APPENDIX - A

SCOPE OF WORK

For

REQUEST FOR PROPOSAL

Renovate FTD Classroom for F-35, B549

TYNDALL AFB FLORIDA

FOR PROJECT XLWU 21-8108

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1.0 SCOPE

1.1 Purpose

A. The purpose of the Tyndall Air Force Base (TAFB) project XLWU 21-8108, Renovate FTD Classroom for F-35, B549, is to bring the facility up to the standard necessary to serve as a training facility for F-35 aircraft maintenance. The intent of this project is to provide the Government with a fully functional m maintenance training facility on Tyndall Air Force Base, Florida, meeting all the requirements for its intended use, installed to high standards and the requirements of the Contract Documents. The Design-Build Team will consist of a General Contractor and an AE firm that shall perform the services herein and as described in this Scope of Work (SOW).

B. The scope of work is based on HVHZ FBC, section 1602.2 criteria for Miami Dade County Risk Category III and IV Buildings and Structures meeting 186 mph. Based upon our AF Structural SME recommendations and in alignment with the SecAF directed Severe Weather Readiness Assessment recommendations, the Tyndall PMO will use the UFC 3-301-01 and the following Tyndall design wind speeds based upon Risk Categories III-V. RC III 165 mph and RC IV 170 mph (Risk categories are defined by UFC 03-301-01, Table 2-2).

C. All exterior building envelope materials such as, but not limited to windows, glazing, roofing systems, concrete masonry unit or metal panel walls, and doors shall have a current Miami-Dado Notice of Acceptance (N0A) and installed to HVHZ standards that match the specified wind requirement. Our construction industry partners shall continue to have the option of submitting test results or drawings sealed by a Professional Engineer stating conformance with HVHZ standards in lieu of materials pre-approved by Miami-Dade County.

D. While we should always use our Unified Facilities Criteria as the basis for all our facilities designs, we will also integrate the best practices from the Florida Building Code (FBC) High-Velocity Hurricane Zone (HVHZ) into this design guidance to further improve facility resiliency at Tyndall. Other details from the memorandum may apply as well.

E. A Risk Category III is applicable to support structures and must meet the requirements for a 165 mph wind speed. Support structures include but are not limited to porches, awnings, canopies, etc. The building envelope is not required to be brought up to those standards at this time. The repairs and new installation work must meet all current codes and standards.

F. This task order delivery method is Design-Build (D-B). Work on supporting facilities includes external building fixtures, building utilities within the Points of Demarcation (POD) for privatized utilities, and work within the Administration / Office Building. The Contractor shall be responsible for providing all labor,

equipment, tools, materials, and services necessary to complete the project within the allotted timeframe.

G. This project has an estimated period of performance from Notification to Proceed (NTP) through completion and turnover of the facility back to the Government for mission operations of 270 calendar days.

H. Implementation of work will not start until an approved 100% Design has been issued. Ordering of long lead items may be coordinated with CO.

I. The latest IFC is to be used for color selection to assure base uniformity. Match existing colors as close as possible. Lighter colors are encouraged. Colors will be approved for use on a per building basis.

1.2 General:

A. Field Changes: The Contractor and the Government may agree to perform a no cost field change. Field changes are made when the change appears to be mutually beneficial to all parties and would not require changing the negotiated items. All field changes must be approved by the CO prior to execution. Only the CO may authorize field changes or deviations from the SOW.

B. Surveys: A Survey for asbestos, mold and lead paint should be conducted prior demolition or rehabilitation regardless of being outlined in the work tasks.

C. Ancillary Task: The tasks in this scope of work do not describe all the ancillary tasks required to complete the task. The contractor is required to complete all ancillary tasks to meet codes and standards that results in a complete and useable facility. Any task omissions by the contractor in their proposal will be the responsibility of the contractor.

D. Quantities and Measurements: All quantities, square footage, linear footage, etc. are estimate to assist contractor in determining scale and scope of this project. Contractor is responsible to verifying and calculating his own quantities for his proposal and estimates do not relieve contractor from providing required quantities and cost to successfully complete project. For example measurements for drywall and painting is a square footage for the room versus the actual wall square footage. Contractor shall provide all calculations, and quantities for government review/approval.

E. The building is not being brought up to ADA or ABA standards.

F. The Fire Protection is not being brought up to meet current standards. Any new additions must be installed per the current codes.

G. Available drawings can be provided upon request.

1.3 Requirements:

1.3.1 Exterior Windows, Curtain Walls, Storefronts, Doors, and Louvers Architectural Design Criteria: N/A

1.3.2 HVHZ Windows and Storefronts Performance Requirements: N/A

1.3.3 Lighting

A. The interior lighting replacements will be LED lights with a CRI 90

B. The exterior lighting replacement will be LED lights with a CRI 80 and a minimum of 4000K unless wildlife preservation lighting is required. 4000K has been found to be the best color temperature for visual acuity at night and will aid in the safety of pedestrians and hazard identification for nighttime drivers.

C. Wildlife Preservation Lighting for all exterior lighting for Tyndall AFB, southwest of US Highway 98.

a. Provide LED light engines that work with Amber color with a wavelength higher than 560 nm.

b. All exterior fixtures on the seaward and the shore perpendicular sides of the building (and on the landward side of the building if they are visible from the beach). This lighting will take precedence over the other lighting requirements within the area.

c. Exterior light fixtures should illuminate at 560 nanometers (nm) with an amber light color and all lights shall be located as low as possible.

d. Any light that is a bright white, blue, etc (longer nm) and can be seen from the property coastline at night is considered “unfriendly” lighting for turtle nesting per PCFUSFWS, 2006, page 4.

D. Exit lights will be LED

1.3.4 Carpeting

A. The requirements for the AF GSA carpeting program must be met for quality and pricing.

1.3.5 Exterior Hollow Metal Doors: N/A

1.3.6 Rollup Doors:

A. Doors shall be minimum of 20 Gauge aluminum with 24 gauge frames.

B. Provide explosion proof motors and controls where hazardous vapors may be encountered.

1.3.7 Louvers: N/A

1.3.8 Chillers

A. All new chillers will be Trane per memorandum on HVAC.

B. All Controls will be Siemens per memorandum on HVAC controls with backwards compatibility with existing devices.

1.3.9 VAVs

A. VAVs should be utilized for new systems.

1.3.10 System Controls

A. The control system should be a BAS or equivalent capable of controlling/monitoring the entire heating, ventilation, air conditioning system. The system shall also include the ability to calculate compressor runtime and include the following points:

• VAV Boxes	• AHUs
• Exhaust Fans	• Boilers (Heating/Domestic Water)
• Chillers	• Chilled/Hot Water Pumps
• Ambient Temperature and Humidity	• Domestic Hot Water Recirculation Pumps

B. The system shall be interfaced with the building fire alarm system and shall be provided with additional devices required by AT/FP standards to permit system shutdown in an emergency. All air-handling system(s) over 2,000 CFM shall be interfaced with the building fire alarm system and be capable of emergency shutdown. The system shall be capable of temperature control, occupied/unoccupied scheduling, night setback control, and alarms.

C. The guidance in TAFB APPENDIX L - FRCS GUIDE 02-17-21 shall be used for designing controls for Fire Protection, HVAC, and other related Siemens controls for Tyndall

1.3.11 Fire Alarm System

A. The fire alarm and mass notification systems shall be a combined system in compliance with UFC 3-600-01, UFC 4-021-01, and National Fire Protection Association (NFPA) 72 for the entire building. The new fire alarm system shall include the initiation detectors for the preaction sprinkler system. Ultra-sensitive sensors must be installed in the Data Center, Test Area, and similar priority areas.

1.3.12 Automatic Bathroom and Kitchen Accessories: N/A

1.3.13 Roof Access:

A. When required, roof access will be provided by building-mounted external ladders secured by locked cages or similar mechanisms. Access to keys will be limited to appropriate facility users, maintenance personnel, and emergency responders. Reference request for deviation F325CES-E20-04 10/30/2020.

1.3.14 Design Flood Elevation

DFE is defined in UFC 3-201-01, Civil Engineering, as the, "elevation of flooding, including wave height, having a 1% change of being equaled or exceeded in a given year." DFE is also used to refer to the 100-year flood (or 1 % annual chance event (ACE)).

A. For the Gulf side (generally southwesterly of Highway 98) the DFE is 19' above today's mean sea-level (MSL); and

B. For the East Bay side, generally northeasterly of Highway 98, the DFE is 14' above MSL

1.3.15 Inspections

The Contractor shall advise the Government 48 hours before performing any concrete pouring, backfilling, wall covering, or test operation that will encase or cover his work. For soil compaction tests, a minimum of 72 hours notification shall be required.

2.0 Summary of Work

The Contractor shall be responsible for all professional services, A/E design, permits, equipment, labor, tools, materials, and ancillary items necessary to complete the tasks defined by the SOW. The performed tasks shall be based on the project description, other data furnished in this SOW, and information covered during the pre-bid meeting. Project location of existing facility can be found in Appendix B Project Location.

2.1 Task 1.0 – Design Renovations to B549: Design the renovations to B549 to support the basing of F-35s at Tyndall AFB. The facility will be designed in accordance with all applicable Air Force and DoD regulations. The renovation will occur in select rooms and meet the specifications and requirements as listed in the following paragraphs.

2.1.1: Rooms 101 – 105 (EML Classrooms):

a. Install raised platform 12 inches high, 84 inches wide and the full width of the room. Install carpet squares to match remainder of room. Raised platform shall maintain access to the existing raised floor.

b. Remove and replace existing carpeting with new carpet squares in order to maintain access to existing raised floor.

c. Install flush mounted floor boxes at each of the eight student desks. Floor boxes will have one duplex outlet to provide 120 VAC power and a single communications port for CAT 6 cable. Install wire to provide power to each of the outlets, and run CAT 6 cable under the raised floor to the instructor desk from each student desk.

d. Install flush mounted duplex outlets in the ceiling to provide 120 VAC power to each of the designated locations for the ceiling mounted projectors. Install wire to provide power to the outlets. Install conduit from each of the projector locations to the instructor desk and install CAT 6 cable in the conduits with RJ 45 connectors.

e. Install flush mounted duplex outlets in the wall to provide 120 VAC power to each of the designated locations for the projector screens. Install conduit from instructor desk to the designated projector screen locations in order to allow instructor to control the projector screens.

f. Replace existing lighting and controls to provide 2 zones of dimmable lighting capable of providing 0-50 ft candles of indirect lighting. Controls shall be installed at

the room entrance and the instructors' desk. Zones shall be divided into front 2/3 and rear 1/3 of room. Controls shall allow instructor to dim lights as needed.

g. Install 2 fiber lines and necessary conduit from instructors' desk in each classroom to the server room (Room 113) to allow access to the server.

h. Install one base telephone receptacle and 4 network drops at the instructor desk in each classroom.

i. Install patch panel at instructor desk in each classroom able to network student desks and instructor desk. Panel will also allow instructor to access base network.

2.1.2 Room 106 (EML Classroom):

a. Install raised platform 12 inches high, 84 inches wide and the full width of the room. Install carpet squares to match remainder of room. Raised platform shall maintain access to the existing raised floor.

b. Remove and replace existing carpeting with new carpet squares.

c. Install flush mounted floor boxes at each of the eight student desks. Floor boxes will have one duplex outlet to provide 120 VAC power and a single communications port for CAT 6 cable. Install wire to provide power to each of the outlets, and run CAT 6 cable under the raised floor to the instructor desk from each student desk.

d. Install flush mounted duplex outlets in the ceiling to provide 120 VAC power to each of the designated locations for the ceiling mounted projectors. Install wire to provide power to the outlets. Install conduit from each of the projector locations to the instructor desk and install CAT 6 cable in the conduits with RJ 45 connectors.

e. Install flush mounted duplex outlets in the wall to provide 120 VAC power to each of the designated locations for the projector screens. Install conduit from instructor desk to the designated projector screen locations in order to allow instructor to control the projector screens.

f. Replace existing lighting and controls to provide 2 zones of dimmable lighting capable of providing 0-50 ft candles of indirect lighting. Controls shall be installed at the room entrance and the instructors' desk. Zones shall be divided into front 2/3 and rear 1/3 of room. Controls shall allow instructor to dim lights as needed.

g. Install 2 fiber lines and necessary conduit from instructors' desk in each classroom to the server room (Room 113) to allow access to the server.

h. Install one base telephone receptacle and 4 network drops at the instructor desk in each classroom.

i. Install patch panel at instructor desk in each classroom able to network student desks and instructor desk. Panel will also allow instructor to access base network.

2.1.3 Room 107 (Outer Mold Line):

a. Install wall mounted conduit, wiring and a 120 VAC duplex outlet at each student desk to provide power to each of the 12 student workstations. Provide an additional 4 outlets throughout the room.

b. Install wall mounted conduit, CAT 6 cable and a communications outlet at each student desk to provide network access at each of the 12 student workstations and the instructor workstation.

c. Seal existing concrete floor with traffic rated epoxy.

d. Install emergency eye wash station and plumb to existing water and drain lines.

e. Install wall mounted compressed air lines to provide compressed air at each of the 12 student workstations and the instructor workstation. The system shall provide filtered (40-micron) compressed air at 80-125 psi at 10-40 scfm at each workbench. Each workstation will have a manifold with ¼" industrial style quick disconnect, a moisture trap, and a pressure regulator. System shall be tied into existing compressed air system in the building.

f. Provide individual ventilation system at each workstation to remove toxic fumes associated with the training. System should vent exist from each workstation to outside the building.

g. Install one base telephone receptacle in the room.

2.1.4: Room 113 (Data center):

a. Install two CRAC units (8 tons each) to provide cooling necessary for server to be installed by user. Each CRAC shall be able to provide 65% of the cooling requirement estimated to be at 150,000 BTU/hr. Units shall be split type units with chiller unit placed on concrete pad outside building.

b. Install an electrical ground bar assembly, part number SCGB-12KT, 1/4 in x 4 in x 24 in, (0.64 cm x 10.2 cm x 61 cm), 7/16 in (1.11 cm) hole size, with a minimum of 20 holes.

c. Install raised floor vinyl flooring with 10% of the tiles perforated to allow cooling through bottom of server stack. Tiles must movable to allow for final location to be changed based on actual installation of servers. Raised floor should be 12 inches high and be installed throughout the room.

d. Install a wall-mounted main circuit breaker disconnect, with shunt-trip capability to allow for future installation of UPS to power servers.

2.1.5 Rooms T-35 and T-36 (Instructor Office):

a. Remove interior wall between T-35 and T-36 and install header as necessary.

b. Install wall mounted conduit with wiring and Cat 6 cable to provide communications and power to 25 work stations.

2.1.6 Room 107 (Engine Maintenance Trainer):

a. Install wall mounted conduit, Cat 6 cable and communications outlet at two locations in room.

b. Install emergency eye wash station and plumb to existing water and drain lines.

c. Seal seams and cracks in existing concrete floor and coat with traffic rated epoxy.

d. Install low resistance grounding system. Electrodes shall not have a resistance to ground that exceeds 10 ohms.

e. Install wall mounted compressed air lines to provide compressed air at each of the two workstations. The system shall provide filtered (40-micron) compressed air at 80-125 psi at 10-40 scfm at each workbench. Each workstation will have a manifold with ¼" industrial style quick disconnect, a moisture trap, and a pressure regulator. System shall be tied into existing compressed air system in the building.

f. Install one base telephone receptacle in the room.

g. Remove existing roll up door, increase width of current opening to 14 feet and install new roll up door to meet requirement of 14 ft wide x 12 ft high opening.

2.1.7 Room T-14 (FIN):

a. Replace or upgrade existing transformer to provide required power as listed in line item b below. Coordinate with GCEC regarding any and all work to replace the transformer and provide the necessary power.

b. Install wiring and provide power to support industrial equipment located in lab per end user requirements: 208V 1PH, 208V 3PH, 208/230V, 220V, 415V.

c. Install mezzanine system to provide 900 sf of raised storage space above the floor. Floor to the bottom of the mezzanine height shall be at least 8 feet to allow full use of the area under the mezzanine.

d. Install emergency eye wash station and plumb to existing water and drain lines.

e. Install one base telephone receptacle in the room.

2.1.8 Room T-15:

a. Install ventilation system to remove exhaust from welding operations

b. Install emergency eye wash station

2.2 Task 2.0 – Perform Renovations to B549: The contractor shall perform the renovation effort in strict accordance with the 100% approved design. Clean up work areas and legally dispose of all waste off site. Following completion of the installation effort, the contractor will provide training to designated Air Force personnel to operate and maintain the systems in accordance with the manufacturer's guidelines.

3.0 POINTS OF CONTACT (POCs)

3.1 POCs will be coordinated through the CO.

3.2 Contracting Officer Authority:

A. CO, the term used herein, does not include any representative not acting within the scope of his/her authority. Notwithstanding any of the provisions of this contract, the CO shall be the only individual authorized to in any way amend or modify the terms of this contract.

3.3 Project Manager (PM): Robert Wolfenden

3.4 User Contact: TBD

3.5 Building Contact: TBD

END OF DOCUMENT