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February 18, 2025

All Bidders

Re: **Addendum No.1**
Washington County Airport
Procure 14 Unit T-Hangar

Dear Bidders:

The contents of this Addendum alter and amend the original drawings and specifications and take precedence over the related items herein. This letter addendum (2 pages) and accompanying attachments (8 pages) are being sent via e-mail only.

CLARIFICATIONS / ADDENDUM CHANGES

PROJECT MANUAL

P1. Please replace the following page(s) in the Project Manual with the included sheet(s). Page number(s) on the bottom of the page(s) correspond with those in the Project Manual. All addendum changes on these page(s) are shown in bold and italic text.

Division	Page Number	Description	Direction
10	1-8	T-Hangar Building Performance Specification	Delete in its entirety and replace with T-Hangar Building Performance Specification Addendum No. 1

LIST OF ATTACHMENTS

1. T-Hangar Building Performance Specifications – Pages 1 - 8

The inclusion of this Addendum shall be noted in Division 3 on Page 2 of the Proposal and the signature of the Bidder shall indicate full acceptance of the provisions herein.

All other provisions of these Specifications, Drawings, and Contract Documents shall remain unchanged and in full effect.

This Addendum shall be signed and attached to the Form of Proposal for the referenced contract. This Addendum shall also be attached to and become part of the Specifications for this Contract.

Sincerely,

Dennis Pivik, P.E.
Aviation and Civil Engineering Services

ADDENDUM NO. 1 (*include a signed copy of this page with the Bid Proposal****)***

_____ _____

Contractor Signed

_____

Dated

Enclosures

K:\EBG_T_DRIVE\MRK_Literature\APRTS_MRKT\ADMIN\Washington Co ,PA\Engineering Services Contract\WO 2025-01 14 Unit T Hangar\Hangar Procurement Bid Documents\5000 BIDDING\5050 Addendums

T-HANGAR BUILDING PERFORMANCE SPECIFICATION

1.0 General Project Description

Washington County the owner and Washington County Redevelopment Authority the operator of the Washington County Airport (Airport), is planning for the construction of a 14 Unit T-Hangar at the Airport. This contract will be for the procurement and delivery of the t-hangar to the Airport.

T-Hangar shall be supplied by a manufacturer who is regularly engaged in the manufacturing of aircraft hangar buildings and bi-fold hangar door systems. The T-Hangar package shall be supplied as a complete system as defined per these specifications and drawings. The units shall be furnished by a manufacturer who designs and manufactures bi-fold doors and hangar buildings as an integral hangar building package. The manufacturer shall have been engaged in the manufacturing of the building and bi-fold doors for a minimum of fifteen (15) years and upon request from the Owner to provide a list of completed hangar projects. Manufacturer shall furnish complete design drawings that are signed and sealed by an Engineer currently registered in the Commonwealth of Pennsylvania within ***Thirty (30)*** calendar days after award.

The low bidder for this Bid Package shall supply the information required and shall manufacture and deliver the t-hangar to the Airport. The T-Hangar Erection Contractor will receive and erect the t-hangar under a separate contract with the Airport.

2.0 T-Hangar Size and Dimension

T-Hangar size will be as defined below **and see Addendum 1 Site Plan attached to the Specifications.**

T-Hangar

Number of Units	Fourteen (14)
Building Length	360-feet
Building Depth	60-feet
Building Eave Height	18-0" Minimum
Clear Door Opening	***47'-6"*** x 16'-0" Minimum.
Roof Pitch	***1*** Vertical to 12 Horizontal Minimum

End Storage Unit

Clear Door Opening ***Frame out for a 12'-0" x 13'-6" Roll up door. The roll up door shall be located in front of the storage unit and provided by erector contractor.***

Man-Doors ***A single ADA-compliant man-door is required to meet applicable codes. Panic hardware and emergency lighting are also required to meet codes. This man-door shall be located in the front of each unit. Man-doors shall be of a color to match the other doors and sheeting.***

2.1.1 Building dimensions shall be as measured from center line to center line of endwall columns. Add 1'-1" to each building dimension for the out-to-out size of the concrete floor.

2.1.2 Eave height shall be as measured from the top of the eave purlin or door truss to the bottom of column base plate.

3.0 Minimum Standards

Minimum Standards for T-Hangar: The following will present the minimum standards that must be met by the T-Hangar Construction. These standards are the minimum that will be accepted by the Township, but the developer/owner may opt to exceed these standards for his/her individual hangar. Additionally, these minimum standards do not supersede any Federal, State or Local Codes that may exist in South Franklin Township. The T-Hangar must meet all codes that are in place at the time of the construction.

3.1 Structural

3.1.1 Primary structural framing shall be main load carrying structural members. They shall include door trusses, rafters, interior columns and exterior columns. Minimum design deflection shall be L/240.

3.1.2 Rafters shall be steel wide flange beams "W" shaped ASTM A992 and shall be pre-punched for purlin connections, door truss, and interior column connections. Rafters shall be complete with factory welded ridge splice plates and designed to support specified loads.

3.1.3 Door truss shall span width of hangar door opening and shall be shipped full length for ease of construction. Door truss design shall be integral with door design. Door truss shall be factory welded with chords 4" x 4" x 1/8" minimum square structural welded steel tube ASTM A500 GR.B. and 3" x 1" x 1/8" minimum diagonal webbing. Door truss shall be pre-punched for column connection and door hinges pre-located on upper door truss chord. Field welding of door frames, door hinges or pick up plates are not acceptable.

3.1.4 Door columns shall be manufactured of steel wide flange beams "W" shapes ASTM A992 and shall be W6 x 15 pounds per foot minimum with pre-welded base plate and door truss saddles. Field welding of components is not acceptable.

3.1.5 Interior column shall be square structural welded steel tube ASTM A500 GR. B with pre-welded four bolt base plates and girt clips.

3.1.6 Secondary framing shall be the structural members which carry the loads to the primary framing systems; and shall include the purlins, girts, wind bracing and miscellaneous structural members.

3.1.7 Purlins shall be nominal 8" deep "Z" shaped members; and shall be manufactured of 16-, 14-, or 12-gauge steel designed for specified loads, and shall be fabricated of material based on the requirements of ASTM A570 or ASTM A572 as applicable.

3.1.8 Exterior wall girts shall be fabricated from 4" square structural weld steel tube or rolling formed ‘cee’ sections of ASTM 570 or ASTM A572 as applicable. Flush mount design.

3.1.9 Provide wind bracing, rafter bracing, sheeting angles where required to meet building codes.

3.1.10 Structural field connections shall be bolted (unless otherwise noted). All primary bolted connections, as shown on manufacturer's drawing, shall be furnished with high strength bolts conforming to the physical specifications of ASTM A-325 or shall be Grade 5. All Grade 5 bolts shall be zinc plated.

3.1.11 3" x 8" 11 ga. fuel containment angle at the base of all interior partition walls to prevent fuel spills from penetrating adjacent units. Fuel resistant sealant included. ***Anchors/fasteners for fuel containment angles are required and will be provided by the erector contractor.***

3.1.12 All structural members shall be shop primed red oxide.

3.2 Sheeting

3.2.1 Roof sheets shall be 26 ga. conforming to ASTM specification A-446 ***with a Kynar 500 finish coating*** . The color shall be a manufacturer's standard color and shall be approved by the Airport prior to manufacturing. Panel configuration shall be 36" and furnished full length. Panel configuration shall be 1-1/4" min. major ribs 12" on center. Sheeting should have a minimum yield of 80 ksi. Wall sheet shall be furnished full height. Minimum 35-year limited warranty. ***Roof sheets shall extend beyond the eave line to accommodate gutters and downspouts.***

3.2.2 Wall sheeting shall be 26 ga. conforming to ASTM specification A-446 with a Kynar 500 finish coating. The color shall be a manufacturer's standard color and shall be approved by the Airport prior to manufacturing. Panel coverage shall be 36" and furnished full length. Panel configuration shall be 1-1/4" min. major ribs 12" on center. Sheeting should have a minimum yield of 80 ksi. Wall sheeting shall be furnished full height. Minimum 35-year limited warranty.

3.2.3 Five (5) spare wall sheets minimum 18' in length shall be provided with the t-hangar package. They shall be wrapped so they can be stored as spares by the Airport.

3.3 Trim and Other Exterior Components

3.3.1 Building trim shall include eave trim, corner trim, service door trim, and hangar door trim. All trim shall be 26 ga. and manufactured of flat stock material equal in quality to wall sheets and to match the color of the wall or roof, depending on the location of the trim. All trims to be hemmed.

3.3.2 Roof caulking shall be at all roof sheet side laps and at all locations where the roof meets the walls. Roof caulk shall be a tape sealant type and shall be pre-formed butyl rubber base and shall be supplied as a 3/16" x 3/8" extruded shape.

3.3.3 Inside and outside semi-rigid cross-linked polyethylene foam closure shall be provided as required to provide a bird proof building. Closures are to be provided on bi-fold doors, end walls, side walls, roof overhang, eave and rake of end wall. Closure shall be self-adhesive.

3.4 Fasteners

3.4.1 Roof fasteners shall be #12-14 x 1" Ultimate #3 steel head color match with steel shank, hex head, and dual seal washer.

3.4.2 Roof stitch screws shall be #12 x 3/4" Ultimate point hex head color match with sealing washer.

3.4.3 Wall fasteners shall be #12-14 x 1" Ultra-Z #2 long point hex head color match self-drilling sheet metal screws with washer.

3.4.4 Wall sheet stitch screws shall be 1/4" - #14 x 3/4" Ultimate point hex head color match self-drilling lap screw with washer.

3.4.5 Manufacturer is required to provide at least 5% extra quantity of all fastener types necessary to complete the assembly of the entire hangar package. These shall be in containers to be stored for future use.

4.0 Building Design

4.1 Design Parameters

Design loads shall be as stated herein and shall be in accordance with IBC **2021** International Building Code standard design practices as adopted by South Franklin Township, Washington County, PA and ASCE 7-10.

Ground Snow Load	25 psf (non-reducible)
Live Load	20 psf
Dead Load	To include weight of all PEMB roof components.
Collateral Load	3 psf
Wind Load	115 mph
Exposure	C
Seismic Class	D
Construction Type	II B
Occupancy Category	II
Use Group	S-1
NFPA Construction Type	II (000)
Importance Factors	1.0

4.2 Hangar Doors

4.2.1 A bi-fold door shall be integral with hangar building design.

4.2.2 Electric door operator shall be a top mounted operator on center of door truss and shall be provided with adjustable turnbuckles. Motor shall be ***1-0*** H.P. (minimum) for Unit Hangars, 230 V.A.C. single-phase thermally protected and supplied with a reset button. Motor shall be totally enclosed capacitor start. Cable drum shall be a direct drive drum by shaft mounted gearbox. Gearbox shall be oil bath two-stage gearbox, bronze worm gear, hardened steel spur gears, tapered roller and ball bearings. Door operator shall be pre-wired at factory complete with 24 V.A.C. momentary up and constant pressure down push button control, magnetic controllers, geared rotary limit switch attached to cable drum designed to coordinate reversing operation, spring set electric brake, and up-stop safety switch; over-ride safety mercury tilt switch to disconnect power in case of over travel. Power connection shall be by heavy-duty 230-volt plug for easy connection.

4.2.3 Electric door hardware shall include 3" dia. bottom guide roller with sealed bearing and column followers, manual cam locks of door, center cane bolt pin 1" dia. minimum and embedded floor sockets, 16" minimum center plated door poppers and skid plates, all require hinge pins, 3/16" dia. 7x19 galvanized aircraft cables with wire rope clips and thimbles, bottom and top 2-ply rubber astragals, 5" dia. steel sheave wheels with ball bearings.

4.2.4 Each bi-fold door shall be provided with 3'-0" x 6'-0" white steel flush entry door, 1-3/4" 24 ga. polyurethane foam core thermal broke leaf with R-12 insulation value, 16 ga. white thermal broke frame, dual seal bulb weather-stripping, and ANSI A156.2 Series 4000, Grade 2 with individual and mastered keys.

4.2.5 Manual latches of each side of hangar door shall be provided.

4.2.6 Hangar doors shall be installed according to manufacturer's installation instructions. The installation of the hangar doors shall be the responsibility of the T-Hangar Erection Contractor.

4.3 Not Used

4.4 Anchors

4.4.1 Unheaded Anchor Rods: ASTM F 1554, Grade 36.

4.4.1.1 Configuration: Straight.

4.4.1.2 Nuts: ASTM A 563 heavy hex carbon steel.

4.4.1.3 Plate Washers: ASTM A 36 carbon steel.

4.4.1.4 Washers: ASTM F 436 hardened carbon steel.

4.4.1.5 Finish: Plain.

4.5 Insulation. - Not Used.

4.6 Snow Guards and Gutters/Downspouts

4.6.1 Snow guards are required to be provided by the building manufacturer and installed by the Hangar Erection Contractor per the building manufacturer's recommendation.

4.6.2 Rain gutters shall be provided for both sides of the t-hangar to capture runoff from the t-hangar roof. Downspouts must be provided from the rain gutters and will be outlet into the underground stormwater detention facility adjacent to the hangars. Rain gutters and downspouts must be the same color as the hangar and must be able to withstand the design windloads for the area. The T-Hangar Erection Contractor will install the rain gutters and downspouts per the manufacturer's recommendation.

5.0 Submittals

5.1 Bid Submittals

The Manufacturer shall submit that the building meets American Institute of Steel Construction (AISC) Certification for Category Metal Building (MB): Include statement that metal building system and components were designed and produced in an AISC-Certified Facility by an AISC-Certified Manufacturer. In lieu of the AISC certification, a 3rd party certified inspection firm shall be hired to conduct Special Inspections at manufacturer's facility of building and bi-fold doors. One hundred (100) percent of all components and welds shall be inspected during the manufacturing process. A 3rd party special inspectors' quality control report is acceptable in lieu of AISC certification.

5.2 Project Submittals

Within ***Thirty (30)*** calendar days from Notice of Award, the Manufacturer shall submit seven (7) copies of the following:

- Design calculations, drawings and documents containing information requested for permits and approval and sufficient information for building erection and shall be as applied to products furnished.
- Building reactions shall be furnished by building supplier. Design of floors and foundation shall be the responsibility of the Engineer. Building manufacturer to provide Engineer with anchor layout plan and building column reactions.

5.3 **Shop Drawings -** For the following metal building system components. Include plans, elevations, sections, details, and attachments to other work.

5.3.1 For installed products indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer registered in the Commonwealth of Pennsylvania.

5.3.2 **Anchor-Bolt Plans:** Include location, diameter, and projection of anchor bolts required to attach metal building to foundation. Indicate maximum column reactions and base plate size at each location.

5.3.3 **Structural-Framing Drawings:** Show complete fabrication of primary and secondary framing; include provisions for openings. Indicate welds and bolted connections, distinguishing between shop and field applications. Include transverse cross-sections.

5.3.4 **Letter of Design Certification:** Signed and sealed by a qualified professional engineer registered in the in the Commonwealth of Pennsylvania. Include the following:

a. Name and location of Project.
b. Order number.
c. Name of manufacturer.
d. Name of Contractor.
e. Building dimensions including width, length, height, and roof slope.
f. Indicate compliance with AISC standards for hot-rolled steel and AISI standards for cold-rolled steel, including edition dates of each standard.
g. Governing building code and year of edition.
h. Design Loads: Include dead load, roof live load, collateral loads, roof snow load, deflection, wind loads/speeds and exposure, seismic design category or effective peak velocity-related acceleration/peak acceleration, and auxiliary loads (cranes).
i. Load Combinations: Indicate that loads were applied acting simultaneously with concentrated loads, according to governing building code.
j. Building-Use Category: Indicate category of building use and its effect on load importance factors.
k. AISC Certification for Category MB: Include statement that metal building system and components were designed and produced in an AISC-Certified Facility by an AISC-Certified Manufacturer. A 3rd party special inspectors' quality control report is acceptable in lieu of AISC certification.

5.4 **Manufacturer's Quality Assurance**

5.4.1 **Manufacturer Qualifications:** A qualified manufacturer must follow the standards and guidelines of the Metal Building Manufacturer's Association (MBMA).

5.4.1.1 **American Institute of Steel Construction** (**AISC) Certification for Category Metal Building (MB):** An AISC-Certified Manufacturer that designs and produces metal building systems and components in an

AISC-Certified Facility. A 3rd party special inspectors' quality control report is acceptable in lieu of AISC certification.

5.4.1.2 **Engineering Responsibility:** Preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer registered in the Commonwealth of Pennsylvania.

5.4.2 **Welding:** Qualify procedures and personnel according to (American Welding Society) AWS D1.1, "Structural Welding Code--Steel," and AWS D1.3, "Structural Welding Code--Sheet Steel."

5.4.3 **Structural Steel:** Comply with AISC's "Specification for Structural Steel Buildings," for design requirements and allowable stress.

5.4.4 **Cold-Formed Steel:** Comply with (American Iron and Steel Institute) AISI's "Specification for the Design of Cold-Formed Steel Structural Members," or AISI's "Load and Resistance Factor Design Specification for Steel Structural Members," for design requirements and allowable stresses.

6.0 **Technical Support**

Provide on site technical support to the erection contractor during the installation of the first door.

7.0 **Payment**

7.1 a) Fifteen (15) percent will be paid once the submittals have been approved.

b) Thirty-Five (35) percent will be paid once fabrication begins.

c) Forty (40) percent will be paid will be paid once the T-Hangar is delivered, received, unloaded and accepted by the T-Hangar Erection Contractor.

d) Ten (10) percent will be paid once the hangar is erected, accepted by the owner and all final contract documents under this specification are processed.

END OF T-HANGAR PROCUREMENT PERFORMANCE SPECIFICATION

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