ADDENDUM #3

MORROW COUNTY AIRPORT

HANGAR DEVELOPMENT 2026

Date: April 14, 2026

To: Planholders

Acknowledge receipt of this Addendum on the Form of the Proposal.

The following addendum items modify, change, delete from or add to, the requirements of the contract documents for this project. The articles contained in the addendum take precedence over the requirements of the previously published contract documents. Where any article of the contract specifications is modified or any paragraph, subparagraph, or clause thereof is modified or deleted by the articles contained in this addendum, the unaltered provisions of that article, paragraph, subparagraph or clause shall remain in effect.

Bidders are advised to call attention of all sub-bidders and suppliers to all information and changes which may affect their work.

NOTE: The bid date has been pushed back one week. Bids will now be accepted until 9:15 EST April 29, 2026.

Questions Received:

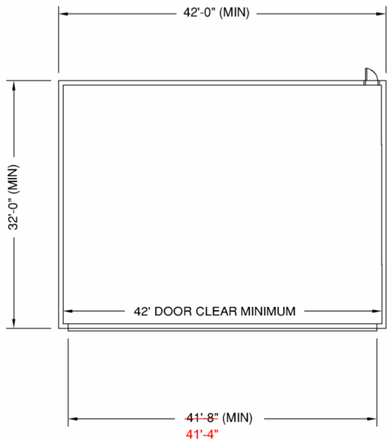
- The drawings show a 41'-8" x 16'-0" clear door. Nominal 42' doors are usually 12' clear due to the class of aircraft being stored in the hangar. Can the door clear height be changed? We do not offer a 16' clear door. The tallest door we offer is 14' clear.
    - The door height is being adjusted from 16' to 12' to accommodate manufacturer specifications. The engineer has deemed this clearance height acceptable per the types of aircraft expected. See the attached Revised SP1 specification and Hangar Elevations and Details sheet.
- 42' wide Hangar Unit typically have a 41'-4" Wide Door on our buildings. Will that be acceptable? The math being 42' – 8"(columns)=41'-4" each door will share 4" of columns each side.
    - The Hangar door clear width is being adjusted to accommodate manufacturer specifications. See the attached Revised SP1 specification and Hangar Elevations and Details sheet.

Revisions:

- The bifold door clear height is now 12’
- The bifold door width is now 41’ 4”
- **The Bid Date is now April 29, 2026**

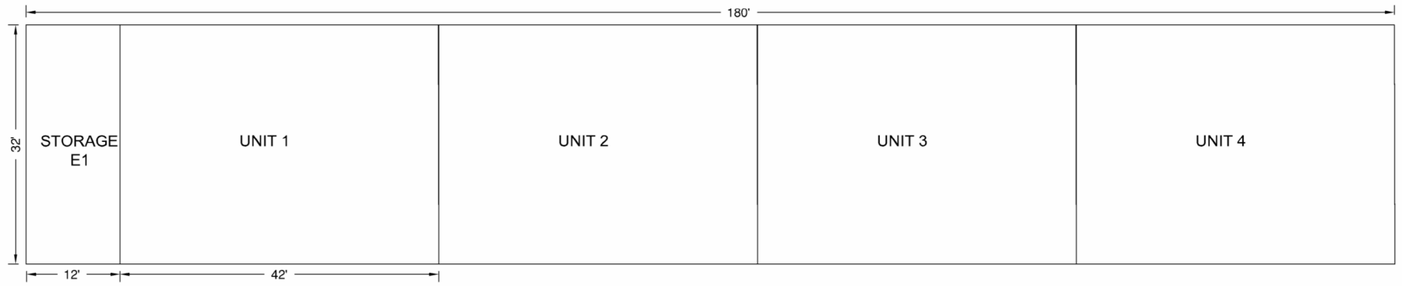
Attachments:

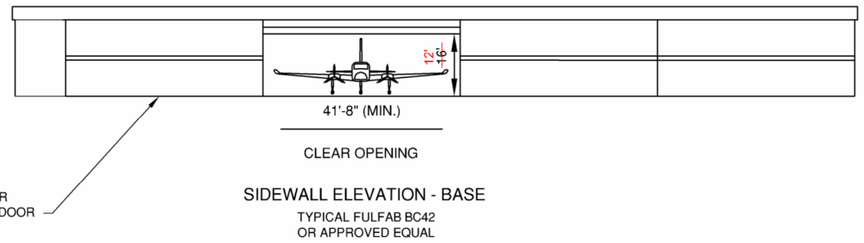
- Revised Hangar Elevation and Detail Plan Sheet
- Revised SP1



VB1 = 3'-0" PERSONAL DOOR
VB2 = 41'-4" MIN. CLEAR WIDTH
BY 12'-0" MIN. CLEAR HEIGHT
BIFOLD HANGAR DOOR

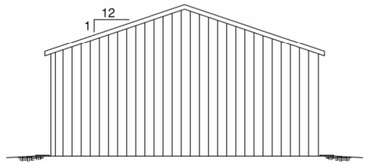
1



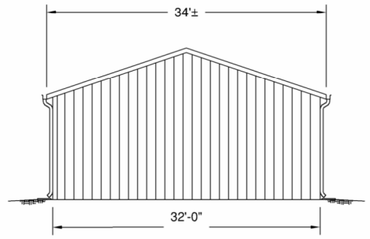


SIDEWALL ELEVATION - BASE
TYPICAL FULFAB BC42
OR APPROVED EQUAL

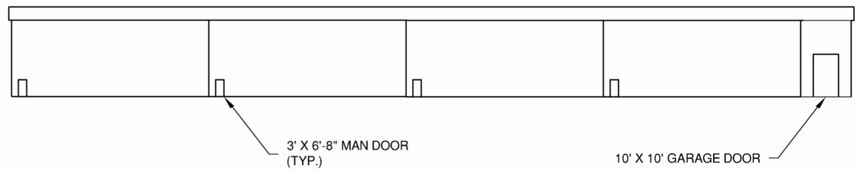
1 ELEVATION SOUTH
SCALE: 1/8"=1'-0"



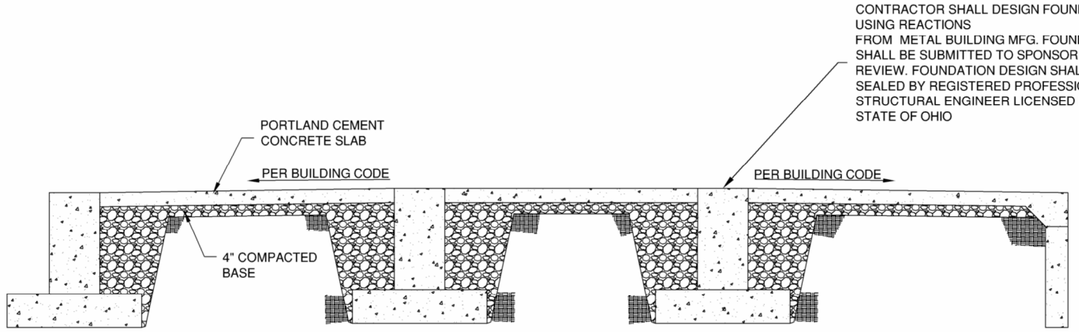
3 ELEVATION EAST
SCALE: 1/8"=1'-0"



4 ELEVATION WEST
SCALE: 1/8"=1'-0"



2 ELEVATION NORTH
SCALE: 1/8"=1'-0"



TYPICAL FOUNDATION SECTION
N.T.S.

NOTE: FOUNDATION AND DRAIN DESIGN TO BE PROVIDED BY CONTRACTOR

CMT

CONSULTANTS

FOR BID
3/26/2026

HANGAR DEVELOPMENT
2026

OWNER

MORROW COUNTY AIRPORT
CARDINGTON, OHIO

MARK	DATE	DESCRIPTION
1	4/14/26	BIFOLD DOOR DIMENSIONS

PROJECT NO:	26009348.00
CAD DWG FILE:	HANGAR ELEVATION AND DETAILS.DWG
DESIGNED BY:	JWS
DRAWN BY:	JWS
CHECKED BY:	BDC
APPROVED BY:	BDC
COPYRIGHT:	CRAWFORD, MURPHY & TILLY, INC. 2026

SHEET TITLE

HANGAR ELEVATION AND DETAILS

SHEET 11 OF 15

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Date: Tuesday, April 14, 2026 3:47:56 PM

TABLE 1. SUBMISSION LISTING

Specification Section	Paragraph	Item
SP1	SP1-4.1	Occupancy Permit
03000	1.03	Foundation, Building Permit Plan Set - Drawings - Calculations
03000	1.04.A	Concrete Mix Design
03000	1.04.D	Materials Certification - Coarse Aggregate - Fine Aggregate - Cement - Admixtures - Steel Reinforcement
03000	1.05.D	Cold Weather Concreting Plan
03000	1.04.E	PCC Test Results
03000	1.04.F	Certified Foundation Survey
03100	1.03.A	Concrete Mix Design
03100	1.03.B-D	Materials Certification - Coarse Aggregate - Fine Aggregate - Cement - Admixtures - Steel Reinforcement
13000	1.02	Facility, Building Permit Plan Set
13000	1.07	Building Plans
13000	1.08	Building Warranty
13000	1.09.G	Bi-Fold Door - Door System Complete - Wind Load Certification - Paint color samples Rollup Curtain Doors - Door System Complete - Wind Load Certification - Paint color samples Pedestrian Doors - Door Systems Complete - Key & Lock - Paint Color samples
13000	1.09.H	Sheet Metals - Sidewall sheeting - Roof sheeting - Interior partition sheeting - Flashing - Fasteners - Color samples
		-
13000	1.09.K	Moisture Control
13000	1.10.A	Conduits
13000	1.10.A	Wire and Cable
13000	1.10.B	Electric Panels, Circuit Breakers, & Enclosures & Accessories.
13000	1.10.C	Electric Load Center, Breakers, Enclosures & Accessories
13000	1.10.D	Switches and Receptacles
13000	1.10.E	Light Fixtures

END OF DOCUMENT 01300

TURN-KEY 4—UNIT BOX HANGAR
GENERAL REQUIREMENTS:

Occupancy Group S-2 - Low Hazard Storage-Building Type II-B - NFPA 409 Group III Aircraft Hangar
180-foot x 32-foot nominal construction with 12-foot clear height.
Pre-Engineered All Metal Building
Indicate when a required item cannot be met or is exceeded.

Minimum Requirements

Building Footprint	5,760 SF
Roof Live Load	* 20/12 PSF
Wind Load	* 90 MPH
Ground Snow Load	* 20 PSF
Insulation roof	R-11 Minimum
Roof Material	26 GA Galvanized / Factory Painted
Exterior Panel Material	26 GA Galvanized / Factory Painted
Interior Panel Material	26 GA Galvanized / Factory Painted
Foundation	* As Recommended by Building Manufacturer
Floor Slab	5-inch - 4000psi - 6x6WWF on 4-inch base
Hangar Bay Doors	41’4” x 12’ Electrically operated Bi-Fold Door
	3’-0” Personnel Door
Storage Bay Doors	10’ x 10’ Electrically operated Bi-Fold Door
Electrical	200A, 120-240VAC, single phase, three-wire service
	Single point Main Distribution Panel, Feeding Individual
	40A 120/240VAC Load Center Each Bay (4 Each)
	Lighting & Outlets

Options

Hangar Bay Doors	End Bay add ADA Accessible 3’-0” Personnel Door
	Typical for one (1) Hangar Bay

*Or as required by local code requirements.

Document 01300 – Submittals

1.01 GENERAL

A. Submittals (shop drawings) shall be provided to the Owner by the Contractor for the items identified in the specifications.

B. The Contractor shall review each submittal, note any deviations from the specifications, and stamp the form indicating verification that the submittal contains all applicable material and information required for evaluation against the project specifications.

C. The Owner will return submittals (and resubmittals) to the Contractor within 14 calendar days of receipt. The Contractor shall allow enough time for submittal review (including resubmittals) as necessary to order products and keep the project on schedule.

D. A minimum of four (4) copies of all submittals shall be provided to the Owner. Three copies will be retained by the Owner for his use and records.

1.02 LIST OF SUBMITTALS

A. The following table lists items that require submittals and the specification reference associated with it. The list is provided as a tool for the Contractor and Owner to track the submittal review process. The list is not all-inclusive and additional items may require submission as identified by the Contractor, Engineer or Owner.

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13000	1.10.E	Light Fixtures

END OF DOCUMENT 01300

Document 03000 – Building Foundations & Floors

1.01 Description.

This work shall consist of detailing and furnishing a building permit plan set and construction of the foundation and floors for the new building. This foundation system shall be detailed by the contractor or his consultant and constructed in accordance with the permit plan set. The foundation shall be as required or recommended by the building manufacturer and conform to all national, state, and local requirements.

1.02 Detailing and Furnishing: Building Permit Plan Set

The contractor shall be responsible for detailing, or having detailed, a Building Permit Plan Set for the foundation system for the proposed 4—Unit Box Hangar. The permit plan set shall conform to all local codes, requirements, ordinances, laws and regulations. This Building Permit Plan Set shall be developed and sealed by a registered professional engineer, registered in the State of Ohio.

The proposed 4—Unit Box Hangar floors shall be designed to support a gross vehicle weight of 12500-lbs. The building floors shall be a minimum of 5" of concrete over a polyethylene vapor barrier on a 4" aggregate base. The concrete floors in each bay shall be designed to provide positive drainage/slope toward the main door opening. Floor reinforcement shall at a minimum be welded wire fabric or as noted on the plans; concrete shall be installed in compliance with the requirements of ODOT 301. Contraction joints shall be provided with a maximum spacing of 15' x20'.

1.03 Reviews by Owner

The contractor shall submit the detailed drawings and sealed detail calculations for the foundation system to the Owner for review. This review will be limited to a review for general conformance with the project requirements, design concept and general compliance with the information given in the proposal documents. The Contractor shall remain responsible for the detail and performance of the floor and foundation. Permitting and construction shall not begin until drawings are approved by the Owner.

1.04 Materials

A. Concrete- The concrete used in the foundations shall conform to ODOT standards for class A structural concrete. The concrete shall be air entrained with a minimum compressive strength of 4,000psi at 28 days.

B. Reinforcement- Welded Wire Fabric (WWF) shall be 6" x 6"/ W4.0 x W4.0 and reinforcing bars shall be deformed bars grade 40 or 60 conforming to ASTM D615 or ASTM D616.

C. Vapor Barrier – The Contractor shall provide a polyethylene sheeting, not less than 10 mils thick, below the proposed building floor slabs.

D. Aggregate Base- The contractor shall provide aggregate base conforming to ODOT 301-- Aggregate Base.

E. Foundation Perimeter Drain Tile- The contractor shall provide drain tile conforming to ODOT 718- Underdrain Type 4 Pipe. Size Location and Slope to be determined by the foundation engineer and outlet at shown in the site plan.

F. Certification of Materials- The contractor shall provide written certification that the materials used on the project meet the above requirements.

G. Testing- The contractor shall retain the services of an approved testing firm to provide testing during construction for the foundation system. This testing shall include but not be

limited to testing of subgrade prior to placement of PCC and compressive strength of PCC used in the work.

1.05 Construction Methods

A. The construction methods used on this project shall comply in general to construction methods presently being used in the building construction industry. The methods used shall comply with all local ordinances, requirements, codes, laws and regulations. Manufacture, delivery, and placement of PCC shall be in accordance with ODOT requirements.

B. Subgrade/Subbase Preparation. Concrete shall not be placed on ice, snow, or frozen foundation material. The Contractor shall be responsible for all concrete damaged by low temperatures and shall remove and replace any concrete so damaged at his/her own expense.

C. Concrete Finish. The concrete floor shall have a smooth, troweled finish.

D. Concrete Curing. Care shall be taken after concrete finishing ensuring that a durable floor, free of unintentional cracks is produced. Pigmented curing compound shall be applied to the floor as per the manufacturer's recommendations.

E. Limitations on Mixing. No concrete shall be mixed, placed or finished when the natural light is insufficient, unless an adequate and approved artificial lighting system is operated. Concrete shall not be mixed while the air temperature is below 40 degrees F without permission of the Owner. If permission is granted for mixing under such conditions, aggregates or water, or both, shall be heated and the concrete shall be placed at a temperature not less than 50 degrees F nor more than 100 degrees F. The contractor shall be held responsible for any defective work, resulting from freezing or injury in any manner during placing and curing, and shall replace such work at his expense. Re-tempering of concrete by adding water or any other material shall not be permitted.

F. Cold Weather Protection. If temperatures below 45 degrees F are forecast at any time during the first three days after the concrete is placed, protection methods will be required. Concrete shall not be placed when the air temperature is below 45 degrees F and falling or below 40 degrees F without the permission of the Owner. The Contractor shall provide means for checking the temperature of the surface of the concrete or air temperature within the housing during the protection period. When concrete is placed at temperatures below 40 degrees F, the contractor shall provide satisfactory methods meant to protect the mix from injury by freezing. The aggregates, or water, or both, shall be heated in order to place the concrete at temperatures between 50 and 100 degrees F. After the concrete has been placed, the contractor shall provide sufficient protection such as fiberglass, rock wool, or other approved commercial insulating material needed to enclose and protect the foundation and maintain the temperature of the mix at not less than 50 degrees F until at least 60% of the designed strength has been attained.

G. Preparation and Placement of Concrete on the Subbase. The Contractor shall construct the subgrade, subbase and final grading and compaction of the subbase prior to placing the PCC floor and foundations. The Contractor shall final grade and compact the subbase to the satisfaction of the Owner. Excavated subbase material from within the limits of the construction shall be hauled off-site. Any ruts, depressions, soft, segregated or unstable areas shall be repaired and/or replaced as directed by the Owner prior to concrete placement. Concrete shall be carefully placed on the vapor barrier to prevent puncture.

~~1.06 Geotechnical Information~~

~~A copy of the soils investigation developed by the Engineer is included in this Project Manual as Appendix B: Subsurface Investigation Report. The contractor shall review this information and, if necessary, shall develop a detailed soils investigation program and utilize a testing firm to complete the program and provide the necessary information for detailing the foundation system. The soils report shall be sealed by a registered professional engineer registered in the State of Ohio. The soils information or report shall be submitted to the Owner with the foundation design calculations.~~

1.07 Damage to Pavement Structure

The contractor shall review the site prior to bidding this project and shall construct the foundation system so as to minimize any damage to the existing bituminous pavements. Any damage to the pavements shall be repaired by the building contractor to the satisfaction of the owner.

1.08 Construction Observation.

The contractor shall provide the owner proper notice of the construction of the foundation system prior to starting work. The owner may at his option be on site during the construction of the foundation system. The contractor shall provide testing as outlined in the materials section above.

1.09 Contractor Quality Control Testing

The Contractor shall provide quality control testing of PCC during placement and curing. The Contractor shall test slump, air content, and strength of concrete at a minimum random sampling rate of 1 test per production day or 50 cubic yards of concrete. The Contractor shall make and cure cylinders following ASTM C31 and provide strength test results to demonstrate that the concrete meets strength requirements.

END OF DOCUMENT 03000

Document 13000 –Building

1.01 Standard of Quality.

A. These specifications and drawings are based upon nominal 180' x 32' generic 4-Unit Box Hangar. It is the intent of the owner to receive proposals for permitting, furnishing and construction of a new facility that meet the minimum dimensions and standards set forth in these specifications. Bids from experienced building manufacturers and installers will be accepted if the permit plan set, materials, and construction equals or exceed the specified standard of quality presented herein, as determined by the Owner.

The contractor shall be required to develop or have developed a final Building Permit Plan Set, obtain a building permit from The Fulton County Building Department Permitting Office , prior to initiating construction on the building. As a requirement for this permit the contractor shall certify that the final Permit Plan Set, all materials, components, systems and the construction of the building is in complete conformance with the codes, ordinances, requirements, laws and regulations of national, state and local authorities having jurisdiction.

1.02 Furnish Final Building Permit Plan Set

A. The contractor shall be responsible for developing, or having developed, the detailed building system for the proposed building. The permit plan set shall conform to all national, state, and local codes, requirements, ordinances, laws and regulations. This permit plan set shall be developed and sealed by a registered professional engineer, registered in the State of Ohio. The contractor will also be responsible to coordinate and obtain all necessary utility service to the proposed 4—Unit Box Hangar.

B. It is the intent of these documents that the work described herein shall include all labor, materials, equipment and transportation necessary to furnish, install, and complete a ready to occupy 4 Unit Box Hangar.

C. The 4—Unit Box Hangar shall meet or exceed, but not be limited by, the following codes:

International Building Code and Amendments, 2024 Edition
National Electric Code and Amendments
NFPA 409—Standards on Aircraft Hangars

D. Details shall be in accordance with Steel Construction Manual (SCM) as published by the American Institute of Steel Construction, current edition, the American Iron or Steel Institute's "Light Gauge Steel Design Manual" (LGSDM) of current issue or the

E. The Permit Plan Set shall substantially conform to the intent of the Owner as to the floor plan dimensions, clear area and door opening heights as depicted in the requirement plans. These dimensions shall not be changed without review, in writing, by the Owner. Not later than **21 DAYS** after award, the successful bidder shall submit to the Owner a complete set of plans and specifications for the building and foundations as proposed in their bid.

F. The plans and specifications shall bear the seal of a registered professional engineer in the State of Ohio, thereby certifying that the building fulfills the requirements of these documents and applicable codes.

G. The contractor shall submit copies of sealed detailed drawings and original sealed detailed calculations for the building system to the Owner for review. This review will be limited to a review for general conformance with the project requirements, design concept and general compliance with the information given in the proposal documents. The Contractor shall remain responsible for detailing the permit plan set. Acquisition Permitting and Construction shall not begin until the permit plan set is approved by the Owner.

1.04 Laws and Ordinances.

A. For the installation of this work, the Contractor shall comply with the requirements of the 2024 International Building Code, National Electric Code, and National Fire Protection Association Codes, or current edition in use, and any national, state and local requirements, laws and ordinances as may be applicable.

B. If, in the opinion of the Contractor, there is anything in the plans or specifications that will not strictly comply with the above laws, ordinances and rules, the matter shall be referred to the attention of the Owner for a decision before proceeding with that part of the work. No changes on the plans or in the specifications shall be made without the full consent of the Owner.

C. The Contractor shall obtain and pay for all permits, licenses and inspections required by the above laws, ordinances and rules for the entire project, as called for in these specifications and the accompanying plans.

1.05 Miscellaneous Metal. The Contractor shall furnish and install all necessary anchor bolts, floor sockets, and other miscellaneous items as required for a complete 6—Unit Fully Nested Aircraft Row Hangar.

1.06 Project Layout. Contractor shall provide his own layouts, elevations, and dimensional control for all portions of the project and these drawings shall coincide with elevations and discussions given on plans.

1.07 Shop Drawings. (See General Provisions)

1.08 Warranty. The building vendor shall supply a warranty to the Owner, which shall provide that the vendor will:

A. For a period of 20 years, repaint or replace free of charge any roof or side panels on which under conditions of normal weathering:

1) Paint has separated from the panel due to cracking, peeling, or checking.
2) Chalking has occurred in excess of 4 units on side panels and in excess of 3 units on roof panels (ASTM D 659).
3) Fading has occurred in excess of 2 NBS units on side panels and in excess of 2 NBS on roof panels.

B. For a period of 10 years replace free of charge any translucent panels on which under conditions of normal weathering has warped, cracked or lost more than 10% of its light transmission capabilities.

C. For a period of 5 years repaint or replace free of charge any roof or side panels on which under conditions of normal weathering, corrosion due to acid rain has resulted in red rust.

D. For a period of 5 years repair, or in its discretion, to replace free of charge the building framework, including sectional Steeldoors and roofing or siding panels, if directly damaged by wind loads, unless damage is caused by flying or falling objects.

E. For a period of 1 year to repair other building parts that prove to be defective in materials or workmanship.

1.09 Building Requirements

A. Extent of Work. This contract shall include all labor, materials and erection necessary for construction of one:

4—Unit Box Hangar (Row) and 1 Unit 12'x32' Storage Unit Complete
FulFab BC42, or approved equal.

Required Dimensions	**4-Unit Box Hangar**
Total Building Length	180' Max.
Total Building Width	32' Max.
Clear Door Width	41'4" Min.
Clear Door Height	12' 0" Min.
Bay Width	42' 0' Min.
Bay Depth	32' 0" Min.

B. Fire.

1) Where required by Ohio Building Code or NFPA 409 due to allowable area limitations, hangar grouping, or separation distances, fire walls or fire barriers shall be provided in compliance with applicable codes.

2) Fire Systems: Provide and install directly adjacent to the pedestrian door inside each bay, for 4 bays, one 20lb refillable dry chemical ABC Non-Corrosive or BC fire extinguisher (Buckeye Fire Equipment or approved equal). Fire extinguisher shall be bracket mounted on a compatible back board securely fixed to a building structural member or Unistrut.

C. Loads.

1) All necessary purlins and girts shall be provided to properly support the wall and roof coverings. A truss system shall be provided in the horizontal plane at eave height to carry the horizontal loads to the wind braces and/or shear walls. The roof and wall panels shall be properly braced and tied. Door framed openings shall be designed to structurally replace the sidewall panels displaced.

2) All loads and combinations of loads for purposes of design structural requirements shall meet all applicable national, state and local structural loading.

3) The successful bidder shall provide a written certification by an authorized officer and/or Engineer of said firm, stating that the building and material as a part thereof conform to the above specifications.

4) The roof system shall carry a U.L. wind uplift classification Class 90 Rating to ensure structural integrity.

5) Deflection of roof panels shall not exceed 1/180 of its span when supporting applicable vertical live loads previously described.

C. Drawings.

1) Project Requirement Drawings provided in Appendix A indicate the general intent of this project.

2) All plans submitted for construction must be sealed by a Registered Professional Engineer currently licensed in the State of Ohio.

3) The project requirement documents and plans shall be reviewed by the Contractor and building supplier. Alternate methods (producing the same results) will be reviewed by the Owner. If accepted for construction, the Contractor shall provide the Owner with copies of such revised sheets.

D. Foundations.

1) The development and detailing of all foundations shall be the responsibility of the building contractor. Complete construction plans and detailed calculations shall be prepared for all foundation and anchor bolt designs. Permitting and construction shall not begin until drawings are approved by the Owner.

2) The plans and detailed calculations shall bear the seal of a Registered Professional, registered in the State of Ohio, thereby certifying that the building foundations fulfill the requirements of these documents and applicable codes.

E. Building.

1) The building layout and location shall be as shown on the project requirement documents with the clearances and footprint as indicated.

2) The building shall be detailed and fabricated as a permanent structure but shall be capable of being disassembled, moved and relocated with no loss of material except below grade embedded columns, concrete and anchor bolts.

F. Structural Details and Fabrication

1) All steel frame members shall be sized in accordance with the SCM, as they comply with the International Building Code.

2) All light gauge steel members shall be designed in accordance with the LGSDM as they comply with the International Building Code.

3) All steel framing shall be factory punched for assembly by bolting and sidewall framing members and sidewall sheeting shall be pre-punched to accurate dimensions.

4) All structural connections shall be made with plated rust resistant bolts. ASTM Standards as amended to date: A 307 for Steel Machine Bolts and Nuts – A 325 Structural Bolts

5) All miscellaneous metal in the building which is not made of galvanized material shall have one shop coat of rust inhibitive paint, or as recommended by the building manufacturer.

G. Hangar Doors

1) Each hangar bay shall be furnished with one bi-fold type, electrically operated overhead door and each equipment storage bay shall be furnished with one bi-fold type, electrically operated overhead door. Doors and frames shall be factory finished with color to be chosen by owner from standard color offerings.

2) Bi-Fold Hangar Door

a. Each Bi-Fold hangar door shall consist of a complete door system designed for exterior commercial usage.

b. Each door is to be controlled by a single operating switch which will in turn control a single-phase electric motor, necessary worm gear and speed reducer. The size of the electric motor shall be as specified by the overhead door manufacturer.

c. Each wall-mounted door switch shall be an “Up/ Stop /Down” style with constant pressure, “dead man” to close.

d. Each door shall be equipped with automatic Limit Switches to turn off the motor when the door reaches the full open or closed position.

e. Door frames shall be made of steel tubing with one shop coat of red oxide and covered with ribbed or pressed sheeting not less than 26 gauge 50,000 psf tensile strength baked enamel galvanized steel. Tubing shall be no less than .083 and 2 x 2.

f. Door frames shall be fabricated for field bolting and welding assembly. Door sheeting shall be pre-punched for accurate assembly using hardware as specified for walls and roof.

g. Each door shall have a weather seal flap consisting of neoprene rubber weatherstrip at the top, center and bottom (to make contact with the floor). The bi-fold door shall be operated by cables to be raised and lowered by sprockets or drums.

h. Each bi-fold door shall contain a hinged pedestrian entrance door minimum 36” wide by 72” high.

i. The successful hangar manufacturer must provide a written certification by an authorized officer and/or engineer of said firm that prepared to submit, the door in the closed position will sustain the wind loads specified for the hangar. This analysis must be in accordance with AISO and AISI Code.

3) Pedestrian Door.

a. Pedestrian Doors shall consist of a complete door system designed for exterior commercial usage. Unless otherwise noted, doors shall be 36” x 80” exterior rated steel door.

b. Door shall be 16 Ga. Galvanized steel, frame shall be 14 Ga. Galvanized steel. Mill treated for proper paint adhesion.

4) Roll Up Curtain Door.

a. Door shall consist of a complete door system designed for exterior commercial usage. The door curtain shall be fabricated of interlocking metal slats in a continuous length for width of door without splices. Door shall be sized as shown in the plans Overhead Door Model 600 or approved equal.

b. Door shall contain a formed sheet metal hood to entirely enclose the coiled door curtain and operating mechanism at the opening head with intermediate support brackets as required to prevent sagging. Weather stripping gaskets shall be fitted to the entire perimeter of door for a weather tight installation.

c. Door shall be equipped with a manual door operator consisting of an endless steel hand chain, chain-pocket wheel and guard, and gear-reduction unit with a maximum 25 lbf force for door operation. Provide alloy-steel hand chain with chain holder secured to operator guide fitted with a chain lock keeper, suitable for a padlock.

5) Hardware & Locks.

a. All Hardware shall be compatible with the airports preferred and current Hardware, Key & Lock program Marshall Best or approved equal.

b. Padlocks: Where required the contractor shall provide a Medium Security, Exterior Grade, Medium Length Stainless Steel Thin Shank (5/16”), Interchangeable Core Padlock. Supplied Padlock shall be compatible with the airports current IC lock cylinders Marshall Best Z545 Series or approved equal, Disposable construction cores shall be provided by the installing contractor.

c. Lockset: Grade 2 heavy duty, brushed nickel/chrome finish, dormitory lever lockset. Supplied lockset shall be compatible with the airports current IC lock cylinders (See e.). Marshall Best MB2 Series or approved equal, Disposable construction cores shall be provided by the installing contractor.

d. Hinges: Grade 2, brushed stainless steel, 1½ pair heavy duty ball bearing hinges.

e. Lock Cylinder: Grade 2 heavy duty, small format premium 7-pin interchangeable (IC) core. Final cylinders to be supplied directly to the airport.

f. Keys: The Building shall be keyed compatible to the airports grand mastering system, the contractor shall also provide a unique facility master and unique keys for each bay.

g. The contractor shall be required to coordinate the installed hardware to be compatible with the current airports Hardware, Key & Lock Program.

H. Sheetmetal: Sidewall, Bi-Fold Door, Roof, and Partition

1) All sheeting for sidewalls, doors, and roof shall be of not less than 26 gauge. All sheeting shall be high tensile Galvalume steel pressed or rib form factory for application to the framing members through the use of self-tapping #14 plated sheet metal screws. Corrugated sheets will not be permitted for sidewalls, doors, or roof.

2) Full Height Partitions. All sheeting shall be high tensile, 26 gauge Galvalume steel, pressed or factory rib formed for application to the framing members through the use of self-tapping #14 plated sheet metal screws. Corrugated sheets will not be permitted for partitions. Partition wall shall include 6-inch minimum a spill curb set in fuel resistant sealant.

3) Adequate flashing shall be provided at all points to make all sections weathertight, bird resistant and to provide a pleasing appearance. Flashings and metal trim shall be shop fabricated so that no field cutting is required. No flashing shall be lighter than 26 gauge galvanized steel.

4) All sheeting and trim to be made of Galvalume steel as specified above but finished on exterior with a 1 mil baked silicone or polyester color coating. Field brush or spray painting is not considered a suitable substitute. Color will be selected by the OWNER at a later date from the manufacturer's standard offerings. Trim may be required in a color to complement the sheeting and shall be selected by Owner from the manufacturer's standard offerings.

5) The building covered under these specifications is to be gable roof, the roof slope shall be one inch (1") vertical to twelve inches (12") run horizontal. The roof covering shall not be less than 26 gauge Galvalume material, formed or pressed ribs for strength and weathertight. Painted Finish meeting previous section shall be selected by Owner from the manufacturer's standard offerings.

6) The roof panels shall be fastened with #12 self-tapping, rust resistant sheet metal screws with neoprene and plated 5/8" diameter steel washers under the heads.

7) Roof Panels shall be continuous from ridge to eave and shall extend not less than 12" beyond the face of the structural steel.

K. Floor Slab. See Specification 03000.

L. Moisture Control.

Floor Slab: not less than 10 mils (0.25 mm) thick polyethylene sheet shall be provided as vapor barrier under proposed floor slabs.

Building Insulation: Insulation for condensation control shall be installed under the roof and be not less than R11 vinyl reinforced fiberglass blanket insulation. Seal all seams. Vinyl covers to be gloss white.

1.10 Electrical

A. General.

1) This item shall include furnishing and installation of all materials and equipment and the furnishing of all labor and tools to provide a complete and operational electrical system for the proposed building and specified herein and as shown on the requirement documents.

2) The electrical service to and for mechanical and other equipment is based on equipment design data. The actual values may differ depending upon the equipment furnished. Any modification to the electrical installation, based upon actual equipment selection, must result in not additional costs to the Owner.

3) NEC Compliance. All electrical work performed on this project shall comply with all applicable sections of the current edition of the National Electrical Code in force and other State and Local Codes.

4) The electrical work is required to be included in the permit plan set, and includes the furnishing of all labor, materials and equipment to provide a new electric service, and all other electrical services as detailed to provide a fully operable system.

5) All cutting and patching of masonry, wood steel, ironwork, etc. which is necessary for the proper completion of the electrical installation must be restored to a condition acceptable to the Owner. Under no conditions will structural members be cut or modified except after review by the Structural Engineer of Record.

6) All electrical equipment and material shall be new and of the grade and quality specified and shall carry the Underwriters Label of Approval for the area in which it is used.

7) All wire and cable shall be of the flame resistant type, THWN, unless noted otherwise on the drawngs, of not less than #12 AWG gauge copper and in conformance with local codes. All wire shall be installed in conduit. Where a Flexible Pigtail is required and at electrical connections to the Bi-Fold Door NM-Cable (ROMEX) or BX-Cable shall not be used, pigtails shall be fabricated from “Rubber Armored” AC-Cable suitable for harsh wet or hazardous environments.

8) Where exposed or visible, all grounding electrode conductors (regardless of size) shall be protected from physical damage using non-metallic conduit, such as Schedule 40 PVC. Non-Metallic conduits containing grounding electrode conductors shall not be supported with metal clamps that completely encircle the conduit. Use nylon nuts, bolts, straps and/or reinforced fiberglass or premium grade plastic resin strut support with non-metallic hardware as manufactured by Aickinstrut or equivalent.

9) The electrical grounding and bonding of all electrical equipment, services and appurtenances shall meet or exceed that defined in Article 250 of the National Electrical Code (NFPA 70). Supplemental Equipment Grounding conductors shall be installed in all conduits. Insulation shall be 600 volt, same type as that used for phase conductors, green in color. It is the intent of this specification that all raceways, boxes, enclosures, etc., include an insulated supplemental equipment ground conductor. Due to corrosion, metallic raceway and conduit connectors alone will NOT be considered as meeting this requirement. All metal enclosures and exposed metal parts of electrically-powered equipment shall be grounded & bonded. A continuous grounding system shall be provided

throughout the facility. The Contractor shall furnish and install all grounding and bonding shown on the drawings or as required to comply with the latest NEC in force.

10) As a minimum, the Grounding Electrodes shall comply with NEC Articles 250.52 and 250.53. Per NEC Article 250.68A, the Grounding Electrode System shall be installed in such a manner that each connection point may be visually inspected, unless encased by concrete or earth. Compression connections will not be accepted as an alternate termination method for buried connections or connections within the concrete envelope.

11) Unless otherwise noted, each Grounding Electrode shall be connected with an individual Grounding Electrode Conductor extended to the new service Ground Bus-Bar. "Looping" of Grounding Electrode conductors (extending a suitably-sized single grounding electrode conductor “Daisy Chaining” from electrode-to-electrode) shall NOT be utilized unless specifically noted or directed.

12) Bond to concrete-encased grounding electrodes within the concrete footings (commonly called a "Ufer" ground) per NEC Article 250.52A3., establish a positive ground connection to the “re-bar” encased electrode by means of exothermal weld, Cadweld, or equivalent. Do not use coated reinforcing steel for concrete-encased electrodes. The Contractor shall provide all necessary coordination between Sub-Contractors and trades for the installation of this item before concrete is placed.

13) Below-grade ground rod and associated ground wire shall be clean and dry before performing the exothermic weld. Verify that the proper size and type of exothermic weld kit is used before beginning work. Exothermic weld shall be performed per manufacturer's instructions. Exothermic weld shall be left exposed for inspection and approval before backfilling. Any unacceptable exothermic welds shall be redone, including any necessary replacement material (ground rods, ground wires, etc.) as needed to provide an accepted exothermic weld.

14) The contractor shall furnish all necessary equipment and appliances for testing the electrical systems after installation. The contractor shall test and demonstrate to the satisfaction of the Owner the following:

a. That all lighting power and control circuits are continuous and free from short circuits.

b. That all circuits are free from unspecified grounds.

c. That the insulation resistance to ground of all nongrounded series circuits is not less than 50 megohms.

d. That the insulation resistance to ground of all nongrounded conductors of multiple circuits is not less than 50 megohms.

e. That all circuits are properly connected in accordance with applicable wiring diagrams.

f. That all circuits are operable.

B. Service Entrance.

1) The contractor shall coordinate the installation of the service entrance with the utility provider. The new service shall be installed and constructed as indicated on the requirement drawings and in accordance with utility provider requirements. The service entrance shall include all wiring and equipment required to provide a complete, operational and protected 150A, 120/240VAC, single phase, three wire electric service to the building. Each NEMA 3R enclosure mounted outside the building shall be provided with one padlock (SEE 1.09 G 5)). Any fees for the service connection owed to the utility shall be paid by the contractor.

2) Ringless Meter Socket in a surface mount NEMA 3R enclosure. Square D UHTRS223ACH approved equivalent, or in accordance with utility provider requirements. Meter to be provided by the utility provider.

3) Service Entrance Rated Disconnect shall be heavy-duty, 600V, 150A, 2-pole, with neutral bar and ground bar thermal magnetic circuit breaker, 25KAIC in NEMA 3R enclosure.

4) Main Distribution panelboard shall be 30-Pole, 225A, 1-Phase, 3-Wire distribution panelboard, Square D or approved equivalent, in a surface mount NEMA 1 enclosure. Panelboard shall be UL listed and labeled. Provide 150A, 2P main circuit breaker and 40A, 2P branch circuit breakers, and 2P secondary surge protection device, as indicated on the requirement drawings. Provide typed circuit directory identifying Hangar or Equipment Bay fed from each circuit breaker. Provide engraved nameplate for Meter/Main panelboard cover, identifying the serviced load centers.

C. Hangar Bay Electric Service.

1) Each bay of the hangar shall have an individual electric service extending from the main panelboard circuit breaker to a load center inside each individual bay. The load center shall be 12-space 120/240V 100A Square D or approved equivalent, in surface mount NEMA 1 enclosure. Reverse feed 40A, 2P circuit breaker with retaining clip to secure this breaker. Additional breakers as indicated on the requirement drawings.

2) All Enclosures shall be installed to the building structural members or equivalent strut-type supports.

D. Switches and Receptacles

1) Height of mounting shall be 48 inches for all switches, 48 inches for outlets

2) Dual pole wall switches shall be 20 amp, 120/277 volt, heavy duty, specification grade as manufactured by Arrow Hart, Hubbell, or equivalent.

3) Wall type convenience outlet receptacles shall be of the 20 amp, 120 volt, 3 wire grounding type, heavy duty specification grade as manufactured by Arrow Hart, Hubbell or equivalent. All exterior outlets shall have weather tight covers sized for connected loads.

4) All Devices and Wall plates shall be Industrial Grey.

E. Lighting Systems

1) Exterior: Fixtures shall be LED, cutoff wallpacks with aluminum housing, each fixture shall be equipped with its own control. Wallpack color shall be bronze or white as determine by airport during color selection. Fixtures shall be as indicated in the drawings or approved equivalent.

2) Interior: Fixtures shall be enclosed and gasketed with damp rating and shall be as indicated in the drawings or approved equal.

END OF DOCUMENT 13000