

STATEMENT OF WORK

1. General Information

a. Project Title:

- i. The Campbell King Horse Show Bowl - Construct Latrine

b. Project location:

- i. Main Post Fort Benning: Off 10th Division Road onto Spangler Street

c. Project Information:

- i. Schedule

Contract Period	180
Contractor's Project Walk	TBD
Proposal Due	TBD
Contract Start/Award Date	TBD
Construction Start Date	TBD
Construction Completion Date	TBD

d. Document Design Levels:

- i. *The provided civil documents are approximately 35% design. Refer to 31 Earthwork Section below.*
- ii. *The provided architectural, structural, plumbing and mechanical documents are approximately 100% design.*
- iii. *The provided electrical documents are approximately 85% design. Lightning protection design is required to finalize the electrical portion of work.*

e. Bid Documents:

- i. Statement of Work
- ii. Civil, Structural, Architectural, Mechanical, Plumbing and Electrical Drawings

- iii. FB-144R (record of Environmental Consideration)
- iv. Specifications (Guide Specifications and List)

f. Bidding Questions

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

2. General Requirements

a. Project Description:

- i. 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 FB-144R prepared by The Directorate of Public Works (DPW).
 - 2. In addition to the SOW, Drawings, Specifications, FB-144R, the contractor shall use when asked to provide 100% designs the resources located on the Whole Building Design Guide website and the Fort Benning – Installation Design Guide dated August 2010. Available from DPW upon request.
 - 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 shall provide all required supervision, labor, materials, and equipment to complete the work.
 - 5. The superintendent shall 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 shall be on the job site when work is being performed and will be available to the Government representatives.
- ii. General Description
 - 1. The

b. General Execution Requirements:

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- i. The Work shall 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 shall be performed per industry standards or to meet federal, state, or local codes and regulation. Work will not be sloppy or carelessly performed.

c. Design and Engineering:

i. General

1. Fort Benning's Directorate of Public Works (DPW) Engineering Division will provide the Contractor drawings with varying design levels (see page 1, under Document Design Levels), specifications, and a SOW. The provided drawings, specifications, and statement of work only convey the Government's intent of the project. It is the Contractor and Architectural / Engineering (A/E) firm's responsibility to provide items listed in section ii, subsection 1, 100% submittal. *The term A/E encompasses the services of design disciplines in the field of civil, architecture, mechanical, electrical, plumbing, and structural engineering.* 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. DRAWINGS

- i. The A/E firm shall update, provide additional information, and add drawings as required to take the drawings provided by the Government to a 100% set of drawings. *The "For Construction" 100% set of drawings shall be stamped and signed by the A/E on each drawing sheet.* Below is a list of drawings that may need to be provided to accomplish a 100% drawing set:
 1. The Contractor will require civil engineering design support to finalize the document the DPW has provided. The civil design will need to be stamped and signed. *
 2. The Contractor will require lightning protection design support to finalize the electrical portion the DPW has provided. The lightning Protection Design will need to be stamped and signed. *
 3. The Contractor will be provided 100% design, from the DPW, for the Architectural, Structural, Mechanical and Plumbing to construct the latrine. **No design is required for these disciplines.** See drawing set dated 8/17/2020.

*The documents listed above may or may not address every drawing requirement for the project and will need additional design before the 100% For Construction Document is achieved. complete.

b. SPECIFICATIONS

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

c. CALCULATIONS / PRODUCT INFORMATION

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

d. COLOR BOARD, SAMPLES

- i. Contractor and A/E shall provide a color board showing colors or materials selected by the contractor or A/E for the project. Color board will address all items (wall ceiling or 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.

e. CD

- i. The contractor and A/E firm shall provide a CD with PDFs of the 100% drawings, specifications, calculations and product information. Also on the CD the contractor shall provide CAD files of the 100% drawings.

- 2. Upon completion of the work the contractor will provide As-Builts and Record Documents consisting of items listed under section ii, subsection 2, 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 shall 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

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- i. The Contractor and A/E firm shall provide PDFs, hard copies, and CAD files of Record Documents drawings reflecting changes or modifications noted on the As-Built. Any changes or modification will be clouded on the Record Documents drawings.
 - c. SPECIFICATIONS
 - i. The contractor and A/E firm shall provide updated specifications addressing any changes or modifications made during construction.
 - d. CD
 - i. The contractor and A/E firm shall provide a CD with PDFs of the Record Documents; drawings and specifications, and the As-Built from the job site. Also on the CD the contractor and A/E firm will provide CAD files of the Record Document drawings.
- ii. Design and Engineering Submittal Requirements
- 1. 100% Submittals only for the disciplines mentioned under c. Design and Engineering, i. General, a. DRAWINGS

Deliverables	To - DPW
Drawings (a.)	1 Full Size set and CAD Files on Disk
Specifications	1 Set and PDF's on disk
Calculation / Product Information	1
Color Board, Samples (b.)	1
CD with all 100% submittal Documentation*	1

*CD will include PDFs of all files (Drawings and Specifications) and CAD files of the Drawings
(a.) Submittals provided via email will be acceptable IF the size of file(s) are not extremely large. 15MB or higher may not transfer.
(b.) Pictures of samples or colors are not acceptable. Submit actual product samples and colors from manufacturer/supplier.

2. Record Document Submittal

Deliverables	To - DPW
As-Built (Red Lined set from construction site)	1 set
All Discipline Drawings (adjusted per As-Built)	1 Full 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-Built) and CAD files of the Drawings

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- iii. 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/dis-approved.
- iv. The contractor shall email or hand deliver all submittals to the contracting officer (MICC) designated for the project. DPW will accept any submittals unless filtered through MICC first.
- v. The contractor shall 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 shall be submitted to the Government within 5 (five) days of the notice to proceed for review. The contractor shall provide an update schedule if the original schedule is impacted for any reason or if requested by the Government.
- vi. At the pre-construction meeting the contractor shall arrange to have a representative of the A/E firm to be present. At the meeting the A/E representative shall satisfy themselves with the requirements of the Design and Engineering submittals and the expectations of the Government.

d. 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:
 - 1. International Building Code (IBC)
 - 2. International Electrical Code
 - 3. International Fire Alarm/Protection Code
 - 4. International Mechanical Code
 - 5. International Plumbing Code
 - 6. Manual of Uniform Traffic control Devices (MUTCD)
 - 7. Fort Benning Installation Design Guide – Dated August 2010
 - 8. UFC 1-200-01, General Building Requirements, Change 2 (1 Nov 2018)
 - 9. UFC 1-300-08, Criteria for Transfer and Acceptance of Military Real Property
 - 10. UFC 3-560-01, Electrical Safety, O&M
 - 11. TM 111 Guidance provided in Fort Benning Environmental Considerations as listed on the projects FB-144R.
 - 12. UFC 3-600-01 Fire Protection Engineering for Facilities, Change 4 (7 Feb 2020)
 - 13. Fort Benning Fire Protection Supplement, Change 3 (1 Dec 2016)
 - 14. Unified Facilities Criteria (UFC) 1-200-01 DoD Building Code, 8 October 2019
 - 15. UFC 1-300-02 Unified Facilities Guide Specifications (UFGS) Format Standard, with Change 2
 - 16. UFC 3-101-01, Architecture, with Change 5, 25 September 2019
 - 17. UFC 3-301-01, Structural Engineering, 1 October 2019
 - 18. UFC 3-401-01 Mechanical Engineering, with Change 1
 - 19. UFC 3-410-01 Heating, Ventilating, and Air Conditioning Systems, with Change 6
 - 20. UFC 3-410-02 Direct Digital Control for HVAC and Other Building Control Systems, with Change 1

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21. UFC 3-420-01 Plumbing Systems, with Change 11
22. UFC 3-430-01FA Heating and Cooling Distribution Systems
23. UFC 3-430-07 Operations and Maintenance: Inspection and Certification of Boilers and Unfired Pressure Vessels, with Change 5
24. UFC 3-450-01 Noise and Vibration Control
25. UFC 3-600-01 Fire Protection Engineering for Facilities, with Change 4
26. UFC 3-601-02 Operations and Maintenance: Inspection, Testing, and Maintenance of Fire Protection Systems; download and print Warning Sign
27. UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings
28. UFGS 21 12 00 Standpipe Systems
29. UFGS 21 13 00.00 40 Fire-Suppression Sprinkler Systems
30. UFGS 21 13 13.00 10 Wet Pipe Sprinkler System, Fire Protection
31. UFGS 21 13 13.00 20 Wet Pipe Sprinkler System, Fire Protection
32. UFGS 21 30 00 Fire Pumps
33. UFGS 22 00 00 Plumbing, General Purpose
34. UFGS 22 07 19.00 40 Plumbing Piping Insulation
35. UFGS 22 05 48.00 20 Mechanical Sound, Vibration, and Seismic Control
36. UFGS 23 01 30.41 HVAC System Cleaning
37. UFGS 23 03 00.00 20 Basic Mechanical Materials and Methods
38. UFGS 23 05 93 Testing, Adjusting, and Balancing for HVAC
39. UFGS 23 30 00 HVAC Air Distribution
40. UFGS 23 41 13.00 40 Panel Filters
41. UFGS 23 07 00 Thermal Insulation for Mechanical Systems
42. UFGS 23 09 00 Instrumentation and Control for HVAC
43. UFGS 23 09 13 Instrumentation and Control Devices for HVAC
44. UFGS 23 09 33.00 40 Electric and Electronic Control System for HVAC
45. UFGS 23 09 53.00 20 Space Temperature Control Systems
46. UFGS 23 30 00 HVAC Air Distribution
47. UFGS 23 31 13.00 40 Metal Ducts
48. UFGS 23 36 00.00 40 Air Terminal Units
49. UFGS 23 34 23.00 40 HVAC Power Ventilators
50. UFGS 23 37 13.00 40 Diffusers, Registers, and Grills
51. UFGS 23 41 13.00 40 Panel Filters
52. UFGS 23 82 46.00 40 Electric Unit Heaters
53. UFGS 23 83 00.00 20 Electric Space Heaters
54. 2018 International Building Code (IBC)
55. 2018 International Existing Building Code (IEBC)
56. 2018 International Mechanical Code (IMC)
57. 2018 International Plumbing Code (IPC)
58. 2018 International Fire Code (IFC)
59. NFPA 70 2017 National Electric Code
60. NFPA 13
61. NFPA 14
62. NFPA 20
63. American with Disabilities Act (ADA) Compliance Guide
64. Fort Benning Installation Design Guide

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65. Fort Benning Environmental considerations as listed on the FB-144R
66. Comply with all Local, State, and Federal NPDES laws and guidelines.
67. United States Army Corps of Engineers, Safety and Health Requirements Manual EM 385-1. Applicable edition at award.
68. TM 111 Guidance provided in U.S. Army Training and Doctrine Command (TRADOC) Force Protection Program (FPP): Unified Facilities Criteria (UFC) for buildings
69. Compliance with Buy American Act & Buy American Statute

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

f. Preparation:

- i. Contractor shall 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 Officers Representative for review/consideration by the government. Review the project's FB-144R; Record of Environmental Consideration for compliance prior to initiating any work.

- ii. The Contractor shall test for lead and asbestos to determine the abatement requirements. The Contractor shall abate any lead/asbestos encountered during demolition.

g. Cost and Pricing:

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

h. 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 shall cooperate and coordinate work with all parties involved and is now notified of same.

i. Safety:

- i. General
 - 1. The contractor shall comply with all governing codes and standards. Contractor shall 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.

j. 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.

a. 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.

b. Required Submittals:

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- i. The contractor shall provide submittals according to the specifications or noted elsewhere in this Statement of Work.
- ii. The Contractor shall provide to the Government for review, comment and approval all submittals required herein prior to starting work, including design, engineering and construction documents as well as a timeline schedule for the work prior to beginning construction. Product submittals and shop drawings shall not be submitted until after the design submittals are reviewed and approved.
- iii. The Contractor's personnel shall compile submittals based on the Specifications or other sections in this Statement of Work. Submittals shall be complete before submitting to the Government for review. A complete submittal shall consist of all items required for a submittal. Sending information incrementally for one submittal is unacceptable.
- iv. 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/dis-approved.
- v. 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) when requested.
- vi. The contractor shall email or hand deliver all submittals to the contracting officer (MICC) designated for the project. DPW will accept any submittals unless filtered through MICC first.
- vii. The contractor's personnel or A/E firm shall indicate which product will be used when multiple products are listed on a submittal.
- viii. Failure to comply with i-vii may result in a disapproved submittal.

c. Special Instruction:

- i. Contractor shall insure 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 shall walk the site prior to leaving for the day to ensure all debris is picked up and disposed of properly.
- ii. The contractor shall 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.

3. Construction Detailed Requirements

01 General Requirements

i. Summary of Work

1. Architectural (see other sections for additional summaries)

a. Reference sheet A1.0 for all architectural related scope of work. This portion of work is 100% designed.

02 Concrete

i. General

1. Reference sheet A1.0 for all architectural related scope of work.

03 Masonry

i. Brick

1. N/A

ii. CMU (Concrete Masonry Unit)

1. Reference sheet A1.0 for all architectural related scope of work.

04 Metal

i. General

1. Reference sheets S1.2 and S4.1

05 Wood

i. General

1. Reference sheets S1.2 and S4.1

06 Thermal and Moisture Protection

i. Exterior

1. N/A

- ii. Interior

- 1. N/A

07 Openings

- 1. Reference sheet A1.0 for all architectural related scope of work.

08 Finishes

- 1. Reference sheet A1.0 for all architectural related scope of work.

09 Specialties

- i. Refer to Plumbing summary of work.

10 Equipment

- i. N/A

11 Furnishing

- i. N/A.

12 Special Construction

- i. N/A

21 Fire Suppression

- i. N/A

22 Plumbing

Plumbing Scope of Work for Demo

- 1. No known demolition needed

Plumbing Scope of Work for New Work (***Reference sheet P1.0***)

- 1. Reference sheet P1.0 for detail of 4" sanitary waste to lift station. The lift station does not currently exist. The lift station construction will be either under construction or follow the construction of this latrine project.

2. Provide and install two handicap lavatories in men's restroom, complete with all necessary supply, waste, and vent piping. Include all necessary faucets and pipe wrappings.
3. Provide and install two handicap lavatories in women's restroom, complete with all necessary supply, waste, and vent piping. Include all necessary faucets and pipe wrappings.
4. Provide and install two water closets in the men's restroom. One of which shall be a handicap type. Include all necessary sanitary, supply, and vent piping. Include proper commercial flush valve.
5. Provide and install three water closets in the women's restroom. One of which shall be handicap type. Include all necessary sanitary, supply, and vent piping. Include proper commercial flush valve.
6. Provide and install two urinals in the men's restroom. One of which shall be a handicap type. Include all necessary sanitary, supply, and vent piping. Include proper commercial flush valve.
7. Provide and install floor mounted mop basin in janitor's closet, complete with all necessary supply, waste, and vent piping. Include all necessary faucet. Ensure faucets have check valves to prevent a cross connection.
8. Provide and install 30 gallon water heater in janitor's closet mounted as instructed in drawing details.
9. Provide and install dual-height ADA drinking fountain to include bottle filler. Set at 50deg. Include all necessary sanitary, supply, and vent piping.
10. Provide and install wall hydrant at rear of latrine.

23 Mechanical

Mechanical Scope of Work for Demo

1. No known demolition needed

Mechanical Scope of Work for New Work (*Reference sheet M1.0*)

1. Provide and install 300 CFM direct drive centrifugal exhauster interlocked with the light switch in the men's restroom, complete with ductwork and vent.
2. Provide and install 225 CFM direct drive centrifugal exhauster interlocked with the light switch in the woman's restroom, complete with ductwork and vent.
3. Provide and install 70 CFM direct drive centrifugal exhauster interlocked with the light switch in janitor closet, complete with ductwork and vent.
4. Provide and install 175 CFM, 2,560 BTU wall heater in janitor closet.
5. Provide and install 400 CFM, 17,065 BTU electric unit heater in men's restroom.
6. Provide and install 400 CFM, 17,065 BTU electric unit heater in woman's restroom.

23 Electrical

Electrical Guidelines (New Work):

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Electrical new work shall comply with the design criteria specified in Technical Instructions TI 800-01 Design Criteria, TI 800-03 Technical Requirements for Design-Build, UFGS 26-51-00 Interior Lighting, UFGS 26-56-00 Exterior Lighting, Technical Manual TM 5-811-1 Electric Power Supply and Distribution, TM 5-811-2 Electrical Design - Interior Electrical System, National Electrical Codes (NEC), National Fire Protection Association (NFPA), and all referenced documents, as well as the following lists of Unified Facilities Criteria:

1. UFC 1-200-01 DoD Building Code
2. UFC 1-200-02 High Performance & Sustainable Building Requirement
3. UFC 3-501-01 Electrical Engineering
4. UFC 3-520-01 Interior Electrical System
5. UFC 3-530-01 Interior & Exterior Lighting System & Controls
6. UFC 3-560-01 Operation & Maintenance Electrical Safety
7. UFC 3-600-01 Fire Protection Engineering For Facilities

Electrical New Work: ***(Reference sheet E1.0)***

- 1) Contractor shall visit the site and carefully examine the site location affected by this work before submitting proposals, so as 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) **The electrical design document level is considered 85% because the lightning protection is NOT designed. The lightning protection design shall be required to meet 100% design. The Contractor shall then submit for government review of the electrical equipment submittal and 100% electrical design before work commences.**
- 3) All branch current circuitries will be copper wiring within the latrine, and sized to accommodate voltage drop.
- 4) All new lighting will be accomplished using LED lighting fixtures. Unless noted otherwise.
- 5) All new LED lamps will be with color temperature of 40000 degree Kelvin and a color rendering index (CRI) of 83. Unless noted otherwise.
- 6) New conduits are to be run in the wall or above the drop ceiling.
- 7) MC Cable is not allowed and EMT conduit is used for all interior wiring. MC Cable is only allowed for lighting circuits with no more than 6 foot long.
- 8) Contractor shall perform all work as specified on all the drawing sheets.
- 9) Provide and install the LDN6 5000 Lumen LED recessed downlight fixture (Fixture A) as indicated on the drawing.
- 10) Provide and install the LDN6 5000 Lumen LED recessed downlight fixture (Fixture A1) with emergency battery as indicated on the drawing.
- 11) Provide and install the ZL1D 5000 Lumen LED strip light fixture (Fixture B) as indicated on the drawing.
- 12) Provide and install the VAP, vandal resistant, wet location, surface mount light fixture (Fixture C) as indicated on the drawing.

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- 13) Provide and install the MRW LED 2P, 50K degree kelvin architectural wall sconce (Fixture D) with backup emergency battery as indicated on the drawing.
- 14) Provide and install EU2C LED Twin Head Emergency light fixture (Fixture E) as indicated on the drawing.
- 15) Provide and install LQM Double Face LED EXIT light fixture (Fixture X) as indicated on the drawing.
- 16) Provide and install new lighting circuit for exit sign fixtures and emergency lighting unit. Connect all exit sign fixtures and emergency lighting unit to a dedicated un-switched circuit.
- 17) Provide power to all the LED light fixtures, toggle switches, and/or ceiling mount occupancy sensors.
- 18) Provide and install toggle switch to control the light fixtures as indicated on drawing.
- 19) Provide and install occupancy sensors as indicated on the drawing.
- 20) Provide and install emergency or "Night" lighting in the building to maintain NFPA 101 Life Safety Code requirements.
- 21) Provide and install a 240V power service to Electric Water Heater (P-8) as indicated on the drawing. Provide and install the 30/2 fusible disconnect switch. Install power service to the Electric Water Heater (P-8) per manufacturer's recommendations.
- 22) Provide and install a 240V power service to Electric Unit Heater (EUH-1) as indicated on the drawing. Provide and install the 30/2 fusible disconnect switch. Install power service to Electrical Unit Heater (EUH-1) per manufacturer's recommendations.
- 23) Provide and install a 240V power service to Electric Unit Heater (EUH-2) as indicated on the drawing. Provide and install the 30/2 fusible disconnect switch. Install power service to Electrical Unit Heater (EUH-2) per manufacturer's recommendations.
- 24) Provide and install a 120V power service to Electric Wall Heater (EWH-1) as indicated on the drawing. Install power service to Electrical Wall Heater (EWH-1) per manufacturer's recommendations.
- 25) Provide and install a 120V power service to the Exhaust Fan (EF-1) as indicated on the drawing. Install power service to Exhaust Fan (EF-1) per manufacturer's recommendations.
- 26) Provide and install a 120V power service to the Exhaust Fan (EF-2) as indicated on the drawing. Install power service to Exhaust Fan (EF-2) per manufacturer's recommendations.
- 27) Provide and install a 120V power service to the Exhaust Fan (EF-3) as indicated on the drawing. Install power service to Exhaust Fan (EF-3) per manufacturer's recommendations.
- 28) Provide and install power service to a Sewage Lift Station. Contractor shall install a 2-inch schedule 40 PVC conduit from Panelboard (Panel RPA) routing underground to the location of the Lift Station Pump. See drawing sheet LS5.1 for the final location of the pump station by Columbus Water Works (CWW). Install power service to the Life Station Pump per manufacturer's recommendations.
- 29) Install all wiring in conduits unless specifically indicated otherwise.
- 30) Electrical contractor will obtain the meter base from Flint Electric and install the meter base on exterior wall as indicated on drawing.
- 31) Electrical contractor will connect the load side of meter base mounted on exterior wall to the new 200A Panelboard (Panel RPA).
- 32) Provide and install 200A, single-phase, 3-wire, 120/240V panelboard (Panel RPA) with NEMA-3R enclosure as indicated on the drawing.
- 33) All interior electrical system will be grounded in accordance with Article 250 of the 2020 National

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Electrical Code (NEC).

- 34) 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.
- 35) The identification labels will be laminated plastic labels with ¼ inch high lettering and will be color-coded. Additionally, conductor color coding will permanently posted at panels and other locations where the conductors are accessible in accordance with NFPA 70.
- 36) 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.
- 37) All materials shall be new and listed by Underwriters Laboratories as conforming to these standards. All work shall be executed in a workmanlike manner and shall present a neat and mechanical appearance when complete.
- 38) Contractor shall furnish and install all electrical outlets, switches, lighting fixtures and other devices indicated on the scope of work and drawings and required for a complete job. Provide wiring for all equipment and devices. Make connections to all equipment shown or specified.
- 39) All EMT conduit concealed. Unless specifically shown exposed. Conduit systems to be electrically continuous. Use double locknuts and bushings at boxes.
- 40) Upon completion, test entire wiring system and shown to be in perfect working order in accordance with the intent of these drawings. Promptly repair, replace or otherwise make good any defect becoming apparent during this period at no cost to the government.
- 41) Contractor shall survey job site to obtain a full understanding of work involved in connection with any existing conditions.
- 42) Contractor shall coordinate work with all other trades, construction drawings, project manager's instruction and owner's direction.
- 43) 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.
- 44) All conductors will be copper with type THHN/THWN 75°C insulation. Minimum size for branch circuits will be #12 AWG.
- 45) All interior cables will be installed in metallic raceway. Minimum size conduit will be ½ inch. Unless noted otherwise.
- 46) All branch circuits and feeders will have green equipment grounding conductors.
- 47) Conductors larger than #6 AWG will be identified with half lapped bands of green tape for 3 inches of length at the termination point.
- 48) Electrical Metallic Tubing (EMT) will be used for all branch circuit and feeder wiring in dry location. Unless noted otherwise.
- 49) All conduits shall be electrical metallic tubing (EMT), with flexible liquid tight metal conduit for mechanical equipment.
- 50) Rigid galvanized steel conduit will be used for branch circuit and feeder wiring located in damp or wet locations. Unless noted otherwise.
- 51) Liquid-tight flexible metal conduit shall not be used as the sole ground-fault current path.
- 52) PVC conduit will not be used except for exterior underground circuits.
- 53) All EMT fittings will be steel compression type; set screw type fittings will not be used.

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- 54) Provide double sealing and caulking around conduit, pipe or tubing passing through a wall (on both sides of the wall). Provide fire-caulk material on fire wall.
- 55) Provide the proper brand and weight of mineral wool insulation from both sides of the wall to cover space between the concrete block, pipe, conduit, and tubing.
- 56) Provide and install lightning protection systems for the Horse Bowl Latrine. The following items are the air terminals lightning protection system requirements:
- a) 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 per UL 96A and NFPA 780. Upon completion, the lightning protection system must obtain the "Master Label" certification.
 - b) Contractor shall design, provide, and install a lightning protection system in the building per UL96A and NFPA 780.
 - c) Provide and Install the lightning protection system in according to the manufacturer's written instructions, UL 96A, and NFPA 780, and other referenced codes and standards.
 - d) Install air terminals at least 12 inches higher than the structure and equipment for which they are protecting.
 - e) DC resistance of solid wires or stranded cables shall not be greater than 0.176 ohms per 1000 feet.
 - f) Down conductor bends shall not have a radius less than 8 inches or bends greater than 90 degrees.
 - g) Any metal object within six (6) feet of the lightning down-lead shall be bonded to the down conductor.
 - h) The interval between down conductors around the perimeters shall not be less than 50 feet nor greater than 100 feet.
 - i) Down conductors shall be bonded to the earth electrode subsystem.
 - j) All bonds between elements of the lightning protection subsystems shall be made by welding or brazing or UL approved high compression clamping devices.
 - k) 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).
 - l) 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.
 - m) All exterior hand rails, ladders, stairways, antenna pedestals, and antenna elements operating at ground potential shall be bonded to the lightning protection subsystem with a No. 6 AWG copper wire or larger.
 - n) Exposed and underground power lines shall be provided with UL approved lightning arrestors at the point of entrance into the building. The arrestors shall be installed in accordance with Article 280 of the National Electrical Code.
 - o) All security of perimeter fences shall be grounded in accordance with procedures outlined in MIL-HDBK-419.
 - p) 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.

- q) A ground rod shall be installed at each location and installed at a depth of 10 inches below grade.
- r) Each conductor shall be clearly labeled and identified.
- s) Bond all metallic underground services entering the building, and other underground and above ground metallic objects within 6 feet of the building.
- t) Do not use the building steel framework as a main conductor in lieu of a copper down conductor(s).
- u) 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.
- v) 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.
- w) 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.
- x) 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).
- y) Connect guy wire supports for exhaust stacks and poles to the lightning protection system at their lower ends.
- z) Position splices flat with roof surface. Install all LPS components to reduce tripping hazard.

27 Telecommunications Systems

- i. N/A

22 Fire Alarm and Mass Notification Systems

- i. N/A

31 Earth Work

I. DESCRIPTION OF CIVIL WORK:

- i. No ESPCP is required. BMPs are still required in accordance with GADNR. BMPs shown on drawing are for reference only. Contractor to install as needed.
- ii. Clear and grub area shown on drawing.
- iii. Area must be surveyed by a licensed surveyor to verify contours both existing and new.
- iv. Earthwork is to be completed similar as to what is shown on civil drawing.

II. GENERAL:

- a. Unless otherwise specified, follow GDOT Standard Specifications Construction of Transportation Systems (Current Edition).
- b. Construction to be per Ft. Benning Environmental Protection Requirements, Section 01560.

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- c. Follow all requirements in the Manual of Uniform Traffic Control Devices (MUTCD).
- d. Construction to be per Ft. Benning Material Requirements, Construction Products.
- e. Construction to be per DOD criteria, Army criteria, Ft. Benning criteria, International Building Code, NFPA, Life Safety Code, and local requirements, codes, and restrictions.
- f. Access to the site shall be coordinated with the DPW Engineering office.

III. DESIGN AND ENGINEERING:

This SOW with identified drawings and sketches represents the 35% design documents for bidding/proposal. The contractor shall provide As-Built Drawings, and an ESPCP Soil Erosion Plan if needed with Noticed of Intent for the project site.

- a. All work shall be in accordance with all applicable codes and standards including but not limited to:
 - i. GDOT Standard Specifications Construction of Transportation Systems (Current Edition)
 - ii. Installation Design Guide.
 - iii. Physical Security Regulation ZR190-17.
 - iv. TM 111 Guidance provided in Fort Benning Environmental Considerations as listed on the projects FB-144R.
- b. The Contractor shall be responsible for all permits, including payment of any associated fees.
- c. Any deviations from the design as shown on the 35% design drawings must be reviewed and accepted by DPW Staff.
- d. All design drawings shall be generated in either AutoCAD or MicroStation, and shall be geo-referenced to NAD83 Georgia State Plane West. All drawings shall be scaled to fit on Architectural Size D paper using the Sheet Border and Title Block provided by DPW.
- e. The "As-Built" drawings shall include plan, profile and cross-section views of the existing and proposed roadway, a grading and drainage plan, plus any needed detail plans, along with the ESPCP plans for obtaining the NOI.
- f. Upon completion of the project, the Contractor shall provide as-built drawings in a CAD format (AutoCAD or Micro Station) on a CD, a PDF copy, and two full size paper copies. All changes from the approved 100% design shall be clearly identified on the plans, as well as a log of the changes on each sheet.

IV. PREPARATION:

Contractor shall be responsible for field/site visit to obtain and verify measurements, site conditions, and to determine correct 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. The Contractor shall provide any/all deviations to accepted local, state, and federal building practices/codes to the attention of the Construction Inspector and Contracting Officers Representative for review/consideration by the government. The Contractor shall be responsible for obtaining utility spotting/location and permits that may be required by Environmental Considerations FB-144R.

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V. FILL SOIL

Upon coordination and approval with the appropriate DPW staff (POC Don Osborne), the contractor may obtain soil backfill material from borrow sites located on Fort Benning for the construction of this project.

VI. DISPOSAL OF CONSTRUCTION WASTE:

The Contractor shall be responsible for removing and disposal of all debris created by this project IAW local, state, and federal guidelines and laws. The Contractor shall dispose of all debris created by this project in Georgia/Alabama approved Landfill at the Contractor's expense. The Contractor shall maintain and provide upon request by the CO or the designated representative that construction debris from this contract has been disposed of IAW local, state, and federal guidelines and laws.

VII. SAFETY:

The Contractor shall comply with all governing codes and standards. The Contractor shall 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.

VIII. ACCESSIBILITY TO WORK SITE:

Monday-Friday, 0800 to 1730, excluding Federal Holidays or as approved by CO.

IX. DAILY HOUSEKEEPING:

The Contractor shall keep work area clean and remove all unneeded construction debris daily and/or as directed by the Construction Inspector.

X. REQUIRED SUBMITTALS:

100% Design
As-Built Drawings
ESPCP if Required.

32 Exterior Improvements

- i. N/A

33 Utilities

- i. Temporary utilities: Contractor shall provide for all temporary utilities and protections of the building; make modifications in order to be in accordance with (IAW) final SOW for a complete and usable facility.
- ii. Temporary Power: Options;
 - 1. 1) The contractor shall contact Flint Electric and arrange for construction power to the project site or provide electrical power generator for construction.

2. 2) Onsite power maybe used, however it shall be the contractor's responsibility to monitor all use of electrical power during the construction period to protect the Contractors' and Government employees and equipment.
- iii. All scheduling, submittals and installation of utilities connections involved with this project are to be coordinated with DPW, Utility Chief and all appropriate utility providers.
- iv. Incorporate utility design information into project plans and furnish documentation to DPW and utility providers.
- v. Repair/replace any site conditions disturbed within the limits of construction as practicable to pre-existing conditions.

41 Material Processing and Handling Equipment:

- i. N/A

ANTI-TERRORISM / OPERATIONS SECURITY REQUIREMENTS

The Contractor shall comply with Government personal identity verification procedures implemented in Homeland Security Presidential Directive (HSPD) – 12, Office of Management and Budget (OMB) Guidance M-05-24, and Federal Information Processing Standards Publication (FISP PUB) number 201. Contractor and all associated subcontractor employees shall comply with applicable installation, facility and area commander installation/facility access and local security policies and procedures provided by government representative. The contractor shall also provide all information required for background checks to meet installation access requirements to be accomplished by installation Provost Marshal Office, Director of Emergency Services or Security Office. Contractor workforce shall comply with all personal identity verification requirements as directed by Department of Defense (DoD), Headquarters Department of the Army (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.

1. AT Level I Training: 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>. AT Level I training is an annual requirement if option years are exercised.
2. Access and General Protection/Security Policy and Procedures: Contractor and all associated sub-contractors 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

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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.

2a. Contractors Requiring a Common Access Card (CAC): N/A.

2b. 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 (TSDB) (Army Directive 2014-05/AR 190-13), applicable installation, facility and area commander installation/facility access and local security policies and procedures (provided by government representative), or, at OCONUS locations, in accordance with status of forces agreements and other theater regulations.

3. AT Awareness Training for Contractor Personnel Traveling Overseas: N/A.

4. iWATCH Training: The contractor and all associated sub-contractors shall brief all employees on the local iWATCH 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 30 calendar days after contract award.

5. Army Training Certification Tracking System (ATCTS) Registration for Contractor Employees who Require Access to Government Information Systems: N/A.

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

7. Operations Security (OPSEC) Training: N/A.

8. Information Assurance (IA)/Information Technology (IT) Training: N/A.

9. Information Assurance (IA)/Information Technology (IT) certification: N/A.

10. Contractors Authorized to Accompany the Force: N/A.

11. Performance or Delivery in a Foreign Country: N/A.

12. Handling or Access to Classified Information: N/A.

13. Threat Awareness Reporting Program: N/A.

Additionally, the contractor shall adhere and conform to all safety, security and attendance requirements that apply to the supported office. The contractor is required to attend and participate in all organizational meetings,

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training, and emergency preparedness events and is required to vacate the Government office work site when no sufficient Government oversight is available.

-- End of SOW --