site will be provided by this electric utility company.

Exterior Electrical System:

A. Exterior Electrical Power

Secondary power service shall be UNDERGROUND. Flint Electric will determine the routing of secondary power to the facility.

The existing electrical entrance service to the Range Tower M6929 is disconnected. Flint Electric will provide a new 200A, 120/240V, single-phase, underground secondary power services to the Range Tower M6929. Electrical contractors shall obtain a meter base from Flint Electric and install the meter base and disconnect switch on the new H-Frame metal rack outside the fence as indicated in the drawing. The contractor shall provide and install power cables from the load-side of the power meter to the new distribution panel (Panel A).

Interior Electrical System:

B. Interior Electrical Power:

All interior panelboards and distribution equipment will have copper bussing. Surge protection devices will be provided on the main distribution panel. All distribution equipment will be furnished with bracing ratings to withstand the calculated potential fault currents. All overcurrent protective devices will be furnished with the appropriate interrupting ratings to withstand the same calculated fault currents. All interior electrical systems will be grounded in accordance with the latest edition of the National Electrical Code (NEC), Article 250.

Provide and install a new 225A, 120/240V, single-phase and 3-wire panelboard (Panel A) with 42 spaces.

C. Interior Lighting and Branch Wring:

All the branch current circuitries will be copper wiring within the building and sized to accommodate voltage drop.

Electrical Demolition Work:

1. Completely remove existing single-phase, 3-wire panelboard from the tower. It includes removing weather-head, panelboard, wiring, conduits, etc. from the tower.
2. Completely remove all existing receptacle outlets, receptacle circuits, conduits, wiring, junction boxes etc. from the tower.
3. Completely remove all existing interior and exterior light fixtures, light switches, wiring, junction boxes etc. from the tower.
4. Completely remove existing HVAC unit and power service to the unit from the tower. It includes removing wiring, conduits, plugs, receptacle outlet, junction box and the HVAC unit.
5. Completely remove the existing power service to all the exhaust fans (if any). It includes removing the exhaust fans, disconnect switches, wiring, conduits, J-boxes, enclosures and circuit breakers.
6. Area affected by the demolition works shall be repaired and repainted to match the surrounding condition.
7. It shall be the responsibility of the contractor to remove existing equipment as required to accomplish the new work as shown or reasonably implied. The contractor shall refer to the new architectural, plumbing, fire protection, mechanical, electrical, etc. plans for work shown to determine the extent of demolition required.

8. When removing electrical equipment and systems. All precautions shall be taken to prevent structural damage to the building. The contractor shall coordinate installation of any structural support required, whether it is temporary or permanent.
9. The contractor shall coordinate and schedule all power interruptions with the DPW project manager and DPW electrical engineer in writing.
10. The contractor shall take all necessary precautions during demolition and construction to maintain the integrity and operation of existing life safety and emergency egress equipment.

Electrical New Work:

The contractor is required to provide and install a new panelboard, provide power service for the new LED light fixtures, general purpose receptacle outlets, HVAC equipment, telecom backboard, and antenna mounting support structure. In addition to providing and installing a lightning protection system in the facility.

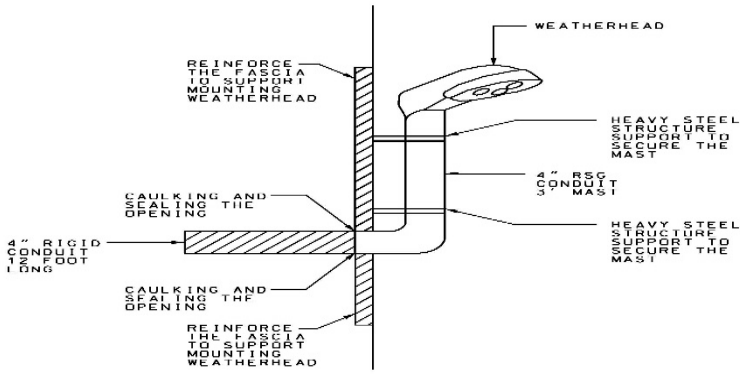
1. The contractor shall visit the site and carefully examine the site location affected by this work before submitting proposals, to become familiar with the existing conditions and difficulties that will affect execution of the work. Submission of a proposal will be construed as evidence that such examination has been made and later claims for labor, equipment or materials required because of difficulties encounter shall not be recognized.
2. This is a 35% electrical design bid document. Contractors are required to submit the 100% electrical design for the government approval before starting their work.
3. 100% design submittal and engineered as-built construction documents shall include all final design materials, modifications and revisions during the construction process.
4. The contractor shall have his/her design professional, project manager and superintendent available for design meetings with DPW during the design review process.
5. Design illumination levels in accordance with the IES. Provide red lenses or red lamps in addition to standard lighting on ranges where training will occur at night. Provide Emergency and Exit lighting in accordance with NFPA 101 and NFPA 70. Provide 3-way switching for exterior lighting, with one switch located inside the Control Room and one switch located at ground level next to the bottom of the stairwell.
6. To prevent interference with specialized equipment used during night operations, provide separate fixtures with red lenses or red lamps in addition to standard lighting on ranges used for night training where the lights will be visible from training and/or staging areas. Include the following areas as a minimum.

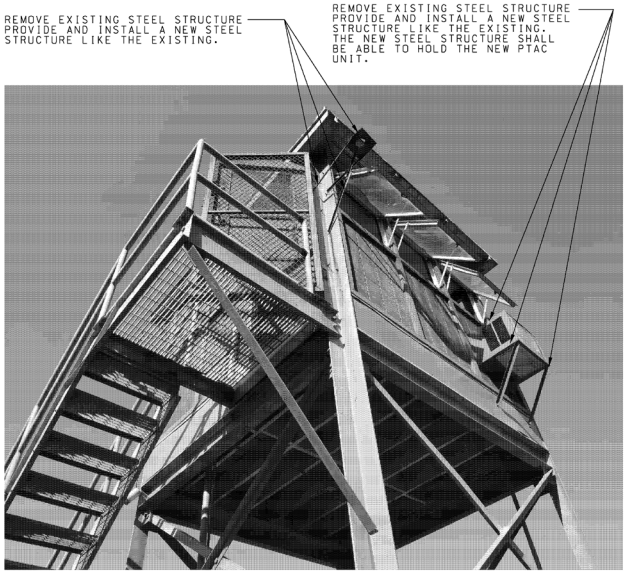
    a. Provide exterior white and red jelly lights at the top and bottom of the new exterior steel stairwell.
    b. exterior lighting visible from the training area.
    c. rooms where ROCA building has windows that are facing the training area and cannot be covered.
    d. rooms where the building has a door that opens to the training area.

7. Provide separate switching for the standard and red lighting. Clearly label switches and provide covers over white lights, or similar protective measures, to deter turning on white lights while red lights are in use. Locate switches near points of egress. Provide a means to turn off all exterior white lights including an over-ride for lights controlled by a photocell.
8. All new lighting will be accomplished using LED lighting fixtures. Unless noted otherwise.

9. All new LED lamps will be with color temperature of 4000-degree Kelvin and a color rendering index (CRI) of 83.
10. New conduits are to be run in the wall or above the drop ceiling.
11. Install all wiring in EMT Conduit unless specifically indicated otherwise.
12. Provide and install LED light fixtures inside the control room. The design Illuminating Engineering Society of North America (IESNA).
13. Provide and install 2'X4', surface-mount LED light fixture (Fixture A) as indicated in the drawing. Provide and install a 3-way switch to control the fixtures as indicated on the drawing. One switch control (3-way switch) will be mounted on the ground level near the stairway.
14. Provide and install occupancy sensing wall light switch with manual override to control the LED light fixture (Fixture A) in the control room. Mount the sensor 48-inch above the finished floor.
15. Provide and install a new flood Led light fixture. Mount the flood light above the stairway as indicated in the drawing. Connect the exterior wall mount fixture with photo-cell control and motion sensor control and install a switch to turn off the photo-cell control in the control room (to override the photo-cell control).
16. Provide and install wall-mount or ceiling-mount LED EXIT sign fixture with self-diagnostics capability as indicated on the drawing.
17. Provide and install Red Lamp and White Lamp fixtures as indicated on the drawing. The fixture can be Lithonia Lighting Cat., OLVTCM and OLVTWM, 4000K, MVOLT or similar. Red vapor-tight replacement glass globe and White Vapor-tight replacement glass globe or similar. Provide and install a 3-way switch inside the control room to control the fixtures as indicated on the drawing. One switch control (3-way switch) will be mounted on the ground level near the stairway. (**Note: The contractor shall provide the glass globe guard that is cast aluminum.**)
18. Provide and install Red Lamps (Red Lights) and Standard Lamps (White Lights) in the exterior around three corners and mount the fixtures at least 8-inches below the window frame.
19. Provide and install separate switches to control the Red Lamps and Standard Lamps. Clearly label the light switches.
20. Provide 3-way switches to control on and off for the exterior and interior Red Lamps and Standard Lamps.
21. All new lighting will be accomplished using LED lighting fixtures. Unless noted otherwise.
22. All new LED lamps will be with color temperature of 4000-degree Kelvin and a color rendering index (CRI) of 83.
23. Provide and install the light switches (3-way and/or 1-way) as required.
24. Provide and install new lighting circuit for EXIT sign fixtures. Connect all the EXIT sign fixtures to a dedicated un-switched circuit.
25. Provide and install Emergency and Exit lighting in accordance with NFPA 101 and NFPA 70 in the facility.
26. Provide and install a single station **smoke detector** in the control room of the tower.
27. Provide and install a 225A main circuit breaker, 120/240V, single-phase, 3-wire panelboard (recess mounted) with 42-circuit spaces and a Surge Protective Device (SPD) on the incoming service to the facility. Connect the power service entrance's (Panelboard's ground) ground to the nearby lightning protection system grounding rods/grounding loop.
28. The contractor shall provide and install an H-Frame Metal rack on the ground near the tower outside the fence as indicated in the drawing.

29. The contractor shall obtain the power meter base from Flint Electric and install the meter base on the new H-Frame metal rack outside the fence. The contractor shall provide and install a power service entrance disconnect switch on the new H-Frame rack.
30. The contractor shall provide and install power cables from the load-side of the power meter base on the H-Frame Metal rack to the new panelboard (Panel A) located inside the control room.
31. The contractor shall provide and install underground power service to the building. Underground service must have one (1) 2-inch conduit stubbed out 36-inch below grade with one (1) 90-degree elbow per service. Flint Electric will install the low voltage conductors from the transformer to the live-side of the meter base.
32. If penetrating the roof or wall, provide double sealing and caulking around conduit, pipe or tubing passing through a wall/a roof (on both sides of the wall/roof). Provide fire-caulk material on the fire wall.
33. Provide the proper brand and weight of mineral wool insulation from both sides of the wall/roof to cover the space between the concrete block and pipe, conduit, and tubing.
34. Drill a 2-inch opening from the counter (table) top as indicated in the drawing. Provide and install the rubble or plastic grommets on both top and bottom to avoid electrical wires and other cables from sharp edges.
35. Provide and install an approximately 2'X6' or **3'X6'** (field verifying the maximum size of backboard can be installed in the given space) telecom backboard as indicated in the drawing. The backboard shall be ¾-inch A-C plywood. The plywood must be either fire retardant or have 2 coats of fire-retardant paint on the side the equipment will be mounted on. Plywood should be painted prior to installation of any equipment.
36. Provide and install a main ground bar (TMGB) on a telecom backboard. Mount the insulated busbar on the telecom backboard. Bond it to the building's grounding system (for future antenna use).
37. Provide and install a 4-inch rigid conduit with weather-head at the corner of the tower as indicated in the drawing. Reinforce the fascia to allow antenna mounting.
38. Perform reinforcing the structure integrity of a fascia board by replacing it and strengthening the fascia to allow antenna mounting.
39. Provide and install a steel structural support for the antenna mounting. Install a weather head next to the mounting support for an antenna.





40. Provide and install general purpose 120V, 20A duplex and/or quadruplex convenience receptacles inside the control room of the tower as indicated in the drawings. Mount the receptacles 18-inch above the finished floor and/or flush mount 8” below the window frame and above the table top as indicated in the drawing.
41. Provide and install **two (2) dedicated quadruplex receptacles** on the telecom backboard.
42. Provide and install four (4) dedicated 120V, weatherproof GFI duplex receptacle outlets with covers mounted on the tower as indicated in the drawing. Mount the receptacles 36-inch above the finished floor.
43. Provide and install a new PTHP (Heat Pump) with Inverter and MUA (make-up air), R-32 Refrigerant unit in the control room of the tower. Friedrich Freshaire PTAC unit model: PVH09K3FC or equal.
44. Provide and install the steel structural support for the PTAC unit at that same location.
45. Provide and install 120/240V power service to the new PTAC unit in the control room of the tower per manufacturer’s recommendation.
46. Provide and install NEMA 6-20P (Plug) and NEMA 6-20R (Receptacle) for the PTAC unit. Verify with the manufacturer’s recommendation. Install the PTAC receptacle next to the unit.
47. Connect the NEMA 6-20R (unit receptacle) to new Panel A, circuit-3,5.
48. All new panel labels, breaker labels, and Panel schedules shall match exactly with the panel or device that they feed. Contractors shall provide new panel directory for the panelboard.
49. Twenty (20%) percent spare capacity (physical space and load capacity) will be provided for all branch circuit and distribution panelboards.
50. Thermal magnetic molded case circuit breakers will be utilized in branch circuit panelboards. Solid state, electronic trip circuit breakers will be utilized in switchboards and distribution panelboards were required for selective coordination. All circuit breakers will be fully rated for the available fault current.
51. All conductors will be copper with type THHN/THWN 75°C insulation. Minimum size for branch circuits will be #12 AWG.
52. All interior cables will be installed in metallic raceway. Minimum size conduit will be ½ inch. Unless noted otherwise.
53. Install all wiring in EMT Conduit unless specifically indicated otherwise.
54. All branch circuits and feeders will have green equipment grounding conductors.

55. All branch current circuitries will be copper wiring within the facility and sized to accommodate voltage drop.
56. Conductors larger than #6 AWG will be identified with half lapped bands of green tape for 3 inches of length at the termination point.
57. Electrical Metallic Tubing (EMT) will be used for all branch circuits and feeder wiring in dry location. Unless noted otherwise.
58. All EMT fittings will be steel compression type; set screw type fittings will not be used.
59. Rigid galvanized steel conduits will be used for branch circuits and feeder wiring located in damp or wet locations. Unless noted otherwise.
60. All conduits shall be electrical metallic tubing (EMT), with flexible liquid tight metal conduit for mechanical equipment.
61. Liquid-tight flexible metal conduit shall not be used as the sole ground-fault current path.
62. PVC conduit will not be used except for exterior underground circuits.
63. All EMT fittings will be steel compression type; set screw type fittings will not be used.
64. All electrical equipment will be identified to indicate the equipment name, power branch from which served, voltage and panel/circuit number from which served. Contractor shall label all new circuits on each new panel.
65. The identification labels will be laminated plastic labels with 1/4-inch-high lettering and will be color-coded. Additionally, conductor color coding will permanently be posted at panels and other locations where conductors are accessible in accordance with NFPA 70.
66. Provide and install two (2) dedicated 120v, 20A Quadruplex receptacle outlets mounted on the new telecom backboard.
67. All interior electrical systems will be grounded in accordance with Article 250 of the current National Electrical Code (NEC).
68. Contractor shall furnish all labor, provide and install all materials and equipment per federal, State, and Local Codes and Standards as well as Army Regulations.
69. The contractor shall survey job site to obtain a full understanding of work involved in connection with any existing conditions.
70. Contractor shall coordinate work with all other trades, construction drawings, project manager's instruction and owner's direction.
71. All work performed by the contractor shall be guaranteed free from defects of materials and workmanship for a period of one year after date of final acceptance.

c. General Information

1. The Design, Work/Construction contract requirements are described herein this Statement of Work (SOW) and on the drawings, specifications (as provided, or per the guide specification), and 144R prepared by The Directorate of Public Works (DPW) which is conveyed as 0-35% design.

2. In addition to the SOW, Drawings, Specifications, 144R, the contractor will use when asked to provide 100% designs the resources located on the Whole Building Design Guide website and the Fort Benning – Installation Design Guide.

3. The SOW, drawings, and specifications may not identify all procedures (means and methods) or requirements necessary to accomplish the work. The contractor is expected to follow industry standards or manufactures instructions/recommendations.

4. The contractor will provide all required supervision, labor, materials, and equipment to complete the work.

5. The superintendent will be an individual with a minimum 5 years of experience with jobs of similar type and size. Provide resume of job site supervisors and key personnel. The superintendent will be on the job site when work is being performed and will be available to the Government representatives.

d. Design and Engineering:

i. General

Fort Benning's Directorate of Public Works (DPW) Engineering Division will provide the Contractor a set of 35% construction drawings, specifications, and a SOW. The provided 35% drawings, specifications, and statement of work only convey the Government's concept / intent of the project. It is the Contractor and Architectural and Engineering (A/E) firm responsibility to provide items listed in section ii, subsection 1, 100% submittal. Once the 100% submittal has been approved by the Government, work may begin. If the contractor is provided written approval prior to the start of the work, the contractor may not be required to provide a 100% submittal. The items listed below will be used as a guide for the Contractor and A/E in items that may be needed in the 100% submittal.

a. The submittals also are to also include, but not limited to: Quality Control Plan, Accident Prevention Plan, cost-loaded schedule of values.
b. DRAWINGS

i. The A/E firm will update, provide additional information, and add drawings as required to take the 35% drawings provided by the Government to a 100% set of drawings. Below is a list of drawings that may need to be provided to accomplish a 100% drawing set:

1. All disciplines: completed plans (site and floor), elevations (exterior), sections (site, building and wall), enlarged plans, details (project specific and standard), schedules.* **All drawings are to incorporate a graphic scale illustrating the true scale of the drawing, so that the print size/scale can be verified.**

*The items listed above may not address every drawing requirement for a project and is not intended to limit the number of drawings to be provided. Additionally the items listed above may not be required for every project. Contractor's submittals / shop drawings are not considered part of the 100% drawing set.

c. SPECIFICATIONS

i. The Contractor and A/E will provide any missing specifications for the project. Also the Contractor and A/E will update any specification that requires to be changed due to drawings or other specifications provided

by the A/E.

d. CALCULATIONS / PRODUCT INFORMATION

   i. The Contractor and A/E will provide all calculation and product information for the project when not provided in the Government provide information. Calculations and product information may be required for the following, but this list will not limit the requirements to: Civil, Structural, Architectural, and Electrical. Calculations and product information will be provided in an organized, logical, and understandable manner.

e. COLOR BOARD
   i. Contractor and A/E will provide a color board showing colors or materials selected by the contractor or A/E for the project. Color board will address all items (trim paint, wood or concrete stain, base material or color, ceiling color or material, etc.) required for the project. Government approval is required prior to start of the work, unless written approval from the government is provided.
f. Accident Prevention Plan
g. Quality Control Plan

2. Upon completion of the work the contractor will provide As-Builts and Record Documents consisting of items listed under section Record Document Submittal. The Record Document Submittal will reflect the final design of the facility at the completion of the work.*

   a. AS-BUILTS

      i. Contractor will provide the government approved hard copy of the 100% drawings keep at the site. The hard copy from the site (As-Built) will show any changes or modifications made during construction. Changes or modifications will be marked in red on the hard copy.

   b. DRAWINGS
      i. **The Contractor and A/E firm will provide PDFs, hard copies, and CAD files of Record Documents drawings reflecting changes or modifications noted on the As-Builts**. Any changes or modification will be clouded on the Record Documents drawings.
   c. SPECIFICATIONS

      i. The contractor and A/E firm will provide updated specifications addressing any changes or modifications made during construction.

   d. CD

      i. The contractor and A/E firm will provide a CD with PDFs of the Record Documents; drawings and specifications, and the As-Builts from the job site. Also on the CD the contractor and A/E firm will provide CAD files of the Record Document drawings.

   e. DD Form 1354, Transfer and Acceptance of DoD Real Property, to be included in Closeout Documents.
   f. All O&M Data to be in a 3 ring binder with tabs (1 hard copy, 2-CDs)

g. All Warranty information on all products.

**The contractor will provide complete sets of drawings, specifications, and As-Builts, not just drawing sheets or specifications sections that have changed.*

h. Plan, cost-loaded Schedule of Values.

ii. Design and Engineering Submittal Requirements

1. 100% Submittal

Deliverables	**To - DPW**
Drawings	**2 Full Size set, 1 half-sized set, and CAD Files**
Specifications	1 Set
Calculation / Product Information	1
Color Board	1
CD with all 100% submittal Documentation*	1

*CD will include PDFs of all files (Drawings and Specifications) and CAD files of the Drawings.

2. Record Document Submittal

Deliverables	**To - DPW**
As-Built (Red Lined set from construction site)	1 set
Drawings (adjusted per As-Built)	1 Full Size, 1 Half Size, and CAD Files
Specifications	1 Set
CD with all Record Document submittal Documentation*	1

*CD will include PDFs of all files (Drawings, Specifications, and As-Builts) and CAD files of the Drawings

iii. The contractor will submit a Construction Schedule that includes major benchmarks and milestones to provide knowledge of the project and objectives to be completed within the construction time scheduled. The Construction Schedule will be submitted to the Government within 10 (ten) days of the notice to proceed for review. The contractor will provide an update schedule if the original schedule is impacted for any reason or if requested by the Government. **Each schedule will include 2 milestone days or DFWs that require 3 phase inspections. After inspection and approval, work may continue. Please show these DFWs on project schedule and coordinate site visits with Inspection Branch.**

iv. At the pre-construction meeting the contractor will arrange to have a representative of the A/E firm to be present. At the meeting the A/E representative will satisfy themselves with the requirements of the Design and Engineering submittals and the expectations of the Government.

e. Codes and Standards:

i. All work shall be In Accordance With (IAW) all applicable Federal, State, and Local codes and standards including but not limited to:

a. DoD UFC 3-110-03 Roofing, with change 5, 12 June 2020.

-Paragraph 1-8.11 “Design Professional Qualifications” requires roofs larger than 15,000 SQFT, or roofs of buildings that are defined as “Critical Use” or “Mission Critical”, shall have a registered roof consultant (RRC), or a Registered PE or RA that derives principal income from roofing design, on the design team.

b. Fort Benning is in ASHRAE Climate Zone 3A. ASHRAE 90.1 Requires a minimum R-Value for Continuous Insulation (c.i.) in Climate Zone 3A of R-25.

c. ASHRAE 7-16 shall be used to determine the Design Wind Speed for the building.

d. Additional codes and standards, not limited to:

1. International Building Code (IBC)
2. International Electrical Code
3. Installation Design Guide
4. UFC 1-200-01, General Building Requirements
5. UFC 1-300-08, Criteria for Transfer and Acceptance of Military Real Property
6. UFC 3-560-01, Electrical Safety, O&M
7. TM 111 Guidance provided in Fort Benning Environmental Considerations as listed on the projects 144R.
8. **US Army Corps of Engineers Range Design Guide**

b. Specifications:

i. Refer to the Guide Specifications and the following specification prior to and during all phases of the work:

1. 01 33 00 Submittal Procedures
2. 01 35 26 Governmental Safety Requirements
3. 01 45 00.00 10 Quality Control
4. 01 57 20 00 10 Environmental Protection
5. 01 74 19 Construction and Demolition Waste Management
6. 01 78 00 Closeout Submittals
7. 01 78 23 Operation and Maintenance Data

ii. When written specifications are not furnished by the Government the contractor's A/E firm will provide missing specifications. Standards of work will be in accordance with industry standards and Fort Benning guide specs as issued by the Savannah District Corps of Engineer.

iii. Contractor or A/E will deliver any specifications not provided in the bid document specifications. The A/E specifications will be combined with the bid specifications and submitted as one specifications book for the 100% submittal and Record Document submittal.

c. Preparation:

i. Contractor will be responsible for field/site visit to obtain and verify measurements, existing site conditions, dimensions and structural support requirements IAW accepted local, state and federal building practices. All drawings provided to the contractor are for reference/information only and may or may not be current or to scale. Contractor shall provide for any/all deviations to accepted local, state and federal building practices/codes and bring these to the attention of the Construction Inspector and Contracting government. Review the project's 144R; Record of Environmental Consideration for compliance prior to initiating any work.

ii. Environmental Restrictions/Concerns: Once the Notice To Proceed is issued, coordination with the Natural Resources Management Branch (NRMB) will begin to survey the area and identify any protected species in the area. If any protected species are located within the project's limits of disturbance, the project schedule is dependent on the timeframe/season the protected species can be relocated. The contractor shall that this into consideration when developing the project's schedule. The Government will not be liable or financially responsible for delays involving relocating protected species.

d. Cost and Pricing:

i. Within 48 hours of the bid/proposal date and time the contractor will provide to the Architect/Engineer an itemized list of material and labor cost for review prior to award of the contract.

e. Coordination with other contractors:

i. If other contracts and work are subject to be performed or arise to address any issues, at the same time as this contract the contractor will cooperate and coordinate work with all parties involved and is now notified of same.

f. Building Occupancy:

i. General

1. The Cactus Range Tower will be unoccupied during the performance of work.

2. Areas in which work is required may be occupied or have public or Government presence during the performance of work under any Task Order (TO). Every

effort will be made to keep unauthorized personnel from accessing work site. Other maintenance and/or repair construction may also be concurrently performed at the site by other contractors. The Contractor shall cooperate with the Government to minimize conflict, and to facilitate the Government's operations by scheduling the Work to accommodate Government occupancy.

3. The contractor shall prove notice 14 days prior to the start of the work for any phase of the project to allow the Government to remove any furniture, materials, lockers, equipment, etc. from designated work areas that may impact the work of the contract. Items left in place will be protected during construction.

g. Selective Demolition:

i. Building

1. Remove all building components (walls, doors, windows, stairs, lighting, electrical, HVAC, etc.) down to the existing steel structure.

ii. Site

1. N/A

h. Salvage:

i. Any items identified as salvage and return to the Government or any phrase with the intent to return items to the Government, those items will be protected during removal. The contractor will coordinate turning over those items to the Government.

i. Disposal of Construction Waste:

i. The Contractor will be responsible for removing and disposal of all debris and hazardous waste created by this project, IAW local, state and federal guidelines and laws. The contractor shall dispose of all debris and hazardous waste created by this project in Georgia/Alabama approved Landfill at the contractor's expense. Contractor shall maintain and provide upon request by the KO or the designated representative receipts and haul tickets or bills of laden that construction debris from this contract has been disposed of IAW with local, state and federal guidelines and laws.

ii. In restrictive areas, for example an airfield, could have special requirements or additional steps for disposing of construction waste. The contractor will verify any special requirements or additional steps prior to the start of the work.

j. Safety:

i. General

1. The contractor will comply with all governing codes and standards. Contractor will comply with Fort Benning Safety and Environmental laws and regulations. The contractor shall perform all work IAW government procedures for entering and working at Fort Benning. The government reserves the right to stop work at

any time for safety, security reasons, and for national defense at no cost to the government.

ii. Public

1. The Contractor shall conduct his operations to offer the least possible obstruction and inconvenience to the public, vehicular, and the normal day-to-day routine of the Government installation where work is to be performed. Unless safety otherwise prevents such actions, personnel and traffic shall be permitted to pass through the work area with as little delay as possible. Where the nature of construction operations in progress and the equipment and machinery in use are of such character as to endanger passing traffic, the Contractor shall provide such lights and signs, erect such fences or barriers, and station such guards as may be necessary to give adequate warning and to avoid damage or injury to passing traffic. Signs, flags, lights, and other warning and safety devices shall conform to applicable laws, safety regulations and requirements. All lane closures shall be coordinated in advance with the COR/Inspector, traffic engineer and the DES. All traffic control procedures shall be in accordance with GA and/or FL DOT regulations.

iii. Employee

1. In order to provide safety controls for protection to the life and health of employees, and other persons; for prevention of damage to property, materials, supplies, and equipment; and for avoidance of work interruptions in the performance of this contract, the Contractor shall comply with all pertinent provisions of the U.S. Army Corps of Engineers Safety and Health Requirements Manual EM 385-1-1, as amended. The Contractor will also take or cause to be taken such additional measures as the KO may determine to be reasonably necessary for the purpose.

k. Accessibility to Work Site:

i. Normal Working hours for the Contractor will be 0800 to 1630, Monday through Friday, excluding Saturdays, Sundays, and Federal Holidays. If the Contractor wishes to work during periods other than above, additional Government inspection forces will be required. The Contractor must notify the Contracting Officer (KO) five (5) working days in advance of his/her intention to work during other periods to allow assignment of additional inspection forces when the Contracting Officer determines that the additional inspection force is reasonably available. All inspections will be done during normal duty hours. Due to certain circumstances (i.e., emergencies or urgent requirements), deviation of contractor's working hours will be as indicated in the RTOR.

l. Anti-Terrorism (AT) Level I Training

i. All contractor employees, to include subcontractor employees, requiring access Army installations, facilities and controlled access areas shall complete AT Level I Awareness training within 30 calendar days after contract start date or effective date of incorporation of this requirement into the contract, whichever is applicable. The

contractor shall submit certificates of completion for each affected contractor employee and subcontractor employee, to the COR or to the contracting officer, if a COR is not assigned, within 30 calendar days after completion of training by all employees and subcontractor personnel. AT level I Awareness training is available at the following website: http://jko.jten.mil.

m. Access and General Protection, Security Policy, and Procedures

i. Contractor and all associated subcontractor employees shall provide all information required for background checks to meet installation access requirements to be accomplished by installation Provost Marshal Office, Director of Emergency Services or Security Office. Contractor workforce must comply with all personal identity verification requirements (FAR clause 52.204-9, Personal Identity Verification of Contractor Personnel) as directed by DOD, HQDA and/or local policy. In addition to the changes otherwise authorized by the changes clause of this contract, should the Force Protection Condition (FPCON) at any individual facility or installation change, the Government may require changes in contractor security matters or processes.

n. Contractor Employees Requiring a Common Access Card (CAC)

i. Only the Contractor's key personnel will be issued a CAC. Before CAC issuance, the Contractor employee requires, at a minimum, a favorably adjudicated National Agency Check with Inquiries (NACI) or an equivalent or higher investigation IAW Army Directive 2014-05, Policy and Implementation Procedures for Common Access Card Credentialing and Installation Access for Uncleared Contractors. The Contractor employee will be issued a CAC only if duties involve one of the following: (1) Both physical access to a DoD Facility and access, via logon, to DoD networks on-site or remotely, (2) Remote access, via logon, to a DoD network using DoD-approved remote access procedures, or (3) Physical access to multiple DoD Facilities or multiple non-DoD Federally Controlled Facilities on behalf of the DoD on a recurring basis for a period of six (6) months or more. At the discretion of the Sponsoring Activity, an initial CAC may be issued based on a favorable review of the Federal Bureau of Investigation (FBI) fingerprint check and a successfully completed NACI at the Office of Personnel Management. For contractors that do not require CAC, but require access to a DoD facility or installation. Contractor and all associated sub-contractors employees shall comply with adjudication standards and procedures using the National Crime Information Center Interstate Identification Index (NCIC-III) and Terrorist Screening Database (Army Directive 2014-05/AR 190-13), applicable installation, facility and area commander installation/facility access and local security policies and procedures (provided by government representative).

o. iWATCH Training

i. The Contractor and all associated sub-Contractors shall brief all employees on the local iWATCH Army program (training standards provided by the requiring activity ATO). This local developed training will be used to inform employees of the types of behavior to watch for and instruct employees to report suspicious activity to the COR. This training shall be completed within 30 calendar days of contract award and within 30 calendar days of new employees commencing performance with the results reported to the COR NLT 10 calendar days after contract award.

p. Contractor Employees Requiring Access to Government Information Systems

i. The Contractor, to include associated sub-Contractor employees, with access to a Government info system must be registered in the ATCTS (Army Training Certification Tracking System) at commencement of services, and must successfully complete the DOD Information Assurance Awareness prior to access to the information system and then annually thereafter.

q. Operations Security (OPSEC) Training

i. IAW AR 530-1, Operations Security, all personnel, to include Contractor employees and associated sub-Contractor employees must complete Level I Operations Security (OPSEC) training which is composed of both initial and continual awareness training (annually). All personnel within the first thirty (30) calendar days of arrival in the organization (or TO start date) must receive initial training to include a briefing on the organizations critical information, read/sign the OPSEC Individual User Compliance Agreement form, and send completion to the COR via electronic copy. The end state of initial and continual awareness training is that each individual should have the requisite knowledge to safeguard critical information. Level I OPSEC training is available at the following website:

1. https://securityawareness.usalearning.gov/opsec/index.htm.

r. OPSEC Standing Operating Procedure/Plan

i. The Contractor shall adhere to the Government's Operations Security (OPSEC) Standard Operating Procedure (SOP)/Plan during the entire period of performance.

s. Contractor Employees Requiring Information Awareness / Information Technology (IA/IT) Training and Certification

i. The Contractor, to include associated sub-Contractor employees, performing IA/IT functions shall comply with DoD and Army training requirements in DoDD 8570.01, DoD 8570.01-M and AR 25-2 within six (6) months of appointment to IA/IT functions. All contractor employees and associated subcontractor employees shall complete the DoD IA awareness training before issuance of network access and annually thereafter. IAW DoD 8570.01-M, DFARS 252.239.7001 and AR 25-2, the contractor employees supporting IA/IT functions shall be appropriately certified upon contract award. The baseline certification as stipulated in DoD 8570.01-M must be completed upon contract award.

t. Daily Housekeeping:

i. The Contractor shall keep work area clean and remove all unneeded construction debris daily and/or as directed by the Construction Inspector, User, or Contracting Officer’s Representative.

u. Required Submittals:

i. The contractor will provide submittals according to the specifications or noted

elsewhere in this Statement of Work.

ii. Additional submittal to include but not limited to: Quality Control Plan, Accident Prevention Plan, cost-loaded Schedule of Values, Environmental Protection Plan.

iii. The Contractor's personnel will compile submittals based on the Specifications or other sections in this Statement of Work. Submittals will be complete before submitting to the Government for review. A complete submittal will consist of all items required for a submittal. Sending information incrementally for one submittal is unacceptable.

iv. The contractor's personnel or A/E firm will indicate which product will be used when multiple products are listed on a submittal.

v. The contractor shall make sure all submittals are reviewed by the designer of record (DOR) prior to government acceptance via transmittal. Any submittal transmitted to the government without a DOR review and stamp/signature will be rejected/disapproved.

vi. The contractor shall provide a submittal register to track and log all submittals between government (DPW) and contracting office (MICC). The contractor shall be responsible for updating the submittal register on a regular basis and provide to government (DPW).

vii. The contractor shall email or hand deliver all submittals to the contracting officer (MICC) designated for the project. DPW will not accept any submittals unless filtered through MICC first.

v. Required Submittals:

i. Contractor will ensure that all individuals associated with the Work adhere to all safety regulations and codes. Construction debris waiting removal from the site will be stored per regulations and codes. Contractor will walk the site prior to leaving for the day to ensure all debris is picked up and disposed of properly.

ii. The contractor will verify that all Federal, State, Local, and Fort Benning (144R) environmental regulations and code are being followed.

iii. Omissions from the drawings or specifications or the wrong description of details of work that are manifestly necessary to carry out the intent of the drawings and specifications, or that are customarily performed, shall not relieve the Contractor from performing such omitted or incorrectly described details of the work. The Contractor shall perform such details as if fully and correctly set forth and described in the drawings and specifications.

iv. Failure to comply with i-vi may result in a disapproved submittal.

(Any drawings provided with this drawing package are to be reference only.)

-- End of Architectural SOW --