University of Kentucky
Procurement Services

INVITATION FOR BIDS

CCK-2617.0-11-25
UK Agriculture Research Facility 1 – BP06 Fitout Group 1
PROJECT # 2617.0
ADDENDUM # 4
01/15/2025

IMPORTANT: BID AND ADDENDUM MUST BE RECEIVED BY 01/22/2025 @ 3:00 P.M. LEXINGTON, KY TIME

Bidder must acknowledge receipt of this and any addendum as stated in the Invitation for Bids.

ITEM #1: CLARIFICATIONS AND MODIFICATIONS TO THE CONTRACT DOCUMENTS:

Bidders are instructed to review and incorporate the enclosed Addendum #4 materials from Turner Construction Company and BHDP Architects into their offers. 478 pages.

OFFICIAL APPROVAL
UNIVERSITY OF KENTUCKY

Contracting Officer / (859) 257-9102

SIGNATURE

Typed or Printed Name

UK AG Research Building
BID PACKAGE – 06 Fitout
ADDENDUM No. 4
CCK-2617.0-11-25
1/15/2025

TCCO Addendum #4

Attachment "B" Scope of Work Changes:

TC-030 Fitout General Trades

- **Sheet FP-2 Bid Form**
  - Added Alternates 5 & 6
- **"B" Documents**
  - **5.f** – SK-006 to read SK-006 – Lab Furnishings Responsibility Matrix
  - **6.f** – Remove spec section 05 7500 Decorative Formed Metal from scope – moved to future package TC-040 Casework .
- **"C" Scope Specific Items:**
  - C.15 – Delete item. Scope to be provided by future bid package 40.
  - C.70 – ADD item. This Trade Contractor shall participate in the construction of on-site **mock-ups** as specified and indicated by the documents and/or noted elsewhere. This shall include providing of materials required for this trade contract scope of work, coordinating with other trade contractors with regard to sequencing of installations and protection of materials, furnishing shop drawings and /or setting drawings, etc. Materials for in place or interim mock-ups shall be secured in advance of normal procurement to allow for ALL trade contractor installations, owner/designer and user reviews and evaluations, meetings, approvals and directive if applicable. Mockups are understood to start with arrangement of wall rough-in through complete room finishes.
- **"G" Alternates**
  - Add alternates 5 & 6

TC-031 Fire Protection

- **Sheet FP-2 Bid Form**
  - Added Alternates 5 & 6
- **Sheet FP-9 Bid Breakout Form**
  - Added line 11 – Teaching Greenhouse
  - Modified Allowance 1 – change to $40,000
  - Added Allowance 3 – Document Control Server Allowance $5,000
- **"B" Documents**
  - Modify 5.f SK-006 to read SK-006 – Lab Furnishings Responsibility Matrix
- **"C" Scope Specific Items:**
  - C.52 – ADD item. This Trade Contractor shall participate in the construction of on-site **mock-ups** as specified and indicated by the documents and/or noted elsewhere. This shall include providing of materials required for this trade contract scope of work, coordinating with other trade contractors with regard to sequencing of installations and protection of materials, furnishing shop drawings and /or setting drawings, etc. Materials for in place or interim mock-ups shall be secured in advance of normal procurement to allow for ALL trade contractor installations, owner/designer and user reviews and evaluations, meetings, approvals and directive if applicable. Mockups are understood to start with arrangement of wall rough-in through complete room finishes.
  - C.53 – ADD Item. **Provide Fire Protection Complete for the Teaching Greenhouse**. Reference Teaching Greenhouse Fire Protection Drawings and Specifications included as Attachment in Addendum 04. Scope of work specific for Teaching Greenhouse Fire Protection listed below **(line items 54-83 below)**

  - C.54 thru C.83 – ADD ITEMS. **(See revised TC-031 Attachment B)** Items C.54 thru C.83 have been added as the scope of work for the Teaching Greenhouse Fire Protection. Reference attached Teaching Greenhouse Fire Protection Drawings/Specifications related to this scope of work.
- **"E" Allowances**
  - Change Allowance 1 to $40,000
  - Add Allowance 3 – Document Control Server Allowance - $5,000
- **"G" Alternates**
  - Add alternates 5 & 6

TC-032 Plumbing

- **Sheet FP-2 Bid Form**
  - Added Alternates 5 & 6
- **Sheet FP-9 Bid Breakout Form**
  - Modified Allowance 2 to $100,000
- **"B" Documents**
  - Modify 5.f SK-006 to read SK-006 – Lab Furnishings Responsibility Matrix
- **"C" Scope Specific Items:**
  - Modify item 57 to read: This Contractor shall receive and install all laboratory sinks and service fixtures provided by TC-041, and provide all materials and final connections for Laboratory Sinks and Service Fixtures as shown in the "Q" Drawings, Schedules and Details provided by TC-041 Lab Casework.
  - Modify item 61 to read: This contractor to provide a 3" temporary gas riser from where it comes into the building up to the 4th floor with tees and valves at each floor for temporary heating. Reference SK-005 for temp gas requirements and locations. Include demolition of the temporary gas lines at completion of the temp heating scope.
  - Add item 72. All Ceiling Service Panels shall be Furnished by TC 41 Contractor including all Quick Connect Fittings and Openings for Electrical Outlets. All Ceiling Service Panels shall be Installed by TC 34 Contractor including all Outlets, Cover Plates, mounting structures, supports, electrical connections and hardware. TC 32 Contractor shall provide all Plumbing connections to Ceiling Service Panels above ceiling. All Quick Connect Hoses and Cords for Ceiling Service Panels shall be provided by TC 41 Contractor. All Cords to Mobile Lab Tables shall be installed by TC 34 Contractor. All Quick Connect Hoses shall be installed by TC 32 Contractor.
  - Add item 73. All Connections for Mechanical, Plumbing and Electrical to Chemical Fume Hoods and Lab Canopy Hoods are at top of Hoods. All internal connections and outlets are factory installed.
  - Add item 74. All Thermostatic Mixing Valves shall be Furnished by TC 41 Contractor. All Thermostatic Mixing Valves shall be installed by TC 32 Contractor.
  - Add item 75. All Laboratory Sinks scheduled on Q002 are Furnished by TC 41 Trade Contractor. All Laboratory Sinks shall be Installed and Connected by TC 32 Trade Contractor.
  - Add item 76. All Laboratory Service Fixtures scheduled on Q002 are Furnished by TC 41 Trade Contractor. All Laboratory Service Fixtures are Installed and Connections by TC 32 Trade Contractor.
  - Add item 77. This Trade Contractor shall participate in the construction of on-site **mock-ups** as specified and indicated by the documents and/or noted elsewhere. This shall include providing of materials required for this trade contract scope of work, coordinating with other trade contractors with regard to sequencing of installations and protection of materials, furnishing shop drawings and /or setting drawings, etc. Materials for in place or interim mock-ups shall be secured in advance of normal procurement to allow for ALL trade contractor installations, owner/designer and user reviews and evaluations, meetings, approvals and directive if applicable. Mockups are understood to start with arrangement of wall rough-in through complete room finishes.
- **"E" Allowances**

- Change Allowance 2 to $100,000
- **"G" Alternates**
  - Add alternates 5 & 6

TC-033 Mechanical

- **Sheet FP-2 Bid Form**
  - Added Alternates 5 & 6
- **Sheet FP-9 Bid Breakout Form**
  - Modified Allowance 2 to $100,000
- **"B" Documents**
  - Modify 5.f SK-006 to read SK-006 – Lab Furnishings Responsibility Matrix
- **"C" Scope Specific Items:**
  - Modify item 70. This Contractor shall receive and install all Snorkels and Local Exhaust drops provided by TC-041 noted in the Laboratory Drawings and Details. Provide installation including all anchors, phenolic panels, collars and hardware to complete installation of the Snorkels and Local Exhaust drops with connections to the exhaust systems.
  - Add item 86. All Local Exhaust Flex (2/Q502) including Phenolic Resin, Support Collar, Tapered Collar and Straight Collars Furnished by TC 41 Contractor. All Local Exhaust Flex shall be Installed by TC 33 Contractor including all Resin Backing Panels, Collars, Above ceiling Support steel/unistrut, SS Clamps and hardware.
  - Add item 87. All Snorkel Units (3 & 4/Q502) including Phenolic Resin, Support Collar, Tapered Collar and Straight Collars Furnished by TC 41 Contractor. All Snorkel Units shall be Installed by TC 33 Contractor including all Resin Backing Panels, Collars, Above ceiling Support steel/unistrut, and hardware.
  - Add item 88. All Chemical Fume Hood and lab canopy hood Alarms and air flow sensors shall be Furnished and Installed by TC 33 Contractor.
  - Add item 89. This Trade Contractor shall participate in the construction of on-site **mock-ups** as specified and indicated by the documents and/or noted elsewhere. This shall include providing of materials required for this trade contract scope of work, coordinating with other trade contractors with regard to sequencing of installations and protection of materials, furnishing shop drawings and /or setting drawings, etc. Materials for in place or interim mock-ups shall be secured in advance of normal procurement to allow for ALL trade contractor installations, owner/designer and user reviews and evaluations, meetings, approvals and directive if applicable. Mockups are understood to start with arrangement of wall rough-in through complete room finishes.
  - Add item 90. This contractor to provide and install kitchen hood KH-1 complete. Include all ductwork, ANSUL fire protection system, insulation, fire wrap, testing, permits, inspections, etc for a complete installation of this system.
- **"E" Allowances**
  - Change Allowance 2 to $100,000
- **"G" Alternates**
  - Add alternates 5 & 6
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TC-034 Electrical

- **Sheet FP-2 Bid Form**
  - Added Alternates 5 & 6
- **Sheet FP-9 Bid Breakout Form**
  - Modified Allowance 2 to $100,000
  - Modified Allowance 4 to $1,100,000
- **"B" Documents**
  - Modify 5.f SK-006 to read SK-006 – Lab Furnishings Responsibility Matrix
  - Add 6.n – 11 7213.13 Exam and Surgical Lights (Complete)
- **"C" Scope Specific Items:**

- Modify item 42. This Contractor shall provide all rough in for Fire Alarm system as shown in the Contract Documents, including but not limited to, boxes, conduit, pathways, wire, receiving and installing devices and components from JCI, terminations, testing, etc. Provide labor, materials and coordination with other Trades for installation of Fire Alarm devices, Control Panels, Sensors, conduit, back boxes, wiring and associated materials required for a complete and operational system. The Fire Alarm Design and Equipment scope (parts and smarts) of work will be provided by Johnson Controls via an Owner RFP, delivered to this contractor for management and execution of the contract. This contractor will provide contract to JCI for the fire alarm work provided by them. This Electrical Scope includes an Allowance for JCI carried in the ALLOWANCE section of the bid breakout form above. This scope also includes all conduit, wire, devices and terminations for required Fire Protection devices and alarms. Coordinate all scope and work required with TC-031 Fire Protection Contractor.
  - The value the this contractor should include for alternate 1 for fire alarm for JCI's portion of the scope is $15,000.
- Modify item 49. This Contractor shall provide installation and later removal of temporary restrooms on Floors 2 and 4 in Rooms A0207, A0205, C0454, C0455. Provide a minimum of 4 lighting fixtures for each of these restrooms with on/off Switch at doors This contractor to also furnish and install all temp power and lighting per SK-005 temp power plan for temp power and lighting requirements. This scope for install and removal will also include temporary lights in custodial rooms CO130, COI247 and CO347.
- Delete item 57.
- Modify item 61. This contractor to provide all temporary power and lighting for the fitout scope. Reference SK-005 for scope requirements. This Contractor shall provide an Allowance for temp lighting and power of $20,000 to be used at the discretion of the Project Superintendent above and beyond base scope.
- Add item 68. All Overhead Service Carriers, and Table Top Service Modules Furnished by TC 41 Contractor. All Installation of these devices including all mounting, OH supports, connections and hardware shall be by TC 34 Contractor.
- Add item 69. All Ceiling Mounted Exam and Surgical Lights shall be Furnished and Installed by TC 34 Contractor. Installation shall include all mounting structures, OH supports, connections and hardware by TC 34 Contractor.
- Add item 70. All Ceiling Service Panels shall be Furnished by TC 41 Contractor including all Quick Connect Fittings and Openings for Electrical Outlets. All Ceiling Service Panels shall be Installed by TC 34 Contractor including all Outlets, Cover Plates, mounting structures, supports, electrical connections and hardware. TC 32 Contractor shall provide all Plumbing connections to Ceiling Service Panels above ceiling. All Quick Connect Hoses and Cords for Ceiling Service Panels shall be provided by TC 41 Contractor. All Cords to Mobile Lab Tables shall be installed by TC 34 Contractor. All Quick Connect Hoses shall be installed by TC 32 Contractor.
- Add item 71. All Connections for Mechanical, Plumbing and Electrical to Chemical Fume Hoods are at top of Hoods. All internal connections and outlets are factory installed.
- Add item 72. All Movable Bench Task Lighting at Bottom Shelves Furnished and Installed by TC 41 Contractor. All Movable Benches are Plug & Play Single Source.
- Add item 73. All Air Curtains to be Furnished and Installed by TC – 30 Contractor. All Air Curtain Electrical Connections shall be provided and installed by TC 34 Contractor.
- ADD item 74. This Trade Contractor shall participate in the construction of on-site **mock-ups** as specified and indicated by the documents and/or noted elsewhere. This shall include providing of materials required for this trade contract scope of work, coordinating with other trade contractors with regard to sequencing of installations and protection of materials, furnishing shop drawings and /or setting drawings, etc. Materials for in place or interim mock-ups shall be secured in advance of normal procurement to allow for ALL

trade contractor installations, owner/designer and user reviews and evaluations, meetings, approvals and directive if applicable. Mockups are understood to start with arrangement of wall rough-in through complete room finishes.
    - ADD item 75. This contractor to provide a $20,000 Temporary Electric Allowance. This allowance is above and beyond the temp electric scope being provided and shall be used at the direction of the CM. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
    -
- **"E" Allowances**
    - Change Allowance 2 to $100,000
    - Change Allowance 4 to $1,100,000
- **"G" Alternates**
    - Add alternates 5 & 6

TC-035 Technology

- **Sheet FP-2 Bid Form**
    - Added Alternates 5 & 6
- **"B" Documents**
    - Modify 5.f SK-006 to read SK-006 – Lab Furnishings Responsibility Matrix
- **"C" Scope Specific Items:**
    - ADD item 56. This Trade Contractor shall participate in the construction of on-site **mock-ups** as specified and indicated by the documents and/or noted elsewhere. This shall include providing of materials required for this trade contract scope of work, coordinating with other trade contractors with regard to sequencing of installations and protection of materials, furnishing shop drawings and /or setting drawings, etc. Materials for in place or interim mock-ups shall be secured in advance of normal procurement to allow for ALL trade contractor installations, owner/designer and user reviews and evaluations, meetings, approvals and directive if applicable. Mockups are understood to start with arrangement of wall rough-in through complete room finishes.
    - ADD item 57. This contractor to provide rough in for the observation cameras – reference keynote Q03 on Q413.B.
- **"G" Alternates**
    - Add alternates 5 & 6

TC-036 Drywall & Ceilings

- **Sheet FP-2 Bid Form**
    - Added Alternates 5 & 6
- **"B" Documents**
    - Modify 5.f SK-006 to read SK-006 – Lab Furnishings Responsibility Matrix
    - **6.w** – Remove spec section 09 8433 Sound Absorbing Wall Units from scope – moved to future package TC-040 Casework .
- **"C" Scope Specific Items:**
    - ADD item 20.n. This contractor to provide extruded aluminum where shown on the drawings per detail D12/A802.
    - ADD item 47. This Trade Contractor shall participate in the construction of on-site **mock-ups** as specified and indicated by the documents and/or noted elsewhere. This shall include providing of materials required for this trade contract scope of work, coordinating with other trade contractors with regard to sequencing of installations and protection of materials, furnishing shop drawings and /or setting drawings, etc. Materials for in place or interim mock-ups shall be secured in advance of normal procurement to allow for ALL trade contractor installations, owner/designer and user reviews and evaluations, meetings, approvals and directive if applicable. Mockups are understood to start with arrangement of wall rough-in through complete room finishes.
- **"G" Alternates**
    - Add alternates 5 & 6

-

TC-037 Doors & Hardware

- **Sheet FP-2 Bid Form**
  - Added Alternates 5 & 6
- **"B" Documents**
  - Modify 5.f SK-006 to read SK-006 – Lab Furnishings Responsibility Matrix
- **"G" Alternates**
  - Add alternates 5 & 6
-

TC-038 Masonry

- **Sheet FP-2 Bid Form**
  - Added Alternates 5 & 6
- **"B" Documents**
  - Modify 5.f SK-006 to read SK-006 – Lab Furnishings Responsibility Matrix
- **"C" Scope Specific Items:**
  - ADD item 24. This Trade Contractor shall participate in the construction of on-site **mock-ups** as specified and indicated by the documents and/or noted elsewhere. This shall include providing of materials required for this trade contract scope of work, coordinating with other trade contractors with regard to sequencing of installations and protection of materials, furnishing shop drawings and /or setting drawings, etc. Materials for in place or interim mock-ups shall be secured in advance of normal procurement to allow for ALL trade contractor installations, owner/designer and user reviews and evaluations, meetings, approvals and directive if applicable. Mockups are understood to start with arrangement of wall rough-in through complete room finishes.
- **"G" Alternates**
  - Add alternates 5 & 6

Project General Work Requirements

- **D. General Requirements**
  - Update item 64 to read: TC-030 Fitout General Trades shall provide twice weekly professional cleaning of the Construction Manager's office. This includes sweeping, mopping, emptying the trash, wiping down the desk/counter surfaces, cleaning and stocking of the restrooms, with soap and paper products, etc. Reference Sketch SK-004 for office layout. Office is located on the 2nd floor of the E.S. Good Barn Building adjacent to the site. This shall be done from 6/1/25 thru 12/31/26.

Sketches

- SK-003 – Tent and HVAC Rental Agreements
  - Updated SK-003 provided with rental agreements for tent and HVAC rentals
- SK-005 – Temporary Power Plan
  - Included SK-005 that was missing from original download
- SK-006 Lab Furnishings Responsibility Matrix
  - Provided SK-006 for lab furnishings responsibility matrix

Attachments Included:

- BHDP Addendum 04 – 20250114 UK AG Research 1 Fitout Package Addendum 04
- Revised Attachment B: TC-030 General Trades
- Revised Attachment B: TC-031 Fire Protection
- Revised Attachment B: TC-032 Plumbing
- Revised Attachment B: TC-033 Mechanical
- Revised Attachment B: TC-034 Electrical
- Revised Attachment B: TC-035 Technology
- Revised Attachment B: TC-036 Drywall and Ceilings

- Revised Attachment B: TC-037 Doors/Frames/Hardware
- Revised Attachment B: TC-038 Masonry
- Revised Attachment G: 250103 UK AG Master Schedule Update – December 2024 Update R2
- Prospiant Rooftop Greenhouse Drawings – 242004 UK Rooftop Greenhouse Set 01.14.2025 (for Reference)
- SK-003 – Tent and HVAC Rental Agreements
- SK-005 – Temporary Power Plan
- SK-006 Lab Furnishings Responsibility Matrix
- Teaching Greenhouse Fire Protection Drawings and Specifications
- JCI Fire Alarm Proposal (for Reference)
- TC-025 Chiller and Air Handler Submittals (for Reference)
- Question and Response Log

Date 1/14/2025

Project Title University of Kentucky
Agriculture Research Facility 1

To All Plan Holders

Purpose Modify the Bid Documents

Distribution All Plan Holders
University of Kentucky
Turner Construction
A/E Design Team

TO ALL BIDDERS: This Addendum modifies the Contract Documents and shall be taken into account in preparing bid proposals and shall become a part of the Contract Documents.

Controls:

Item 1. Sequence of Operation for Vivarium Controls
- Refer to attached document "Vivarium Airflow Control Conditions."

Specifications:

Item 2. 23 0200 – HVAC Equipment and Specialties
- Add the following language:
  1. View Touch Screen Display
     a. General
        i. The touch screen display in intended to set outside of the vivarium spaces to display temperature, humidity and room status. The touch screen display is intended to be used as a control device to send rooms into decontamination and exist decontamination mode. The touch screen display provided must be manufactured by the LACS provider. 3rd party controllers shall be unacceptable.
        ii. 7" color LCD capacitive touch screen display (800 x 480 pixels) WVGA.
        iii. The touch screen local display device shall access to pertinent flow, temperature, humidity, pressure, occupancy, and emergency mode control status.
        iv. Set points shall be viewable and editable on the display interface.
        v. Control parameters shall be commandable on the display interface.
        vi. A capacitive touch-screen pane with variable contrast adjustment and selectable alternate color scheme to adapt the display to various lighting conditions shall be provided.
        vii. Construction shall have a gasketed faceplate and meet IP54 rating to prevent the incursion of dust and moisture for use in areas with exposure to moderate to high particulate and humidity.
        viii. Installation shall be flush mounted to a standard electrical enclosure.

ix. Electrical conductors shall terminate directly to the touch screen local display module housing by way of a pluggable terminal block and shall not be exposed when the unit is installed.
x. A front mount USB port to support configuration backup and restore functions must be provided.

b. Power
   i. The device shall be powered by 24 VAC ±15% at 16 VA, 50 – 60 Hz.
c. Configuration
   i. Configuration shall be done on the unit itself and shall not require any plug-in or 3rd party software to configure.
   ii. Native functionality shall provide the ability to upgrade to a translated language for the locale in which it is installed.
   iii. The device shall be capable of being added to an existing BACnet MS/TP installation (BACnet compliant on MS/TP LAN at 9.6 to 115.2 Kbps).
d. Communication
   i. The touch screen local display unit shall connect to the MS/TP network bus and provide access to all MS/TP control data.
   ii. Device functionality shall be able to pull data from 3rd party devices over the BACnet MS/TP bus.
   iii. The device must be able to display and command information from multiple networked devices.
e. Information Display
   i. The device shall have the ability to display up to 2 screens which will automatically toggle.
      1. Each screen shall be organized into 6 interactive tiles per screen, and each tile shall be customizable with up to 4 points programmed per tile (48 points total can be displayed – 24 at a time).
      2. Each tile shall have the ability to have a customizable title.
      3. Each point shall have the ability to have a customizable name for clarity.
      4. Each parameter being displayed shall have the ability to include such information as units of measure and configurable number of decimal places (up to 7).
   ii. The device shall read present values directly off the network, or scaled to output the displayed value in another desired unit of measure. The scaling shall be done within the software of the monitor.
   iii. Settings must support data view in local units of measure.
   iv. The device shall have the ability to have a customizable alarm for every readable parameter that is programmed in the unit.
      1. The alarm shall show full screen and have an audible tone on first trigger and have a visual indication present as long as the alarm is still active.
      2. Users shall have the ability to change the volume of the alarm, as well as mute the alarm and only show visual indication of alarm state.
f. Security
   i. End users shall have the ability to enable a PIN pass code to prevent unauthorized changes to set points, notes, and editable control parameters.

g. Compliance
   i. The unit shall be certified as meeting regulatory compliance with CE, CSA, and RoHS.
   ii. The unit is suitable for use with non-solvent wipe down and when properly installed on a smooth wall surface is designed to meet IP54 test standards. Wall surfaces other than smooth or painted wallboard may require additional sealant/sealing methods to prevent equipment damage.
   iii. The unit's exposed surfaces shall be chemically resistant to vaporized hydrogen peroxide (VHP), formaldehyde, chlorine dioxide (clidox), perchloric acid, sodium hypochlorite 3-6% (bleach), quaternary ammonium 7% in 1:128 tap water (ammonia)
h. Environment
   i. The Operating Temperature Range shall be between 32 – 113 ºF (0 – 45 ºC).

Drawings:

Item 3. E151 – GREENHOUSE FLOOR PLAN – LIGHTING – AREA 1
- Added the following notes:
- Greenhouse Notes:
  a. Refer to Greenhouse Vendor drawings. Provide all required low-voltage cabling/wiring and raceways to all devices.
  b. Refer to sheet E600 "Responsibility Matrix" for more information.

Item 4. E152 – GREENHOUSE FLOOR PLAN – LIGHTING – AREA 2
- Added the following notes:
- Greenhouse Notes:
  a. Refer to Greenhouse Vendor drawings. Provide all required low-voltage cabling/wiring and raceways to all devices.
  b. Refer to sheet E600 "Responsibility Matrix" for more information.

Item 5. E153 – GREENHOUSE FLOOR PLAN – LIGHTING – AREA 3
- Added the following notes:
- Greenhouse Notes:
  a. Refer to Greenhouse Vendor drawings. Provide all required low-voltage cabling/wiring and raceways to all devices.
  b. Refer to sheet E600 "Responsibility Matrix" for more information.

Item 6. E251 – GREENHOUSE FLOOR PLAN – POWER – AREA 1
- Added the following notes:
- Greenhouse Notes:
  a. Refer to Greenhouse Vendor drawings. Provide all required low-voltage cabling/wiring and raceways to all devices.
  b. Refer to sheet E600 "Responsibility Matrix" for more information.

Item 7. E251.A – LABORATORY GREENHOUSE FLOOR PLAN – POWER – AREA 1A
- Added the following notes:
- Greenhouse Notes:
  a. Refer to Greenhouse Vendor drawings. Provide all required low-voltage cabling/wiring and raceways to all devices.
  b. Refer to sheet E600 "Responsibility Matrix" for more information.

Item 8. E252 – GREENHOUSE FLOOR PLAN – POWER – AREA 2
- Added the following notes:
- Greenhouse Notes:
    a. Refer to Greenhouse Vendor drawings. Provide all required low-voltage cabling/wiring and raceways to all devices.
    b. Refer to sheet E600 "Responsibility Matrix" for more information.

Item 9. E252.A – LABORATORY GREENHOUSE FLOOR PLAN – POWER – AREA 2A
- Added the following notes:
- Greenhouse Notes:
    a. Refer to Greenhouse Vendor drawings. Provide all required low-voltage cabling/wiring and raceways to all devices.
    b. Refer to sheet E600 "Responsibility Matrix" for more information.

Item 10. E252.B – LABORATORY GREENHOUSE FLOOR PLAN – POWER – AREA 2B
- Added the following notes:
- Greenhouse Notes:
    a. Refer to Greenhouse Vendor drawings. Provide all required low-voltage cabling/wiring and raceways to all devices.
    b. Refer to sheet E600 "Responsibility Matrix" for more information.

Item 11. E252.C – LABORATORY GREENHOUSE FLOOR PLAN – POWER – AREA 2C
- Added the following notes:
- Greenhouse Notes:
    a. Refer to Greenhouse Vendor drawings. Provide all required low-voltage cabling/wiring and raceways to all devices.
    b. Refer to sheet E600 "Responsibility Matrix" for more information.

Item 12. E253 – GREENHOUSE FLOOR PLAN – POWER – AREA 3
- Added the following notes:
- Greenhouse Notes:
    a. Refer to Greenhouse Vendor drawings. Provide all required low-voltage cabling/wiring and raceways to all devices.
    b. Refer to sheet E600 "Responsibility Matrix" for more information.

Item 13. E253.A – LABORATORY GREENHOUSE FLOOR PLAN – POWER – AREA 3A
- Added the following notes:
- Greenhouse Notes:
    a. Refer to Greenhouse Vendor drawings. Provide all required low-voltage cabling/wiring and raceways to all devices.
    b. Refer to sheet E600 "Responsibility Matrix" for more information.

Item 14. E253.B – LABORATORY GREENHOUSE FLOOR PLAN – POWER – AREA 3B
- Added the following notes:
- Greenhouse Notes:
    a. Refer to Greenhouse Vendor drawings. Provide all required low-voltage cabling/wiring and raceways to all devices.
    b. Refer to sheet E600 "Responsibility Matrix" for more information.

Respectfully Submitted,

Kelly Gardner
Senior Architect
BHDP Architecture

ATTACHMENTS

1. Vivarium Airflow Control Conditions
2. E151 - GREENHOUSE FLOOR PLAN - LIGHTING - AREA 1_ADD-4
3. E152 - GREENHOUSE FLOOR PLAN - LIGHTING - AREA 2_ADD-4
4. E153 - GREENHOUSE FLOOR PLAN - LIGHTING - AREA 3_ADD-4
5. E251 - GREENHOUSE FLOOR PLAN - POWER - AREA 1_ADD-4
6. E251.A - LABORATORY GREENHOUSE FLOOR PLAN - POWER - AREA 1A_ADD-4
7. E252 - GREENHOUSE FLOOR PLAN - POWER - AREA 2_ADD-4
8. E252.A - LABORATORY GREENHOUSE FLOOR PLAN - POWER - AREA 2A_ADD-4
9. E252.B - LABORATORY GREENHOUSE FLOOR PLAN - POWER - AREA 2B_ADD-4
10. E252.C - LABORATORY GREENHOUSE FLOOR PLAN - POWER - AREA 2C_ADD-4
11. E253 - GREENHOUSE FLOOR PLAN - POWER - AREA 3_ADD-4
12. E253.A - LABORATORY GREENHOUSE FLOOR PLAN - POWER - AREA 3A_ADD-4
13. E253.B - LABORATORY GREENHOUSE FLOOR PLAN - POWER - AREA 3B_ADD-4

END OF ADDENDUM 4

Vivarium Airflow Control Conditions

1. Normal Operation

Phoenix Supply and Exhaust Valves: The Phoenix Supply Valve and Phoenix Exhaust Valve are actively controlling the scheduled temperature and maintaining scheduled airflows based on the room's requirements.

2. Emergency Operation

Phoenix Valves Maintain Last Position: In an emergency situation (such as power failure or loss of communication), both the Phoenix Supply Valve and the Phoenix Exhaust Valve will hold their last known positions.

3. Decontamination Mode

Entering Decontamination Mode:

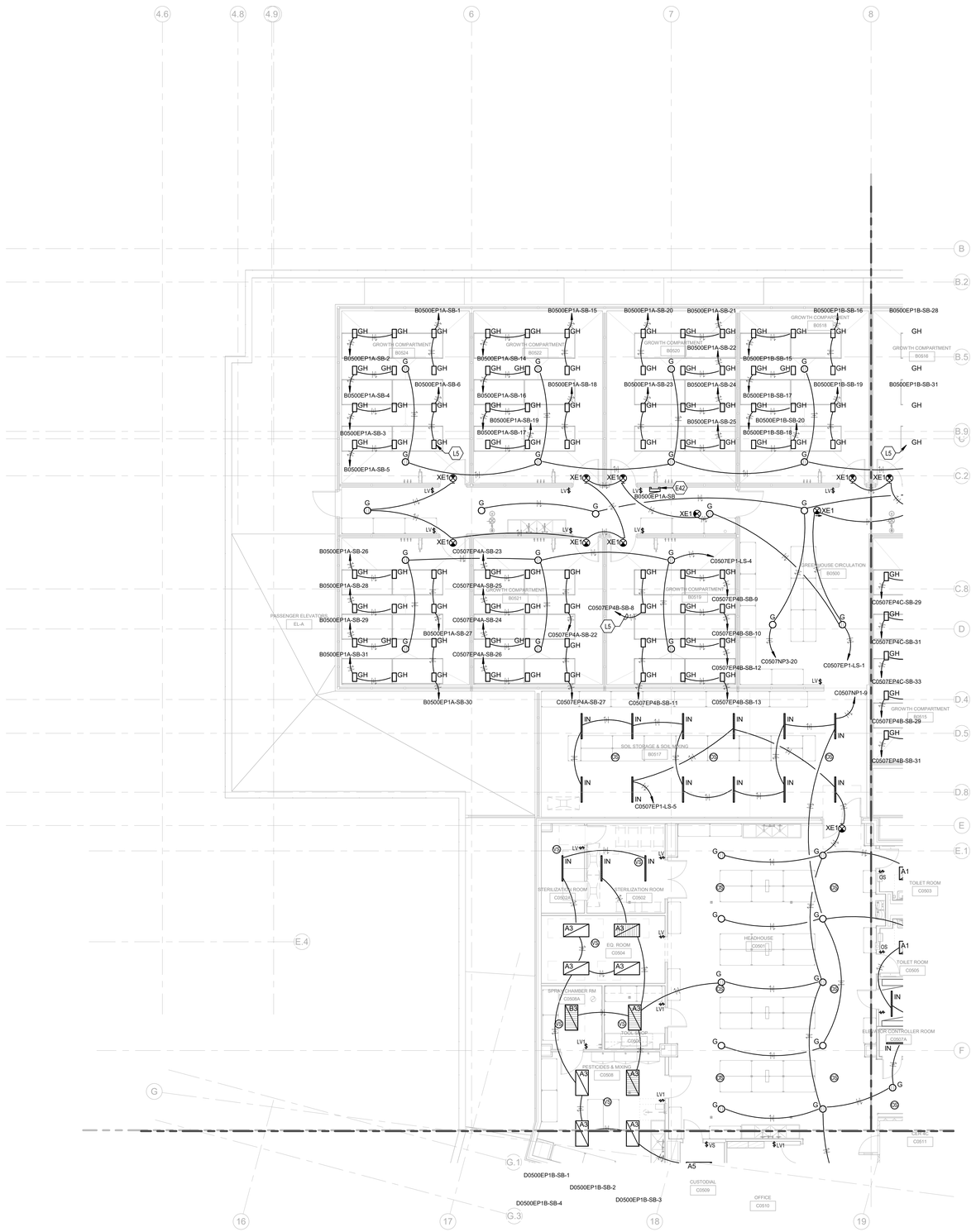
1. Decontamination mode can be initiated via any of the following options (editable for engineer preferences):
   - Local Touch Screen Display Unit
   - Local Keyed Switch
   - Networked Point
2. Upon receiving the command to shut down a room for gaseous decontamination, the Phoenix Supply Valve and Phoenix Exhaust Valve will immediately drive to 0 CFM shutoff mode, effectively sealing the room.

4. Regen from Decontamination Mode

Exiting Decontamination Mode:

1. After decontamination is completed, reactivating the system can be done using one of the following:
   - Local Touch Screen Display Unit
   - Local Keyed Switch
   - Network Command
2. Upon receiving the command to resume normal operation:
   1. The Exhaust Valve will move to maintain room offset
   2. After 5 minutes, the Supply Valve will start to move towards its scheduled airflow rate.
   3. The Exhaust Valve will continue to track the movement of the Supply Valve to ensure proper ventilation and ensure the removal of any remaining gaseous contaminants from the space.
   4. Once the ventilation phase is completed, the system will fully transition back to Normal Operation mode, resuming scheduled temperature and airflow.

NOTE:
ALL EXPOSED RACEWAY WITHIN GREENHOUSE(S) ARE TO BE THREADED ALUMINUM CONDUIT WITH CAST ALUMINUM BOXES.



1 GREENHOUSE FLOOR PLAN - LIGHTING - AREA 1
NORTH
SCALE: 1/8" = 1'-0"

GENERAL NOTES (LIGHTING):

A. REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.

B. CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE RAN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER N.E.C. #310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER N.E.C. #300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN N.E.C #100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.

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D. LOCATE CHAIN-HUNG INDUSTRIAL FIXTURES IN MECHANICAL ROOMS TO AVOID DUCTWORK AND PIPING, TO MAXIMIZE AVAILABLE LIGHT. SPACE AROUND EQUIPMENT, AIR HANDLERS, ETC. TO PROVIDE ADEQUATE LIGHTING TO ALL AREAS OF ROOM. PROVIDE ADDITIONAL FIXTURES OF SAME TYPE AS NEEDED TO FULFILL THIS REQUIREMENT.

E. LOCATE EXIT SIGNS FOR MAXIMUM VIEWING AREA TO IDENTIFY EGRESS PATHS AS INDICATED ON PLANS. COORDINATE LOCATIONS SUCH THAT ARCHITECTURAL FEATURES OR EQUIPMENT FROM OTHER TRADES DO NOT OBSTRUCT VIEW.

F. LUMINAIRES INDICATED WITH MULTI-LEVEL SWITCHING SHALL HAVE SIMILAR LAMPS CONTROLLED TOGETHER, I.E. INBOARD AND OUTBOARD LAMPS OR RIGHT AND LEFT HAND LAMPS.

G. ALL LIGHTING FIXTURE LENSES, PARABOLIC LOUVERS, DOWNLIGHTING ALZAK CONES AND "PARACUBE" LOUVERS SHALL BE HANDLED WITH COTTON GLOVES DURING INSTALLATION AND LAMPING TO AVOID FINGERPRINTS OR DIRT DEPOSITS. IT IS PREFERRED THAT FIXTURES BE SHIPPED AND INSTALLED WITH CLEAR PLASTIC BAGS TO PROTECT LOUVERS. AT CLOSE OF PROJECT, AND AFTER CONSTRUCTION AIR FILTERS ARE CHANGED, REMOVE BAGS. ANY LOUVER OR CONE SHOWING DIRT OR FINGER PRINTS SHALL BE CLEANED WITH SOLVENT RECOMMENDED BY THE MANUFACTURER, OR REPLACED AS NECESSARY IN ORDER TO TURN OVER TO THE OWNER NEW FIXTURES AT OCCUPANCY.

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I. CONTRACTOR SHALL PROVIDE UNSWITCHED CONDUCTOR TO ALL EXIT SIGNS, EMERGENCY INVERTER BATTERY PACKS, AND NIGHT LIGHTS AS REQUIRED.

KEYNOTES

E42 PROVIDE UNI-STRUT RACKING BETWEEN FLOOR AND STRUCTURE ABOVE TO SUPPORT PANELBOARD.

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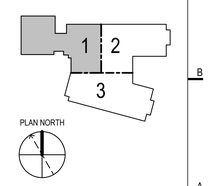
a. REFER TO GREENHOUSE VENDOR DRAWINGS. PROVIDE ALL REQUIRED LOW-VOLTAGE CABLING/WIRING AND RACEWAYS TO ALL DEVICES.
b. REFER TO SHEET E600 "RESPONSIBILITY MATRIX" FOR MORE INFORMARTION.

KEY PLAN



University of Kentucky

Flad Architects
MADISON
644 SCIENCE DR.
MADISON, WI 53711
PHONE 608.358.3681
WWW.FLADARCH.COM

BCAE ENGINEERING: DAYTON, OH
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BHDP
COLUMBUS
234 MADISON BLVD.
COLUMBUS, OHIO 43215
PHONE 614.621.3000
WWW.BHDP.COM

CMTA INC: LEXINGTON, KY
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3	FIT-OUT PACKAGE - ADDENDUM 3	01.09.2025
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1	FIT-OUT PACKAGE BID AND PERMIT	11.15.2024

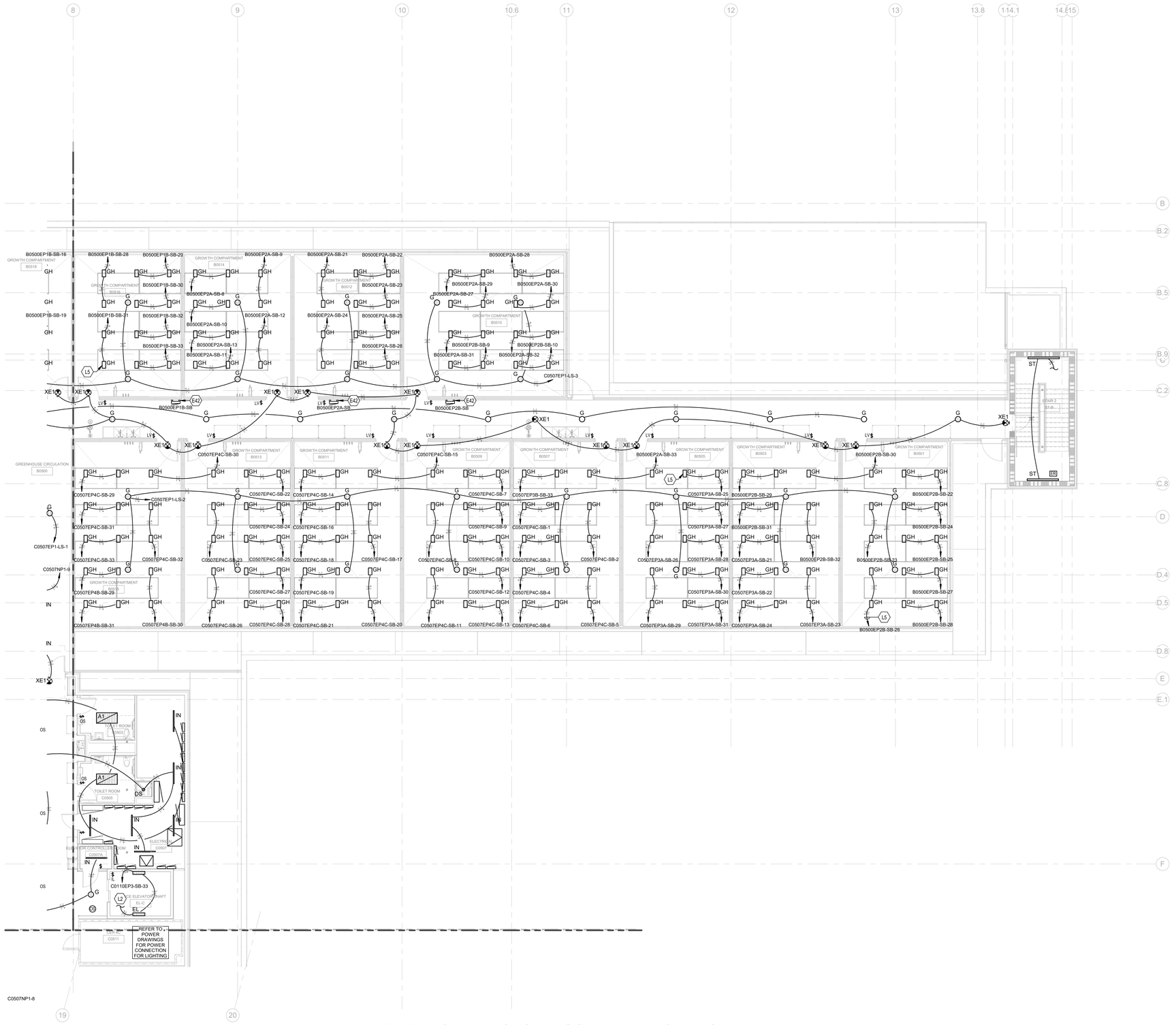
UNIVERSITY OF KENTUCKY
AGRICULTURE RESEARCH FACILITY 1
1411 UNIVERSITY DR. LEXINGTON, KENTUCKY 40503
GREENHOUSE FLOOR PLAN - LIGHTING - AREA 1

STATE OF KENTUCKY
BRIAN K BAUMGARTLE
23719
LICENSED PROFESSIONAL ENGINEER

Project Manager: B. BAUMGARTLE
Drawn: G. CRISP
Checked: B. BAUMGARTLE
Issue For Any Date: 11.15.2024
Project Number: UKX05.00

E151

NOTE:
ALL EXPOSED RACEWAY WITHIN GREENHOUSE(S) ARE TO BE THREADED ALUMINUM CONDUIT WITH CAST ALUMINUM BOXES.



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KEYNOTES

E42 PROVIDE UNI-STRUT RACKING BETWEEN FLOOR AND STRUCTURE ABOVE TO SUPPORT PANELBOARD.

L2 CIRCUIT TO LIGHT FIXTURE IN SHAFT ON LEVEL ABOVE / BELOW.

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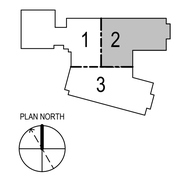

GREENHOUSE FLOOR PLAN - LIGHTING - AREA 2

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

NORTH

University of Kentucky

No.	Issue/Revision/Submission	Date
4	FIT-OUT PACKAGE - ADDENDUM 4	01.14.2025
3	FIT-OUT PACKAGE - ADDENDUM 3	01.09.2025
2	FIT-OUT PACKAGE - ADDENDUM 2	12.13.2024
1	FIT-OUT PACKAGE - BID AND PERMIT	11.15.2024

Flad Architects
MADISON
644 SOUTAGE DR.
MADISON, WI 53711
PHONE 608.358.3681
WWW.FLADARCH.COM

BHDP
COLUMBUS
231 NORTH 3RD ST.
COLUMBUS, OHIO 43215
PHONE 614.224.1956
WWW.BHDP.COM

BCAE ENGINEERING: DAYTON, OH
DELMAX CONSTRUCTION: URBANA, OH
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UNIVERSITY OF KENTUCKY
AGRICULTURE RESEARCH FACILITY 1
1411 UNIVERSITY DR. LEXINGTON, KENTUCKY 40503
GREENHOUSE FLOOR PLAN - LIGHTING - AREA 2

STATE OF KENTUCKY
BRIAN K. BAUMGARTLE
23119
LICENSED PROFESSIONAL ENGINEER

Project Manager: B. BAUMGARTLE
Drawn: G. CRISP
Checked: B. BAUMGARTLE
Initial Drawing Date: 11.15.2024
Project Number: UKX05.00

E152

KEYNOTES

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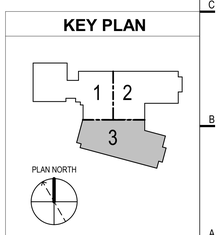

GREENHOUSE FLOOR PLAN - LIGHTING - AREA 3

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

NORTH

No.	Date	Issue/Revision/Submission
4	01.14.2025	FIT-OUT PACKAGE - ADDENDUM 4
3	01.09.2025	FIT-OUT PACKAGE - ADDENDUM 3
2	12.11.2024	FIT-OUT PACKAGE - ADDENDUM 2
1	11.15.2024	FIT-OUT PACKAGE - BID AND PERMIT

University of Kentucky

Flad Architects
MADISON
644 ESSINGTON DR.
MADISON, WI 53711
PHONE 608.358.3681
WWW.FLADARCH.COM

BHDP
COLUMBUS
234 MIDDLEVILLE RD.
COLUMBUS, OHIO 43215
PHONE 614.481.6300

BCAE ENGINEERING: DAYTON, OH
DELMAX CONSTRUCTION: URBANA, OH
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UNIVERSITY OF KENTUCKY
AGRICULTURE RESEARCH FACILITY 1
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GREENHOUSE FLOOR PLAN - LIGHTING - AREA 3

STATE OF KENTUCKY
BRIAN K BAUMGARTLE 23719
LICENSED PROFESSIONAL ENGINEER

Project Manager: B. BAUMGARTLE
Drawn: G. CRISP
Checked: B. BAUMGARTLE
Issued Revised Date: 11.15.2024
Project Number: UKX05.00

E153

NOTE:
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3

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b. REFER TO SHEET E600 "RESPONSIBILITY MATRIX" FOR MORE INFORMARTION.

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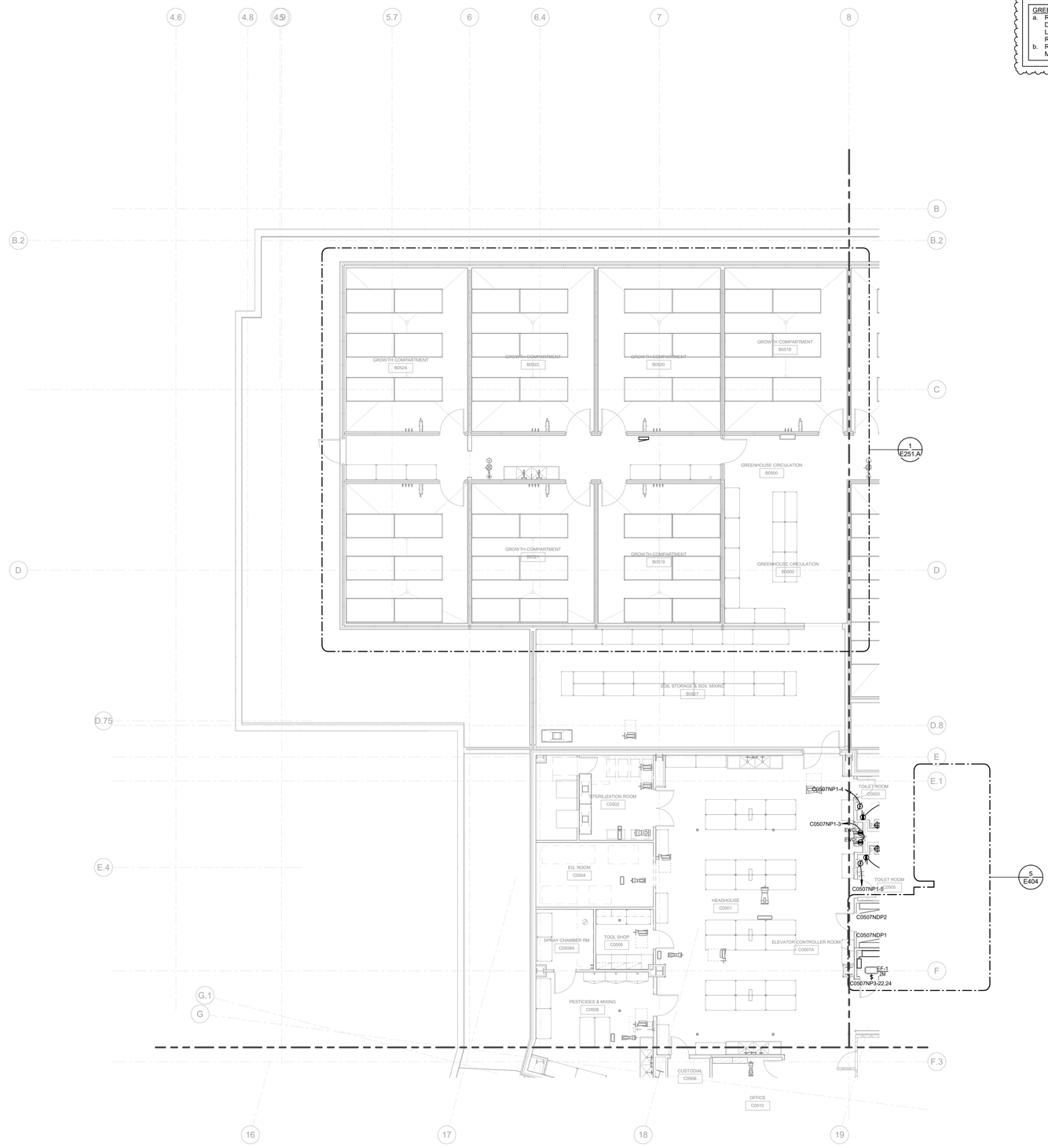
D. RECEPTACLES THAT ARE CONTROLLED BY AN AUTOMATIC MEANS SUCH AS OCCUPANCY SENSOR OR ENERGY MANAGEMENT SYSTEM SHALL BE MARKED IN ACCORDANCE WITH NEC 406.3(E).

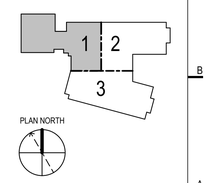
E. LOCATIONS OF ELECTRICAL CONNECTIONS AND LOCAL DISCONNECTS SHALL BE COORDINATED WITH MECHANICAL AND PLUMBING CONTRACTORS TO ENSURE ACCESS AND WORKING CLEARANCE IS MAINTAINED PER NEC. NOTIFY OTHER TRADES OF REQUIRED CLEARANCE AREAS TO AVOID ROUTING OF OTHER SYSTEMS IN THESE AREAS. DO NOT INSTALL ELECTRICAL EQUIPMENT OVER EQUIPMENT NAMEPLATES OR ACCESS PANELS OR THROUGH ACCESS/MAINTENANCE CLEARANCES OF EQUIPMENT BY OTHER TRADES.

KEYNOTES



1 GREENHOUSE FLOOR PLAN - POWER - AREA 1
NORTH
SCALE: 1/8" = 1'-0"

KEY PLAN



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University of Kentucky

Flad Architects
MADISON
644 ESOENCY DR.
MADISON, WI 53711
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BHDP
COLUMBUS
274 MARCONI BLVD.
SUITE 200
COLUMBUS, OHIO 43215
PHONE 614.481.6000

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GREENHOUSE FLOOR PLAN - POWER - AREA 1

STATE OF KENTUCKY
BRIAN K. BAUMGARTLE
23170
LICENSED PROFESSIONAL ENGINEER

Project Manager: B. BAUMGARTLE
Drawn: G. CRISP
Checked: B. BAUMGARTLE
Initial Drawing Date: 11.15.2024
Project Number: UKX05.00

E251

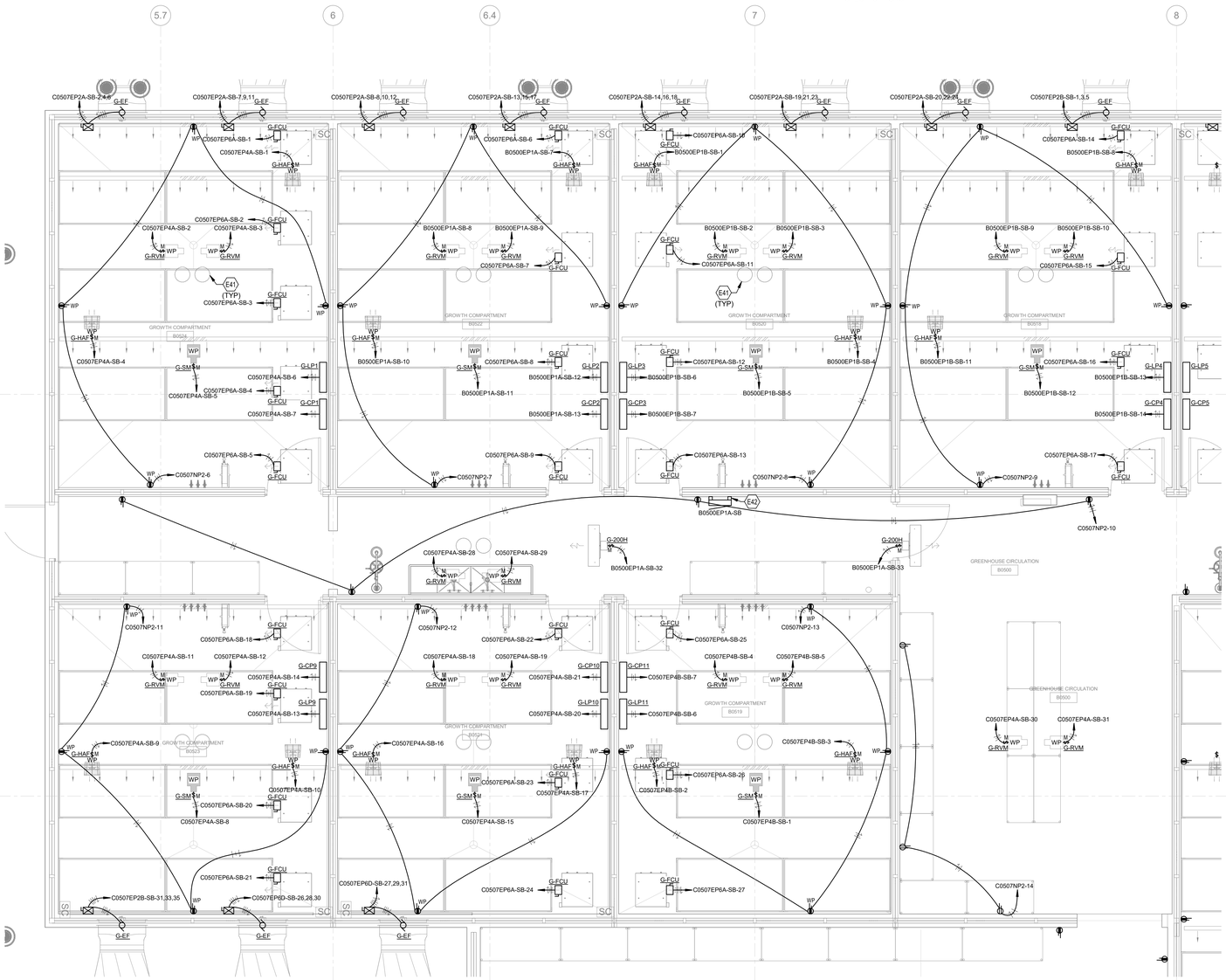
GREENHOUSE EQUIPMENT CONNECTION SCHEDULE

E EQUIP ID	E DESCRIPTION	E DISCONNECT MEANS	E VOLTAGE	E NUMBER OF POLES	E MOTOR HP	POWER (kVA)
G-133H			120 V	1		0.42
G-200H			120 V	1		0.67
G-EF	36" EXHAUST FAN	PROVIDE 30 AMP 480VAC, 3 POLE COMBINATION STARTER/ DISCONNECT IN NEMA 3R ENCLOSURE.	480 V	3		0.62
G-FCU			277 V	1		0.61
G-HAF	HORIZONTAL AIR FLOW FAN	PROVIDE 30 AMP SINGLE POLE, 120 VAC MOTOR RATED TOGGLE SWITCH IN NEMA 3R ENCLOSURE.	120 V	1		0.20
G-P	SUBM. PUMP	PROVIDE 30 AMP SINGLE POLE, 120 VAC MOTOR RATED TOGGLE SWITCH IN NEMA 3R ENCLOSURE.	120 V	1		0.72
G-RVM	ROOF VENT MOTOR	PROVIDE 30 AMP SINGLE POLE, 120 VAC MOTOR RATED TOGGLE SWITCH IN NEMA 3R ENCLOSURE.	120 V	1		0.50
G-SM	SHADE MOTOR	PROVIDE 30 AMP SINGLE POLE, 120 VAC MOTOR RATED TOGGLE SWITCH IN NEMA 3R ENCLOSURE.	120 V	1		0.50

REFER TO GREENHOUSE PLANS AND EQUIPMENT SPECIFICATIONS.

NOTE:
COORDINATE ALL PENETRATIONS THROUGH GREENHOUSE GLASS WITH UTILITY ENTRY LOCATION PROVIDED BY GREENHOUSE CONSULTANT. SEAL AROUND ENTRY BOX WIL SILICONE BASED SEALANT; ASTM C920, TYPE S. REFER TO GREENHOUSE CONSULTANT DRAWINGS FOR ADDITIONAL INFORMATION.

NOTE:
ALL EXPOSED RACEWAY WITHIN GREENHOUSE(S) ARE TO BE THREADED ALUMINUM CONDUIT WITH CAST ALUMINUM BOXES.



1 LABORATORY GREENHOUSE FLOOR PLAN - POWER - AREA 1A

NORTH

SCALE: 1/4" = 1'-0"

GREENHOUSE NOTES:
a. REFER TO GREENHOUSE VENDOR DRAWINGS. PROVIDE ALL REQUIRED LOW-VOLTAGE CABLING/WIRING AND RACEWAYS TO ALL DEVICES.
b. REFER TO SHEET E600 "RESPONSIBILITY MATRIX" FOR MORE INFORMARTION.

GENERAL NOTES (POWER):

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KEYNOTES

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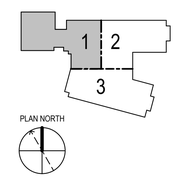
E42 PROVIDE UNI-STRUT RACKING BETWEEN FLOOR AND STRUCTURE ABOVE TO SUPPORT PANELBOARD.

KEY PLAN



No.	Date	Issue/Revision/Submission
3	01.14.2025	FIT-OUT PACKAGE - ADDENDUM 4
2	12.13.2024	FIT-OUT PACKAGE - ADDENDUM 1
1	11.15.2024	FIT-OUT PACKAGE BID AND PERMIT

University of Kentucky

Flad Architects
MADISON
644 SOUTENCH DR.
MADISON, WI 53711
PHONE 608.358.3681
WWW.FLADARCH.COM

BHDP
COLUMBUS
224 MADISON AVE.
SUITE 200
COLUMBUS, OHIO 43215
PHONE 614.621.1900

BCAE ENGINEERING: DAYTON, OH
DELMAX CONSTRUCTION: URBANA, OH
TERRACON: LEXINGTON, KY
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AGRICULTURE RESEARCH FACILITY 1
1411 UNIVERSITY DR. LEXINGTON, KENTUCKY 40503

LABORATORY GREENHOUSE FLOOR PLAN - POWER - AREA 1A

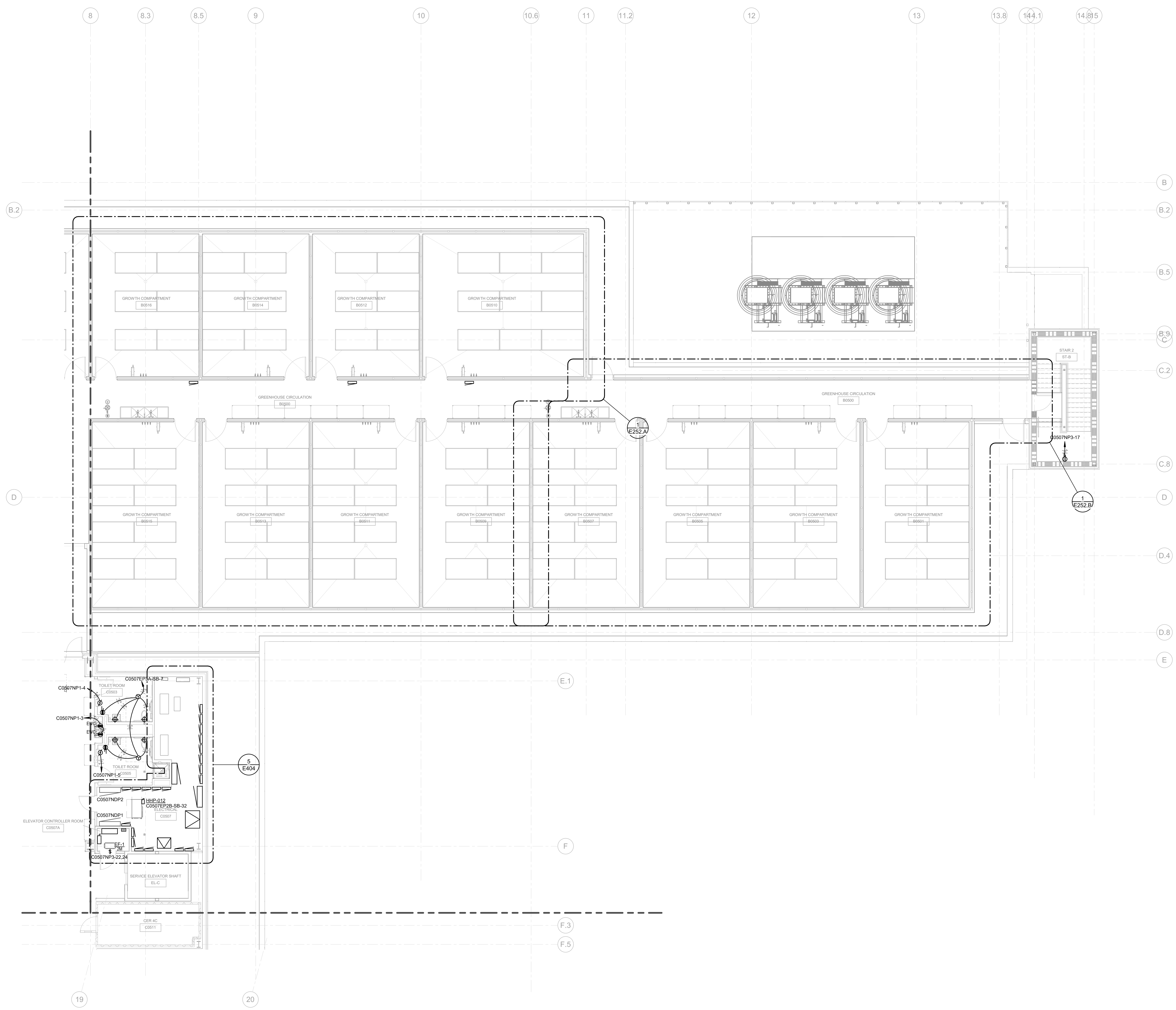
STATE OF KENTUCKY
BRIAN K BAUMGARTLE
23179
LICENSED PROFESSIONAL ENGINEER

Project Manager: B. BAUMGARTLE
Drawn: G. CRISP
Checked: B. BAUMGARTLE
Initial Drawing Date: 11.15.2024
Project Number: UKX05.00

E251.A

Revit Template Version 2021

NOTE:
ALL EXPOSED RACEWAY WITHIN GREENHOUSE(S) ARE TO BE THREADED ALUMINUM CONDUIT WITH CAST ALUMINUM BOXES.



1 GREENHOUSE FLOOR PLAN - POWER - AREA 2
SCALE: 1/8" = 1'-0"
NORTH

GENERAL NOTES (POWER):

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KEYNOTES

3

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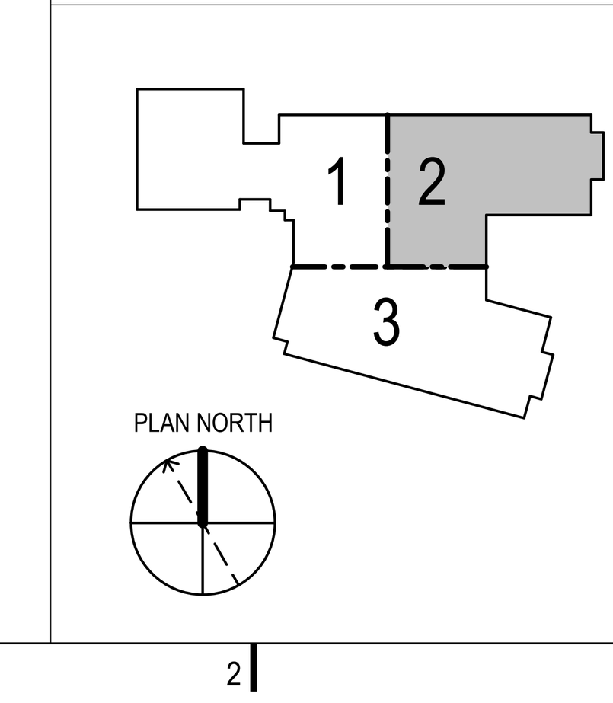
KEY PLAN



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2	FIT-OUT PACKAGE - ADDENDUM 1	12.11.2024
1	FIT-OUT PACKAGE - BID AND PERMIT	11.15.2024

Flad Architects
MADISON
644 SCIENCE DR.
MADISON, WI 53711
PHONE 608.238.2661
WWW.FLAD.COM

BC&E ENGINEERING: DAYTON, OH
DELMAX CONSTRUCTION: URBANA, OH
TERRACON: LEXINGTON, KY
FLAD: MADISON, WI

BHDP
COLUMBUS
274 MARCONI BLVD.
SUITE 200
COLUMBUS, OHIO 43215
PHONE 614.486.1960

CMTA INC: LEXINGTON, KY
THP LIMITED INC: CINCINNATI, OH
NV5: PITTSBURGH, PA
BELL ENGINEERING: HOPKINSVILLE, KY
VIBRASURE: SAN FRANCISCO, CA

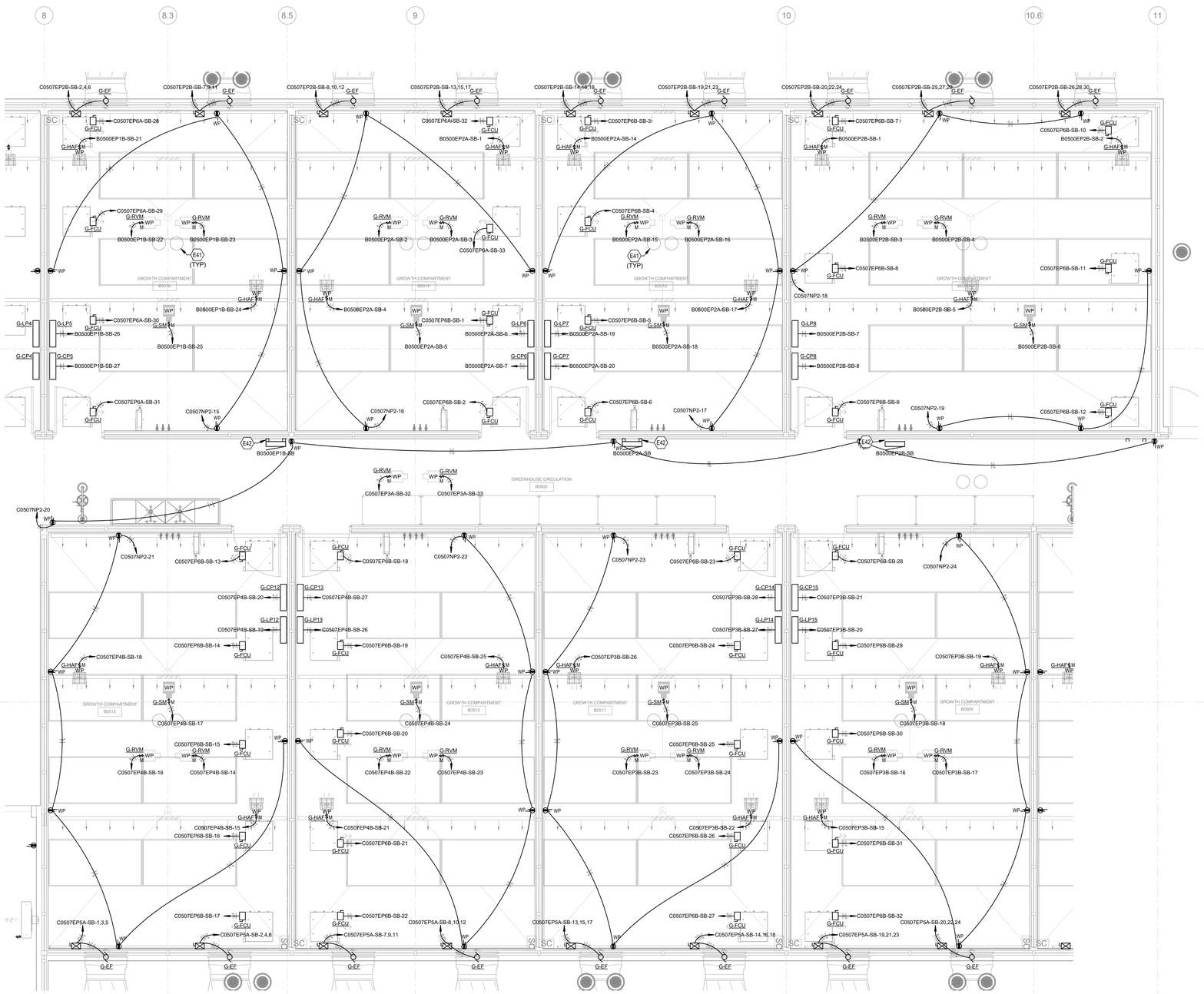
UNIVERSITY OF KENTUCKY
AGRICULTURE RESEARCH FACILITY 1
1411 UNIVERSITY DR. LEXINGTON, KENTUCKY 40503

GREENHOUSE FLOOR PLAN - POWER - AREA 2

STATE OF KENTUCKY
BRIAN K. BAUMGARTLE
23119
LICENSED PROFESSIONAL ENGINEER

Project Manager
B. BAUMGARTLE
Drawn
G. CRISP
Checked
B. BAUMGARTLE
Initial Drawing Date
11.15.2024
Project Number
UKX05.00

E252



1 NORTH

LABORATORY GREENHOUSE FLOOR PLAN - POWER - AREA 2A

SCALE: 1/4" = 1'-0"

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KEYNOTES

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3

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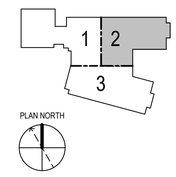
KEY PLAN



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Flad Architects
MADISON
644 ESOUNCY DR.
MADISON, WI 53711
PHONE 608.358.3681
WWW.FLADARCH.COM

BHDP
COLUMBUS
219 MADISON BLVD.
SUITE 200
COLUMBUS, OHIO 43215
PHONE 614.621.1300
WWW.BHDP.COM

BCAE ENGINEERING: DAYTON, OH
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AGRICULTURE RESEARCH FACILITY 1
1411 UNIVERSITY DR. LEXINGTON, KENTUCKY 40503

LABORATORY GREENHOUSE FLOOR PLAN - POWER - AREA 2A

STATE OF KENTUCKY
BRIAN K BAUMGARTLE
23119
LICENSED PROFESSIONAL ENGINEER

Project Manager: B. BAUMGARTLE
Drawn: G. CRISP
Checked: B. BAUMGARTLE
Initial Drawing Date: 11.15.2024
Project Number: UKX05.00

E252.A

NOTE:
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2

GREENHOUSE NOTES:
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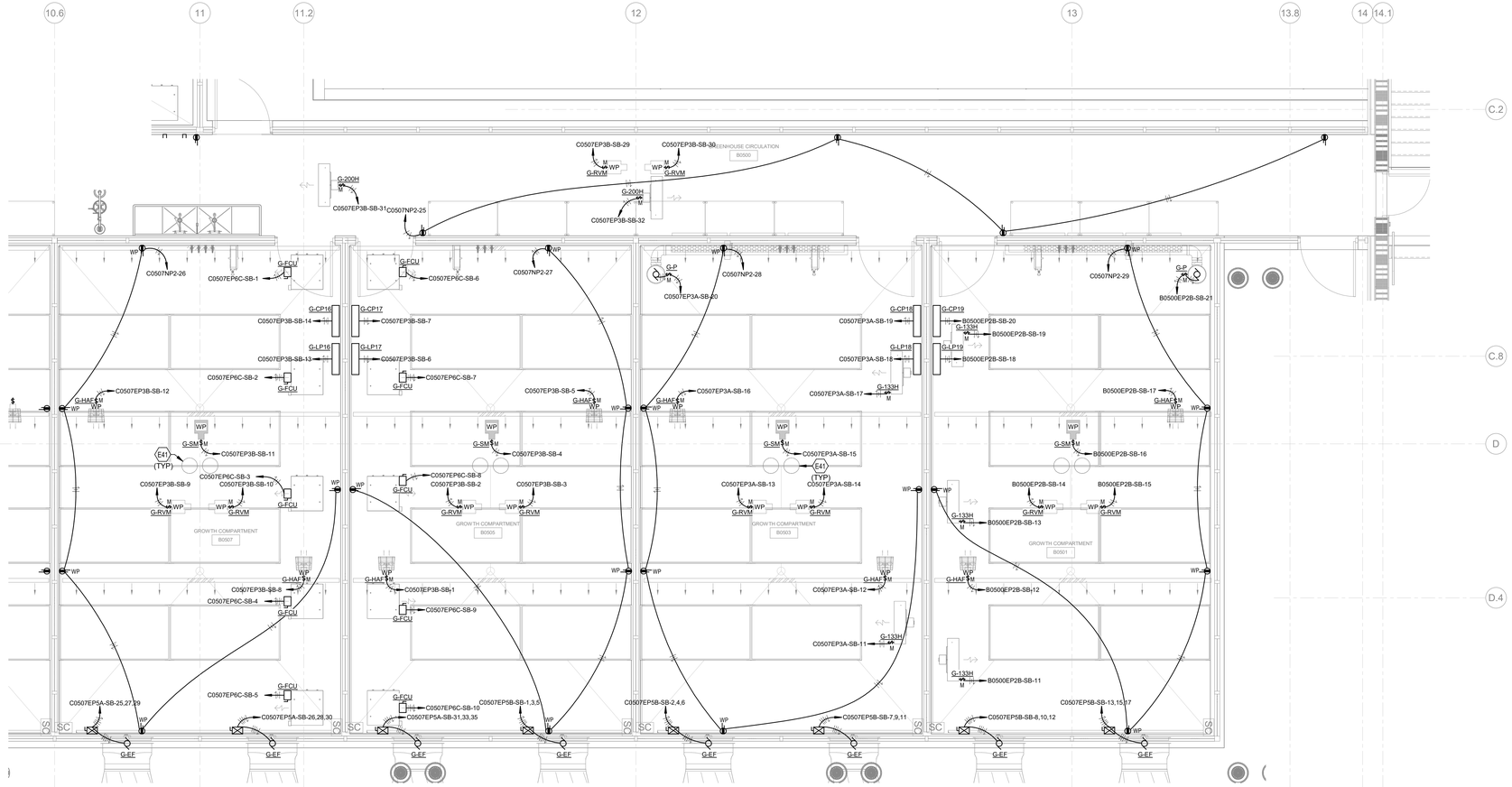

1 NORTH

LABORATORY GREENHOUSE FLOOR PLAN - POWER - AREA 2B

SCALE: 1/4" = 1'-0"

GENERAL NOTES (POWER):

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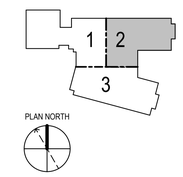
KEY PLAN



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2	FIT-OUT PACKAGE - ADDENDUM 4	01.14.2025
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Flad Architects
MADISON
644 SOUTHPOINTE COURT, SUITE 311
COLLEGEVILLE, PA 19426
PHONE 608.358.3681
WWW.FLADARCH.COM

BHDP
COLUMBUS
274 THRONEWELD
SUITE 200
COLUMBUS, OHIO 43215
PHONE 614.481.6000

BCAE ENGINEERING: DAYTON, OH
DELMAX CONSTRUCTION: URBANA, OH
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AGRICULTURE RESEARCH FACILITY 1
1411 UNIVERSITY DR. LEXINGTON, KENTUCKY 40503

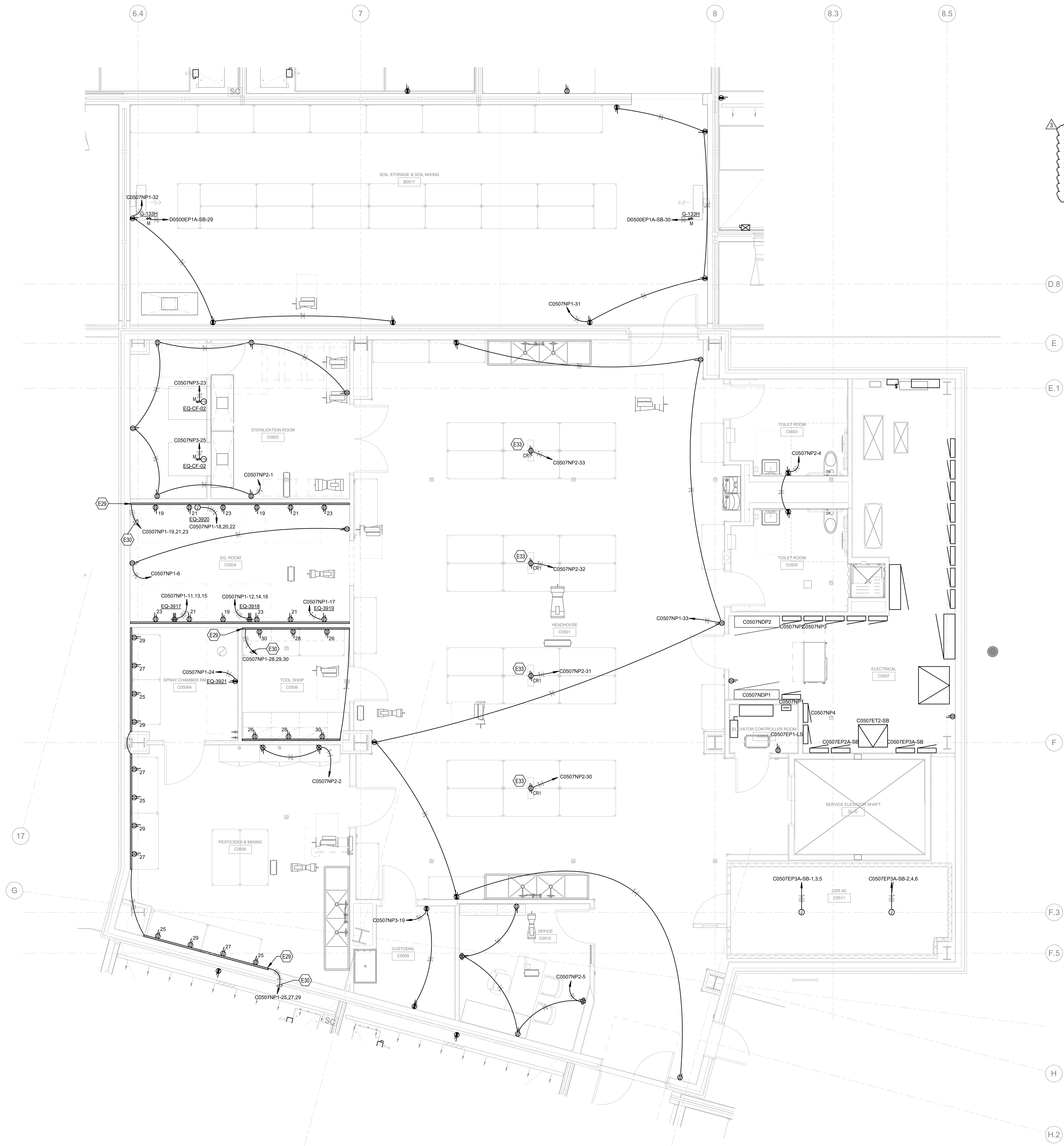
LABORATORY GREENHOUSE FLOOR PLAN - POWER - AREA 2B

STATE OF KENTUCKY
BRIAN K BAUMGARTLE
23119
LICENSED PROFESSIONAL ENGINEER

Project Manager: B. BAUMGARTLE
Drawn: G. CRISP
Checked: B. BAUMGARTLE
Initial Drawing Date: 11.15.2024
Project Number: UKX05.00

E252.B

Autodesk Docs://UKX0500 University of Kentucky - Ag Research Facility 1/XUKA23_ELEC_R23.rvt — 1/14/2025 9:15:44 AM



NOTE:
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KEYNOTES

E29 PROVIDE WIREMOLD 3000 SERIES TWO-PIECE STEEL SURFACE RACEWAY WITH GRAY BAKED ENAMEL FINISH. PROVIDE GFCI DUPLEX RECEPTACLES ON MINIMUM 36" CENTERS. REFER TO CASEWORK DRAWINGS FOR MOUNTING HEIGHT AND ADDITIONAL REQUIREMENTS. RACEWAY SHALL BE FLUSH WITH END OF CASEWORK. DRAWINGS INDICATE MINIMUM NUMBER OF DUPLEX RECEPTACLES. EACH OUTLET SHALL BE LABELED PER DETAIL. PROVIDE ALL REQUIRED COUPLERS, CORNERS, JUNCTION BOXES, COVERS, RECEPTACLES, OUTLETS, FACEPLATES, ETC. FOR A COMPLETE AND WORKING SYSTEM. (TYPICAL)

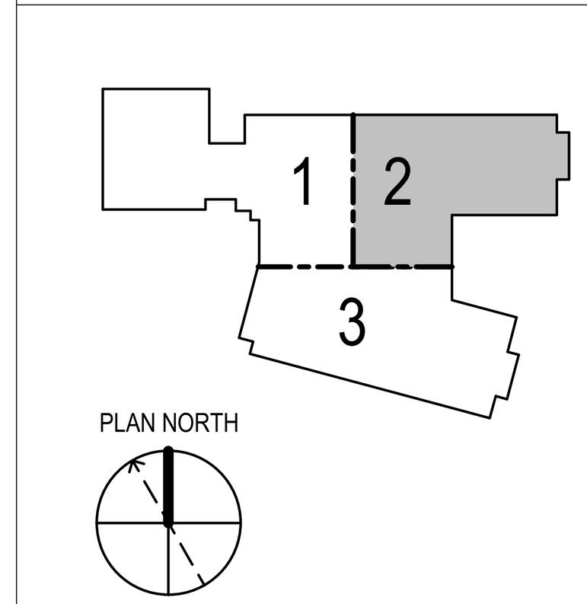
E30 EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH DEDICATED NEUTRAL.

E33 CORD REEL. HUBBELL MODEL #HBLIWC45123GF220HG (TYPICAL FOR HEADHOUSE).

1 LABORATORY GREENHOUSE - FLOOR PLAN - POWER - AREA 2C

SCALE: 1/4" = 1'-0"

KEY PLAN



University of Kentucky

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Flad Architects
MADISON
644 SCIENCE DR
MADISON, WI 53711
PHONE 608.238.2661
WWW.FLAD.COM

BC&E ENGINEERING: DAYTON, OH
DELMAX CONSTRUCTION: URBANA, OH
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BHDP
COLUMBUS
274 MARCONI BLVD.
SUITE 200
COLUMBUS, OHIO 43215
PHONE 614.486.1960

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UNIVERSITY OF KENTUCKY
AGRICULTURE RESEARCH FACILITY 1
1411 UNIVERSITY DR. LEXINGTON, KENTUCKY 40503

LABORATORY GREENHOUSE FLOOR PLAN - POWER - AREA 2C

STATE OF KENTUCKY
BRIAN K. BAUMGARTLE
23119
LICENSED PROFESSIONAL ENGINEER

Project Manager: B. BAUMGARTLE
Drawn: G. CRISP
Checked: B. BAUMGARTLE
Initial Drawing Date: 11.15.2024
Project Number: UKX05.00

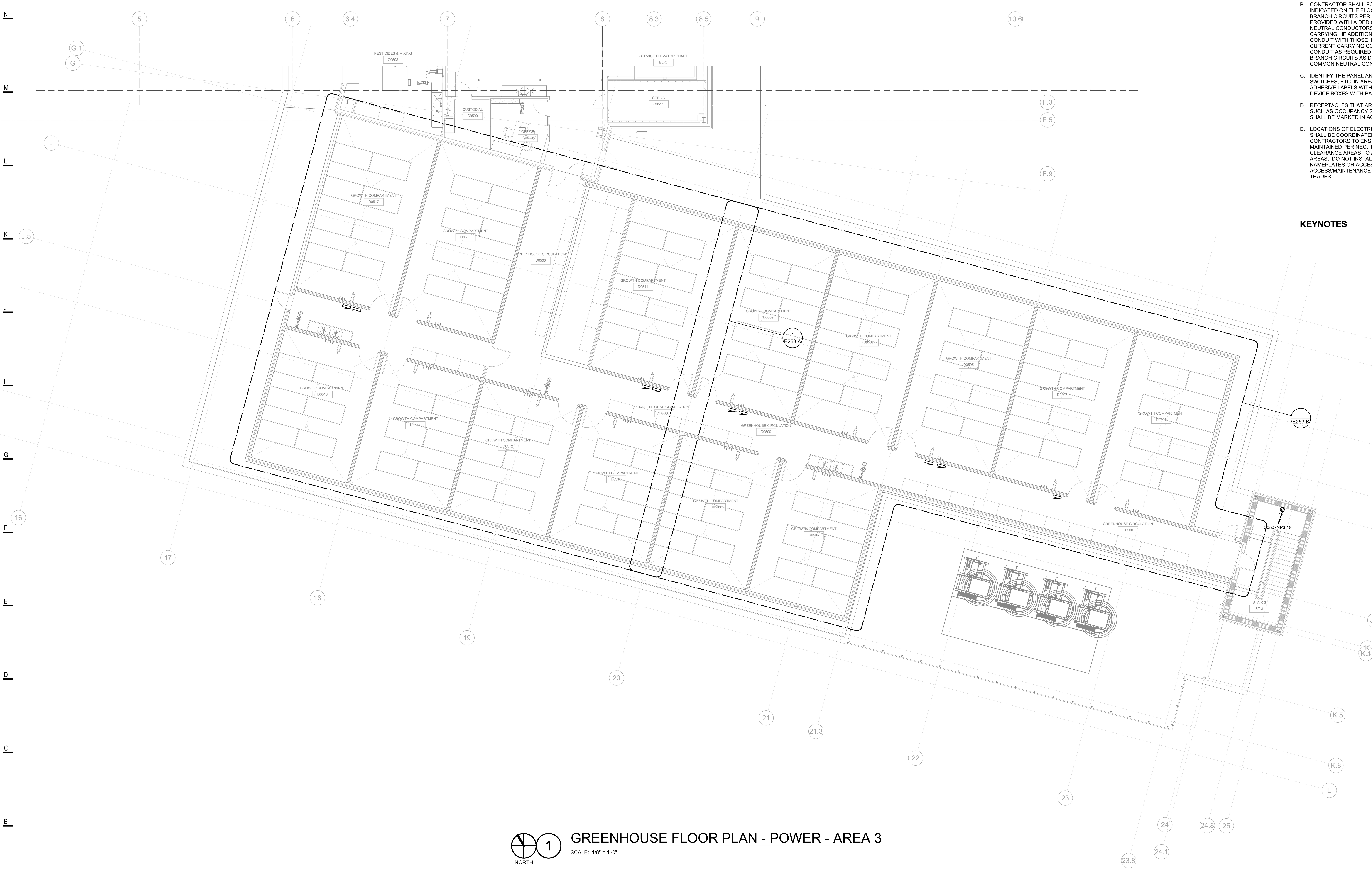
E252.C

Autodesk Docs://UKX0500 University of Kentucky - Ag Research Facility 1/XUKA23_ELEC_R23.rvt

1/14/2025 9:15:50 AM

NOTE:
ALL EXPOSED RACEWAY WITHIN GREENHOUSE(S) ARE TO BE THREADED ALUMINUM CONDUIT WITH CAST ALUMINUM BOXES.

GREENHOUSE NOTES:
a. REFER TO GREENHOUSE VENDOR DRAWINGS. PROVIDE ALL REQUIRED LOW-VOLTAGE CABLING/WIRING AND RACEWAYS TO ALL DEVICES.
b. REFER TO SHEET E600 "RESPONSIBILITY MATRIX" FOR MORE INFORMARTION.



1 GREENHOUSE FLOOR PLAN - POWER - AREA 3
SCALE: 1/8" = 1'-0"

GENERAL NOTES (POWER):

A. REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.

B. CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE RAN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER NEC 310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER NEC 300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN NEC 100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.

C. IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES, SWITCHES, ETC. IN AREA OF CONSTRUCTION. PROVIDE CLEAR ADHESIVE LABELS WITH BLACK LETTERING. MARK INSIDES OF ALL DEVICE BOXES WITH PANEL AND CIRCUIT NUMBER.

D. RECEPTACLES THAT ARE CONTROLLED BY AN AUTOMATIC MEANS SUCH AS OCCUPANCY SENSOR OR ENERGY MANAGEMENT SYSTEM SHALL BE MARKED IN ACCORDANCE WITH NEC 406.3(E).

E. LOCATIONS OF ELECTRICAL CONNECTIONS AND LOCAL DISCONNECTS SHALL BE COORDINATED WITH MECHANICAL AND PLUMBING CONTRACTORS TO ENSURE ACCESS AND WORKING CLEARANCE IS MAINTAINED PER NEC. NOTIFY OTHER TRADES OF REQUIRED CLEARANCE AREAS TO AVOID ROUTING OF OTHER SYSTEMS IN THESE AREAS. DO NOT INSTALL ELECTRICAL EQUIPMENT OVER EQUIPMENT NAMEPLATES OR ACCESS PANELS OR THROUGH ACCESS/MAINTENANCE CLEARANCES OF EQUIPMENT BY OTHER TRADES.

KEYNOTES

University of Kentucky

No.	Issue/Revision/Submission	Date
2	FIT-OUT PACKAGE - ADDENDUM 4	01.14.2025
1	FIT-OUT PACKAGE - BID AND PERMIT	11.15.2024

Flad Architects
MADISON
644 SCIENCE DR.
MADISON, WI 53711
PHONE 608.238.2661
WWW.FLAD.COM

BC&E ENGINEERING: DAYTON, OH
DELMAX CONSTRUCTION: URBANA, OH
TERRACON: LEXINGTON, KY
FLAD: MADISON, WI

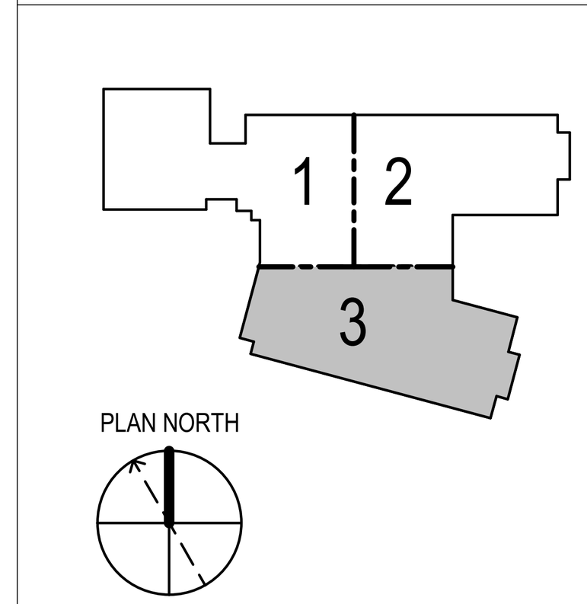
BHDP
COLUMBUS
274 MARCONI BLVD.
SUITE 200
COLUMBUS, OHIO 43215
PHONE 614.486.1960

CMTA INC: LEXINGTON, KY
THP LIMITED INC: CINCINNATI, OH
NV5: PITTSBURGH, PA
BELL ENGINEERING: HOPKINSVILLE, KY
VIBRASURE: SAN FRANCISCO, CA

UNIVERSITY OF KENTUCKY
AGRICULTURE RESEARCH FACILITY 1
1411 UNIVERSITY DR. LEXINGTON, KENTUCKY 40503

GREENHOUSE FLOOR PLAN - POWER - AREA 3

KEY PLAN



STATE OF KENTUCKY
BRIAN K. BAUMGARTLE
23119
LICENSED PROFESSIONAL ENGINEER

Project Manager: B. BAUMGARTLE
Drawn: G. CRISP
Checked: B. BAUMGARTLE
Initial Drawing Date: 11.15.2024
Project Number: UKX05.00

E253

Autodesk Docs://UKX0500 University of Kentucky - Ag Research Facility 1/XUKA23_ELEC_R23.rvt

1/14/2025 9:15:56 AM

NOTE:
ALL EXPOSED RACEWAY WITHIN GREENHOUSE(S) ARE TO BE THREADED ALUMINUM CONDUIT WITH CAST ALUMINUM BOXES.

GENERAL NOTES (POWER):

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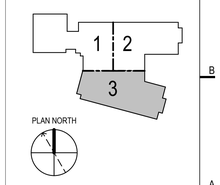
KEYNOTES

E41 FURNISHED BY VENDOR, INSTALLED COMPLETE BY ELECTRICAL CONTRACTOR. REFER TO GREENHOUSE PLANS AND SPECIFICATIONS. (TYPICAL)

E42 PROVIDE UNI-STRUT RACKING BETWEEN FLOOR AND STRUCTURE ABOVE TO SUPPORT PANELBOARD.

GREENHOUSE NOTES:
a. REFER TO GREENHOUSE VENDOR DRAWINGS. PROVIDE ALL REQUIRED LOW-VOLTAGE CABLING/WIRING AND RACEWAYS TO ALL DEVICES.
b. REFER TO SHEET E600 "RESPONSIBILITY MATRIX" FOR MORE INFORMARTION.

KEY PLAN



1 LABORATORY GREENHOUSE FLOOR PLAN - POWER - AREA 3A
SCALE: 1/4" = 1'-0"
NORTH

No.	Issue/Revision/Submission	Date
3	FIT-OUT PACKAGE - ADDENDUM 4	01.14.2025
2	FIT-OUT PACKAGE - ADDENDUM 1	12.13.2024
1	FIT-OUT PACKAGE	11.15.2024
	BID AND PERMIT	

University of Kentucky

Flad Architects
MADISON
644 ESSINGTON WAY
MADISON, WI 53713
PHONE 608.358.3681
WWW.FLADARCH.COM

BHDP
COLUMBUS
274 MARCONI BLVD.
SUITE 300
COLUMBUS, OHIO 43215
PHONE 614.481.6666
FAX 614.481.6676

BCAE ENGINEERING: DAYTON, OH
DELMAX CONSTRUCTION: URBANA, OH
TERRACON: LEXINGTON, KY
FLAD: MADISON, WI

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THP LIMITED INC: CINCINNATI, OH
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BELL ENGINEERING: HOPKINSVILLE, KY
VIBRASURE: SAN FRANCISCO, CA

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1411 UNIVERSITY DR. LEXINGTON, KENTUCKY 40503

LABORATORY GREENHOUSE FLOOR PLAN - POWER - AREA 3A

STATE OF KENTUCKY
BRIAN K. BAUMGARTLE
23119
LICENSED PROFESSIONAL ENGINEER

Project Manager: B. BAUMGARTLE
Drawn: G. CRISP
Checked: B. BAUMGARTLE
Initial Drawing Date: 11.15.2024
Project Number: UKX05.00

E253.A

NOTE:
ALL EXPOSED RACEWAY WITHIN GREENHOUSE(S) ARE TO BE THREADED ALUMINUM CONDUIT WITH CAST ALUMINUM BOXES.

3
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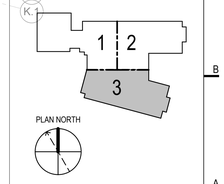
LABORATORY GREENHOUSE FLOOR PLAN - POWER - AREA 3B

SCALE: 1/4" = 1'-0"

NORTH

KEY PLAN



No.	Date	Issue/Revision/Submission
3	01.14.2025	FIT-OUT PACKAGE - ADDENDUM 4
2	12.13.2024	FIT-OUT PACKAGE - ADDENDUM 1
1	11.15.2024	FIT-OUT PACKAGE BID AND PERMIT

University of Kentucky

MADISON
644 SOUTHEY DR.
MADISON, WI 53711
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WWW.FLADARCH.COM

Flad Architects

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UNIVERSITY OF KENTUCKY
AGRICULTURE RESEARCH FACILITY 1
1411 UNIVERSITY DR. LEXINGTON, KENTUCKY 40503

LABORATORY GREENHOUSE FLOOR PLAN - POWER - AREA 3B

STATE OF KENTUCKY
BRIAN K BAUMGARTLE
23119
LICENSED PROFESSIONAL ENGINEER

Project Manager	B. BAUMGARTLE
Drawn	G. CRISP
Checked	B. BAUMGARTLE
Initial Drawing Date	11.15.2024
Project Number	UKX05.00

E253.B

1/14/2025 9:16:11 AM

Autodesk Docs://UKX0500 University of Kentucky - Ag Research Facility 1/XUKA23_ELEC_R23.rvt

Attachment "B"
SCOPE OF WORK
TC-030 Fitout General Trades

UNIVERSITY OF KENTUCKY
CAPITAL CONSTRUCTION PROCUREMENT SECTION
FORM OF PROPOSAL: TC-030 Fitout General Trades

Project No. 2617.0 Project Title: Ag Research Facility BP-06 Fitout – Group 1

Purchasing Officer: Corey W. Leslie

NOTE: The following Form of Proposal shall be followed exactly in submitting a proposal for this work. If this copy is lost, an additional copy will be furnished upon written request to the authority issuing Contract Documents.

This Proposal is submitted by: _____

(NAME AND ADDRESS OF BIDDER)

Date: _____ _____

Telephone: _____ _____

TO: BID CLERK
UNIVERSITY OF KENTUCKY
CAPITAL CONSTRUCTION

PROCUREMENT
RM. 322 SERVICE BUILDING
LEXINGTON, KY. 40506-0005

INVITATION TO BID: CCK-2617.0-11-25

BID OPENING DATE: January 22, 2025

TIME: 3:00 P.M. Lexington, KY time

The Bidder, in compliance with your Invitation for Bids for the above referenced Project, having carefully examined the site of the Work, the Drawings and complete Contract Documents as defined in Article I of the General Conditions, as well as the Specifications affecting the work as prepared by the Consultant, hereby proposes to furnish all labor, materials, supplies and services required to construct the Project in accordance with the Contract Documents, within the time set forth therein, and at the price stated below without qualification. Bidder understands that successful bidder will enter into a contract with Turner Construction Company utilizing Turner's Subcontract Agreement Form 36 without modification.

The Bidder hereby acknowledges receipt of the following Addenda:

ADDENDUM NO._____ DATED _____

ADDENDUM NO._____ DATED _____

ADDENDUM NO. _____ DATED _____

ADDENDUM NO._____ DATED _____

(Here insert the number and date of any Addenda issued and received. If none has been issued and received, the word NONE should be inserted.)

NOTE: IN ADDITION TO THE SPECIFIC TRADE FORM OF PROPOSAL EACH SUBCONTRACTOR MUST ALSO SUBMIT FORMS FOUND IN THE SUPPLEMENTAL FORM OF PROPOSAL SECTION.

Attachment "B"
SCOPE OF WORK
TC-030 Fitout General Trades

Contractor Report of Prior Violations of
Chapters 136,139, 141, 337, 338, 341, and 342

Pursuant to KRS 45A.485, the Contractor shall, prior to the award of a Contract, reveal final determinations of any violations of the provisions of KRS Chapters 136, 139, 141, 337, 338, 341, and 342 by the Contractor that have occurred in the previous five (5) year period.

This statute also requires for the duration of the Contract established, the Contractor be in continuous compliance with the provisions of Chapters 136, 139, 141, 337, 338, 341, and 342 that apply to the Contractor's operations. The Contractor's failure to reveal a final determination of a violation of KRS Chapters 136, 139, 141, 337, 338, 341, and 342, or failure to comply with any of the above cited statutes for the duration of the Contract shall be grounds for the cancellation of the Contract, and the disqualification from eligibility for future contracts for a period of two (2) years.

The Contractor, by signing and submitting a Bid on this Invitation, agrees as required by KRS 45A.485 to submit final determinations of any violations of the provisions of KRS Chapters 136, 139, 141, 337, 338, 341, and 342 that have occurred in the previous five (5) years prior to the award of a Contract and agrees to remain in continuous compliance with the provisions of these statutes during the duration of any contract that may be established. Final determinations of any violations of these statutes, must be provided to the University by the successful Contractor prior to the award of a Contract.

LUMP SUM PROPOSAL

The Bidder agrees to furnish all labor, materials, supplies and services required to complete the Work, for the above referenced Project, for the Capital Construction Procurement Section, University of Kentucky, as described in the Specifications and Contract Documents and shown on the Drawings enumerated below and as modified by the Addenda listed above.

FOR THE LUMP SUM OF_____
(USE WORDS)

_____DOLLARS AND_____CENTS.
(USE WORDS) (USE WORDS)

($_____)
(USE FIGURES)

Alternates:

Alternate 1: Fourth Floor Build Out	**$**_____
Alternate 2: Autoclaves	**$**_____
Alternate 3: Greenhouse Tables and Shelving	**$**_____
Alternate 4: Roller Window Shades in Rooms A0100 and A0102	**$**_____
Alternate 5: Greenhouse Card Readers (ADD #04)	**$**_____
Alternate 6: Biological Safety Cabinets (ADD #04)	**$**_____

The apparent low bidder is requested to attend a post bid meeting which will be scheduled at a later date. All parties (prime and subcontractors) are required to attend in person.

Attachment "B"
SCOPE OF WORK
TC-030 Fitout General Trades

FORM OF PROPOSAL

AUTHENTICATION OF BID AND STATEMENT OF NON-COLLUSION AND NON-CONFLICT OF INTEREST

I hereby certify:

1. That I am the Bidder (if the Bidder is an individual), a partner in the Bidder (if the Bidder is a partnership), or an officer or employee of the bidding corporation having authority to sign on its behalf (if the Bidder is a corporation);

2. That the submitted Bid or Bids covering Capital Construction Procurement Section Invitation No. CCK-2617.0-11-25 have been arrived at by the Bidder independently and have been submitted without collusion with, and without any agreement, understanding or planned common course of action with, any other contractor, vendor of materials, supplies, equipment or services described in the Invitation to Bid, designed to limit independent bidding or competition; as prohibited by provision KRS 45A.325;

3. That the contents of the Bid or Bids have not been communicated by the Bidder or its employees or agents to any person not an employee or agent of the Bidder or its surety on any bond furnished with the Bid or Bids and will not be communicated to any such person prior to the official opening of the Bid or Bids;

4. That the Bidder is legally entitled to enter into the contracts with the University of Kentucky and Turner Construction Company and is not in violation of any prohibited conflict of interest, including those prohibited by the provisions of KRS 164.390, and 45A.330 to 45A.340 and 45A.455;

5. This offer is good for 60 calendar days from the date this Bid is opened. In submitting the above, it is expressly agreed that upon proper acceptance by the Capital Construction Procurement Section of any or all items Bid above, a contract shall thereby be created with respect to the items accepted;

6. That I have fully informed myself regarding and affirm the accuracy of all statements made in this Form of Proposal including Bid Amount.

7. Unless otherwise exempted by KRS 45.590, the Bidder intends to comply in full with all requirements of the Kentucky Civil Rights Act and to submit data required by the Kentucky Equal Employment Act upon being designated the successful contractor.

8. That the bidding contractor and all subcontractors to be employed do not and will not maintain any facilities they provide for employees in a segregated manner and they are in full compliance with provisions of 41 CFR 60-1.8 that prohibits the maintaining of segregated facilities.

9. In accordance with KRS45A.110(2), the undersigned hereby swears under penalty of perjury that he/she has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky and that the award of a contract to the bidder will not violate any provision of the campaign finance laws of the Commonwealth of Kentucky.

READ CAREFULLY - SIGN IN SPACE BELOW - FAILURE TO SIGN INVALIDATES BID

SIGNED BY_____ TITLE_____

PRINT NAME_____ FIRM_____

ADDRESS_____ AREA CODE & PHONE _____

_____ FAX_____
CITY STATE ZIP CODE

BIDDER'S EMAIL _____ DATE_____

Attachment "B"
SCOPE OF WORK
TC-030 Fitout General Trades

BUSINESS CLASSIFICATION

Please complete this form which is necessary for the University of Kentucky vendor database.
Mark only one classification. Refer to "Definitions" for assistance in determining correct classification.

(01)___Small Business

(02)___Large Business

(03)___Disadvantaged Small Business

(04)___Disadvantaged Large Business

(05)___Woman-Owned Small Business

(06)___Woman-Owned Large Business

(07)___Disadvantaged Woman-Owned Small Business

(08)___Disadvantaged Woman-Owned Large Business

(09)___Other

DEFINITIONS

(01) SMALL BUSINESS: A business concern that is organized for profit, is independently owned and operated, is not dominant in the field of operations in which it is bidding, and meets the size standards as prescribed in the Code of Federal Regulations, Title 13, Part 121. Consult your local or district Small Business Administration (SBA) office if further clarification is needed.

(02) LARGE BUSINESS: A business concern that exceeds the small business size code standards established by SBA.

(03) DISADVANTAGED SMALL BUSINESS: A business concern (a) that is at least 51 percent owned by one or more socially and economically disadvantaged individuals (as defined below), or a publicly owned business, having at least 51 percent of its stock owned by one or more socially and economically disadvantaged individuals; and (b) has its management and daily business operations controlled by one or more such individuals. Socially and economically disadvantaged individuals include: Asian, Black/African American, Hispanic or Latino, Native American, Native Hawaiian/Pacific Islander, Women, Disabled, Veteran and Disabled Veteran and other minorities or individuals found to be disadvantaged by the SBA.

(04) DISADVANTAGED LARGE BUSINESS: A concern that meets the definition of socially and economically disadvantaged individuals as defined above, but which is not a small business by the SBA's size standards.

(05) WOMAN-OWNED SMALL BUSINESS: A small business that is at least 51 percent owned by a woman or women who also control and operate it. "Control" in this context means exercising the power to make policy decisions. "Operate" means actively involved in the day to day management.

(06) WOMAN-OWNED LARGE BUSINESS: A concern that meets the definition of woman owned and operated, but which is not a small business by the SBA's standards.

(07) DISADVANTAGED, WOMAN-OWNED SMALL BUSINESS: A concern that meets the definition of both (03) and (05) above.

(08) DISADVANTAGED, WOMAN OWNED LARGE BUSINESS: A concern that meets the definition of both (04) and (06) above.

(09) OTHER: A concern that does not meet any of the above definitions.

Attachment "B"
SCOPE OF WORK
TC-030 Fitout General Trades

THE FOLLOWING ITEMS ARE HEREWITH ENCLOSED AS REQUIRED BY KRS 45A.185

1. Bid Bond or Certified Check in an amount not less than five percent (5%) of total Bid.

2. List of Proposed Subcontractors and Unit Prices. (if required)

3. Authentication of Bid and Statement of Non-Collusion and Non-Conflict of Interest.

4. List of Materials and Equipment.

5. VENDOR NUMBER: It is imperative that you furnish your Federal Employer Identification Number in the space provided below. Failure to do so may delay the processing of purchase orders issued to your firm.

_____
(Nine Digit Number)

BIDDER'S QUALIFICATIONS

The Commonwealth of Kentucky Model Procurement Code (KRS 45A.080) requires contracts to be awarded, "to the responsive and responsible bidder whose bid offers the best value" to the University of Kentucky. In order to determine if the Bidder has the experience, qualifications, resources and necessary attributes to provide the quality workmanship, materials and management required by the plans and specifications, the Bidder may be required to complete and submit the information requested on the University of Kentucky Contractor Bidder Determination of Responsibility questionnaire. Failure to provide the information requested on the questionnaire or failure to provide any additional submittals or information that may be requested to make this determination may be grounds for a declaration of non-responsibility with respect to the Bidder. A copy of the Contractor Determination of Responsibility questionnaire is available upon request to all Bidders.

TIME LIMIT FOR EXECUTION OF CONTRACT DOCUMENTS

It is further agreed, that in the event this Proposal is accepted by the Owner and the undersigned shall fail to execute the Contract and furnish satisfactory Payment and Performance Bond within ten (10) consecutive calendar days from the date of notification of the award of the Contract, the Owner may at his option, determine that the undersigned has abandoned the Contract and thereupon, the Proposal shall become null and void and the Bid guarantee, check or Bid bond which accompanied it shall be forfeited and become the property of the Owner as liquidated damages for each failure and no protest pursuant to such action will be made. If the Undersigned shall execute the Contract, and furnish satisfactory Payment Bond and Performance Bond, it is understood that the Bid Guarantee or Bid Bond will be returned to the undersigned by the Owner.

Attachment "B"
SCOPE OF WORK
TC-030 Fitout General Trades

UNIT PRICES

NOTE: Unit Prices shall include the furnishing of all labor, materials, supplies and services and shall include all items of cost, overhead and profit for the Contractor and any subcontractor involved, and shall be used uniformly without modifications for either additions or deductions. The Unit Prices as established shall be used to determine the equitable adjustment of the Contract Price in connection with changes, deletions or extra work performed under the Contract and the "Rules of Measurement" set forth in the General Conditions shall govern.

All Bidders will be required to complete and submit the following Unit Prices with the bid.

Material	Unit (LF, SF, EA, etc.)	Unit Price
Yard boss rate	Per hour	
Laborer rate	Per hour	
Skid steer cost (including attachments)	Per month	
Water truck cost	Per month	
Elevator Operator	Per hour	

Attachment "B"
SCOPE OF WORK
TC-030 Fitout General Trades

HOURLY RATES

The Hourly Rates as established shall be used to determine the equitable adjustment of the Contract Price in connection with changes, deletions or extra work performed under the Contract and the "Rules of Measurement" set forth in the General Conditions shall govern.

All Bidders will be required to complete and submit the following Hourly Rates with the bid.

Note the following:

- **Overhead & Profit to be <u>EXCLUDED</u> from rates below & will be calculated separately**
- **Complete a separate Wage Breakdown for each trade or subcontractor**

STRAIGHT TIME		CLASSIFICATION							
Description	Unit	PM	Engineering	Super	Gen. Foreman	Foreman	Journeyman	Apprentice	Other (_____)
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

Attachment "B"
SCOPE OF WORK
TC-030 Fitout General Trades

PREMIUM TIME		CLASSIFICATION							
Description	**Unit**	**PM**	**Engineering**	**Super**	**Gen. Foreman**	**Foreman**	**Journeyman**	**Apprentice**	**Other (_____)**
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

DOUBLE TIME		CLASSIFICATION							
Description	**Unit**	**PM**	**Engineering**	**Super**	**Gen. Foreman**	**Foreman**	**Journeyman**	**Apprentice**	**Other (_____)**
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

Attachment "B"
SCOPE OF WORK
TC-030 Fitout General Trades

BID BREAKOUT

Fill in the following breakdown of costs included in your base bid. Each item is to include labor, material & equipment. These will not be considered unit prices nor will the numbers listed here limit obligations required in the bid documents. It will be used only to aid in verifying completeness of the bids.

	Description of Work	Labor Hours	Quantity	Unit	Unit Cost	Total
1	Engineering and Submittals				$	$
2	Yard Boss				$	$
3	Laborers				$	$
4	Skid Steer and Water Truck				$	$
5	Division 05 Metals				$	$
6	Division 06 Wood, Plastics, Composites				$	$
7	Division 07 Thermal and Moisture Control				$	$
8	Division 08 Openings				$	$
9	Division 10 Specialties				$	$
10	Division 11 Equipment				$	$
11	Division 12 Furnishings				$	$
12	Animal Penning				$	$
13	Monorail and Hoist System				$	$
14	Hoist and Elevator Operators				$	$
15	Composite Cleanup (2%) manhours				$	$
	Please list and breakdown below any work that has not been listed above					
16	Hoist/Elevator Operators				$	$
17					$	$
18	Management				$	$
19	Safety and Housekeeping				$	$
20	General Work Requirements				$	$
21	Overhead and Profit				$	$
Allowances (to be included in bid amount)						
1	Document Server Control Allowance				$	$ 15,000
2	Animal Watering Allowance				$	$ 50,000
3	Temp Provisions for Building Testing/Commissioning				$	$ 50,000
					$	
	TOTAL BID AMOUNT (This amount should match the Lump Sum listed on Form of Proposal)					**$**
	Cost of Payment & Performance Bond **(DO NOT INCLUDE THIS COST IN BID AMOUNT)**					$

Attachment "B"
SCOPE OF WORK
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Attachment A – Additional Provisions and Attachment B – (Technical) Scope of Work go together to define the requirements of this Subcontract. Attachment A is a more of a general Summary of the Contract Documents, Price, etc., while Attachment B is the Trade Specific (technical) Scope of Work.

The work of this Agreement shall include, but not be limited to, all labor, materials, apparatus, hoisting, rigging, tools, equipment, plant, supplies, accessories, samples, submittals, shop drawings, certifications, engineering, layout, transportation, storage, supervision, temporary construction, special services, contributions, insurance, taxes (unless specifically excluded by the Contract Documents), compliance with all governing agencies (city, county, state, federal and others as may be required), permits, fees, all other services and facilities and other items necessary for the performance of the **Fitout General Trades Work** as shown, detailed and/or implied in the contract documents outlined in the General Scope of Work.

The Scope of Work Document is being provided for your use as a general guideline. Please note, this Document is not all-inclusive. It is this Subcontractor's responsibility to provide a complete bid, including all work for this trade indicated on ALL of the contract documents (include plans, specifications, Bid Manual, etc.). It is this Subcontractor's responsibility for the entire scope of this Bid Package and coordination between all trades.

A.	GENERAL
1.	Provide labor, material, equipment, and all else necessary to furnish and install complete the TC-030 Work as required by the contract documents and as outlined below
2.	The following scope of work is intended to be general in nature. The purpose of this scope of work is not to identify or list every scope of work item already shown or described in the contract documents, but rather to coordinate, clarify, modify, and/or expand the scope.
3.	The intention is to have the successful Subcontractor perform all the TC-030 related work shown on the Contract Documents other than those items specifically indicated below to be excluded.
4.	Detail references are included for convenience, but are not intended to identify all applicable details. If the Contract Drawings and Specifications conflict, then the greater quantity and quality shall apply. The Scope of Work takes precedence over the drawings and specifications in the event of a conflict in trade assignment or responsibility. Attention is called to the Bid Manual and the Subcontractor shall include all costs necessary to provide all work to meet the requirements of this scope of work.
5.	In this Scope of Work, the term "provide" shall be defined as meaning "furnish and install."

B.	DOCUMENTS
1.	General Contract between Turner and the Owner including all attachments

2.	All documents in bid manual including but not limited to:
	• Drawings
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Volume 1 Dated 11/15/24***
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Volume 2 Dated 11/15/24***
	• Specifications
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Project Manual Dated 11/15/2024***
	• Scope of Work (Attachment B)
	• General Requirements
	• General Conditions
	• Special Conditions
	• Sample Subcontract Agreement Form (Form 36)
	• Sample 3A Page
	• Reference Drawings Included
	  • ***Prospiant's Greenhouse Design Drawings for Rooftop Greenhouses***
	  • ***BP-02 Site Enabling Package – dated 3/13/24***
	  • ***BP-03/3.1 Foundations and Long Lead Equipment – dated 5/2/24***
	  • ***BP-04 Core and Shell – dated 6/28/24***
	  • ***BP-05 Teaching Greenhouse – Dated 10/11/24***

Attachment "B"
SCOPE OF WORK
TC-030 Fitout General Trades

3.	Bid Manual including all **Sketches** and **Attachments** prepared by Turner Construction and listed below
4.	**Attachments**
	a. Attachment A – Additional Provisions b. Attachment C - Safety Program c. Attachment E - Accounting Procedures d. Attachment F - Percentage Markup e. Attachment G - Bid Schedule f. Attachment H - BIM General Requirements g. Attachment I - LEAN Subcontract Exhibit h. Attachment J – Electronic Agreement i. Attachment K – CCIP Manual j. Attachment L – UK Tree Protection Standards k. Attachment M – Part 1 and Part 2 LEED Construction Waste Management Plan l. Attachment N – Turner Subcontractor Onboarding m. Attachment O – Enhancing Worker Experience Plan n. Attachment P – LEED Indoor Air Quality Management Plan
5.	**Sketches**
	a. SK-001 – Site Logistics Plan b. SK-002 – Misc Metals c. SK-003 – Tent and HVAC rental Agreements d. SK-004 – CM Office - Good Barn Layout e. SK-005 – Temporary Power Plan f. SK-006 – Lab Furnishings Responsibility Matrix **Addendum 04**
6.	**Specifications**
	The following specification sections are listed as the responsibility of the Subcontractor in defining its area of work on this project. Unless specifically indicated otherwise or excluded below, this Contractor is responsible for the complete specification sections indicated below. a. **DIVISION 00 – PROCUREMENT & CONTRACTING REQUIREMENTS (ALL SECTIONS)** b. **DIVISION 01 – GENERAL REQUIREMENTS (ALL SECTIONS)** **c. 05 5000 – Metal Fabrications (complete)** **d. 05 5213 – Pipe and Tube Railings (complete)** **e. 05 7300 – Decorative Metal Railings (complete)** ~~**f. 05 7500 – Decorative Formed Metal (complete)**~~ **(Addendum 04)** **g. 06 1000- Rough Carpentry (as related to this scope)** **h. 06 1600 – Sheathing (as related to this scope)** **i. 07 8413 – Penetration Firestopping (as related to this scope)** **j. 07 8413 – Joint Firestopping (as related to this scope)** **k. 07 9200 – Joint Sealants (as related to this scope)** **l. 07 9200.13 – Joint Sealants – Laboratory and Vivarium (as related to this scope)** **m. 07 9219 – Acoustical Joint Sealants (as related to this scope)** **n. 07 9513.13 – Interior Expansion Joint Cover Assemblies (complete)** **o. 08 1113 – Hollow Metal Doors and Frames (as related to this scope)** **p. 08 1416 – Flush Wood Doors (as related to this scope)** **q. 08 3113 – Access Doors and Frames (as related to this scope)** **r. 08 4113 – Aluminum-Framed Entrances and Storefronts (complete)** **s. 08 4126.23 – Interior All-Glass Entrances (complete)** **t. 08 7100 – Door Hardware (as related to this scope)** **u. 08 7113 – Power Door Operators (complete)** **v. 08 8000 – Glazing (complete)**

Attachment "B"
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	w. 08 8300 – Mirrors (complete) **x. 08 8773 – Light Filtering Glazing Film (complete)** **y. 08 8813 – Fire-Rated Glazing (complete)** **z. 10 1100 – Visual Display Units (complete)** **aa. 10 2313.19 – Plastic Toilet Compartments (complete)** **bb. 10 2123.23 – Blackout Curtain and Track (complete)** **cc. 10 2213 – Wire Mesh Partitions (complete)** **dd. 10 2600 – Wall and Door Protection (complete)** **ee. 10 2800 – Toilet Accessories (complete)** **ff. 10 4413 – Fire Protection Cabinets (complete)** **gg. 10 4416 – Fire Extinguishers (complete)** **hh. 10 5123 – Plastic Laminate-Clad Lockers (complete)** **ii. 11 3013 – Residential Appliances (complete)** **jj. 11 5213 – Projection Screens (complete)** **kk. 12 2413 – Roller Window Shades (complete)** **ll. 13 1926 – Animal Penning System (complete)** **mm. 41 2223.26 – Monorail and Hoist System (complete)**
7.	Divisions 00 and 01 of the Specifications are general in nature, and apply to all Subcontracts. These sections are included "complete" as part of this Subcontract Agreement.
8.	The Contractor is also responsible for trade specifications not specifically listed above but required by reference in the listed specifications or as required to perform the scope of work described herein, as well as the Bidding Requirements, Contracting Requirements and the use of the Construction Documents as a whole.

C.	SPECIFIC SCOPE ITEMS
1.	Contract Price is LUMP SUM. There shall be NO additional labor and material escalations allowed
2.	Examination of Site – Subcontractor warrants that they have sufficiently reviewed the project site to inform themselves of all items about existing site that are relevant to their work, and the cost of their work.
3.	Include protection all adjacent structures during performance of this work. Plan for protection of adjacent structures must be part of the overall plan submitted for approval prior to start of work
4.	**SITE LOGISTICS:** Refer to the Site Logistics plans included in the Contract Documents. Delivery trucks are to be scheduled with Turner at least one (1) week in advance.
5.	Subcontractor change order requests shall be provided with sufficient detail (as acceptable to Turner) to allow for satisfactory review. Subcontractor shall be allowed a maximum mark up for overhead and profit per the markup provisions included in the Subcontract Agreement, or as clarified in Contract Documents above
6.	Subcontractor understands that **time is of the essence** in the prosecution of Work under this agreement.
7.	**Verify layout** provided by others. Where this subcontractor is performing work using layout provided by others, this subcontractor shall perform sufficient verification of that layout to reasonably ascertain the validity of that layout. Any deficiencies (or suspected deficiencies found) shall be reported to Turner immediately to allow corrections as needed before start of work by this subcontractor.
8.	All Subcontractors must be **licensed** as required by local, State, or Federal jurisdiction required for work of this trade in this project location
9.	This Subcontractor will comply with Turner's corporate **safety policy** and comply with Site Specific Safety Plan that will include but is not limited to 100% tie-off above 6 feet, 100% Safety Glasses, High Visibility Vests or High Vis style T-Shirts with reflective strips, 100% glove policy, Ladders Last Policy and Nothing Hits the Ground. If you are unfamiliar with any of these policies please ask to see the policy prior to submitting your bid. Failure to be familiar with these policies will not exclude you from complying with them.

Attachment "B"
SCOPE OF WORK
TC-030 Fitout General Trades

10.	Refer to **Project General Work Requirements** in volume one of the project manual. Any costs for work scope items listed in this section shall be included in your lump sum bid. Some work items are listed for specific trade contractors and they shall include those costs in their respective total lump sum bid price.
11.	This contractor is to provide **PHOTOGRAPHIC DOCUMENTATION as a $10,000 allowance** at the direction of the Turner Project Manager. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
12.	This contractor to provide **Metal Fabrications** COMPLETE per the contract documents and as specified in **05 5000**. • This contractor to provide and install loading dock gates. See sketch SK-002 for details. These are installed at OH coiling doors at the loading dock. Provide all 05 5000 misc metals required including inserts in concrete/asphalt, jambs, cane bolts, etc for a complete installation. Include factory finished high performance coatings, and paintings on entire system. • This contractor to provide and install embed plates at the loading dock for trash compactors. Reference SK-002 for details. Coordinate installation with TC-007 site contractor. • This contractor to provide all necessary OH supports for AV equipment as detailed on the AV drawings including but not limited to, OH projectors, projection screens, etc. • This contractor to provide a **$25,000 allowance for additional Misc. Metals** to be used at the direction of the Construction Manager. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
13.	This contractor to provide **Pipe and Tube Railings** COMPLETE per the contract documents and as specified in **05 5213.**
14.	This contractor to provide **Decorative Metal Railings** COMPLETE per the contract documents and as specified in **05 7300.** • Provide and install all SS handrails including but not limited to handrails in the auditorium and handrails shown on the landscape plans for exterior walkways and steps.
15.	~~This contractor to provide **Decorative Formed Metal** COMPLETE per the contract documents and as specified in **05 7500.**~~ **Addendum 04**
16.	This contractor to provide **Rough Carpentry** COMPLETE per the contract documents and as specified in **06 1000.** This contractor to provide all blocking/backing not shown but required for installation of items installed in this scope. • This contractor to provide and install all backing/blocking as required for installation of the laboratory casework as shown on the "Q" drawings. Coordinate blocking requirements with TC-041 Laboratory Casework Contractor. Example detail 15/Q501. • This contractor to include a **$25,000 Rough Carpentry Allowance** to be used at the direction of the Construction Manager. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
17.	This contractor to provide **Sheathing** COMPLETE per the contract documents and as specified in **06 1600.**
18.	This contractor to provide all **firestopping, joint sealants, acoustical sealants**, etc. for all items related to this scope of work per the contract documents. All penetrations must be sealed with firestopping or acoustical sealants depending on the wall type. All finish work installed shall be caulked to walls, ceilings, and floors as required to provide a finished sealed condition.
19.	This contractor to provide **Interior Expansion Joint Cover Assemblies** COMPLETE per the contract documents and as specified in **07 9513.13.**
20.	This contractor to receive, shakeout, and install **HM Doors** for all interior and exterior openings indicated on the contract documents. HM Doors will be provided by TC-037 Doors/Frames/Hardware Contractor. Coordinate deliveries with CM and TC-037. Doors will be shipped with pre-installed hardware. Any loose hardware will be provided with the doors as required for a complete installation. • This contractor to walk with the CM and TC-036 and TC-038 contractors to review frame installations after frames are set and drywall/masonry is installed to verify frames are square/plumb/level for door installation. • This contractor to include a **$25,000 frame adjustment/rework allowance** to be used at the direction of the Construction Manager. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.

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21.	This contractor to receive, shakeout, and install **Flush Wood Doors** for all openings indicated on the contract documents. Flush Wood Doors will be provided by TC-037 Doors/Frames/Hardware Contractor. Coordinate deliveries with CM and TC-037. Doors will be shipped with pre-installed hardware. Any loose hardware will be provided with the doors as required for a complete installation. • This contractor to walk with the CM and TC-037 and TC-038 contractors to review frame installations after frames are set and drywall/masonry is installed to verify frames are square/plumb/level for door installation. • This contractor to provide door protection on all wood doors installed. Provide ProTect door protection or similar. Include maintenance and repair of protection as needed.
22.	This contractor to provide and install **Access Doors and Frames** as needed for items that require access in ceilings/walls that were installed by this contractor. Coordinate openings in ceilings/walls with TC-036 Drywall/Ceiling Contractor.
23.	This contractor to provide **Aluminum-Framed Entrances and Storefronts** COMPLETE per the contract documents and as specified in **08 4113.** • TC-030 to provide entrances complete including all required frames, doors, door hardware, electrified hardware, cylinders, etc. for a complete installation. Refer to 08 7100 for hardware requirements. Cores/Keying will be provided by TC-037
24.	This contractor to provide **Interior All-Glass Entrances** COMPLETE per the contract documents and as specified in **08 4126.23**
25.	This contractor to receive, shakeout, and install **Door Hardware** for all openings indicated on the contract documents. Door Hardware will be provided by TC-037 Doors/Frames/Hardware Contractor. Coordinate deliveries with CM and TC-037. Doors will be shipped with pre-installed hardware. Any loose hardware will be provided with the doors as required for a complete installation. • Coordinate electrified hardware installation with the TC-035 Technology Contractor. Wiring for electrified hardware will be installed by TC-035.
26.	This contractor to provide **Power Door Operators** COMPLETE per the contract documents and as specified in **08 7113**. • This contractor in include all rough in, back boxes, push plates, pedestals, wiring, etc. for a complete installation. Include necessary modules for fire alarm and security integration. • Coordinate installation with TC-034 and TC-035 for any security or fire alarm requirements. 120V power will be provided to the operator by TC-034. • Coordinate air curtain interlocks with TC-035 contractor.
27.	This contractor to provide **Glazing** COMPLETE per the contract documents and as specified in **08 8000.** • The TC-037 contractor will provide pre-installed glazing at HM and wood doors. All other glazing provided by TC-030.
28.	This contractor to provide **Mirrors** COMPLETE per the contract documents and as specified in **08 8300.**
29.	This contractor to provide **Light-Filtering Glazing Film** COMPLETE per the contract documents and as specified in **08 8773.**
30.	This contractor to provide **Fire-Rated Glazing** COMPLETE per the contract documents and as specified in **08 8813.**
31.	This contractor to provide **Visual Display Units** COMPLETE per the contract documents and as specified in **10 1100**.
32.	This contractor to provide **Plastic Toilet Compartments** COMPLETE per the contract documents and as specified in **10 2113.19**. • Provide all in wall blocking and misc metal support framing above ceiling required for ceiling hung partitions. Coordinate misc metal framing with MEP trades.
33.	This contractor to provide **Blackout Curtain and Track** COMPLETE per the contract documents and as specified in **10 2123.23.**
34.	This contractor to provide **Wire Mesh Partitions** COMPLETE per the contract documents and as specified in **10 2213**.
35.	This contractor to provide **Wall and Door Protection** COMPLETE per the contract documents and as specified in **10 2600.**
36.	This contractor to provide **Toilet, Bath, and Laundry Accessories** COMPLETE per the contract documents and as specified in **10 2800.**

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37.	This contractor to provide **Fire Protection Cabinets** COMPLETE per the contract documents and as specified in **10 4413.**
38.	This contractor to provide **Fire Extinguishers** COMPLETE per the contract documents and as specified in **10 4416.**
39.	This contractor to provide **Plastic Laminate Clad Lockers** COMPLETE per the contract documents and as specified in 10 5123. • Provide 4" concrete base for all lockers as required if they are not integral to the locker unit.
40.	This contractor to provide **Residential Appliances** COMPLETE per the contract documents and as specified in **11 3013.**
41.	This contractor to provide **Projection Screens** COMPLETE per the contract documents and as specified in **11 5213.**
42.	This contractor to provide **Roller Window Shades** COMPLETE per the contract documents and as specified in **12 2413.**
43.	Not used
44.	This contractor to provide **Animal Penning System** COMPLETE per the contract documents and as specified in **13 1926.**
45.	This contractor to provide **Monorail and Hoist System** COMPLETE per the contract documents and as specified in **41 2223.26.** • This contractor to include drilling of support steel as needed for installation of this system.
46.	This contractor to provide the following equipment for site use: • Rental for **tracked skid steer** with closed cab from June 1, 2025 thru December 1, 2026. Include bucket, forks and sweeper attachments. • Rental for a **water truck** for dust control, SWPPP measures from June 1, 2025 thru September 1, 2026 • Rental for an **off road fork truck** with enclosed cab, 10k capacity, 55' reach from June 1, 2025 thru December 1, 2026. • Include all cost for fuel, delivery, maintenance, etc. for all equipment provided.
47.	This contractor to include all equipment and labor to remove in it's entirety the site fence. Reference SK-001 Site Logistics Plan for fencing installed in previous package that will need to be removed. Fencing to be loaded on to trucks, moved offsite to a location within 5 miles of the jobsite, and unloaded by this contractor. • This contractor to include a **$20,000 allowance for fence modifications** to be used at the direction of the Construction Manager. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
48.	This contractor to remove temp landing platform for buck hoist and dumpsters when directed by the CM – assume structure is 20'x40' wood frame deck with overhead protection/roof Including 2 sets of 6' stairs for access. Provide fall protection railing around the perimeter including removable sections 10' wide in 3 locations.
49.	This contractor to remove Plywood protection around tower crane when directed by the CM.
50.	Include (2) full time **"hoist operators"** to operate the buck hoist. This position will be available to work (5) 10-hour days Monday-Friday and (1) 8-hour day on Saturdays, starting June 1, 2025 thru July 1, 2026. Timesheets should be provided to the CM weekly. Any unused hours will be credited back at the end of the project. This contractor should include all necessary daily/weekly inspections for use of the hoist.
51.	Include (1) full-time **"yard boss"** to be responsible for loading, unloading, removal, dumpster switch-outs and relocations, site logistics management, storage and material management, etc. (1) yard boss to be minimum Journeymen level with training and certification to operate skid steers, lulls, forklifts, water truck, lifts, etc. Yard boss should possess general carpentry skills necessary for handrail installations, temporary enclosures, etc. This position will be available to work (5) 10-hour days Monday-Friday and (1) 8-hour day on Saturdays, starting June 1, 2025 thru December 31, 2026. Timesheets should be provided to the CM weekly. Any unused hours will be credited back at the end of the project.
52.	Include (2) full time **"elevator operators"** to operate the elevators on construction use. This position will be available to work (5) 10-hour days Monday-Friday and (1) 8-hour day on Saturdays, starting March 1, 2026 thru December 1, 2026. Timesheets should be provided to the CM weekly. Any unused hours will be credited back at the end of the project. This contractor should include all necessary daily/weekly inspections for use of the elevator.

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	• This contractor to provide temporary plywood protection in each elevator cab (2). Include removal of this protection at the end of construction use when directed by the CM.
53.	Include (2) full-time **"laborers"** for general cleaning of the building/jobsite at the direction of the Turner Project Manager. This position will be available to work (5) 10-hour days Monday-Friday and (1) 8-hour day on Saturdays, starting June 1, 2025 thru December 31, 2026. Timesheets should be provided to the CM weekly. Any unused hours will be credited back at the end of the project.
54.	Include relocation of 2 restroom trailers to location within 5 miles of the project site at the end of the project, designated by the Construction Manager.
55.	This contractor to include a **Temporary Signage Allowance of $10,000** to be used at the direction of the Construction Manager. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
56.	This contractor to remove walls installed in E.S. Good Barn that were used as the Turner office. See sketch SK-004 for scope of demolition/restoration. • This contractor to include a **$15,000 Allowance** for Temporary Construction office Refurbishment to be used at the direction of the Construction Manager. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
57.	This contractor to provide a **$75,000 Allowance** for Winter weather temporary partitions, protections, and building enclosures. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
58.	Provide (25) NEW Heavy Duty 1cy rollable dump carts similar to Rubbermaid 1316 Tilt Truck.
59.	Provide Cintas first aid kit & include costs for monthly inspection/service thru December 31, 2026.
60.	Provide (6) 5'x7' Cintas walk-off mats with weekly servicing from Cintas from June 1, 2025 thru December 31, 2026
61.	This contractor will take over the lease agreement for the contractor tent rental and 25 ton portable HVAC rental. This contractor will be responsible for the remaining 18 month rental along with removal and removal freight costs. This contractor will need to sign the agreement and provide payment direct to L2 structures and Mobile Air for these rentals. See sketch SK-003 for rental agreement and costs for the tent (L2 Structures) and the HVAC unit (Mobile Air).
62.	Temporary restrooms will be provided inside the building in the following toilet rooms: C0454, C0456, A0205, and A0207. Temporary fixtures will be provided by TC-032 in the same locations as the permanent fixtures. TC-030 contractor to install temporary plywood in restrooms. Contractor should include plywood at all interior restroom walls, plywood partitions with swinging doors at all toilets, toilet accessories including toilet paper, soap, and paper towel dispensers for each room. Include maintenance of partitions/doors for the duration of their use. TC-030 to provide temporary drop ceiling in each room. Include removal of all temporary items when directed by the Construction Manager.
63.	Provide 1 ice chest rental from home city ice with weekly restocking from 6/1/25 thru 12/31/26.
64.	Provide temporary **roof protection** on the greenhouse level roof at level 5, and level 4 fan decks for all areas that have TPO membrane. Provide product "Rhino Tile FR" roof protection for this area with "Breather shield under the Rhino Tile FR to prevent staining. Include installation and removal. Product should be cut to fit tight and cover all exposed roof area.
65.	Include cost in base bid for 2% of the total manhours anticipated for this scope to be used at the direction of the CM as **"Composite Cleanup".**
66.	This contractor to provide a **$20,000 Allowance** for 3rd party engineering of temporary systems to be used at the direction of the CM. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
67.	This contractor to provide 5" high **concrete pads** for seed dryers per note 309 on A112
68.	This contractor to provide and install all **TV mounts** indicated on the contract documents. Include any necessary blocking for installation. TV's will be by owner.
69.	Per the schedule in attachment G, this contractor to provide dedicated foreman and personal for start and completion of the first floor as soon as it becomes available to start work, regardless of the sequence and flow of the remaining floors. It is the intention that the 1st floor will be constructed simultaneously with other floors. All necessary manpower and supervision required to meet the schedule should be included in the base bid.

Attachment "B"
SCOPE OF WORK
TC-030 Fitout General Trades

70.	This Trade Contractor shall participate in the construction of on-site **mock-ups** as specified and indicated by the documents and/or noted elsewhere. This shall include providing of materials required for this trade contract scope of work, coordinating with other trade contractors with regard to sequencing of installations and protection of materials, furnishing shop drawings and /or setting drawings, etc. Materials for in place or interim mock-ups shall be secured in advance of normal procurement to allow for ALL trade contractor installations, owner/designer and user reviews and evaluations, meetings, approvals and directive if applicable. Mockups are understood to start with arrangement of wall rough-in through complete room finishes. **Addendum 04**

D.	**EXCLUSIONS**
	The Scope of Work shall exclude the following:
1.	Payment & Performance Bond

E.	**ALLOWANCES**	
	The Contract Sum shall be the addition of a base bid amount plus allowances. It is expressly understood and agreed that all allowance work will be completed within the original schedule. Progress Payments will be made against Allowance expenditures, based on approved monthly invoices & written Allowance Authorization from Turner. Any unused funds remaining in these allowances will be credited back to the Project. Only direct Labor, Material, and Equipment costs authorized in writing by Turner after approval by the Owner are to be charged to the Allowance. The Subcontractor's cost for all overhead and profit on the allowance amount shall be included in the base bid amount and not in the allowance amount.	
1.	Document Control Server Allowance	$15,000
2.	Animal Watering Allowance	$50,000
3.	Temp Provisions for Building Testing/Commissioning	$50,000

F.	**SCHEDULE**
	Schedule information is included within the bid manual **(Attachment G)** to aid the Subcontractor in anticipating material deliveries, and manpower and equipment requirements. The information describes only the major activities of this scope of work and does not attempt to describe any out of sequence work required. **The Contractor must confirm that you will meet the project schedule as indicated in the bid manual.** It is **absolutely critical** that the work of this contract be completed by the dates defined. The intention is that the Subcontractor must provide sufficient labor, equipment, overtime, supervision, etc. to overcome weather delays.

Attachment "B"
SCOPE OF WORK
TC-030 Fitout General Trades

G.	ALTERNATES
	The following "Alternate(s)" may be accepted and incorporated herein as part of the Scope of Work for the respective price. Inasmuch as these Alternates were anticipated from the inception of the project and were priced accordingly, all overhead, profit and escalation has been included within the lump sum amount and the price shall remain firm throughout the duration of the project, unless specifically noted. Indicate Add/Deduct Price on the Form of Proposal.
Alt. 1	**Fourth Floor Build Out**
Alt. 2	**Autoclaves**
Alt. 3	**Greenhouse Tables and Shelving**
Alt. 4	**Roller Window Shades in Rooms A0100 and A0102**
Alt. 5	**Greenhouse Card Readers (ADD #04)**
Alt. 6	**Biological Safety Cabinets (ADD #04)**

Attachment "B"
SCOPE OF WORK
TC-030 Fitout General Trades

DUE BY BID DEADLINE

For the purposes of this form, a major subcontractor or supplier is a person or entity that will have a direct or assigned contract or purchase order for the performance or supply of any item listed below if the bidder is successful.

All subcontractors must comply with the laws of the Commonwealth of Kentucky and the policies and procedures of the University of Kentucky as administrated by the UK Capital Construction Procurement Section and Capital Project Management Division.

If the bidder will self-perform these items, list "Self-Perform" for each applicable item.

No major subcontractor or supplier may be added or changed without written consent of the Owner's representative after the bid deadline.

The apparent low bidder may be required to attend a post bid review meeting which will be scheduled at a later date.

DIVISION OF WORK	NAME AND ADDRESS OF SUBCONTRACTOR

Attachment "B"
SCOPE OF WORK
TC-030 Fitout General Trades

LIST OF MATERIALS AND EQUIPMENT

Each item listed under the different phases of construction must be clearly identified so that the Owner will definitely know what the Bidder proposes to furnish.

The use of a manufacturer's or dealer's name only, or stating "as per Plans and Specifications," will not be considered as sufficient identification.

Where more than one "Make" or "Brand" is listed for any one item, the Owner has the right to select the one to be used.

The apparent low bidders will be required to complete and submit to the University the following information by twelve o'clock (12) noon of the first working day following the bid opening. The information requested in this submittal is required to assist the University in determining contractor responsibility to complete the project being bid.

The apparent low bidder is requested to attend a post bid meeting which will be scheduled at a later date.

MATERIALS AND EQUIPMENT	BRAND OR MANUFACTURER

Attachment "B"
SCOPE OF WORK
TC-031 Fire Protection

FORM OF PROPOSAL

Project No. 2617.0 Project Title: Ag Research Facility BP-06 Fitout – Group 1

Purchasing Officer: Corey W. Leslie

NOTE: The following Form of Proposal shall be followed exactly in submitting a proposal for this work. If this copy is lost, an additional copy will be furnished upon written request to the authority issuing Contract Documents.

This Proposal is submitted by: _____

(NAME AND ADDRESS OF BIDDER)

Date: _____ _____

Telephone: _____ _____

TO: BID CLERK
UNIVERSITY OF KENTUCKY
CAPITAL CONSTRUCTION

PROCUREMENT
RM. 322 SERVICE BUILDING
LEXINGTON, KY. 40506-0005

INVITATION TO BID: **CCK-2617.0-11-25**

BID OPENING DATE: **January 22, 2025**

TIME: **3:00 P.M. Lexington, KY Time**

The Bidder, in compliance with your Invitation for Bids for the above referenced Project, having carefully examined the site of the Work, the Drawings and complete Contract Documents as defined in Article I of the General Conditions, as well as the Specifications affecting the work as prepared by the Consultant, hereby proposes to furnish all labor, materials, supplies and services required to construct the Project in accordance with the Contract Documents, within the time set forth therein, and at the price stated below without qualification. Bidder understands that successful bidder will enter into a contract with Turner Construction Company utilizing Turner's Subcontract Agreement Form 36 without modification.

The Bidder hereby acknowledges receipt of the following Addenda:

ADDENDUM NO._____ DATED _____

ADDENDUM NO._____ DATED _____

ADDENDUM NO. _____ DATED _____

ADDENDUM NO._____ DATED _____

(Here insert the number and date of any Addenda issued and received. If none has been issued and received, the word NONE should be inserted.)

NOTE: IN ADDITION TO THE SPECIFIC TRADE FORM OF PROPOSAL EACH SUBCONTRACTOR MUST ALSO SUBMIT FORMS FOUND IN THE SUPPLEMENTAL FORM OF PROPOSAL SECTION.

Contractor Report of Prior Violations of
Chapters 136,139, 141, 337, 338, 341, and 342

Attachment "B"
SCOPE OF WORK
TC-031 Fire Protection

Pursuant to KRS 45A.485, the Contractor shall, prior to the award of a Contract, reveal final determinations of any violations of the provisions of KRS Chapters 136, 139, 141, 337, 338, 341, and 342 by the Contractor that have occurred in the previous five (5) year period.

This statute also requires for the duration of the Contract established, the Contractor be in continuous compliance with the provisions of Chapters 136, 139, 141, 337, 338, 341, and 342 that apply to the Contractor's operations. The Contractor's failure to reveal a final determination of a violation of KRS Chapters 136, 139, 141, 337, 338, 341, and 342, or failure to comply with any of the above cited statutes for the duration of the Contract shall be grounds for the cancellation of the Contract, and the disqualification from eligibility for future contracts for a period of two (2) years.

The Contractor, by signing and submitting a Bid on this Invitation, agrees as required by KRS 45A.485 to submit final determinations of any violations of the provisions of KRS Chapters 136, 139, 141, 337, 338, 341, and 342 that have occurred in the previous five (5) years prior to the award of a Contract and agrees to remain in continuous compliance with the provisions of these statutes during the duration of any contract that may be established. Final determinations of any violations of these statutes, must be provided to the University by the successful Contractor prior to the award of a Contract.

LUMP SUM PROPOSAL

The Bidder agrees to furnish all labor, materials, supplies and services required to complete the Work, for the above referenced Project, for the Capital Construction Procurement Section, University of Kentucky, as described in the Specifications and Contract Documents and shown on the Drawings enumerated below and as modified by the Addenda listed above.

FOR THE LUMP SUM OF_____
(USE WORDS)

_____DOLLARS AND_____CENTS.
(USE WORDS) (USE WORDS)

($_____)
(USE FIGURES)

Alternates:

Alternate 1: Fourth Floor Build Out **$**_____

Alternate 2: Autoclaves **$**_____

Alternate 3: Greenhouse Tables and Shelving **$**_____

Alternate 4: Roller Window Shades in Rooms A0100 and A0102 **$**_____

Alternate 5: Greenhouse Card Readers (ADD #04) **$**_____

Alternate 6: Biological Safety Cabinets (ADD #04) **$**_____

Attachment "B"
SCOPE OF WORK
TC-031 Fire Protection

FORM OF PROPOSAL

AUTHENTICATION OF BID AND STATEMENT OF NON-COLLUSION AND NON-CONFLICT OF INTEREST

I hereby certify:

1. That I am the Bidder (if the Bidder is an individual), a partner in the Bidder (if the Bidder is a partnership), or an officer or employee of the bidding corporation having authority to sign on its behalf (if the Bidder is a corporation);

2. That the submitted Bid or Bids covering Capital Construction Procurement Section Invitation No. CCK-2617.0-11-25 have been arrived at by the Bidder independently and have been submitted without collusion with, and without any agreement, understanding or planned common course of action with, any other contractor, vendor of materials, supplies, equipment or services described in the Invitation to Bid, designed to limit independent bidding or competition; as prohibited by provision KRS 45A.325;

3. That the contents of the Bid or Bids have not been communicated by the Bidder or its employees or agents to any person not an employee or agent of the Bidder or its surety on any bond furnished with the Bid or Bids and will not be communicated to any such person prior to the official opening of the Bid or Bids;

4. That the Bidder is legally entitled to enter into the contracts with the University of Kentucky and Turner Construction Company and is not in violation of any prohibited conflict of interest, including those prohibited by the provisions of KRS 164.390, and 45A.330 to 45A.340 and 45A.455;

5. This offer is good for 60 calendar days from the date this Bid is opened. In submitting the above, it is expressly agreed that upon proper acceptance by the Capital Construction Procurement Section of any or all items Bid above, a contract shall thereby be created with respect to the items accepted;

6. That I have fully informed myself regarding and affirm the accuracy of all statements made in this Form of Proposal including Bid Amount.

7. Unless otherwise exempted by KRS 45.590, the Bidder intends to comply in full with all requirements of the Kentucky Civil Rights Act and to submit data required by the Kentucky Equal Employment Act upon being designated the successful contractor.

8. That the bidding contractor and all subcontractors to be employed do not and will not maintain any facilities they provide for employees in a segregated manner and they are in full compliance with provisions of 41 CFR 60-1.8 that prohibits the maintaining of segregated facilities.

9. In accordance with KRS45A.110(2), the undersigned hereby swears under penalty of perjury that he/she has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky and that the award of a contract to the bidder will not violate any provision of the campaign finance laws of the Commonwealth of Kentucky.

READ CAREFULLY - SIGN IN SPACE BELOW - FAILURE TO SIGN INVALIDATES BID

SIGNED BY_____ TITLE_____

PRINT NAME_____ FIRM_____

ADDRESS_____ AREA CODE & PHONE _____

_____ FAX_____
CITY STATE ZIP CODE

BDDER'S EMAIL _____ DATE _____

Attachment "B"
SCOPE OF WORK
TC-031 Fire Protection

BUSINESS CLASSIFICATION

Please complete this form which is necessary for the University of Kentucky vendor database.
Mark only one classification. Refer to "Definitions" for assistance in determining correct classification.

(01)___Small Business

(02)___Large Business

(03)___Disadvantaged Small Business

(04)___Disadvantaged Large Business

(05)___Woman-Owned Small Business

(06)___Woman-Owned Large Business

(07)___Disadvantaged Woman-Owned Small Business

(08)___Disadvantaged Woman-Owned Large Business

(09)___Other

DEFINITIONS

(01) SMALL BUSINESS: A business concern that is organized for profit, is independently owned and operated, is not dominant in the field of operations in which it is bidding, and meets the size standards as prescribed in the Code of Federal Regulations, Title 13, Part 121. Consult your local or district Small Business Administration (SBA) office if further clarification is needed.

(02) LARGE BUSINESS: A business concern that exceeds the small business size code standards established by SBA.

(03) DISADVANTAGED SMALL BUSINESS: A business concern (a) that is at least 51 percent owned by one or more socially and economically disadvantaged individuals (as defined below), or a publicly owned business, having at least 51 percent of its stock owned by one or more socially and economically disadvantaged individuals; and (b) has its management and daily business operations controlled by one or more such individuals. Socially and economically disadvantaged individuals include: Asian, Black/African American, Hispanic or Latino, Native American, Native Hawaiian/Pacific Islander, Women, Disabled, Veteran and Disabled Veteran and other minorities or individuals found to be disadvantaged by the SBA.

(04) DISADVANTAGED LARGE BUSINESS: A concern that meets the definition of socially and economically disadvantaged individuals as defined above, but which is not a small business by the SBA's size standards.

(05) WOMAN-OWNED SMALL BUSINESS: A small business that is at least 51 percent owned by a woman or women who also control and operate it. "Control" in this context means exercising the power to make policy decisions. "Operate" means actively involved in the day to day management.

(06) WOMAN-OWNED LARGE BUSINESS: A concern that meets the definition of woman owned and operated, but which is not a small business by the SBA's standards.

(07) DISADVANTAGED, WOMAN-OWNED SMALL BUSINESS: A concern that meets the definition of both (03) and (05) above.

(08) DISADVANTAGED, WOMAN OWNED LARGE BUSINESS: A concern that meets the definition of both (04) and (06) above.

(09) OTHER: A concern that does not meet any of the above definitions.

Attachment "B"
SCOPE OF WORK
TC-031 Fire Protection

THE FOLLOWING ITEMS ARE HEREWITH ENCLOSED AS REQUIRED BY KRS 45A.185

1. Bid Bond or Certified Check in an amount not less than five percent (5%) of total Bid.

2. List of Proposed Subcontractors and Unit Prices. (if required)

3. Authentication of Bid and Statement of Non-Collusion and Non-Conflict of Interest.

4. List of Materials and Equipment.

5. VENDOR NUMBER: It is imperative that you furnish your Federal Employer Identification Number in the space provided below. Failure to do so may delay the processing of purchase orders issued to your firm.

_____
(Nine Digit Number)

BIDDER'S QUALIFICATIONS

The Commonwealth of Kentucky Model Procurement Code (KRS 45A.080) requires contracts to be awarded, "to the responsive and responsible bidder whose bid offers the best value" to the University of Kentucky. In order to determine if the Bidder has the experience, qualifications, resources and necessary attributes to provide the quality workmanship, materials and management required by the plans and specifications, the Bidder may be required to complete and submit the information requested on the University of Kentucky Contractor Bidder Determination of Responsibility questionnaire. Failure to provide the information requested on the questionnaire or failure to provide any additional submittals or information that may be requested to make this determination may be grounds for a declaration of non-responsibility with respect to the Bidder. A copy of the Contractor Determination of Responsibility questionnaire is available upon request to all Bidders.

TIME LIMIT FOR EXECUTION OF CONTRACT DOCUMENTS

It is further agreed, that in the event this Proposal is accepted by the Owner and the undersigned shall fail to execute the Contract and furnish satisfactory Payment and Performance Bond within ten (10) consecutive calendar days from the date of notification of the award of the Contract, the Owner may at his option, determine that the undersigned has abandoned the Contract and thereupon, the Proposal shall become null and void and the Bid guarantee, check or Bid bond which accompanied it shall be forfeited and become the property of the Owner as liquidated damages for each failure and no protest pursuant to such action will be made. If the Undersigned shall execute the Contract, and furnish satisfactory Payment Bond and Performance Bond, it is understood that the Bid Guarantee or Bid Bond will be returned to the undersigned by the Owner.

Attachment "B"
SCOPE OF WORK
TC-031 Fire Protection

UNIT PRICES

NOTE: Unit Prices shall include the furnishing of all labor, materials, supplies and services and shall include all items of cost, overhead and profit for the Contractor and any subcontractor involved, and shall be used uniformly without modifications for either additions or deductions. The Unit Prices as established shall be used to determine the equitable adjustment of the Contract Price in connection with changes, deletions or extra work performed under the Contract and the "Rules of Measurement" set forth in the General Conditions shall govern.

All Bidders will be required to complete and submit the following Unit Prices with the bid.

Material	Unit (LF, SF, EA, etc.)	Unit Price
Upright Head	EA	
Pendant Head	EA	
¾" piping	LF	
1" piping	LF	
1 ½" piping	LF	
2" piping	LF	
Fire Stopping	EA	

Attachment "B"
SCOPE OF WORK
TC-031 Fire Protection

HOURLY RATES

The Hourly Rates as established shall be used to determine the equitable adjustment of the Contract Price in connection with changes, deletions or extra work performed under the Contract and the "Rules of Measurement" set forth in the General Conditions shall govern.

All Bidders will be required to complete and submit the following Hourly Rates with the bid.

Note the following:

- **Overhead & Profit to be <u>EXCLUDED</u> from rates below & will be calculated separately**
- **Complete a separate Wage Breakdown for each trade or subcontractor**

STRAIGHT TIME		CLASSIFICATION							
Description	Unit	PM	Engineering	Super	Gen. Foreman	Foreman	Journeyman	Apprentice	Other (_____)
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

Attachment "B"
SCOPE OF WORK
TC-031 Fire Protection

PREMIUM TIME		CLASSIFICATION							
Description	**Unit**	**PM**	**Engineering**	**Super**	**Gen. Foreman**	**Foreman**	**Journeyman**	**Apprentice**	**Other (_____)**
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

DOUBLE TIME		CLASSIFICATION							
Description	**Unit**	**PM**	**Engineering**	**Super**	**Gen. Foreman**	**Foreman**	**Journeyman**	**Apprentice**	**Other (_____)**
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

Attachment "B"
SCOPE OF WORK
TC-031 Fire Protection

BID BREAKOUT

Fill in the following breakdown of costs included in your base bid. Each item is to include labor, material & equipment. These will not be considered unit prices nor will the numbers listed here limit obligations required in the bid documents. It will be used only to aid in verifying completeness of the bids.

	Description of Work	Labor Hours	Quantity	Unit	Unit Cost	Total
1	Engineering & Layout, Permits & Fees,					$
2	Shop drawings and Submittals					$
3	Mobilizations					$
4	Fire Pump Room Piping					$
5	Fire Pump & Panel Install					$
6	Riser Piping					$
7	Floor Area Piping					$
8	Firestopping					$
9	Pressure Test and Seal Piping Risers					$
10	Temporary Riser					$
11	Teaching Greenhouse FP (Addendum 04)					$
12						$
13						$
14						$
Please list and breakdown below any work that has not been listed above						
15						$
16						$
19	Management					$
20	Safety and Housekeeping					$
21	General Work Requirements					$
22	Overhead and Profit					$
Allowances (to be included in bid amount)						
1	Project BIM Coordinator Allowance					$25,000
2	Laboratory and Owner Provided Equipment coordination.					$30,000
3	Document Control Server Allowance Addendum 04					$5,000
	TOTAL BID AMOUNT (This amount should match the Lump Sum listed on Form of Proposal)					**$**
	Cost of Payment & Performance Bond **(DO NOT INCLUDE THIS COST IN BID AMOUNT)**					$

Attachment "B"
SCOPE OF WORK
TC-031 Fire Protection

Attachment A – Additional Provisions and Attachment B – (Technical) Scope of Work go together to define the requirements of this Subcontract. Attachment A is a more of a general Summary of the Contract Documents, Price, etc., while Attachment B is the Trade Specific (technical) Scope of Work.

The work of this Agreement shall include, but not be limited to, all labor, materials, apparatus, hoisting, rigging, tools, equipment, plant, supplies, accessories, samples, submittals, shop drawings, certifications, engineering, layout, transportation, storage, supervision, temporary construction, special services, contributions, insurance, taxes (unless specifically excluded by the Contract Documents), compliance with all governing agencies (city, county, state, federal and others as may be required), permits, fees, all other services and facilities and other items necessary for the performance of the **Fire Protection** as shown, detailed and/or implied in the contract documents outlined in the General Scope of Work.

The Scope of Work Document is being provided for your use as a general guideline. Please note, this Document is not all-inclusive. It is this Subcontractor's responsibility to provide a complete bid, including all work for this trade indicated on ALL of the contract documents (include plans, specifications, Bid Manual, etc.). It is this Subcontractor's responsibility for the entire scope of this Bid Package and coordination between all trades.

A.	GENERAL
1.	Provide labor, material, equipment, and all else necessary to furnish and install complete the TC-031 Work as required by the contract documents and as outlined below. In this Scope of Work, the term "provide" shall be defined as meaning "furnish and install."
2.	The following scope of work is intended to be general in nature. The purpose of this scope of work is not to identify or list every scope of work item already shown or described in the contract documents, but rather to coordinate, clarify, modify, and/or expand the scope.
3.	The intention is to have the successful Subcontractor perform all the TC-031 related work shown on the Contract Documents other than those items specifically indicated below to be excluded.
4.	Detail references are included for convenience, but are not intended to identify all applicable details. If the Contract Drawings and Specifications conflict, then the greater quantity and quality shall apply. The Scope of Work takes precedence over the drawings and specifications in the event of a conflict in trade assignment or responsibility. Attention is called to the Bid Manual and the Subcontractor shall include all costs necessary to provide all work to meet the requirements of this scope of work.
5.	In this Scope of Work, the term "provide" shall be defined as meaning "furnish and install."

B.	DOCUMENTS
1.	General Contract between Turner and the Owner including all attachments

2.	All documents in bid manual including but not limited to:
	• Drawings
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Volume 1 Dated 11/15/24***
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Volume 2 Dated 11/15/24***
	• Specifications
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Project Manual Dated 11/15/2024***
	• Scope of Work (Attachment B)
	• General Requirements
	• General Conditions
	• Special Conditions
	• Sample Subcontract Agreement Form (Form 36)
	• Sample 3A Page
	• Reference Drawings Included
	  • ***Prospiant's Greenhouse Design Drawings for Rooftop Greenhouses***
	  • ***BP-02 Site Enabling Package – dated 3/13/24***
	  • ***BP-03/3.1 Foundations and Long Lead Equipment – dated 5/2/24***
	  • ***BP-04 Core and Shell – dated 6/28/24***

Attachment "B"
SCOPE OF WORK
TC-031 Fire Protection

	• ***BP-05 Teaching Greenhouse – Dated 10/11/24***
3.	Bid Manual including all **Sketches** and **Attachments** prepared by Turner Construction and listed below
4.	**Attachments**
	a. Attachment A – Additional Provisions b. Attachment C - Safety Program c. Attachment E - Accounting Procedures d. Attachment F - Percentage Markup e. Attachment G - Bid Schedule f. Attachment H - BIM General Requirements g. Attachment I - LEAN Subcontract Exhibit h. Attachment J – Electronic Agreement i. Attachment K – CCIP Manual j. Attachment L – UK Tree Protection Standards k. Attachment M – Part 1 and Part 2 LEED Construction Waste Management Plan l. Attachment N – Turner Subcontractor Onboarding m. Attachment O – Enhancing Worker Experience Plan n. Attachment P – LEED Indoor Air Quality Management Plan
5.	**Sketches**
	a. SK-001 – Site Logistics Plan b. SK-002 – Misc Metals c. SK-003 – Tent and HVAC rental Agreements d. SK-004 – CM Office - Good Barn Layout e. SK-005 – Temporary Power Plan f. SK-006 – Lab Furnishings Responsibility Matrix **(Addendum 04)**
6.	**Specifications**
	a. The following specification sections are listed as the responsibility of the Subcontractor in defining its area of work on this project. Unless specifically indicated otherwise or excluded below, this Contractor is responsible for the complete specification sections indicated below. **b. DIVISION 00 – PROCUREMENT & CONTRACTING REQUIREMENTS (ALL SECTIONS)** **c. DIVISION 01 – GENERAL REQUIREMENTS (ALL SECTIONS)** **d. DIVISION 07 – THERMAL AND MOISTURE CONTROL (AS APPLIES)** **e. 07 8413 – Penetration Firestopping (as related to this scope)** **f. 07 8413 – Joint Firestopping (as related to this scope)** **g. 07 9200 – Joint Sealants (as related to this scope)** **h. 07 9200.13 – Joint Sealants – Laboratory and Vivarium (as related to this scope)** **i. 07 9219 – Acoustical Joint Sealants (as related to this scope)** **j. 08 3113 – Access Doors and Frames (as related to this scope)** k. **DIVISION 10 - SPECIALTIES (AS APPLIES)** l. **DIVISION 11 - EQUIPMENT (AS APPLIES)** m. **DIVISION 13 – SPECIAL CONSTRUCTION (AS APPLIES)** n. **DIVISION 20 – MECHANICAL SUPPORT (AS APPLIES)** **o. DIVISION 21 – FIRE PROTECTION SYSTEM (ALL SECTIONS Complete)** **p. DIVISION 28 – ELECTRONIC SAFETY & SECUIRTY (AS APPLIES) (28 3100 FIRE ALARM)**
7.	Divisions 00 and 01 of the Specifications are general in nature, and apply to all Subcontracts. These sections are included "complete" as part of this Subcontract Agreement.
8.	The Contractor is also responsible for trade specifications not specifically listed above but required by reference in the listed specifications or as required to perform the scope of work described herein, as well as the Bidding Requirements, Contracting Requirements and the use of the Construction Documents as a whole.

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C.	SPECIFIC SCOPE ITEMS
1.	Contract Price is LUMP SUM. There shall be NO additional labor and material escalations allowed
2.	Examination of Site – Subcontractor warrants that they have sufficiently reviewed the project site to inform themselves of all items about existing site that are relevant to their work, and the cost of their work.
3.	Include protection of all adjacent structures during performance of this work. Plan for protection of adjacent structures must be part of the overall plan submitted for approval prior to start of work
4.	**SITE LOGISTICS:** Refer to the Site Logistics plans included in the Contract Documents. Delivery trucks are to be scheduled with Turner at least one (1) week in advance.
5.	Subcontractor change order requests shall be provided with sufficient detail (as acceptable to Turner) to allow for satisfactory review. Subcontractor shall be allowed a maximum mark up for overhead and profit per the markup provisions included in the Subcontract Agreement, or as clarified in Contract Documents above
6.	Subcontractor understands that **time is of the essence** in the prosecution of Work under this agreement.
7.	**Verify layout** provided by others. Where this subcontractor is performing work using layout provided by others, this subcontractor shall perform sufficient verification of that layout to reasonably ascertain the validity of that layout. Any deficiencies (or suspected deficiencies found) shall be reported to Turner immediately to allow corrections as needed before start of work by this subcontractor.
8.	All Subcontractors must be **licensed** as required by local, State, or Federal jurisdiction required for work of this trade in this project location
9.	This Subcontractor will comply with Turner's corporate **safety policy** and comply with Site Specific Safety Plan that will include but is not limited to 100% tie-off above 6 feet, 100% Safety Glasses, High Visibility Vests or High Vis style T-Shirts with reflective strips, 100% glove policy, Ladders Last Policy and Nothing Hits the Ground. If you are unfamiliar with any of these policies please ask to see the policy prior to submitting your bid. Failure to be familiar with these policies will not exclude you from complying with them.
10.	Refer to **Project General Work Requirements** in volume one of the project manual. Any costs for work scope items listed in this section shall be included in your lump sum bid. Some work items are listed for specific trade contractors and they shall include those costs in their respective total lump sum bid price.
11	his Contractor shall include all materials, labor, tools, and equipment to provide all **STRUCTURAL SUPPORTS & ANCHORS** as required by the Contract Documents and in accordance with section 05 1200. This includes the design and analysis of structural steel supports and connections not specifically shown. Include all material, labor, tools, equipment, supplies, transportation, and taxes, to complete this scope of work.
12.	This Contractor shall include all permits & fees required to complete this work. This contractor shall pay all fees, utility connection costs, meter fees, extension and development charges.
13.	All unloading, distribution, staging, hoisting, rigging, scaffolding, lifts, platforms, scissor lifts, boom lifts, planking, guying, sheeting, shoring, dewatering, bracing transportation, access for material, equipment and personnel required to perform this work is included in this contract.
14.	It shall be the responsibility of this contractor to coordinate the installation of this work with the utility companies, UK Facilities Management, other contractors working on the Project and the engineer as needed to verify or determine size and routing of services being installed by this contractor.
15.	Contractor work includes all required overtime, premium time and/or double shift costs to complete the scope of the work in accordance with the schedule per 'Attachment G'. Include design and installation of all temporary bracing required to erect the structure based on the project schedule.
16.	This Contractor shall furnish and install all **sleeves and blockouts** for this contractor's penetrations of walls, floors, and roof. The cutting of metal deck as required to install the work shall be included. Any reinforcement of the deck that is required but not shown on the structural drawings is to be included in this work. This Trade Contractor is responsible for all curbs, thimbles, counter flashings, clamping rings, sealants, etc., required at roof penetrations of material and equipment covered by this work. This would include but not be limited to vents flashings, and any special curbs or flashing required. This contractor shall coordinate with the construction manager and the TC-016 CIP Shafts and Decks contractor to install all sleeves prior to concrete placement. Assume multiple mobilizations are needed. Any and all costs for core drilling required

	for mechanical systems raceways due to failure to coordinate the installation of sleeves and/or their incorrect location will be borne by this contractor. a. Per UK standards, all sleeves/blockouts shall be a minimum of 1.5" above finished floor. This work scope shall include "metal collars" (sealed) as necessary for any existing or new sleeve installations not 1.5" above the finished floor elevation (not concrete elevation). This Trade Contractor is responsible for protection of all sleeves installed for (or existing) their scope of work. b. This contractor is to gain fire stopping inspection at the floor level PRIOR to installing the 1.5" metal collar. The installation of the metal collar and floor fire stopping shall not be in one action preventing proper fire stop inspection. c. All roof penetrations are to be included in this work scope. This contractor is to include all costs to repair/tie-in/patch the roofing utilizing the TC-022 roofing contractor of record. This includes any work included in this contract. Any roof or floor protection required for the movement of workmen or equipment is to be included. d. All openings installed under this scope are the sole responsibility of this contractor to ensure that they are water tight prior to their end of shift. This contractor shall coordinate openings with proper trades.
17.	This contractor shall **verify conditions** are suitable for Electrical installation prior to beginning installation. This includes installation of the equipment provided by others. a. Include coordination of final location of equipment and panels provided by others, including feeders into and out of the equipment and panels
18.	The contract price shall not be altered for any work that could have been **reasonably inferred** from the Contract Documents. The following items are listed as examples of the intent of this statement, but is not limited to these items alone: a. Variations to avoid interference and obstructions. b. Providing all electrical components and services usually supplied with a specific system. c. The providing of all necessary Fire Protection equipment and appurtenances, whether shown or not, for a complete operating system in strict code compliance based on equipment and fixtures indicated on the Contract Documents. d. Testing performed in accordance with the requirements of the Contract Documents to meet the needs of the construction schedule and to not delay the work of other trades.
19.	This contractor shall provide all Fireproof Patching that has been removed for installation of hangers and supports for all Fire Protection Scope.
20.	**Label and identify** all Fire Protection Equipment and components associated with this contract as required in the contract documents.
21.	This Contractor shall provide all penetration caulking for **firestopping** associated with this scope of work in accordance with the contract documents, including identification per the specifications. This includes firestopping for all penetrations associated with this scope of work, including core drilled penetrations. All penetrations created by this Trade Contractor shall be coordinated with other applicable trades and performed in a neat and workmanlike manner.
22.	This contractor shall **verify conditions** are suitable for Technology installation prior to beginning installation. This includes installation of the equipment provided by others
23.	**Temporary powe**r and lighting will be available per Sketch 006. This Trade Contractor will need to provide any additional power required for their scope of work. If necessary, provide generators for other power that will be required beyond what is provided. At no time shall the noise generated by generators or welders be overwhelming or disruptive to the campus operations. Generators shall be placed to minimize noise and exhaust impacts.
24.	This Contractor shall provide all Task Lighting required for the performance of their work. General Building Egress Lighting will be provided: however, each work location will need to have contractor provided task lighting as needed to safely perform their installations.
25.	a. This Contractor shall include all **Building Information Modeling** per the contract documents. Refer to attachment H for BIM requirements associated with this scope. All costs for the BIM process for this scope of work shall be included in the base bid. Include the scheduled Document Control Server Allowance for Box server use and hardware/software, as well as the Project BIM Coordinator Allowance for 3rd party BIM manager directed by the Construction Manager. These allowances are not for the use

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	of the MEP trades for their coordination. This Trade Contractor shall be responsible to reflect the actual location of conduits and electrical gear where connections are to be made with existing work in the BIM a. This Trade Contractor shall provide coordination between all Power and Communication Conduits, Cable Trays, Duct Banks, and Bussway ensure proper separation and crossing per industry standards. b. BIM Modeling under this scope of work will include all conduits ¾" nominal size and larger. c. This Trade Contractor shall also include an additional 160 hours of BIM coordination to be used at the Owner/CM's discretion
26.	The intent of this scope of work will utilize the coordination in the 3D model to prefabricate off-site as much material as possible. All materials possible will be **Prefabricated** and packaged as a Kit-of-Parts for Just-in-Time delivery at the job site and be on wheels for delivery to the area of install. No pre-packaged or loose materials to be delivered to the job site that will not be installed within 4 days of delivery.
27.	This Contractor shall coordinate his work scope with the drywall partitions trade contractor who will be responsible to build in all openings in the partition walls for all equipment, duct, conduit and pipe penetrations, and shall include all required lintels. The HVAC, electrical, fire protection and plumbing trade contractor shall be required to coordinate locations and provide layout drawings of all penetrations prior to start of partition work. For penetrations missed for installation in normal sequence by the drywall trade contractor, the offending trade contractor will bear the full cost of installation, including cutting wall, reinforcing wall, and refinishing the wall around the penetration.
28.	This Contractor shall assume up to 50% of stud wall framing (to include drywall top out) at each floor will be completed prior to ductwork installation identified as priority walls. Priority walls (locations where ductwork/ other MEP systems are tight to adjacent drywall walls) will be the first identified and installed by the drywall contractor. Drywall top out will terminate at an elevation a minimum of 1'-0" above finish ceiling grid line to allow for conduit, piping rough in prior to the balance of the wall drywall is completed.
29.	This contractor shall provide **ACCOUSTICAL JOINT SEALANTS** (COMPLETE) as required for this scope of work and as shown on the Contract Documents and in accordance with specification section **07 9919.**
30.	This contractor shall provide **ACCESS DOORS** (COMPLETE) as required for this scope of work and as shown on the Contract Documents and in accordance with specification section **08 3113.** a. This Contractor shall provide all Access Doors for all in-wall or above ceiling equipment and components that require access for maintenance and repair. Coordinate installation with Finishes Trades.
31.	Include cost in base bid for 2% of the total manhours anticipated for this scope to be used at the direction of the CM as **"Composite Cleanup".**
32.	This contractor shall include **200 Journeyman Overtime Work Hours** to be used for schedule maintenance by the Construction Manager. The trade contractor must include all travel, per diem, fringes, OH&P, etc. costs (a fully loaded rate) on these hours and they are only to be used by the trade contractor at the direction and approval of the Construction Manager. These hours will be logged and usage tracked. Usage of these hours can occur during the week or on Saturdays – no Sundays are intended.
33.	This Contractor shall provide personnel for support of Commissioning, by others, of Equipment and Systems within the Building. This scope will include any adjusting of equipment, dampers, valves, etc. as needed to address Commissioning comments / requirements to meet Contract Document requirements.
34.	This Contractor shall provide complete layout, coordination and installation of Equipment Pads for all Pad Mounted Equipment. This scope includes all design and installation of anchorage of the equipment per approved details.
35.	All unloading, distribution, staging, hoisting, rigging, scaffolding, lifts, platforms, scissor lifts, boom lifts, planking, guying, sheeting, shoring, dewatering, bracing transportation, access for material, equipment and personnel required to perform this work is included in this contract.
36.	This contractor shall provide Fire Protection (COMPLETE) as shown on the FP Drawings including but not limited to all excavation, backfill, haul off, new piping, etc. a) Contractor shall patch back and seal all wall penetrations to match existing adjacent conditions at pipe. b) Including waterproofing at existing exterior walls. Waterproofing shall be hot-fluid applied rubberized-asphalt waterproofing membrane with elastomeric sheets at edges, corners, and terminations of membrane for continuous watertight construction. Apply in layers and reinforce as required to provide uniform seamless membrane minimum 4mm thickness. Also,

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	seal penetrations into and out of the structure watertight. Provide Link-Seal modular seal or equal. c) Contractor to protect adjacent structures during this scope of work. d) Excavations outside the site fence line shall patch back to match adjacent conditions. e) Contractor to assume off hour work for shutdowns and tie-ins for this scope of work. Contractor to submit outages per UK standards. f) This contractor is to include all dust control, dust partitions, water mitigation measures for this work. g) Contractor to include wall scanning before coring through walls and slabs to avoid cutting reinforcing steel.
37.	This contractor shall provide the Fire Pump, Jockey Pump, Fire Pump Electrical Panel/ATS, Jocky Pump Panel, Conduit, Wiring, Hose Cabinets, Tamper Switches, Flow Switches, Signage, controls, alarms, etc. for a complete operational system. Coordinate with electrical contractor for final electrical and fire alarm connections
38.	This Contractor shall provide Hydro Testing of all Fire Protection Piping Systems. Contractor shall provide a Holding Charge on all piping with gages to indicate charge is being maintained
39.	This Contractor shall provide a complete Valve Chart of all piping valves located in vaults and in the riser piping. Valve chart shall include a listing of all valves, locations, type, and Mfg.
40.	This contractor shall verify conditions are suitable for Fire Protection Standpipe installations prior to beginning installation.
41.	This Contractor shall provide all **Startup, Testing and Commissioning** for all equipment installed in this scope of work. Provide startup and testing plan for approval prior to commencing work scope. Provide all testing reports required for University and State Inspectors. This Contractor shall provide participation and assistance during all Fire Alarm Testing and during **Final Commissioning** of all equipment and systems installed in this scope of work near the substantial completion of the project. This contractor shall assume a remobilization for this work.
42.	This Contractor shall provide temporary Standpipes per requirements of NFPA, State and Local Codes. Provide a Shop Drawing of the proposed Standpipe(s) for approval by the local Fire Marshal prior to installation. Begin Install as the Third Floor Deck is being poured and maintain riser sections as required as the successive building floors are placed. See Attachment G for more information. a. Coordinate with other trades for flow test requirements
43.	This Contractor shall coordinate with Controlled Environment Rooms (CER) for Freeze Proof heads in refrigerated rooms. Review CER Shop Drawings for applicable penetrations, sealants, locations and supports for heads inside of rooms.
44.	This Contractor shall provide all required Sprinkler Heads under ductwork, equipment, Stairs, etc. as required by code and Inspection Authority.
45.	This Contractor shall provide Hydro Testing by Areas and Floors as they are available based on the Project Schedule. Schedule and perform testing and inspections as required to maintain successor activities.
46.	This Contractor shall provide all fire protection at the Greenhouses and coordinate with the Greenhouse Vendor/Contractor for all Fire Protection in the Greenhouses. Review Greenhouse Shop Drawings for applicable penetrations, sealants, locations and supports for heads inside of the Greenhouses.
47.	This contractor shall provide Covers for Heads at all locations and remove at direction of PM. Provide head covers in each area/zone as required for successor activities to protect heads.
48.	This Contractor shall provide Flex Drops in all areas where they are approved. Provide clear designations in Shop Drawings for Review and Approval prior to fabrication and installation.
49.	This Contractor shall provide 4" curbs for all penetrations at the penthouse level per key note 182 example sheet A143. In addition, this Contractor shall provide 6" concrete curbs at all Greenhouse floor penetrations per page note on A152.
50.	Per the schedule in attachment G, this contractor to provide dedicated foreman and personal for start and completion of the first floor as soon as it becomes available to start work, regardless of the sequence and flow of the remaining floors. It is the intention that the 1st floor will be constructed simultaneously with other

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	floors. All necessary manpower and supervision required to meet the schedule should be included in the base bid.
51.	This contractor to include 100 Journeyman hours as an allowance to be used at the direction of the Construction Manager. Include an allowance of $10,000 for misc. fire protection materials. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
52.	This Trade Contractor shall participate in the construction of on-site **mock-ups** as specified and indicated by the documents and/or noted elsewhere. This shall include providing of materials required for this trade contract scope of work, coordinating with other trade contractors with regard to sequencing of installations and protection of materials, furnishing shop drawings and /or setting drawings, etc. Materials for in place or interim mock-ups shall be secured in advance of normal procurement to allow for ALL trade contractor installations, owner/designer and user reviews and evaluations, meetings, approvals and directive if applicable. Mockups are understood to start with arrangement of wall rough-in through complete room finishes. **Addendum 04**
53.	Provide Fire Protection Complete for the Teaching Greenhouse. Reference Teaching Greenhouse Fire Protection Drawings and Specifications included as Attachment in Addendum 04. Scope of work specific for Teaching Greenhouse Fire Protection listed below **(line items 54-83 below) Addendum 04**
54.	This contractor shall provide Fire Protection (COMPLETE) as shown on the FP and C Drawings and associated references in the M & P Drawings including but not limited to all excavation, backfill, haul off, new piping, etc. h) Contractor shall patch back and seal all wall penetrations to match existing adjacent conditions at pipe. i) Including waterproofing at existing exterior walls. Waterproofing shall be hot-fluid applied rubberized-asphalt waterproofing membrane with elastomeric sheets at edges, corners, and terminations of membrane for continuous watertight construction. Apply in layers and reinforce as required to provide uniform seamless membrane minimum 4mm thickness. Also, seal penetrations into and out of the structure watertight. Provide Link-Seal modular seal or equal. j) Contractor to protect adjacent structures during this scope of work. k) Excavations outside the site fence line shall patch back to match adjacent conditions. l) Contractor to assume off hour work for shutdowns and tie-ins for this scope of work. Contractor to submit outages per UK standards. m) This contractor is to include all dust control, dust partitions, water mitigation measures for this work. n) Contractor to include wall scanning before coring through walls and slabs to avoid cutting reinforcing steel.
55.	Contractor needs to include steel road plates on open trench areas in parking / roadways.
56.	All unloading, distribution, staging, hoisting, rigging, scaffolding, lifts, platforms, scissor lifts, boom lifts, planking, guying, sheeting, shoring, dewatering, bracing transportation, access for material, equipment and personnel required to perform this work is included in this contract.
57.	It shall be the responsibility of this contractor to coordinate the installation of this work with the utility companies, UK Facilities Management, other contractors working on the Project and the engineer as needed to verify or determine size and routing of services being installed by this contractor.
58.	Contractor is to include all hydro-excavation as required for installation of this scope at existing utilities. Hydro excavate at all utility crossings and tie in locations.
59.	For the excavation and backfill work contained in this work scope -- backfill must be imported granular material. Shoring must be engineered and stamped by a Professional Engineer. Any excavation deeper than 4'-0" will require an engineered trench box/shoring plan prior to excavation. Include rock excavation as estimated by the Geotechnical Report included in the contract Documents. This work is inclusive of exploratory work specified in the General Work Requirements. Protect all underground work, including stub-ups to ensure work is intact at time of concrete placement. Backfill and compaction with suitable material to proper subgrade elevation is included in this Contract. Spoils are to be removed and stored off site and/or

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	properly disposed of. At the conclusion of this work, the subgrade shall be re-graded to a level acceptable to the Construction Manager.
60.	Exercise care to preserve material below and beyond the limits of excavation. Where excavation is carried out, through error, below indicated grade or beyond the lines of excavation, backfill to the indicated grade and compact with approved fill at no additional cost to the Owner, and at the direction of the Engineer or Geotechnical Consultant.
61.	All excavations shall be returned to match adjacent conditions. All excavations within project site are to be backfilled and capped with a minimum of 12" deep of compacted DGA (98%) to match adjacent elevations unless noted otherwise within this scope.
62.	This contractor is to provide temporary fencing around all open excavations. Include removal of all fencing once excavation is returned to safe condition.
63.	This contractor is to provide all safe entry and extraction for confined space work inside any manhole per Turner safety policy.
64.	Site BMPs (silt fence, waddles, inlet protection, etc…) within the site fence will be set up by others. This contractor shall repair, replace, and maintain any BMPs that are disturbed as part of this scope of work within the site fence. This contractor is responsible for installation and maintenance of all BMPs / SWPP for work outside of site fence. 1) Contractor to include all dewatering for this scope of work. Include SWPP procedures for this work.
65.	Include concrete wash out box for this scope of work. Washout box to be dumpster type and relocatable. Include monitoring and disposal of all waste.
66.	Include any site & street cleaning related to work performed by this scope. Street sweeping equipment will be provided. This Contractor for use by this contractor.
67.	Contractor is to include all road closure, traffic control and permits required to install fully functioning systems.
68.	Include any additional protections as listed in Arborist report and UK Tree Standards (Attachment "L") when working at or near existing trees. General protection provided others. 1) All excavation within the canopies of remaining trees shall be by air excavator to minimize damage to roots. Refer to UK Tree Standards (Attachment "L") for other requirements.
69.	Include all permits & fees required to complete this work. 1) This contractor shall pay all tap fees, utility connection costs, meter fees, extension and development charges.
70.	Coordinate layout of all underground work that is part of this scope with, all other utilities, foundations, etc. 1) Include coordination and access for all inspections.
71.	This Contractor shall provide coordination with the Structural Concrete trade contractor for coordination of installations for all Fire Protection installations. Coordination shall include BIM modeling for confirmation of structural openings for penetrations in all concrete structures below ground and building walls and floors.
72.	This Contractor to provide Fire Water Systems Design and Installation complete for Building and Greenhouse as depicted in the Contract Documents. This scope includes all Fire Protection Piping, Valves, Heads, Controls, Fire Alarm Connection Devices, Backflow Preventer and accessories for a complete and operational system. This scope includes the external Supply piping from existing underground supply, underground piping and FDC, and associated Concrete Pad, Thrust Blocks, Bollards, Signage, excavation, backfill, and testing.
73.	This Contractor shall provide all connections to existing Utilities previously installed for Fire Protection Systems. This contractor to provide bypass pumping as needed for tie in of active utilities. Coordinate excavation and installation with structural concrete slab and site work installations
74.	This Contractor to provide all foundation, vault, wall and floor seals at all plumbing and piping penetrations including Link Seals and or Fire Rated penetration sleeves as required for each specific location.
75.	This Contractor to provide all sleeves and/or core drills required for plumbing and piping connections at Underground Vaults and Foundations.
76.	This Trade Contractor shall include all materials, labor, tools, and equipment to provide all STRUCTURAL SUPPORTS & ANCHORS as required by the Contract Documents and in accordance with section 05 1200. This includes the design and analysis of structural steel supports and connections not specifically shown.

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	Include all material, labor, tools, equipment, supplies, transportation, and taxes, to complete this scope of work.
77.	Contractor work includes all required overtime, premium time and/or double shift costs to complete the scope of the work in accordance with the schedule per 'Attachment G'. Include design and installation of all temporary bracing required to erect the structure based on the project schedule.
78.	This contractor to provide all fire stopping at rated assemblies. All other penetrations should be acoustically sealed.
79.	This contractor shall provide all Firestopping at all rated assembly penetrations. Provide installations of the firestopping in coordination with the scheduled installation of the rated assemblies per the Contract Schedule.
80.	This Contractor to provide for multiple crews and/or crew scheduling as needed for scheduling work scope related to Cast In Place Concrete of the lower floors. Exterior work and stub to inside of foundations will occur early in the schedule in coordination with the site work contractors. Interior underground and shaft work will commence after the removal of the shoring and formwork.
81.	This Contractor is to include all Build Information Modeling per the contract documents. Refer to attachment H for BIM requirements associated with this scope. All costs for the BIM process for this scope of work shall be included in the base bid. Include the scheduled Document Control Server Allowance for Box server use and hardware/software, as well as the Project BIM Coordinator Allowance for 3rd party BIM manager directed by the Construction Manager. These allowances are not for the use of the MEP trades for their coordination. a. This Trade Contractor shall be responsible to reflect the actual location of piping, ductwork, and equipment where connections are to be made with existing work in the BIM. b. BIM Modeling under this scope of work will include all Controls conduits ¾" nominal size and larger. This Trade Contractor shall also include an additional 80 hours of BIM coordination to be used at the Owner/CM's discretion
82.	This Contractor shall provide support for all testing by the Building Authorities and Fire Marshal.
83.	This contractor to provide and install fire protection systems inside CER rooms provided by others. Coordinate freeze proof head locations with CER contractor.

D.	EXCLUSIONS
	The Scope of Work shall exclude the following:
1.	Payment & Performance Bond

E.	ALLOWANCES	
	The Contract Sum shall be the addition of a base bid amount plus allowances. It is expressly understood and agreed that all allowance work will be completed within the original schedule. Progress Payments will be made against Allowance expenditures, based on approved monthly invoices & written Allowance Authorization from Turner. Any unused funds remaining in these allowances will be credited back to the Project. Only direct Labor, Material, and Equipment costs authorized in writing by Turner after approval by the Owner are to be charged to the Allowance. The Subcontractor's cost for all overhead and profit on the allowance amount shall be included in the base bid amount and not in the allowance amount.	
1.	Project BIM Coordinator Allowance Addendum 04	$40,000
2.	Laboratory and Owner Provided Equipment coordination.	$30,000
3.	Document Control Server Allowance **Addendum 04**	$5,000

F.	SCHEDULE

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	Schedule information is included within the bid manual **(Attachment G)** to aid the Subcontractor in anticipating material deliveries, and manpower and equipment requirements. The information describes only the major activities of this scope of work and does not attempt to describe any out of sequence work required. **The Contractor must confirm that you will meet the project schedule as indicated in the bid manual.** It is **absolutely critical** that the work of this contract be completed by the dates defined. The intention is that the Subcontractor must provide sufficient labor, equipment, overtime, supervision, etc. to overcome weather delays.

G.	ALTERNATES
	The following "Alternate(s)" may be accepted and incorporated herein as part of the Scope of Work for the respective price. Inasmuch as these Alternates were anticipated from the inception of the project and were priced accordingly, all overhead, profit and escalation has been included within the lump sum amount and the price shall remain firm throughout the duration of the project, unless specifically noted. Indicate Add/Deduct Price on the Form of Proposal.
Alt. 1	Fourth Floor Build Out
Alt. 2	Autoclaves
Alt. 3	Greenhouse Tables and Shelving
Alt. 4	Roller Window Shades in Rooms A0100 and A0102
Alt. 5	Greenhouse Card Readers (ADD #04)
Alt. 6	Biological Safety Cabinets (ADD #04)

PROPOSED MAJOR SUBCONTRACTORS AND SUPPLIERS
DUE BY BID DEADLINE

For the purposes of this form, a major subcontractor or supplier is a person or entity that will have a direct or assigned contract or purchase order for the performance or supply of any item listed below if the bidder is successful.

All subcontractors must comply with the laws of the Commonwealth of Kentucky and the policies and procedures of the University of Kentucky as administrated by the UK Capital Construction Procurement Section and Capital Project Management Division.

If the bidder will self-perform these items, list "Self-Perform" for each applicable item.

No major subcontractor or supplier may be added or changed without written consent of the Owner's representative after the bid deadline.

The apparent low bidder may be required to attend a post bid review meeting which will be scheduled at a later date.

DIVISION OF WORK	NAME AND ADDRESS OF SUBCONTRACTOR

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LIST OF MATERIALS AND EQUIPMENT

Each item listed under the different phases of construction must be clearly identified so that the Owner will definitely know what the Bidder proposes to furnish.

The use of a manufacturer's or dealer's name only, or stating "as per Plans and Specifications," will not be considered as sufficient identification.

Where more than one "Make" or "Brand" is listed for any one item, the Owner has the right to select the one to be used.

The apparent low bidders will be required to complete and submit to the University the following information by twelve o'clock (12) noon of the first working day following the bid opening. The information requested in this submittal is required to assist the University in determining contractor responsibility to complete the project being bid.

The apparent low bidder is requested to attend a post bid meeting which will be scheduled at a later date.

MATERIALS AND EQUIPMENT	BRAND OR MANUFACTURER

Attachment "B"
SCOPE OF WORK
TC-031 Fire Protection

Attachment "B"
SCOPE OF WORK
TC-032 Plumbing

FORM OF PROPOSAL

Project No. 2617.0 Project Title: Ag Research Facility BP-06 Fitout – Group 1

Purchasing Officer: Corey W. Leslie

NOTE: The following Form of Proposal shall be followed exactly in submitting a proposal for this work. If this copy is lost, an additional copy will be furnished upon written request to the authority issuing Contract Documents.

This Proposal is submitted by: _____

(NAME AND ADDRESS OF BIDDER)

Date: _____ _____

Telephone: _____ _____

TO: BID CLERK
UNIVERSITY OF KENTUCKY
CAPITAL CONSTRUCTION

PROCUREMENT
RM. 322 SERVICE BUILDING
LEXINGTON, KY. 40506-0005

INVITATION TO BID: **CCK-2617.0-11-25**

BID OPENING DATE: **January 22, 2025**

TIME: **3:00 P.M. Lexington, KY Time**

The Bidder, in compliance with your Invitation for Bids for the above referenced Project, having carefully examined the site of the Work, the Drawings and complete Contract Documents as defined in Article I of the General Conditions, as well as the Specifications affecting the work as prepared by the Consultant, hereby proposes to furnish all labor, materials, supplies and services required to construct the Project in accordance with the Contract Documents, within the time set forth therein, and at the price stated below without qualification. Bidder understands that successful bidder will enter into a contract with Turner Construction Company utilizing Turner's Subcontract Agreement Form 36 without modification.

The Bidder hereby acknowledges receipt of the following Addenda:

ADDENDUM NO. _____ DATED _____

ADDENDUM NO. _____ DATED _____

ADDENDUM NO. _____ DATED _____

ADDENDUM NO. _____ DATED _____

(Here insert the number and date of any Addenda issued and received. If none has been issued and received, the word NONE should be inserted.)

NOTE: IN ADDITION TO THE SPECIFIC TRADE FORM OF PROPOSAL EACH SUBCONTRACTOR MUST ALSO SUBMIT FORMS FOUND IN THE SUPPLEMENTAL FORM OF PROPOSAL SECTION.

Attachment "B"
SCOPE OF WORK
TC-032 Plumbing

Contractor Report of Prior Violations of
Chapters 136,139, 141, 337, 338, 341, and 342

Pursuant to KRS 45A.485, the Contractor shall, prior to the award of a Contract, reveal final determinations of any violations of the provisions of KRS Chapters 136, 139, 141, 337, 338, 341, and 342 by the Contractor that have occurred in the previous five (5) year period.

This statute also requires for the duration of the Contract established, the Contractor be in continuous compliance with the provisions of Chapters 136, 139, 141, 337, 338, 341, and 342 that apply to the Contractor's operations. The Contractor's failure to reveal a final determination of a violation of KRS Chapters 136, 139, 141, 337, 338, 341, and 342, or failure to comply with any of the above cited statutes for the duration of the Contract shall be grounds for the cancellation of the Contract, and the disqualification from eligibility for future contracts for a period of two (2) years.

The Contractor, by signing and submitting a Bid on this Invitation, agrees as required by KRS 45A.485 to submit final determinations of any violations of the provisions of KRS Chapters 136, 139, 141, 337, 338, 341, and 342 that have occurred in the previous five (5) years prior to the award of a Contract and agrees to remain in continuous compliance with the provisions of these statutes during the duration of any contract that may be established. Final determinations of any violations of these statutes, must be provided to the University by the successful Contractor prior to the award of a Contract.

LUMP SUM PROPOSAL

The Bidder agrees to furnish all labor, materials, supplies and services required to complete the Work, for the above referenced Project, for the Capital Construction Procurement Section, University of Kentucky, as described in the Specifications and Contract Documents and shown on the Drawings enumerated below and as modified by the Addenda listed above.

FOR THE LUMP SUM OF_____
(USE WORDS)

_____DOLLARS AND_____CENTS.
(USE WORDS) (USE WORDS)

($_____)
(USE FIGURES)

Alternates:

Alternate 1: Fourth Floor Build Out **$**_____

Alternate 2: Autoclaves **$**_____

Alternate 3: Greenhouse Tables and Shelving **$**_____

Alternate 4: Roller Window Shades in Rooms A0100 and A0102 **$**_____

Alternate 5: Greenhouse Card Readers (ADD #04) **$**_____

Alternate 6: Biological Safety Cabinets (ADD #04) **$**_____

The apparent low bidder is requested to attend a post bid meeting which will be scheduled at a later date. All parties (prime and subcontractors) are required to attend in person.

Attachment "B"
SCOPE OF WORK
TC-032 Plumbing

FORM OF PROPOSAL
AUTHENTICATION OF BID AND STATEMENT OF NON-COLLUSION AND NON-CONFLICT OF INTEREST

I hereby certify:

1. That I am the Bidder (if the Bidder is an individual), a partner in the Bidder (if the Bidder is a partnership), or an officer or employee of the bidding corporation having authority to sign on its behalf (if the Bidder is a corporation);

2. That the submitted Bid or Bids covering Capital Construction Procurement Section Invitation No. CCK-2617.0-11-25 have been arrived at by the Bidder independently and have been submitted without collusion with, and without any agreement, understanding or planned common course of action with, any other contractor, vendor of materials, supplies, equipment or services described in the Invitation to Bid, designed to limit independent bidding or competition; as prohibited by provision KRS 45A.325;

3. That the contents of the Bid or Bids have not been communicated by the Bidder or its employees or agents to any person not an employee or agent of the Bidder or its surety on any bond furnished with the Bid or Bids and will not be communicated to any such person prior to the official opening of the Bid or Bids;

4. That the Bidder is legally entitled to enter into the contracts with the University of Kentucky and Turner Construction Company and is not in violation of any prohibited conflict of interest, including those prohibited by the provisions of KRS 164.390, and 45A.330 to 45A.340 and 45A.455;

5. This offer is good for 60 calendar days from the date this Bid is opened. In submitting the above, it is expressly agreed that upon proper acceptance by the Capital Construction Procurement Section of any or all items Bid above, a contract shall thereby be created with respect to the items accepted;

6. That I have fully informed myself regarding and affirm the accuracy of all statements made in this Form of Proposal including Bid Amount.

7. Unless otherwise exempted by KRS 45.590, the Bidder intends to comply in full with all requirements of the Kentucky Civil Rights Act and to submit data required by the Kentucky Equal Employment Act upon being designated the successful contractor.

8. That the bidding contractor and all subcontractors to be employed do not and will not maintain any facilities they provide for employees in a segregated manner and they are in full compliance with provisions of 41 CFR 60-1.8 that prohibits the maintaining of segregated facilities.

9. In accordance with KRS45A.110(2), the undersigned hereby swears under penalty of perjury that he/she has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky and that the award of a contract to the bidder will not violate any provision of the campaign finance laws of the Commonwealth of Kentucky.

READ CAREFULLY - SIGN IN SPACE BELOW - FAILURE TO SIGN INVALIDATES BID

SIGNED BY_____ TITLE_____

PRINT NAME_____ FIRM_____

ADDRESS_____ AREA CODE & PHONE _____

_____ FAX_____
CITY STATE ZIP CODE

BDDER'S EMAIL _____ DATE _____

Attachment "B"
SCOPE OF WORK
TC-032 Plumbing

BUSINESS CLASSIFICATION

Please complete this form which is necessary for the University of Kentucky vendor database.
Mark only one classification. Refer to "Definitions" for assistance in determining correct classification.

(01)___Small Business

(02)___Large Business

(03)___Disadvantaged Small Business

(04)___Disadvantaged Large Business

(05)___Woman-Owned Small Business

(06)___Woman-Owned Large Business

(07)___Disadvantaged Woman-Owned Small Business

(08)___Disadvantaged Woman-Owned Large Business

(09)___Other

DEFINITIONS

(01) SMALL BUSINESS: A business concern that is organized for profit, is independently owned and operated, is not dominant in the field of operations in which it is bidding, and meets the size standards as prescribed in the Code of Federal Regulations, Title 13, Part 121. Consult your local or district Small Business Administration (SBA) office if further clarification is needed.

(02) LARGE BUSINESS: A business concern that exceeds the small business size code standards established by SBA.

(03) DISADVANTAGED SMALL BUSINESS: A business concern (a) that is at least 51 percent owned by one or more socially and economically disadvantaged individuals (as defined below), or a publicly owned business, having at least 51 percent of its stock owned by one or more socially and economically disadvantaged individuals; and (b) has its management and daily business operations controlled by one or more such individuals. Socially and economically disadvantaged individuals include: Asian, Black/African American, Hispanic or Latino, Native American, Native Hawaiian/Pacific Islander, Women, Disabled, Veteran and Disabled Veteran and other minorities or individuals found to be disadvantaged by the SBA.

(04) DISADVANTAGED LARGE BUSINESS: A concern that meets the definition of socially and economically disadvantaged individuals as defined above, but which is not a small business by the SBA's size standards.

(05) WOMAN-OWNED SMALL BUSINESS: A small business that is at least 51 percent owned by a woman or women who also control and operate it. "Control" in this context means exercising the power to make policy decisions. "Operate" means actively involved in the day to day management.

(06) WOMAN-OWNED LARGE BUSINESS: A concern that meets the definition of woman owned and operated, but which is not a small business by the SBA's standards.

(07) DISADVANTAGED, WOMAN-OWNED SMALL BUSINESS: A concern that meets the definition of both (03) and (05) above.

(08) DISADVANTAGED, WOMAN OWNED LARGE BUSINESS: A concern that meets the definition of both (04) and (06) above.

(09) OTHER: A concern that does not meet any of the above definitions.

THE FOLLOWING ITEMS ARE HEREWITH ENCLOSED AS REQUIRED BY KRS 45A.185

1. Bid Bond or Certified Check in an amount not less than five percent (5%) of total Bid.

2. List of Proposed Subcontractors and Unit Prices. (if required)

3. Authentication of Bid and Statement of Non-Collusion and Non-Conflict of Interest.

4. List of Materials and Equipment.

5. VENDOR NUMBER: It is imperative that you furnish your Federal Employer Identification Number in the space provided below. Failure to do so may delay the processing of purchase orders issued to your firm.

_____
(Nine Digit Number)

BIDDER'S QUALIFICATIONS

The Commonwealth of Kentucky Model Procurement Code (KRS 45A.080) requires contracts to be awarded, "to the responsive and responsible bidder whose bid offers the best value" to the University of Kentucky. In order to determine if the Bidder has the experience, qualifications, resources and necessary attributes to provide the quality workmanship, materials and management required by the plans and specifications, the Bidder may be required to complete and submit the information requested on the University of Kentucky Contractor Bidder Determination of Responsibility questionnaire. Failure to provide the information requested on the questionnaire or failure to provide any additional submittals or information that may be requested to make this determination may be grounds for a declaration of non-responsibility with respect to the Bidder. A copy of the Contractor Determination of Responsibility questionnaire is available upon request to all Bidders.

TIME LIMIT FOR EXECUTION OF CONTRACT DOCUMENTS

It is further agreed, that in the event this Proposal is accepted by the Owner and the undersigned shall fail to execute the Contract and furnish satisfactory Payment and Performance Bond within ten (10) consecutive calendar days from the date of notification of the award of the Contract, the Owner may at his option, determine that the undersigned has abandoned the Contract and thereupon, the Proposal shall become null and void and the Bid guarantee, check or Bid bond which accompanied it shall be forfeited and become the property of the Owner as liquidated damages for each failure and no protest pursuant to such action will be made. If the Undersigned shall execute the Contract, and furnish satisfactory Payment Bond and Performance Bond, it is understood that the Bid Guarantee or Bid Bond will be returned to the undersigned by the Owner.

UNIT PRICES

NOTE: Unit Prices shall include the furnishing of all labor, materials, supplies and services and shall include all items of cost, overhead and profit for the Contractor and any subcontractor involved, and shall be used uniformly without modifications for either additions or deductions. The Unit Prices as established shall be used to determine the equitable

Attachment "B"
SCOPE OF WORK
TC-032 Plumbing

adjustment of the Contract Price in connection with changes, deletions or extra work performed under the Contract and the "Rules of Measurement" set forth in the General Conditions shall govern.

All Bidders will be required to complete and submit the following Unit Prices with the bid.

Material	Unit (LF, SF, EA, etc.)	Unit Price
Welded Piping	LF by Size	
Copper Piping	LF by Size	
Pipe Insulation	LF by Size	
Hangers	EA by Size	
Testing Support	EA	
Fire Stopping	EA	

Attachment "B"
SCOPE OF WORK
TC-032 Plumbing

HOURLY RATES

The Hourly Rates as established shall be used to determine the equitable adjustment of the Contract Price in connection with changes, deletions or extra work performed under the Contract and the "Rules of Measurement" set forth in the General Conditions shall govern.

All Bidders will be required to complete and submit the following Hourly Rates with the bid.

Note the following:

- **Overhead & Profit to be <u>EXCLUDED</u> from rates below & will be calculated separately**
- **Complete a separate Wage Breakdown for each trade or subcontractor**

STRAIGHT TIME		CLASSIFICATION							
Description	Unit	PM	Engineering	Super	Gen. Foreman	Foreman	Journeyman	Apprentice	Other (_____)
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

Attachment "B"
SCOPE OF WORK
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PREMIUM TIME		CLASSIFICATION							
Description	**Unit**	**PM**	**Engineering**	**Super**	**Gen. Foreman**	**Foreman**	**Journeyman**	**Apprentice**	**Other (_____)**
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

DOUBLE TIME		CLASSIFICATION							
Description	**Unit**	**PM**	**Engineering**	**Super**	**Gen. Foreman**	**Foreman**	**Journeyman**	**Apprentice**	**Other (_____)**
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

Attachment "B"
SCOPE OF WORK
TC-032 Plumbing

BID BREAKOUT

Fill in the following breakdown of costs included in your base bid. Each item is to include labor, material & equipment. These will not be considered unit prices nor will the numbers listed here limit obligations required in the bid documents. It will be used only to aid in verifying completeness of the bids.

	Description of Work	Labor Hours	Quantity	Unit	Unit Cost	Total
1	Engineering & Layout, Permits & Fees,				$	$
2	Shop drawings and Submittals				$	$
3	Mobilizations				$	$
4	Waste & Vent Piping				$	$
5	RO Water				$	$
6	Domestic Water Piping				$	$
7	Plumbing Equipment				$	$
8	Plumbing Fixtures				$	$
9	Compressed Air System				$	$
10	Vacuum System				$	$
11	Lab Gas CO2 System				$	$
Please list and breakdown below any work that has not been listed above						
15					$	$
16						
18					$	$
19	Management				$	$
20	Safety and Housekeeping				$	$
21	General Work Requirements				$	$
22	Overhead and Profit				$	$
Allowances (to be included in bid amount)						
1	Project BIM Coordinator Allowance					$25,000
2	Temporary Water/Gas Consumption Costs **Addendum 04**					$100,000
3	Laboratory and Owner Provided Equipment coordination.					$50,000
4	Sewer Tap Fees					$350,000
	TOTAL BID AMOUNT (This amount should match the Lump Sum listed on Form of Proposal)					**$**
	Cost of Payment & Performance Bond **(DO NOT INCLUDE THIS COST IN BID AMOUNT)**					$

Attachment "B"
SCOPE OF WORK
TC-032 Plumbing

Attachment A – Additional Provisions and Attachment B – (Technical) Scope of Work go together to define the requirements of this Subcontract. Attachment A is a more of a general Summary of the Contract Documents, Price, etc., while Attachment B is the Trade Specific (technical) Scope of Work.

The work of this Agreement shall include, but not be limited to, all labor, materials, apparatus, hoisting, rigging, tools, equipment, plant, supplies, accessories, samples, submittals, shop drawings, certifications, engineering, layout, transportation, storage, supervision, temporary construction, special services, contributions, insurance, taxes (unless specifically excluded by the Contract Documents), compliance with all governing agencies (city, county, state, federal and others as may be required), permits, fees, all other services and facilities and other items necessary for the performance of the **Plumbing** as shown, detailed and/or implied in the contract documents outlined in the General Scope of Work.

The Scope of Work Document is being provided for your use as a general guideline. Please note, this Document is not all-inclusive. It is this Subcontractor's responsibility to provide a complete bid, including all work for this trade indicated on ALL of the contract documents (include plans, specifications, Bid Manual, etc.). It is this Subcontractor's responsibility for the entire scope of this Bid Package and coordination between all trades.

A.	GENERAL
1.	Provide labor, material, equipment, and all else necessary to furnish and install complete the TC-032 Work as required by the contract documents and as outlined below
2.	The following scope of work is intended to be general in nature. The purpose of this scope of work is not to identify or list every scope of work item already shown or described in the contract documents, but rather to coordinate, clarify, modify, and/or expand the scope.
3.	The intention is to have the successful Subcontractor perform all the TC-032 related work shown on the Contract Documents other than those items specifically indicated below to be excluded.
4.	Detail references are included for convenience, but are not intended to identify all applicable details. If the Contract Drawings and Specifications conflict, then the greater quantity and quality shall apply. The Scope of Work takes precedence over the drawings and specifications in the event of a conflict in trade assignment or responsibility. Attention is called to the Bid Manual and the Subcontractor shall include all costs necessary to provide all work to meet the requirements of this scope of work.
5.	In this Scope of Work, the term "provide" shall be defined as meaning "furnish and install."

B.	DOCUMENTS
1.	General Contract between Turner and the Owner including all attachments

2.	All documents in bid manual including but not limited to:
	• Drawings
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Volume 1 Dated 11/15/24***
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Volume 2 Dated 11/15/24***
	• Specifications
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Project Manual Dated 11/15/2024***
	• Scope of Work (Attachment B)
	• General Requirements
	• General Conditions
	• Special Conditions
	• Sample Subcontract Agreement Form (Form 36)
	• Sample 3A Page
	• Reference Drawings Included
	  • ***Prospiant's Greenhouse Design Drawings for Rooftop Greenhouses***
	  • ***BP-02 Site Enabling Package – dated 3/13/24***
	  • ***BP-03/3.1 Foundations and Long Lead Equipment – dated 5/2/24***

Attachment "B"
SCOPE OF WORK
TC-032 Plumbing

	• ***BP-04 Core and Shell – dated 6/28/24*** • ***BP-05 Teaching Greenhouse – Dated 10/11/24***
3.	Bid Manual including all **Sketches** and **Attachments** prepared by Turner Construction and listed below
4.	**Attachments**
	a. Attachment A – Additional Provisions b. Attachment C - Safety Program c. Attachment E - Accounting Procedures d. Attachment F - Percentage Markup e. Attachment G - Bid Schedule f. Attachment H - BIM General Requirements g. Attachment I - LEAN Subcontract Exhibit h. Attachment J – Electronic Agreement i. Attachment K – CCIP Manual j. Attachment L – UK Tree Protection Standards k. Attachment M – Part 1 and Part 2 LEED Construction Waste Management Plan l. Attachment N – Turner Subcontractor Onboarding m. Attachment O – Enhancing Worker Experience Plan n. Attachment P – LEED Indoor Air Quality Management Plan
5.	**Sketches**
	a. SK-001 – Site Logistics Plan b. SK-002 – Misc Metals c. SK-003 – Tent and HVAC rental Agreements d. SK-004 – CM Office - Good Barn Layout e. SK-005 – Temporary Power Plan f. SK-006 – Lab Furnishings Responsibility Matrix Addendum 04
6.	**Specifications**
	a. The following specification sections are listed as the responsibility of the Subcontractor in defining its area of work on this project. Unless specifically indicated otherwise or excluded below, this Contractor is responsible for the complete specification sections indicated below. b. **DIVISION 00 – PROCUREMENT & CONTRACTING REQUIREMENTS (ALL SECTIONS)** c. **DIVISION 01 – GENERAL REQUIREMENTS (ALL SECTIONS)** d. **DIVISION 07 – THERMAL AND MOISTURE CONTROL (AS APPLIES)** **e. 07 8413 – Penetration Firestopping (as related to this scope)** **f. 07 8413 – Joint Firestopping (as related to this scope)** **g. 07 9200 – Joint Sealants (as related to this scope)** **h. 07 9200.13 – Joint Sealants – Laboratory and Vivarium (as related to this scope)** **i. 07 9219 – Acoustical Joint Sealants (as related to this scope)** **j. 08 3113 – Access Doors and Frames (as related to this scope)** k. **DIVISION 10 - SPECIALTIES (AS APPLIES)** l. **DIVISION 11 - EQUIPMENT (AS APPLIES)** m. **DIVISION 13 – SPECIAL CONSTRUCTION (AS APPLIES)** n. **DIVISION 20 – MECHANICAL SUPPORT (AS APPLIES)** **o. DIVISION 22 – PLUMBING (ALL SECTIONS COMPLETE)**
7.	Divisions 00 and 01 of the Specifications are general in nature,and apply to all Subcontracts. These sections are included "complete" as part of this Subcontract Agreement.
8.	The Contractor is also responsible for trade specifications not specifically listed above but required by reference in the listed specifications or as required to perform the scope of work described herein, as well as the Bidding Requirements, Contracting Requirements and the use of the Construction Documents as a whole.

C.	SPECIFIC SCOPE ITEMS

Attachment "B"
SCOPE OF WORK
TC-032 Plumbing

1.	Contract Price is LUMP SUM. There shall be NO additional labor and material escalations allowed
2.	Examination of Site – Subcontractor warrants that they have sufficiently reviewed the project site to inform themselves of all items about existing site that are relevant to their work, and the cost of their work.
3.	Include protection of all adjacent structures during performance of this work. Plan for protection of adjacent structures must be part of the overall plan submitted for approval prior to start of work
4.	**SITE LOGISTICS:** Refer to the Site Logistics plans included in the Contract Documents. Delivery trucks are to be scheduled with Turner at least one (1) week in advance.
5.	Subcontractor change order requests shall be provided with sufficient detail (as acceptable to Turner) to allow for satisfactory review. Subcontractor shall be allowed a maximum mark up for overhead and profit per the markup provisions included in the Subcontract Agreement, or as clarified in Contract Documents above
6.	Subcontractor understands that **time is of the essence** in the prosecution of Work under this agreement.
7.	**Verify layout** provided by others. Where this subcontractor is performing work using layout provided by others, this subcontractor shall perform sufficient verification of that layout to reasonably ascertain the validity of that layout. Any deficiencies (or suspected deficiencies found) shall be reported to Turner immediately to allow corrections as needed before start of work by this subcontractor.
8.	All Subcontractors must be **licensed** as required by local, State, or Federal jurisdiction required for work of this trade in this project location
9.	This Contractor will comply with Turner's corporate **safety policy** and comply with Site Specific Safety Plan that will include but is not limited to 100% tie-off above 6 feet, 100% Safety Glasses, High Visibility Vests or High Vis style T-Shirts with reflective strips, 100% glove policy, Ladders Last Policy and Nothing Hits the Ground. If you are unfamiliar with any of these policies please ask to see the policy prior to submitting your bid. Failure to be familiar with these policies will not exclude you from complying with them.
10.	Refer to **Project General Work Requirements** in volume one of the project manual. Any costs for work scope items listed in this section shall be included in your lump sum bid. Some work items are listed for specific trade contractors and they shall include those costs in their respective total lump sum bid price.
11	This Contractor shall include all materials, labor, tools, and equipment to provide all **STRUCTURAL SUPPORTS & ANCHORS** as required by the Contract Documents and in accordance with section 05 1200. This includes the design and analysis of structural steel supports and connections not specifically shown. Include all material, labor, tools, equipment, supplies, transportation, and taxes, to complete this scope of work.
12.	This Contractor shall include all permits & fees required to complete this work. This contractor shall pay all fees, utility connection costs, meter fees, extension and development charges.
13.	All unloading, distribution, staging, hoisting, rigging, scaffolding, lifts, platforms, scissor lifts, boom lifts, planking, guying, sheeting, shoring, dewatering, bracing transportation, access for material, equipment and personnel required to perform this work is included in this contract.
14.	It shall be the responsibility of this contractor to coordinate the installation of this work with the utility companies, UK Facilities Management, other contractors working on the Project and the engineer as needed to verify or determine size and routing of services being installed by this contractor.
15.	Contractor work includes all required overtime, premium time and/or double shift costs to complete the scope of the work in accordance with the schedule per 'Attachment G'. Include design and installation of all temporary bracing required to erect the structure based on the project schedule.
16.	This Contractor shall furnish and install all **Sleeves and Blockouts** for this contractor's penetrations of walls, floors, and roof. The cutting of metal deck as required to install the work shall be included. Any reinforcement of the deck that is required but not shown on the structural drawings is to be included in this work. This Trade Contractor is responsible for all curbs, thimbles, counter flashings, clamping rings, sealants, etc., required at roof penetrations of material and equipment covered by this work. This would include but not be limited to vents flashings, and any special curbs or flashing required. This contractor shall coordinate with the construction manager and the TC-016 CIP Shafts and Decks contractor to install all sleeves prior to concrete placement. Assume multiple mobilizations are needed. Any and all costs for core drilling required for mechanical systems raceways due to failure to coordinate the installation of sleeves and/or their incorrect location will be borne by this contractor.

Attachment "B"
SCOPE OF WORK
TC-032 Plumbing

	a. Per UK standards, all sleeves/blockouts shall be a minimum of 1.5" above finished floor. This work scope shall include "metal collars" (sealed) as necessary for any existing or new sleeve installations not 1.5" above the finished floor elevation (not concrete elevation). This Trade Contractor is responsible for protection of all sleeves installed for (or existing) their scope of work. b. This contractor is to gain fire stopping inspection at the floor level PRIOR to installing the 1.5" metal collar. The installation of the metal collar and floor fire stopping shall not be in one action preventing proper fire stop inspection. c. All roof penetrations are to be included in this work scope. This contractor is to include all costs to repair/tie-in/patch the roofing utilizing the TC-022 roofing contractor of record. This includes any work included in this contract. Any roof or floor protection required for the movement of workmen or equipment is to be included. d. All openings installed under this scope are the sole responsibility of this contractor to ensure that they are water tight prior to their end of shift. This contractor shall coordinate openings with proper trades.
17.	This contractor shall **verify conditions** are suitable for Electrical installation prior to beginning installation. This includes installation of the equipment provided by others. a. Include coordination of final location of equipment and panels provided by others, including feeders into and out of the equipment and panels
18.	The contract price shall not be altered for any work that could have been **reasonably inferred** from the Contract Documents. The following items are listed as examples of the intent of this statement, but is not limited to these items alone: a. Variations to avoid interference and obstructions. b. Providing all electrical components and services usually supplied with a specific system. c. The providing of all necessary plumbing equipment and appurtenances, whether shown or not, for a complete operating system in strict code compliance based on equipment and fixtures indicated on the Contract Documents. d. Testing performed in accordance with the requirements of the Contract Documents to meet the needs of the construction schedule and to not delay the work of other trades.
19.	This contractor shall provide all **Fireproof Patching** that has been removed for installation of hangers and supports for all Plumbing Scope of work.
20.	**Label and identify** all Plumbing Equipment and components associated with this contract as required in the contract documents.
21.	This Contractor shall provide all penetration caulking for **firestopping** associated with this scope of work in accordance with the contract documents, including identification per the specifications. This includes firestopping for all penetrations associated with this scope of work, including core drilled penetrations. All penetrations created by this Trade Contractor shall be coordinated with other applicable trades and performed in a neat and workmanlike manner.
22.	This contractor shall **verify conditions** are suitable for Technology installation prior to beginning installation. This includes installation of the equipment provided by others
23.	**Temporary powe**r and lighting will be available per Sketch 006. This Trade Contractor will need to provide any additional power required for their scope of work. If necessary, provide generators for other power that will be required beyond what is provided. At no time shall the noise generated by generators or welders be overwhelming or disruptive to the campus operations. Generators shall be placed to minimize noise and exhaust impacts.
24.	This Contractor shall provide all Task Lighting required for the performance of their work. General Building Egress Lighting will be provided: however, each work location will need to have contractor provided task lighting as needed to safely perform their installations.
25.	a. This Contractor shall include all **Building Information Modeling** per the contract documents. Refer to attachment H for BIM requirements associated with this scope. All costs for the BIM process for this scope of work shall be included in the base bid. Include the scheduled Document Control Server Allowance for Box server use and hardware/software, as well as the Project BIM Coordinator Allowance for 3rd party BIM manager directed by the Construction Manager. These allowances are not for the use of the MEP trades for their coordination. This Trade Contractor shall be responsible to reflect the actual location of conduits and electrical gear where connections are to be made with existing work in the BIM

Attachment "B"
SCOPE OF WORK
TC-032 Plumbing

	a. This Trade Contractor shall provide coordination between all Power and Communication Conduits, Cable Trays, Duct Banks, and Bussway ensure proper separation and crossing per industry standards. b. BIM Modeling under this scope of work will include all conduits ¾" nominal size and larger. c. This Trade Contractor shall also include an additional 160 hours of BIM coordination to be used at the Owner/CM's discretion
26.	Not used
27.	The intent of this scope of work will utilize the coordination in the 3D model to prefabricate off-site as much material as possible. All materials possible will be **Prefabricated** and packaged as a Kit-of-Parts for Just-in-Time delivery at the job site and be on wheels for delivery to the area of install. No pre-packaged or loose materials to be delivered to the job site that will not be installed within 4 days of delivery.
28.	This Contractor shall coordinate his work scope with the drywall partitions trade contractor who will be responsible to build in all openings in the partition walls for all equipment, duct, conduit and pipe penetrations, and shall include all required lintels. The HVAC, electrical, fire protection and plumbing trade contractor shall be required to coordinate locations and provide layout drawings of all penetrations prior to start of partition work. For penetrations missed for installation in normal sequence by the drywall trade contractor, the offending trade contractor will bear the full cost of installation, including cutting wall, reinforcing wall, and refinishing the wall around the penetration.
29.	This Contractor shall assume up to 50% of stud wall framing (to include drywall top out) at each floor will be completed prior to ductwork installation identified as priority walls. Priority walls (locations where ductwork/ other MEP systems are tight to adjacent drywall walls) will be the first identified and installed by the drywall contractor. Drywall top out will terminate at an elevation a minimum of 1'-0" above finish ceiling grid line to allow for conduit, piping rough in prior to the balance of the wall drywall is completed.
30.	This contractor shall provide **ACCOUSTICAL JOINT SEALANTS** (COMPLETE) as required for this scope of work and as shown on the Contract Documents and in accordance with specification section **07 9919.**
31.	This contractor shall provide **ACCESS DOORS** (COMPLETE) as required for this scope of work and as shown on the Contract Documents and in accordance with specification section **08 3113.** a. This Contractor shall provide all Access Doors for all in-wall or above ceiling equipment and components that require access for maintenance and repair. Coordinate installation with Finishes Trades.
32.	Include cost in base bid for 2% of the total manhours anticipated for this scope to be used at the direction of the CM as **"Composite Cleanup".**
33.	This contractor shall include **800 Journeyman Overtime Work Hours** to be used for schedule maintenance by the Construction Manager. The trade contractor must include all travel, per diem, fringes, OH&P, etc. costs (a fully loaded rate) on these hours and they are only to be used by the trade contractor at the direction and approval of the Construction Manager. These hours will be logged and usage tracked. Usage of these hours can occur during the week or on Saturdays – no Sundays are intended.
34.	This Contractor shall provide personnel for support of Commissioning, by others, of Equipment and Systems within the Building. This scope will include any adjusting of equipment, dampers, valves, etc. as needed to address Commissioning comments / requirements to meet Contract Document requirements.
35.	This Contractor shall provide complete layout, coordination and installation of Equipment Pads for all Pad Mounted Equipment. This scope includes all design and installation of anchorage of the equipment per approved details.
36.	All unloading, distribution, staging, hoisting, rigging, scaffolding, lifts, platforms, scissor lifts, boom lifts, planking, guying, sheeting, shoring, dewatering, bracing transportation, access for material, equipment and personnel required to perform this work is included in this contract.
37.	This Contractor shall provide all Plumbing, Domestic Water, RO/DI Water, Compressed Air, Vacuum and CO2 Systems materials and installations, as shown in the contract drawings to all connections to the Equipment installed by pervious TC-17 contractor. Review all drawings for connection points to previously installed plumbing systems by TC-017 Plumbing contractor. This Contractor shall provide the complete RO/DI Water System as detailed in the drawings and specifications. Note all Owner Furnished and Contractor Installed components in all areas for your complete installation scope requirements. This Contractor to furnish and install the 4 RO Units as scheduled in the Mechanical Schedule M701. Provide complete inspection, startup, testing and commissioning of the RO/DI system.
38.	This Contractor shall provide all Inertia Bases and Grout Bases for all Pumps as noted in the Contract Documents.

Attachment "B"
SCOPE OF WORK
TC-032 Plumbing

39.	This Contactor shall survey and gain signed approval by Turner of all previously installed Shaft and Riser Plumbing prior to connections to the installed work. This scope includes testing and approval of all plumbing to be connected to installed work, prior to connections.
40.	This contractor shall provide all Floor Drains and trench drains as depicted in the contract drawings. Provide coordination and installation of drains and trap primer piping with Structural Concrete contractor and Framing Contractor. Provide manpower for full time pour watch during concrete pours. Provide all Trap Primer Assemblies and all Trap Primer Piping to all Floor Drains. Provide full BIM coordination and details for all Trap Primers and all Floor Drains for review and approval prior to installations. Some Floor Drains and primer piping stub up will have been installed by previous contractors for the slab on grade, provide extended piping and testing for all of these installations. This Contractor shall provide all piping, connections and testing for completed floor drain trap primers and systems as shown.
41.	This Contractor shall provide all Testing of all Plumbing Systems including all code required testing and inspections. Provide Hydro Testing for review and approval prior to installation of Insulation.
42.	This Contractor shall provide a complete Valve Chart of all piping valves located within the building for all systems installed by this contractor. The Valve Chart shall include a listing of all valves, locations, type, and Mfg.
43.	This Contractor shall provide all Plumbing Fixtures, Fixture Trim and accessories as shown on contract drawings and schedules. Provide all rough-in as required for coordination with successive trades and provide all final install including all trim and finishes and caulking. This scope includes coordination with all casework and fixtures for Laboratories, Greenhouses and all other locations related to the installation of all listed fixtures.
44.	This Contractor shall provide all insulation for Plumbing Systems including all Rainwater, RO/DI Water and Domestic Water. This scope includes Detail M19/A550.1 for insulation at all Roof Drains and drain piping.
45.	This Contractor shall provide all RO/DI, Compressed Air, CO2 and Vacuum piping and accessories as shown on the Contract Drawings that connect to the Laboratory Casework and Equipment. Coordinate installations with Laboratory Casework and Wall Elevations for all final connections as noted in the Contract Drawings. Provide complete testing for all outlets/inlets.
46.	This Contractor shall provide all expansion joints required for all piping crossing building separation joints.
47.	This Contractor shall be required to provide complete Testing of all completed Plumbing Systems including all systems previously installed by others. Complete all Wall and Overhead inspections as required to maintain construction schedule throughout the building. Provide added test Tees and Valves required for testing and acceptance to maintain sequence of construction per the contract schedule.
48.	This Contractor shall provide all Fuel Oil Systems as shown in the Contract Drawings and Schedules. This will include but not limited to Fuel Oil Storage Tank, Fuel Oil Day Tank, Fuel Oil Pump, Fuel Oil Control Panel, Control Conduit and Wiring, Fuel Oil Piping, valves and accessories for complete connections and operation of the Generator. Provide all Permits and Inspections required for start up and testing of Generator and Fuel System. Provide all fuel for generator testing and for final full tank fill after all testing is completed.
49.	This Contractor shall provide all Water Hammer Arrestors as required by Code, provide complete BIM Modeling details and locations for review and approval. Provide an allowance for 10 added Arrestors beyond what is required by Code.
50.	This Contractor shall receive from Lab Casework Contractor and provide complete installation of all Emergency Showers. Provide all hardware, anchors and accessories for complete installation and testing of all showers. This Contractor shall provide a Spill Kit and Drain Stopper at all Safety Showers. Deliver to Owner's Representative at final testing of Safety Showers.
51.	This contractor shall provide complete Chlorination of the entire Domestic Water systems including all previously installed equipment and systems. Include all samples and test results for full documentation and sign–off. Provide added testing as required for Legionella.
52.	This Contractor shall provide all required Waste and Vent piping to complete systems handed over from BP-05 Trade Contractor. Review in detail Iso Drawings from previous Bid Packages as well as this Bid Package for all required added piping, fittings, penetrations, etc. to complete the systems.
53.	This Contractor will Review all Laboratory Drawings, Laboratory Casework and Laboratory Equipment Schedules for all required connections. Provide all piping and fittings for complete installations and testing.

Attachment "B"
SCOPE OF WORK
TC-032 Plumbing

54.	This Contractor shall provide installation and later removal of temporary restrooms on Floors 2 and 4 in Rooms A0207, A0205, C0454, C0456. Provide temporary Fixtures, Temporary Water Heaters and Temporary Cold & Hot water for each of these restrooms. This contractor to coordinate with the plumbing inspector and provide all work to activate temp restrooms by 6/1/25. Provide temporary sanitary riser as needed to accommodate activation.
55.	This Contractor shall provide all Domestic Water Balancing required per the specifications and contract documents. Balancing will include all Riser and Shaft piping previously installed to provide a complete building balance for each system.
56.	This Contractor shall be responsible for demolition and removal of Temporary Toilet Trailers (2) to the point of connection for cap off and safe condition of the utility. This scope includes the Field Toilets and Water Services installed by previous contract scopes.
57.	This Contractor shall receive and install all laboratory sinks and service fixtures provided by TC-041, and provide all materials and final connections for Laboratory Sinks and Service Fixtures as shown in the "Q" Drawings, Schedules and Details provided by TC-041 Lab Casework. Addendum 04
58.	This Contractor shall provide the Animal Drinking Water Loop Systems in all areas as noted in the Laboratory Drawings and Details. Furnish all components, hangers, accessories for complete systems. Provide testing of basic components for the Owner's Representative.
59.	This Contractor shall provide materials and final connections for Ceiling Service Panels provided by TC-041 Lab Casework Contractor noted in the Laboratory Drawings and Details. Coordinate piping with the Electrical Outlets and conduits to be installed by TC-034 Electrical Contractor in the Ceiling Service Panels.
60.	This Contractor shall provide final connections for all Gas Outlets at all Fume Hoods as noted in the Laboratory Drawings, Schedules and Details provided by TC-041 Lab Casework Contractor. Provide complete internal and external piping installation.
61.	This contractor to provide a 3" temporary gas riser from where it comes into the building up to the 4th floor with tees and valves at each floor for temporary heating. Reference SK-005 for temp gas requirements and locations. Include demolition of the temporary gas lines at completion of the temp heating scope. Addendum 04
62.	Per the schedule in attachment G, this contractor to provide dedicated foreman and personnel for start and completion of the first floor as soon as it becomes available to start work, regardless of the sequence and flow of the remaining floors. It is the intention that the 1st floor will be constructed simultaneously with other floors. All necessary manpower and supervision required to meet the schedule should be included in the base bid.
63.	This contractor to provide Insulation at storm piping detailed on the core and shell drawings on Sheet CS510. These drawings are included in the bid manual for reference. Storm piping was completed by core and shell contractor, but this contractor to provide the insulation on that piping as detailed on CS510.
64.	This contractor to provide the Natural gas piping system complete. Include all materials and final connections to equipment as needed for a complete installation.
65.	This Contractor shall provide Temporary Mop Sinks, Cold Water Faucets and Sanitary Drains for flush out by other trades. Provide Sinks and Faucets in Future Custodial Rooms CO130, CO 247 and CO347
66.	This Contractor shall provide all Domestic Hot Water Systems as shown in the Contract Documents and Specifications. This shall include the Steam to Hot Water Heat Exchangers, Domestic Hot Water Heat Exchanger and Domestic Recirculating Pumps. Provide all equipment, anchorage, valves, insulation, instrumentation and accessories for a complete domestic hot water system. Provide complete testing, startup, balancing and commissioning of the system.
67.	This Contractor shall provide all Service Entrance Water Systems as shown in the Contract Documents. This shall include the RPBP, Domestic Booster Pump, Buffer Tank and all other Backflow Preventers for all systems. Provide all equipment, anchorage, valves, insulation, instrumentation and accessories for a complete system. Provide complete testing, startup, and commissioning of the system.
68.	This Contractor shall provide 4" curbs for all penetrations at the penthouse level per key note 182 example sheet A143. In addition, this Contractor shall provide 6" concrete curbs at all Greenhouse penetrations per page note on A152.

Attachment "B"
SCOPE OF WORK
TC-032 Plumbing

69.	This contractor to include 400 Journeyman hours as an allowance to be used at the direction of the Construction Manager. Include an allowance of $25,000 for misc. plumbing materials. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
70.	This contractor to include a $10,000 allowance for temporary plumbing systems. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
71.	This Contactor shall provide all required Testing by area and by floor – provide test tees, valves, etc as needed for incremental testing and agency approval. Areas and floors for incremental testing will be designated by the Project Superintendent.
72.	**Addendum 04:** All Ceiling Service Panels shall be Furnished by TC 41 Contractor including all Quick Connect Fittings and Openings for Electrical Outlets. All Ceiling Service Panels shall be Installed by TC 34 Contractor including all Outlets, Cover Plates, mounting structures, supports, electrical connections and hardware. TC 32 Contractor shall provide all Plumbing connections to Ceiling Service Panels above ceiling. All Quick Connect Hoses and Cords for Ceiling Service Panels shall be provided by TC 41 Contractor. All Cords to Mobile Lab Tables shall be installed by TC 34 Contractor. All Quick Connect Hoses shall be installed by TC 32 Contractor.
73.	**Addendum 04:** All Connections for Mechanical, Plumbing and Electrical to Chemical Fume Hoods and Lab Canopy Hoods are at top of Hoods. All internal connections and outlets are factory installed.
74.	**Addendum 04:** All Thermostatic Mixing Valves shall be Furnished by TC 41 Contractor. All Thermostatic Mixing Valves shall be installed by TC 32 Contractor.
75.	**Addendum 04:** All Laboratory Sinks scheduled on Q002 are Furnished by TC 41 Trade Contractor. All Laboratory Sinks shall be Installed and Connected by TC 32 Trade Contractor
76.	**Addendum 04:** All Laboratory Service Fixtures scheduled on Q002 are Furnished by TC 41 Trade Contractor. All Laboratory Service Fixtures are Installed and Connections by TC 32 Trade Contractor
77.	This Trade Contractor shall participate in the construction of on-site **mock-ups** as specified and indicated by the documents and/or noted elsewhere. This shall include providing of materials required for this trade contract scope of work, coordinating with other trade contractors with regard to sequencing of installations and protection of materials, furnishing shop drawings and /or setting drawings, etc. Materials for in place or interim mock-ups shall be secured in advance of normal procurement to allow for ALL trade contractor installations, owner/designer and user reviews and evaluations, meetings, approvals and directive if applicable. Mockups are understood to start with arrangement of wall rough-in through complete room finishes. **Addendum 04**

D.	EXCLUSIONS
	The Scope of Work shall exclude the following:
1.	Payment & Performance Bond
2.	Lab Casework
3.	

E.	ALLOWANCES
	The Contract Sum shall be the addition of a base bid amount plus allowances. It is expressly understood and agreed that all allowance work will be completed within the original schedule. Progress Payments will be made against Allowance expenditures, based on approved monthly invoices & written Allowance Authorization from Turner. Any unused funds remaining in these allowances will be credited back to the

Attachment "B"
SCOPE OF WORK
TC-032 Plumbing

	Project. Only direct Labor, Material, and Equipment costs authorized in writing by Turner after approval by the Owner are to be charged to the Allowance. The Subcontractor's cost for all overhead and profit on the allowance amount shall be included in the base bid amount and not in the allowance amount.	
1.	Project BIM Coordinator Allowance	$25,000
2.	Temporary Water/Gas Consumption Costs Addendum 04	$100,000
3.	Laboratory and Owner Provided Equipment coordination.	$50,000
4.	Tap Fees	$350,000

F.	SCHEDULE
	Schedule information is included within the bid manual **(Attachment G)** to aid the Subcontractor in anticipating material deliveries, and manpower and equipment requirements. The information describes only the major activities of this scope of work and does not attempt to describe any out of sequence work required. **The Contractor must confirm that you will meet the project schedule as indicated in the bid manual.** It is **absolutely critical** that the work of this contract be completed by the dates defined. The intention is that the Subcontractor must provide sufficient labor, equipment, overtime, supervision, etc. to overcome weather delays.

G.	ALTERNATES
	The following "Alternate(s)" may be accepted and incorporated herein as part of the Scope of Work for the respective price. Inasmuch as these Alternates were anticipated from the inception of the project and were priced accordingly, all overhead, profit and escalation has been included within the lump sum amount and the price shall remain firm throughout the duration of the project, unless specifically noted. Indicate Add/Deduct Price on the Form of Proposal.
Alt. 1	**Fourth Floor Build Out**
Alt. 2	**Autoclaves**
Alt. 3	**Greenhouse Tables and Shelving**
Alt. 4	**Roller Window Shades in Rooms A0100 and A0102**
Alt. 5	**Greenhouse Card Readers (ADD #04)**
Alt. 6	**Biological Safety Cabinets (ADD #04)**

Attachment "B"
SCOPE OF WORK
TC-032 Plumbing

PROPOSED MAJOR SUBCONTRACTORS AND SUPPLIERS
DUE BY BID DEADLINE

For the purposes of this form, a major subcontractor or supplier is a person or entity that will have a direct or assigned contract or purchase order for the performance or supply of any item listed below if the bidder is successful.

All subcontractors must comply with the laws of the Commonwealth of Kentucky and the policies and procedures of the University of Kentucky as administrated by the UK Capital Construction Procurement Section and Capital Project Management Division.

If the bidder will self-perform these items, list "Self-Perform" for each applicable item.

No major subcontractor or supplier may be added or changed without written consent of the Owner's representative after the bid deadline.

The apparent low bidder may be required to attend a post bid review meeting which will be scheduled at a later date.

DIVISION OF WORK	NAME AND ADDRESS OF SUBCONTRACTOR

Attachment "B"
SCOPE OF WORK
TC-032 Plumbing

LIST OF MATERIALS AND EQUIPMENT

Each item listed under the different phases of construction must be clearly identified so that the Owner will definitely know what the Bidder proposes to furnish.

The use of a manufacturer's or dealer's name only, or stating "as per Plans and Specifications," will not be considered as sufficient identification.

Where more than one "Make" or "Brand" is listed for any one item, the Owner has the right to select the one to be used.

The apparent low bidders will be required to complete and submit to the University the following information by twelve o'clock (12) noon of the first working day following the bid opening. The information requested in this submittal is required to assist the University in determining contractor responsibility to complete the project being bid.

The apparent low bidder is requested to attend a post bid meeting which will be scheduled at a later date.

MATERIALS AND EQUIPMENT	BRAND OR MANUFACTURER

Attachment "B"
SCOPE OF WORK
TC-033 Mechanical

FORM OF PROPOSAL

Project No. 2617.0 Project Title: Ag Research Facility BP-06 Fitout – Group 1

Purchasing Officer: Corey W. Leslie

NOTE: The following Form of Proposal shall be followed exactly in submitting a proposal for this work. If this copy is lost, an additional copy will be furnished upon written request to the authority issuing Contract Documents.

This Proposal is submitted by: _____

(NAME AND ADDRESS OF BIDDER)

Date: _____ _____

Telephone: _____ _____

TO: BID CLERK
UNIVERSITY OF KENTUCKY
CAPITAL CONSTRUCTION

PROCUREMENT
RM. 322 SERVICE BUILDING
LEXINGTON, KY. 40506-0005

INVITATION TO BID: **CCK-2617.0-11-25**

BID OPENING DATE: **January 22, 2025**

TIME: **3:00 P.M. Lexington, KY Time**

The Bidder, in compliance with your Invitation for Bids for the above referenced Project, having carefully examined the site of the Work, the Drawings and complete Contract Documents as defined in Article I of the General Conditions, as well as the Specifications affecting the work as prepared by the Consultant, hereby proposes to furnish all labor, materials, supplies and services required to construct the Project in accordance with the Contract Documents, within the time set forth therein, and at the price stated below without qualification. Bidder understands that successful bidder will enter into a contract with Turner Construction Company utilizing Turner's Subcontract Agreement Form 36 without modification.

The Bidder hereby acknowledges receipt of the following Addenda:

ADDENDUM NO._____ DATED _____

ADDENDUM NO._____ DATED _____

ADDENDUM NO. _____ DATED _____

ADDENDUM NO._____ DATED _____

(Here insert the number and date of any Addenda issued and received. If none has been issued and received, the word NONE should be inserted.)

NOTE: IN ADDITION TO THE SPECIFIC TRADE FORM OF PROPOSAL EACH SUBCONTRACTOR MUST ALSO SUBMIT FORMS FOUND IN THE SUPPLEMENTAL FORM OF PROPOSAL SECTION.

Attachment "B"
SCOPE OF WORK
TC-033 Mechanical

Contractor Report of Prior Violations of
Chapters 136,139, 141, 337, 338, 341, and 342

Pursuant to KRS 45A.485, the Contractor shall, prior to the award of a Contract, reveal final determinations of any violations of the provisions of KRS Chapters 136, 139, 141, 337, 338, 341, and 342 by the Contractor that have occurred in the previous five (5) year period.

This statute also requires for the duration of the Contract established, the Contractor be in continuous compliance with the provisions of Chapters 136, 139, 141, 337, 338, 341, and 342 that apply to the Contractor's operations. The Contractor's failure to reveal a final determination of a violation of KRS Chapters 136, 139, 141, 337, 338, 341, and 342, or failure to comply with any of the above cited statutes for the duration of the Contract shall be grounds for the cancellation of the Contract, and the disqualification from eligibility for future contracts for a period of two (2) years.

The Contractor, by signing and submitting a Bid on this Invitation, agrees as required by KRS 45A.485 to submit final determinations of any violations of the provisions of KRS Chapters 136, 139, 141, 337, 338, 341, and 342 that have occurred in the previous five (5) years prior to the award of a Contract and agrees to remain in continuous compliance with the provisions of these statutes during the duration of any contract that may be established. Final determinations of any violations of these statutes, must be provided to the University by the successful Contractor prior to the award of a Contract.

LUMP SUM PROPOSAL

The Bidder agrees to furnish all labor, materials, supplies and services required to complete the Work, for the above referenced Project, for the Capital Construction Procurement Section, University of Kentucky, as described in the Specifications and Contract Documents and shown on the Drawings enumerated below and as modified by the Addenda listed above.

FOR THE LUMP SUM OF_____
(USE WORDS)

_____DOLLARS AND_____CENTS.
(USE WORDS) (USE WORDS)

($_____)
(USE FIGURES)

Alternates:

Alternate 1: Fourth Floor Build Out	**$_____**
Alternate 2: Autoclaves	**$_____**
Alternate 3: Greenhouse Tables and Shelving	**$_____**
Alternate 4: Roller Window Shades in Rooms A0100 and A0102	**$_____**
Alternate 5: Greenhouse Card Readers (ADD #04)	**$_____**
Alternate 6: Biological Safety Cabinets (ADD #04)	**$_____**

The apparent low bidder is requested to attend a post bid meeting which will be scheduled at a later date. All parties (prime and subcontractors) are required to attend in person.

FORM OF PROPOSAL

Attachment "B"
SCOPE OF WORK
TC-033 Mechanical

AUTHENTICATION OF BID AND STATEMENT OF NON-COLLUSION AND NON-CONFLICT OF INTEREST

I hereby certify:

1. That I am the Bidder (if the Bidder is an individual), a partner in the Bidder (if the Bidder is a partnership), or an officer or employee of the bidding corporation having authority to sign on its behalf (if the Bidder is a corporation);

2. That the submitted Bid or Bids covering Capital Construction Procurement Section Invitation No. CCK-2617.0-11-25 have been arrived at by the Bidder independently and have been submitted without collusion with, and without any agreement, understanding or planned common course of action with, any other contractor, vendor of materials, supplies, equipment or services described in the Invitation to Bid, designed to limit independent bidding or competition; as prohibited by provision KRS 45A.325;

3. That the contents of the Bid or Bids have not been communicated by the Bidder or its employees or agents to any person not an employee or agent of the Bidder or its surety on any bond furnished with the Bid or Bids and will not be communicated to any such person prior to the official opening of the Bid or Bids;

4. That the Bidder is legally entitled to enter into the contracts with the University of Kentucky and Turner Construction Company and is not in violation of any prohibited conflict of interest, including those prohibited by the provisions of KRS 164.390, and 45A.330 to 45A.340 and 45A.455;

5. This offer is good for 60 calendar days from the date this Bid is opened. In submitting the above, it is expressly agreed that upon proper acceptance by the Capital Construction Procurement Section of any or all items Bid above, a contract shall thereby be created with respect to the items accepted;

6. That I have fully informed myself regarding and affirm the accuracy of all statements made in this Form of Proposal including Bid Amount.

7. Unless otherwise exempted by KRS 45.590, the Bidder intends to comply in full with all requirements of the Kentucky Civil Rights Act and to submit data required by the Kentucky Equal Employment Act upon being designated the successful contractor.

8. That the bidding contractor and all subcontractors to be employed do not and will not maintain any facilities they provide for employees in a segregated manner and they are in full compliance with provisions of 41 CFR 60-1.8 that prohibits the maintaining of segregated facilities.

9. In accordance with KRS45A.110(2), the undersigned hereby swears under penalty of perjury that he/she has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky and that the award of a contract to the bidder will not violate any provision of the campaign finance laws of the Commonwealth of Kentucky.

READ CAREFULLY - SIGN IN SPACE BELOW - FAILURE TO SIGN INVALIDATES BID

SIGNED BY_____ TITLE_____

PRINT NAME_____ FIRM_____

ADDRESS_____ AREA CODE & PHONE _____

_____ FAX_____
CITY STATE ZIP CODE
BDDER'S EMAIL _____ DATE _____

Attachment "B"
SCOPE OF WORK
TC-033 Mechanical

BUSINESS CLASSIFICATION

Please complete this form which is necessary for the University of Kentucky vendor database.
Mark only one classification. Refer to "Definitions" for assistance in determining correct classification.

(01)___Small Business

(02)___Large Business

(03)___Disadvantaged Small Business

(04)___Disadvantaged Large Business

(05)___Woman-Owned Small Business

(06)___Woman-Owned Large Business

(07)___Disadvantaged Woman-Owned Small Business

(08)___Disadvantaged Woman-Owned Large Business

(09)___Other

DEFINITIONS

(01) SMALL BUSINESS: A business concern that is organized for profit, is independently owned and operated, is not dominant in the field of operations in which it is bidding, and meets the size standards as prescribed in the Code of Federal Regulations, Title 13, Part 121. Consult your local or district Small Business Administration (SBA) office if further clarification is needed.

(02) LARGE BUSINESS: A business concern that exceeds the small business size code standards established by SBA.

(03) DISADVANTAGED SMALL BUSINESS: A business concern (a) that is at least 51 percent owned by one or more socially and economically disadvantaged individuals (as defined below), or a publicly owned business, having at least 51 percent of its stock owned by one or more socially and economically disadvantaged individuals; and (b) has its management and daily business operations controlled by one or more such individuals. Socially and economically disadvantaged individuals include: Asian, Black/African American, Hispanic or Latino, Native American, Native Hawaiian/Pacific Islander, Women, Disabled, Veteran and Disabled Veteran and other minorities or individuals found to be disadvantaged by the SBA.

(04) DISADVANTAGED LARGE BUSINESS: A concern that meets the definition of socially and economically disadvantaged individuals as defined above, but which is not a small business by the SBA's size standards.

(05) WOMAN-OWNED SMALL BUSINESS: A small business that is at least 51 percent owned by a woman or women who also control and operate it. "Control" in this context means exercising the power to make policy decisions. "Operate" means actively involved in the day to day management.

(06) WOMAN-OWNED LARGE BUSINESS: A concern that meets the definition of woman owned and operated, but which is not a small business by the SBA's standards.

(07) DISADVANTAGED, WOMAN-OWNED SMALL BUSINESS: A concern that meets the definition of both (03) and (05) above.

(08) DISADVANTAGED, WOMAN OWNED LARGE BUSINESS: A concern that meets the definition of both (04) and (06) above.

(09) OTHER: A concern that does not meet any of the above definitions.

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THE FOLLOWING ITEMS ARE HEREWITH ENCLOSED AS REQUIRED BY KRS 45A.185

1. Bid Bond or Certified Check in an amount not less than five percent (5%) of total Bid.

2. List of Proposed Subcontractors and Unit Prices. (if required)

3. Authentication of Bid and Statement of Non-Collusion and Non-Conflict of Interest.

4. List of Materials and Equipment.

5. VENDOR NUMBER: It is imperative that you furnish your Federal Employer Identification Number in the space provided below. Failure to do so may delay the processing of purchase orders issued to your firm.

_____
(Nine Digit Number)

BIDDER'S QUALIFICATIONS

The Commonwealth of Kentucky Model Procurement Code (KRS 45A.080) requires contracts to be awarded, "to the responsive and responsible bidder whose bid offers the best value" to the University of Kentucky. In order to determine if the Bidder has the experience, qualifications, resources and necessary attributes to provide the quality workmanship, materials and management required by the plans and specifications, the Bidder may be required to complete and submit the information requested on the University of Kentucky Contractor Bidder Determination of Responsibility questionnaire. Failure to provide the information requested on the questionnaire or failure to provide any additional submittals or information that may be requested to make this determination may be grounds for a declaration of non-responsibility with respect to the Bidder. A copy of the Contractor Determination of Responsibility questionnaire is available upon request to all Bidders.

TIME LIMIT FOR EXECUTION OF CONTRACT DOCUMENTS

It is further agreed, that in the event this Proposal is accepted by the Owner and the undersigned shall fail to execute the Contract and furnish satisfactory Payment and Performance Bond within ten (10) consecutive calendar days from the date of notification of the award of the Contract, the Owner may at his option, determine that the undersigned has abandoned the Contract and thereupon, the Proposal shall become null and void and the Bid guarantee, check or Bid bond which accompanied it shall be forfeited and become the property of the Owner as liquidated damages for each failure and no protest pursuant to such action will be made. If the Undersigned shall execute the Contract, and furnish satisfactory Payment Bond and Performance Bond, it is understood that the Bid Guarantee or Bid Bond will be returned to the undersigned by the Owner.

UNIT PRICES

NOTE: Unit Prices shall include the furnishing of all labor, materials, supplies and services and shall include all items of cost, overhead and profit for the Contractor and any subcontractor involved, and shall be used uniformly without modifications for either additions or deductions. The Unit Prices as established shall be used to determine the equitable adjustment of the Contract Price in connection with changes, deletions or extra work performed under the Contract and the "Rules of Measurement" set forth in the General Conditions shall govern.

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All Bidders will be required to complete and submit the following Unit Prices with the bid.

Material	Unit (LF, SF, EA, etc.)	Unit Price
Ductwork	LB	
Duct Insulation	SF	
Welded Piping	LF by Size	
Copper Piping	LF by Size	
Pipe Insulation	LF by Size	
Hangers	EA by Size	
Fire Stopping Penetration for Ductwork	EA	
Fire Stopping Penetration for Piping	EA	

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HOURLY RATES

The Hourly Rates as established shall be used to determine the equitable adjustment of the Contract Price in connection with changes, deletions or extra work performed under the Contract and the "Rules of Measurement" set forth in the General Conditions shall govern.

All Bidders will be required to complete and submit the following Hourly Rates with the bid.

Note the following:

- **Overhead & Profit to be <u>EXCLUDED</u> from rates below & will be calculated separately**
- **Complete a separate Wage Breakdown for each trade or subcontractor**

STRAIGHT TIME		CLASSIFICATION							
Description	Unit	PM	Engineering	Super	Gen. Foreman	Foreman	Journeyman	Apprentice	Other (_____)
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

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PREMIUM TIME		CLASSIFICATION							
Description	**Unit**	**PM**	**Engineering**	**Super**	**Gen. Foreman**	**Foreman**	**Journeyman**	**Apprentice**	**Other (_____)**
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

DOUBLE TIME		CLASSIFICATION							
Description	**Unit**	**PM**	**Engineering**	**Super**	**Gen. Foreman**	**Foreman**	**Journeyman**	**Apprentice**	**Other (_____)**
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

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BID BREAKOUT

Fill in the following breakdown of costs included in your base bid. Each item is to include labor, material & equipment. These will not be considered unit prices nor will the numbers listed here limit obligations required in the bid documents. It will be used only to aid in verifying completeness of the bids.

	Description of Work	Labor Hours	Quantity	Unit	Unit Cost	Total
1	Engineering & Layout, Permits & Fees,				$	$
2	Shop drawings and Submittals				$	$
3	Mobilizations				$	$
4	Ductwork				$	$
5	Piping				$	$
6	Equipment				$	$
7	Testing				$	$
8	BIM Coordination				$	$
9	Ductwork, VAV Boxes, Reheat Coils & Duct Accessories				$	$
10	Ductwork Insulation				$	$
11	FSD Test Support & Adjust				$	$
12	Mechanical Piping				$	$
13	Condensate Piping				$	$
14	Mechanical Piping Insulation				$	$
15	Startup, Test and Commission Equipment				$	$
16	Firestopping				$	$
17	AHU Spare Filters Supply & Install				$	$
18	Housekeeping Pads				$	$
19	Louver Plenums & Dampers				$	$
20	Building Automation Controls				$	$
21	Greenhouse Controls Rough In				$	$
Please list and breakdown below any work that has not been listed above						
	Management				$	$
	Safety and Housekeeping				$	$
	General Work Requirements				$	$
	Overhead and Profit				$	$
Allowances (to be included in bid amount)						
1	Project BIM Coordinator Allowance					$25,000
2	Temporary Utility Consumption Costs Addendum 04					$100,000
3	Laboratory and Owner Provided Equipment coordination.					$50,000

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TOTAL BID AMOUNT **(This amount should match the Lump Sum listed on Form of Proposal)**	**$**
Cost of Payment & Performance Bond **(DO NOT INCLUDE THIS COST IN BID AMOUNT)**	$

Attachment "B"
SCOPE OF WORK
TC-033 Mechanical

Attachment A – Additional Provisions and Attachment B – (Technical) Scope of Work go together to define the requirements of this Subcontract. Attachment A is a more of a general Summary of the Contract Documents, Price, etc., while Attachment B is the Trade Specific (technical) Scope of Work.

The work of this Agreement shall include, but not be limited to, all labor, materials, apparatus, hoisting, rigging, tools, equipment, plant, supplies, accessories, samples, submittals, shop drawings, certifications, engineering, layout, transportation, storage, supervision, temporary construction, special services, contributions, insurance, taxes (unless specifically excluded by the Contract Documents), compliance with all governing agencies (city, county, state, federal and others as may be required), permits, fees, all other services and facilities and other items necessary for the performance of the **Mechanical Work** as shown, detailed and/or implied in the contract documents outlined in the General Scope of Work.

The Scope of Work Document is being provided for your use as a general guideline. Please note, this Document is not all-inclusive. It is this Subcontractor's responsibility to provide a complete bid, including all work for this trade indicated on ALL of the contract documents (include plans, specifications, Bid Manual, etc.). It is this Subcontractor's responsibility for the entire scope of this Bid Package and coordination between all trades.

A.	GENERAL
1.	Provide labor, material, equipment, and all else necessary to furnish and install complete the TC-033 Work as required by the contract documents and as outlined below
2.	The following scope of work is intended to be general in nature. The purpose of this scope of work is not to identify or list every scope of work item already shown or described in the contract documents, but rather to coordinate, clarify, modify, and/or expand the scope.
3.	The intention is to have the successful Subcontractor perform all the TC-033 related work shown on the Contract Documents other than those items specifically indicated below to be excluded.
4.	Detail references are included for convenience, but are not intended to identify all applicable details. If the Contract Drawings and Specifications conflict, then the greater quantity and quality shall apply. The Scope of Work takes precedence over the drawings and specifications in the event of a conflict in trade assignment or responsibility. Attention is called to the Bid Manual and the Subcontractor shall include all costs necessary to provide all work to meet the requirements of this scope of work.
5.	In this Scope of Work, the term "provide" shall be defined as meaning "furnish and install."

B.	DOCUMENTS
1.	General Contract between Turner and the Owner including all attachments

2.	All documents in bid manual including but not limited to:
	• Drawings
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Volume 1 Dated 11/15/24***
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Volume 2 Dated 11/15/24***
	• Specifications
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Project Manual Dated 11/15/2024***
	• Scope of Work (Attachment B)
	• General Requirements
	• General Conditions
	• Special Conditions
	• Sample Subcontract Agreement Form (Form 36)
	• Sample 3A Page
	• Reference Drawings Included
	  • ***Prospiant's Greenhouse Design Drawings for Rooftop Greenhouses***
	  • ***BP-02 Site Enabling Package – dated 3/13/24***

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	• ***BP-03/3.1 Foundations and Long Lead Equipment – dated 5/2/24*** • ***BP-04 Core and Shell – dated 6/28/24*** • ***BP-05 Teaching Greenhouse – Dated 10/11/24***
3.	Bid Manual including all **Sketches** and **Attachments** prepared by Turner Construction and listed below
4.	**Attachments**
	a. Attachment A – Additional Provisions b. Attachment C - Safety Program c. Attachment E - Accounting Procedures d. Attachment F - Percentage Markup e. Attachment G - Bid Schedule f. Attachment H - BIM General Requirements g. Attachment I - LEAN Subcontract Exhibit h. Attachment J – Electronic Agreement i. Attachment K – CCIP Manual j. Attachment L – UK Tree Protection Standards k. Attachment M – Part 1 and Part 2 LEED Construction Waste Management Plan l. Attachment N – Turner Subcontractor Onboarding m. Attachment O – Enhancing Worker Experience Plan n. Attachment P – LEED Indoor Air Quality Management Plan
5.	**Sketches**
	a. SK-001 – Site Logistics Plan b. SK-002 – Misc Metals c. SK-003 – Tent and HVAC rental Agreements d. SK-004 – CM Office - Good Barn Layout e. SK-005 – Temporary Power Plan f. SK-006 – Lab Furnishings Responsibility Matrix Addendum 04
6.	**Specifications**
	a. The following specification sections are listed as the responsibility of the Subcontractor in defining its area of work on this project. Unless specifically indicated otherwise or excluded below, this Contractor is responsible for the complete specification sections indicated below. b. **DIVISION 00 – PROCUREMENT & CONTRACTING REQUIREMENTS (ALL SECTIONS)** c. **DIVISION 01 – GENERAL REQUIREMENTS (ALL SECTIONS)** d. **DIVISION 07 – THERMAL AND MOISTURE CONTROL (AS APPLIES)** **e. 07 8413 – Penetration Firestopping (as related to this scope)** **f. 07 8413 – Joint Firestopping (as related to this scope)** **g. 07 9200 – Joint Sealants (as related to this scope)** **h. 07 9200.13 – Joint Sealants – Laboratory and Vivarium (as related to this scope)** **i. 07 9219 – Acoustical Joint Sealants (as related to this scope)** **j. 08 3113 – Access Doors and Frames (as related to this scope)** k. **DIVISION 10 - SPECIALTIES (AS APPLIES)** l. **DIVISION 11 - EQUIPMENT (AS APPLIES)** m. **DIVISION 13 – SPECIAL CONSTRUCTION (AS APPLIES)** n. **DIVISION 20 – MECHANICAL SUPPORT (ALL SECTIONS COMPLETE)** o. **DIVISION 23 – HEATING, VENTILATING, AND AIR CONDITIONING (ALL SECTIONS COMPLETE)** p. **DIVISION 25 – INTEGRATED AUTOMATION (ALL SECTIONS COMPLETE)**
7.	Divisions 00 and 01 of the Specifications are general in nature, and apply to all Subcontracts. These sections are included "complete" as part of this Subcontract Agreement.

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8.	The Contractor is also responsible for trade specifications not specifically listed above but required by reference in the listed specifications or as required to perform the scope of work described herein, as well as the Bidding Requirements, Contracting Requirements and the use of the Construction Documents as a whole.

C.	SPECIFIC SCOPE ITEMS
1.	Contract Price is LUMP SUM. There shall be NO additional labor and material escalations allowed
2.	Examination of Site – Subcontractor warrants that they have sufficiently reviewed the project site to inform themselves of all items about existing site that are relevant to their work, and the cost of their work.
3.	Include protection of all adjacent structures during performance of this work. Plan for protection of adjacent structures must be part of the overall plan submitted for approval prior to start of work
4.	**SITE LOGISTICS:** Refer to the Site Logistics plans included in the Contract Documents. Delivery trucks are to be scheduled with Turner at least one (1) week in advance.
5.	Subcontractor change order requests shall be provided with sufficient detail (as acceptable to Turner) to allow for satisfactory review. Subcontractor shall be allowed a maximum mark up for overhead and profit per the markup provisions included in the Subcontract Agreement, or as clarified in Contract Documents above
6.	Subcontractor understands that **time is of the essence** in the prosecution of Work under this agreement.
7.	**Verify layout** provided by others. Where this subcontractor is performing work using layout provided by others, this subcontractor shall perform sufficient verification of that layout to reasonably ascertain the validity of that layout. Any deficiencies (or suspected deficiencies found) shall be reported to Turner immediately to allow corrections as needed before start of work by this subcontractor.
8.	All Subcontractors must be **licensed** as required by local, State, or Federal jurisdiction required for work of this trade in this project location
9.	This Subcontractor will comply with Turner's corporate **safety policy** and comply with Site Specific Safety Plan that will include but is not limited to 100% tie-off above 6 feet, 100% Safety Glasses, High Visibility Vests or High Vis style T-Shirts with reflective strips, 100% glove policy, Ladders Last Policy and Nothing Hits the Ground. If you are unfamiliar with any of these policies please ask to see the policy prior to submitting your bid. Failure to be familiar with these policies will not exclude you from complying with them.
10.	Refer to **Project General Work Requirements** in volume one of the project manual. Any costs for work scope items listed in this section shall be included in your lump sum bid. Some work items are listed for specific Trade Contractors and they shall include those costs in their respective total lump sum bid price.
11	This Contractor shall include all materials, labor, tools, and equipment to provide all **STRUCTURAL SUPPORTS & ANCHORS** as required by the Contract Documents and in accordance with section 05 1200. This includes the design and analysis of structural steel supports and connections not specifically shown. Include all material, labor, tools, equipment, supplies, transportation, and taxes, to complete this scope of work.
12.	This Contractor shall include all permits & fees required to complete this work. This contractor shall pay all fees, utility connection costs, meter fees, extension and development charges.
13.	All unloading, distribution, staging, hoisting, rigging, scaffolding, lifts, platforms, scissor lifts, boom lifts, planking, guying, sheeting, shoring, dewatering, bracing transportation, access for material, equipment and personnel required to perform this work is included in this contract.
14.	It shall be the responsibility of this contractor to coordinate the installation of this work with the utility companies, UK Facilities Management, other contractors working on the Project and the engineer as needed to verify or determine size and routing of services being installed by this contractor.
15.	Contractor work includes all required overtime, premium time and/or double shift costs to complete the scope of the work in accordance with the schedule per 'Attachment G'. Include design and installation of all temporary bracing required to erect the structure based on the project schedule.
16.	This Contractor shall furnish and install all **sleeves and blockouts** for this contractor's penetrations of walls, floors, and roof. The cutting of metal deck as required to install the work shall be included. Any reinforcement of the deck that is required but not shown on the structural drawings is to be included in this work. This Trade Contractor is responsible for all curbs, thimbles, counter flashings, clamping rings, sealants, etc., required at

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	roof penetrations of material and equipment covered by this work. This would include but not be limited to vents flashings, and any special curbs or flashing required. This contractor shall coordinate with the construction manager and the TC-016 CIP Shafts and Decks contractor to install all sleeves prior to concrete placement. Assume multiple mobilizations are needed. Any and all costs for core drilling required for mechanical systems raceways due to failure to coordinate the installation of sleeves and/or their incorrect location will be borne by this contractor. a. Per UK standards, all sleeves/blockouts shall be a minimum of 1.5" above finished floor. This work scope shall include "metal collars" (sealed) as necessary for any existing or new sleeve installations not 1.5" above the finished floor elevation (not concrete elevation). This Trade Contractor is responsible for protection of all sleeves installed for (or existing) their scope of work. b. This contractor is to gain fire stopping inspection at the floor level PRIOR to installing the 1.5" metal collar. The installation of the metal collar and floor fire stopping shall not be in one action preventing proper fire stop inspection. c. All roof penetrations are to be included in this work scope. This contractor is to include all costs to repair/tie-in/patch the roofing utilizing the TC-022 roofing contractor of record. This includes any work included in this contract. Any roof or floor protection required for the movement of workmen or equipment is to be included. d. All openings installed under this scope are the sole responsibility of this contractor to ensure that they are water tight prior to their end of shift. This contractor shall coordinate openings with proper trades.
17.	This contractor shall **verify conditions** are suitable for Electrical installation prior to beginning installation. This includes installation of the equipment provided by others. a. Include coordination of final location of equipment and panels provided by others, including feeders into and out of the equipment and panels
18.	The contract price shall not be altered for any work that could have been **reasonably inferred** from the Contract Documents. The following items are listed as examples of the intent of this statement, but is not limited to these items alone: a. Variations to avoid interference and obstructions. b. Providing all electrical components and services usually supplied with a specific system. c. The providing of all necessary Mechanical equipment and appurtenances, whether shown or not, for a complete operating system in strict code compliance based on equipment and fixtures indicated on the Contract Documents. d. Testing performed in accordance with the requirements of the Contract Documents to meet the needs of the construction schedule and to not delay the work of other trades.
19.	
20.	This contractor shall provide all Fireproof Patching that has been removed for installation of hangers and supports for all Mechanical Scope.
21.	**Label and identify** all Mechanical Equipment and components associated with this contract as required in the contract documents.
22.	This Contractor shall provide all penetration caulking for **firestopping** associated with this scope of work in accordance with the contract documents, including identification per the specifications. This includes firestopping for all penetrations associated with this scope of work, including core drilled penetrations. All penetrations created by this Trade Contractor shall be coordinated with other applicable trades and performed in a neat and workmanlike manner.
23.	This contractor shall **verify conditions** are suitable for Technology installation prior to beginning installation. This includes installation of the equipment provided by others
24.	**Temporary powe**r and lighting will be available per Sketch 006. This Trade Contractor will need to provide any additional power required for their scope of work. If necessary, provide generators for other power that will be required beyond what is provided. At no time shall the noise generated by generators or welders be overwhelming or disruptive to the campus operations. Generators shall be placed to minimize noise and exhaust impacts.

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25.	This Contractor shall provide all Task Lighting required for the performance of their work. General Building Egress Lighting will be provided: however, each work location will need to have contractor provided task lighting as needed to safely perform their installations.
26.	a. This Contractor shall include all **Building Information Modeling** per the contract documents. Refer to attachment H for BIM requirements associated with this scope. All costs for the BIM process for this scope of work shall be included in the base bid. Include the scheduled Document Control Server Allowance for Box server use and hardware/software, as well as the Project BIM Coordinator Allowance for 3rd party BIM manager directed by the Construction Manager. These allowances are not for the use of the MEP trades for their coordination. This Trade Contractor shall be responsible to reflect the actual location of conduits and electrical gear where connections are to be made with existing work in the BIM a. This Trade Contractor shall provide coordination between all Power and Communication Conduits, Cable Trays, Duct Banks, and Bussway ensure proper separation and crossing per industry standards. b. BIM Modeling under this scope of work will include all conduits ¾" nominal size and larger. c. This Trade Contractor shall also include an additional 160 hours of BIM coordination to be used at the Owner/CM's discretion
27.	The intent of this scope of work will utilize the coordination in the 3D model to prefabricate off-site as much material as possible. All materials possible will be **Prefabricated** and packaged as a Kit-of-Parts for Just-in-Time delivery at the job site and be on wheels for delivery to the area of install. No pre-packaged or loose materials to be delivered to the job site that will not be installed within 4 days of delivery.
28.	This Contractor shall coordinate his work scope with the drywall partitions trade contractor who will be responsible to build in all openings in the partition walls for all equipment, duct, conduit and pipe penetrations, and shall include all required lintels. The HVAC, electrical, fire protection and plumbing trade contractor shall be required to coordinate locations and provide layout drawings of all penetrations prior to the start of partition work. For penetrations missed for installation in normal sequence by the drywall trade contractor, the offending trade contractor will bear the full cost of installation, including cutting wall, reinforcing wall, and refinishing the wall around the penetration.
29.	This Contractor shall assume up to 50% of stud wall framing (to include drywall top out) at each floor will be completed prior to ductwork installation identified as priority walls. Priority walls (locations where ductwork/ other MEP systems are tight to adjacent drywall walls) will be the first identified and installed by the drywall contractor. Drywall top out will terminate at an elevation a minimum of 1'-0" above finish ceiling grid line to allow for conduit, piping rough in prior to the balance of the wall drywall is completed.
30.	This contractor shall provide **ACCOUSTICAL JOINT SEALANTS** (COMPLETE) as required for this scope of work and as shown on the Contract Documents and in accordance with specification section **07 9219.**
31.	This contractor shall provide **ACCESS DOORS** (COMPLETE) as required for this scope of work and as shown on the Contract Documents and in accordance with specification section **08 3113.** a. This Contractor shall provide all Access Doors for all in-wall or above ceiling equipment and components that require access for maintenance and repair. Coordinate installation with Finishes Trades.
32.	Include cost in base bid for 2% of the total manhours anticipated for this scope to be used at the direction of the CM as **"Composite Cleanup".**
33.	This contractor shall include **800 Journeyman Overtime Work Hours** to be used for schedule maintenance by the Construction Manager. The trade contractor must include all travel, per diem, fringes, OH&P, etc. costs (a fully loaded rate) on these hours and they are only to be used by the trade contractor at the direction and approval of the Construction Manager. These hours will be logged and usage tracked. Usage of these hours can occur during the week or on Saturdays – no Sundays are intended.
34.	This Contractor shall provide personnel for support of Commissioning, by others, of Equipment and Systems within the Building. This scope will include any adjusting of equipment, dampers, valves, etc. as needed to address Commissioning comments / requirements to meet Contract Document requirements.
35.	This Contractor shall provide complete layout, coordination and installation of Equipment Pads for all Pad Mounted Equipment. This scope includes all design and installation of anchorage of the equipment per approved details.
36.	All unloading, distribution, staging, hoisting, rigging, scaffolding, lifts, platforms, scissor lifts, boom lifts, planking, guying, sheeting, shoring, dewatering, bracing transportation, access for material, equipment and personnel required to perform this work is included in this contract.

Attachment "B"
SCOPE OF WORK
TC-033 Mechanical

37.	This Contactor shall survey and gain signed approval by Turner of all previously installed Shaft and Riser Ductwork and Piping prior to connections to the installed work. This contractor will confirm that holding charges are still in place and safely purge the holding charges prior to connections. This scope includes testing and approval of all piping and ductwork to be connected to installed work, prior to connections.
38.	This Contractor shall receive and install all TC-025 Owner Purchased Air Handlers, Energy Recovery Chillers and Laboratory Exhaust Fans. This scope includes all rigging, lifting, handling, transport and re-connection of All Equipment Splits and components delivered by the manufacturer. This scope includes all anchorage as required and noted in the contract documents.
39.	This contractor shall verify conditions are suitable for Mechanical – HVAC installations prior to beginning installation.
40.	This Contractor shall provide all Water and Air Balancing required per the specifications and contract documents. Balancing will include all Riser and Shaft piping and ductwork previously installed to provide a complete building balance for each system. This scope will include coordination with the HVAC Equipment Manufacturers and Installing Contractor for complete Test and Balance per the Specifications.
41.	This Contractor shall provide all Exhaust Fans and Gravity Vents and their associated Roof Curbs. Provide all supports, duct fittings, transitions required for complete installations. Provide all Startup, Testing and Commissioning support of all Fans and Vents.
42.	This Contractor shall provide personnel for support of Fire Life Safety testing by other Contractors and building officials. This scope includes all testing of Fire Smoke Dampers installed previously.
43.	This Contractor shall provide all VAV Boxes and all Phoenix Valves as noted in contract documents. All VAV and Phoenix devices are to be shipped to the Controls Contractors Factory for Factory Installed Controllers. This Contractor will receive and install completed devices. Provide all Startup, Testing and Commissioning support of all VAV Boxes and Phoenix Valves.
44.	This Contractor shall provide all Expansion Fittings and Flex Fittings for Ductwork and Piping crossing the Building separation/expansion joints as noted in the contract documents and as required at all crossing locations.
45.	This Contractor shall provide all sound attenuating duct covering as shown in contract documents. This scope will be fully detailed with dimensions in the BIM modeling.
46.	This Contractor shall provide all Duct Accessories required for complete Air Distribution system including but not limited to Diffusers, Grilles, Registers, manual volume dampers, Fire Smoke Dampers, motorized dampers, etc.
47.	This Contractor will receive and install all Duct Mounted Smoke Detectors for all Fire Smoke Dampers installed by this Contractor or by previous Contractor. Detectors to be installed per factory recommendations and requirements. Provide a complete schedule of all Fire Smoke Dampers and Duct Detectors for damper testing. This Contractor will provide support personnel for pre-testing of all dampers in conjunction with the Fire Alarm Contractor and as required to support testing by the Local Authority Having Jurisdiction.
48.	This Contractor shall provide all Fan Coil Units as shown in the Contract Documents and Schedules. Provide all supports as required for complete installations. Coordinate all installations with other trades, provide complete BIM modeling. Provide integral Condensate Pump with all Fan Coil Units. Provide all Startup, Testing and Commissioning support of Fan Coil Units.
49.	This Contractor shall provide all Mechanical Equipment as detailed in the Drawings and Specifications. This includes all equipment listed in the schedules on Drawing Pages M701 and M702 with the exception of the RO Units to be provided by the TC-032 Plumbing Contractor. Provide all equipment, components, accessories, fittings, anchorage, supports and materials for complete installation of the equipment. Provide complete testing, startup, and Commissiong of all systems.
50.	This Contractor shall provide a **$20,000 Allowance for Temporary Building Automation Controls** for Temporary Heating and Cooling to be used at the direction of the Construction Manager. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
51.	This Contractor shall provide **connections** to all Equipment, including OFCI Equipment and Owner Furnished TC-025 Equipment listed on Mechanical Schedules. This includes but is not limited to Air Handlers, Fan Coils, Computer Room Unit, Unit Heaters, Fans, Freeze Protection & Condensate Pumps, Heat Exchangers, Expansion Tanks, Air Separators, Filters, Flash Tanks, Steam Pressure Regulators, and all associated accessories.

Attachment "B"
SCOPE OF WORK
TC-033 Mechanical

52.	This Contractor shall provide all Condensate Piping for all equipment shown in the Contract Drawings and Schedules. Provide all piping, traps, fittings, supports and accessories as required for complete installations. This scope includes all condensate piping for equipment provided by others including the Controlled Environment Rooms (CER). Coordinate with CER installer for location and requirements of condensates and drain termination locations.
53.	This Contractor shall provide temporary metering for Steam and Chilled Water during construction. This scope shall include demo and removal of temporary meters.
54.	This Contractor shall provide personnel for support of Commissioning, by others, of Equipment and Systems within the Building. This scope will include any adjusting of equipment, dampers, valves, etc. as needed to address Commissioning comments / requirements to meet Contract Document requirements.
55.	This Contractor shall provide Hydro Testing of Piping Systems prior to installation of Insulation and shaft closure.
56.	This Contractor shall provide a complete Valve Chart of all piping valves located in vaults and in the riser piping. Valve chart shall include a listing of all valves, locations, type, and Mfg.
57.	This Contractor shall provide all Housekeeping Pads required for Mechanical Equipment and other items installed by this scope as required in the Contract Drawings. Provide shop drawings for approval of the pads, coordinated with manufactured products installed on the pads.
58.	This Contractor shall provide for multiple crews and crew scheduling as needed to meet the construction schedule which depicts concurrent work in multiple locations and floors. This scope will include separate Foreman and Crews for concurrent installations, dedicated to each area as needed to maintain construction schedules.
59.	This Contractor shall install all Laboratory Hoods and provide final duct connections as required for complete systems. Provide Stainless Steel ductwork connections to match Hoods at all exposed ducting locations. Review all Vendor Shop Drawings and Details for required installation. Coordinate installation with other trades as required for utility connections to the hoods.
60.	This Contractor shall provide all VFD's for all Air Handlers and Fans as shown in the Contract Documents. Provide all required Motor Starters or Motor Rated Switches for Equipment. Deliver the VFD's and Starters/Switches to the Electrical Contractor for installation and power wiring.
61.	This Contractor shall plan, schedule, set-up and perform a complete Building Flush as noted in the IAQ Management Plan. Provide all required Data Logging and Reports necessary for complete documentation of the flush.
62.	This Contractor shall provide complete Grouting of all Equipment Bases as detailed in the Drawings and Specifications.
63.	This Contractor shall provide all 18 Ga. SS Flashings at LEF Curbs as noted in drawings A152.1 and A160.1 Provide all flashings per Details E19/A550.1 and 108/S306.1. Coordinate Flashing install with installation of the Fans and Plenums.
64.	This Contractor shall provide 2 complete sets of Filters for the Air Handling Units. Provide filters per schedules and specifications. Provide construction set in Units at install, provide other sets as directed by the Construction Manager and Superintendent during flushing, testing, and commissioning. Provide any unused sets to the University as directed.
65.	Not used
66.	This Contractor shall provide Re-connection of all Controls Automation conduits and wiring at the AHU Equipment Splits. Review Vendor Drawings and Specifications for requirements and scope of re-connections.
67.	This Contractor shall be responsible for demolition and removal of Temporary Heating/Air Conditioning systems provided during construction. Demo to the point of connection for cap off and safe condition of the utility. This scope includes the Contractor Tent equipment and accessories installed by previous contract scopes.
68.	This Contractor shall provide all connections to Laboratory Equipment as shown in the contract documents. Review in detail all Laboratory Equipment Schedules and Elevations for all connection and coordination points.
69.	This Contractor shall receive, install and support startup of the Mechanical Equipment purchased by the Owner and delivered to this contractor per TC-025 Mechanical Equipment RFP scope. See attached documents for information on the Owner Furnished Air Handlers and associated equipment.

Attachment "B"
SCOPE OF WORK
TC-033 Mechanical

70.	This Contractor shall receive and install all Snorkels and Local Exhaust drops provided by TC-041 noted in the Laboratory Drawings and Details. Provide installation including all anchors, phenolic panels, collars and hardware to complete installation of the Snorkels and Local Exhaust drops with connections to the exhaust systems. **Addendum 04**
71.	This Contractor shall receive and install all Autoclave Canopies provided by TC-041 as noted in the Laboratory Drawings and Details. Provide all supports, materials, hardware and accessories for canopy installations. Coordinate Installation with adjacent construction and approved locations of the Autoclaves.
72.	This Contractor shall provide Filter media on all return and exhaust grilles including maintenance, and temporary construction filters in all AHUs prior to startup. Filter media and construction filters shall be monitored and changed out as required during construction activities to maintain duct and AHU cleanliness.
73.	This Contractor shall make provisions for Early startup of AHUs by April 2026 to provide temporary Cooling within the building. Coordinate all required pre-testing and start-up activities required for the AHU's and the Chilled Water System to allow for use of the AHU's for Cooling.
74.	This Contractor shall provide a Temporary dehumidification allowance of $50,000 to be used at the direction of the Construction Manager. This scope will provide temporary mobile cooling/dehumidification units at floors and areas designated by the Project Superintendent. Scope will include ducted supply and/or discharge as needed for dehumidification in the areas to be served. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
76.	This Contractor shall provide an Allowance for greenhouse controls coordination - $30,000. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
77.	This Contractor shall provide all Final connections to CERs. Coordinate installation requirements and schedules with the CER Vendor/Installer for all connections.
78.	This Contractor shall provide an Allowance for Laboratory Exhaust Fan Guy Wire design/coordination of $35,000.
79.	This contractor to include 400 Journeyman hours as an allowance to be used at the direction of the Construction Manager. Include an allowance of $25,000 for misc. mechanical materials. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
80.	This Contractor shall provide 4" curbs for all penetrations at the penthouse level per key note 182 example sheet A143. In addition, this Contractor shall provide 6" concrete curbs at all Greenhouse penetrations per page note on A152.
81.	This Contractor and/or and approved Third Party Agent shall perform modified ASHRAE 110 Testing and Certification on all Fume Hoods. Testing is to be accompanied by TAB Agent that performs Air Balancing within the Building to witness and confirm airflow quantities. Provide complete written test results for review and approval.
82.	Per the schedule in attachment G, this contractor to provide dedicated foreman and personal for start and completion of the first floor as soon as it becomes available to start work, regardless of the sequence and flow of the remaining floors. It is the intention that the 1st floor will be constructed simultaneously with other floors. All necessary manpower and supervision required to meet the schedule should be included in the base bid.
83.	This contractor to provide complete the building automation controls system per the contract documents. This contractor to provide rough in conduit, boxes, wire, and terminations for all greenhouse controls. Greenhouse controls contractor will provide parts and programming for the greenhouse controls system. This mechanical contractor shall provide all other work and coordination with the greenhouse controls contractor for a complete installation.
84.	This Contractor shall provide and later removal of temporary restroom exhaust on Floors 2 and 4 in Rooms A0207, A0205, C0454, C0456.
85.	This contractor to include duct cleaning at the end of the project prior to the building flush. Include cleaning of the AHUs utilized during construction.
86.	**Addendum 04:** All Local Exhaust Flex (2/Q502) including Phenolic Resin, Support Collar, Tapered Collar and Straight Collars Furnished by TC 41 Contractor. All Local Exhaust Flex shall be Installed by TC 33 Contractor including all Resin Backing Panels, Collars, Above ceiling Support steel/unistrut, SS Clamps and hardware.

Attachment "B"
SCOPE OF WORK
TC-033 Mechanical

87.	**Addendum 04:** All Snorkel Units (3 & 4/Q502) including Phenolic Resin, Support Collar, Tapered Collar and Straight Collars Furnished by TC 41 Contractor. All Snorkel Units shall be Installed by TC 33 Contractor including all Resin Backing Panels, Collars, Above ceiling Support steel/unistrut, and hardware.
88.	**Addendum 04:** All Chemical Fume Hood and lab canopy hood Alarms and air flow sensors shall be Furnished and Installed by TC 33 Contractor.
89.	This Trade Contractor shall participate in the construction of on-site **mock-ups** as specified and indicated by the documents and/or noted elsewhere. This shall include providing of materials required for this trade contract scope of work, coordinating with other trade contractors with regard to sequencing of installations and protection of materials, furnishing shop drawings and /or setting drawings, etc. Materials for in place or interim mock-ups shall be secured in advance of normal procurement to allow for ALL trade contractor installations, owner/designer and user reviews and evaluations, meetings, approvals and directive if applicable. Mockups are understood to start with arrangement of wall rough-in through complete room finishes. **Addendum 04**
90.	This contractor to provide and install kitchen hood KH-1 complete. Include all ductwork, ANSUL fire protection system, insulation, fire wrap, testing, permits, inspections, etc for a complete installation of this system. **Addendum 04**

D.	**EXCLUSIONS**
	The Scope of Work shall exclude the following:
1.	Payment & Performance Bond

E.	**ALLOWANCES**	
1.	Project BIM Coordinator Allowance	$25,000
2.	Temporary Utility Consumption Costs Addendum 04	$100,000
3.	Laboratory and Owner Provided Equipment coordination.	$50,000

F.	**SCHEDULE**
	Schedule information is included within the bid manual **(Attachment G)** to aid the Subcontractor in anticipating material deliveries, and manpower and equipment requirements. The information describes only the major activities of this scope of work and does not attempt to describe any out of sequence work required. **The Contractor must confirm that you will meet the project schedule as indicated in the bid manual.** It is **absolutely critical** that the work of this contract be completed by the dates defined. The intention is that the Subcontractor must provide sufficient labor, equipment, overtime, supervision, etc. to overcome weather delays.

Attachment "B"
SCOPE OF WORK
TC-033 Mechanical

G.	ALTERNATES
	The following "Alternate(s)" may be accepted and incorporated herein as part of the Scope of Work for the respective price. Inasmuch as these Alternates were anticipated from the inception of the project and were priced accordingly, all overhead, profit and escalation has been included within the lump sum amount and the price shall remain firm throughout the duration of the project, unless specifically noted. Indicate Add/Deduct Price on the Form of Proposal.
Alt. 1	**Fourth Floor Build Out**
Alt. 2	**Autoclaves**
Alt. 3	**Greenhouse Tables and Shelving**
Alt. 4	**Roller Window Shades in Rooms A0100 and A0102**
Alt. 5	**Greenhouse Card Readers (ADD #04)**
Alt. 6	**Biological Safety Cabinets (ADD #04)**

Attachment "B"
SCOPE OF WORK
TC-033 Mechanical

PROPOSED MAJOR SUBCONTRACTORS AND SUPPLIERS
DUE BY BID DEADLINE

For the purposes of this form, a major subcontractor or supplier is a person or entity that will have a direct or assigned contract or purchase order for the performance or supply of any item listed below if the bidder is successful.

All subcontractors must comply with the laws of the Commonwealth of Kentucky and the policies and procedures of the University of Kentucky as administrated by the UK Capital Construction Procurement Section and Capital Project Management Division.

If the bidder will self-perform these items, list "Self-Perform" for each applicable item.

No major subcontractor or supplier may be added or changed without written consent of the Owner's representative after the bid deadline.

The apparent low bidder may be required to attend a post bid review meeting which will be scheduled at a later date.

DIVISION OF WORK	NAME AND ADDRESS OF SUBCONTRACTOR

Attachment "B"
SCOPE OF WORK
TC-033 Mechanical

LIST OF MATERIALS AND EQUIPMENT

Each item listed under the different phases of construction must be clearly identified so that the Owner will definitely know what the Bidder proposes to furnish.

The use of a manufacturer's or dealer's name only, or stating "as per Plans and Specifications," will not be considered as sufficient identification.

Where more than one "Make" or "Brand" is listed for any one item, the Owner has the right to select the one to be used.

The apparent low bidders will be required to complete and submit to the University the following information by twelve o'clock (12) noon of the first working day following the bid opening. The information requested in this submittal is required to assist the University in determining contractor responsibility to complete the project being bid.

The apparent low bidder is requested to attend a post bid meeting which will be scheduled at a later date.

MATERIALS AND EQUIPMENT	BRAND OR MANUFACTURER

Attachment "B"
SCOPE OF WORK
TC-034 Electrical
FORM OF PROPOSAL

Project No. 2617.0 Project Title: Ag Research Facility BP-06 Fitout – Group 1

Purchasing Officer: Corey W. Leslie

NOTE: The following Form of Proposal shall be followed exactly in submitting a proposal for this work. If this copy is lost, an additional copy will be furnished upon written request to the authority issuing Contract Documents.

This Proposal is submitted by: _____

(NAME AND ADDRESS OF BIDDER)

Date: _____ _____

Telephone: _____ _____

TO: BID CLERK
UNIVERSITY OF KENTUCKY
CAPITAL CONSTRUCTION

PROCUREMENT
RM. 322 SERVICE BUILDING
LEXINGTON, KY. 40506-0005

INVITATION TO BID: **CCK-2617.0-11-25**

BID OPENING DATE: **January 22, 2025**

TIME: **3:00 P.M. Lexington, KY Time**

The Bidder, in compliance with your Invitation for Bids for the above referenced Project, having carefully examined the site of the Work, the Drawings and complete Contract Documents as defined in Article I of the General Conditions, as well as the Specifications affecting the work as prepared by the Consultant, hereby proposes to furnish all labor, materials, supplies and services required to construct the Project in accordance with the Contract Documents, within the time set forth therein, and at the price stated below without qualification. Bidder understands that successful bidder will enter into a contract with Turner Construction Company utilizing Turner's Subcontract Agreement Form 36 without modification.

The Bidder hereby acknowledges receipt of the following Addenda:

ADDENDUM NO._____ DATED _____

ADDENDUM NO._____ DATED _____

ADDENDUM NO. _____ DATED _____

ADDENDUM NO._____ DATED _____

(Here insert the number and date of any Addenda issued and received. If none has been issued and received, the word NONE should be inserted.)

NOTE: IN ADDITION TO THE SPECIFIC TRADE FORM OF PROPOSAL EACH SUBCONTRACTOR MUST ALSO SUBMIT FORMS FOUND IN THE SUPPLEMENTAL FORM OF PROPOSAL SECTION.

Attachment "B"
SCOPE OF WORK
TC-034 Electrical

Contractor Report of Prior Violations of
Chapters 136,139, 141, 337, 338, 341, and 342

Pursuant to KRS 45A.485, the Contractor shall, prior to the award of a Contract, reveal final determinations of any violations of the provisions of KRS Chapters 136, 139, 141, 337, 338, 341, and 342 by the Contractor that have occurred in the previous five (5) year period.

This statute also requires for the duration of the Contract established, the Contractor be in continuous compliance with the provisions of Chapters 136, 139, 141, 337, 338, 341, and 342 that apply to the Contractor's operations. The Contractor's failure to reveal a final determination of a violation of KRS Chapters 136, 139, 141, 337, 338, 341, and 342, or failure to comply with any of the above cited statutes for the duration of the Contract shall be grounds for the cancellation of the Contract, and the disqualification from eligibility for future contracts for a period of two (2) years.

The Contractor, by signing and submitting a Bid on this Invitation, agrees as required by KRS 45A.485 to submit final determinations of any violations of the provisions of KRS Chapters 136, 139, 141, 337, 338, 341, and 342 that have occurred in the previous five (5) years prior to the award of a Contract and agrees to remain in continuous compliance with the provisions of these statutes during the duration of any contract that may be established. Final determinations of any violations of these statutes, must be provided to the University by the successful Contractor prior to the award of a Contract.

LUMP SUM PROPOSAL

The Bidder agrees to furnish all labor, materials, supplies and services required to complete the Work, for the above referenced Project, for the Capital Construction Procurement Section, University of Kentucky, as described in the Specifications and Contract Documents and shown on the Drawings enumerated below and as modified by the Addenda listed above.

FOR THE LUMP SUM OF_____
(USE WORDS)

_____DOLLARS AND_____CENTS.
(USE WORDS) (USE WORDS)

($_____)
(USE FIGURES)

Alternates:

Alternate 1: Fourth Floor Build Out **$**_____

Alternate 2: Autoclaves **$**_____

Alternate 3: Greenhouse Tables and Shelving **$**_____

Alternate 4: Roller Window Shades in Rooms A0100 and A0102 **$**_____

Alternate 5: Greenhouse Card Readers (ADD #04) **$**_____

Alternate 6: Biological Safety Cabinets (ADD #04) **$**_____

Attachment "B"
SCOPE OF WORK
TC-034 Electrical

FORM OF PROPOSAL

AUTHENTICATION OF BID AND STATEMENT OF NON-COLLUSION AND NON-CONFLICT OF INTEREST

I hereby certify:

1. That I am the Bidder (if the Bidder is an individual), a partner in the Bidder (if the Bidder is a partnership), or an officer or employee of the bidding corporation having authority to sign on its behalf (if the Bidder is a corporation);

2. That the submitted Bid or Bids covering Capital Construction Procurement Section Invitation No. CCK-2617.0-11-25 have been arrived at by the Bidder independently and have been submitted without collusion with, and without any agreement, understanding or planned common course of action with, any other contractor, vendor of materials, supplies, equipment or services described in the Invitation to Bid, designed to limit independent bidding or competition; as prohibited by provision KRS 45A.325;

3. That the contents of the Bid or Bids have not been communicated by the Bidder or its employees or agents to any person not an employee or agent of the Bidder or its surety on any bond furnished with the Bid or Bids and will not be communicated to any such person prior to the official opening of the Bid or Bids;

4. That the Bidder is legally entitled to enter into the contracts with the University of Kentucky and Turner Construction Company and is not in violation of any prohibited conflict of interest, including those prohibited by the provisions of KRS 164.390, and 45A.330 to 45A.340 and 45A.455;

5. This offer is good for 60 calendar days from the date this Bid is opened. In submitting the above, it is expressly agreed that upon proper acceptance by the Capital Construction Procurement Section of any or all items Bid above, a contract shall thereby be created with respect to the items accepted;

6. That I have fully informed myself regarding and affirm the accuracy of all statements made in this Form of Proposal including Bid Amount.

7. Unless otherwise exempted by KRS 45.590, the Bidder intends to comply in full with all requirements of the Kentucky Civil Rights Act and to submit data required by the Kentucky Equal Employment Act upon being designated the successful contractor.

8. That the bidding contractor and all subcontractors to be employed do not and will not maintain any facilities they provide for employees in a segregated manner and they are in full compliance with provisions of 41 CFR 60-1.8 that prohibits the maintaining of segregated facilities.

9. In accordance with KRS45A.110(2), the undersigned hereby swears under penalty of perjury that he/she has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky and that the award of a contract to the bidder will not violate any provision of the campaign finance laws of the Commonwealth of Kentucky.

READ CAREFULLY - SIGN IN SPACE BELOW - FAILURE TO SIGN INVALIDATES BID

SIGNED BY_____ TITLE_____

PRINT NAME_____ FIRM_____

ADDRESS_____ AREA CODE & PHONE _____

_____ FAX_____

CITY STATE ZIP CODE

BIDDER'S EMAIL _____ DATE

Attachment "B"
SCOPE OF WORK
TC-034 Electrical

BUSINESS CLASSIFICATION

Please complete this form which is necessary for the University of Kentucky vendor database.
Mark only one classification. Refer to "Definitions" for assistance in determining correct classification.

(01)___Small Business

(02)___Large Business

(03)___Disadvantaged Small Business

(04)___Disadvantaged Large Business

(05)___Woman-Owned Small Business

(06)___Woman-Owned Large Business

(07)___Disadvantaged Woman-Owned Small Business

(08)___Disadvantaged Woman-Owned Large Business

(09)___Other

DEFINITIONS

(01) SMALL BUSINESS: A business concern that is organized for profit, is independently owned and operated, is not dominant in the field of operations in which it is bidding, and meets the size standards as prescribed in the Code of Federal Regulations, Title 13, Part 121. Consult your local or district Small Business Administration (SBA) office if further clarification is needed.

(02) LARGE BUSINESS: A business concern that exceeds the small business size code standards established by SBA.

(03) DISADVANTAGED SMALL BUSINESS: A business concern (a) that is at least 51 percent owned by one or more socially and economically disadvantaged individuals (as defined below), or a publicly owned business, having at least 51 percent of its stock owned by one or more socially and economically disadvantaged individuals; and (b) has its management and daily business operations controlled by one or more such individuals. Socially and economically disadvantaged individuals include: Asian, Black/African American, Hispanic or Latino, Native American, Native Hawaiian/Pacific Islander, Women, Disabled, Veteran and Disabled Veteran and other minorities or individuals found to be disadvantaged by the SBA.

(04) DISADVANTAGED LARGE BUSINESS: A concern that meets the definition of socially and economically disadvantaged individuals as defined above, but which is not a small business by the SBA's size standards.

(05) WOMAN-OWNED SMALL BUSINESS: A small business that is at least 51 percent owned by a woman or women who also control and operate it. "Control" in this context means exercising the power to make policy decisions. "Operate" means actively involved in the day to day management.

(06) WOMAN-OWNED LARGE BUSINESS: A concern that meets the definition of woman owned and operated, but which is not a small business by the SBA's standards.

(07) DISADVANTAGED, WOMAN-OWNED SMALL BUSINESS: A concern that meets the definition of both (03) and (05) above.

(08) DISADVANTAGED, WOMAN OWNED LARGE BUSINESS: A concern that meets the definition of both (04) and (06) above.

(09) OTHER: A concern that does not meet any of the above definitions.

Attachment "B"
SCOPE OF WORK
TC-034 Electrical

THE FOLLOWING ITEMS ARE HEREWITH ENCLOSED AS REQUIRED BY KRS 45A.185

1. Bid Bond or Certified Check in an amount not less than five percent (5%) of total Bid.

2. List of Proposed Subcontractors and Unit Prices. (if required)

3. Authentication of Bid and Statement of Non-Collusion and Non-Conflict of Interest.

4. List of Materials and Equipment.

5. VENDOR NUMBER: It is imperative that you furnish your Federal Employer Identification Number in the space provided below. Failure to do so may delay the processing of purchase orders issued to your firm.

_____
(Nine Digit Number)

BIDDER'S QUALIFICATIONS

The Commonwealth of Kentucky Model Procurement Code (KRS 45A.080) requires contracts to be awarded, "to the responsive and responsible bidder whose bid offers the best value" to the University of Kentucky. In order to determine if the Bidder has the experience, qualifications, resources and necessary attributes to provide the quality workmanship, materials and management required by the plans and specifications, the Bidder may be required to complete and submit the information requested on the University of Kentucky Contractor Bidder Determination of Responsibility questionnaire. Failure to provide the information requested on the questionnaire or failure to provide any additional submittals or information that may be requested to make this determination may be grounds for a declaration of non-responsibility with respect to the Bidder. A copy of the Contractor Determination of Responsibility questionnaire is available upon request to all Bidders.

TIME LIMIT FOR EXECUTION OF CONTRACT DOCUMENTS

It is further agreed, that in the event this Proposal is accepted by the Owner and the undersigned shall fail to execute the Contract and furnish satisfactory Payment and Performance Bond within ten (10) consecutive calendar days from the date of notification of the award of the Contract, the Owner may at his option, determine that the undersigned has abandoned the Contract and thereupon, the Proposal shall become null and void and the Bid guarantee, check or Bid bond which accompanied it shall be forfeited and become the property of the Owner as liquidated damages for each failure and no protest pursuant to such action will be made. If the Undersigned shall execute the Contract, and furnish satisfactory Payment Bond and Performance Bond, it is understood that the Bid Guarantee or Bid Bond will be returned to the undersigned by the Owner.

Attachment "B"
SCOPE OF WORK
TC-034 Electrical
UNIT PRICES

NOTE: Unit Prices shall include the furnishing of all labor, materials, supplies and services and shall include all items of cost, overhead and profit for the Contractor and any subcontractor involved, and shall be used uniformly without modifications for either additions or deductions. The Unit Prices as established shall be used to determine the equitable adjustment of the Contract Price in connection with changes, deletions or extra work performed under the Contract and the "Rules of Measurement" set forth in the General Conditions shall govern.

All Bidders will be required to complete and submit the following Unit Prices with the bid.

Material	Unit (LF, SF, EA, etc.)	Unit Price
¾" EMT Conduit	LF	
1" EMT Condit	LF	
1 ¼" EMT Conduit	LF	
2" EMT Condit	LF	
¾" Rigid Conduit	LF	
1" Rigid Condit	LF	
1 ¼" Rigid Conduit	LF	
2" Rigid Condit	LF	
Conduit Hanger Assembly	EA	
#12 THHN Conductor	LF	
#10 THHN Conductor	LF	
#8 THHN Conductor	LF	
#6 THHN Conductor	LF	

Attachment "B"
SCOPE OF WORK
TC-034 Electrical
HOURLY RATES

The Hourly Rates as established shall be used to determine the equitable adjustment of the Contract Price in connection with changes, deletions or extra work performed under the Contract and the "Rules of Measurement" set forth in the General Conditions shall govern.

All Bidders will be required to complete and submit the following Hourly Rates with the bid.

Note the following:

- **Overhead & Profit to be <u>EXCLUDED</u> from rates below & will be calculated separately**
- **Complete a separate Wage Breakdown for each trade or subcontractor**

STRAIGHT TIME		CLASSIFICATION							
Description	Unit	PM	Engineering	Super	Gen. Foreman	Foreman	Journeyman	Apprentice	Other (_____)
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

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PREMIUM TIME		CLASSIFICATION							
Description	**Unit**	**PM**	**Engineering**	**Super**	**Gen. Foreman**	**Foreman**	**Journeyman**	**Apprentice**	**Other (_____)**
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

DOUBLE TIME		CLASSIFICATION							
Description	**Unit**	**PM**	**Engineering**	**Super**	**Gen. Foreman**	**Foreman**	**Journeyman**	**Apprentice**	**Other (_____)**
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

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BID BREAKOUT

Fill in the following breakdown of costs included in your base bid. Each item is to include labor, material & equipment. These will not be considered unit prices nor will the numbers listed here limit obligations required in the bid documents. It will be used only to aid in verifying completeness of the bids.

	Description of Work	Labor Hours	Quantity	Unit	Unit Cost	Total
1	Engineering & Layout, Permits & Fees,				$	$
2	Shop drawings and Submittals				$	$
3	Mobilizations				$	$
4	Panelboards & Transformers				$	$
5	Conduit / Raceways				$	$
6	Wire & Terminations				$	$
7	Lighting & Lighting Controls				$	$
8	Fixtures & Trim				$	$
9	Grounding & Bonding				$	$
10	Testing				$	$
11	Commissioning				$	$
12	Housekeeping Pads				$	$
13	Lab Equipment Connections				$	$
14	TC-010 Generator & GCC Equipment Receive, Install & Startup				$	$
15	TC-010 Electrical Equipment Receive, Install and Startup				$	$
16	Temporary Electric				$	$
20	Management				$	$
21	Safety and Housekeeping				$	$
22	General Work Requirements				$	$
23	Overhead and Profit				$	$
Allowances (to be included in bid amount)						
1	Project BIM Coordinator Allowance					$25,000
2	Temporary Power Consumption Costs Addendum 04					$100,000
3	Laboratory and Owner Provided Equipment coordination.					$50,000
4	Fire Alarm Allowance (JCI scope) Addendum 04					$1,100,000
	TOTAL BID AMOUNT (This amount should match the Lump Sum listed on Form of Proposal)					**$**
	Cost of Payment & Performance Bond **(DO NOT INCLUDE THIS COST IN BID AMOUNT)**					$

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Attachment A – Additional Provisions and Attachment B – (Technical) Scope of Work go together to define the requirements of this Subcontract. Attachment A is a more of a general Summary of the Contract Documents, Price, etc., while Attachment B is the Trade Specific (technical) Scope of Work.

The work of this Agreement shall include, but not be limited to, all labor, materials, apparatus, hoisting, rigging, tools, equipment, plant, supplies, accessories, samples, submittals, shop drawings, certifications, engineering, layout, transportation, storage, supervision, temporary construction, special services, contributions, insurance, taxes (unless specifically excluded by the Contract Documents), compliance with all governing agencies (city, county, state, federal and others as may be required), permits, fees, all other services and facilities and other items necessary for the performance of the **Electrical work** as shown, detailed and/or implied in the contract documents outlined in the General Scope of Work.

The Scope of Work Document is being provided for your use as a general guideline. Please note, this Document is not all-inclusive. It is this Subcontractor's responsibility to provide a complete bid, including all work for this trade indicated on ALL of the contract documents (include plans, specifications, Bid Manual, etc.). It is this Subcontractor's responsibility for the entire scope of this Bid Package and coordination between all trades.

A.	GENERAL
1.	Provide labor, material, equipment, and all else necessary to furnish and install complete the TC-034 Work as required by the contract documents and as outlined below
2.	The following scope of work is intended to be general in nature. The purpose of this scope of work is not to identify or list every scope of work item already shown or described in the contract documents, but rather to coordinate, clarify, modify, and/or expand the scope.
3.	The intention is to have the successful Subcontractor perform all the TC-034 related work shown on the Contract Documents other than those items specifically indicated below to be excluded.
4.	Detail references are included for convenience, but are not intended to identify all applicable details. If the Contract Drawings and Specifications conflict, then the greater quantity and quality shall apply. The Scope of Work takes precedence over the drawings and specifications in the event of a conflict in trade assignment or responsibility. Attention is called to the Bid Manual and the Subcontractor shall include all costs necessary to provide all work to meet the requirements of this scope of work.
5.	In this Scope of Work, the term "provide" shall be defined as meaning "furnish and install."

B.	DOCUMENTS
1.	General Contract between Turner and the Owner including all attachments

2.	All documents in bid manual including but not limited to:
	• Drawings
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Volume 1 Dated 11/15/24***
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Volume 2 Dated 11/15/24***
	• Specifications
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Project Manual Dated 11/15/2024***
	• Scope of Work (Attachment B)
	• General Requirements
	• General Conditions
	• Special Conditions
	• Sample Subcontract Agreement Form (Form 36)
	• Sample 3A Page
	• Reference Drawings Included
	  • ***Prospiant's Greenhouse Design Drawings for Rooftop Greenhouses***

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	• ***BP-02 Site Enabling Package – dated 3/13/24*** • ***BP-03/3.1 Foundations and Long Lead Equipment – dated 5/2/24*** • ***BP-04 Core and Shell – dated 6/28/24*** • ***BP-05 Teaching Greenhouse – Dated 10/11/24***
3.	Bid Manual including all **Sketches** and **Attachments** prepared by Turner Construction and listed below
4.	**Attachments**
	a. Attachment A – Additional Provisions b. Attachment C - Safety Program c. Attachment E - Accounting Procedures d. Attachment F - Percentage Markup e. Attachment G - Bid Schedule f. Attachment H - BIM General Requirements g. Attachment I - LEAN Subcontract Exhibit h. Attachment J – Electronic Agreement i. Attachment K – CCIP Manual j. Attachment L – UK Tree Protection Standards k. Attachment M – Part 1 and Part 2 LEED Construction Waste Management Plan l. Attachment N – Turner Subcontractor Onboarding m. Attachment O – Enhancing Worker Experience Plan n. Attachment P – LEED Indoor Air Quality Management Plan
5.	**Sketches**
	a. SK-001 – Site Logistics Plan b. SK-002 – Misc Metals c. SK-003 – Tent and HVAC rental Agreements d. SK-004 – CM Office - Good Barn Layout e. SK-005 – Temporary Power Plan f. SK-006 – Lab Furnishings Responsibility Matrix Addendum 04
6.	**Specifications**
	The following specification sections are listed as the responsibility of the Subcontractor in defining its area of work on this project. Unless specifically indicated otherwise or excluded below, this Contractor is responsible for the complete specification sections indicated below. a. **DIVISION 00 – PROCUREMENT & CONTRACTING REQUIREMENTS (ALL SECTIONS)** b. **DIVISION 01 – GENERAL REQUIREMENTS (ALL SECTIONS)** c. **DIVISION 07 – THERMAL AND MOISTURE CONTROL (AS APPLIES)** **d. 07 8413 – Penetration Firestopping (as related to this scope)** **e. 07 8413 – Joint Firestopping (as related to this scope)** **f. 07 9200 – Joint Sealants (as related to this scope)** **g. 07 9200.13 – Joint Sealants – Laboratory and Vivarium (as related to this scope)** **h. 07 9219 – Acoustical Joint Sealants (as related to this scope)** **i. 08 3113 – Access Doors and Frames (as related to this scope)** **j. 08 7100 – Door Hardware (as related to this scope)** **k. 08 7113 – Power Door Operators (as related to this scope)** l. **DIVISION 10 - SPECIALTIES (AS APPLIES)** m. **DIVISION 11 - EQUIPMENT (AS APPLIES)** n. **11 7213.13 Exam and Surgical Lights (Complete) Addendum 04** o. **DIVISION 13 – SPECIAL CONSTRUCTION (AS APPLIES)** p. **DIVISION 25 – INTEGRATED AUTOMATION (AS APPLIES)** q. **DIVISION 26 - ELECTRICAL (ALL SECTIONS Complete)** **r. DIVISION 27 – TELECOMMUNICATIONS (AS APPLIES)** s. **DIVISION 28 – ELECTRONIC SAFETY AND SECURITY (AS APPLIES)** **a. 28 0800 COMMISSIONING OF FIRE ALARM AND FIRE SUPPRESSION (AS APPLIES)**

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	b. **28 3100 FIRE ALARM SYSTEM (COMPLETE)** **t. DIVISION 41 – EQUIPMENT (AS APPLIES)**
7.	Divisions 00 and 01 of the Specifications are general in nature and apply to all Subcontracts. These sections are included "complete" as part of this Subcontract Agreement.
8.	The Contractor is also responsible for trade specifications not specifically listed above but required by reference in the listed specifications or as required to perform the scope of work described herein, as well as the Bidding Requirements, Contracting Requirements and the use of the Construction Documents as a whole.

C.	SPECIFIC SCOPE ITEMS
1.	Contract Price is LUMP SUM. There shall be NO additional labor and material escalations allowed
2.	Examination of Site – Subcontractor warrants that they have sufficiently reviewed the project site to inform themselves of all items about existing site that are relevant to their work, and the cost of their work.
3.	Include protection of all adjacent structures during performance of this work. Plan for protection of adjacent structures must be part of the overall plan submitted for approval prior to start of work
4.	**SITE LOGISTICS:** Refer to the Site Logistics plans included in the Contract Documents. Delivery trucks are to be scheduled with Turner at least one (1) week in advance.
5.	Subcontractor change order requests shall be provided with sufficient detail (as acceptable to Turner) to allow for satisfactory review. Subcontractor shall be allowed a maximum mark up for overhead and profit per the markup provisions included in the Subcontract Agreement, or as clarified in Contract Documents above
6.	Subcontractor understands that **time is of the essence** in the prosecution of Work under this agreement.
7.	**Verify layout** provided by others. Where this subcontractor is performing work using layout provided by others, this subcontractor shall perform sufficient verification of that layout to reasonably ascertain the validity of that layout. Any deficiencies (or suspected deficiencies found) shall be reported to Turner immediately to allow corrections as needed before start of work by this subcontractor.
8.	All Subcontractors must be **licensed** as required by local, State, or Federal jurisdiction required for work of this trade in this project location
9.	This Subcontractor will comply with Turner's corporate **safety policy** and comply with Site Specific Safety Plan that will include but is not limited to 100% tie-off above 6 feet, 100% Safety Glasses, High Visibility Vests or High Vis style T-Shirts with reflective strips, 100% glove policy, Ladders Last Policy and Nothing Hits the Ground. If you are unfamiliar with any of these policies please ask to see the policy prior to submitting your bid. Failure to be familiar with these policies will not exclude you from complying with them.
10.	Refer to **Project General Work Requirements** in volume one of the project manual. Any costs for work scope items listed in this section shall be included in your lump sum bid. Some work items are listed for specific trade contractors and they shall include those costs in their respective total lump sum bid price.
11.	his Contractor shall include all materials, labor, tools, and equipment to provide all **STRUCTURAL SUPPORTS & ANCHORS** as required by the Contract Documents and in accordance with section 05 1200. This includes the design and analysis of structural steel supports and connections not specifically shown. Include all material, labor, tools, equipment, supplies, transportation, and taxes, to complete this scope of work.
12.	This Contractor shall include all permits & fees required to complete this work. This contractor shall pay all fees, utility connection costs, meter fees, extension and development charges.
13.	All unloading, distribution, staging, hoisting, rigging, scaffolding, lifts, platforms, scissor lifts, boom lifts, planking, guying, sheeting, shoring, dewatering, bracing transportation, access for material, equipment and personnel required to perform this work is included in this contract.
14.	It shall be the responsibility of this contractor to coordinate the installation of this work with the utility companies, UK Facilities Management, other contractors working on the Project and the engineer as needed to verify or determine size and routing of services being installed by this contractor.
15.	Contractor work includes all required overtime, premium time and/or double shift costs to complete the scope of the work in accordance with the schedule per 'Attachment G'. Include design and installation of all temporary bracing required to erect the structure based on the project schedule.

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16.	This Contractor shall furnish and install all **sleeves and blockouts** for this contractor's penetrations of walls, floors, and roof. The cutting of metal deck as required to install the work shall be included. Any reinforcement of the deck that is required but not shown on the structural drawings is to be included in this work. This Trade Contractor is responsible for all curbs, thimbles, counter flashings, clamping rings, sealants, etc., required at roof penetrations of material and equipment covered by this work. This would include but not be limited to vents flashings, and any special curbs or flashing required. This contractor shall coordinate with the construction manager and the TC-016 CIP Shafts and Decks contractor to install all sleeves prior to concrete placement. Assume multiple mobilizations are needed. Any and all costs for core drilling required for mechanical systems raceways due to failure to coordinate the installation of sleeves and/or their incorrect location will be borne by this contractor. a. Per UK standards, all sleeves/blockouts shall be a minimum of 1.5" above finished floor. This work scope shall include "metal collars" (sealed) as necessary for any existing or new sleeve installations not 1.5" above the finished floor elevation (not concrete elevation). This Trade Contractor is responsible for protection of all sleeves installed for (or existing) their scope of work. b. This contractor is to gain fire stopping inspection at the floor level PRIOR to installing the 1.5" metal collar. The installation of the metal collar and floor fire stopping shall not be in one action preventing proper fire stop inspection. c. All roof penetrations are to be included in this work scope. This contractor is to include all costs to repair/tie-in/patch the roofing utilizing the TC-022 roofing contractor of record. This includes any work included in this contract. Any roof or floor protection required for the movement of workmen or equipment is to be included. d. All openings installed under this scope are the sole responsibility of this contractor to ensure that they are water tight prior to their end of shift. This contractor shall coordinate openings with proper trades.
17.	This contractor shall **verify conditions** are suitable for Electrical installation prior to beginning installation. This includes installation of the equipment provided by others. a. Include coordination of final location of equipment and panels provided by others, including feeders into and out of the equipment and panels
18.	The contract price shall not be altered for any work that could have been **reasonably inferred** from the Contract Documents. The following items are listed as examples of the intent of this statement, but is not limited to these items alone: a. Variations to avoid interference and obstructions. b. Providing all electrical components and services usually supplied with a specific system. c. The providing of all necessary electrical equipment and appurtenances, whether shown or not, for a complete operating system in strict code compliance based on equipment and fixtures indicated on the Contract Documents. d. Testing performed in accordance with the requirements of the Contract Documents to meet the needs of the construction schedule and to not delay the work of other trades.
19.	This contractor shall provide all Fireproof Patching that has been removed for installation of hangers and supports for all Electrical Scope.
20.	**Label and identify** all Electrical Equipment and components associated with this contract as required in the contract documents.
21.	This Contractor shall provide all penetration caulking for **firestopping** associated with this scope of work in accordance with the contract documents, including identification per the specifications. This includes firestopping for all penetrations associated with this scope of work, including core drilled penetrations. All penetrations created by this Trade Contractor shall be coordinated with other applicable trades and performed in a neat and workmanlike manner.
22.	This contractor shall **verify conditions** are suitable for Technology installation prior to beginning installation. This includes installation of the equipment provided by others
23.	**Temporary power** and lighting will be available per Sketch 005. This Trade Contractor will need to provide any additional power required for their scope of work. If necessary, provide generators for other power that will be required beyond what is provided. At no time shall the noise generated by generators or welders be

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	overwhelming or disruptive to the campus operations. Generators shall be placed to minimize noise and exhaust impacts.
24.	This Contractor shall provide all Task Lighting required for the performance of their work. General Building Egress Lighting will be provided: however, each work location will need to have contractor provided task lighting as needed to safely perform their installations.
25.	a. This Contractor shall include all **Building Information Modeling** per the contract documents. Refer to attachment H for BIM requirements associated with this scope. All costs for the BIM process for this scope of work shall be included in the base bid. Include the scheduled Document Control Server Allowance for Box server use and hardware/software, as well as the Project BIM Coordinator Allowance for 3rd party BIM manager directed by the Construction Manager. These allowances are not for the use of the MEP trades for their coordination. This Trade Contractor shall be responsible to reflect the actual location of conduits and electrical gear where connections are to be made with existing work in the BIM a. This Trade Contractor shall provide coordination between all Power and Communication Conduits, Cable Trays, Duct Banks, and Bussway ensure proper separation and crossing per industry standards. b. BIM Modeling under this scope of work will include all conduits ¾" nominal size and larger. c. This Trade Contractor shall also include an additional 160 hours of BIM coordination to be used at the Owner/CM's discretion
26.	The contract price shall not be altered for any work that could have been **reasonably inferred** from the Contract Documents. The following items are listed as examples of the intent of this statement, but is not limited to these items alone: a. Variations to avoid interference and obstructions. b. Providing all electrical components and services usually supplied with a specific system. c. The providing of all necessary electrical equipment and appurtenances, whether shown or not, for a complete operating system in strict code compliance based on equipment and fixtures indicated on the Contract Documents. d. Testing performed in accordance with the requirements of the Contract Documents to meet the needs of the construction schedule and to not delay the work of other trades.
27.	The intent of this scope of work will utilize the coordination in the 3D model to prefabricate off-site as much material as possible. All materials possible will be **Prefabricated** and packaged as a Kit-of-Parts for Just-in-Time delivery at the job site and be on wheels for delivery to the area of install. No pre-packaged or loose materials to be delivered to the job site that will not be installed within 4 days of delivery.
28.	This Contractor shall coordinate his work scope with the drywall partitions trade contractor who will be responsible to build in all openings in the partition walls for all equipment, duct, conduit and pipe penetrations, and shall include all required lintels. The HVAC, electrical, fire protection and plumbing trade contractor shall be required to coordinate locations and provide layout drawings of all penetrations prior to start of partition work. For penetrations missed for installation in normal sequence by the drywall trade contractor, the offending trade contractor will bear the full cost of installation, including cutting wall, reinforcing wall, and refinishing the wall around the penetration.
29.	This Contractor shall assume up to 50% of stud wall framing (to include drywall top out) at each floor will be completed prior to ductwork installation identified as priority walls. Priority walls (locations where ductwork/ other MEP systems are tight to adjacent drywall walls) will be the first identified and installed by the drywall contractor. Drywall top out will terminate at an elevation a minimum of 1'-0" above finish ceiling grid line to allow for conduit, piping rough in prior to the balance of the wall drywall is completed.
30.	This contractor shall provide **ACCOUSTICAL JOINT SEALANTS** (COMPLETE) as required for this scope of work and as shown on the Contract Documents and in accordance with specification section **07 9219.**
31.	This contractor shall provide **ACCESS DOORS** (COMPLETE) as required for this scope of work and as shown on the Contract Documents and in accordance with specification section **08 3113.** a. This Contractor shall provide all Access Doors for all in-wall or above ceiling equipment and components that require access for maintenance and repair. Coordinate installation with Finishes Trades.
32.	Include cost in base bid for 2% of the total manhours anticipated for this scope to be used at the direction of the CM as **"Composite Cleanup".**
33.	This contractor shall include **800 Journeyman Overtime Work Hours** to be used for schedule maintenance by the Construction Manager. The trade contractor must include all travel, per diem, fringes, OH&P, etc. costs

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	(a fully loaded rate) on these hours and they are only to be used by the trade contractor at the direction and approval of the Construction Manager. These hours will be logged and usage tracked. Usage of these hours can occur during the week or on Saturdays – no Sundays are intended.
34.	This Contractor shall provide personnel for support of Commissioning, by others, of Equipment and Systems within the Building. This scope will include any adjusting of equipment, dampers, valves, etc. as needed to address Commissioning comments / requirements to meet Contract Document requirements.
35.	This Contractor shall provide complete layout, coordination and installation of Equipment Pads for all Pad Mounted Equipment. This scope includes all design and installation of anchorage of the equipment per approved details.
36.	All unloading, distribution, staging, hoisting, rigging, scaffolding, lifts, platforms, scissor lifts, boom lifts, planking, guying, sheeting, shoring, dewatering, bracing transportation, access for material, equipment and personnel required to perform this work is included in this contract.
37.	This Contractor shall provide power connections to all **Owner Provided Equipment and Casework as** noted in the contract documents. Coordinate receiving with Manufacturer's Representatives delivery dates and project schedules. For owner furnished equipment which may have utility connection requirements, provide rough-in and final connections to the Owner furnished equipment and coordinate complete installation as required. Coordinate any utility work shown on documents with the appropriate subcontractor. This includes things of "like scope" items listed as associated with this work scope. Review all Drawings and Schedules for systems that apply including but not limited to CER, Plumbing, Mechanical, Voice/Data, AV, Security, Lab Casework, Lab Work Benches, Whips, and Owner supplied Furniture. a. The above equipment may come with loose miscellaneous accessories such as sensors, switches, power filters, etc. and multiple points of connection over and above what is called for in the documents. This Contractor shall provide any miscellaneous conduit, wiring, testing, etc. to make the equipment fully operational. b. This contractor shall provide the Feeders, Conduit, Supports, Misc. Steel for Supports, and Accessories for complete connection to equipment locations. c. Coordinate and complete all Terminations and Connections to Owner furnished equipment as indicated in the contract documents
38.	Perform all **electrical testing** of new electrical systems including emergency systems as outlined in the Contract Documents and per Governing Codes required to verify correct system operation including proper coordination of system interruption ratings. Testing is to include but not limited to all Megger and IR Testing as required by the contract documents and industry standards. Short circuit/coordination study will be performed by this Trade Contractor in coordination with the equipment manufacturers' engineers. Provide data, including but not limited to feeder lengths, required to facilitate the short circuit / coordination study/ arc flash study. Adjust all breaker trip settings as recommended by the coordination study and the commissioning agent. Installation, testing, and inspections shall be scheduled by area as sequenced by the Construction Manager, in order to not delay the progress of other trades. Multiple tests, comebacks, or inspections as may be required for this coordination are to be included. Provide all electrical equipment nameplates/labels and panelboard directories, including all owner furnished equipment.
39.	This contractor shall provide all cast in place floor boxes and associated conduit runs as shown on the contract drawings. Provide full detailed BIM modeling of floor box locations and turn up locations in partitions prior to installation. Coordinate all work with other trade contractors and confirm all installation prior to and after concrete floor and deck pours.
40.	This Contractor shall provide all Grounding as shown in the contract documents.
41.	This Contractor shall provide a complete Lighting Control system as shown in the Contract Documents. Provide labor, materials and coordination with other Trades for installation of Control Panels, Sensors, conduit, wiring and associated and devices required for a complete and operational system fully tested and approved.
42.	This Contractor shall provide all rough in for Fire Alarm system as shown in the Contract Documents, including but not limited to, boxes, conduit, pathways, wire, receiving and installing devices and components from JCI, terminations, testing, etc. Provide labor, materials and coordination with other Trades for installation of Fire Alarm devices, Control Panels, Sensors, conduit, back boxes, wiring and associated materials required for a complete and operational system. The Fire Alarm Design and Equipment scope (parts and smarts) of work will be provided by Johnson Controls via an Owner RFP, delivered to this contractor for management and execution of the contract. This contractor will provide contract to JCI for the fire alarm work provided by them.

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	This Electrical Scope includes an Allowance for JCI carried in the ALLOWANCE section of the bid breakout form above. This scope also includes all conduit, wire, devices and terminations for required Fire Protection devices and alarms. Coordinate all scope and work required with TC-031 Fire Protection Contractor. a. The value the this contractor should include for alternate 1 for fire alarm for JCI's portion of the scope is $15,000. **Addendum 04**
43.	This Contractor shall provide Power and Connections to all Greenhouse Equipment per the Greenhouse Documents. This includes all Lighting and Lighting Controls. Review all Greenhouse Drawings and Specifications for all required instrumentation, sensors, actuators, and associated devices and controllers for a complete Greenhouse system. Coordinate conduit and wiring with Automation Controls scope of work. Provide all testing, startup, and commissioning of all Greenhouse power and lighting systems.
44.	This Contractor shall Receive and Install all VFD's and Motor Starters/Switches from the Mechanical Trade Contractor. Coordinate installation and locations with all trades, including all conduit, wire and terminations for Power and Fire Alarm.
45.	This Contractor shall Receive and Install all Electrical Equipment from the Owner procured in TC-010. Coordinate receipt, transport, installation, and anchorage of the equipment. Provide complete BIM modeling of locations and anchorage as well as including all details from previously installed duct banks and feeder conduits and all other trades in the electrical rooms, etc.
46.	This Contractor shall provide Re-connection of all power and lighting conduits and wiring at the AHU Equipment Splits. Review Vendor Drawings and Specifications for requirements and scope of re-connections.
47.	This Contractor shall provide all requirements for energizing Early Permanent Power for Elevators and AHU's. Coordinate with Project Superintendent, Elevator and Mechanical Trades for requirements and schedule. This scope will also include early 3ph/480v power for Lifts/Climbers in Elevator Shafts to be located at the 1st floor elevator openings.
48.	This Contractor shall provide power to the Emergency Owner Provided Blue Phone at Location designated by Owner. Provide all conduit and wiring for Power for this phone. This will be located on the site outside the building.
49.	This Contractor shall provide installation and later removal of temporary restrooms on Floors 2 and 4 in Rooms A0207, A0205, C0454, C0455. Provide a minimum of 4 lighting fixtures for each of these restrooms with on/off Switch at doors This contractor to also furnish and install all temp power and lighting per SK-005 temp power plan for temp power and lighting requirements. This scope for install and removal will also include temporary lights in custodial rooms CO130, COI247 and CO347. Addendum 04
50.	This Contractor shall provide labor and material for Come-back work at Buck Hoit, Temp Electrical and Temp Restrooms. This scope shall include removal of all conduit, wire, j-boxes, disconnects, and accessories installed for operation of these systems/spaces.
51.	This Contractor shall be responsible for demolition and removal of all Temporary Power and Lighting systems to the point of connection for cap off and safe condition of the utility. This scope includes the Field Tent and Fence Lighting installed by previous contract scopes. Include sealing of holes in walls after temporary is removed.
52.	This Contractor shall provide all connections to Laboratory Equipment as shown in the contract documents. Review in detail all Laboratory Equipment Schedules and Elevations for all connection and coordination points.
53.	This Contractor shall receive, install and support startup the Emergency Generator, Generator Enclosure, Generator Flue & Muffler and Generator Control Cabinet purchased by the Owner and delivered to this contractor per TC-010 Electrical Equipment RFP scope. See attached documents for information on the Owner Furnished Generator, Enclosure and Control Cabinet.
54.	Not used
55.	This Contractor shall receive, install and support startup of the Electrical Equipment purchased by the Owner and delivered to this contractor per TC-010 Electrical Equipment RFP scope. See attached documents for information on the Owner Furnished Electrical Equipment Switchgear, Distribution Gear, Panelboards, etc. .
56.	This Contractor shall provide complete electrical connections to the TC-032 Plumbing Contractor supplied and installed Ceiling Service Panels noted in the Laboratory Drawings and Details. Provide all Electrical Connections to all Ceiling Service Panels. Coordinate electrical conduits and connectors to Ceiling Service Panels with plumbing piping for panel outlets.

Attachment "B"
SCOPE OF WORK
TC-034 Electrical

57.	~~This Contractor shall provide and install Ceiling Mounted Surgical Lights, Overhead Carriers and Tabletop Service Modules provided by TC-041 noted in the Laboratory Drawings and Details. Provide all above ceiling misc metals or Unistrut supports, anchors, trim, and hardware for complete installation of the Surgical Lights, Overhead Carriers, Service Carriers and Service Modules. Provide all electrical conduit, connections, conductors, cables, etc. For complete installations.~~ Addendum 04
58.	This Contractor shall receive and install all Receptacles at all Fume Hoods provided by TC-041 as noted in the Laboratory Drawings and Details. Provide complete internal and external wiring to the Receptacles as well as the Lights and Light/Sash Controllers provided with the Hoods. Coordinate with Laboratory Vendor on all requirements and installation details.
59.	This Contractor shall provide all Site lighting as shown in the Construction Drawings and Schedules. Provide all excavation, backfill, pole bases, anchorage, conduit, wire, terminations, hardware and accessories for complete installation and testing of the Site Lighting.
60.	For the excavation and backfill work contained in this work scope -- backfill must be imported granular material and/or 4000PSI Concrete as designated in Contract Documents and Details. Shoring must be engineered and stamped by a Professional Engineer. Any excavation deeper than 4'-0" will require an engineered trench box/shoring plan prior to excavation. Include rock excavation as estimated by the Geotechnical Report included in the contract Documents. This work is inclusive of exploratory work specified in the General Work Requirements. Protect all underground work, including stub-ups to ensure work is intact at time of concrete placement. Backfill and compaction with suitable material to proper subgrade elevation is included in this Contract. Spoils are to be removed and stored off site and/or properly disposed of. At the conclusion of this work, the subgrade shall be re-graded to a level acceptable to the Construction Manager. Reference 01 7419.01 Construction Waste Management and Disposal.
61.	This contractor to provide all temporary power and lighting for the fitout scope. Reference SK-005 for scope requirements. This Contractor shall provide an Allowance for temp lighting and power of $20,000 to be used at the discretion of the Project Superintendent above and beyond base scope. Addendum 04
62.	This Contractor shall provide an Allowance for heat trace for temp systems of $15,000 to be used at the discretion of the Project Superintendent. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
63.	This Contractor shall provide Temporary Power for a Powered Gate at the South Gate of the Project. Coordinate circuit, conduit, wiring and installation with existing temp power and the Fence/Gate Trade Contractor.
64.	This Contractor shall provide 4" curbs for all penetrations at the penthouse level per key note 182 example sheet A143. In addition, this Contractor shall provide 6" concrete curbs at all Greenhouse penetrations per page note on A152.
65.	This contractor to include 400 Journeyman hours as an allowance to be used at the direction of the Construction Manager. Include an allowance of $25,000 for misc. electrical materials. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
66.	Per the schedule in attachment G, this contractor to provide dedicated foreman and personnel for start and completion of the first floor as soon as it becomes available to start work, regardless of the sequence and flow of the remaining floors. It is the intention that the 1st floor will be constructed simultaneously with other floors. All necessary manpower and supervision required to meet the schedule should be included in the base bid.
67.	This contractor to include painted plywood backing at all panel locations in electrical rooms.
68.	**Addendum 04:** All Overhead Service Carriers, and Table Top Service Modules Furnished by TC 41 Contractor. All Installation of these devices including all mounting, OH supports, connections and hardware shall be by TC 34 Contractor.
69.	**Addendum 04:** All Ceiling Mounted Exam and Surgical Lights shall be Furnished and Installed by TC 34 Contractor. Installation shall include all mounting structures, OH supports, connections and hardware by TC 34 Contractor.

Attachment "B"
SCOPE OF WORK
TC-034 Electrical

70.	**Addendum 04:** All Ceiling Service Panels shall be Furnished by TC 41 Contractor including all Quick Connect Fittings and Openings for Electrical Outlets. All Ceiling Service Panels shall be Installed by TC 34 Contractor including all Outlets, Cover Plates, mounting structures, supports, electrical connections and hardware. TC 32 Contractor shall provide all Plumbing connections to Ceiling Service Panels above ceiling. All Quick Connect Hoses and Cords for Ceiling Service Panels shall be provided by TC 41 Contractor. All Cords to Mobile Lab Tables shall be installed by TC 34 Contractor. All Quick Connect Hoses shall be installed by TC 32 Contractor.
71.	**Addendum 04:** All Connections for Mechanical, Plumbing and Electrical to Chemical Fume Hoods are at top of Hoods. All internal connections and outlets are factory installed.
72.	**Addendum 04:** All Movable Bench Task Lighting at Bottom Shelves Furnished and Installed by TC 41 Contractor. All Movable Benches are Plug & Play Single Source.
73.	**Addendum 4:** All Air Curtains to be Furnished and Installed by TC – 30 Contractor. All Air Curtain Electrical Connections shall be provided and installed by TC 34 Contractor.
74.	This Trade Contractor shall participate in the construction of on-site **mock-ups** as specified and indicated by the documents and/or noted elsewhere. This shall include providing of materials required for this trade contract scope of work, coordinating with other trade contractors with regard to sequencing of installations and protection of materials, furnishing shop drawings and /or setting drawings, etc. Materials for in place or interim mock-ups shall be secured in advance of normal procurement to allow for ALL trade contractor installations, owner/designer and user reviews and evaluations, meetings, approvals and directive if applicable. Mockups are understood to start with arrangement of wall rough-in through complete room finishes. **Addendum 04**
75.	This contractor to provide a $20,000 Temporary Electric Allowance. This allowance is above and beyond the temp electric scope being provided and shall be used at the direction of the CM. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form. **Addendum 04**

D.	EXCLUSIONS
	The Scope of Work shall exclude the following:
1.	Payment & Performance Bond
2.	Fire Alarm Equipment and Programming (JCI scope)

E.	ALLOWANCES	
	The Contract Sum shall be the addition of a base bid amount plus allowances. It is expressly understood and agreed that all allowance work will be completed within the original schedule. Progress Payments will be made against Allowance expenditures, based on approved monthly invoices & written Allowance Authorization from Turner. Any unused funds remaining in these allowances will be credited back to the Project. Only direct Labor, Material, and Equipment costs authorized in writing by Turner after approval by the Owner are to be charged to the Allowance. The Subcontractor's cost for all overhead and profit on the allowance amount shall be included in the base bid amount and not in the allowance amount.	
1.	Project BIM Coordinator Allowance	$25,000
2.	Temporary Power Consumption Costs Addendum 04	$100,000
3.	Laboratory and Owner Provided Equipment coordination.	$50,000
4.	Fire Alarm Allowance for JCI Scope of work. Addendum 04	$1,100,000

Attachment "B"
SCOPE OF WORK
TC-034 Electrical

F.	SCHEDULE
	Schedule information is included within the bid manual **(Attachment G)** to aid the Subcontractor in anticipating material deliveries, and manpower and equipment requirements. The information describes only the major activities of this scope of work and does not attempt to describe any out of sequence work required. **The Contractor must confirm that you will meet the project schedule as indicated in the bid manual.** It is **absolutely critical** that the work of this contract be completed by the dates defined. The intention is that the Subcontractor must provide sufficient labor, equipment, overtime, supervision, etc. to overcome weather delays.

G.	ALTERNATES
	The following "Alternate(s)" may be accepted and incorporated herein as part of the Scope of Work for the respective price. Inasmuch as these Alternates were anticipated from the inception of the project and were priced accordingly, all overhead, profit and escalation has been included within the lump sum amount and the price shall remain firm throughout the duration of the project, unless specifically noted. Indicate Add/Deduct Price on the Form of Proposal.
Alt. 1	**Fourth Floor Build Out**
Alt. 2	**Autoclaves**
Alt. 3	**Greenhouse Tables and Shelving**
Alt. 4	**Roller Window Shades in Rooms A0100 and A0102**
Alt. 5	**Greenhouse Card Readers (ADD #04)**
Alt. 6	**Biological Safety Cabinets (ADD #04)**

Attachment "B"
SCOPE OF WORK
TC-034 Electrical

PROPOSED MAJOR SUBCONTRACTORS AND SUPPLIERS
DUE BY BID DEADLINE

For the purposes of this form, a major subcontractor or supplier is a person or entity that will have a direct or assigned contract or purchase order for the performance or supply of any item listed below if the bidder is successful.

All subcontractors must comply with the laws of the Commonwealth of Kentucky and the policies and procedures of the University of Kentucky as administrated by the UK Capital Construction Procurement Section and Capital Project Management Division.

If the bidder will self-perform these items, list "Self-Perform" for each applicable item.

No major subcontractor or supplier may be added or changed without written consent of the Owner's representative after the bid deadline.

The apparent low bidder may be required to attend a post bid review meeting which will be scheduled at a later date.

DIVISION OF WORK	NAME AND ADDRESS OF SUBCONTRACTOR

Attachment "B"
SCOPE OF WORK
TC-034 Electrical

LIST OF MATERIALS AND EQUIPMENT

Each item listed under the different phases of construction must be clearly identified so that the Owner will definitely know what the Bidder proposes to furnish.

The use of a manufacturer's or dealer's name only, or stating "as per Plans and Specifications," will not be considered as sufficient identification.

Where more than one "Make" or "Brand" is listed for any one item, the Owner has the right to select the one to be used.

The apparent low bidders will be required to complete and submit to the University the following information by twelve o'clock (12) noon of the first working day following the bid opening. The information requested in this submittal is required to assist the University in determining contractor responsibility to complete the project being bid.

The apparent low bidder is requested to attend a post bid meeting which will be scheduled at a later date.

MATERIALS AND EQUIPMENT	BRAND OR MANUFACTURER

Attachment "B"
SCOPE OF WORK
TC-035 Technology
FORM OF PROPOSAL

Project No. 2617.0 Project Title: Ag Research Facility BP-06 Fitout – Group 1

Purchasing Officer: Corey W. Leslie

NOTE: The following Form of Proposal shall be followed exactly in submitting a proposal for this work. If this copy is lost, an additional copy will be furnished upon written request to the authority issuing Contract Documents.

This Proposal is submitted by: _____

(NAME AND ADDRESS OF BIDDER)

Date: _____ _____

Telephone: _____ _____

TO: BID CLERK
UNIVERSITY OF KENTUCKY
CAPITAL CONSTRUCTION

PROCUREMENT
RM. 322 SERVICE BUILDING
LEXINGTON, KY. 40506-0005

INVITATION TO BID: **CCK-2617.0-11-25**

BID OPENING DATE: **January 22, 2025**

TIME: **3:00 P.M. Lexington, KY Time**

The Bidder, in compliance with your Invitation for Bids for the above referenced Project, having carefully examined the site of the Work, the Drawings and complete Contract Documents as defined in Article I of the General Conditions, as well as the Specifications affecting the work as prepared by the Consultant, hereby proposes to furnish all labor, materials, supplies and services required to construct the Project in accordance with the Contract Documents, within the time set forth therein, and at the price stated below without qualification. Bidder understands that successful bidder will enter into a contract with Turner Construction Company utilizing Turner's Subcontract Agreement Form 36 without modification.

The Bidder hereby acknowledges receipt of the following Addenda:

ADDENDUM NO. _____ DATED _____

ADDENDUM NO. _____ DATED _____

ADDENDUM NO. _____ DATED _____

ADDENDUM NO. _____ DATED _____

(Here insert the number and date of any Addenda issued and received. If none has been issued and received, the word NONE should be inserted.)

NOTE: IN ADDITION TO THE SPECIFIC TRADE FORM OF PROPOSAL EACH SUBCONTRACTOR MUST ALSO SUBMIT FORMS FOUND IN THE SUPPLEMENTAL FORM OF PROPOSAL SECTION.

Attachment "B"
SCOPE OF WORK
TC-035 Technology

Contractor Report of Prior Violations of
Chapters 136,139, 141, 337, 338, 341, and 342

Pursuant to KRS 45A.485, the Contractor shall, prior to the award of a Contract, reveal final determinations of any violations of the provisions of KRS Chapters 136, 139, 141, 337, 338, 341, and 342 by the Contractor that have occurred in the previous five (5) year period.

This statute also requires for the duration of the Contract established, the Contractor be in continuous compliance with the provisions of Chapters 136, 139, 141, 337, 338, 341, and 342 that apply to the Contractor's operations. The Contractor's failure to reveal a final determination of a violation of KRS Chapters 136, 139, 141, 337, 338, 341, and 342, or failure to comply with any of the above cited statutes for the duration of the Contract shall be grounds for the cancellation of the Contract, and the disqualification from eligibility for future contracts for a period of two (2) years.

The Contractor, by signing and submitting a Bid on this Invitation, agrees as required by KRS 45A.485 to submit final determinations of any violations of the provisions of KRS Chapters 136, 139, 141, 337, 338, 341, and 342 that have occurred in the previous five (5) years prior to the award of a Contract and agrees to remain in continuous compliance with the provisions of these statutes during the duration of any contract that may be established. Final determinations of any violations of these statutes, must be provided to the University by the successful Contractor prior to the award of a Contract.

LUMP SUM PROPOSAL

The Bidder agrees to furnish all labor, materials, supplies and services required to complete the Work, for the above referenced Project, for the Capital Construction Procurement Section, University of Kentucky, as described in the Specifications and Contract Documents and shown on the Drawings enumerated below and as modified by the Addenda listed above.

FOR THE LUMP SUM OF_____
(USE WORDS)

_____DOLLARS AND_____CENTS.
(USE WORDS) (USE WORDS)

($_____)
(USE FIGURES)

Alternates:

Alternate 1: Fourth Floor Build Out **$**_____

Alternate 2: Autoclaves **$**_____

Alternate 3: Greenhouse Tables and Shelving **$**_____

Alternate 4: Roller Window Shades in Rooms A0100 and A0102 **$**_____

Alternate 5: Greenhouse Card Readers (ADD #04) **$**_____

Alternate 6: Biological Safety Cabinets (ADD #04) **$**_____

Attachment "B"
SCOPE OF WORK
TC-035 Technology

FORM OF PROPOSAL

AUTHENTICATION OF BID AND STATEMENT OF NON-COLLUSION AND NON-CONFLICT OF INTEREST

I hereby certify:

1. That I am the Bidder (if the Bidder is an individual), a partner in the Bidder (if the Bidder is a partnership), or an officer or employee of the bidding corporation having authority to sign on its behalf (if the Bidder is a corporation);

2. That the submitted Bid or Bids covering Capital Construction Procurement Section Invitation No. CCK-2617.0-11-25 have been arrived at by the Bidder independently and have been submitted without collusion with, and without any agreement, understanding or planned common course of action with, any other contractor, vendor of materials, supplies, equipment or services described in the Invitation to Bid, designed to limit independent bidding or competition; as prohibited by provision KRS 45A.325;

3. That the contents of the Bid or Bids have not been communicated by the Bidder or its employees or agents to any person not an employee or agent of the Bidder or its surety on any bond furnished with the Bid or Bids and will not be communicated to any such person prior to the official opening of the Bid or Bids;

4. That the Bidder is legally entitled to enter into the contracts with the University of Kentucky and Turner Construction Company and is not in violation of any prohibited conflict of interest, including those prohibited by the provisions of KRS 164.390, and 45A.330 to 45A.340 and 45A.455;

5. This offer is good for 60 calendar days from the date this Bid is opened. In submitting the above, it is expressly agreed that upon proper acceptance by the Capital Construction Procurement Section of any or all items Bid above, a contract shall thereby be created with respect to the items accepted;

6. That I have fully informed myself regarding and affirm the accuracy of all statements made in this Form of Proposal including Bid Amount.

7. Unless otherwise exempted by KRS 45.590, the Bidder intends to comply in full with all requirements of the Kentucky Civil Rights Act and to submit data required by the Kentucky Equal Employment Act upon being designated the successful contractor.

8. That the bidding contractor and all subcontractors to be employed do not and will not maintain any facilities they provide for employees in a segregated manner and they are in full compliance with provisions of 41 CFR 60-1.8 that prohibits the maintaining of segregated facilities.

9. In accordance with KRS45A.110(2), the undersigned hereby swears under penalty of perjury that he/she has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky and that the award of a contract to the bidder will not violate any provision of the campaign finance laws of the Commonwealth of Kentucky.

READ CAREFULLY - SIGN IN SPACE BELOW - FAILURE TO SIGN INVALIDATES BID

SIGNED BY_____ TITLE_____

PRINT NAME_____ FIRM_____

ADDRESS_____ AREA CODE & PHONE _____

_____ FAX_____

CITY STATE ZIP CODE

BIDDER'S EMAIL _____ DATE

Attachment "B"
SCOPE OF WORK
TC-035 Technology

BUSINESS CLASSIFICATION

Please complete this form which is necessary for the University of Kentucky vendor database.
Mark only one classification. Refer to "Definitions" for assistance in determining correct classification.

(01)___Small Business

(02)___Large Business

(03)___Disadvantaged Small Business

(04)___Disadvantaged Large Business

(05)___Woman-Owned Small Business

(06)___Woman-Owned Large Business

(07)___Disadvantaged Woman-Owned Small Business

(08)___Disadvantaged Woman-Owned Large Business

(09)___Other

DEFINITIONS

(01) SMALL BUSINESS: A business concern that is organized for profit, is independently owned and operated, is not dominant in the field of operations in which it is bidding, and meets the size standards as prescribed in the Code of Federal Regulations, Title 13, Part 121. Consult your local or district Small Business Administration (SBA) office if further clarification is needed.

(02) LARGE BUSINESS: A business concern that exceeds the small business size code standards established by SBA.

(03) DISADVANTAGED SMALL BUSINESS: A business concern (a) that is at least 51 percent owned by one or more socially and economically disadvantaged individuals (as defined below), or a publicly owned business, having at least 51 percent of its stock owned by one or more socially and economically disadvantaged individuals; and (b) has its management and daily business operations controlled by one or more such individuals. Socially and economically disadvantaged individuals include: Asian, Black/African American, Hispanic or Latino, Native American, Native Hawaiian/Pacific Islander, Women, Disabled, Veteran and Disabled Veteran and other minorities or individuals found to be disadvantaged by the SBA.

(04) DISADVANTAGED LARGE BUSINESS: A concern that meets the definition of socially and economically disadvantaged individuals as defined above, but which is not a small business by the SBA's size standards.

(05) WOMAN-OWNED SMALL BUSINESS: A small business that is at least 51 percent owned by a woman or women who also control and operate it. "Control" in this context means exercising the power to make policy decisions. "Operate" means actively involved in the day to day management.

(06) WOMAN-OWNED LARGE BUSINESS: A concern that meets the definition of woman owned and operated, but which is not a small business by the SBA's standards.

(07) DISADVANTAGED, WOMAN-OWNED SMALL BUSINESS: A concern that meets the definition of both (03) and (05) above.

(08) DISADVANTAGED, WOMAN OWNED LARGE BUSINESS: A concern that meets the definition of both (04) and (06) above.

(09) OTHER: A concern that does not meet any of the above definitions.

Attachment "B"
SCOPE OF WORK
TC-035 Technology

THE FOLLOWING ITEMS ARE HEREWITH ENCLOSED AS REQUIRED BY KRS 45A.185

1. Bid Bond or Certified Check in an amount not less than five percent (5%) of total Bid.

2. List of Proposed Subcontractors and Unit Prices. (if required)

3. Authentication of Bid and Statement of Non-Collusion and Non-Conflict of Interest.

4. List of Materials and Equipment.

5. VENDOR NUMBER: It is imperative that you furnish your Federal Employer Identification Number in the space provided below. Failure to do so may delay the processing of purchase orders issued to your firm.

_____
(Nine Digit Number)

BIDDER'S QUALIFICATIONS

The Commonwealth of Kentucky Model Procurement Code (KRS 45A.080) requires contracts to be awarded, "to the responsive and responsible bidder whose bid offers the best value" to the University of Kentucky. In order to determine if the Bidder has the experience, qualifications, resources and necessary attributes to provide the quality workmanship, materials and management required by the plans and specifications, the Bidder may be required to complete and submit the information requested on the University of Kentucky Contractor Bidder Determination of Responsibility questionnaire. Failure to provide the information requested on the questionnaire or failure to provide any additional submittals or information that may be requested to make this determination may be grounds for a declaration of non-responsibility with respect to the Bidder. A copy of the Contractor Determination of Responsibility questionnaire is available upon request to all Bidders.

TIME LIMIT FOR EXECUTION OF CONTRACT DOCUMENTS

It is further agreed, that in the event this Proposal is accepted by the Owner and the undersigned shall fail to execute the Contract and furnish satisfactory Payment and Performance Bond within ten (10) consecutive calendar days from the date of notification of the award of the Contract, the Owner may at his option, determine that the undersigned has abandoned the Contract and thereupon, the Proposal shall become null and void and the Bid guarantee, check or Bid bond which accompanied it shall be forfeited and become the property of the Owner as liquidated damages for each failure and no protest pursuant to such action will be made. If the Undersigned shall execute the Contract, and furnish satisfactory Payment Bond and Performance Bond, it is understood that the Bid Guarantee or Bid Bond will be returned to the undersigned by the Owner.

Attachment "B"
SCOPE OF WORK
TC-035 Technology
UNIT PRICES

NOTE: Unit Prices shall include the furnishing of all labor, materials, supplies and services and shall include all items of cost, overhead and profit for the Contractor and any subcontractor involved, and shall be used uniformly without modifications for either additions or deductions. The Unit Prices as established shall be used to determine the equitable adjustment of the Contract Price in connection with changes, deletions or extra work performed under the Contract and the "Rules of Measurement" set forth in the General Conditions shall govern.

All Bidders will be required to complete and submit the following Unit Prices with the bid.

Material	Unit (LF, SF, EA, etc.)	Unit Price
¾" EMT Conduit	LF	
1" EMT Condit	LF	
1 ¼" EMT Conduit	LF	
2" EMT Condit	LF	
Conduit Hanger Assembly`	EA	
Multimode Fiber Conductor	LF	
Fiber Terminations	EA	
CAT 6A Cable	LF	
Patch Bay Terminations	EA	
12" Cable Tray & Support	LF	
18" Cable Tray & Support	LF	
24" Cable Tray & Support	LF	

Attachment "B"
SCOPE OF WORK
TC-035 Technology
HOURLY RATES

The Hourly Rates as established shall be used to determine the equitable adjustment of the Contract Price in connection with changes, deletions or extra work performed under the Contract and the "Rules of Measurement" set forth in the General Conditions shall govern.

All Bidders will be required to complete and submit the following Hourly Rates with the bid.

Note the following:

- **Overhead & Profit to be EXCLUDED from rates below & will be calculated separately**
- **Complete a separate Wage Breakdown for each trade or subcontractor**

STRAIGHT TIME		CLASSIFICATION							
Description	Unit	PM	Engineering	Super	Gen. Foreman	Foreman	Journeyman	Apprentice	Other (_____)
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

Attachment "B"
SCOPE OF WORK
TC-035 Technology

PREMIUM TIME		CLASSIFICATION							
Description	**Unit**	**PM**	**Engineering**	**Super**	**Gen. Foreman**	**Foreman**	**Journeyman**	**Apprentice**	**Other (_____)**
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

DOUBLE TIME		CLASSIFICATION							
Description	**Unit**	**PM**	**Engineering**	**Super**	**Gen. Foreman**	**Foreman**	**Journeyman**	**Apprentice**	**Other (_____)**
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

Attachment "B"
SCOPE OF WORK
TC-035 Technology

BID BREAKOUT

Fill in the following breakdown of costs included in your base bid. Each item is to include labor, material & equipment. These will not be considered unit prices nor will the numbers listed here limit obligations required in the bid documents. It will be used only to aid in verifying completeness of the bids.

	Description of Work	Labor Hours	Quantity	Unit	Unit Cost	Total
1	Engineering & Layout				$	$
2	Permits & Fees				$	$
3	Shop drawings and Submittals				$	$
4	Mobilizations				$	$
5	Raceways & Boxes				$	$
6	Cable Trays				$	$
7	Conductors, Cable & Terminations				$	$
8	Testing				$	$
9	Audio / Visual System				$	$
10	Security / Access Control Equipment				$	$
11	Voice / Data Equipment				$	$
12	BIM				$	$
13						
14						
15						
Please list and breakdown below any work that has not been listed above						
16					$	$
17					$	$
18	Management				$	$
19	Safety and Housekeeping				$	$
20	General Work Requirements				$	$
21	Overhead and Profit				$	$
Allowances (to be included in bid amount)						
1	Project BIM Coordinator Allowance					$25,000
2	Laboratory and Owner Provided Equipment coordination.					$50,000
	TOTAL BID AMOUNT (This amount should match the Lump Sum listed on Form of Proposal)					**$**
	Cost of Payment & Performance Bond **(DO NOT INCLUDE THIS COST IN BID AMOUNT)**					$

Attachment "B"
SCOPE OF WORK
TC-035 Technology

Attachment A – Additional Provisions and Attachment B – (Technical) Scope of Work go together to define the requirements of this Subcontract. Attachment A is a more of a general Summary of the Contract Documents, Price, etc., while Attachment B is the Trade Specific (technical) Scope of Work.

The work of this Agreement shall include, but not be limited to, all labor, materials, apparatus, hoisting, rigging, tools, equipment, plant, supplies, accessories, samples, submittals, shop drawings, certifications, engineering, layout, transportation, storage, supervision, temporary construction, special services, contributions, insurance, taxes (unless specifically excluded by the Contract Documents), compliance with all governing agencies (city, county, state, federal and others as may be required), permits, fees, all other services and facilities and other items necessary for the performance of the **Technology work** as shown, detailed and/or implied in the contract documents outlined in the General Scope of Work.

The Scope of Work Document is being provided for your use as a general guideline. Please note, this Document is not all-inclusive. It is this Subcontractor's responsibility to provide a complete bid, including all work for this trade indicated on ALL of the contract documents (include plans, specifications, Bid Manual, etc.). It is this Subcontractor's responsibility for the entire scope of this Bid Package and coordination between all trades.

A.	GENERAL
1.	Provide labor, material, equipment, and all else necessary to furnish and install complete the TC-035 Work as required by the contract documents and as outlined below
2.	The following scope of work is intended to be general in nature. The purpose of this scope of work is not to identify or list every scope of work item already shown or described in the contract documents, but rather to coordinate, clarify, modify, and/or expand the scope.
3.	The intention is to have the successful Subcontractor perform all the TC-035 related work shown on the Contract Documents other than those items specifically indicated below to be excluded.
4.	Detail references are included for convenience, but are not intended to identify all applicable details. If the Contract Drawings and Specifications conflict, then the greater quantity and quality shall apply. The Scope of Work takes precedence over the drawings and specifications in the event of a conflict in trade assignment or responsibility. Attention is called to the Bid Manual and the Subcontractor shall include all costs necessary to provide all work to meet the requirements of this scope of work.
5.	In this Scope of Work, the term "provide" shall be defined as meaning "furnish and install."

B.	DOCUMENTS
1.	General Contract between Turner and the Owner including all attachments

2.	All documents in bid manual including but not limited to:
	• Drawings
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Volume 1 Dated 11/15/24***
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Volume 2 Dated 11/15/24***
	• Specifications
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Project Manual Dated 11/15/2024***
	• Scope of Work (Attachment B)
	• General Requirements
	• General Conditions
	• Special Conditions
	• Sample Subcontract Agreement Form (Form 36)
	• Sample 3A Page
	• Reference Drawings Included
	  • ***Prospiant's Greenhouse Design Drawings for Rooftop Greenhouses***
	  • ***BP-02 Site Enabling Package – dated 3/13/24***
	  • ***BP-03/3.1 Foundations and Long Lead Equipment – dated 5/2/24***

Attachment "B"
SCOPE OF WORK
TC-035 Technology

	• ***BP-04 Core and Shell – dated 6/28/24*** • ***BP-05 Teaching Greenhouse – Dated 10/11/24***
3.	Bid Manual including all **Sketches** and **Attachments** prepared by Turner Construction and listed below
4.	**Attachments**
	a. Attachment A – Additional Provisions b. Attachment C - Safety Program c. Attachment E - Accounting Procedures d. Attachment F - Percentage Markup e. Attachment G - Bid Schedule f. Attachment H - BIM General Requirements g. Attachment I - LEAN Subcontract Exhibit h. Attachment J – Electronic Agreement i. Attachment K – CCIP Manual j. Attachment L – UK Tree Protection Standards k. Attachment M – Part 1 and Part 2 LEED Construction Waste Management Plan l. Attachment N – Turner Subcontractor Onboarding m. Attachment O – Enhancing Worker Experience Plan n. Attachment P – LEED Indoor Air Quality Management Plan
5.	**Sketches**
	a. SK-001 – Site Logistics Plan b. SK-002 – Misc Metals c. SK-003 – Tent and HVAC rental Agreements d. SK-004 – CM Office - Good Barn Layout e. SK-005 – Temporary Power Plan f. SK-006 – Lab Furnishings Coordination Matrix Addendum 04
6.	**Specifications**
	The following specification sections are listed as the responsibility of the Subcontractor in defining its area of work on this project. Unless specifically indicated otherwise or excluded below, this Contractor is responsible for the complete specification sections indicated below. a. **DIVISION 00 – PROCUREMENT & CONTRACTING REQUIREMENTS (ALL SECTIONS)** b. **DIVISION 01 – GENERAL REQUIREMENTS (ALL SECTIONS)** c. **DIVISION 07 – THERMAL AND MOISTURE CONTROL (AS APPLIES)** **d. 07 8413 – Penetration Firestopping (as related to this scope)** **e. 07 8413 – Joint Firestopping (as related to this scope)** **f. 07 9200 – Joint Sealants (as related to this scope)** **g. 07 9200.13 – Joint Sealants – Laboratory and Vivarium (as related to this scope)** **h. 07 9219 – Acoustical Joint Sealants (as related to this scope)** **i. 08 3113 – Access Doors and Frames (as related to this scope)** **j. 08 7100 – Door Hardware (as related to this scope)** **k. 08 7113 – Power Door Operators (as related to this scope)** l. **DIVISION 10 - SPECIALTIES (AS APPLIES)** m. **DIVISION 11 - EQUIPMENT (AS APPLIES)** n. **DIVISION 13 – SPECIAL CONSTRUCTION (AS APPLIES)** o. **DIVISION 26 - ELECTRICAL (AS APPLIES)** p. **DIVISION 27 – TELECOMMUNICATIONS (ALL SECTIONS complete)** **q. DIVISION 28 – ELECTRONIC SAFETY AND SECURITY (ALL SECTIONS complete– EXCEPT 28 3100)**
7.	Divisions 00 and 01 of the Specifications are general in nature, and apply to all Subcontracts. These sections are included "complete" as part of this Subcontract Agreement.
8.	The Contractor is also responsible for trade specifications not specifically listed above but required by reference in the listed specifications or as required to perform the scope of work described herein, as well as

	the Bidding Requirements, Contracting Requirements and the use of the Construction Documents as a whole.

C.	SPECIFIC SCOPE ITEMS
1.	Contract Price is LUMP SUM. There shall be NO additional labor and material escalations allowed
2.	Examination of Site – Subcontractor warrants that they have sufficiently reviewed the project site to inform themselves of all items about existing site that are relevant to their work, and the cost of their work.
3.	Include protection of all adjacent structures during performance of this work. Plan for protection of adjacent structures must be part of the overall plan submitted for approval prior to start of work
4.	**SITE LOGISTICS:** Refer to the Site Logistics plans included in the Contract Documents. Delivery trucks are to be scheduled with Turner at least one (1) week in advance.
5.	Subcontractor change order requests shall be provided with sufficient detail (as acceptable to Turner) to allow for satisfactory review. Subcontractor shall be allowed a maximum mark up for overhead and profit per the markup provisions included in the Subcontract Agreement, or as clarified in Contract Documents above
6.	Subcontractor understands that **time is of the essence** in the prosecution of Work under this agreement.
7.	**Verify layout** provided by others. Where this subcontractor is performing work using layout provided by others, this subcontractor shall perform sufficient verification of that layout to reasonably ascertain the validity of that layout. Any deficiencies (or suspected deficiencies found) shall be reported to Turner immediately to allow corrections as needed before start of work by this subcontractor.
8.	All Subcontractors must be **licensed** as required by local, State, or Federal jurisdiction required for work of this trade in this project location
9.	This Subcontractor will comply with Turner's corporate **safety policy** and comply with Site Specific Safety Plan that will include but is not limited to 100% tie-off above 6 feet, 100% Safety Glasses, High Visibility Vests or High Vis style T-Shirts with reflective strips, 100% glove policy, Ladders Last Policy and Nothing Hits the Ground. If you are unfamiliar with any of these policies please ask to see the policy prior to submitting your bid. Failure to be familiar with these policies will not exclude you from complying with them.
10.	Refer to **Project General Work Requirements** in volume one of the project manual. Any costs for work scope items listed in this section shall be included in your lump sum bid. Some work items are listed for specific trade contractors and they shall include those costs in their respective total lump sum bid price.
11.	This Contractor shall include all materials, labor, tools, and equipment to provide all **STRUCTURAL SUPPORTS & ANCHORS** as required by the Contract Documents and in accordance with section 05 1200. This includes the design and analysis of structural steel supports and connections not specifically shown. Include all material, labor, tools, equipment, supplies, transportation, and taxes, to complete this scope of work.
12.	This Contractor shall include all permits & fees required to complete this work. This contractor shall pay all fees, utility connection costs, meter fees, extension and development charges.
13.	All unloading, distribution, staging, hoisting, rigging, scaffolding, lifts, platforms, scissor lifts, boom lifts, planking, guying, sheeting, shoring, dewatering, bracing transportation, access for material, equipment and personnel required to perform this work is included in this contract.
14.	It shall be the responsibility of this contractor to coordinate the installation of this work with the utility companies, UK Facilities Management, other contractors working on the Project and the engineer as needed to verify or determine size and routing of services being installed by this contractor.
15.	Contractor work includes all required overtime, premium time and/or double shift costs to complete the scope of the work in accordance with the schedule per 'Attachment G'. Include design and installation of all temporary bracing required to erect the structure based on the project schedule.
16.	This Contractor shall furnish and install all **sleeves and blockouts** for this contractor's penetrations of walls, floors, and roof. The cutting of metal deck as required to install the work shall be included. Any reinforcement of the deck that is required but not shown on the structural drawings is to be included in this work. This Trade Contractor is responsible for all curbs, thimbles, counter flashings, clamping rings, sealants, etc., required at roof penetrations of material and equipment covered by this work. This would include but not be limited to vents flashings, and any special curbs or flashing required. This contractor shall coordinate with the

	construction manager and the TC-016 CIP Shafts and Decks contractor to install all sleeves prior to concrete placement. Assume multiple mobilizations are needed. Any and all costs for core drilling required for mechanical systems raceways due to failure to coordinate the installation of sleeves and/or their incorrect location will be borne by this contractor. a. Per UK standards, all sleeves/blockouts shall be a minimum of 1.5" above finished floor. This work scope shall include "metal collars" (sealed) as necessary for any existing or new sleeve installations not 1.5" above the finished floor elevation (not concrete elevation). This Trade Contractor is responsible for protection of all sleeves installed for (or existing) their scope of work. b. This contractor is to gain fire stopping inspection at the floor level PRIOR to installing the 1.5" metal collar. The installation of the metal collar and floor fire stopping shall not be in one action preventing proper fire stop inspection. c. All roof penetrations are to be included in this work scope. This contractor is to include all costs to repair/tie-in/patch the roofing utilizing the TC-022 roofing contractor of record. This includes any work included in this contract. Any roof or floor protection required for the movement of workmen or equipment is to be included. d. All openings installed under this scope are the sole responsibility of this contractor to ensure that they are water tight prior to their end of shift. This contractor shall coordinate openings with proper trades.
17.	This contractor shall **verify conditions** are suitable for Electrical installation prior to beginning installation. This includes installation of the equipment provided by others. a. Include coordination of final location of equipment and panels provided by others, including feeders into and out of the equipment and panels
18.	The contract price shall not be altered for any work that could have been **reasonably inferred** from the Contract Documents. The following items are listed as examples of the intent of this statement, but is not limited to these items alone: a. Variations to avoid interference and obstructions. b. Providing all electrical components and services usually supplied with a specific system. c. The providing of all necessary Technology equipment and appurtenances, whether shown or not, for a complete operating system in strict code compliance based on equipment and fixtures indicated on the Contract Documents. d. Testing performed in accordance with the requirements of the Contract Documents to meet the needs of the construction schedule and to not delay the work of other trades.
19.	This contractor shall provide all Fireproof Patching that has been removed for installation of hangers and supports for all Technology Scope.
20.	**Label and identify** all Technology Systems and components associated with this contract as required in the contract documents.
21.	This Contractor shall provide all penetration caulking for **Firestopping** associated with this scope of work in accordance with the contract documents, including identification per the specifications. This includes firestopping for all penetrations associated with this scope of work, including core drilled penetrations. All penetrations created by this Trade Contractor shall be coordinated with other applicable trades and performed in a neat and workmanlike manner.
22.	This contractor shall **verify conditions** are suitable for Technology installation prior to beginning installation. This includes installation of the equipment provided by others
23.	**Temporary powe**r and lighting will be available per Sketch 006. This Trade Contractor will need to provide any additional power required for their scope of work. If necessary, provide generators for other power that will be required beyond what is provided. At no time shall the noise generated by generators or welders be overwhelming or disruptive to the campus operations. Generators shall be placed to minimize noise and exhaust impacts.
24.	This Contractor shall provide all Task Lighting required for the performance of their work. General Building Egress Lighting will be provided: however, each work location will need to have contractor provided task lighting as needed to safely perform their installations.
25.	a. This Contractor shall include all **Building Information Modeling** per the contract documents. Refer to attachment H for BIM requirements associated with this scope. All costs for the BIM process for this scope of work shall be included in the base bid. Include the scheduled Document Control Server Allowance for

Attachment "B"
SCOPE OF WORK
TC-035 Technology

	Box server use and hardware/software, as well as the Project BIM Coordinator Allowance for 3rd party BIM manager directed by the Construction Manager. These allowances are not for the use of the MEP trades for their coordination. This Trade Contractor shall be responsible to reflect the actual location of conduits and electrical gear where connections are to be made with existing work in the BIM a. This Trade Contractor shall provide coordination between all Power and Communication Conduits, Cable Trays, Duct Banks, and Bussway ensure proper separation and crossing per industry standards. b. BIM Modeling under this scope of work will include all conduits ¾" nominal size and larger. c. This Trade Contractor shall also include an additional 160 hours of BIM coordination to be used at the Owner/CM's discretion
26.	The intent of this scope of work will utilize the coordination in the 3D model to prefabricate off-site as much material as possible. All materials possible will be **Prefabricated** and packaged as a Kit-of-Parts for Just-in-Time delivery at the job site and be on wheels for delivery to the area of install. No pre-packaged or loose materials to be delivered to the job site that will not be installed within 4 days of delivery.
27.	This Contractor shall coordinate his work scope with the drywall partitions trade contractor who will be responsible to build in all openings in the partition walls for all equipment, duct, conduit and pipe penetrations, and shall include all required lintels. The HVAC, electrical, fire protection and plumbing trade contractor shall be required to coordinate locations and provide layout drawings of all penetrations prior to start of partition work. For penetrations missed for installation in normal sequence by the drywall trade contractor, the offending trade contractor will bear the full cost of installation, including cutting wall, reinforcing wall, and refinishing the wall around the penetration.
28.	This Contractor shall assume up to 50% of stud wall framing (to include drywall top out) at each floor will be completed prior to ductwork installation identified as priority walls. Priority walls (locations where ductwork/ other MEP systems are tight to adjacent drywall walls) will be the first identified and installed by the drywall contractor. Drywall top out will terminate at an elevation a minimum of 1'-0" above finish ceiling grid line to allow for conduit, piping rough in prior to the balance of the wall drywall is completed.
29.	This contractor shall provide **ACCOUSTICAL JOINT SEALANTS** (COMPLETE) as required for this scope of work and as shown on the Contract Documents and in accordance with specification section **07 9219.**
30.	This contractor shall provide **ACCESS DOORS** (COMPLETE) as required for this scope of work and as shown on the Contract Documents and in accordance with specification section **08 3113.** a. This Contractor shall provide all Access Doors for all in-wall or above ceiling equipment and components that require access for maintenance and repair. Coordinate installation with Finishes Trades.
31.	Include cost in base bid for 2% of the total manhours anticipated for this scope to be used at the direction of the CM as **"Composite Cleanup".**
32.	This contractor shall include **400 Journeyman Overtime Work Hours** to be used for schedule maintenance by the Construction Manager. The trade contractor must include all travel, per diem, fringes, OH&P, etc. costs (a fully loaded rate) on these hours and they are only to be used by the trade contractor at the direction and approval of the Construction Manager. These hours will be logged and usage tracked. Usage of these hours can occur during the week or on Saturdays – no Sundays are intended.
33.	This Contractor shall provide personnel for support of Commissioning, by others, of Equipment and Systems within the Building. This scope will include any adjusting of equipment, dampers, valves, etc. as needed to address Commissioning comments / requirements to meet Contract Document requirements.
34.	This Contractor shall provide complete layout, coordination and installation of Equipment Pads for all Pad Mounted Equipment. This scope includes all design and installation of anchorage of the equipment per approved details.
35.	All unloading, distribution, staging, hoisting, rigging, scaffolding, lifts, platforms, scissor lifts, boom lifts, planking, guying, sheeting, shoring, dewatering, bracing transportation, access for material, equipment and personnel required to perform this work is included in this contract.
36.	This Trade Contractor shall provide all materials, labor, tools, and equipment required to install complete and functioning **Technology** system as shown on the Contract Documents and in accordance with Division 27. Include all material, labor, tools, equipment, supplies, transportation, and taxes, to complete this scope of work. This contractor shall include all **Raceways**, including underground raceways as needed, for a complete installation of this work. These raceways are to be coordinated with this and other contractors work. Provide all early rough-in of all raceways coordinated with other trades for all Technology systems.

Attachment "B"
SCOPE OF WORK
TC-035 Technology

	a. Provide all Raceway BIM modeling to show all cable trays and all required Pull Boxes. Cable Trays and Pull Boxes are to be shown and coordinated with all other work from all trades for installation location and access. b. Receive from TC-037 Door Hardware Contractor Pedestals for Card Readers and provide complete installation including all conduit, wire, anchors, accessories and terminations for complete operational Card Readers
37.	This Contractor shall provide Technology connections to all **Owner Provided Equipment as** noted in the contract documents. Coordinate receiving with Manufacturer's Representatives delivery dates and project schedules. For owner furnished equipment which may have utility connection requirements, provide rough-in and final connections to the Owner furnished equipment and coordinate complete installation as required. Coordinate any utility work shown on documents with the appropriate subcontractor. This includes things of "like scope" items listed as associated with this work scope. a. The above equipment may come with loose miscellaneous accessories such as sensors, switches, power filters, etc. and multiple points of connection over and above what is called for in the documents. This Contractor shall provide any miscellaneous conduit, wiring, testing, etc. to make the equipment fully operational. b. This contractor shall provide the Conduit, Supports, Misc. Steel for Supports, and Accessories for complete connection to equipment locations. c. Coordinate and complete connections to Owner furnished equipment as indicated in the contract documents
38.	This Contractor shall provide all Grounding and Bonding connections as required for all Equipment and Components provided in the Technology scope of work.
39.	Perform all **electrical testing** of new Technology systems including emergency systems as outlined in the Contract Documents and per Governing Codes required to verify correct system operation including proper coordination of system interruption ratings. Installation, testing, and inspections shall be scheduled by area as sequenced by the Construction Manager, in order to not delay the progress of other trades. Multiple tests, comebacks, or inspections as may be required for this coordination are to be included. Provide all electrical equipment nameplates/labels and panelboard directories, including all owner furnished equipment.
40.	This contractor shall provide a complete Voice Data Network System as shown in the contract documents. Provide all components, racks, cabinets, cabling, wire management, splicing, terminations, testing
41.	This contractor shall provide a complete Audiovisual System as shown in the contract documents. Reference the contractor responsibility matrix in the AV drawings. This contractor is responsible for all items assigned to "GC". "AVC" will be installed by the audio visual contractor selected by the owner. Provide all components, racks, cabinets, cabling, wire management, splicing, terminations, testing, etc. as indicated. This contractor to include an Audio Visual Coordination Allowance of $50,000 to be used at the direction of the Construction Manager. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
42.	This Contractor shall provide complete Security / Access Control System installation per notes in Telecommunication contract drawings for security, position and cameras at doors and stairs per the sheet notes. Provide all components, racks, cabinets, cabling, wire management, splicing, terminations, testing. Receive and install all electric strikes provided by TC-037 and power sources for all locations.
43.	This Contractor shall provide personnel for support of Commissioning, by others, of Equipment and Systems within the Building. This scope will include any adjusting of equipment, dampers, valves, etc. as needed to address Commissioning comments / requirements to meet Contract Document requirements.
44.	This Contractor shall provide all Fire Rated Painted Plywood Backing in all Data Rooms. Provide Fire Rated and Painted backing, keeping labeling visible at all locations.
45.	This Contractor shall provide all Patch Cords for all Equipment and Devices within the Data Rooms and above Ceilings as required.
46.	This Contractor shall receive and provide installation of the Owner Provided Emergency Blue Phone at Location shown on plans. Provide all conduit and wiring for data and Power for this phone.
47.	This Contractor shall be responsible for demolition and removal of Temporary Data/Internet systems to the point of connection for cap off and safe condition of the utility. This scope includes the Field Offices services installed by previous contract scopes.

Attachment "B"
SCOPE OF WORK
TC-035 Technology

48.	This Contractor shall provide all connections to Laboratory Equipment as shown in the contract documents. Review in detail all Laboratory Equipment Schedules and Elevations for all connection and coordination points.
49.	Per the schedule in attachment G, this contractor to provide dedicated foreman and personnel for start and completion of the first floor as soon as it becomes available to start work, regardless of the sequence and flow of the remaining floors. It is the intention that the 1st floor will be constructed simultaneously with other floors. All necessary manpower and supervision required to meet the schedule should be included in the base bid.
50.	This Contractor shall provide an Allowance for Technology Equipment of $10,000 to be used at the direction of the Construction Manager. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
51.	This contractor to include 400 Journeyman hours as an allowance to be used at the direction of the Construction Manager. Include an allowance of $25,000 for misc. electrical materials. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
53.	This Contractor shall provide and install Interlock switches and wiring for all Air Curtains provided by TC-033 Mechanical Contractor. Coordinate Switches and Wiring with TC-037 Door & Hardware Contractor for location, pathways, connections, relays and other devices/accessories required for operation of Air Curtains.
54.	This Contractor shall provide all programming, pathways, and connections for Interlocking Doors shown and detailed on the contract documents. Coordinate requirements with TC-037 Door and Hardware Contractor.
55.	This Contractor shall provide 4" curbs for all penetrations at the penthouse level per key note 182 example sheet A143. In addition, this Contractor shall provide 6" concrete curbs at all Greenhouse penetrations per page note on A152.
56	This Trade Contractor shall participate in the construction of on-site **mock-ups** as specified and indicated by the documents and/or noted elsewhere. This shall include providing of materials required for this trade contract scope of work, coordinating with other trade contractors with regard to sequencing of installations and protection of materials, furnishing shop drawings and /or setting drawings, etc. Materials for in place or interim mock-ups shall be secured in advance of normal procurement to allow for ALL trade contractor installations, owner/designer and user reviews and evaluations, meetings, approvals and directive if applicable. Mockups are understood to start with arrangement of wall rough-in through complete room finishes. **Addendum 04**
57	This contractor to provide rough in for the observation cameras – reference keynote Q03 on Q413.B. **Addendum 04**

D.	**EXCLUSIONS**
	The Scope of Work shall exclude the following:
1.	Payment & Performance Bond

E.	**ALLOWANCES**	
	The Contract Sum shall be the addition of a base bid amount plus allowances. It is expressly understood and agreed that all allowance work will be completed within the original schedule. Progress Payments will be made against Allowance expenditures, based on approved monthly invoices & written Allowance Authorization from Turner. Any unused funds remaining in these allowances will be credited back to the Project. Only direct Labor, Material, and Equipment costs authorized in writing by Turner after approval by the Owner are to be charged to the Allowance. The Subcontractor's cost for all overhead and profit on the allowance amount shall be included in the base bid amount and not in the allowance amount.	
1.	Project BIM Coordinator Allowance	$25,000
2.	Laboratory and Owner Provided Equipment coordination.	$50,000

Attachment "B"
SCOPE OF WORK
TC-035 Technology

F.	SCHEDULE
	Schedule information is included within the bid manual **(Attachment G)** to aid the Subcontractor in anticipating material deliveries, and manpower and equipment requirements. The information describes only the major activities of this scope of work and does not attempt to describe any out of sequence work required. **The Contractor must confirm that you will meet the project schedule as indicated in the bid manual.** It is **absolutely critical** that the work of this contract be completed by the dates defined. The intention is that the Subcontractor must provide sufficient labor, equipment, overtime, supervision, etc. to overcome weather delays.

G.	ALTERNATES
	The following "Alternate(s)" may be accepted and incorporated herein as part of the Scope of Work for the respective price. Inasmuch as these Alternates were anticipated from the inception of the project and were priced accordingly, all overhead, profit and escalation has been included within the lump sum amount and the price shall remain firm throughout the duration of the project, unless specifically noted. Indicate Add/Deduct Price on the Form of Proposal.
Alt. 1	**Fourth Floor Build Out**
Alt. 2	**Autoclaves**
Alt. 3	**Greenhouse Tables and Shelving**
Alt. 4	**Roller Window Shades in Rooms A0100 and A0102**
Alt. 5	**Greenhouse Card Readers (ADD #04)**
Alt. 6	**Biological Safety Cabinets (ADD #04)**

Attachment "B"
SCOPE OF WORK
TC-035 Technology
PROPOSED MAJOR SUBCONTRACTORS AND SUPPLIERS
DUE BY BID DEADLINE

For the purposes of this form, a major subcontractor or supplier is a person or entity that will have a direct or assigned contract or purchase order for the performance or supply of any item listed below if the bidder is successful.

All subcontractors must comply with the laws of the Commonwealth of Kentucky and the policies and procedures of the University of Kentucky as administrated by the UK Capital Construction Procurement Section and Capital Project Management Division.

If the bidder will self-perform these items, list "Self-Perform" for each applicable item.

No major subcontractor or supplier may be added or changed without written consent of the Owner's representative after the bid deadline.

The apparent low bidder may be required to attend a post bid review meeting which will be scheduled at a later date.

DIVISION OF WORK	NAME AND ADDRESS OF SUBCONTRACTOR

Attachment "B"
SCOPE OF WORK
TC-035 Technology

LIST OF MATERIALS AND EQUIPMENT

Each item listed under the different phases of construction must be clearly identified so that the Owner will definitely know what the Bidder proposes to furnish.

The use of a manufacturer's or dealer's name only, or stating "as per Plans and Specifications," will not be considered as sufficient identification.

Where more than one "Make" or "Brand" is listed for any one item, the Owner has the right to select the one to be used.

The apparent low bidders will be required to complete and submit to the University the following information by twelve o'clock (12) noon of the first working day following the bid opening. The information requested in this submittal is required to assist the University in determining contractor responsibility to complete the project being bid.

The apparent low bidder is requested to attend a post bid meeting which will be scheduled at a later date.

MATERIALS AND EQUIPMENT	BRAND OR MANUFACTURER

Attachment "B"
SCOPE OF WORK
TC-036 Fitout Drywall & Ceilings

UNIVERSITY OF KENTUCKY
CAPITAL CONSTRUCTION PROCUREMENT SECTION
FORM OF PROPOSAL: TC-036 Fitout Drywall & Ceilings

Project No. 2617.0 Project Title: Ag Research Facility Fitout – Group 1

Purchasing Officer: Corey W. Leslie

NOTE: The following Form of Proposal shall be followed exactly in submitting a proposal for this work. If this copy is lost, an additional copy will be furnished upon written request to the authority issuing Contract Documents.

This Proposal is submitted by: _____

(NAME AND ADDRESS OF BIDDER)

Date: _____ _____

Telephone: _____ _____

TO: BID CLERK
UNIVERSITY OF KENTUCKY
CAPITAL CONSTRUCTION

PROCUREMENT
RM. 322 SERVICE BUILDING
LEXINGTON, KY. 40506-0005

INVITATION TO BID: CCK-2617.0-11-25

BID OPENING DATE: January 22, 2025

TIME: 3:00 P.M. Lexington, KY time

The Bidder, in compliance with your Invitation for Bids for the above referenced Project, having carefully examined the site of the Work, the Drawings and complete Contract Documents as defined in Article I of the General Conditions, as well as the Specifications affecting the work as prepared by the Consultant, hereby proposes to furnish all labor, materials, supplies and services required to construct the Project in accordance with the Contract Documents, within the time set forth therein, and at the price stated below without qualification. Bidder understands that successful bidder will enter into a contract with Turner Construction Company utilizing Turner's Subcontract Agreement Form 36 without modification.

The Bidder hereby acknowledges receipt of the following Addenda:

ADDENDUM NO. _____ DATED _____

ADDENDUM NO. _____ DATED _____

ADDENDUM NO. _____ DATED _____

ADDENDUM NO. _____ DATED _____

(Here insert the number and date of any Addenda issued and received. If none has been issued and received, the word NONE should be inserted.)

NOTE: IN ADDITION TO THE SPECIFIC TRADE FORM OF PROPOSAL EACH SUBCONTRACTOR MUST ALSO SUBMIT FORMS FOUND IN THE SUPPLEMENTAL FORM OF PROPOSAL SECTION.

Attachment "B"
SCOPE OF WORK
TC-036 Fitout Drywall & Ceilings

Contractor Report of Prior Violations of
Chapters 136,139, 141, 337, 338, 341, and 342

Pursuant to KRS 45A.485, the Contractor shall, prior to the award of a Contract, reveal final determinations of any violations of the provisions of KRS Chapters 136, 139, 141, 337, 338, 341, and 342 by the Contractor that have occurred in the previous five (5) year period.

This statute also requires for the duration of the Contract established, the Contractor be in continuous compliance with the provisions of Chapters 136, 139, 141, 337, 338, 341, and 342 that apply to the Contractor's operations. The Contractor's failure to reveal a final determination of a violation of KRS Chapters 136, 139, 141, 337, 338, 341, and 342, or failure to comply with any of the above cited statutes for the duration of the Contract shall be grounds for the cancellation of the Contract, and the disqualification from eligibility for future contracts for a period of two (2) years.

The Contractor, by signing and submitting a Bid on this Invitation, agrees as required by KRS 45A.485 to submit final determinations of any violations of the provisions of KRS Chapters 136, 139, 141, 337, 338, 341, and 342 that have occurred in the previous five (5) years prior to the award of a Contract and agrees to remain in continuous compliance with the provisions of these statutes during the duration of any contract that may be established. Final determinations of any violations of these statutes, must be provided to the University by the successful Contractor prior to the award of a Contract.

LUMP SUM PROPOSAL

The Bidder agrees to furnish all labor, materials, supplies and services required to complete the Work, for the above referenced Project, for the Capital Construction Procurement Section, University of Kentucky, as described in the Specifications and Contract Documents and shown on the Drawings enumerated below and as modified by the Addenda listed above.

FOR THE LUMP SUM OF_____
(USE WORDS)

_____DOLLARS AND_____CENTS.
(USE WORDS) (USE WORDS)

($_____)
(USE FIGURES)

Alternates:

Alternate 1: Fourth Floor Build Out	**$**_____
Alternate 2: Autoclaves	**$**_____
Alternate 3: Greenhouse Tables and Shelving	**$**_____
Alternate 4: Roller Window Shades in Rooms A0100 and A0102	**$**_____
Alternate 5: Greenhouse Card Readers (ADD #04)	**$**_____
Alternate 6: Biological Safety Cabinets (ADD #04)	**$**_____

The apparent low bidder is requested to attend a post bid meeting which will be scheduled at a later date. All parties (prime and subcontractors) are required to attend in person.

Attachment "B"
SCOPE OF WORK
TC-036 Fitout Drywall & Ceilings

FORM OF PROPOSAL

AUTHENTICATION OF BID AND STATEMENT OF NON-COLLUSION AND NON-CONFLICT OF INTEREST

I hereby certify:

1. That I am the Bidder (if the Bidder is an individual), a partner in the Bidder (if the Bidder is a partnership), or an officer or employee of the bidding corporation having authority to sign on its behalf (if the Bidder is a corporation);

2. That the submitted Bid or Bids covering Capital Construction Procurement Section Invitation No. CCK-2617.0-11-25 have been arrived at by the Bidder independently and have been submitted without collusion with, and without any agreement, understanding or planned common course of action with, any other contractor, vendor of materials, supplies, equipment or services described in the Invitation to Bid, designed to limit independent bidding or competition; as prohibited by provision KRS 45A.325;

3. That the contents of the Bid or Bids have not been communicated by the Bidder or its employees or agents to any person not an employee or agent of the Bidder or its surety on any bond furnished with the Bid or Bids and will not be communicated to any such person prior to the official opening of the Bid or Bids;

4. That the Bidder is legally entitled to enter into the contracts with the University of Kentucky and Turner Construction Company and is not in violation of any prohibited conflict of interest, including those prohibited by the provisions of KRS 164.390, and 45A.330 to 45A.340 and 45A.455;

5. This offer is good for 60 calendar days from the date this Bid is opened. In submitting the above, it is expressly agreed that upon proper acceptance by the Capital Construction Procurement Section of any or all items Bid above, a contract shall thereby be created with respect to the items accepted;

6. That I have fully informed myself regarding and affirm the accuracy of all statements made in this Form of Proposal including Bid Amount.

7. Unless otherwise exempted by KRS 45.590, the Bidder intends to comply in full with all requirements of the Kentucky Civil Rights Act and to submit data required by the Kentucky Equal Employment Act upon being designated the successful contractor.

8. That the bidding contractor and all subcontractors to be employed do not and will not maintain any facilities they provide for employees in a segregated manner and they are in full compliance with provisions of 41 CFR 60-1.8 that prohibits the maintaining of segregated facilities.

9. In accordance with KRS45A.110(2), the undersigned hereby swears under penalty of perjury that he/she has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky and that the award of a contract to the bidder will not violate any provision of the campaign finance laws of the Commonwealth of Kentucky.

READ CAREFULLY - SIGN IN SPACE BELOW - FAILURE TO SIGN INVALIDATES BID

SIGNED BY_____ TITLE_____

PRINT NAME_____ FIRM_____

ADDRESS_____ AREA CODE & PHONE _____

_____ FAX_____
CITY STATE ZIP CODE

BIDDER'S EMAIL _____ DATE_____

Attachment "B"
SCOPE OF WORK
TC-036 Fitout Drywall & Ceilings

BUSINESS CLASSIFICATION

Please complete this form which is necessary for the University of Kentucky vendor database.
Mark only one classification. Refer to "Definitions" for assistance in determining correct classification.

(01)___Small Business

(02)___Large Business

(03)___Disadvantaged Small Business

(04)___Disadvantaged Large Business

(05)___Woman-Owned Small Business

(06)___Woman-Owned Large Business

(07)___Disadvantaged Woman-Owned Small Business

(08)___Disadvantaged Woman-Owned Large Business

(09)___Other

DEFINITIONS

(01) SMALL BUSINESS: A business concern that is organized for profit, is independently owned and operated, is not dominant in the field of operations in which it is bidding, and meets the size standards as prescribed in the Code of Federal Regulations, Title 13, Part 121. Consult your local or district Small Business Administration (SBA) office if further clarification is needed.

(02) LARGE BUSINESS: A business concern that exceeds the small business size code standards established by SBA.

(03) DISADVANTAGED SMALL BUSINESS: A business concern (a) that is at least 51 percent owned by one or more socially and economically disadvantaged individuals (as defined below), or a publicly owned business, having at least 51 percent of its stock owned by one or more socially and economically disadvantaged individuals; and (b) has its management and daily business operations controlled by one or more such individuals. Socially and economically disadvantaged individuals include: Asian, Black/African American, Hispanic or Latino, Native American, Native Hawaiian/Pacific Islander, Women, Disabled, Veteran and Disabled Veteran and other minorities or individuals found to be disadvantaged by the SBA.

(04) DISADVANTAGED LARGE BUSINESS: A concern that meets the definition of socially and economically disadvantaged individuals as defined above, but which is not a small business by the SBA's size standards.

(05) WOMAN-OWNED SMALL BUSINESS: A small business that is at least 51 percent owned by a woman or women who also control and operate it. "Control" in this context means exercising the power to make policy decisions. "Operate" means actively involved in the day to day management.

(06) WOMAN-OWNED LARGE BUSINESS: A concern that meets the definition of woman owned and operated, but which is not a small business by the SBA's standards.

(07) DISADVANTAGED, WOMAN-OWNED SMALL BUSINESS: A concern that meets the definition of both (03) and (05) above.

(08) DISADVANTAGED, WOMAN OWNED LARGE BUSINESS: A concern that meets the definition of both (04) and (06) above.

(09) OTHER: A concern that does not meet any of the above definitions.

Attachment "B"
SCOPE OF WORK
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THE FOLLOWING ITEMS ARE HEREWITH ENCLOSED AS REQUIRED BY KRS 45A.185

1. Bid Bond or Certified Check in an amount not less than five percent (5%) of total Bid.

2. List of Proposed Subcontractors and Unit Prices. (if required)

3. Authentication of Bid and Statement of Non-Collusion and Non-Conflict of Interest.

4. List of Materials and Equipment.

5. VENDOR NUMBER: It is imperative that you furnish your Federal Employer Identification Number in the space provided below. Failure to do so may delay the processing of purchase orders issued to your firm.

_____
(Nine Digit Number)

BIDDER'S QUALIFICATIONS

The Commonwealth of Kentucky Model Procurement Code (KRS 45A.080) requires contracts to be awarded, "to the responsive and responsible bidder whose bid offers the best value" to the University of Kentucky. In order to determine if the Bidder has the experience, qualifications, resources and necessary attributes to provide the quality workmanship, materials and management required by the plans and specifications, the Bidder may be required to complete and submit the information requested on the University of Kentucky Contractor Bidder Determination of Responsibility questionnaire. Failure to provide the information requested on the questionnaire or failure to provide any additional submittals or information that may be requested to make this determination may be grounds for a declaration of non-responsibility with respect to the Bidder. A copy of the Contractor Determination of Responsibility questionnaire is available upon request to all Bidders.

TIME LIMIT FOR EXECUTION OF CONTRACT DOCUMENTS

It is further agreed, that in the event this Proposal is accepted by the Owner and the undersigned shall fail to execute the Contract and furnish satisfactory Payment and Performance Bond within ten (10) consecutive calendar days from the date of notification of the award of the Contract, the Owner may at his option, determine that the undersigned has abandoned the Contract and thereupon, the Proposal shall become null and void and the Bid guarantee, check or Bid bond which accompanied it shall be forfeited and become the property of the Owner as liquidated damages for each failure and no protest pursuant to such action will be made. If the Undersigned shall execute the Contract, and furnish satisfactory Payment Bond and Performance Bond, it is understood that the Bid Guarantee or Bid Bond will be returned to the undersigned by the Owner.

Attachment "B"
SCOPE OF WORK
TC-036 Fitout Drywall & Ceilings

UNIT PRICES

NOTE: Unit Prices shall include the furnishing of all labor, materials, supplies and services and shall include all items of cost, overhead and profit for the Contractor and any subcontractor involved, and shall be used uniformly without modifications for either additions or deductions. The Unit Prices as established shall be used to determine the equitable adjustment of the Contract Price in connection with changes, deletions or extra work performed under the Contract and the "Rules of Measurement" set forth in the General Conditions shall govern.

All Bidders will be required to complete and submit the following Unit Prices with the bid.

Material	Unit (LF, SF, EA, etc.)	Unit Price

Attachment "B"
SCOPE OF WORK
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HOURLY RATES

The Hourly Rates as established shall be used to determine the equitable adjustment of the Contract Price in connection with changes, deletions or extra work performed under the Contract and the "Rules of Measurement" set forth in the General Conditions shall govern.

All Bidders will be required to complete and submit the following Hourly Rates with the bid.

Note the following:

- **Overhead & Profit to be <u>EXCLUDED</u> from rates below & will be calculated separately**
- **Complete a separate Wage Breakdown for each trade or subcontractor**

STRAIGHT TIME		CLASSIFICATION							
Description	Unit	PM	Engineering	Super	Gen. Foreman	Foreman	Journeyman	Apprentice	Other (_____)
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

Attachment "B"
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PREMIUM TIME		CLASSIFICATION							
Description	**Unit**	**PM**	**Engineering**	**Super**	**Gen. Foreman**	**Foreman**	**Journeyman**	**Apprentice**	**Other (_____)**
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

DOUBLE TIME		CLASSIFICATION							
Description	**Unit**	**PM**	**Engineering**	**Super**	**Gen. Foreman**	**Foreman**	**Journeyman**	**Apprentice**	**Other (_____)**
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

Attachment "B"
SCOPE OF WORK
TC-036 Fitout Drywall & Ceilings

BID BREAKOUT

Fill in the following breakdown of costs included in your base bid. Each item is to include labor, material & equipment. These will not be considered unit prices nor will the numbers listed here limit obligations required in the bid documents. It will be used only to aid in verifying completeness of the bids.

	Description of Work	Labor Hours	Quantity	Unit	Unit Cost	Total
1	Engineering & layout, Permits & Fees, Shop drawings and submittals				$	$
2	Mobilizations				$	$
3	Drywall Partitions (including framing and Fire-stopping, Sealants)				$	$
4	Drywall Ceilings (include framing)				$	$
5	Acoustic Panel Ceilings				$	$
6	Acoustical Metal Panel Ceilings				$	$
7	Sound Absorbing Wall Units				$	$
8	Install Hollow Metal Frames in drywall partitions				$	$
9	Insulation				$	$
10	Interior Wall and Ceiling Expansion Control				$	$
11	General Work Requirements (Section F Items)				$	$
12					$	$
Please list and breakdown below any work that has not been listed above						
13					$	$
14					$	$
15					$	$
16					$	$
17					$	$
18	Management				$	$
19	Safety and Housekeeping				$	$
20	General Work Requirements				$	$
21	Overhead and Profit				$	$
Allowances (to be included in bid amount)						
1	Document Server Control Allowance				$	$ 15,000
2					$	$
	TOTAL BID AMOUNT (This amount should match the Lump Sum listed on Form of Proposal)					**$**
	Cost of Payment & Performance Bond **(DO NOT INCLUDE THIS COST IN BID AMOUNT)**					$

Attachment "B"
SCOPE OF WORK
TC-036 Fitout Drywall & Ceilings

Attachment A – Additional Provisions and Attachment B – (Technical) Scope of Work go together to define the requirements of this Subcontract. Attachment A is a more of a general Summary of the Contract Documents, Price, etc., while Attachment B is the Trade Specific (technical) Scope of Work.

The work of this Agreement shall include, but not be limited to, all labor, materials, apparatus, hoisting, rigging, tools, equipment, plant, supplies, accessories, samples, submittals, shop drawings, certifications, engineering, layout, transportation, storage, supervision, temporary construction, special services, contributions, insurance, taxes (unless specifically excluded by the Contract Documents), compliance with all governing agencies (city, county, state, federal and others as may be required), permits, fees, all other services and facilities and other items necessary for the performance of the **Fitout Drywall and Ceiling Work** as shown, detailed and/or implied in the contract documents outlined in the General Scope of Work.

The Scope of Work Document is being provided for your use as a general guideline. Please note, this Document is not all-inclusive. It is this Subcontractor's responsibility to provide a complete bid, including all work for this trade indicated on ALL of the contract documents (include plans, specifications, Bid Manual, etc.). It is this Subcontractor's responsibility for the entire scope of this Bid Package and coordination between all trades.

A.	GENERAL
1.	Provide labor, material, equipment, and all else necessary to furnish and install complete the TC-036 Work as required by the contract documents and as outlined below
2.	The following scope of work is intended to be general in nature. The purpose of this scope of work is not to identify or list every scope of work item already shown or described in the contract documents, but rather to coordinate, clarify, modify, and/or expand the scope.
3.	The intention is to have the successful Subcontractor perform all the TC-036 related work shown on the Contract Documents other than those items specifically indicated below to be excluded.
4.	Detail references are included for convenience, but are not intended to identify all applicable details. If the Contract Drawings and Specifications conflict, then the greater quantity and quality shall apply. The Scope of Work takes precedence over the drawings and specifications in the event of a conflict in trade assignment or responsibility. Attention is called to the Bid Manual and the Subcontractor shall include all costs necessary to provide all work to meet the requirements of this scope of work.
5.	In this Scope of Work, the term "provide" shall be defined as meaning "furnish and install."

B.	DOCUMENTS
1.	General Contract between Turner and the Owner including all attachments

2.	All documents in bid manual including but not limited to:
	• Drawings
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Volume 1 Dated 11/15/24***
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Volume 2 Dated 11/15/24***
	• Specifications
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Project Manual Dated 11/15/2024***
	• Scope of Work (Attachment B)
	• General Requirements
	• General Conditions
	• Special Conditions
	• Sample Subcontract Agreement Form (Form 36)
	• Sample 3A Page
	• Reference Drawings Included
	  • ***Prospiant's Greenhouse Design Drawings for Rooftop Greenhouses***
	  • ***BP-02 Site Enabling Package – dated 3/13/24***
	  • ***BP-03/3.1 Foundations and Long Lead Equipment – dated 5/2/24***
	  • ***BP-04 Core and Shell – dated 6/28/24***

Attachment "B"
SCOPE OF WORK
TC-036 Fitout Drywall & Ceilings

	• ***BP-05 Teaching Greenhouse – Dated 10/11/24***
3.	Bid Manual including all **Sketches** and **Attachments** prepared by Turner Construction and listed below
4.	**Attachments**
	a. Attachment A – Additional Provisions b. Attachment C - Safety Program c. Attachment E - Accounting Procedures d. Attachment F - Percentage Markup e. Attachment G - Bid Schedule f. Attachment H - BIM General Requirements g. Attachment I - LEAN Subcontract Exhibit h. Attachment J – Electronic Agreement i. Attachment K – CCIP Manual j. Attachment L – UK Tree Protection Standards k. Attachment M – Part 1 and 2 LEED Construction Waste Management Plan l. Attachment N – Turner Subcontractor Onboarding m. Attachment O – Enhancing Worker Experience Plan n. Attachment P – LEED Indoor Air Quality Management Plan
5.	**Sketches**
	a. SK-001 – Site Logistics Plan b. SK-002 – Misc Metals c. SK-003 – Tent and HVAC rental Agreements d. SK-004 – CM Office - Good Barn Layout e. SK-005 – Temporary Power Plan h. SK-006 – Lab Furnishings Responsibility Matrix Addendum 04
6.	**Specifications**
	The following specification sections are listed as the responsibility of the Subcontractor in defining its area of work on this project. Unless specifically indicated otherwise or excluded below, this Contractor is responsible for the complete specification sections indicated below. a. **DIVISION 00 – PROCUREMENT & CONTRACTING REQUIREMENTS (ALL SECTIONS)** b. **DIVISION 01 – GENERAL REQUIREMENTS (ALL SECTIONS)** **c. 05 4000- Cold Formed Metal Framing (complete)** **d. 05 4300 Slotted Channel Framing System (complete)** **e. 05 5000 – Metal Fabrications (complete)** **f. 06 1000- Rough Carpentry (as related to this scope)** **g. 06 1600 – Sheathing (as related to this scope)** **h. 07 8413- Penetration Firestopping (as related to this scope)** **i. 07 8443- Joint Firestopping (as related to this scope)** **j. 07 9200- Joint Sealants (as related to this scope)** **k. 07 9200.13 Joint Sealants- Laboratory and Vivarium (as related to this scope)** **l. 07 9219- Acoustical Joint Sealants (as related to this scope)** **m. 08 1113 – Hollow Metal Doors and Frames (as related to this scope)** **n. 08 1416 – Flush Wood Doors (as related to this scope)** **o. 08 3113 – Access Doors and Frames (as related to this scope)** **p. 08 7100 – Door Hardware (as related to this scope)** **q. 08 7113- Power Door Operators (as related to this scope)** **r. 09 2116.23 Gypsum Board Shaft Wall Assemblies (complete)** **s. 09 2216 Non-Structural Metal Framing (complete)** **t. 09 2900 Gypsum Board (complete)** **u. 09 5113 Acoustical Panel Ceilings (complete)**

Attachment "B"
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	v. 09 5133 Acoustical Metal Pan Ceilings (complete) **~~w. 09 8433- Sound Absorbing Wall Units (complete)~~ Addendum 04** **x. 10 4413 – Fire Protection Cabinets (as related to this scope)** **y. 10 8126 – Insect Control Treatment (as related to this scope)** **z. 11 5323.13 Ceiling Utility Panels (as related to this scope)**
7.	Divisions 00 and 01 of the Specifications are general in nature, and apply to all Subcontracts. These sections are included "complete" as part of this Subcontract Agreement.
8.	The Contractor is also responsible for trade specifications not specifically listed above but required by reference in the listed specifications or as required to perform the scope of work described herein, as well as the Bidding Requirements, Contracting Requirements and the use of the Construction Documents as a whole.

C.	SPECIFIC SCOPE ITEMS
1.	Contract Price is LUMP SUM. There shall be NO additional labor and material escalations allowed
2.	Examination of Site – Subcontractor warrants that they have sufficiently reviewed the project site to inform themselves of all items about existing site that are relevant to their work, and the cost of their work.
3.	Include protection all adjacent structures during performance of this work. Plan for protection of adjacent structures must be part of the overall plan submitted for approval prior to start of work
4.	**SITE LOGISTICS:** Refer to the Site Logistics plans included in the Contract Documents. Delivery trucks are to be scheduled with Turner at least one (1) week in advance.
5.	Subcontractor change order requests shall be provided with sufficient detail (as acceptable to Turner) to allow for satisfactory review. Subcontractor shall be allowed a maximum mark up for overhead and profit per the markup provisions included in the Subcontract Agreement, or as clarified in Contract Documents above
6.	Subcontractor understands that **time is of the essence** in the prosecution of Work under this agreement.
7.	**Verify layout** provided by others. Where this subcontractor is performing work using layout provided by others, this subcontractor shall perform sufficient verification of that layout to reasonably ascertain the validity of that layout. Any deficiencies (or suspected deficiencies found) shall be reported to Turner immediately to allow corrections as needed before start of work by this subcontractor.
8.	All Subcontractors must be **licensed** as required by local, State, or Federal jurisdiction required for work of this trade in this project location
9.	This Subcontractor will comply with Turner's corporate **safety policy** and comply with Site Specific Safety Plan that will include but is not limited to 100% tie-off above 6 feet, 100% Safety Glasses, High Visibility Vests or High Vis style T-Shirts with reflective strips, 100% glove policy, Ladders Last Policy and Nothing Hits the Ground. If you are unfamiliar with any of these policies please ask to see the policy prior to submitting your bid. Failure to be familiar with these policies will not exclude you from complying with them.
10.	Refer to **Project General Work Requirements** in volume one of the project manual. Any costs for work scope items listed in this section shall be included in your lump sum bid. Some work items are listed for specific trade contractors and they shall include those costs in their respective total lump sum bid price.
11.	Not used
12.	This contractor to provide **Slotted Channel Framing System** COMPLETE per the contract documents and as specified in **05 4300**
13.	This contractor to provide **INSECT CONTROL TREATMENT** as indicated on the contract documents and specified in **10 8126** COMPLETE for all metal stud partitions. • TC-038 Masonry will provide insect control treatment in masonry walls.
14.	This contractor shall receive, shake-out, distribute and install all **HOLLOW METAL FRAMES** as shown on contract documents and as specified in Section 08 1113**.** a) This contractor to track delivery and installation status of frames on a weekly basis. Submit list of frames delivered and installed to the CM each week.

Attachment "B"
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	i. Any frames not accepted or that become void due to changes should be stored at a location designated by the CM. Information on voided frames should be recorded and submitted to the CM for potential re-use at other points during construction. ii. This contractor shall be responsible for removing temporary welded metal struts at bottom of frames after installation is complete. All frames shall be supported at mid-span and at floor during drywall installation to prevent warping of frame. All double doors shall additionally be supported vertically. iii. Include shimming of hollow metal frames where concrete slabs may be slightly out of level so that all frames are installed square and plumb. 1. Install all hollow metal frames within tolerances as described within specifications for both Hollow metal Doors & Frames (08 1113) and Flush Wood Doors (08 1416), using the most stringent tolerance. ii. Include insulated box headers above all door frames or cased opening and as shown in the contract documents and as specified. iii. Include insulation within frames to minimize sound transfer as specified.
15.	This contractor to provide framing and blocking for all **Access Doors and Frames** as needed for items that require access in ceilings/walls. Coordinate openings in ceilings/walls with other trades. This contractor to include a **$10,000 Additional Access Door/Panel Framing Allowance** to be used at the direction of the Construction Manager. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
16.	This contractor shall provide all **PENETRATION and JOINT FIRESTOPPING** (as related to this scope of work) as shown on contract documents and as specified in Sections 07 8413 & 07 8443**.** a) Provide all interior partition firestopping in accordance with UL standards, excluding sealing of mechanical penetrations. b) Firestopping to be installed as noted at interfaces between GWB partitions, structure, building envelope or other partitions. c) Refer to Sheet A-601 for typical top-of-wall/bottom-of-wall details and acoustical wall ratings. d) Include identification and labeling of all smoke barriers and rated partitions. Use stencil to make designations per the specifications.
17.	This contractor shall provide all **ACOUSTICAL JOINT SEALANTS** (as related to this scope of work) included in drywall as shown on contract documents and as specified in Section 07 9100**.** b) Provide all interior partition acoustical joint sealant in accordance with UL standards, excluding of mechanical penetrations. c) Acoustical sealant to be installed at interfaces between GWB partitions, structure, building envelope or other partitions. d) Refer to Life Safety/Building code drawing series (G-) and Sheet A-601 for typical top-of-wall/bottom-of-wall details.
18.	This contractor shall provide **EXPANSION CONTROL** (as it relates to this scope of work) included in drywall and ceilings as shown on the contract documents and as specified in Section 07 9500. e) Include all interior expansion joint assemblies as specified.
19.	This contractor shall provide all **GYPSUM BOARD SHAFT WALL ASSEMBLIES** as shown on contract documents and as specified in Section 09 2216.23. f) Include all shaft wall framing systems. Coordinate install with TC-18 (Elevators), TC-021 (Mechanical) and TC-04 (Steel). g) All shaft wall assemblies shall be constructed of moisture-resistant materials.

Attachment "B"
SCOPE OF WORK
TC-036 Fitout Drywall & Ceilings

	This contractor shall provide all **NON-STRUCTURAL METAL FRAMING** as shown on contract documents and as specified in Section 09 2216**.** a) Include complete interior framing systems as indicated on the drawings and by keynote prefix 09 2216 (i.e. supports for partition walls, suspended soffits, furring, etc.) b) Include suspension systems (i.e. supports for ceilings, suspended soffits, etc.) as specified. c) Include auxiliary materials as specified. d) Include all drywall reveals e) Contractor to be cognizant of early placement of lower track. Any reasonably damaged track due to other construction activities is to be replaced by this contractor at no additional cost. Coordinate installation with CM. f) Coordinate installation of partition top track and/or clip angles with other trades before placement of spray on fireproofing, spray applied acoustical insulation, and MEP rough-in. Replacement of excessive fireproofing or spray applied acoustical insulation for install of this contractor's work, shall be carried by this contractor. g) Vacuum all debris out of track and wall cavities before hanging board on walls. Coordinate in wall photo documentation with the CM prior to covering up any framing. h) This contractor to participate in "priority wall" framing meetings with MEP trades to allow ease of installation and proper top-out and firesafing. Include provisions for out of sequence and come-back work associated with "priority wall" framing as dictated by CM. i) Include brace framing for knee walls not otherwise shown with miscellaneous metal supports.
20.	This contractor shall provide all **GYPSUM BOARD and GYPSUM SHEATHING** as shown on contract documents and as specified in Sections 09 2900 and 06 1600**.** Include all labor, materials, equipment, supplies, transportation to complete this work, including but not limited to: a) Provide all gypsum board, sheathing, etc. as indicated. b) Provide control joints in gypsum board wall construction as indicated. Verify final C.J. locations with CM and architect prior to work start. c) Provide all gyp board ceilings, soffits, bulkheads and above ceiling assemblies as required by UL. Include drywall on all CFMF framing provided by others in BP-04. d) Include all interior trim accessories as indicated (J-reveal, Z-reveal, etc.) e) Finishing at joints, accessories and other surfaces. Provide zip bead and flat taping and finish at window sills and other exposed edges. **f) Include moisture-resistant board for all interior walls of the 1st and 3rd floors to facilitate early installation prior to complete dry-in.** **g) Include moisture-resistant board for all interior walls of Mechanical Penthouse.** **h) Include moisture-resistant board for all top-out.** i) Provide an additional 480 journeyman hours of Gypsum board repair with the necessary finishing materials and tools to be used at the discretion and approval of the Construction Manager. j) Include level 5 finish at any walls to receive "wall-wash" lighting and as specified. k) This contractor will final seal all (any) non-MEP penetrations, holes, top of wall, side of wall, box-out etc. These areas will be documented prior to ceiling close-up to verify design requirements. l) This contractor to assume up to 50% of exterior windows and doors will be installed after drywall hanging and finishing activities commence. Drywall patch/repair and finishing completion at these exterior openings will require come-back work at a later date as determined by the CM. m) This contractor understands that completion of work around the buckhoist will require additional manpower and will be completed out-of-sequence as soon as hoist is removed. n) This contractor to provide extruded aluminum where shown on the drawings per detail D12/A802. Addendum 04
21.	This contractor shall provide all **ACOUSTICAL PANEL CEILINGS** as shown on contract documents and as specified in Section 09 5113 Acoustical Panel Ceilings**.** a) Provide all acoustical panels, suspension systems, accessories, and moldings and trims for ceilings as specified. b) Provide an additional 160 journeyman hours of Acoustical Ceiling repair to be used as directed by the CM.

Attachment "B"
SCOPE OF WORK
TC-036 Fitout Drywall & Ceilings

	c) Provide an additional $20,000 for miscellaneous ceiling material to be used by the direction of CM. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form. d) Install all ceilings within erection tolerances as described within specifications.
22.	This contractor shall provide all **ACOUSTICAL METAL PAN CEILINGS** as shown on contract documents and as specified in Section 09 5133 Acoustical Metal Pan Ceilings**.** h) Provide all acoustical metal panel ceilings, suspension systems, accessories, and moldings and trims for ceilings as specified. i) Provide an additional 160 journeyman hours for misc. ceiling repairs to be used by the direction of CM. j) Install all ceilings within erection tolerances as described within specifications.
23.	This Subcontractor shall layout all interior partitions and exterior walls as soon as practical after floors slabs are poured. Layout should be sufficiently accurate, clear, and long lasting such that it can be used to guide all trades working in the building. Note that this layout may occur long before the facility is ready for light gauge metal framing work to start. Layout shall be coordinated with control lines provided by others. Layout shall also be coordinated with exterior skin locations as it relates to structural steel plumbness tolerances.
24.	Provide and install all "cants" at each elevator shaft where the partition meets the slab edge as required. Coordinate with the elevator subcontractor and include any premium costs that the elevator subcontractor may charge to use the elevator platforms to install these cants.
25.	Shaft wall systems may be constructed on 3 sides and the 4th side closed up as a separate operation.
26.	This contractor will build in all openings in the partition walls for all equipment, duct, conduit, cable trays, piping, etc., and will include all required headers, and will seal the penetrations as necessary to maintain the aesthetics and performance required by the contract documents. All other trades shall be required to coordinate locations and provide a layout of all penetrations prior to start of metal stud/drywall in any particular area. For penetrations missed for installation in normal sequence by the drywall or masonry subcontractors, the other subcontractors will bear the full cost of installation, including cutting wall, reinforcing wall, and refinishing the wall around the penetration.
27.	This contractor will note and adhere to the following sequencing of drywall finishing and painting: The painting subcontractor will provide one (1) primer and two (2) finish coats of paint specified, on all drywall partitions. After the painting subcontractor applies the primer coat and one (1) finish coat to the drywall partitions as per the sequence in the project schedule, the final two finish coats of paint will be withheld until the TC-036 Subcontractor performs and completes one pass-through of touch up of nicks, small holes, scratches, etc., in the drywall partitions, beginning at the direction of the Turner Project Superintendent. Include 500 man hours of touch up work above and beyond typical for use as directed by the CM. At such time as directed by the Turner Project Superintendent, and in accordance with the project schedule, the Painting Subcontractor will then return to the areas as sequenced, perform re-priming of the drywall areas touched up by the drywall subcontractor, and then complete the final coat of paint. This sequencing will not preclude the subcontractors from performing punch list work covering defective workmanship, as identified by Turner and/or the architect.
28.	The TC-036 Subcontractor will provide all mock-ups as noted in the referenced specifications, and will expedite required materials for mockup completion and approval by the architect.
29.	Furnish and maintain at least three, 3 cubic yard trash carts on each floor, in each framing and hanging area, for use by this trade to dispose of drywall debris generated by this trade. Daily clean-up of all work areas. All areas shall be broom swept clean at the end of each day and the materials disposed of in a dumpster supplied by others.
30.	This subcontractor shall be responsible for the vacuuming of debris from bottom tracks and chase walls before final installation of GWB panels. This subcontractor shall inspect and make sure there is no debris inside the walls before they are closed up.
31.	Provide a full-time safety manager as required per the Turner Safety Plan Attachment C.
32.	Include cost in base bid for 2% of the total manhours anticipated for this scope to be used at the direction of the CM as **"Composite Cleanup".**
33.	This contractor to include an additional Caulking Allowance of $20,000 to be used at the direction of the CM. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.

Attachment "B"
SCOPE OF WORK
TC-036 Fitout Drywall & Ceilings

34.	This contractor to include costs to facilitate any/all acoustic testing per specifications. Include costs for remediation and/or punchlist items as they are identified.
35.	Remove temporary fall protection systems as needed to perform this scope of work; reinstall each day until fall condition is made safe by permanent installation of materials
36	Include allowance for interior wall mockup $10,000. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
37	General construction lighting will be provided; task specific lighting to be provided by this contractor.
38	Include $25,000 allowance for framing/drywall re-work due to MEP coordination field adjustments. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
39	Provide all impact resistant drywall as noted on the contract documents.
40	This contractor to provide a dedicated recycling dumpster for drywall cutoffs for the duration of this scope. This drywall material should be recycled as part of the LEED credit for diversion of waste. Include all necessary costs for pulls as needed for completion of this work scope.
41	Include $10,000 allowance for additional blocking to be used at the direction of the CM. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
42	This contractor to coordinate installations with the CER Room contractor TC-039
43	Provide, install and maintain scaffolding at tops of all stairwells for installation of this scope of work, as well as for use by other trades as needed. Maintain scaffold at each stairwell for minimum 12 weeks
44	This contractor is responsible for cutting/grinding of the door frame spreaders immediately after frame installation
45	Per the schedule in attachment G, this contractor to provide dedicated foreman and personal for start and completion of the first floor as soon as it becomes available to start work, regardless of the sequence and flow of the remaining floors. It is the intention that the 1st floor will be constructed simultaneously with other floors. All necessary manpower and supervision required to meet the schedule should be included in the base bid.
46	Exterior walls, elevator shafts, mechanical shafts, CFMF ceilings, and stairwells that were installed in the BP-04 core and shell package did not include furring/drywall at the interior side of exterior walls, or the exterior side of shafts/ceilings. This contractor to include all furring, hat channel and drywall board, finishing, caulking, etc at all exterior walls/shafts/stairwells for a complete and final installation. Reference BP-04 core and shell drawings for partition types for these conditions. These walls are described in General Note C of the architectural floor plans.
47.	This Trade Contractor shall participate in the construction of on-site **mock-ups** as specified and indicated by the documents and/or noted elsewhere. This shall include providing of materials required for this trade contract scope of work, coordinating with other trade contractors with regard to sequencing of installations and protection of materials, furnishing shop drawings and /or setting drawings, etc. Materials for in place or interim mock-ups shall be secured in advance of normal procurement to allow for ALL trade contractor installations, owner/designer and user reviews and evaluations, meetings, approvals and directive if applicable. Mockups are understood to start with arrangement of wall rough-in through complete room finishes. **Addendum 04**

D.	EXCLUSIONS
	The Scope of Work shall exclude the following:
1.	Payment & Performance Bond

Attachment "B"
SCOPE OF WORK
TC-036 Fitout Drywall & Ceilings

E.	ALLOWANCES	
	The Contract Sum shall be the addition of a base bid amount plus allowances. It is expressly understood and agreed that all allowance work will be completed within the original schedule. Progress Payments will be made against Allowance expenditures, based on approved monthly invoices & written Allowance Authorization from Turner. Any unused funds remaining in these allowances will be credited back to the Project. Only direct Labor, Material, and Equipment costs authorized in writing by Turner after approval by the Owner are to be charged to the Allowance. The Subcontractor's cost for all overhead and profit on the allowance amount shall be included in the base bid amount and not in the allowance amount.	
1.	Document Control Server Allowance	$15,000

F.	SCHEDULE
	Schedule information is included within the bid manual **(Attachment G)** to aid the Subcontractor in anticipating material deliveries, and manpower and equipment requirements. The information describes only the major activities of this scope of work and does not attempt to describe any out of sequence work required. **The Contractor must confirm that you will meet the project schedule as indicated in the bid manual.** It is **absolutely critical** that the work of this contract be completed by the dates defined. The intention is that the Subcontractor must provide sufficient labor, equipment, overtime, supervision, etc. to overcome weather delays.

G.	ALTERNATES
	The following "Alternate(s)" may be accepted and incorporated herein as part of the Scope of Work for the respective price. Inasmuch as these Alternates were anticipated from the inception of the project and were priced accordingly, all overhead, profit and escalation has been included within the lump sum amount and the price shall remain firm throughout the duration of the project, unless specifically noted. Indicate Add/Deduct Price on the Form of Proposal.
Alt. 1	**Fourth Floor Build Out**
Alt. 2	**Autoclaves**
Alt. 3	**Greenhouse Tables and Shelving**
Alt. 4	**Roller Window Shades in Rooms A0100 and A0102**
Alt. 5	**Greenhouse Card Readers (ADD #04)**
Alt. 6	**Biological Safety Cabinets (ADD #04)**

Attachment "B"
SCOPE OF WORK
TC-036 Fitout Drywall & Ceilings

PROPOSED MAJOR SUBCONTRACTORS AND SUPPLIERS
DUE BY BID DEADLINE

For the purposes of this form, a major subcontractor or supplier is a person or entity that will have a direct or assigned contract or purchase order for the performance or supply of any item listed below if the bidder is successful.

All subcontractors must comply with the laws of the Commonwealth of Kentucky and the policies and procedures of the University of Kentucky as administrated by the UK Capital Construction Procurement Section and Capital Project Management Division.

If the bidder will self-perform these items, list "Self-Perform" for each applicable item.

No major subcontractor or supplier may be added or changed without written consent of the Owner's representative after the bid deadline.

The apparent low bidder may be required to attend a post bid review meeting which will be scheduled at a later date.

DIVISION OF WORK	NAME AND ADDRESS OF SUBCONTRACTOR

Attachment "B"
SCOPE OF WORK
TC-036 Fitout Drywall & Ceilings

LIST OF MATERIALS AND EQUIPMENT

Each item listed under the different phases of construction must be clearly identified so that the Owner will definitely know what the Bidder proposes to furnish.

The use of a manufacturer's or dealer's name only, or stating "as per Plans and Specifications," will not be considered as sufficient identification.

Where more than one "Make" or "Brand" is listed for any one item, the Owner has the right to select the one to be used.

The apparent low bidders will be required to complete and submit to the University the following information by twelve o'clock (12) noon of the first working day following the bid opening. The information requested in this submittal is required to assist the University in determining contractor responsibility to complete the project being bid.

The apparent low bidder is requested to attend a post bid meeting which will be scheduled at a later date.

MATERIALS AND EQUIPMENT	BRAND OR MANUFACTURER

Attachment "B"
SCOPE OF WORK
TC-037 Doors & Hardware

UNIVERSITY OF KENTUCKY
CAPITAL CONSTRUCTION PROCUREMENT SECTION
FORM OF PROPOSAL: TC-037 Doors & Hardware

Project No. 2617.0 Project Title: UK Construct AG Research Building

Purchasing Officer: Corey Leslie

NOTE: The following Form of Proposal shall be followed exactly in submitting a proposal for this work. If this copy is lost, an additional copy will be furnished upon written request to the authority issuing Contract Documents.

This Proposal is submitted by: _____

(NAME AND ADDRESS OF BIDDER)

Date: _____ _____

Telephone: _____ _____

TO: BID CLERK
UNIVERSITY OF KENTUCKY
CAPITAL CONSTRUCTION

PROCUREMENT
RM. 322 SERVICE BUILDING
LEXINGTON, KY. 40506-0005

INVITATION TO BID: CCK-2617.0-11-25

BID OPENING DATE: January 22, 2025

TIME: 3:00 P.M. E.D.T.

The Bidder, in compliance with your Invitation for Bids for the above referenced Project, having carefully examined the site of the Work, the Drawings and complete Contract Documents as defined in Article I of the General Conditions, as well as the Specifications affecting the work as prepared by the Consultant, hereby proposes to furnish all labor, materials, supplies and services required to construct the Project in accordance with the Contract Documents, within the time set forth therein, and at the price stated below without qualification. Bidder understands that successful bidder will enter into a contract with Turner Construction Company utilizing Turner's Subcontract Agreement Form 36 without modification.

The Bidder hereby acknowledges receipt of the following Addenda:

ADDENDUM NO. _____ DATED _____

ADDENDUM NO. _____ DATED _____

ADDENDUM NO. _____ DATED _____

ADDENDUM NO. _____ DATED _____

(Here insert the number and date of any Addenda issued and received. If none has been issued and received, the word NONE should be inserted.)

NOTE: IN ADDITION TO THE SPECIFIC TRADE FORM OF PROPOSAL EACH SUBCONTRACTOR MUST ALSO SUBMIT FORMS FOUND IN THE SUPPLEMENTAL FORM OF PROPOSAL SECTION.

Attachment "B"
SCOPE OF WORK
TC-037 Doors & Hardware

Contractor Report of Prior Violations of
Chapters 136,139, 141, 337, 338, 341, and 342

Pursuant to KRS 45A.485, the Contractor shall, prior to the award of a Contract, reveal final determinations of any violations of the provisions of KRS Chapters 136, 139, 141, 337, 338, 341, and 342 by the Contractor that have occurred in the previous five (5) year period.

This statute also requires for the duration of the Contract established, the Contractor be in continuous compliance with the provisions of Chapters 136, 139, 141, 337, 338, 341, and 342 that apply to the Contractor's operations. The Contractor's failure to reveal a final determination of a violation of KRS Chapters 136, 139, 141, 337, 338, 341, and 342, or failure to comply with any of the above cited statutes for the duration of the Contract shall be grounds for the cancellation of the Contract, and the disqualification from eligibility for future contracts for a period of two (2) years.

The Contractor, by signing and submitting a Bid on this Invitation, agrees as required by KRS 45A.485 to submit final determinations of any violations of the provisions of KRS Chapters 136, 139, 141, 337, 338, 341, and 342 that have occurred in the previous five (5) years prior to the award of a Contract and agrees to remain in continuous compliance with the provisions of these statutes during the duration of any contract that may be established. Final determinations of any violations of these statutes, must be provided to the University by the successful Contractor prior to the award of a Contract.

LUMP SUM PROPOSAL

The Bidder agrees to furnish all labor, materials, supplies and services required to complete the Work, for the above referenced Project, for the Capital Construction Procurement Section, University of Kentucky, as described in the Specifications and Contract Documents and shown on the Drawings enumerated below and as modified by the Addenda listed above.

FOR THE LUMP SUM OF_____
(USE WORDS)

_____DOLLARS AND_____CENTS.
(USE WORDS) (USE WORDS)

($_____)
(USE FIGURES)

Alternates:

Alternate 1: Fourth Floor Build Out **$**_____

Alternate 2: Autoclaves **$**_____

Alternate 3: Greenhouse Tables and Shelving **$**_____

Alternate 4: Roller Window Shades in Rooms A0100 and A0102 **$**_____

Alternate 5: Greenhouse Card Readers (ADD #04) **$**_____

Alternate 6: Biological Safety Cabinets (ADD #04) **$**_____

The apparent low bidder is requested to attend a post bid meeting which will be scheduled at a later date. All parties (prime and subcontractors) are required to attend in person.

Attachment "B"
SCOPE OF WORK
TC-037 Doors & Hardware

FORM OF PROPOSAL

AUTHENTICATION OF BID AND STATEMENT OF NON-COLLUSION AND NON-CONFLICT OF INTEREST

I hereby certify:

1. That I am the Bidder (if the Bidder is an individual), a partner in the Bidder (if the Bidder is a partnership), or an officer or employee of the bidding corporation having authority to sign on its behalf (if the Bidder is a corporation);

2. That the submitted Bid or Bids covering Capital Construction Procurement Section Invitation No. CCK-2617.0-11-25 have been arrived at by the Bidder independently and have been submitted without collusion with, and without any agreement, understanding or planned common course of action with, any other contractor, vendor of materials, supplies, equipment or services described in the Invitation to Bid, designed to limit independent bidding or competition; as prohibited by provision KRS 45A.325;

3. That the contents of the Bid or Bids have not been communicated by the Bidder or its employees or agents to any person not an employee or agent of the Bidder or its surety on any bond furnished with the Bid or Bids and will not be communicated to any such person prior to the official opening of the Bid or Bids;

4. That the Bidder is legally entitled to enter into the contracts with the University of Kentucky and Turner Construction Company and is not in violation of any prohibited conflict of interest, including those prohibited by the provisions of KRS 164.390, and 45A.330 to 45A.340 and 45A.455;

5. This offer is good for 60 calendar days from the date this Bid is opened. In submitting the above, it is expressly agreed that upon proper acceptance by the Capital Construction Procurement Section of any or all items Bid above, a contract shall thereby be created with respect to the items accepted;

6. That I have fully informed myself regarding and affirm the accuracy of all statements made in this Form of Proposal including Bid Amount.

7. Unless otherwise exempted by KRS 45.590, the Bidder intends to comply in full with all requirements of the Kentucky Civil Rights Act and to submit data required by the Kentucky Equal Employment Act upon being designated the successful contractor.

8. That the bidding contractor and all subcontractors to be employed do not and will not maintain any facilities they provide for employees in a segregated manner and they are in full compliance with provisions of 41 CFR 60-1.8 that prohibits the maintaining of segregated facilities.

9. In accordance with KRS45A.110(2), the undersigned hereby swears under penalty of perjury that he/she has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky and that the award of a contract to the bidder will not violate any provision of the campaign finance laws of the Commonwealth of Kentucky.

READ CAREFULLY - SIGN IN SPACE BELOW - FAILURE TO SIGN INVALIDATES BID

SIGNED BY_____ TITLE_____

PRINT NAME_____ FIRM_____

ADDRESS_____ AREA CODE & PHONE _____

_____ FAX_____
CITY STATE ZIP CODE

BIDDER'S EMAIL _____ DATE_____

Attachment "B"
SCOPE OF WORK
TC-037 Doors & Hardware

BUSINESS CLASSIFICATION

Please complete this form which is necessary for the University of Kentucky vendor database.
Mark only one classification. Refer to "Definitions" for assistance in determining correct classification.

(01)___Small Business

(02)___Large Business

(03)___Disadvantaged Small Business

(04)___Disadvantaged Large Business

(05)___Woman-Owned Small Business

(06)___Woman-Owned Large Business

(07)___Disadvantaged Woman-Owned Small Business

(08)___Disadvantaged Woman-Owned Large Business

(09)___Other

DEFINITIONS

(01) SMALL BUSINESS: A business concern that is organized for profit, is independently owned and operated, is not dominant in the field of operations in which it is bidding, and meets the size standards as prescribed in the Code of Federal Regulations, Title 13, Part 121. Consult your local or district Small Business Administration (SBA) office if further clarification is needed.

(02) LARGE BUSINESS: A business concern that exceeds the small business size code standards established by SBA.

(03) DISADVANTAGED SMALL BUSINESS: A business concern (a) that is at least 51 percent owned by one or more socially and economically disadvantaged individuals (as defined below), or a publicly owned business, having at least 51 percent of its stock owned by one or more socially and economically disadvantaged individuals; and (b) has its management and daily business operations controlled by one or more such individuals. Socially and economically disadvantaged individuals include: Asian, Black/African American, Hispanic or Latino, Native American, Native Hawaiian/Pacific Islander, Women, Disabled, Veteran and Disabled Veteran and other minorities or individuals found to be disadvantaged by the SBA.

(04) DISADVANTAGED LARGE BUSINESS: A concern that meets the definition of socially and economically disadvantaged individuals as defined above, but which is not a small business by the SBA's size standards.

(05) WOMAN-OWNED SMALL BUSINESS: A small business that is at least 51 percent owned by a woman or women who also control and operate it. "Control" in this context means exercising the power to make policy decisions. "Operate" means actively involved in the day to day management.

(06) WOMAN-OWNED LARGE BUSINESS: A concern that meets the definition of woman owned and operated, but which is not a small business by the SBA's standards.

(07) DISADVANTAGED, WOMAN-OWNED SMALL BUSINESS: A concern that meets the definition of both (03) and (05) above.

(08) DISADVANTAGED, WOMAN OWNED LARGE BUSINESS: A concern that meets the definition of both (04) and (06) above.

(09) OTHER: A concern that does not meet any of the above definitions.

Attachment "B"
SCOPE OF WORK
TC-037 Doors & Hardware

THE FOLLOWING ITEMS ARE HEREWITH ENCLOSED AS REQUIRED BY KRS 45A.185

1. Bid Bond or Certified Check in an amount not less than five percent (5%) of total Bid.

2. List of Proposed Subcontractors and Unit Prices. (if required)

3. Authentication of Bid and Statement of Non-Collusion and Non-Conflict of Interest.

4. List of Materials and Equipment.

5. VENDOR NUMBER: It is imperative that you furnish your Federal Employer Identification Number in the space provided below. Failure to do so may delay the processing of purchase orders issued to your firm.

_____
(Nine Digit Number)

BIDDER'S QUALIFICATIONS

The Commonwealth of Kentucky Model Procurement Code (KRS 45A.080) requires contracts to be awarded, "to the responsive and responsible bidder whose bid offers the best value" to the University of Kentucky. In order to determine if the Bidder has the experience, qualifications, resources and necessary attributes to provide the quality workmanship, materials and management required by the plans and specifications, the Bidder may be required to complete and submit the information requested on the University of Kentucky Contractor Bidder Determination of Responsibility questionnaire. Failure to provide the information requested on the questionnaire or failure to provide any additional submittals or information that may be requested to make this determination may be grounds for a declaration of non-responsibility with respect to the Bidder. A copy of the Contractor Determination of Responsibility questionnaire is available upon request to all Bidders.

TIME LIMIT FOR EXECUTION OF CONTRACT DOCUMENTS

It is further agreed, that in the event this Proposal is accepted by the Owner and the undersigned shall fail to execute the Contract and furnish satisfactory Payment and Performance Bond within ten (10) consecutive calendar days from the date of notification of the award of the Contract, the Owner may at his option, determine that the undersigned has abandoned the Contract and thereupon, the Proposal shall become null and void and the Bid guarantee, check or Bid bond which accompanied it shall be forfeited and become the property of the Owner as liquidated damages for each failure and no protest pursuant to such action will be made. If the Undersigned shall execute the Contract, and furnish satisfactory Payment Bond and Performance Bond, it is understood that the Bid Guarantee or Bid Bond will be returned to the undersigned by the Owner.

Attachment "B"
SCOPE OF WORK
TC-037 Doors & Hardware

UNIT PRICES

NOTE: Unit Prices shall include the furnishing of all labor, materials, supplies and services and shall include all items of cost, overhead and profit for the Contractor and any subcontractor involved, and shall be used uniformly without modifications for either additions or deductions. The Unit Prices as established shall be used to determine the equitable adjustment of the Contract Price in connection with changes, deletions or extra work performed under the Contract and the "Rules of Measurement" set forth in the General Conditions shall govern.

All Bidders will be required to complete and submit the following Unit Prices with the bid.

Material	Unit (LF, SF, EA, etc.)	Unit Price

Attachment "B"
SCOPE OF WORK
TC-037 Doors & Hardware

HOURLY RATES

The Hourly Rates as established shall be used to determine the equitable adjustment of the Contract Price in connection with changes, deletions or extra work performed under the Contract and the "Rules of Measurement" set forth in the General Conditions shall govern.

All Bidders will be required to complete and submit the following Hourly Rates with the bid.

Note the following:

- **Overhead & Profit to be <u>EXCLUDED</u> from rates below & will be calculated separately**
- **Complete a separate Wage Breakdown for each trade or subcontractor**

STRAIGHT TIME		CLASSIFICATION							
Description	Unit	PM	Engineering	Super	Gen. Foreman	Foreman	Journeyman	Apprentice	Other (_____)
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

Attachment "B"
SCOPE OF WORK
TC-037 Doors & Hardware

PREMIUM TIME		CLASSIFICATION							
Description	Unit	PM	Engineering	Super	Gen. Foreman	Foreman	Journeyman	Apprentice	Other (_____)
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

DOUBLE TIME		CLASSIFICATION							
Description	Unit	PM	Engineering	Super	Gen. Foreman	Foreman	Journeyman	Apprentice	Other (_____)
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

Attachment "B"
SCOPE OF WORK
TC-037 Doors & Hardware

BID BREAKOUT

Fill in the following breakdown of costs included in your base bid. Each item is to include labor, material & equipment. These will not be considered unit prices nor will the numbers listed here limit obligations required in the bid documents. It will be used only to aid in verifying completeness of the bids.

	Description of Work	Labor Hours	Quantity	Unit	Unit Cost	Total
1	Engineering and Submittals				$	$
2	Hollow Metal Frames				$	$
3	Wood Doors				$	$
4	Hollow/Insulated Metal Doors				$	$
5	Door Hardware				$	$
6	Pre-Installed Hardware				$	$
7	Hardware Consultant				$	$
8	Cores/Keying				$	$
9					$	$
10					$	$
11					$	$
12					$	$
Please list and breakdown below any work that has not been listed above						
13					$	$
14					$	$
15					$	$
16					$	$
17					$	$
18	Management				$	$
19	Safety and Housekeeping				$	$
20	General Work Requirements				$	$
21	Overhead and Profit				$	$
Allowances (to be included in bid amount)						
1	Additional Cores/Keying Coordination				$	$ 20,000
2					$	$
3					$	$
4						
5						
	TOTAL BID AMOUNT (This amount should match the Lump Sum listed on Form of Proposal)					**$**
	Cost of Payment & Performance Bond **(DO NOT INCLUDE THIS COST IN BID AMOUNT)**					$

Attachment "B"
SCOPE OF WORK
TC-037 Doors & Hardware

Attachment A – Additional Provisions and Attachment B – (Technical) Scope of Work go together to define the requirements of this Subcontract. Attachment A is a more of a general Summary of the Contract Documents, Price, etc., while Attachment B is the Trade Specific (technical) Scope of Work.

The work of this Agreement shall include, but not be limited to, all labor, materials, apparatus, hoisting, rigging, tools, equipment, plant, supplies, accessories, samples, submittals, shop drawings, certifications, engineering, layout, transportation, storage, supervision, temporary construction, special services, contributions, insurance, taxes (unless specifically excluded by the Contract Documents), compliance with all governing agencies (city, county, state, federal and others as may be required), permits, fees, all other services and facilities and other items necessary for the performance of the **Doors & Hardware Work** as shown, detailed and/or implied in the contract documents outlined in the General Scope of Work.

The Scope of Work Document is being provided for your use as a general guideline. Please note, this Document is not all-inclusive. It is this Subcontractor's responsibility to provide a complete bid, including all work for this trade indicated on ALL of the contract documents (include plans, specifications, Bid Manual, etc.). It is this Subcontractor's responsibility for the entire scope of this Bid Package and coordination between all trades.

A.	GENERAL
1.	Provide labor, material, equipment, and all else necessary to furnish and install complete the TC-037 Work as required by the contract documents and as outlined below
2.	The following scope of work is intended to be general in nature. The purpose of this scope of work is not to identify or list every scope of work item already shown or described in the contract documents, but rather to coordinate, clarify, modify, and/or expand the scope.
3.	The intention is to have the successful Subcontractor perform all the TC-037 related work shown on the Contract Documents other than those items specifically indicated below to be excluded.
4.	Detail references are included for convenience, but are not intended to identify all applicable details. If the Contract Drawings and Specifications conflict, then the greater quantity and quality shall apply. The Scope of Work takes precedence over the drawings and specifications in the event of a conflict in trade assignment or responsibility. Attention is called to the Bid Manual and the Subcontractor shall include all costs necessary to provide all work to meet the requirements of this scope of work.
5.	In this Scope of Work, the term "provide" shall be defined as meaning "furnish and install."

B.	DOCUMENTS
1.	General Contract between Turner and the Owner including all attachments

2.	All documents in bid manual including but not limited to:
	• Drawings
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Volume 1 Dated 11/15/24***
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Volume 2 Dated 11/15/24***
	• Specifications
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Project Manual Dated 11/15/2024***
	• Scope of Work (Attachment B)
	• General Requirements
	• General Conditions
	• Special Conditions
	• Sample Subcontract Agreement Form (Form 36)
	• Sample 3A Page
	• Reference Drawings Included
	  • ***Prospiant's Greenhouse Design Drawings for Rooftop Greenhouses***
	  • ***BP-02 Site Enabling Package – dated 3/13/24***
	  • ***BP-03/3.1 Foundations and Long Lead Equipment – dated 5/2/24***
	  • ***BP-04 Core and Shell – dated 6/28/24***

Attachment "B"
SCOPE OF WORK
TC-037 Doors & Hardware

	• ***BP-05 Teaching Greenhouse – Dated 10/11/24***
3.	Bid Manual including all **Sketches** and **Attachments** prepared by Turner Construction and listed below
4.	**Attachments**
	a. Attachment A – Additional Provisions b. Attachment C - Safety Program c. Attachment E - Accounting Procedures d. Attachment F - Percentage Markup e. Attachment G - Bid Schedule f. Attachment H - BIM General Requirements g. Attachment I - LEAN Subcontract Exhibit h. Attachment J – Electronic Agreement i. Attachment K – CCIP Manual j. Attachment L – UK Tree Protection Standards k. Attachment M – Part 1 and Part 2 LEED Construction Waste Management Plan l. Attachment N – Turner Subcontractor Onboarding m. Attachment O – Enhancing Worker Experience Plan n. Attachment P – LEED Indoor Air Quality Management Plan
5.	**Sketches**
	a. SK-001 – Site Logistics Plan b. SK-002 – Misc Metals c. SK-003 – Tent and HVAC rental Agreements d. SK-004 – CM Office - Good Barn Layout e. SK-005 – Temporary Power Plan f. SK-006 – Lab Furnishings Responsibility Matrix Addendum 04
6.	**Specifications**
	The following specification sections are listed as the responsibility of the Subcontractor in defining its area of work on this project. Unless specifically indicated otherwise or excluded below, this Contractor is responsible for the complete specification sections indicated below. a. **DIVISION 00 – PROCUREMENT & CONTRACTING REQUIREMENTS (ALL SECTIONS)** b. **DIVISION 01 – GENERAL REQUIREMENTS (ALL SECTIONS)** c. **08 1113 – HOLLOW METAL DOORS & FRAMES** d. **08 1416 – FLUSH WOOD DOORS** e. **08 7100 – DOOR HARDWARE** f. **08 7113 – POWER DOOR OPERATORS (FOR REFERENCE)** g. **08 8000 – GLAZING (AS APPLICABLE)** h. **Division 28 – Electronic Safety and Security (Reference)**
7.	Divisions 00 and 01 of the Specifications are general in nature, and apply to all Subcontracts. These sections are included "complete" as part of this Subcontract Agreement.
8.	The Contractor is also responsible for trade specifications not specifically listed above but required by reference in the listed specifications or as required to perform the scope of work described herein, as well as the Bidding Requirements, Contracting Requirements and the use of the Construction Documents as a whole.

C.	SPECIFIC SCOPE ITEMS
1.	Contract Price is LUMP SUM. There shall be NO additional labor and material escalations allowed
2.	Examination of Site – Subcontractor warrants that they have sufficiently reviewed the project site to inform themselves of all items about existing site that are relevant to their work, and the cost of their work.
3.	Include protection all adjacent structures during performance of this work. Plan for protection of adjacent structures must be part of the overall plan submitted for approval prior to start of work
4.	**SITE LOGISTICS:** Refer to the Site Logistics plans included in the Contract Documents. Delivery trucks are to be scheduled with Turner at least one (1) week in advance.

Attachment "B"
SCOPE OF WORK
TC-037 Doors & Hardware

5.	Subcontractor change order requests shall be provided with sufficient detail (as acceptable to Turner) to allow for satisfactory review. Subcontractor shall be allowed a maximum mark up for overhead and profit per the markup provisions included in the Subcontract Agreement, or as clarified in Contract Documents above
6.	Subcontractor understands that **time is of the essence** in the prosecution of Work under this agreement.
7.	**Verify layout** provided by others. Where this subcontractor is performing work using layout provided by others, this subcontractor shall perform sufficient verification of that layout to reasonably ascertain the validity of that layout. Any deficiencies (or suspected deficiencies found) shall be reported to Turner immediately to allow corrections as needed before start of work by this subcontractor.
8.	All Subcontractors must be **licensed** as required by local, State, or Federal jurisdiction required for work of this trade in this project location
9.	This Subcontractor will comply with Turner's corporate **safety policy** and comply with Site Specific Safety Plan that will include but is not limited to 100% tie-off above 6 feet, 100% Safety Glasses, High Visibility Vests or High Vis style T-Shirts with reflective strips, 100% glove policy, Ladders Last Policy and Nothing Hits the Ground. If you are unfamiliar with any of these policies please ask to see the policy prior to submitting your bid. Failure to be familiar with these policies will not exclude you from complying with them.
10.	Refer to **Project General Work Requirements** in volume one of the project manual. Any costs for work scope items listed in this section shall be included in your lump sum bid. Some work items are listed for specific trade contractors and they shall include those costs in their respective total lump sum bid price.
11.	This contractor shall furnish all **HOLLOW METAL DOORS & FRAMES** (COMPLETE with PRE-INSTALLED HARDWARE*) (FOB Jobsite) as shown on the Contract Documents and in accordance with specification section 08 1113 a. Contractor to ship doors & frames at direction of construction manager for receipt and installation by others. b. Deliveries will be done in phases by floor and by area. Coordinate deliveries with Turner. c. This contractor to include all hollow metal window frames as shown on contract documents. d. Hollow Metal doors & frames in exterior and CMU walls and any mechanical, electrical, data/communications rooms & stairwells may be expedited. Assume separate shipment ahead of other doors & frames. Include all costs related to early fabrication and shipment, including a separate submittal for detailing. e. Conduit installed for electrified door operation shall be installed per UK standards.
12.	Frames, doors & hardware will include the industry standard labels but free of any and all "stickers" and other markings other than in the hinge recess frame & door number identification.
13.	This contractor shall furnish all **FLUSH WOOD DOORS** (with PRE-INSTALLED HARDWARE*) as shown on the Contract Documents and in accordance with specification section 08 1416. a. Undercutting of doors may be required - coordinate dimensions with Turner Project Superintendent. b. This contractor is to provide a shim pack for all door openings (shipped loose with each door package). Provide shims appropriate for each type of hinge for use by others for installation in the field. c. Include Masonite door protection on entire lower half of all doors. Protection must be sufficient to protect door from carts and other material moving through opening. Continuous protection shall be such to allow door operation after hanging door. d. Storage of wood doors will not be allowed on the project site. Contractor to ship doors at direction of construction manager for immediate installation by others. e. Door deliveries will be done in phases by floor and by area. Coordinate deliveries with Turner.
14.	This contractor shall furnish **DOOR HARDWARE** as shown on the Contract Documents and in accordance with specification section 08 7100 including all electrified hardware. a. TC-030 will provide aluminum framed entrances and storefronts complete including frames, doors, and hardware for a complete opening. TC-037 to still provide cores/keying for these openings.
15.	**PRE-INSTALLED HARDWARE**: All Doors in this bid package are to be shipped FOB jobsite with pre-installed hardware. a. Pre-install door hardware in accordance with the hardware specifications with the following exceptions/conditions: Any hardware (closer arm & cover & frame shoe, floor closers, frame strike

Attachment "B"
SCOPE OF WORK
TC-037 Doors & Hardware

	plates, wall & floor stops, weather stripping, thresholds, floor plates, door bottoms, wall/door magnets, frame silencers) attached to the walls, floor or frame is packaged "loose" with each door. b. Hinges are to be pre-installed on door. c. Inspect door and hardware, address manufactures errors & omissions before shipping FOB jobsite. d. Cylinders (cores) are pre-installed in hardware before shipping. e. Apply primer coat and two (2) finish coats of paint to hollow metal doors prior to hardware shipment to the jobsite/installation.
16.	This contractor to provide **PRE-WIRING** of doors for electric function/ operation & shall be bench tested prior to arriving on site. a. Door frames for doors with electrified hardware shall be prepped with pathways (conduit) for wiring by others. b. This contractor to furnish all electrified hardware as noted in the hardware schedule. c. This will include any/ all power supplies, wiring harnesses, etc., required for the complete function of the doors/ hardware. Include power, signal and control wiring diagrams for electrified door hardware as outlined in the specifications. a. Provide 10'-0" wire harnesses for electrified strikes and/ or hinges/ locksets integrated with door frame. Harnesses to be placed at both jambs as required for electric strike and/ or power locksets d. At auto operators, this scope shall include inner wiring from the auto operator to any push button actuator at the wall. e. This contractor to provide all inner wiring within door slab, as required between hinge and latch.
17.	This contractor shall furnish **ELECTRIFIED HARDWARE DEVICE OPERATIONS SCHEDULE**. a. Provide a **qualified hardware consultant** to take the lead role in the final coordination of the sequence of operation for each electrified door and all required tie-ins and interfaces by the various technology disciplines. These disciplines shall include, but are not be limited to, fire alarm, HVAC controls, access controls, etc. This consultant shall prepare sequence of operations, schematics, wiring diagrams etc. Consultant shall attend and run meetings (at the jobsite in Lexington, KY) with the owner's staff, security consultant, jobsite electricians and technology contractors, etc. to work through all details and expectations of the final operation. Meetings to be held weekly in the CM jobsite conference room starting 7/1/2025 and continuing thru 12/31/2026 or Final Completion. Include coordination of Aluminum Framed Entrances and Storefronts that are provided by TC-030. b. All electrified doors (as part of the hardware set) are to include an electrified termination box to be installed above ceiling of each door. Each termination box is to include a sticker on the front cover detailing the wiring layout of each opening. The purpose is to provide a "clean" connection point for all systems for each opening. c. This contractor should expect to lead multiple onsite meetings over the first half of the project in order to coordinate the doors, hardware and keying information for this project. This is very important to the project and a high level of involvement is expected. d. This contractor is also to include all costs to "troubleshoot" door and hardware problems/issues at the end of the project. Hardware consultant is to act as a resource to solve door opening issues. Contractor shall include all costs for traveling to the project site to troubleshoot if needed. e. This contractor to include an $20,000 allowance for additional hardware/devices to be used at the direction of the CM. This allowance is in addition to any allowances listed in the allowance section on the bid breakout form.
18.	This contractor shall provide **wiring diagrams** for all electrified doors. Contractor shall coordinate these with the contract drawings and specs. Contractor shall inform the construction manager if there is conflicting information between the contract documents. Contractor to include in their pricing the more expensive of the options if conflicts are not resolved.
19.	Provide temporary construction cores for all doors that require a key installed in the cylinder with the door when delivered. Include twenty five (50) master keys for the temporary cores.
20.	This contractor shall furnish and install in all doors the **GLAZING** as shown on the Contract Documents and in accordance with specification section 08 8000. a. This contractor to include any associated trim and/or stops to finish the doors. b. Contractor shall protect pre-installed glazing for transportation to the project site. The intent is that the doors are delivered to the project with glazing already installed.

Attachment "B"
SCOPE OF WORK
TC-037 Doors & Hardware

21.	This contractor to provide all cores and keying as required per the contract documents and specifications. This contractor will lead all keying meetings with the owner and produce a final coordinated keying schedule.

D.	EXCLUSIONS
	The Scope of Work shall exclude the following:
1.	Payment & Performance Bond
2.	Aluminum Framed Storefront Entrances Including doors, hardware & glazing
3.	Power Door Operators

E.	ALLOWANCES	
	The Contract Sum shall be the addition of a base bid amount plus allowances. It is expressly understood and agreed that all allowance work will be completed within the original schedule. Progress Payments will be made against Allowance expenditures, based on approved monthly invoices & written Allowance Authorization from Turner. Any unused funds remaining in these allowances will be credited back to the Project. Only direct Labor, Material, and Equipment costs authorized in writing by Turner after approval by the Owner are to be charged to the Allowance. The Subcontractor's cost for all overhead and profit on the allowance amount shall be included in the base bid amount and not in the allowance amount.	
1.	Additional Cores/Keying Coordination	$20,000

F.	SCHEDULE
	Schedule information is included within the bid manual **(Attachment G)** to aid the Subcontractor in anticipating material deliveries, and manpower and equipment requirements. The information describes only the major activities of this scope of work and does not attempt to describe any out of sequence work required. **The Contractor must confirm that you will meet the project schedule as indicated in the bid manual.** It is **absolutely critical** that the work of this contract be completed by the dates defined. The intention is that the Subcontractor must provide sufficient labor, equipment, overtime, supervision, etc. to overcome weather delays.

G.	ALTERNATES
	The following "Alternate(s)" may be accepted and incorporated herein as part of the Scope of Work for the respective price. Inasmuch as these Alternates were anticipated from the inception of the project and were priced accordingly, all overhead, profit and escalation has been included within the lump sum amount and the price shall remain firm throughout the duration of the project, unless specifically noted. Indicate Add/Deduct Price on the Form of Proposal.
Alt. 1	**Fourth Floor Build Out**
Alt. 2	**Autoclaves**
Alt. 3	**Greenhouse Tables and Shelving**
Alt. 4	**Roller Window Shades in Rooms A0100 and A0102**
Alt. 5	**Greenhouse Card Readers (ADD #04)**
Alt. 6	**Biological Safety Cabinets (ADD #04)**

Attachment "B"
SCOPE OF WORK
TC-037 Doors & Hardware

PROPOSED MAJOR SUBCONTRACTORS AND SUPPLIERS
DUE BY BID DEADLINE

For the purposes of this form, a major subcontractor or supplier is a person or entity that will have a direct or assigned contract or purchase order for the performance or supply of any item listed below if the bidder is successful.

All subcontractors must comply with the laws of the Commonwealth of Kentucky and the policies and procedures of the University of Kentucky as administrated by the UK Capital Construction Procurement Section and Capital Project Management Division.

If the bidder will self-perform these items, list "Self-Perform" for each applicable item.

No major subcontractor or supplier may be added or changed without written consent of the Owner's representative after the bid deadline.

The apparent low bidder may be required to attend a post bid review meeting which will be scheduled at a later date.

DIVISION OF WORK	NAME AND ADDRESS OF SUBCONTRACTOR

Attachment "B"
SCOPE OF WORK
TC-037 Doors & Hardware

LIST OF MATERIALS AND EQUIPMENT

Each item listed under the different phases of construction must be clearly identified so that the Owner will definitely know what the Bidder proposes to furnish.

The use of a manufacturer's or dealer's name only, or stating "as per Plans and Specifications," will not be considered as sufficient identification.

Where more than one "Make" or "Brand" is listed for any one item, the Owner has the right to select the one to be used.

The apparent low bidders will be required to complete and submit to the University the following information by twelve o'clock (12) noon of the first working day following the bid opening. The information requested in this submittal is required to assist the University in determining contractor responsibility to complete the project being bid.

The apparent low bidder is requested to attend a post bid meeting which will be scheduled at a later date.

MATERIALS AND EQUIPMENT	BRAND OR MANUFACTURER

Attachment "B"
SCOPE OF WORK
TC-038 Interior Masonry

UNIVERSITY OF KENTUCKY
CAPITAL CONSTRUCTION PROCUREMENT SECTION
FORM OF PROPOSAL: TC-038 Interior Masonry

Project No. 2617.0 Project Title: Ag Research Facility BP-06 Fitout – Group 1

Purchasing Officer: Corey W. Leslie

NOTE: The following Form of Proposal shall be followed exactly in submitting a proposal for this work. If this copy is lost, an additional copy will be furnished upon written request to the authority issuing Contract Documents.

This Proposal is submitted by: _____

(NAME AND ADDRESS OF BIDDER)

Date: _____ _____

Telephone: _____ _____

TO: BID CLERK
UNIVERSITY OF KENTUCKY
CAPITAL CONSTRUCTION

PROCUREMENT
RM. 322 SERVICE BUILDING
LEXINGTON, KY. 40506-0005

INVITATION TO BID: CCK-2617.0-11-25

BID OPENING DATE: January 22, 2025

TIME: 3:00 P.M. Lexington, KY Time

The Bidder, in compliance with your Invitation for Bids for the above referenced Project, having carefully examined the site of the Work, the Drawings and complete Contract Documents as defined in Article I of the General Conditions, as well as the Specifications affecting the work as prepared by the Consultant, hereby proposes to furnish all labor, materials, supplies and services required to construct the Project in accordance with the Contract Documents, within the time set forth therein, and at the price stated below without qualification. Bidder understands that successful bidder will enter into a contract with Turner Construction Company utilizing Turner's Subcontract Agreement Form 36 without modification.

The Bidder hereby acknowledges receipt of the following Addenda:

ADDENDUM NO. _____ DATED _____

ADDENDUM NO. _____ DATED _____

ADDENDUM NO. _____ DATED _____

ADDENDUM NO. _____ DATED _____

(Here insert the number and date of any Addenda issued and received. If none has been issued and received, the word NONE should be inserted.)

NOTE: IN ADDITION TO THE SPECIFIC TRADE FORM OF PROPOSAL EACH SUBCONTRACTOR MUST ALSO SUBMIT FORMS FOUND IN THE SUPPLEMENTAL FORM OF PROPOSAL SECTION.

Attachment "B"
SCOPE OF WORK
TC-038 Interior Masonry

Contractor Report of Prior Violations of
Chapters 136,139, 141, 337, 338, 341, and 342

Pursuant to KRS 45A.485, the Contractor shall, prior to the award of a Contract, reveal final determinations of any violations of the provisions of KRS Chapters 136, 139, 141, 337, 338, 341, and 342 by the Contractor that have occurred in the previous five (5) year period.

This statute also requires for the duration of the Contract established, the Contractor be in continuous compliance with the provisions of Chapters 136, 139, 141, 337, 338, 341, and 342 that apply to the Contractor's operations. The Contractor's failure to reveal a final determination of a violation of KRS Chapters 136, 139, 141, 337, 338, 341, and 342, or failure to comply with any of the above cited statutes for the duration of the Contract shall be grounds for the cancellation of the Contract, and the disqualification from eligibility for future contracts for a period of two (2) years.

The Contractor, by signing and submitting a Bid on this Invitation, agrees as required by KRS 45A.485 to submit final determinations of any violations of the provisions of KRS Chapters 136, 139, 141, 337, 338, 341, and 342 that have occurred in the previous five (5) years prior to the award of a Contract and agrees to remain in continuous compliance with the provisions of these statutes during the duration of any contract that may be established. Final determinations of any violations of these statutes, must be provided to the University by the successful Contractor prior to the award of a Contract.

LUMP SUM PROPOSAL

The Bidder agrees to furnish all labor, materials, supplies and services required to complete the Work, for the above referenced Project, for the Capital Construction Procurement Section, University of Kentucky, as described in the Specifications and Contract Documents and shown on the Drawings enumerated below and as modified by the Addenda listed above.

FOR THE LUMP SUM OF_____
(USE WORDS)

_____DOLLARS AND_____CENTS.
(USE WORDS) (USE WORDS)

($_____)
(USE FIGURES)

Alternates:

Alternate 1: Fourth Floor Build Out	**$**_____
Alternate 2: Autoclaves	**$**_____
Alternate 3: Greenhouse Tables and Shelving	**$**_____
Alternate 4: Roller Window Shades in Rooms A0100 and A0102	**$**_____
Alternate 5: Greenhouse Card Readers (ADD #04)	**$**_____
Alternate 6: Biological Safety Cabinets (ADD #04)	**$**_____

The apparent low bidder is requested to attend a post bid meeting which will be scheduled at a later date. All parties (prime and subcontractors) are required to attend in person.

Attachment "B"
SCOPE OF WORK
TC-038 Interior Masonry

FORM OF PROPOSAL

AUTHENTICATION OF BID AND STATEMENT OF NON-COLLUSION AND NON-CONFLICT OF INTEREST

I hereby certify:

1. That I am the Bidder (if the Bidder is an individual), a partner in the Bidder (if the Bidder is a partnership), or an officer or employee of the bidding corporation having authority to sign on its behalf (if the Bidder is a corporation);

2. That the submitted Bid or Bids covering Capital Construction Procurement Section Invitation No. CCK-2617.0-11-25 have been arrived at by the Bidder independently and have been submitted without collusion with, and without any agreement, understanding or planned common course of action with, any other contractor, vendor of materials, supplies, equipment or services described in the Invitation to Bid, designed to limit independent bidding or competition; as prohibited by provision KRS 45A.325;

3. That the contents of the Bid or Bids have not been communicated by the Bidder or its employees or agents to any person not an employee or agent of the Bidder or its surety on any bond furnished with the Bid or Bids and will not be communicated to any such person prior to the official opening of the Bid or Bids;

4. That the Bidder is legally entitled to enter into the contracts with the University of Kentucky and Turner Construction Company and is not in violation of any prohibited conflict of interest, including those prohibited by the provisions of KRS 164.390, and 45A.330 to 45A.340 and 45A.455;

5. This offer is good for 60 calendar days from the date this Bid is opened. In submitting the above, it is expressly agreed that upon proper acceptance by the Capital Construction Procurement Section of any or all items Bid above, a contract shall thereby be created with respect to the items accepted;

6. That I have fully informed myself regarding and affirm the accuracy of all statements made in this Form of Proposal including Bid Amount.

7. Unless otherwise exempted by KRS 45.590, the Bidder intends to comply in full with all requirements of the Kentucky Civil Rights Act and to submit data required by the Kentucky Equal Employment Act upon being designated the successful contractor.

8. That the bidding contractor and all subcontractors to be employed do not and will not maintain any facilities they provide for employees in a segregated manner and they are in full compliance with provisions of 41 CFR 60-1.8 that prohibits the maintaining of segregated facilities.

9. In accordance with KRS45A.110(2), the undersigned hereby swears under penalty of perjury that he/she has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky and that the award of a contract to the bidder will not violate any provision of the campaign finance laws of the Commonwealth of Kentucky.

READ CAREFULLY - SIGN IN SPACE BELOW - FAILURE TO SIGN INVALIDATES BID

SIGNED BY_____ TITLE_____

PRINT NAME_____ FIRM_____

ADDRESS_____ AREA CODE & PHONE _____

_____ FAX_____
CITY STATE ZIP CODE

BIDDER'S EMAIL _____ DATE_____

Attachment "B"
SCOPE OF WORK
TC-038 Interior Masonry

BUSINESS CLASSIFICATION

Please complete this form which is necessary for the University of Kentucky vendor database.
Mark only one classification. Refer to "Definitions" for assistance in determining correct classification.

(01)___Small Business

(02)___Large Business

(03)___Disadvantaged Small Business

(04)___Disadvantaged Large Business

(05)___Woman-Owned Small Business

(06)___Woman-Owned Large Business

(07)___Disadvantaged Woman-Owned Small Business

(08)___Disadvantaged Woman-Owned Large Business

(09)___Other

DEFINITIONS

(01) SMALL BUSINESS: A business concern that is organized for profit, is independently owned and operated, is not dominant in the field of operations in which it is bidding and meets the size standards as prescribed in the Code of Federal Regulations, Title 13, Part 121. Consult your local or district Small Business Administration (SBA) office if further clarification is needed.

(02) LARGE BUSINESS: A business concern that exceeds the small business size code standards established by SBA.

(03) DISADVANTAGED SMALL BUSINESS: A business concern (a) that is at least 51 percent owned by one or more socially and economically disadvantaged individuals (as defined below), or a publicly owned business, having at least 51 percent of its stock owned by one or more socially and economically disadvantaged individuals; and (b) has its management and daily business operations controlled by one or more such individuals. Socially and economically disadvantaged individuals include: Asian, Black/African American, Hispanic or Latino, Native American, Native Hawaiian/Pacific Islander, Women, Disabled, Veteran and Disabled Veteran and other minorities or individuals found to be disadvantaged by the SBA.

(04) DISADVANTAGED LARGE BUSINESS: A concern that meets the definition of socially and economically disadvantaged individuals as defined above, but which is not a small business by the SBA's size standards.

(05) WOMAN-OWNED SMALL BUSINESS: A small business that is at least 51 percent owned by a woman or women who also control and operate it. "Control" in this context means exercising the power to make policy decisions. "Operate" means actively involved in the day-to-day management.

(06) WOMAN-OWNED LARGE BUSINESS: A concern that meets the definition of woman owned and operated, but which is not a small business by the SBA's standards.

(07) DISADVANTAGED, WOMAN-OWNED SMALL BUSINESS: A concern that meets the definition of both (03) and (05) above.

(08) DISADVANTAGED, WOMAN OWNED LARGE BUSINESS: A concern that meets the definition of both (04) and (06) above.

(09) OTHER: A concern that does not meet any of the above definitions.

Attachment "B"
SCOPE OF WORK
TC-038 Interior Masonry

THE FOLLOWING ITEMS ARE HEREWITH ENCLOSED AS REQUIRED BY KRS 45A.185

1. Bid Bond or Certified Check in an amount not less than five percent (5%) of total Bid.

2. List of Proposed Subcontractors and Unit Prices. (if required)

3. Authentication of Bid and Statement of Non-Collusion and Non-Conflict of Interest.

4. List of Materials and Equipment.

5. VENDOR NUMBER: It is imperative that you furnish your Federal Employer Identification Number in the space provided below. Failure to do so may delay the processing of purchase orders issued to your firm.

_____
(Nine Digit Number)

BIDDER'S QUALIFICATIONS

The Commonwealth of Kentucky Model Procurement Code (KRS 45A.080) requires contracts to be awarded, "to the responsive and responsible bidder whose bid offers the best value" to the University of Kentucky. In order to determine if the Bidder has the experience, qualifications, resources and necessary attributes to provide the quality workmanship, materials and management required by the plans and specifications, the Bidder may be required to complete and submit the information requested on the University of Kentucky Contractor Bidder Determination of Responsibility questionnaire. Failure to provide the information requested on the questionnaire or failure to provide any additional submittals or information that may be requested to make this determination may be grounds for a declaration of non-responsibility with respect to the Bidder. A copy of the Contractor Determination of Responsibility questionnaire is available upon request to all Bidders.

TIME LIMIT FOR EXECUTION OF CONTRACT DOCUMENTS

It is further agreed, that in the event this Proposal is accepted by the Owner and the undersigned shall fail to execute the Contract and furnish satisfactory Payment and Performance Bond within ten (10) consecutive calendar days from the date of notification of the award of the Contract, the Owner may at his option, determine that the undersigned has abandoned the Contract and thereupon, the Proposal shall become null and void and the Bid guarantee, check or Bid bond which accompanied it shall be forfeited and become the property of the Owner as liquidated damages for each failure and no protest pursuant to such action will be made. If the Undersigned shall execute the Contract, and furnish satisfactory Payment Bond and Performance Bond, it is understood that the Bid Guarantee or Bid Bond will be returned to the undersigned by the Owner.

Attachment "B"
SCOPE OF WORK
TC-038 Interior Masonry

UNIT PRICES

NOTE: Unit Prices shall include the furnishing of all labor, materials, supplies and services and shall include all items of cost, overhead and profit for the Contractor and any subcontractor involved, and shall be used uniformly without modifications for either additions or deductions. The Unit Prices as established shall be used to determine the equitable adjustment of the Contract Price in connection with changes, deletions or extra work performed under the Contract and the "Rules of Measurement" set forth in the General Conditions shall govern.

All Bidders will be required to complete and submit the following Unit Prices with the bid.

Material	Unit (LF, SF, EA, etc.)	Unit Price
8" CMU	SF	
Joint Sealants	LF	

Attachment "B"
SCOPE OF WORK
TC-038 Interior Masonry

HOURLY RATES

The Hourly Rates as established shall be used to determine the equitable adjustment of the Contract Price in connection with changes, deletions or extra work performed under the Contract and the "Rules of Measurement" set forth in the General Conditions shall govern.

All Bidders will be required to complete and submit the following Hourly Rates with the bid.

Note the following:

- **Overhead & Profit to be <u>EXCLUDED</u> from rates below & will be calculated separately**
- **Complete a separate Wage Breakdown for each trade or subcontractor**

STRAIGHT TIME		CLASSIFICATION							
Description	Unit	PM	Engineering	Super	Gen. Foreman	Foreman	Journeyman	Apprentice	Other (_____)
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

Attachment "B"
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PREMIUM TIME		CLASSIFICATION							
Description	**Unit**	**PM**	**Engineering**	**Super**	**Gen. Foreman**	**Foreman**	**Journeyman**	**Apprentice**	**Other (_____)**
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

DOUBLE TIME		CLASSIFICATION							
Description	**Unit**	**PM**	**Engineering**	**Super**	**Gen. Foreman**	**Foreman**	**Journeyman**	**Apprentice**	**Other (_____)**
Base Wage	/hr	$	$	$	$	$	$	$	$
H&W	/hr	$	$	$	$	$	$	$	$
Pension	/hr	$	$	$	$	$	$	$	$
Apprentice	/hr	$	$	$	$	$	$	$	$
Vacation	/hr	$	$	$	$	$	$	$	$
Annuity	/hr	$	$	$	$	$	$	$	$
Education	/hr	$	$	$	$	$	$	$	$
FICA	_____%	$	$	$	$	$	$	$	$
Medicare	_____%	$	$	$	$	$	$	$	$
FUI	_____%	$	$	$	$	$	$	$	$
SUI	_____%	$	$	$	$	$	$	$	$
Workers Comp	_____%	$	$	$	$	$	$	$	$
GL Ins.	_____%	$	$	$	$	$	$	$	$
Other Fringe/Burden (List Below)									
		$	$	$	$	$	$	$	$
TOTAL		**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**

Attachment "B"
SCOPE OF WORK
TC-038 Interior Masonry

BID BREAKOUT

Fill in the following breakdown of costs included in your base bid. Each item is to include labor, material & equipment. These will not be considered unit prices nor will the numbers listed here limit obligations required in the bid documents. It will be used only to aid in verifying completeness of the bids.

	Description of Work	Labor Hours	Quantity	Unit	Unit Cost	Total
1	Engineering and Submittals				$	$
2	CMU Installation				$	$
3	Caulking				$	$
4	Firestopping				$	$
5	Insect Control Treatment				$	$
6	HM Frame Installation				$	$
7					$	$
8					$	$
9					$	$
10					$	$
11					$	$
12					$	$
Please list and breakdown below any work that has not been listed above						
13					$	$
14					$	$
15					$	$
16					$	$
17					$	$
18	Management				$	$
19	Safety and Housekeeping				$	$
20	General Work Requirements				$	$
21	Overhead and Profit				$	$
Allowances (to be included in bid amount)						
1	CM Schedule Maintenance Overtime Allowance				$	$ 10,000
2					$	$
3					$	$
5						
	TOTAL BID AMOUNT (This amount should match the Lump Sum listed on Form of Proposal)					**$**
	Cost of Payment & Performance Bond **(DO NOT INCLUDE THIS COST IN BID AMOUNT)**					$

Attachment "B"
SCOPE OF WORK
TC-038 Interior Masonry

Attachment A – Additional Provisions and Attachment B – (Technical) Scope of Work go together to define the requirements of this Subcontract. Attachment A is a more of a general Summary of the Contract Documents, Price, etc., while Attachment B is the Trade Specific (technical) Scope of Work.

The work of this Agreement shall include, but not be limited to, all labor, materials, apparatus, hoisting, rigging, tools, equipment, plant, supplies, accessories, samples, submittals, shop drawings, certifications, engineering, layout, transportation, storage, supervision, temporary construction, special services, contributions, insurance, taxes (unless specifically excluded by the Contract Documents), compliance with all governing agencies (city, county, state, federal and others as may be required), permits, fees, all other services and facilities and other items necessary for the performance of the Interior **Masonry Work** as shown, detailed and/or implied in the contract documents outlined in the General Scope of Work.

The Scope of Work Document is being provided for your use as a general guideline. Please note, this Document is not all-inclusive. It is this Subcontractor's responsibility to provide a complete bid, including all work for this trade indicated on ALL of the contract documents (include plans, specifications, Bid Manual, etc.). It is this Subcontractor's responsibility for the entire scope of this Bid Package and coordination between all trades.

A.	GENERAL
1.	Provide labor, material, equipment, and all else necessary to furnish and install complete the TC-038 Work as required by the contract documents and as outlined below
2.	The following scope of work is intended to be general in nature. The purpose of this scope of work is not to identify or list every scope of work item already shown or described in the contract documents, but rather to coordinate, clarify, modify, and/or expand the scope.
3.	The intention is to have the successful Subcontractor perform all the TC-038 related work shown on the Contract Documents other than those items specifically indicated below to be excluded.
4.	Detail references are included for convenience, but are not intended to identify all applicable details. If the Contract Drawings and Specifications conflict, then the greater quantity and quality shall apply. The Scope of Work takes precedence over the drawings and specifications in the event of a conflict in trade assignment or responsibility. Attention is called to the Bid Manual and the Subcontractor shall include all costs necessary to provide all work to meet the requirements of this scope of work.
5.	In this Scope of Work, the term "provide" shall be defined as meaning "furnish and install."

B.	DOCUMENTS
1.	General Contract between Turner and the Owner including all attachments

2.	All documents in bid manual including but not limited to:
	• Drawings
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Volume 1 Dated 11/15/24***
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Volume 2 Dated 11/15/24***
	• Specifications
	  • ***UK AG Research Facility 1 Fitout Package Bid and Permit Set Project Manual Dated 11/15/2024***
	• Scope of Work (Attachment B)
	• General Requirements
	• General Conditions
	• Special Conditions
	• Sample Subcontract Agreement Form (Form 36)
	• Sample 3A Page
	• Reference Drawings Included
	  • ***Prospiant's Greenhouse Design Drawings for Rooftop Greenhouses***
	  • ***BP-02 Site Enabling Package – dated 3/13/24***
	  • ***BP-03/3.1 Foundations and Long Lead Equipment – dated 5/2/24***
	  • ***BP-04 Core and Shell – dated 6/28/24***

Attachment "B"
SCOPE OF WORK
TC-038 Interior Masonry

	• ***BP-05 Teaching Greenhouse – Dated 10/11/24***
3.	Bid Manual including all **Sketches** and **Attachments** prepared by Turner Construction and listed below
4.	**Attachments**
	a. Attachment A – Additional Provisions b. Attachment C - Safety Program c. Attachment E - Accounting Procedures d. Attachment F - Percentage Markup e. Attachment G - Bid Schedule f. Attachment H - BIM General Requirements g. Attachment I - LEAN Subcontract Exhibit h. Attachment J – Electronic Agreement i. Attachment K – CCIP Manual j. Attachment L – UK Tree Protection Standards k. Attachment M – Part 1 and Part 2 LEED Construction Waste Management Plan l. Attachment N – Turner Subcontractor Onboarding m. Attachment O – Enhancing Worker Experience Plan n. Attachment P – LEED Indoor Air Quality Management Plan
5.	**Sketches**
	a. SK-001 – Site Logistics Plan b. SK-002 – Misc Metals c. SK-003 – Tent and HVAC rental Agreements d. SK-004 – CM Office - Good Barn Layout e. SK-005 – Temporary Power Plan h. SK-006 – Lab Furnishings Responsibility Matrix Addendum 04
6.	**Specifications**
	The following specification sections are listed as the responsibility of the Subcontractor in defining its area of work on this project. Unless specifically indicated otherwise or excluded below, this Contractor is responsible for the complete specification sections indicated below. **a. DIVISION 00 – PROCUREMENT & CONTRACTING REQUIREMENTS (ALL SECTIONS)** **b. DIVISION 01 – GENERAL REQUIREMENTS (ALL SECTIONS)** **c. 04 2200- Concrete Masonry Units (Complete)** **d. 07 8413 - Penetration Firestopping (As required by this scope)** **e. 07 8443 – Joint Firestopping (As required by this scope)** **f. 07 9200 - Joint Sealants (as required by this scope)** **g. 07 9200.13 – Joint Sealants – Laboratory and Vivarium (as required by this scope)** h. **07 9219 – Acoustical Joint Sealants (as required by this scope)** **i. 08 1113 – Hollow Metal Doors and Frames (as required by this scope)** j. **08 7100 – Door Hardware (as required by this scope)** k. **10 8126 – Insect Control Treatment (as required by this scope)**
7.	Divisions 00 and 01 of the Specifications are general in nature and apply to all Subcontracts. These sections are included "complete" as part of this Subcontract Agreement.
8.	The Contractor is also responsible for trade specifications not specifically listed above but required by reference in the listed specifications or as required to perform the scope of work described herein, as well as the Bidding Requirements, Contracting Requirements and the use of the Construction Documents as a whole.

C.	SPECIFIC SCOPE ITEMS
1.	Contract Price is LUMP SUM. There shall be NO additional labor and material escalations allowed
2.	Examination of Site – Subcontractor warrants that they have sufficiently reviewed the project site to inform themselves of all items about existing site that are relevant to their work, and the cost of their work.

Attachment "B"
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3.	Include protection all adjacent structures during performance of this work. Plan for protection of adjacent structures must be part of the overall plan submitted for approval prior to start of work
4.	**SITE LOGISTICS:** Refer to the Site Logistics plans included in the Contract Documents. Delivery trucks are to be scheduled with Turner at least one (1) week in advance.
5.	Subcontractor change order requests shall be provided with sufficient detail (as acceptable to Turner) to allow for satisfactory review. Subcontractor shall be allowed a maximum mark up for overhead and profit per the markup provisions included in the Subcontract Agreement, or as clarified in Contract Documents above
6.	Subcontractor understands that **time is of the essence** in the prosecution of Work under this agreement.
7.	**Verify layout** provided by others. Where this subcontractor is performing work using layout provided by others, this subcontractor shall perform sufficient verification of that layout to reasonably ascertain the validity of that layout. Any deficiencies (or suspected deficiencies found) shall be reported to Turner immediately to allow corrections as needed before start of work by this subcontractor.
8.	All Subcontractors must be **licensed** as required by local, State, or Federal jurisdiction required for work of this trade in this project location
9.	This Subcontractor will comply with Turner's corporate **safety policy** and comply with Site Specific Safety Plan that will include but is not limited to 100% tie-off above 6 feet, 100% Safety Glasses, High Visibility Vests or High Vis style T-Shirts with reflective strips, 100% glove policy, Ladders Last Policy and Nothing Hits the Ground. If you are unfamiliar with any of these policies, please ask to see the policy prior to submitting your bid. Failure to be familiar with these policies will not exclude you from complying with them.
10.	Refer to **Project General Work Requirements** in volume one of the project manuals. Any costs for work scope items listed in this section shall be included in your lump sum bid. Some work items are listed for specific trade contractors, and they shall include those costs in their respective total lump sum bid price.
11.	This contractor to provide **Concrete Unit Masonry** COMPLETE as shown on the contract documents and specified in **04 2200.** • Coordinate with the CFMF and Misc Metals contractor for ceiling framing at vivarium ceilings. Receive and install all required embeds as needed. Provide pockets in masonry as needed. • Subcontractor to provide all reinforcement, rebar, top of wall hook dowels, dowels, starter dowels, grouting, all masonry anchors, ladder wire or other wire reinforcement and like installations per the contract documents. Include providing and installing of top of support angles, plates, etc. • Contractor to provide drilled and epoxy reinforcing bars as needed at base of wall. Assume no reinforcing will be stubbed up from slab. • Subcontractor to provide all flashings, through wall flashings, end dams, cavity insulations, grout stops, drip edges, weeping as shown or required, in-wall & top of wall fire safing, and interior & exterior control joint caulking per the contract documents. • Subcontractor to provide all equipment for lifting and movement of materials for any on-grade and elevated work conditions. • Subcontractor to provide scaffolding, mobile scaffolding, etc. for access to elevated work at the perimeter and interior to of the building structure including at all elevator/stair shafts and like locations. • Subcontractor includes all colored masonry, mortar, caulking, etc. if required by the project information. • Cleaning on a continuous basis will be required. Including scraping mortar/grout off of floors and adjacent surfaces; Staining of the concrete slab due to insufficient protection measures and/or cleaning will not be tolerated or accepted.
12.	This contractor to provide all **firestopping, joint sealants, acoustical sealants**, etc. for all items related to this scope of work per the contract documents. All penetrations must be sealed with firestopping or acoustical sealants depending on the wall type.
13.	This contractor to receive, shakeout, and install **HM Frames** for all interior and exterior openings indicated on the contract documents located in masonry walls. HM Frames will be provided by TC-037 Doors/Frames/Hardware Contractor. Coordinate deliveries with CM and TC-037. • This contractor to walk with the CM and TC-030 General Trades contractor to review frame installations after frames are set and masonry is installed to verify frames are square/plumb/level for door installation.

Attachment "B"
SCOPE OF WORK
TC-038 Interior Masonry

	• This contractor to include grouting solid frames in masonry walls. • Coordinate with TC-35 Technology contractor for conduit rough in, in frames required for electrified hardware. • This contractor to include a **$5,000 frame adjustment/rework allowance** to be used at the direction of the Construction Manager.
14.	This contractor to provide **Insect Control Treatment** COMPLETE for all masonry walls as shown on the contract documents and specified in **10 8126.** • TC-036 Drywall contractor will provide Insect Control Treatment at metal stud framed walls.
15.	Subcontractor includes normal and customary winter conditions to complete this work scope outside of sub-freezing temperatures. All costs for Items like hot water, hot sand, basic tarping of work and other basic protections of installed work are included in this subcontract.
16.	Subcontractor includes all sealing, water repellants, cleaning, necessary for a completion installation per the contract documents.
17.	Subcontractor to include any temporary structural reinforcement of and necessary reshoring of any roofing levels or structural floors, etc. required to install this work scope. Turner will require a 3rd party review and stamped design for any support of structures to install their work scope.
18.	No masonry is allowed to be installed at elevated decks until AFTER re-shores are removed, typical.
19.	If the project incurs additional cleaning costs and Contractor cannot easily determine the source of the dirt, debris, trash, garbage, or hazard that necessitated the additional cleaning, then all Subcontractors shall be assessed their pro rata share of the additional cleaning costs for the relevant periods. The Subcontractor's pro rata share of additional cleaning costs shall be determined by identifying what percentage of man-hours the Subcontractor accounts for compared to the total number of man-hours on the project for that period. The Subcontractor will then be responsible for the corresponding percentage of the cleaning charges for that period.
20.	If the project incurs costs for trade damage and Contractor cannot easily determine the source of the trade damage in question, then all Subcontractors shall be assessed their pro rata share of the trade damage costs for the relevant periods. The Subcontractor's pro rata share of trade damage costs shall be determined by identifying what percentage of man-hours the Subcontractor accounts for compared to the total number of man-hours on the project for that period. The Subcontractor will then be responsible for the corresponding percentage of the cleaning charges for that period.
21.	Subcontractor is not permitted to make any recordings of or at the Project unless preapproved, in writing, by a Project Manager or Project Executive of Contractor. Cameras and recordable devices are not allowed at the Project unless preapproved, in writing, by a Project Manager or Project Executive of Contractor. Subcontractor is not permitted to use a drone or any other flying/hovering device to film, photograph, or otherwise record the Project unless preapproved, in writing, by a Project Manager or Project Executive of Contractor. Subcontractor shall include the language from this article in all of its agreements with lower-tiered subcontractors and material providers for the Project and Subcontractor shall require all of its lower-tier subcontractors and material providers to comply with the policy identified in this article.
22.	Reference amended Attachment C Safety Policy for specific changes affecting this scope of work including but not limited to: • "X" bracing is not considered to be a guard rail system. Guard rails (horizontal top and mid rails) must be installed when the platform reaches four feet in height. • In addition to manufacturer, OSHA and local jurisdiction inspection requirements; all temporary work platforms and access systems shall be inspected, at a minimum, after initial installation and quarterly by a qualified third party or manufacturer representative. • A top guardrail is required to be installed on the working side of the masonry scaffold unless the height of the installed block is 39" or other suitable fall protective systems used.

Attachment "B"
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23.	Include cost in base bid for 2% of the total manhours anticipated for this scope to be used at the direction of the CM as **"Composite Cleanup".**
24.	This Trade Contractor shall participate in the construction of on-site **mock-ups** as specified and indicated by the documents and/or noted elsewhere. This shall include providing of materials required for this trade contract scope of work, coordinating with other trade contractors with regard to sequencing of installations and protection of materials, furnishing shop drawings and /or setting drawings, etc. Materials for in place or interim mock-ups shall be secured in advance of normal procurement to allow for ALL trade contractor installations, owner/designer and user reviews and evaluations, meetings, approvals and directive if applicable. Mockups are understood to start with arrangement of wall rough-in through complete room finishes. **Addendum 04**

D.	**EXCLUSIONS**
	The Scope of Work shall exclude the following:
1.	Payment & Performance Bond
2.	Insect Control Treatment at Drywall Partitions

E.	**ALLOWANCES**	
	The Contract Sum shall be the addition of a base bid amount plus allowances. It is expressly understood and agreed that all allowance work will be completed within the original schedule. Progress Payments will be made against Allowance expenditures, based on approved monthly invoices & written Allowance Authorization from Turner. Any unused funds remaining in these allowances will be credited back to the Project. Only direct Labor, Material, and Equipment costs authorized in writing by Turner after approval by the Owner are to be charged to the Allowance. The Subcontractor's cost for all overhead and profit on the allowance amount shall be included in the base bid amount and not in the allowance amount.	
1.	CM Schedule Maintenance Overtime Allowance	$10,000

F.	**SCHEDULE**
	Schedule information is included within the bid manual **(Attachment G)** to aid the Subcontractor in anticipating material deliveries, and manpower and equipment requirements. The information describes only the major activities of this scope of work and does not attempt to describe any out of sequence work required. **The Contractor must confirm that you will meet the project schedule as indicated in the bid manual.** It is **absolutely critical** that the work of this contract be completed by the dates defined. The intention is that the Subcontractor must provide sufficient labor, equipment, overtime, supervision, etc. to overcome weather delays.

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G.	ALTERNATES
	The following "Alternate(s)" may be accepted and incorporated herein as part of the Scope of Work for the respective price. Inasmuch as these Alternates were anticipated from the inception of the project and were priced accordingly, all overhead, profit and escalation has been included within the lump sum amount and the price shall remain firm throughout the duration of the project, unless specifically noted. Indicate Add/Deduct Price on the Form of Proposal.
Alt. 1	**Fourth Floor Build Out**
Alt. 2	**Autoclaves**
Alt. 3	**Greenhouse Tables and Shelving**
Alt. 4	**Roller Window Shades in Rooms A0100 and A0102**
Alt. 5	**Greenhouse Card Readers (ADD #04)**
Alt. 6	**Biological Safety Cabinets (ADD #04)**

Attachment "B"
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DUE BY BID DEADLINE

For the purposes of this form, a major subcontractor or supplier is a person or entity that will have a direct or assigned contract or purchase order for the performance or supply of any item listed below if the bidder is successful.

All subcontractors must comply with the laws of the Commonwealth of Kentucky and the policies and procedures of the University of Kentucky as administrated by the UK Capital Construction Procurement Section and Capital Project Management Division.

If the bidder will self-perform these items, list "Self-Perform" for each applicable item.

No major subcontractor or supplier may be added or changed without written consent of the Owner's representative after the bid deadline.

The apparent low bidder may be required to attend a post bid review meeting which will be scheduled at a later date.

DIVISION OF WORK	NAME AND ADDRESS OF SUBCONTRACTOR

Attachment "B"
SCOPE OF WORK
TC-038 Interior Masonry

LIST OF MATERIALS AND EQUIPMENT

Each item listed under the different phases of construction must be clearly identified so that the Owner will definitely know what the Bidder proposes to furnish.

The use of a manufacturer's or dealer's name only, or stating "as per Plans and Specifications," will not be considered as sufficient identification.

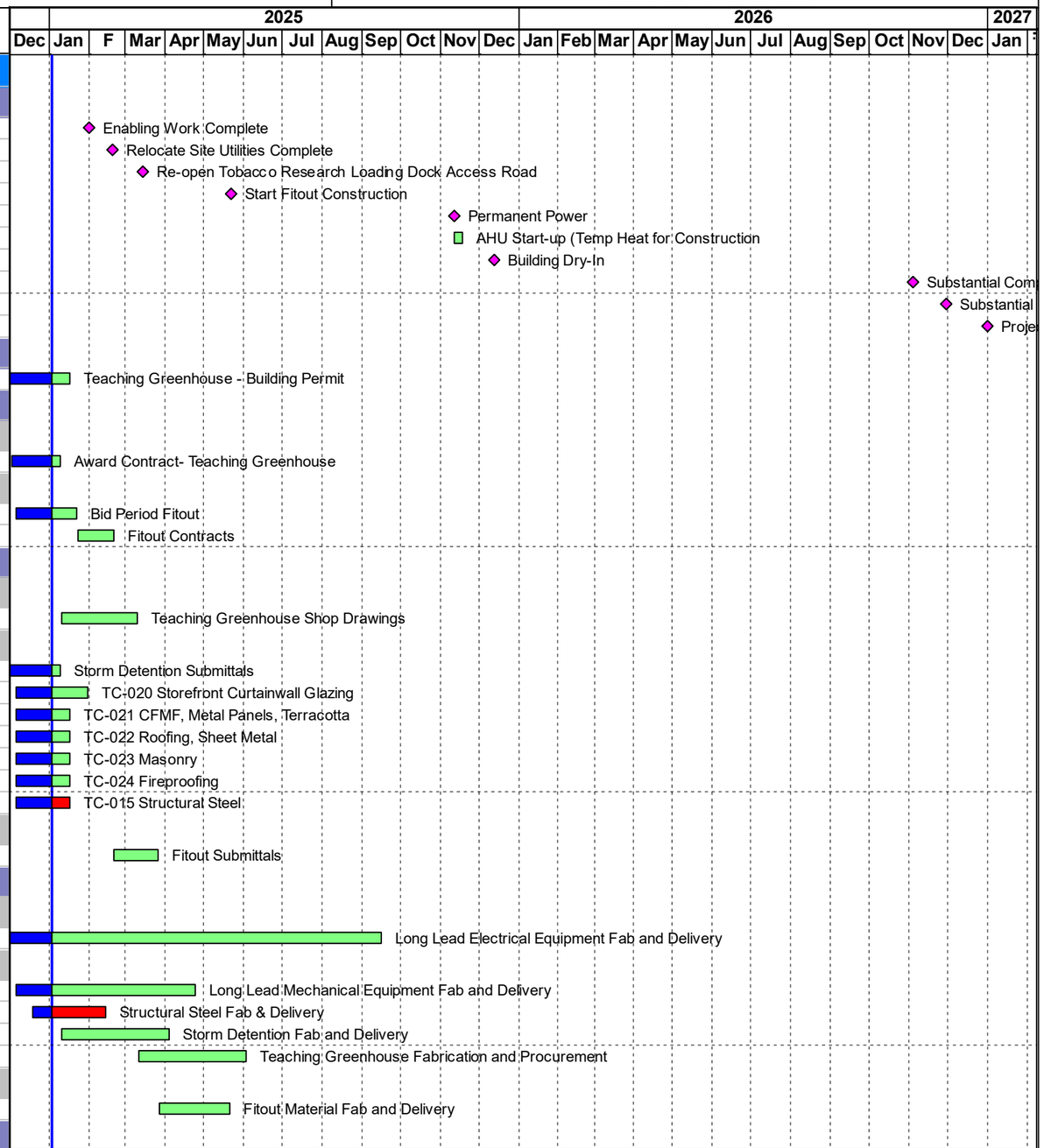
Where more than one "Make" or "Brand" is listed for any one item, the Owner has the right to select the one to be used.

The apparent low bidders will be required to complete and submit to the University the following information by twelve o'clock (12) noon of the first working day following the bid opening. The information requested in this submittal is required to assist the University in determining contractor responsibility to complete the project being bid.

The apparent low bidder is requested to attend a post bid meeting which will be scheduled at a later date.

MATERIALS AND EQUIPMENT	BRAND OR MANUFACTURER

Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
UK AG Research Master Schedule- December 2024 Update		567	507		07-Oct-24 A	31-Dec-26
Milestones		486	486		31-Jan-25	31-Dec-26
MS 110	Enabling Work Complete	0	0	0%		31-Jan-25
MS 200	Relocate Site Utilities Complete	0	0	0%	19-Feb-25	
MS 210	Re-open Tobacco Research Loading Dock Access Road	0	0	0%		14-Mar-25*
MS 190	Start Fitout Construction	0	0	0%	22-May-25	
COM 180	Permanent Power	0	0	0%		11-Nov-25
COM 190	AHU Start-up (Temp Heat for Construction	5	5	0%	12-Nov-25	18-Nov-25
MS 140	Building Dry-In	0	0	0%		12-Dec-25
MS 150	Substantial Completion - AG Research Lvls 1-3, Rooftop Greenhouse	0	0	0%		04-Nov-26*
MS 220	Substantial Completion - Auditorium, Lvl 4 offices	0	0	0%		30-Nov-26*
MS 160	Project Complete	0	0	0%		31-Dec-26
Permitting		60	10		01-Nov-24 A	16-Jan-25
PER130	Teaching Greenhouse - Building Permit	60	10	83.33%	01-Nov-24 A	16-Jan-25
Contracting		52	34		02-Dec-24 A	19-Feb-25
BP-01 Greenhouses		5	5		02-Dec-24 A	09-Jan-25
CTR410	Award Contract- Teaching Greenhouse	5	5	0%	02-Dec-24 A	09-Jan-25
BP-05 Fitout		52	34		06-Dec-24 A	19-Feb-25
CTR220	Bid Period Fitout	20	14	30%	06-Dec-24 A	22-Jan-25
CTR190	Fitout Contracts	20	20	0%	23-Jan-25	19-Feb-25
Submittals		119	59		07-Oct-24 A	26-Mar-25
BP-01 Greenhouses		60	60		10-Jan-25	10-Mar-25
SUB270	Teaching Greenhouse Shop Drawings	60	60	0%	10-Jan-25	10-Mar-25
BP-04 Core & Shell		62	20		07-Oct-24 A	30-Jan-25
SUB120	Storm Detention Submittals	25	5	80%	07-Oct-24 A	09-Jan-25
SUB210	TC-020 Storefront Curtainwall Glazing	20	20	0%	06-Dec-24 A	30-Jan-25
SUB220	TC-021 CFMF, Metal Panels, Terracotta	20	10	50%	06-Dec-24 A	16-Jan-25
SUB230	TC-022 Roofing, Sheet Metal	20	10	50%	06-Dec-24 A	16-Jan-25
SUB240	TC-023 Masonry	20	10	50%	06-Dec-24 A	16-Jan-25
SUB250	TC-024 Fireproofing	20	10	50%	06-Dec-24 A	16-Jan-25
SUB260	TC-015 Structural Steel	20	10	50%	06-Dec-24 A	16-Jan-25
BP-05 Fitout		25	25		20-Feb-25	26-Mar-25
APP210	Fitout Submittals	25	25	0%	20-Feb-25	26-Mar-25
Fabrication & Delivery		260	180		25-Nov-24 A	16-Sep-25
BP-03 Foundations & Long Lead Equipment		260	180		25-Nov-24 A	16-Sep-25
FAB200	Long Lead Electrical Equipment Fab and Delivery	260	180	30.77%	25-Nov-24 A	16-Sep-25
BP-04 Core & Shell		124	106		06-Dec-24 A	02-Jun-25
A120	Long Lead Mechanical Equipment Fab and Delivery	100	80	20%	06-Dec-24 A	24-Apr-25
A670	Structural Steel Fab & Delivery	50	30	40%	19-Dec-24 A	13-Feb-25*
A200	Storm Detention Fab and Delivery	60	60	0%	10-Jan-25	03-Apr-25
A480	Teaching Greenhouse Fabrication and Procurement	84	84	0%	11-Mar-25	02-Jun-25
BP-05 Fitout		40	40		27-Mar-25	21-May-25
A110	Fitout Material Fab and Delivery	40	40	0%	27-Mar-25	21-May-25
VDC / BIM		64	51		13-Dec-24 A	14-Mar-25



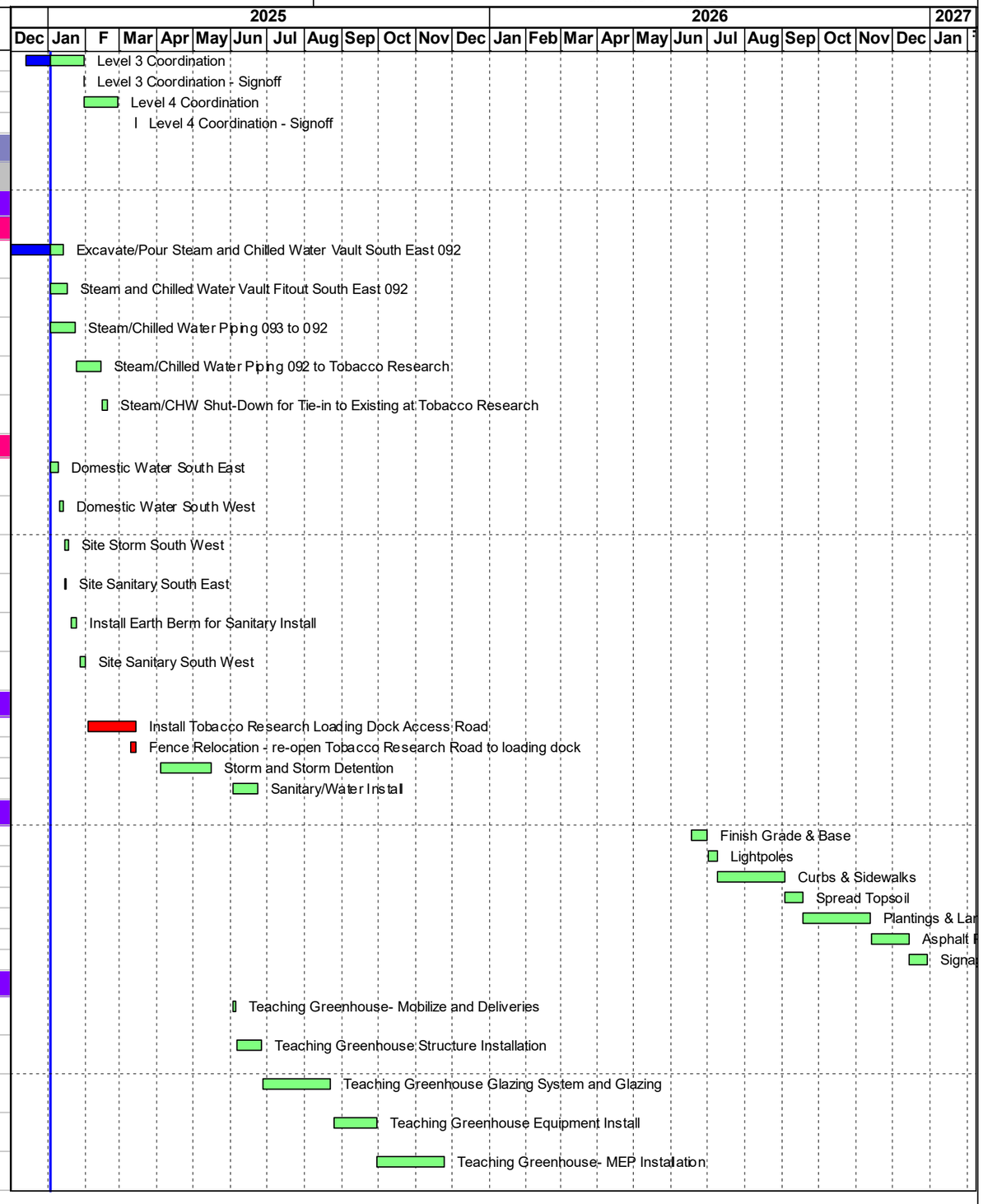
Remaining Level of Effort ◆ Milestone
Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work

UK AG Research Master Schedule- December 2024 Update
Data Date 03-Jan-25

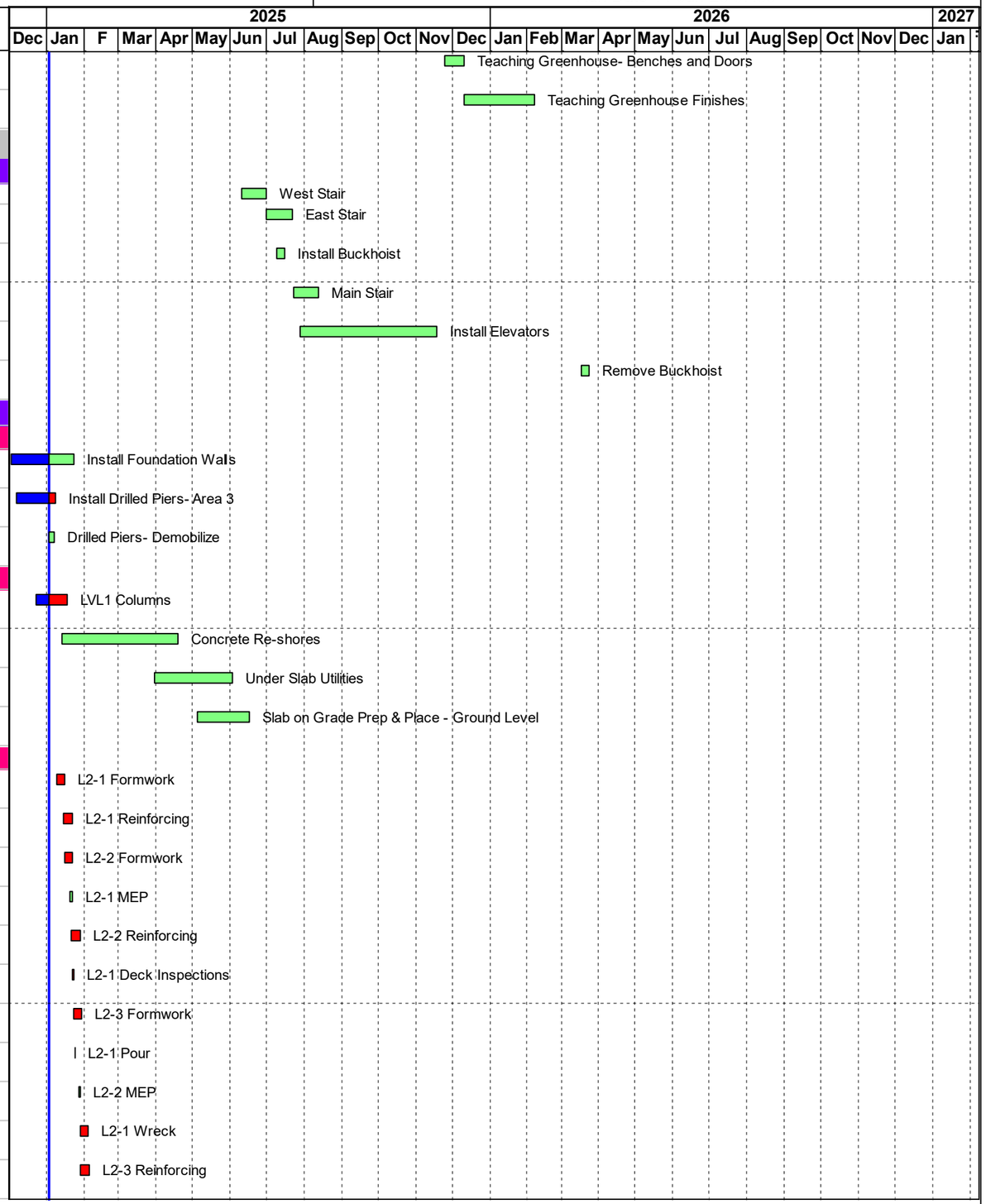
Turner

Start Date 02-Oct-23
Finish Date 31-Dec-26
Data Date 03-Jan-25

Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
BIM 150	Level 3 Coordination	20	20	0%	13-Dec-24 A	30-Jan-25
BIM 180	Level 3 Coordination - Signoff	1	1	0%	30-Jan-25	30-Jan-25
BIM 170	Level 4 Coordination	20	20	0%	31-Jan-25	27-Feb-25
BIM 190	Level 4 Coordination - Signoff	1	1	0%	14-Mar-25	14-Mar-25
Construction		565	505		07-Oct-24 A	29-Dec-26
Site		565	505		07-Oct-24 A	29-Dec-26
Enabling		93	33		07-Oct-24 A	18-Feb-25
Steam/Chilled Water Relocation		93	33		07-Oct-24 A	18-Feb-25
ES 290	Excavate/Pour Steam and Chilled Water Vault South East 092	15	7	53.33%	07-Oct-24 A	13-Jan-25
ES 320	Steam and Chilled Water Vault Fitout South East 092	10	10	0%	03-Jan-25	16-Jan-25
ES 540	Steam/Chilled Water Piping 093 to 092	15	15	0%	03-Jan-25	23-Jan-25
ES 400	Steam/Chilled Water Piping 092 to Tobacco Research	15	15	0%	24-Jan-25	13-Feb-25
ES 390	Steam/CHW Shut-Down for Tie-in to Existing at Tobacco Research	5	5	0%	14-Feb-25	18-Feb-25
Sanitary/Water/Storm		21	21		03-Jan-25	31-Jan-25
ES 860	Domestic Water South East	5	5	0%	03-Jan-25	09-Jan-25
ES 890	Domestic Water South West	2	2	0%	10-Jan-25	13-Jan-25
ES 130	Site Storm South West	4	4	0%	14-Jan-25	17-Jan-25
ES 930	Site Sanitary South East	2	2	0%	14-Jan-25	15-Jan-25
ES 1110	Install Earth Berm for Sanitary Install	5	5	0%	20-Jan-25	24-Jan-25
ES 940	Site Sanitary South West	5	5	0%	27-Jan-25	31-Jan-25
Sitework		100	100		03-Feb-25	23-Jun-25
A270	Install Tobacco Research Loading Dock Access Road	30	30	0%	03-Feb-25	14-Mar-25*
A330	Fence Relocation - re-open Tobacco Research Road to loading dock	5	5	0%	10-Mar-25	14-Mar-25
A390	Storm and Storm Detention	30	30	0%	04-Apr-25	15-May-25
A380	Sanitary/Water Instal	15	15	0%	03-Jun-25	23-Jun-25
Final Sitework		135	135		17-Jun-26	29-Dec-26
FS 100	Finish Grade & Base	10	10	0%	17-Jun-26	30-Jun-26
FS 110	Lightpoles	5	5	0%	01-Jul-26	08-Jul-26
FS 120	Curbs & Sidewalks	40	40	0%	09-Jul-26	02-Sep-26
FS 130	Spread Topsoil	10	10	0%	03-Sep-26	17-Sep-26
FS 140	Plantings & Landscape	40	40	0%	18-Sep-26	12-Nov-26
FS 150	Asphalt Paving & Striping	20	20	0%	13-Nov-26	14-Dec-26
FS 160	Signage	10	10	0%	15-Dec-26	29-Dec-26
Teaching Greenhouse		173	173		03-Jun-25	06-Feb-26
ENV 170	Teaching Greenhouse- Mobilize and Deliveries	3	3	0%	03-Jun-25	05-Jun-25
ENV 190	Teaching Greenhouse Structure Installation	15	15	0%	06-Jun-25	26-Jun-25
ENV 200	Teaching Greenhouse Glazing System and Glazing	40	40	0%	27-Jun-25	22-Aug-25
ENV 210	Teaching Greenhouse Equipment Install	25	25	0%	25-Aug-25	29-Sep-25
ENV 220	Teaching Greenhouse- MEP Installation	40	40	0%	30-Sep-25	24-Nov-25

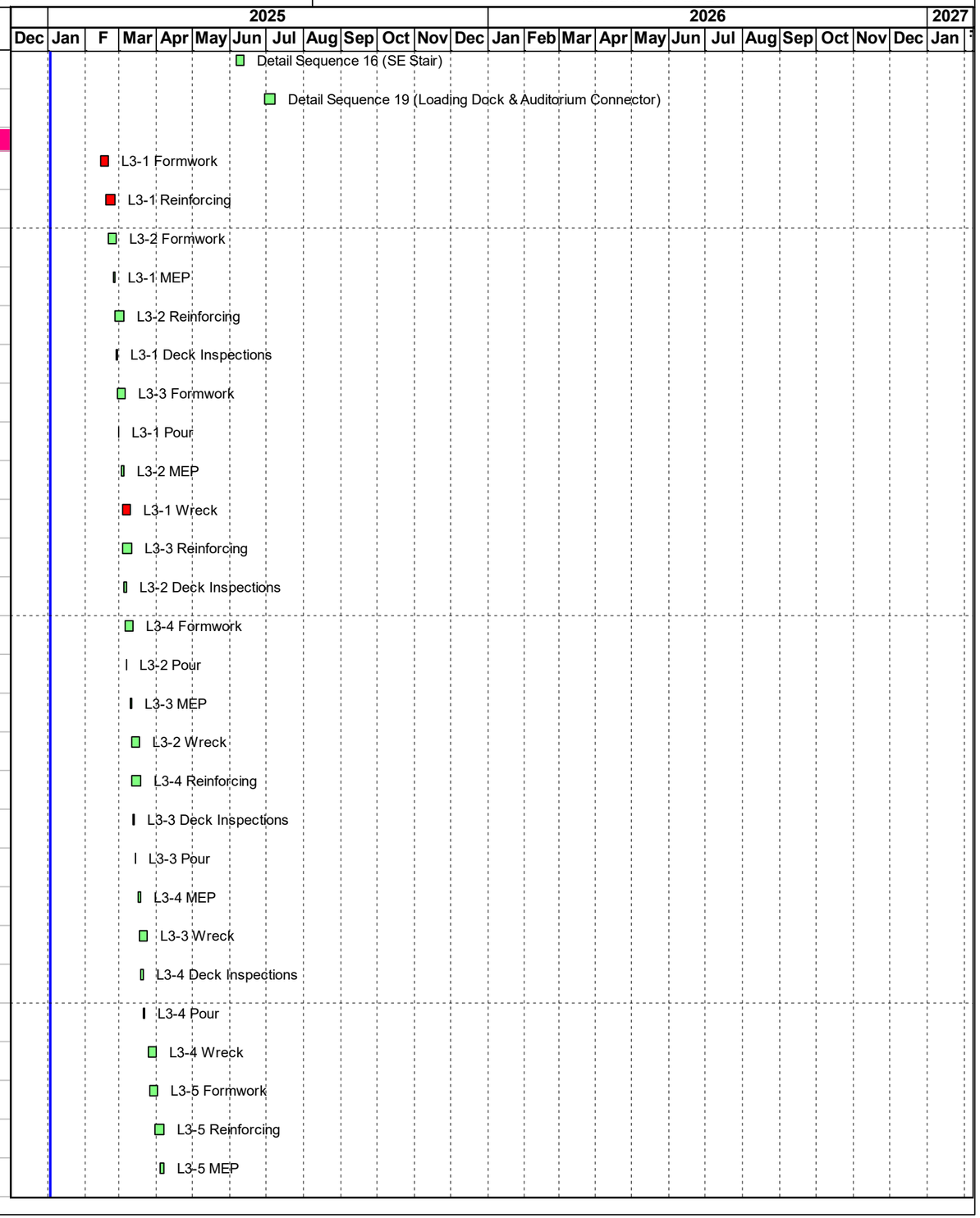


Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
ENV 230	Teaching Greenhouse- Benches and Doors	10	10	0%	25-Nov-25	10-Dec-25
ENV 240	Teaching Greenhouse Finishes	40	40	0%	11-Dec-25	06-Feb-26
Building		469	447		02-Dec-24 A	05-Oct-26
Vertical Transportation		199	199		10-Jun-25	23-Mar-26
VT 110	West Stair	15	15	0%	10-Jun-25	30-Jun-25
VT 120	East Stair	15	15	0%	01-Jul-25	22-Jul-25
VT 140	Install Buckhoist	5	5	0%	09-Jul-25	15-Jul-25
VT 130	Main Stair	15	15	0%	23-Jul-25	12-Aug-25
VT 100	Install Elevators	80	80	0%	29-Jul-25	18-Nov-25
VT 150	Remove Buckhoist	5	5	0%	17-Mar-26	23-Mar-26
Structure		196	174		02-Dec-24 A	08-Sep-25
Foundations		40	15		02-Dec-24 A	23-Jan-25
STR 190	Install Foundation Walls	40	15	62.5%	02-Dec-24 A	23-Jan-25
STR 230	Install Drilled Piers- Area 3	11	5	54.55%	07-Dec-24 A	08-Jan-25
STR 250	Drilled Piers- Demobilize	2	2	0%	03-Jan-25	06-Jan-25
SOG/LV1		123	116		23-Dec-24 A	16-Jun-25
STR 270	LVL1 Columns	20	11	45%	23-Dec-24 A	17-Jan-25
STR 170	Concrete Re-shores	70	70	0%	13-Jan-25	18-Apr-25
STR 110	Under Slab Utilities	45	45	0%	31-Mar-25	02-Jun-25
STR 120	Slab on Grade Prep & Place - Ground Level	30	30	0%	05-May-25	16-Jun-25
LV2 Concrete		127	127		09-Jan-25	08-Jul-25
LVL2-1 280	L2-1 Formwork	5	5	0%	09-Jan-25	15-Jan-25
LVL2-1 290	L2-1 Reinforcing	6	6	0%	14-Jan-25	21-Jan-25
LVL2-2 340	L2-2 Formwork	5	5	0%	16-Jan-25	22-Jan-25
LVL2-1 300	L2-1 MEP	2	2	0%	20-Jan-25	21-Jan-25
LVL2-2 350	L2-2 Reinforcing	6	6	0%	21-Jan-25	28-Jan-25
LVL2-1 310	L2-1 Deck Inspections	2	2	0%	22-Jan-25	23-Jan-25
LVL2-3 280	L2-3 Formwork	5	5	0%	23-Jan-25	29-Jan-25
LVL2-1 320	L2-1 Pour	1	1	0%	24-Jan-25	24-Jan-25
LVL2-2 360	L2-2 MEP	2	2	0%	27-Jan-25	28-Jan-25
LVL2-1 330	L2-1 Wreck	5	5	0%	28-Jan-25	03-Feb-25
LVL2-3 290	L2-3 Reinforcing	6	6	0%	28-Jan-25	04-Feb-25

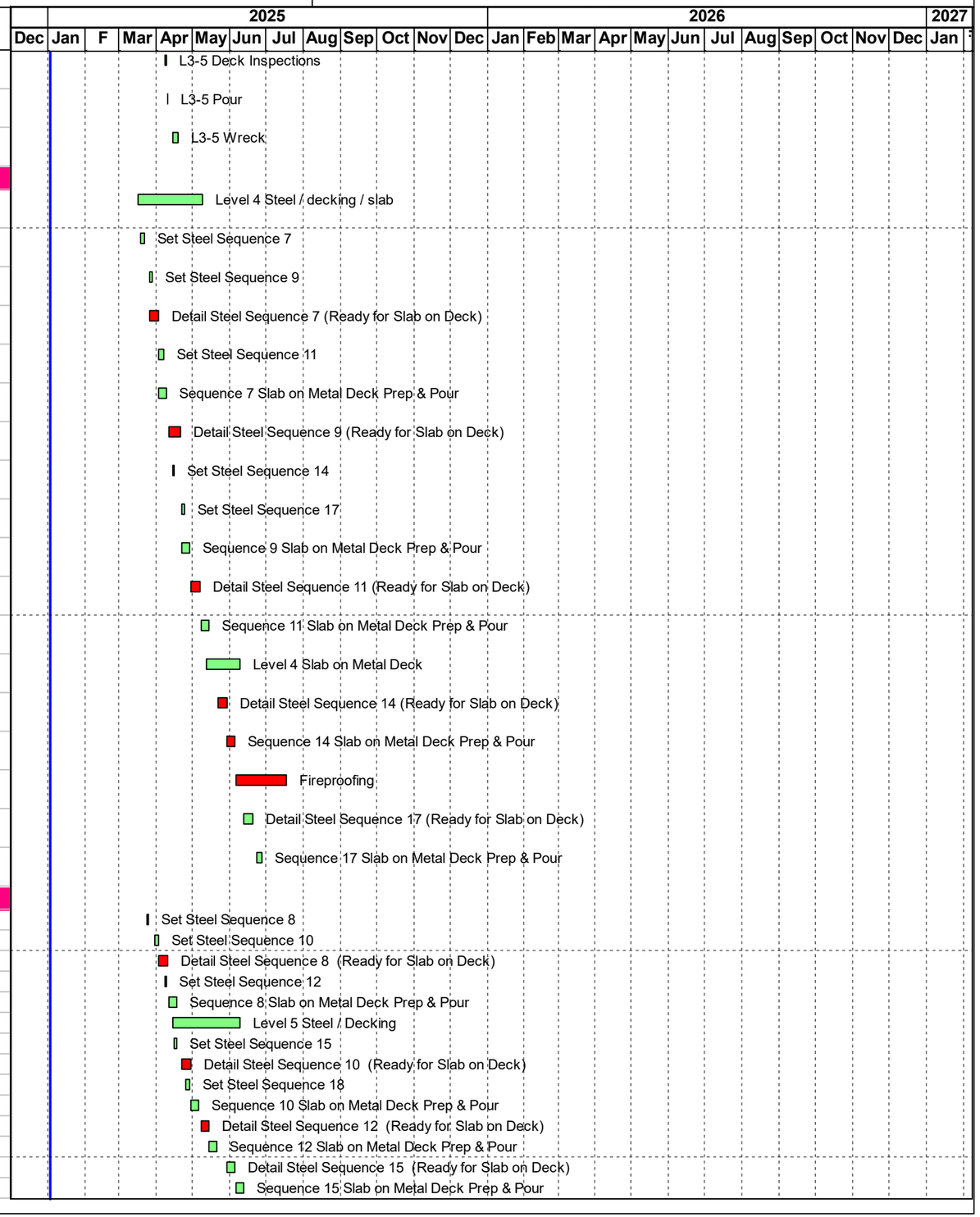


Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
LVL2-2 370	L2-2 Deck Inspections	2	2	0%	29-Jan-25	30-Jan-25
LVL2-4 280	L2-4 Formwork	5	5	0%	30-Jan-25	05-Feb-25
LVL2-2 380	L2-2 Pour	1	1	0%	31-Jan-25	31-Jan-25
LVL2-3 300	L2-3 MEP	2	2	0%	03-Feb-25	04-Feb-25
LVL2-2 390	L2-2 Wreck	5	5	0%	04-Feb-25	10-Feb-25
LVL2-4 290	L2-4 Reinforcing	6	6	0%	04-Feb-25	11-Feb-25
LVL2-3 310	L2-3 Deck Inspections	2	2	0%	05-Feb-25	06-Feb-25
LVL2-5 280	L2-5 Formwork	5	5	0%	06-Feb-25	12-Feb-25
LVL2-3 320	L2-3 Pour	1	1	0%	07-Feb-25	07-Feb-25
LVL2-4 300	L2-4 MEP	2	2	0%	10-Feb-25	11-Feb-25
LVL2-3 330	L2-3 Wreck	5	5	0%	11-Feb-25	17-Feb-25
LVL2-5 290	L2-5 Reinforcing	6	6	0%	11-Feb-25	18-Feb-25
LVL2-4 310	L2-4 Deck Inspections	2	2	0%	12-Feb-25	13-Feb-25
LVL2-4 320	L2-4 Pour	1	1	0%	14-Feb-25	14-Feb-25
LVL2-5 300	L2-5 MEP	2	2	0%	17-Feb-25	18-Feb-25
LVL2-4 330	L2-4 Wreck	5	5	0%	18-Feb-25	24-Feb-25
LVL2-5 310	L2-5 Deck Inspections	2	2	0%	19-Feb-25	20-Feb-25
LVL2-1 340	L2-1 Columns	5	5	0%	19-Feb-25	25-Feb-25
LVL2-5 320	L2-5 Pour	1	1	0%	21-Feb-25	21-Feb-25
LVL2-5 330	L2-5 Wreck	5	5	0%	25-Feb-25	03-Mar-25
LVL2-2 400	L2-2 Columns	5	5	0%	26-Feb-25	04-Mar-25
LVL2-4 410	Set Sequence 5 (Auditorium Steel)	8	8	0%	03-Mar-25	12-Mar-25
LVL2-3 400	L2-3 Columns	5	5	0%	05-Mar-25	11-Mar-25
LVL2-1 380	Detail Sequence 5 (Auditorium Steel)	20	20	0%	10-Mar-25	04-Apr-25
LVL2-4 400	L2-4 Columns	5	5	0%	12-Mar-25	18-Mar-25
LVL2-1 350	Set Sequence 6 (NE Stairwell)	3	3	0%	14-Mar-25	18-Mar-25
LVL2-1 390	Detail Sequence 6 (NE Stairwell)	7	7	0%	17-Mar-25	25-Mar-25
LVL2-5 400	L2-5 Columns	5	5	0%	19-Mar-25	25-Mar-25
LVL2-1 360	Set Sequence 16 (SE Stair)	2	2	0%	18-Apr-25	21-Apr-25
LVL2-1 370	Set Sequence 19 (Loading Dock & Auditorium Connector)	3	3	0%	29-Apr-25	01-May-25

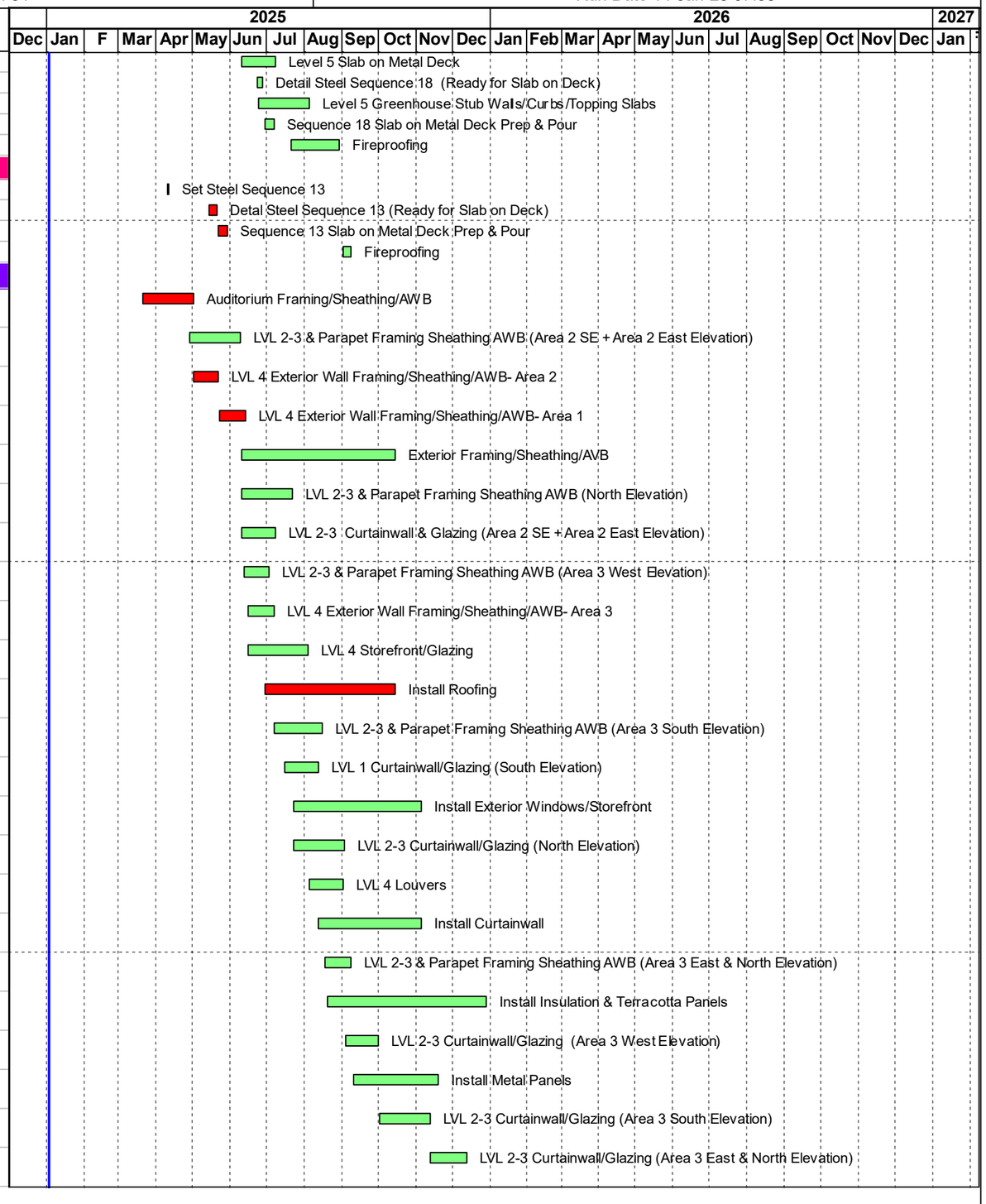
Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
LVL2-1 400	Detail Sequence 16 (SE Stair)	5	5	0%	06-Jun-25	12-Jun-25
LVL2-4 420	Detail Sequence 19 (Loading Dock & Auditorium Connector)	6	6	0%	30-Jun-25	08-Jul-25
LV3 Concrete		47	47		13-Feb-25	18-Apr-25
LVL3-1 280	L3-1 Formwork	5	5	0%	13-Feb-25	19-Feb-25
LVL3-1 290	L3-1 Reinforcing	6	6	0%	18-Feb-25	25-Feb-25
LVL3-2 340	L3-2 Formwork	5	5	0%	20-Feb-25	26-Feb-25
LVL3-1 300	L3-1 MEP	2	2	0%	24-Feb-25	25-Feb-25
LVL3-2 350	L3-2 Reinforcing	6	6	0%	25-Feb-25	04-Mar-25
LVL3-1 310	L3-1 Deck Inspections	2	2	0%	26-Feb-25	27-Feb-25
LVL3-3 280	L3-3 Formwork	5	5	0%	27-Feb-25	05-Mar-25
LVL3-1 320	L3-1 Pour	1	1	0%	28-Feb-25	28-Feb-25
LVL3-2 360	L3-2 MEP	2	2	0%	03-Mar-25	04-Mar-25
LVL3-1 330	L3-1 Wreck	5	5	0%	04-Mar-25	10-Mar-25
LVL3-3 290	L3-3 Reinforcing	6	6	0%	04-Mar-25	11-Mar-25
LVL3-2 370	L3-2 Deck Inspections	2	2	0%	05-Mar-25	06-Mar-25
LVL3-4 280	L3-4 Formwork	5	5	0%	06-Mar-25	12-Mar-25
LVL3-2 380	L3-2 Pour	1	1	0%	07-Mar-25	07-Mar-25
LVL3-3 300	L3-3 MEP	2	2	0%	10-Mar-25	11-Mar-25
LVL3-2 390	L3-2 Wreck	5	5	0%	11-Mar-25	17-Mar-25
LVL3-4 290	L3-4 Reinforcing	6	6	0%	11-Mar-25	18-Mar-25
LVL3-3 310	L3-3 Deck Inspections	2	2	0%	12-Mar-25	13-Mar-25
LVL3-3 320	L3-3 Pour	1	1	0%	14-Mar-25	14-Mar-25
LVL3-4 300	L3-4 MEP	2	2	0%	17-Mar-25	18-Mar-25
LVL3-3 330	L3-3 Wreck	5	5	0%	18-Mar-25	24-Mar-25
LVL3-4 310	L3-4 Deck Inspections	2	2	0%	19-Mar-25	20-Mar-25
LVL3-4 320	L3-4 Pour	1	1	0%	21-Mar-25	21-Mar-25
LVL3-4 330	L3-4 Wreck	5	5	0%	25-Mar-25	31-Mar-25
LVL3-5 280	L3-5 Formwork	5	5	0%	26-Mar-25	01-Apr-25
LVL3-5 290	L3-5 Reinforcing	6	6	0%	31-Mar-25	07-Apr-25
LVL3-5 300	L3-5 MEP	2	2	0%	04-Apr-25	07-Apr-25



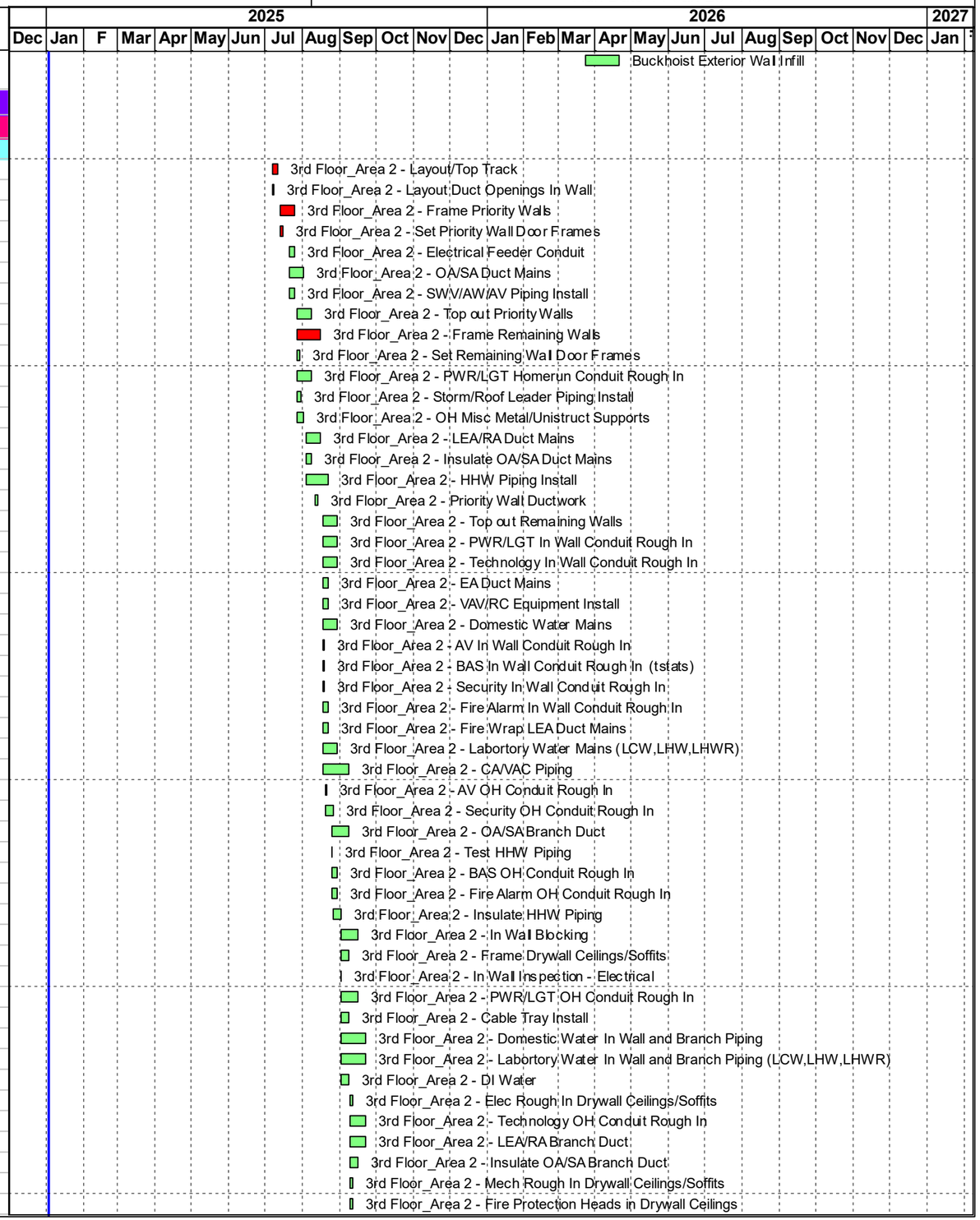
Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
LVL3-5 310	L3-5 Deck Inspections	2	2	0%	08-Apr-25	09-Apr-25
LVL3-5 320	L3-5 Pour	1	1	0%	10-Apr-25	10-Apr-25
LVL3-5 330	L3-5 Wreck	5	5	0%	14-Apr-25	18-Apr-25
LV4 Steel		88	88		17-Mar-25	18-Jul-25
STR 150	Level 4 Steel / decking / slab	40	40	0%	17-Mar-25	09-May-25
STR 310	Set Steel Sequence 7	3	3	0%	19-Mar-25	21-Mar-25
STR 320	Set Steel Sequence 9	3	3	0%	26-Mar-25	28-Mar-25
STR 360	Detail Steel Sequence 7 (Ready for Slab on Deck)	6	6	0%	26-Mar-25	02-Apr-25
STR 330	Set Steel Sequence 11	3	3	0%	03-Apr-25	07-Apr-25
STR 410	Sequence 7 Slab on Metal Deck Prep & Pour	5	5	0%	03-Apr-25	09-Apr-25
STR 370	Detail Steel Sequence 9 (Ready for Slab on Deck)	7	7	0%	11-Apr-25	21-Apr-25
STR 340	Set Steel Sequence 14	2	2	0%	14-Apr-25	15-Apr-25
STR 350	Set Steel Sequence 17	3	3	0%	22-Apr-25	24-Apr-25
STR 420	Sequence 9 Slab on Metal Deck Prep & Pour	5	5	0%	22-Apr-25	28-Apr-25
STR 380	Detail Steel Sequence 11 (Ready for Slab on Deck)	6	6	0%	30-Apr-25	07-May-25
STR 430	Sequence 11 Slab on Metal Deck Prep & Pour	5	5	0%	08-May-25	14-May-25
STR 200	Level 4 Slab on Metal Deck	20	20	0%	12-May-25	09-Jun-25
STR 390	Detail Steel Sequence 14 (Ready for Slab on Deck)	5	5	0%	22-May-25	29-May-25
STR 440	Sequence 14 Slab on Metal Deck Prep & Pour	5	5	0%	30-May-25	05-Jun-25
STR 210	Fireproofing	30	30	0%	06-Jun-25	18-Jul-25
STR 400	Detail Steel Sequence 17 (Ready for Slab on Deck)	6	6	0%	13-Jun-25	20-Jun-25
STR 450	Sequence 17 Slab on Metal Deck Prep & Pour	5	5	0%	23-Jun-25	27-Jun-25
LV5 Steel		113	113		24-Mar-25	29-Aug-25
A490	Set Steel Sequence 8	2	2	0%	24-Mar-25	25-Mar-25
A500	Set Steel Sequence 10	3	3	0%	31-Mar-25	02-Apr-25
A540	Detail Steel Sequence 8 (Ready for Slab on Deck)	6	6	0%	03-Apr-25	10-Apr-25
A510	Set Steel Sequence 12	2	2	0%	08-Apr-25	09-Apr-25
A610	Sequence 8 Slab on Metal Deck Prep & Pour	5	5	0%	11-Apr-25	17-Apr-25
A340	Level 5 Steel / Decking	40	40	0%	14-Apr-25	09-Jun-25
A520	Set Steel Sequence 15	2	2	0%	16-Apr-25	17-Apr-25
A550	Detail Steel Sequence 10 (Ready for Slab on Deck)	6	6	0%	22-Apr-25	29-Apr-25
A530	Set Steel Sequence 18	2	2	0%	25-Apr-25	28-Apr-25
A620	Sequence 10 Slab on Metal Deck Prep & Pour	5	5	0%	30-Apr-25	06-May-25
A560	Detail Steel Sequence 12 (Ready for Slab on Deck)	5	5	0%	08-May-25	14-May-25
A630	Sequence 12 Slab on Metal Deck Prep & Pour	5	5	0%	15-May-25	21-May-25
A570	Detail Steel Sequence 15 (Ready for Slab on Deck)	5	5	0%	30-May-25	05-Jun-25
A640	Sequence 15 Slab on Metal Deck Prep & Pour	5	5	0%	06-Jun-25	12-Jun-25



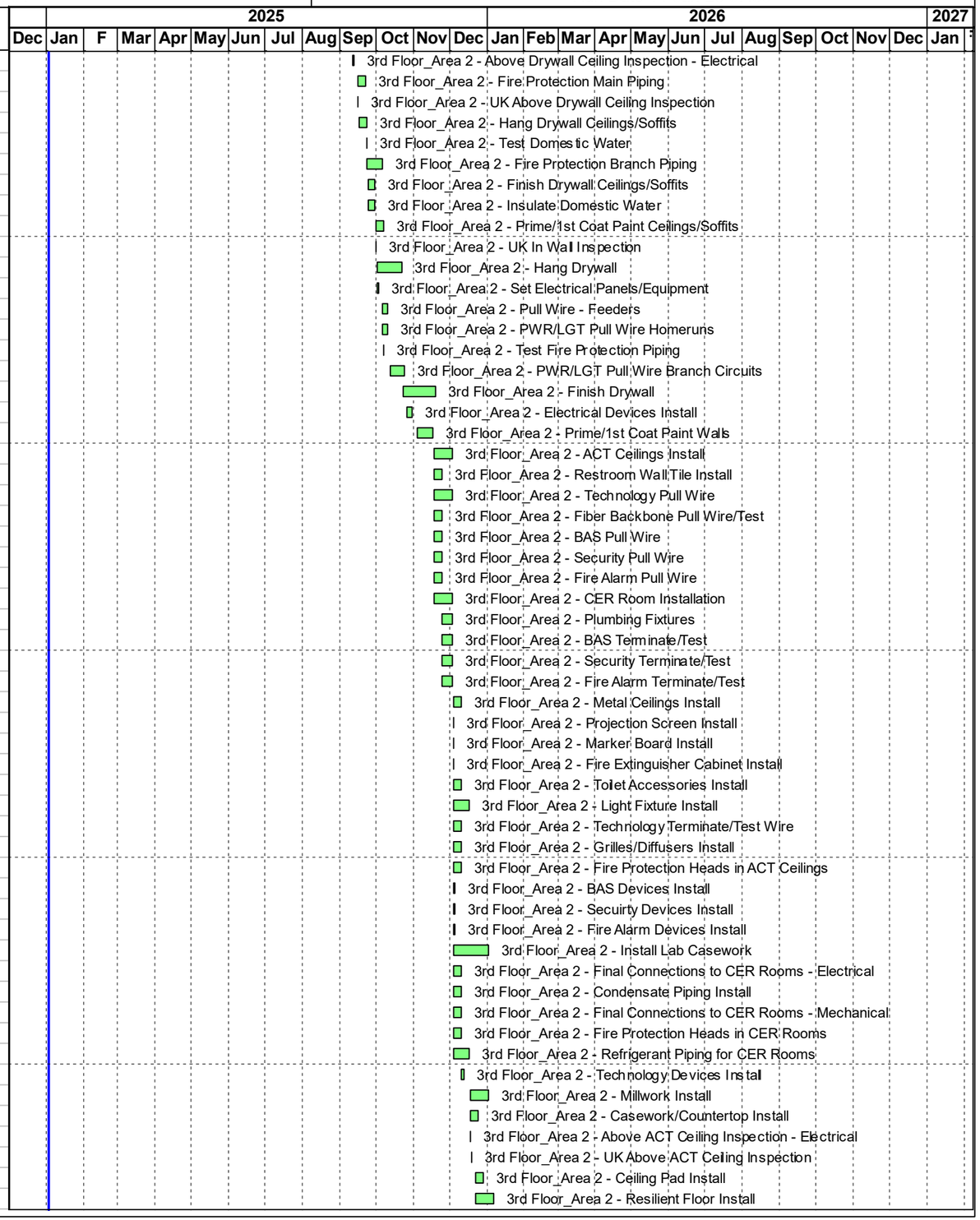
Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
A350	Level 5 Slab on Metal Deck	20	20	0%	10-Jun-25	08-Jul-25
A580	Detail Steel Sequence 18 (Ready for Slab on Deck)	5	5	0%	23-Jun-25	27-Jun-25
A370	Level 5 Greenhouse Stub Walls/Curbs/Topping Slabs	30	30	0%	24-Jun-25	05-Aug-25
A650	Sequence 18 Slab on Metal Deck Prep & Pour	5	5	0%	30-Jun-25	07-Jul-25
A400	Fireproofing	30	30	0%	21-Jul-25	29-Aug-25
Penthouse Head House Steel		105	105		10-Apr-25	08-Sep-25
A590	Set Steel Sequence 13	2	2	0%	10-Apr-25	11-Apr-25
A600	Detal Steel Sequence 13 (Ready for Slab on Deck)	5	5	0%	15-May-25	21-May-25
A660	Sequence 13 Slab on Metal Deck Prep & Pour	5	5	0%	22-May-25	29-May-25
A410	Fireproofing	5	5	0%	02-Sep-25	08-Sep-25
Building Envelope		275	275		21-Mar-25	20-Apr-26
ENV 250	Auditorium Framing/Sheathing/AWB	30	30	0%	21-Mar-25	01-May-25
ENV 290	LVL 2-3 & Parapet Framing Sheathing AWB (Area 2 SE + Area 2 East Elevation)	30	30	0%	28-Apr-25	09-Jun-25
ENV 260	LVL 4 Exterior Wall Framing/Sheathing/AWB- Area 2	15	15	0%	02-May-25	22-May-25
ENV 270	LVL 4 Exterior Wall Framing/Sheathing/AWB- Area 1	15	15	0%	23-May-25	13-Jun-25
ENV 100	Exterior Framing/Sheathing/AVB	90	90	0%	10-Jun-25	15-Oct-25
ENV 300	LVL 2-3 & Parapet Framing Sheathing AWB (North Elevation)	30	30	0%	10-Jun-25	22-Jul-25
ENV 410	LVL 2-3 Curtainwall & Glazing (Area 2 SE + Area 2 East Elevation)	20	20	0%	10-Jun-25	08-Jul-25
ENV 310	LVL 2-3 & Parapet Framing Sheathing AWB (Area 3 West Elevation)	15	15	0%	13-Jun-25	03-Jul-25
ENV 280	LVL 4 Exterior Wall Framing/Sheathing/AWB- Area 3	15	15	0%	16-Jun-25	07-Jul-25
ENV 390	LVL 4 Storefront/Glazing	35	35	0%	16-Jun-25	04-Aug-25
ENV 120	Install Roofing	75	75	0%	30-Jun-25	14-Oct-25
ENV 320	LVL 2-3 & Parapet Framing Sheathing AWB (Area 3 South Elevation)	30	30	0%	07-Jul-25	15-Aug-25
ENV 340	LVL 1 Curtainwall/Glazing (South Elevation)	20	20	0%	16-Jul-25	12-Aug-25
ENV 110	Install Exterior Windows/Storefront	75	75	0%	23-Jul-25	05-Nov-25
ENV 350	LVL 2-3 Curtainwall/Glazing (North Elevation)	30	30	0%	23-Jul-25	03-Sep-25
ENV 400	LVL 4 Louvers	20	20	0%	05-Aug-25	02-Sep-25
ENV 140	Install Curtainwall	60	60	0%	13-Aug-25	05-Nov-25
ENV 330	LVL 2-3 & Parapet Framing Sheathing AWB (Area 3 East & North Elevation)	15	15	0%	18-Aug-25	08-Sep-25
ENV 130	Install Insulation & Terracotta Panels	90	90	0%	20-Aug-25	29-Dec-25
ENV 360	LVL 2-3 Curtainwall/Glazing (Area 3 West Elevation)	20	20	0%	04-Sep-25	01-Oct-25
ENV 150	Install Metal Panels	50	50	0%	11-Sep-25	19-Nov-25
ENV 370	LVL 2-3 Curtainwall/Glazing (Area 3 South Elevation)	30	30	0%	02-Oct-25	12-Nov-25
ENV 380	LVL 2-3 Curtainwall/Glazing (Area 3 East & North Elevation)	20	20	0%	13-Nov-25	12-Dec-25



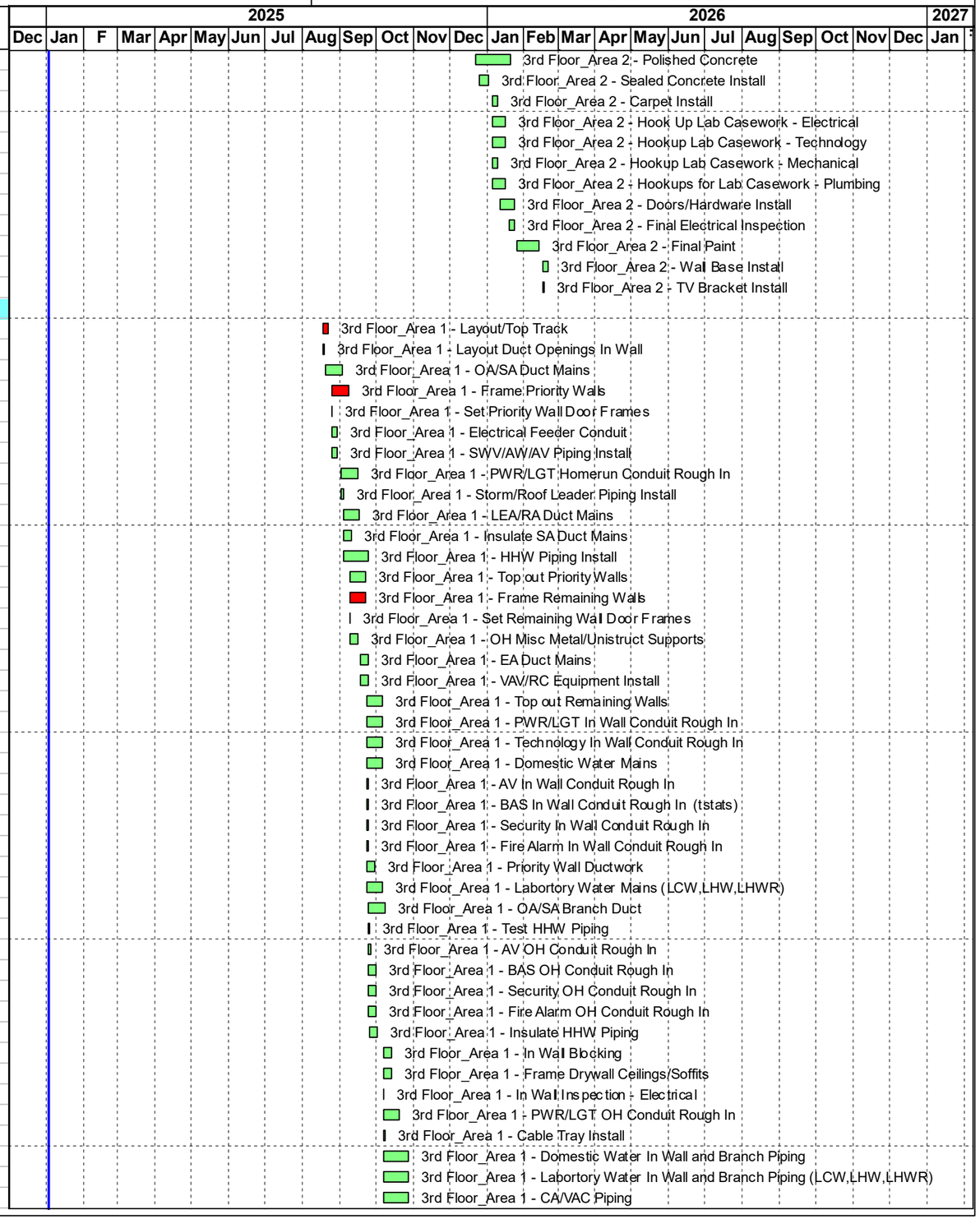
Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
ENV 180	Buckhoist Exterior Wall Infill	20	20	0%	24-Mar-26	20-Apr-26
Interiors		331	331		17-Jun-25	05-Oct-26
Third Floor		267	267		07-Jul-25	23-Jul-26
Area 2		160	160		07-Jul-25	20-Feb-26
A7690	3rd Floor_Area 2 - Layout/Top Track	5	5	0%	07-Jul-25	11-Jul-25
A8220	3rd Floor_Area 2 - Layout Duct Openings In Wall	2	2	0%	07-Jul-25	08-Jul-25
A7700	3rd Floor_Area 2 - Frame Priority Walls	10	10	0%	14-Jul-25	25-Jul-25
A7710	3rd Floor_Area 2 - Set Priority Wall Door Frames	2	2	0%	14-Jul-25	15-Jul-25
A8010	3rd Floor_Area 2 - Electrical Feeder Conduit	5	5	0%	21-Jul-25	25-Jul-25
A8230	3rd Floor_Area 2 - OA/SA Duct Mains	10	10	0%	21-Jul-25	01-Aug-25
A8360	3rd Floor_Area 2 - SWV/AW/AV Piping Install	5	5	0%	21-Jul-25	25-Jul-25
A7720	3rd Floor_Area 2 - Top out Priority Walls	10	10	0%	28-Jul-25	08-Aug-25
A7730	3rd Floor_Area 2 - Frame Remaining Walls	15	15	0%	28-Jul-25	15-Aug-25
A7740	3rd Floor_Area 2 - Set Remaining Wall Door Frames	2	2	0%	28-Jul-25	29-Jul-25
A8020	3rd Floor_Area 2 - PWR/LGT Homerun Conduit Rough In	10	10	0%	28-Jul-25	08-Aug-25
A8410	3rd Floor_Area 2 - Storm/Roof Leader Piping Install	3	3	0%	28-Jul-25	30-Jul-25
A8500	3rd Floor_Area 2 - OH Misc Metal/Unistruct Supports	5	5	0%	28-Jul-25	01-Aug-25
A8240	3rd Floor_Area 2 - LEA/RA Duct Mains	10	10	0%	04-Aug-25	15-Aug-25
A8290	3rd Floor_Area 2 - Insulate OA/SA Duct Mains	5	5	0%	04-Aug-25	08-Aug-25
A8330	3rd Floor_Area 2 - HHW Piping Install	15	15	0%	04-Aug-25	22-Aug-25
A8660	3rd Floor_Area 2 - Priority Wall Ductwork	3	3	0%	11-Aug-25	13-Aug-25
A7750	3rd Floor_Area 2 - Top out Remaining Walls	10	10	0%	18-Aug-25	29-Aug-25
A8030	3rd Floor_Area 2 - PWR/LGT In Wall Conduit Rough In	10	10	0%	18-Aug-25	29-Aug-25
A8140	3rd Floor_Area 2 - Technology In Wall Conduit Rough In	10	10	0%	18-Aug-25	29-Aug-25
A8250	3rd Floor_Area 2 - EA Duct Mains	5	5	0%	18-Aug-25	22-Aug-25
A8260	3rd Floor_Area 2 - VAV/RC Equipment Install	5	5	0%	18-Aug-25	22-Aug-25
A8370	3rd Floor_Area 2 - Domestic Water Mains	10	10	0%	18-Aug-25	29-Aug-25
A8480	3rd Floor_Area 2 - AV In Wall Conduit Rough In	2	2	0%	18-Aug-25	19-Aug-25
A8510	3rd Floor_Area 2 - BAS In Wall Conduit Rough In (tstats)	2	2	0%	18-Aug-25	19-Aug-25
A8560	3rd Floor_Area 2 - Security In Wall Conduit Rough In	2	2	0%	18-Aug-25	19-Aug-25
A8610	3rd Floor_Area 2 - Fire Alarm In Wall Conduit Rough In	5	5	0%	18-Aug-25	22-Aug-25
A8850	3rd Floor_Area 2 - Fire Wrap LEA Duct Mains	5	5	0%	18-Aug-25	22-Aug-25
A8860	3rd Floor_Area 2 - Labortory Water Mains (LCW,LHW,LHWR)	10	10	0%	18-Aug-25	29-Aug-25
A8880	3rd Floor_Area 2 - CA/VAC Piping	15	15	0%	18-Aug-25	08-Sep-25
A8490	3rd Floor_Area 2 - AV OH Conduit Rough In	2	2	0%	20-Aug-25	21-Aug-25
A8570	3rd Floor_Area 2 - Security OH Conduit Rough In	5	5	0%	20-Aug-25	26-Aug-25
A8270	3rd Floor_Area 2 - OA/SA Branch Duct	10	10	0%	25-Aug-25	08-Sep-25
A8340	3rd Floor_Area 2 - Test HHW Piping	1	1	0%	25-Aug-25	25-Aug-25
A8520	3rd Floor_Area 2 - BAS OH Conduit Rough In	5	5	0%	25-Aug-25	29-Aug-25
A8620	3rd Floor_Area 2 - Fire Alarm OH Conduit Rough In	5	5	0%	25-Aug-25	29-Aug-25
A8350	3rd Floor_Area 2 - Insulate HHW Piping	5	5	0%	26-Aug-25	02-Sep-25
A7760	3rd Floor_Area 2 - In Wall Blocking	10	10	0%	02-Sep-25	15-Sep-25
A7790	3rd Floor_Area 2 - Frame Drywall Ceilings/Soffits	5	5	0%	02-Sep-25	08-Sep-25
A8110	3rd Floor_Area 2 - In Wall Inspection - Electrical	1	1	0%	02-Sep-25	02-Sep-25
A8160	3rd Floor_Area 2 - PWR/LGT OH Conduit Rough In	10	10	0%	02-Sep-25	15-Sep-25
A8170	3rd Floor_Area 2 - Cable Tray Install	5	5	0%	02-Sep-25	08-Sep-25
A8380	3rd Floor_Area 2 - Domestic Water In Wall and Branch Piping	15	15	0%	02-Sep-25	22-Sep-25
A8870	3rd Floor_Area 2 - Labortory Water In Wall and Branch Piping (LCW,LHW,LHW	15	15	0%	02-Sep-25	22-Sep-25
A8890	3rd Floor_Area 2 - DI Water	5	5	0%	02-Sep-25	08-Sep-25
A8080	3rd Floor_Area 2 - Elec Rough In Drywall Ceilings/Soffits	3	3	0%	09-Sep-25	11-Sep-25
A8150	3rd Floor_Area 2 - Technology OH Conduit Rough In	10	10	0%	09-Sep-25	22-Sep-25
A8280	3rd Floor_Area 2 - LEA/RA Branch Duct	10	10	0%	09-Sep-25	22-Sep-25
A8300	3rd Floor_Area 2 - Insulate OA/SA Branch Duct	5	5	0%	09-Sep-25	15-Sep-25
A8310	3rd Floor_Area 2 - Mech Rough In Drywall Ceilings/Soffits	3	3	0%	09-Sep-25	11-Sep-25
A8450	3rd Floor_Area 2 - Fire Protection Heads in Drywall Ceilings	3	3	0%	09-Sep-25	11-Sep-25



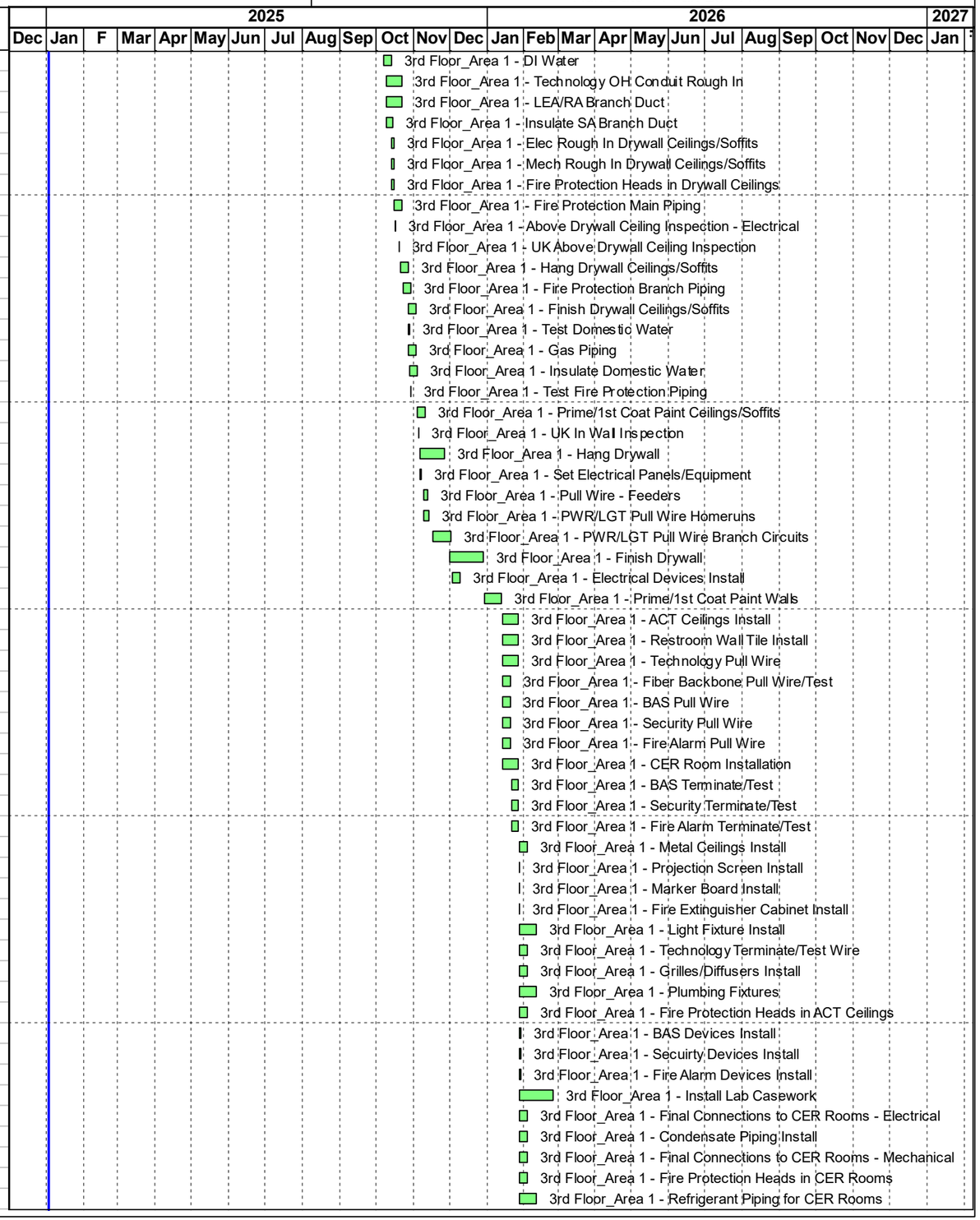
Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
A8120	3rd Floor_Area 2 - Above Drywall Ceiling Inspection - Electrical	1	1	0%	12-Sep-25	12-Sep-25
A8430	3rd Floor_Area 2 - Fire Protection Main Piping	5	5	0%	16-Sep-25	22-Sep-25
A8680	3rd Floor_Area 2 - UK Above Drywall Ceiling Inspection	1	1	0%	16-Sep-25	16-Sep-25
A7800	3rd Floor_Area 2 - Hang Drywall Ceilings/Soffits	5	5	0%	17-Sep-25	23-Sep-25
A8390	3rd Floor_Area 2 - Test Domestic Water	1	1	0%	23-Sep-25	23-Sep-25
A8440	3rd Floor_Area 2 - Fire Protection Branch Piping	10	10	0%	23-Sep-25	06-Oct-25
A7810	3rd Floor_Area 2 - Finish Drywall Ceilings/Soffits	5	5	0%	24-Sep-25	30-Sep-25
A8400	3rd Floor_Area 2 - Insulate Domestic Water	5	5	0%	24-Sep-25	30-Sep-25
A7830	3rd Floor_Area 2 - Prime/1st Coat Paint Ceilings/Soffits	5	5	0%	01-Oct-25	07-Oct-25
A8670	3rd Floor_Area 2 - UK In Wall Inspection	1	1	0%	01-Oct-25	01-Oct-25
A7770	3rd Floor_Area 2 - Hang Drywall	15	15	0%	02-Oct-25	22-Oct-25
A8050	3rd Floor_Area 2 - Set Electrical Panels/Equipment	2	2	0%	02-Oct-25	03-Oct-25
A8040	3rd Floor_Area 2 - Pull Wire - Feeders	5	5	0%	06-Oct-25	10-Oct-25
A8060	3rd Floor_Area 2 - PWR/LGT Pull Wire Homeruns	5	5	0%	06-Oct-25	10-Oct-25
A8470	3rd Floor_Area 2 - Test Fire Protection Piping	1	1	0%	07-Oct-25	07-Oct-25
A8070	3rd Floor_Area 2 - PWR/LGT Pull Wire Branch Circuits	10	10	0%	13-Oct-25	24-Oct-25
A7780	3rd Floor_Area 2 - Finish Drywall	20	20	0%	23-Oct-25	19-Nov-25
A8100	3rd Floor_Area 2 - Electrical Devices Install	5	5	0%	27-Oct-25	31-Oct-25
A7820	3rd Floor_Area 2 - Prime/1st Coat Paint Walls	10	10	0%	04-Nov-25	17-Nov-25
A7840	3rd Floor_Area 2 - ACT Ceilings Install	10	10	0%	18-Nov-25	03-Dec-25
A7950	3rd Floor_Area 2 - Restroom Wall Tile Install	5	5	0%	18-Nov-25	24-Nov-25
A8180	3rd Floor_Area 2 - Technology Pull Wire	10	10	0%	18-Nov-25	03-Dec-25
A8210	3rd Floor_Area 2 - Fiber Backbone Pull Wire/Test	5	5	0%	18-Nov-25	24-Nov-25
A8530	3rd Floor_Area 2 - BAS Pull Wire	5	5	0%	18-Nov-25	24-Nov-25
A8580	3rd Floor_Area 2 - Security Pull Wire	5	5	0%	18-Nov-25	24-Nov-25
A8630	3rd Floor_Area 2 - Fire Alarm Pull Wire	5	5	0%	18-Nov-25	24-Nov-25
A8810	3rd Floor_Area 2 - CER Room Installation	10	10	0%	18-Nov-25	03-Dec-25
A8420	3rd Floor_Area 2 - Plumbing Fixtures	5	5	0%	25-Nov-25	03-Dec-25
A8540	3rd Floor_Area 2 - BAS Terminate/Test	5	5	0%	25-Nov-25	03-Dec-25
A8590	3rd Floor_Area 2 - Security Terminate/Test	5	5	0%	25-Nov-25	03-Dec-25
A8650	3rd Floor_Area 2 - Fire Alarm Terminate/Test	5	5	0%	25-Nov-25	03-Dec-25
A7850	3rd Floor_Area 2 - Metal Ceilings Install	5	5	0%	04-Dec-25	10-Dec-25
A7890	3rd Floor_Area 2 - Projection Screen Install	1	1	0%	04-Dec-25	04-Dec-25
A7900	3rd Floor_Area 2 - Marker Board Install	1	1	0%	04-Dec-25	04-Dec-25
A7910	3rd Floor_Area 2 - Fire Extinguisher Cabinet Install	1	1	0%	04-Dec-25	04-Dec-25
A7960	3rd Floor_Area 2 - Toilet Accessories Install	5	5	0%	04-Dec-25	10-Dec-25
A8090	3rd Floor_Area 2 - Light Fixture Install	10	10	0%	04-Dec-25	17-Dec-25
A8190	3rd Floor_Area 2 - Technology Terminate/Test Wire	5	5	0%	04-Dec-25	10-Dec-25
A8320	3rd Floor_Area 2 - Grilles/Diffusers Install	5	5	0%	04-Dec-25	10-Dec-25
A8460	3rd Floor_Area 2 - Fire Protection Heads in ACT Ceilings	5	5	0%	04-Dec-25	10-Dec-25
A8550	3rd Floor_Area 2 - BAS Devices Install	2	2	0%	04-Dec-25	05-Dec-25
A8600	3rd Floor_Area 2 - Secuirty Devices Install	2	2	0%	04-Dec-25	05-Dec-25
A8640	3rd Floor_Area 2 - Fire Alarm Devices Install	2	2	0%	04-Dec-25	05-Dec-25
A8700	3rd Floor_Area 2 - Install Lab Casework	20	20	0%	04-Dec-25	02-Jan-26
A8730	3rd Floor_Area 2 - Final Connections to CER Rooms - Electrical	5	5	0%	04-Dec-25	10-Dec-25
A8760	3rd Floor_Area 2 - Condensate Piping Install	5	5	0%	04-Dec-25	10-Dec-25
A8780	3rd Floor_Area 2 - Final Connections to CER Rooms - Mechanical	5	5	0%	04-Dec-25	10-Dec-25
A8800	3rd Floor_Area 2 - Fire Protection Heads in CER Rooms	5	5	0%	04-Dec-25	10-Dec-25
A8820	3rd Floor_Area 2 - Refrigerant Piping for CER Rooms	10	10	0%	04-Dec-25	17-Dec-25
A8200	3rd Floor_Area 2 - Technology Devices Instal	2	2	0%	11-Dec-25	12-Dec-25
A7870	3rd Floor_Area 2 - Millwork Install	10	10	0%	18-Dec-25	02-Jan-26
A7880	3rd Floor_Area 2 - Casework/Countertop Install	5	5	0%	18-Dec-25	24-Dec-25
A8130	3rd Floor_Area 2 - Above ACT Ceiling Inspection - Electrical	1	1	0%	18-Dec-25	18-Dec-25
A8690	3rd Floor_Area 2 - UK Above ACT Ceiling Inspection	1	1	0%	19-Dec-25	19-Dec-25
A7860	3rd Floor_Area 2 - Ceiling Pad Install	5	5	0%	22-Dec-25	29-Dec-25
A7940	3rd Floor_Area 2 - Resilient Floor Install	10	10	0%	22-Dec-25	06-Jan-26



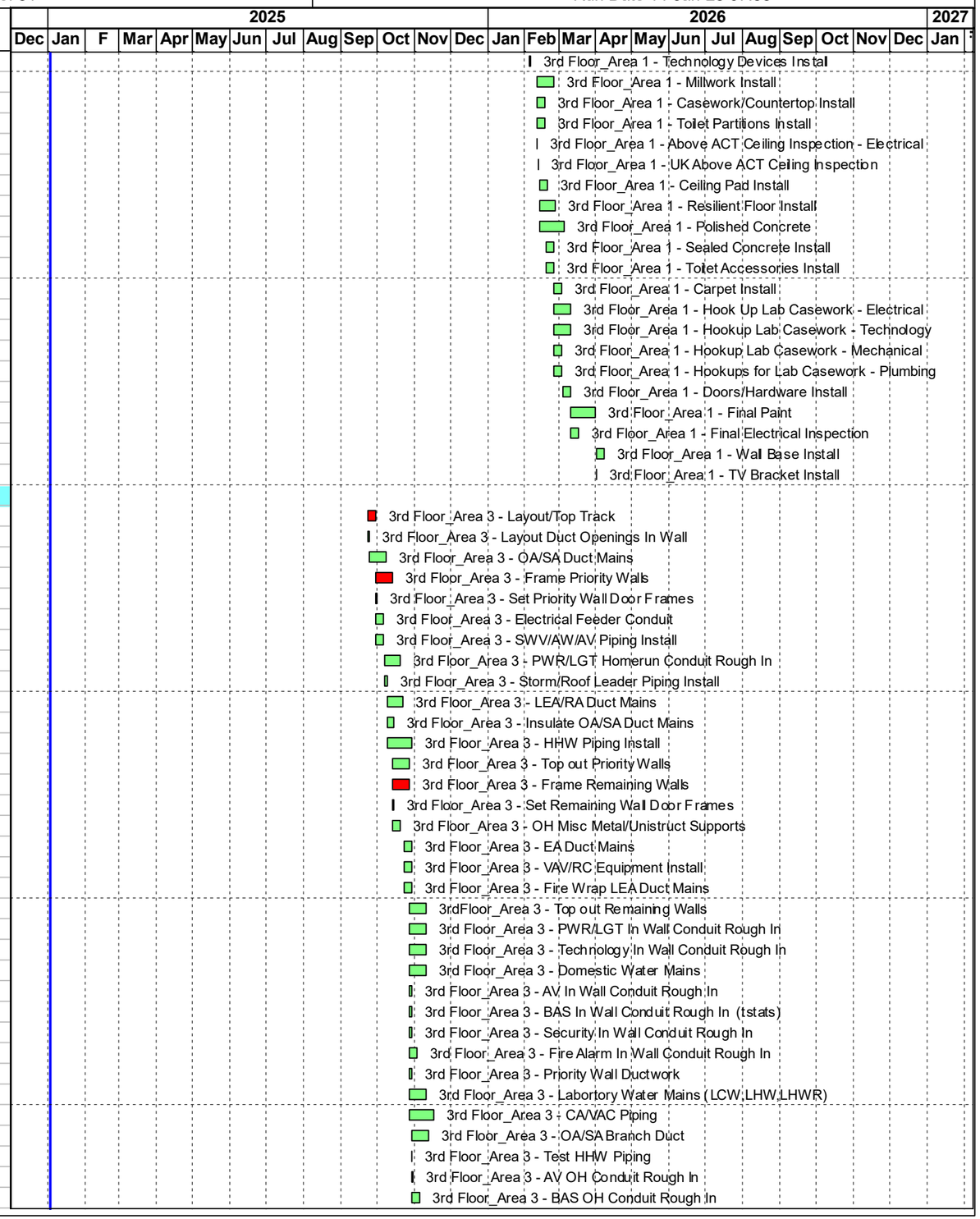
Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
A8710	3rd Floor_Area 2 - Polished Concrete	20	20	0%	22-Dec-25	20-Jan-26
A7930	3rd Floor_Area 2 - Sealed Concrete Install	5	5	0%	26-Dec-25	02-Jan-26
A7920	3rd Floor_Area 2 - Carpet Install	5	5	0%	05-Jan-26	09-Jan-26
A8720	3rd Floor_Area 2 - Hook Up Lab Casework - Electrical	10	10	0%	05-Jan-26	16-Jan-26
A8740	3rd Floor_Area 2 - Hookup Lab Casework - Technology	10	10	0%	05-Jan-26	16-Jan-26
A8770	3rd Floor_Area 2 - Hookup Lab Casework - Mechanical	5	5	0%	05-Jan-26	09-Jan-26
A8790	3rd Floor_Area 2 - Hookups for Lab Casework - Plumbing	10	10	0%	05-Jan-26	16-Jan-26
A7970	3rd Floor_Area 2 - Doors/Hardware Install	10	10	0%	12-Jan-26	23-Jan-26
A8840	3rd Floor_Area 2 - Final Electrical Inspection	5	5	0%	19-Jan-26	23-Jan-26
A7980	3rd Floor_Area 2 - Final Paint	15	15	0%	26-Jan-26	13-Feb-26
A7990	3rd Floor_Area 2 - Wall Base Install	5	5	0%	16-Feb-26	20-Feb-26
A8000	3rd Floor_Area 2 - TV Bracket Install	2	2	0%	16-Feb-26	17-Feb-26
Area 1		162	162		18-Aug-25	07-Apr-26
A6490	3rd Floor_Area 1 - Layout/Top Track	5	5	0%	18-Aug-25	22-Aug-25
A7030	3rd Floor_Area 1 - Layout Duct Openings In Wall	2	2	0%	18-Aug-25	19-Aug-25
A7040	3rd Floor_Area 1 - OA/SA Duct Mains	10	10	0%	20-Aug-25	03-Sep-25
A6500	3rd Floor_Area 1 - Frame Priority Walls	10	10	0%	25-Aug-25	08-Sep-25
A6510	3rd Floor_Area 1 - Set Priority Wall Door Frames	1	1	0%	25-Aug-25	25-Aug-25
A6820	3rd Floor_Area 1 - Electrical Feeder Conduit	5	5	0%	25-Aug-25	29-Aug-25
A7170	3rd Floor_Area 1 - SWV/AW/AV Piping Install	5	5	0%	25-Aug-25	29-Aug-25
A6830	3rd Floor_Area 1 - PWR/LGT Homerun Conduit Rough In	10	10	0%	02-Sep-25	15-Sep-25
A7220	3rd Floor_Area 1 - Storm/Roof Leader Piping Install	3	3	0%	02-Sep-25	04-Sep-25
A7050	3rd Floor_Area 1 - LEA/RA Duct Mains	10	10	0%	04-Sep-25	17-Sep-25
A7100	3rd Floor_Area 1 - Insulate SA Duct Mains	5	5	0%	04-Sep-25	10-Sep-25
A7140	3rd Floor_Area 1 - HHW Piping Install	15	15	0%	04-Sep-25	24-Sep-25
A6520	3rd Floor_Area 1 - Top out Priority Walls	10	10	0%	09-Sep-25	22-Sep-25
A6530	3rd Floor_Area 1 - Frame Remaining Walls	10	10	0%	09-Sep-25	22-Sep-25
A6540	3rd Floor_Area 1 - Set Remaining Wall Door Frames	1	1	0%	09-Sep-25	09-Sep-25
A7310	3rd Floor_Area 1 - OH Misc Metal/Unistruct Supports	5	5	0%	09-Sep-25	15-Sep-25
A7060	3rd Floor_Area 1 - EA Duct Mains	5	5	0%	18-Sep-25	24-Sep-25
A7070	3rd Floor_Area 1 - VAV/RC Equipment Install	5	5	0%	18-Sep-25	24-Sep-25
A6550	3rd Floor_Area 1 - Top out Remaining Walls	10	10	0%	23-Sep-25	06-Oct-25
A6840	3rd Floor_Area 1 - PWR/LGT In Wall Conduit Rough In	10	10	0%	23-Sep-25	06-Oct-25
A6950	3rd Floor_Area 1 - Technology In Wall Conduit Rough In	10	10	0%	23-Sep-25	06-Oct-25
A7180	3rd Floor_Area 1 - Domestic Water Mains	10	10	0%	23-Sep-25	06-Oct-25
A7290	3rd Floor_Area 1 - AV In Wall Conduit Rough In	2	2	0%	23-Sep-25	24-Sep-25
A7320	3rd Floor_Area 1 - BAS In Wall Conduit Rough In (tstats)	2	2	0%	23-Sep-25	24-Sep-25
A7370	3rd Floor_Area 1 - Security In Wall Conduit Rough In	2	2	0%	23-Sep-25	24-Sep-25
A7420	3rd Floor_Area 1 - Fire Alarm In Wall Conduit Rough In	2	2	0%	23-Sep-25	24-Sep-25
A7470	3rd Floor_Area 1 - Priority Wall Ductwork	5	5	0%	23-Sep-25	29-Sep-25
A8910	3rd Floor_Area 1 - Labortory Water Mains (LCW,LHW,LHWR)	10	10	0%	23-Sep-25	06-Oct-25
A7080	3rd Floor_Area 1 - OA/SA Branch Duct	10	10	0%	25-Sep-25	08-Oct-25
A7150	3rd Floor_Area 1 - Test HHW Piping	1	1	0%	25-Sep-25	25-Sep-25
A7300	3rd Floor_Area 1 - AV OH Conduit Rough In	2	2	0%	25-Sep-25	26-Sep-25
A7330	3rd Floor_Area 1 - BAS OH Conduit Rough In	5	5	0%	25-Sep-25	01-Oct-25
A7380	3rd Floor_Area 1 - Security OH Conduit Rough In	5	5	0%	25-Sep-25	01-Oct-25
A7430	3rd Floor_Area 1 - Fire Alarm OH Conduit Rough In	5	5	0%	25-Sep-25	01-Oct-25
A7160	3rd Floor_Area 1 - Insulate HHW Piping	5	5	0%	26-Sep-25	02-Oct-25
A6560	3rd Floor_Area 1 - In Wall Blocking	5	5	0%	07-Oct-25	13-Oct-25
A6590	3rd Floor_Area 1 - Frame Drywall Ceilings/Soffits	5	5	0%	07-Oct-25	13-Oct-25
A6920	3rd Floor_Area 1 - In Wall Inspection - Electrical	1	1	0%	07-Oct-25	07-Oct-25
A6970	3rd Floor_Area 1 - PWR/LGT OH Conduit Rough In	10	10	0%	07-Oct-25	20-Oct-25
A6980	3rd Floor_Area 1 - Cable Tray Install	2	2	0%	07-Oct-25	08-Oct-25
A7190	3rd Floor_Area 1 - Domestic Water In Wall and Branch Piping	15	15	0%	07-Oct-25	27-Oct-25
A8920	3rd Floor_Area 1 - Labortory Water In Wall and Branch Piping (LCW,LHW,LHW	15	15	0%	07-Oct-25	27-Oct-25
A8930	3rd Floor_Area 1 - CA/VAC Piping	15	15	0%	07-Oct-25	27-Oct-25



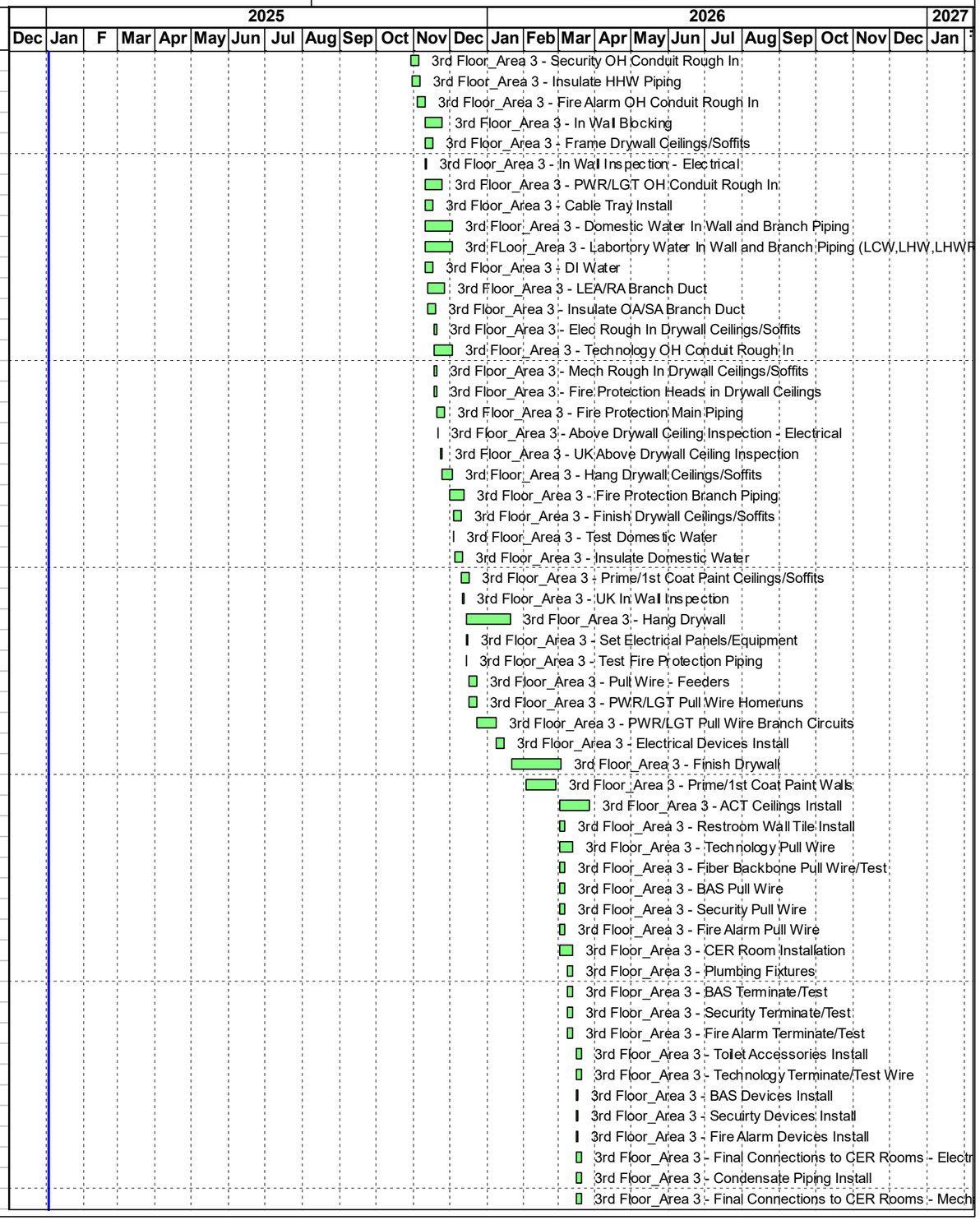
Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
A8940	3rd Floor_Area 1 - DI Water	5	5	0%	07-Oct-25	13-Oct-25
A6960	3rd Floor_Area 1 - Technology OH Conduit Rough In	10	10	0%	09-Oct-25	22-Oct-25
A7090	3rd Floor_Area 1 - LEA/RA Branch Duct	10	10	0%	09-Oct-25	22-Oct-25
A7110	3rd Floor_Area 1 - Insulate SA Branch Duct	5	5	0%	09-Oct-25	15-Oct-25
A6890	3rd Floor_Area 1 - Elec Rough In Drywall Ceilings/Soffits	3	3	0%	14-Oct-25	16-Oct-25
A7120	3rd Floor_Area 1 - Mech Rough In Drywall Ceilings/Soffits	3	3	0%	14-Oct-25	16-Oct-25
A7260	3rd Floor_Area 1 - Fire Protection Heads in Drywall Ceilings	3	3	0%	14-Oct-25	16-Oct-25
A7240	3rd Floor_Area 1 - Fire Protection Main Piping	5	5	0%	16-Oct-25	22-Oct-25
A6930	3rd Floor_Area 1 - Above Drywall Ceiling Inspection - Electrical	1	1	0%	17-Oct-25	17-Oct-25
A7490	3rd Floor_Area 1 - UK Above Drywall Ceiling Inspection	1	1	0%	20-Oct-25	20-Oct-25
A6600	3rd Floor_Area 1 - Hang Drywall Ceilings/Soffits	5	5	0%	21-Oct-25	27-Oct-25
A7250	3rd Floor_Area 1 - Fire Protection Branch Piping	5	5	0%	23-Oct-25	29-Oct-25
A6610	3rd Floor_Area 1 - Finish Drywall Ceilings/Soffits	5	5	0%	28-Oct-25	03-Nov-25
A7200	3rd Floor_Area 1 - Test Domestic Water	1	1	0%	28-Oct-25	28-Oct-25
A8900	3rd Floor_Area 1 - Gas Piping	5	5	0%	28-Oct-25	03-Nov-25
A7210	3rd Floor_Area 1 - Insulate Domestic Water	5	5	0%	29-Oct-25	04-Nov-25
A7280	3rd Floor_Area 1 - Test Fire Protection Piping	1	1	0%	30-Oct-25	30-Oct-25
A6630	3rd Floor_Area 1 - Prime/1st Coat Paint Ceilings/Soffits	5	5	0%	04-Nov-25	10-Nov-25
A7480	3rd Floor_Area 1 - UK In Wall Inspection	1	1	0%	05-Nov-25	05-Nov-25
A6570	3rd Floor_Area 1 - Hang Drywall	15	15	0%	06-Nov-25	26-Nov-25
A6860	3rd Floor_Area 1 - Set Electrical Panels/Equipment	2	2	0%	06-Nov-25	07-Nov-25
A6850	3rd Floor_Area 1 - Pull Wire - Feeders	3	3	0%	10-Nov-25	12-Nov-25
A6870	3rd Floor_Area 1 - PWR/LGT Pull Wire Homeruns	5	5	0%	10-Nov-25	14-Nov-25
A6880	3rd Floor_Area 1 - PWR/LGT Pull Wire Branch Circuits	10	10	0%	17-Nov-25	02-Dec-25
A6580	3rd Floor_Area 1 - Finish Drywall	20	20	0%	01-Dec-25	29-Dec-25
A6910	3rd Floor_Area 1 - Electrical Devices Install	5	5	0%	03-Dec-25	09-Dec-25
A6620	3rd Floor_Area 1 - Prime/1st Coat Paint Walls	10	10	0%	30-Dec-25	13-Jan-26
A6640	3rd Floor_Area 1 - ACT Ceilings Install	10	10	0%	14-Jan-26	27-Jan-26
A6750	3rd Floor_Area 1 - Restroom Wall Tile Install	10	10	0%	14-Jan-26	27-Jan-26
A6990	3rd Floor_Area 1 - Technology Pull Wire	10	10	0%	14-Jan-26	27-Jan-26
A7020	3rd Floor_Area 1 - Fiber Backbone Pull Wire/Test	5	5	0%	14-Jan-26	20-Jan-26
A7340	3rd Floor_Area 1 - BAS Pull Wire	5	5	0%	14-Jan-26	20-Jan-26
A7390	3rd Floor_Area 1 - Security Pull Wire	5	5	0%	14-Jan-26	20-Jan-26
A7440	3rd Floor_Area 1 - Fire Alarm Pull Wire	5	5	0%	14-Jan-26	20-Jan-26
A7650	3rd Floor_Area 1 - CER Room Installation	10	10	0%	14-Jan-26	27-Jan-26
A7350	3rd Floor_Area 1 - BAS Terminate/Test	5	5	0%	21-Jan-26	27-Jan-26
A7400	3rd Floor_Area 1 - Security Terminate/Test	5	5	0%	21-Jan-26	27-Jan-26
A7460	3rd Floor_Area 1 - Fire Alarm Terminate/Test	5	5	0%	21-Jan-26	27-Jan-26
A6650	3rd Floor_Area 1 - Metal Ceilings Install	5	5	0%	28-Jan-26	03-Feb-26
A6690	3rd Floor_Area 1 - Projection Screen Install	1	1	0%	28-Jan-26	28-Jan-26
A6700	3rd Floor_Area 1 - Marker Board Install	1	1	0%	28-Jan-26	28-Jan-26
A6710	3rd Floor_Area 1 - Fire Extinguisher Cabinet Install	1	1	0%	28-Jan-26	28-Jan-26
A6900	3rd Floor_Area 1 - Light Fixture Install	10	10	0%	28-Jan-26	10-Feb-26
A7000	3rd Floor_Area 1 - Technology Terminate/Test Wire	5	5	0%	28-Jan-26	03-Feb-26
A7130	3rd Floor_Area 1 - Grilles/Diffusers Install	5	5	0%	28-Jan-26	03-Feb-26
A7230	3rd Floor_Area 1 - Plumbing Fixtures	10	10	0%	28-Jan-26	10-Feb-26
A7270	3rd Floor_Area 1 - Fire Protection Heads in ACT Ceilings	5	5	0%	28-Jan-26	03-Feb-26
A7360	3rd Floor_Area 1 - BAS Devices Install	2	2	0%	28-Jan-26	29-Jan-26
A7410	3rd Floor_Area 1 - Secuirty Devices Install	2	2	0%	28-Jan-26	29-Jan-26
A7450	3rd Floor_Area 1 - Fire Alarm Devices Install	2	2	0%	28-Jan-26	29-Jan-26
A7510	3rd Floor_Area 1 - Install Lab Casework	20	20	0%	28-Jan-26	24-Feb-26
A7540	3rd Floor_Area 1 - Final Connections to CER Rooms - Electrical	5	5	0%	28-Jan-26	03-Feb-26
A7580	3rd Floor_Area 1 - Condensate Piping Install	5	5	0%	28-Jan-26	03-Feb-26
A7610	3rd Floor_Area 1 - Final Connections to CER Rooms - Mechanical	5	5	0%	28-Jan-26	03-Feb-26
A7640	3rd Floor_Area 1 - Fire Protection Heads in CER Rooms	5	5	0%	28-Jan-26	03-Feb-26
A7660	3rd Floor_Area 1 - Refrigerant Piping for CER Rooms	10	10	0%	28-Jan-26	10-Feb-26



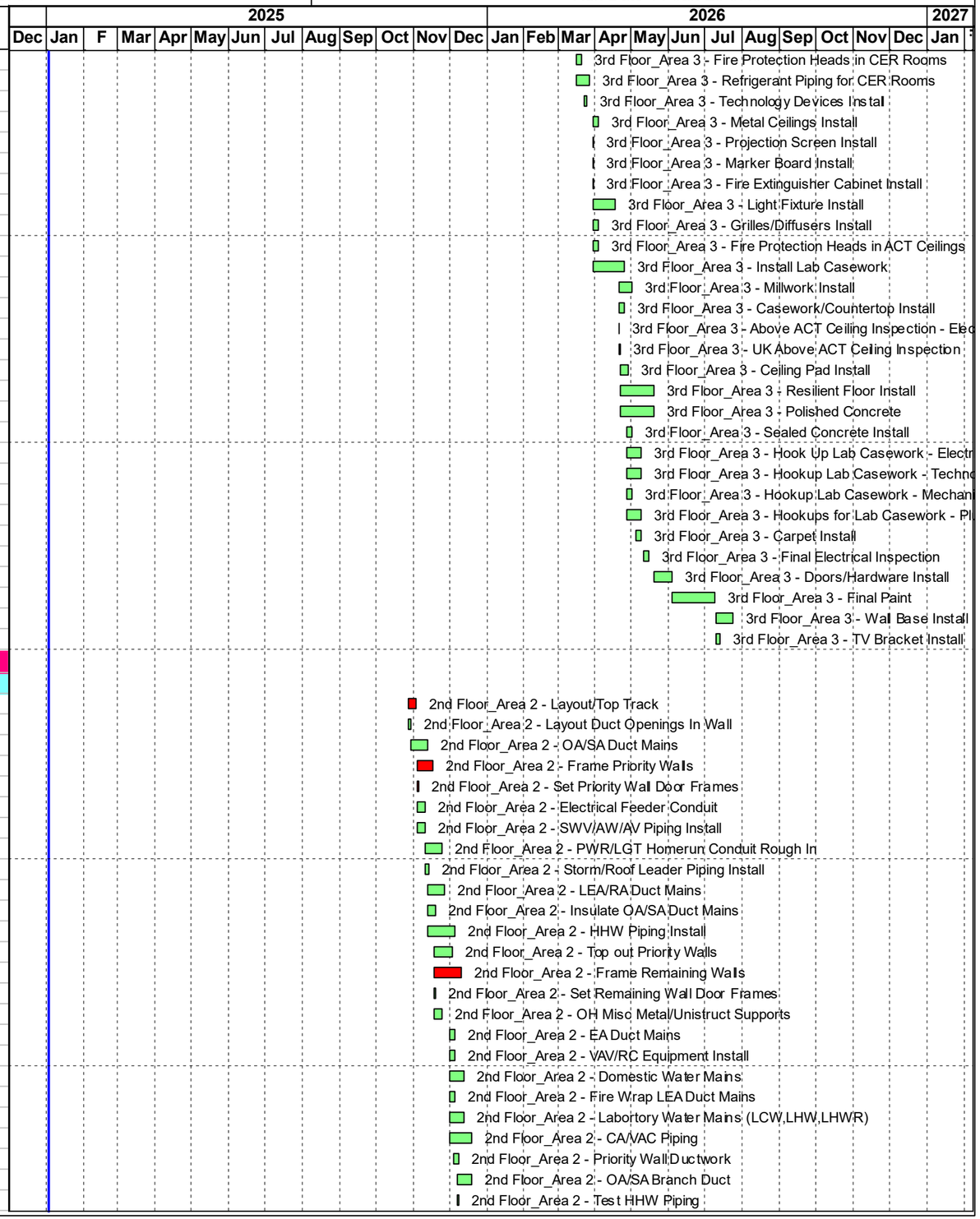
Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
A7010	3rd Floor_Area 1 - Technology Devices Instal	2	2	0%	04-Feb-26	05-Feb-26
A6670	3rd Floor_Area 1 - Millwork Install	10	10	0%	11-Feb-26	24-Feb-26
A6680	3rd Floor_Area 1 - Casework/Countertop Install	5	5	0%	11-Feb-26	17-Feb-26
A6760	3rd Floor_Area 1 - Toilet Partitions Install	5	5	0%	11-Feb-26	17-Feb-26
A6940	3rd Floor_Area 1 - Above ACT Ceiling Inspection - Electrical	1	1	0%	11-Feb-26	11-Feb-26
A7500	3rd Floor_Area 1 - UK Above ACT Ceiling Inspection	1	1	0%	12-Feb-26	12-Feb-26
A6660	3rd Floor_Area 1 - Ceiling Pad Install	5	5	0%	13-Feb-26	19-Feb-26
A6740	3rd Floor_Area 1 - Resilient Floor Install	10	10	0%	13-Feb-26	26-Feb-26
A7520	3rd Floor_Area 1 - Polished Concrete	15	15	0%	13-Feb-26	05-Mar-26
A6730	3rd Floor_Area 1 - Sealed Concrete Install	5	5	0%	18-Feb-26	24-Feb-26
A6770	3rd Floor_Area 1 - Toilet Accessories Install	5	5	0%	18-Feb-26	24-Feb-26
A6720	3rd Floor_Area 1 - Carpet Install	5	5	0%	25-Feb-26	03-Mar-26
A7530	3rd Floor_Area 1 - Hook Up Lab Casework - Electrical	10	10	0%	25-Feb-26	10-Mar-26
A7550	3rd Floor_Area 1 - Hookup Lab Casework - Technology	10	10	0%	25-Feb-26	10-Mar-26
A7600	3rd Floor_Area 1 - Hookup Lab Casework - Mechanical	5	5	0%	25-Feb-26	03-Mar-26
A7620	3rd Floor_Area 1 - Hookups for Lab Casework - Plumbing	5	5	0%	25-Feb-26	03-Mar-26
A6780	3rd Floor_Area 1 - Doors/Hardware Install	5	5	0%	04-Mar-26	10-Mar-26
A6790	3rd Floor_Area 1 - Final Paint	15	15	0%	11-Mar-26	31-Mar-26
A7680	3rd Floor_Area 1 - Final Electrical Inspection	5	5	0%	11-Mar-26	17-Mar-26
A6800	3rd Floor_Area 1 - Wall Base Install	5	5	0%	01-Apr-26	07-Apr-26
A6810	3rd Floor_Area 1 - TV Bracket Install	1	1	0%	01-Apr-26	01-Apr-26
Area 3		212	212		23-Sep-25	23-Jul-26
A8950	3rd Floor_Area 3 - Layout/Top Track	5	5	0%	23-Sep-25	29-Sep-25
A9480	3rd Floor_Area 3 - Layout Duct Openings In Wall	2	2	0%	23-Sep-25	24-Sep-25
A9490	3rd Floor_Area 3 - OA/SA Duct Mains	10	10	0%	25-Sep-25	08-Oct-25
A8960	3rd Floor_Area 3 - Frame Priority Walls	10	10	0%	30-Sep-25	13-Oct-25
A8970	3rd Floor_Area 3 - Set Priority Wall Door Frames	2	2	0%	30-Sep-25	01-Oct-25
A9270	3rd Floor_Area 3 - Electrical Feeder Conduit	5	5	0%	30-Sep-25	06-Oct-25
A9620	3rd Floor_Area 3 - SWV/AW/AV Piping Install	5	5	0%	30-Sep-25	06-Oct-25
A9280	3rd Floor_Area 3 - PWR/LGT Homerun Conduit Rough In	10	10	0%	07-Oct-25	20-Oct-25
A9670	3rd Floor_Area 3 - Storm/Roof Leader Piping Install	3	3	0%	07-Oct-25	09-Oct-25
A9500	3rd Floor_Area 3 - LEA/RA Duct Mains	10	10	0%	09-Oct-25	22-Oct-25
A9550	3rd Floor_Area 3 - Insulate OA/SA Duct Mains	5	5	0%	09-Oct-25	15-Oct-25
A9590	3rd Floor_Area 3 - HHW Piping Install	15	15	0%	09-Oct-25	29-Oct-25
A8980	3rd Floor_Area 3 - Top out Priority Walls	10	10	0%	14-Oct-25	27-Oct-25
A8990	3rd Floor_Area 3 - Frame Remaining Walls	10	10	0%	14-Oct-25	27-Oct-25
A9000	3rd Floor_Area 3 - Set Remaining Wall Door Frames	2	2	0%	14-Oct-25	15-Oct-25
A9760	3rd Floor_Area 3 - OH Misc Metal/Unistruct Supports	5	5	0%	14-Oct-25	20-Oct-25
A9510	3rd Floor_Area 3 - EA Duct Mains	5	5	0%	23-Oct-25	29-Oct-25
A9520	3rd Floor_Area 3 - VAV/RC Equipment Install	5	5	0%	23-Oct-25	29-Oct-25
A10110	3rd Floor_Area 3 - Fire Wrap LEA Duct Mains	5	5	0%	23-Oct-25	29-Oct-25
A9010	3rdFloor_Area 3 - Top out Remaining Walls	10	10	0%	28-Oct-25	10-Nov-25
A9290	3rd Floor_Area 3 - PWR/LGT In Wall Conduit Rough In	10	10	0%	28-Oct-25	10-Nov-25
A9400	3rd Floor_Area 3 - Technology In Wall Conduit Rough In	10	10	0%	28-Oct-25	10-Nov-25
A9630	3rd Floor_Area 3 - Domestic Water Mains	10	10	0%	28-Oct-25	10-Nov-25
A9740	3rd Floor_Area 3 - AV In Wall Conduit Rough In	2	2	0%	28-Oct-25	29-Oct-25
A9770	3rd Floor_Area 3 - BAS In Wall Conduit Rough In (tstats)	2	2	0%	28-Oct-25	29-Oct-25
A9820	3rd Floor_Area 3 - Security In Wall Conduit Rough In	2	2	0%	28-Oct-25	29-Oct-25
A9870	3rd Floor_Area 3 - Fire Alarm In Wall Conduit Rough In	5	5	0%	28-Oct-25	03-Nov-25
A9920	3rd Floor_Area 3 - Priority Wall Ductwork	3	3	0%	28-Oct-25	30-Oct-25
A10120	3rd Floor_Area 3 - Labortory Water Mains (LCW,LHW,LHWR)	10	10	0%	28-Oct-25	10-Nov-25
A10140	3rd Floor_Area 3 - CA/VAC Piping	15	15	0%	28-Oct-25	17-Nov-25
A9530	3rd Floor_Area 3 - OA/SA Branch Duct	10	10	0%	30-Oct-25	12-Nov-25
A9600	3rd Floor_Area 3 - Test HHW Piping	1	1	0%	30-Oct-25	30-Oct-25
A9750	3rd Floor_Area 3 - AV OH Conduit Rough In	2	2	0%	30-Oct-25	31-Oct-25
A9780	3rd Floor_Area 3 - BAS OH Conduit Rough In	5	5	0%	30-Oct-25	05-Nov-25



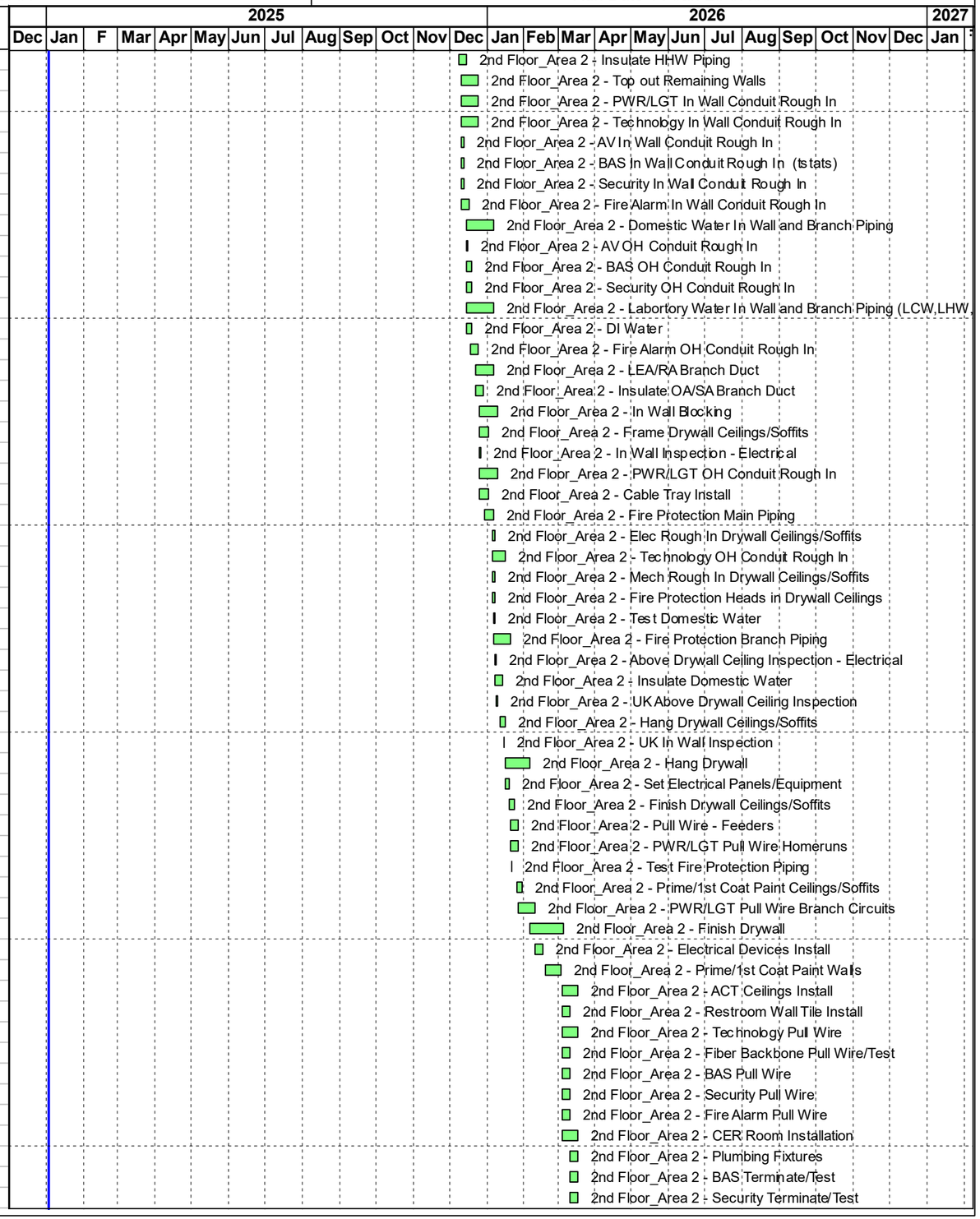
Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
A9830	3rd Floor_Area 3 - Security OH Conduit Rough In	5	5	0%	30-Oct-25	05-Nov-25
A9610	3rd Floor_Area 3 - Insulate HHW Piping	5	5	0%	31-Oct-25	06-Nov-25
A9880	3rd Floor_Area 3 - Fire Alarm OH Conduit Rough In	5	5	0%	04-Nov-25	10-Nov-25
A9020	3rd Floor_Area 3 - In Wall Blocking	10	10	0%	11-Nov-25	24-Nov-25
A9050	3rd Floor_Area 3 - Frame Drywall Ceilings/Soffits	5	5	0%	11-Nov-25	17-Nov-25
A9370	3rd Floor_Area 3 - In Wall Inspection - Electrical	1	1	0%	11-Nov-25	11-Nov-25
A9420	3rd Floor_Area 3 - PWR/LGT OH Conduit Rough In	10	10	0%	11-Nov-25	24-Nov-25
A9430	3rd Floor_Area 3 - Cable Tray Install	5	5	0%	11-Nov-25	17-Nov-25
A9640	3rd Floor_Area 3 - Domestic Water In Wall and Branch Piping	15	15	0%	11-Nov-25	03-Dec-25
A10130	3rd FLoor_Area 3 - Labortory Water In Wall and Branch Piping (LCW,LHW,LHW	15	15	0%	11-Nov-25	03-Dec-25
A10150	3rd Floor_Area 3 - DI Water	5	5	0%	11-Nov-25	17-Nov-25
A9540	3rd Floor_Area 3 - LEA/RA Branch Duct	10	10	0%	13-Nov-25	26-Nov-25
A9560	3rd Floor_Area 3 - Insulate OA/SA Branch Duct	5	5	0%	13-Nov-25	19-Nov-25
A9340	3rd Floor_Area 3 - Elec Rough In Drywall Ceilings/Soffits	3	3	0%	18-Nov-25	20-Nov-25
A9410	3rd Floor_Area 3 - Technology OH Conduit Rough In	10	10	0%	18-Nov-25	03-Dec-25
A9570	3rd Floor_Area 3 - Mech Rough In Drywall Ceilings/Soffits	3	3	0%	18-Nov-25	20-Nov-25
A9710	3rd Floor_Area 3 - Fire Protection Heads in Drywall Ceilings	3	3	0%	18-Nov-25	20-Nov-25
A9690	3rd Floor_Area 3 - Fire Protection Main Piping	5	5	0%	20-Nov-25	26-Nov-25
A9380	3rd Floor_Area 3 - Above Drywall Ceiling Inspection - Electrical	1	1	0%	21-Nov-25	21-Nov-25
A9940	3rd Floor_Area 3 - UK Above Drywall Ceiling Inspection	1	1	0%	24-Nov-25	24-Nov-25
A9060	3rd Floor_Area 3 - Hang Drywall Ceilings/Soffits	5	5	0%	25-Nov-25	03-Dec-25
A9700	3rd Floor_Area 3 - Fire Protection Branch Piping	10	10	0%	01-Dec-25	12-Dec-25
A9070	3rd Floor_Area 3 - Finish Drywall Ceilings/Soffits	5	5	0%	04-Dec-25	10-Dec-25
A9650	3rd Floor_Area 3 - Test Domestic Water	1	1	0%	04-Dec-25	04-Dec-25
A9660	3rd Floor_Area 3 - Insulate Domestic Water	5	5	0%	05-Dec-25	11-Dec-25
A9090	3rd Floor_Area 3 - Prime/1st Coat Paint Ceilings/Soffits	5	5	0%	11-Dec-25	17-Dec-25
A9930	3rd Floor_Area 3 - UK In Wall Inspection	1	1	0%	12-Dec-25	12-Dec-25
A9030	3rd Floor_Area 3 - Hang Drywall	25	25	0%	15-Dec-25	20-Jan-26
A9310	3rd Floor_Area 3 - Set Electrical Panels/Equipment	2	2	0%	15-Dec-25	16-Dec-25
A9730	3rd Floor_Area 3 - Test Fire Protection Piping	1	1	0%	15-Dec-25	15-Dec-25
A9300	3rd Floor_Area 3 - Pull Wire - Feeders	5	5	0%	17-Dec-25	23-Dec-25
A9320	3rd Floor_Area 3 - PWR/LGT Pull Wire Homeruns	5	5	0%	17-Dec-25	23-Dec-25
A9330	3rd Floor_Area 3 - PWR/LGT Pull Wire Branch Circuits	10	10	0%	24-Dec-25	08-Jan-26
A9360	3rd Floor_Area 3 - Electrical Devices Install	5	5	0%	09-Jan-26	15-Jan-26
A9040	3rd Floor_Area 3 - Finish Drywall	30	30	0%	21-Jan-26	03-Mar-26
A9080	3rd Floor_Area 3 - Prime/1st Coat Paint Walls	20	20	0%	02-Feb-26	27-Feb-26
A9100	3rd Floor_Area 3 - ACT Ceilings Install	20	20	0%	02-Mar-26	27-Mar-26
A9210	3rd Floor_Area 3 - Restroom Wall Tile Install	5	5	0%	02-Mar-26	06-Mar-26
A9440	3rd Floor_Area 3 - Technology Pull Wire	10	10	0%	02-Mar-26	13-Mar-26
A9470	3rd Floor_Area 3 - Fiber Backbone Pull Wire/Test	5	5	0%	02-Mar-26	06-Mar-26
A9790	3rd Floor_Area 3 - BAS Pull Wire	5	5	0%	02-Mar-26	06-Mar-26
A9840	3rd Floor_Area 3 - Security Pull Wire	5	5	0%	02-Mar-26	06-Mar-26
A9890	3rd Floor_Area 3 - Fire Alarm Pull Wire	5	5	0%	02-Mar-26	06-Mar-26
A10070	3rd Floor_Area 3 - CER Room Installation	10	10	0%	02-Mar-26	13-Mar-26
A9680	3rd Floor_Area 3 - Plumbing Fixtures	5	5	0%	09-Mar-26	13-Mar-26
A9800	3rd Floor_Area 3 - BAS Terminate/Test	5	5	0%	09-Mar-26	13-Mar-26
A9850	3rd Floor_Area 3 - Security Terminate/Test	5	5	0%	09-Mar-26	13-Mar-26
A9910	3rd Floor_Area 3 - Fire Alarm Terminate/Test	5	5	0%	09-Mar-26	13-Mar-26
A9220	3rd Floor_Area 3 - Toilet Accessories Install	5	5	0%	16-Mar-26	20-Mar-26
A9450	3rd Floor_Area 3 - Technology Terminate/Test Wire	5	5	0%	16-Mar-26	20-Mar-26
A9810	3rd Floor_Area 3 - BAS Devices Install	2	2	0%	16-Mar-26	17-Mar-26
A9860	3rd Floor_Area 3 - Secuirty Devices Install	2	2	0%	16-Mar-26	17-Mar-26
A9900	3rd Floor_Area 3 - Fire Alarm Devices Install	2	2	0%	16-Mar-26	17-Mar-26
A9990	3rd Floor_Area 3 - Final Connections to CER Rooms - Electrical	5	5	0%	16-Mar-26	20-Mar-26
A10020	3rd Floor_Area 3 - Condensate Piping Install	5	5	0%	16-Mar-26	20-Mar-26
A10040	3rd Floor_Area 3 - Final Connections to CER Rooms - Mechanical	5	5	0%	16-Mar-26	20-Mar-26



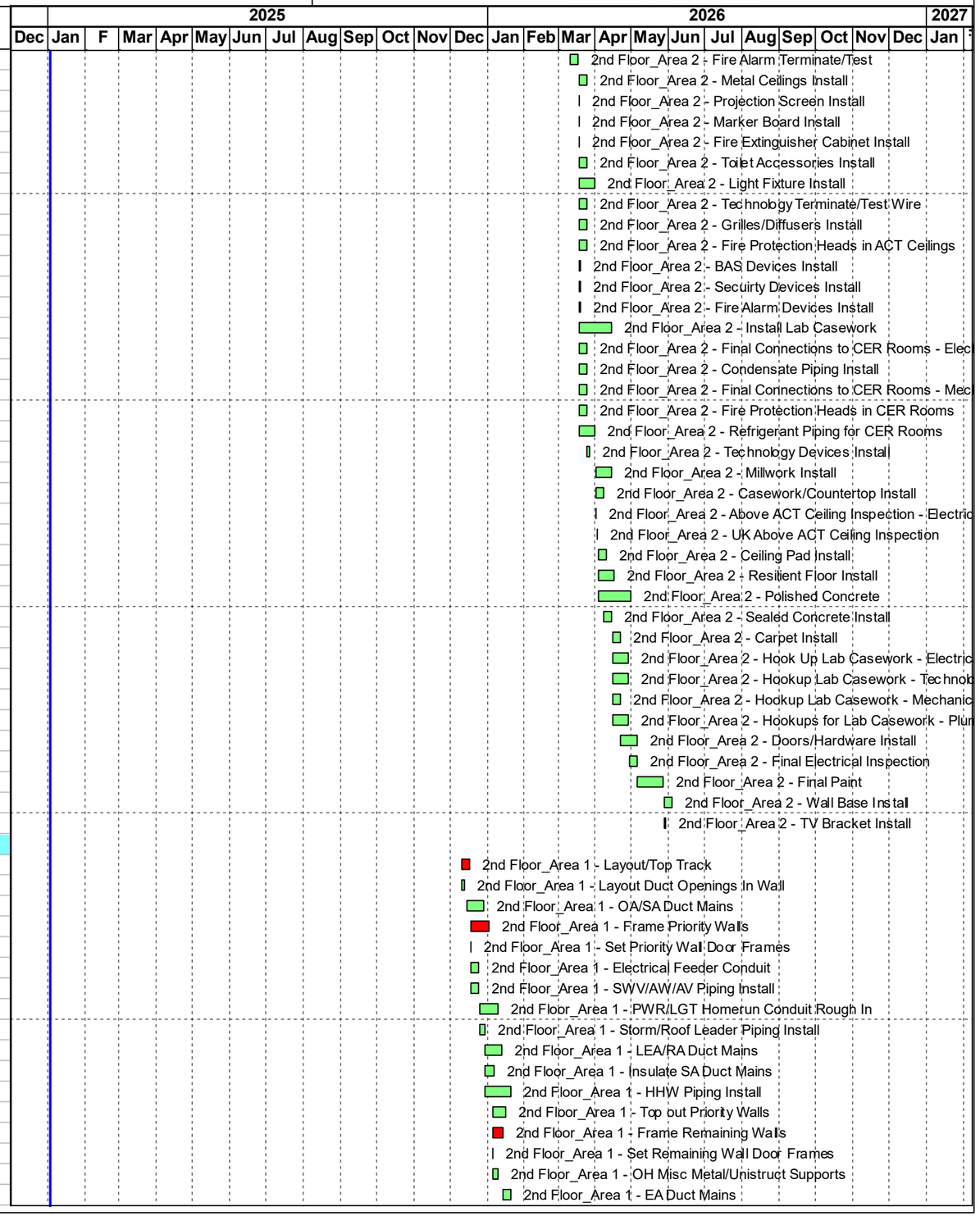
Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
A10060	3rd Floor_Area 3 - Fire Protection Heads in CER Rooms	5	5	0%	16-Mar-26	20-Mar-26
A10080	3rd Floor_Area 3 - Refrigerant Piping for CER Rooms	10	10	0%	16-Mar-26	27-Mar-26
A9460	3rd Floor_Area 3 - Technology Devices Instal	2	2	0%	23-Mar-26	24-Mar-26
A9110	3rd Floor_Area 3 - Metal Ceilings Install	5	5	0%	30-Mar-26	03-Apr-26
A9150	3rd Floor_Area 3 - Projection Screen Install	1	1	0%	30-Mar-26	30-Mar-26
A9160	3rd Floor_Area 3 - Marker Board Install	1	1	0%	30-Mar-26	30-Mar-26
A9170	3rd Floor_Area 3 - Fire Extinguisher Cabinet Install	1	1	0%	30-Mar-26	30-Mar-26
A9350	3rd Floor_Area 3 - Light Fixture Install	15	15	0%	30-Mar-26	17-Apr-26
A9580	3rd Floor_Area 3 - Grilles/Diffusers Install	5	5	0%	30-Mar-26	03-Apr-26
A9720	3rd Floor_Area 3 - Fire Protection Heads in ACT Ceilings	5	5	0%	30-Mar-26	03-Apr-26
A9960	3rd Floor_Area 3 - Install Lab Casework	20	20	0%	30-Mar-26	24-Apr-26
A9130	3rd Floor_Area 3 - Millwork Install	10	10	0%	20-Apr-26	01-May-26
A9140	3rd Floor_Area 3 - Casework/Countertop Install	5	5	0%	20-Apr-26	24-Apr-26
A9390	3rd Floor_Area 3 - Above ACT Ceiling Inspection - Electrical	1	1	0%	20-Apr-26	20-Apr-26
A9950	3rd Floor_Area 3 - UK Above ACT Ceiling Inspection	1	1	0%	21-Apr-26	21-Apr-26
A9120	3rd Floor_Area 3 - Ceiling Pad Install	5	5	0%	22-Apr-26	28-Apr-26
A9200	3rd Floor_Area 3 - Resilient Floor Install	20	20	0%	22-Apr-26	19-May-26
A9970	3rd Floor_Area 3 - Polished Concrete	20	20	0%	22-Apr-26	19-May-26
A9190	3rd Floor_Area 3 - Sealed Concrete Install	5	5	0%	27-Apr-26	01-May-26
A9980	3rd Floor_Area 3 - Hook Up Lab Casework - Electrical	10	10	0%	27-Apr-26	08-May-26
A10000	3rd Floor_Area 3 - Hookup Lab Casework - Technology	10	10	0%	27-Apr-26	08-May-26
A10030	3rd Floor_Area 3 - Hookup Lab Casework - Mechanical	5	5	0%	27-Apr-26	01-May-26
A10050	3rd Floor_Area 3 - Hookups for Lab Casework - Plumbing	10	10	0%	27-Apr-26	08-May-26
A9180	3rd Floor_Area 3 - Carpet Install	5	5	0%	04-May-26	08-May-26
A10100	3rd Floor_Area 3 - Final Electrical Inspection	5	5	0%	11-May-26	15-May-26
A9230	3rd Floor_Area 3 - Doors/Hardware Install	10	10	0%	20-May-26	03-Jun-26
A9240	3rd Floor_Area 3 - Final Paint	25	25	0%	04-Jun-26	09-Jul-26
A9250	3rd Floor_Area 3 - Wall Base Install	10	10	0%	10-Jul-26	23-Jul-26
A9260	3rd Floor_Area 3 - TV Bracket Install	2	2	0%	10-Jul-26	13-Jul-26
Second Floor		209	209		28-Oct-25	24-Aug-26
Area 2		152	152		28-Oct-25	03-Jun-26
A11310	2nd Floor_Area 2 - Layout/Top Track	5	5	0%	28-Oct-25	03-Nov-25
A11840	2nd Floor_Area 2 - Layout Duct Openings In Wall	2	2	0%	28-Oct-25	29-Oct-25
A11850	2nd Floor_Area 2 - OA/SA Duct Mains	10	10	0%	30-Oct-25	12-Nov-25
A11320	2nd Floor_Area 2 - Frame Priority Walls	10	10	0%	04-Nov-25	17-Nov-25
A11330	2nd Floor_Area 2 - Set Priority Wall Door Frames	2	2	0%	04-Nov-25	05-Nov-25
A11630	2nd Floor_Area 2 - Electrical Feeder Conduit	5	5	0%	04-Nov-25	10-Nov-25
A11980	2nd Floor_Area 2 - SWV/AW/AV Piping Install	5	5	0%	04-Nov-25	10-Nov-25
A11640	2nd Floor_Area 2 - PWR/LGT Homerun Conduit Rough In	10	10	0%	11-Nov-25	24-Nov-25
A12030	2nd Floor_Area 2 - Storm/Roof Leader Piping Install	3	3	0%	11-Nov-25	13-Nov-25
A11860	2nd Floor_Area 2 - LEA/RA Duct Mains	10	10	0%	13-Nov-25	26-Nov-25
A11910	2nd Floor_Area 2 - Insulate OA/SA Duct Mains	5	5	0%	13-Nov-25	19-Nov-25
A11950	2nd Floor_Area 2 - HHW Piping Install	15	15	0%	13-Nov-25	05-Dec-25
A11340	2nd Floor_Area 2 - Top out Priority Walls	10	10	0%	18-Nov-25	03-Dec-25
A11350	2nd Floor_Area 2 - Frame Remaining Walls	15	15	0%	18-Nov-25	10-Dec-25
A11360	2nd Floor_Area 2 - Set Remaining Wall Door Frames	2	2	0%	18-Nov-25	19-Nov-25
A12120	2nd Floor_Area 2 - OH Misc Metal/Unistruct Supports	5	5	0%	18-Nov-25	24-Nov-25
A11870	2nd Floor_Area 2 - EA Duct Mains	5	5	0%	01-Dec-25	05-Dec-25
A11880	2nd Floor_Area 2 - VAV/RC Equipment Install	5	5	0%	01-Dec-25	05-Dec-25
A11990	2nd Floor_Area 2 - Domestic Water Mains	10	10	0%	01-Dec-25	12-Dec-25
A12450	2nd Floor_Area 2 - Fire Wrap LEA Duct Mains	5	5	0%	01-Dec-25	05-Dec-25
A12460	2nd Floor_Area 2 - Labortory Water Mains (LCW,LHW,LHWR)	10	10	0%	01-Dec-25	12-Dec-25
A12480	2nd Floor_Area 2 - CA/VAC Piping	15	15	0%	01-Dec-25	19-Dec-25
A12280	2nd Floor_Area 2 - Priority Wall Ductwork	3	3	0%	04-Dec-25	08-Dec-25
A11890	2nd Floor_Area 2 - OA/SA Branch Duct	10	10	0%	08-Dec-25	19-Dec-25
A11960	2nd Floor_Area 2 - Test HHW Piping	1	1	0%	08-Dec-25	08-Dec-25



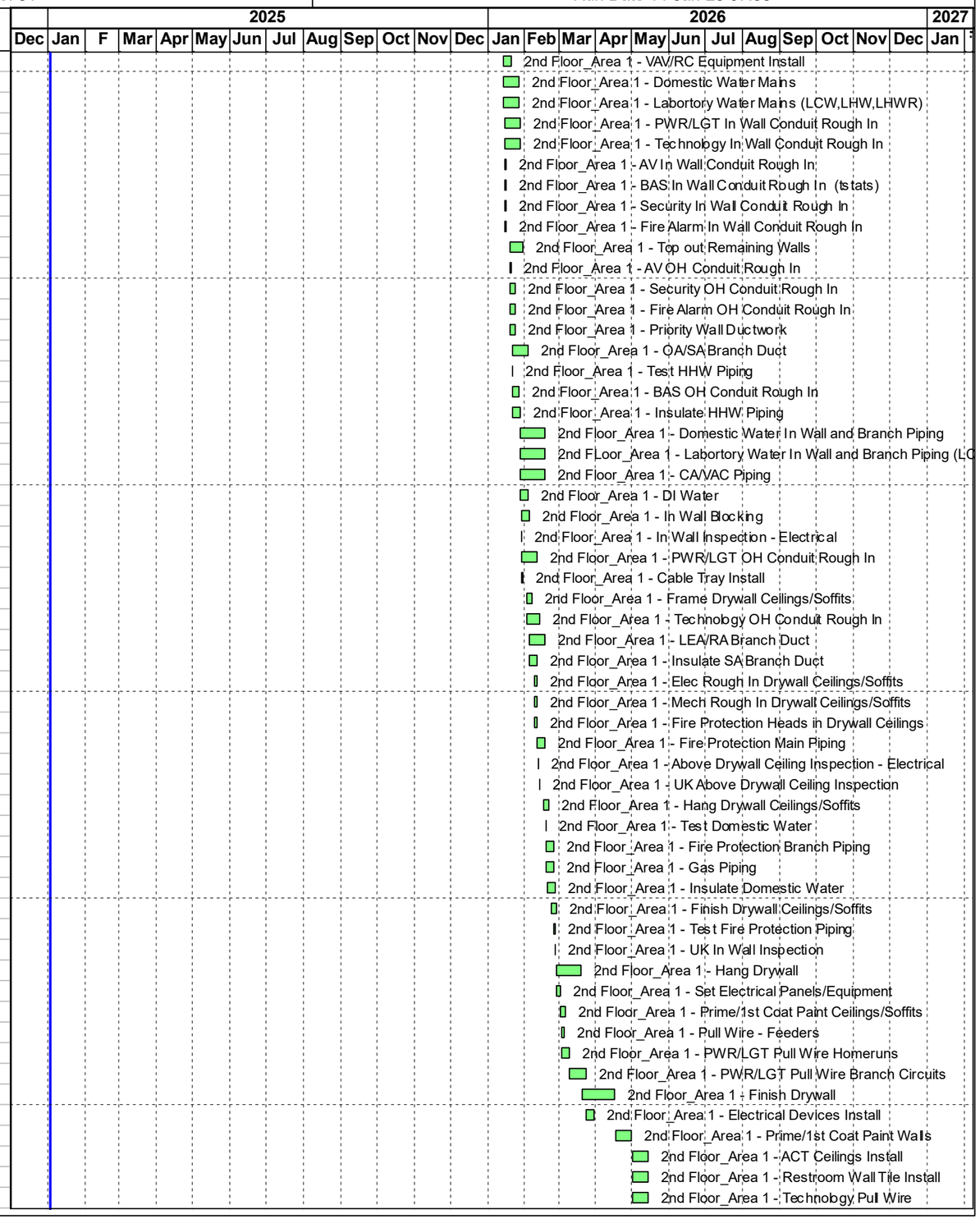
Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
A11970	2nd Floor_Area 2 - Insulate HHW Piping	5	5	0%	09-Dec-25	15-Dec-25
A11370	2nd Floor_Area 2 - Top out Remaining Walls	10	10	0%	11-Dec-25	24-Dec-25
A11650	2nd Floor_Area 2 - PWR/LGT In Wall Conduit Rough In	10	10	0%	11-Dec-25	24-Dec-25
A11760	2nd Floor_Area 2 - Technology In Wall Conduit Rough In	10	10	0%	11-Dec-25	24-Dec-25
A12100	2nd Floor_Area 2 - AV In Wall Conduit Rough In	2	2	0%	11-Dec-25	12-Dec-25
A12130	2nd Floor_Area 2 - BAS In Wall Conduit Rough In (tstats)	2	2	0%	11-Dec-25	12-Dec-25
A12180	2nd Floor_Area 2 - Security In Wall Conduit Rough In	2	2	0%	11-Dec-25	12-Dec-25
A12230	2nd Floor_Area 2 - Fire Alarm In Wall Conduit Rough In	5	5	0%	11-Dec-25	17-Dec-25
A12000	2nd Floor_Area 2 - Domestic Water In Wall and Branch Piping	15	15	0%	15-Dec-25	06-Jan-26
A12110	2nd Floor_Area 2 - AV OH Conduit Rough In	2	2	0%	15-Dec-25	16-Dec-25
A12140	2nd Floor_Area 2 - BAS OH Conduit Rough In	5	5	0%	15-Dec-25	19-Dec-25
A12190	2nd Floor_Area 2 - Security OH Conduit Rough In	5	5	0%	15-Dec-25	19-Dec-25
A12470	2nd Floor_Area 2 - Labortory Water In Wall and Branch Piping (LCW,LHW,LHW	15	15	0%	15-Dec-25	06-Jan-26
A12490	2nd Floor_Area 2 - DI Water	5	5	0%	15-Dec-25	19-Dec-25
A12240	2nd Floor_Area 2 - Fire Alarm OH Conduit Rough In	5	5	0%	18-Dec-25	24-Dec-25
A11900	2nd Floor_Area 2 - LEA/RA Branch Duct	10	10	0%	22-Dec-25	06-Jan-26
A11920	2nd Floor_Area 2 - Insulate OA/SA Branch Duct	5	5	0%	22-Dec-25	29-Dec-25
A11380	2nd Floor_Area 2 - In Wall Blocking	10	10	0%	26-Dec-25	09-Jan-26
A11410	2nd Floor_Area 2 - Frame Drywall Ceilings/Soffits	5	5	0%	26-Dec-25	02-Jan-26
A11730	2nd Floor_Area 2 - In Wall Inspection - Electrical	1	1	0%	26-Dec-25	26-Dec-25
A11780	2nd Floor_Area 2 - PWR/LGT OH Conduit Rough In	10	10	0%	26-Dec-25	09-Jan-26
A11790	2nd Floor_Area 2 - Cable Tray Install	5	5	0%	26-Dec-25	02-Jan-26
A12050	2nd Floor_Area 2 - Fire Protection Main Piping	5	5	0%	30-Dec-25	06-Jan-26
A11700	2nd Floor_Area 2 - Elec Rough In Drywall Ceilings/Soffits	3	3	0%	05-Jan-26	07-Jan-26
A11770	2nd Floor_Area 2 - Technology OH Conduit Rough In	10	10	0%	05-Jan-26	16-Jan-26
A11930	2nd Floor_Area 2 - Mech Rough In Drywall Ceilings/Soffits	3	3	0%	05-Jan-26	07-Jan-26
A12070	2nd Floor_Area 2 - Fire Protection Heads in Drywall Ceilings	3	3	0%	05-Jan-26	07-Jan-26
A12010	2nd Floor_Area 2 - Test Domestic Water	1	1	0%	07-Jan-26	07-Jan-26
A12060	2nd Floor_Area 2 - Fire Protection Branch Piping	10	10	0%	07-Jan-26	20-Jan-26
A11740	2nd Floor_Area 2 - Above Drywall Ceiling Inspection - Electrical	1	1	0%	08-Jan-26	08-Jan-26
A12020	2nd Floor_Area 2 - Insulate Domestic Water	5	5	0%	08-Jan-26	14-Jan-26
A12300	2nd Floor_Area 2 - UK Above Drywall Ceiling Inspection	1	1	0%	09-Jan-26	09-Jan-26
A11420	2nd Floor_Area 2 - Hang Drywall Ceilings/Soffits	5	5	0%	12-Jan-26	16-Jan-26
A12290	2nd Floor_Area 2 - UK In Wall Inspection	1	1	0%	15-Jan-26	15-Jan-26
A11390	2nd Floor_Area 2 - Hang Drywall	15	15	0%	16-Jan-26	05-Feb-26
A11670	2nd Floor_Area 2 - Set Electrical Panels/Equipment	2	2	0%	16-Jan-26	19-Jan-26
A11430	2nd Floor_Area 2 - Finish Drywall Ceilings/Soffits	5	5	0%	19-Jan-26	23-Jan-26
A11660	2nd Floor_Area 2 - Pull Wire - Feeders	5	5	0%	20-Jan-26	26-Jan-26
A11680	2nd Floor_Area 2 - PWR/LGT Pull Wire Homeruns	5	5	0%	20-Jan-26	26-Jan-26
A12090	2nd Floor_Area 2 - Test Fire Protection Piping	1	1	0%	21-Jan-26	21-Jan-26
A11450	2nd Floor_Area 2 - Prime/1st Coat Paint Ceilings/Soffits	5	5	0%	26-Jan-26	30-Jan-26
A11690	2nd Floor_Area 2 - PWR/LGT Pull Wire Branch Circuits	10	10	0%	27-Jan-26	09-Feb-26
A11400	2nd Floor_Area 2 - Finish Drywall	20	20	0%	06-Feb-26	05-Mar-26
A11720	2nd Floor_Area 2 - Electrical Devices Install	5	5	0%	10-Feb-26	16-Feb-26
A11440	2nd Floor_Area 2 - Prime/1st Coat Paint Walls	10	10	0%	18-Feb-26	03-Mar-26
A11460	2nd Floor_Area 2 - ACT Ceilings Install	10	10	0%	04-Mar-26	17-Mar-26
A11570	2nd Floor_Area 2 - Restroom Wall Tile Install	5	5	0%	04-Mar-26	10-Mar-26
A11800	2nd Floor_Area 2 - Technology Pull Wire	10	10	0%	04-Mar-26	17-Mar-26
A11830	2nd Floor_Area 2 - Fiber Backbone Pull Wire/Test	5	5	0%	04-Mar-26	10-Mar-26
A12150	2nd Floor_Area 2 - BAS Pull Wire	5	5	0%	04-Mar-26	10-Mar-26
A12200	2nd Floor_Area 2 - Security Pull Wire	5	5	0%	04-Mar-26	10-Mar-26
A12250	2nd Floor_Area 2 - Fire Alarm Pull Wire	5	5	0%	04-Mar-26	10-Mar-26
A12420	2nd Floor_Area 2 - CER Room Installation	10	10	0%	04-Mar-26	17-Mar-26
A12040	2nd Floor_Area 2 - Plumbing Fixtures	5	5	0%	11-Mar-26	17-Mar-26
A12160	2nd Floor_Area 2 - BAS Terminate/Test	5	5	0%	11-Mar-26	17-Mar-26
A12210	2nd Floor_Area 2 - Security Terminate/Test	5	5	0%	11-Mar-26	17-Mar-26



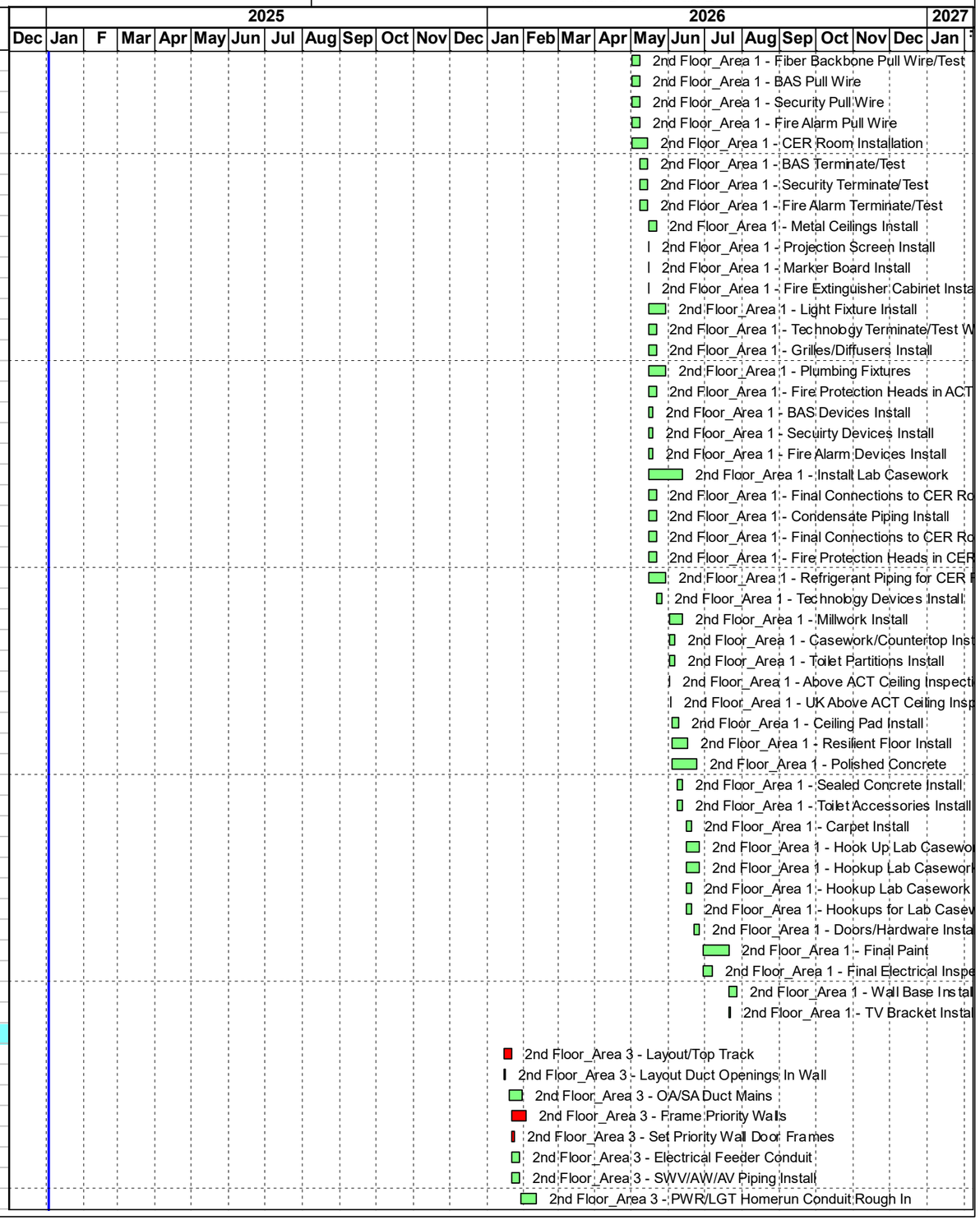
Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
A12270	2nd Floor_Area 2 - Fire Alarm Terminate/Test	5	5	0%	11-Mar-26	17-Mar-26
A11470	2nd Floor_Area 2 - Metal Ceilings Install	5	5	0%	18-Mar-26	24-Mar-26
A11510	2nd Floor_Area 2 - Projection Screen Install	1	1	0%	18-Mar-26	18-Mar-26
A11520	2nd Floor_Area 2 - Marker Board Install	1	1	0%	18-Mar-26	18-Mar-26
A11530	2nd Floor_Area 2 - Fire Extinguisher Cabinet Install	1	1	0%	18-Mar-26	18-Mar-26
A11580	2nd Floor_Area 2 - Toilet Accessories Install	5	5	0%	18-Mar-26	24-Mar-26
A11710	2nd Floor_Area 2 - Light Fixture Install	10	10	0%	18-Mar-26	31-Mar-26
A11810	2nd Floor_Area 2 - Technology Terminate/Test Wire	5	5	0%	18-Mar-26	24-Mar-26
A11940	2nd Floor_Area 2 - Grilles/Diffusers Install	5	5	0%	18-Mar-26	24-Mar-26
A12080	2nd Floor_Area 2 - Fire Protection Heads in ACT Ceilings	5	5	0%	18-Mar-26	24-Mar-26
A12170	2nd Floor_Area 2 - BAS Devices Install	2	2	0%	18-Mar-26	19-Mar-26
A12220	2nd Floor_Area 2 - Secuirty Devices Install	2	2	0%	18-Mar-26	19-Mar-26
A12260	2nd Floor_Area 2 - Fire Alarm Devices Install	2	2	0%	18-Mar-26	19-Mar-26
A12320	2nd Floor_Area 2 - Install Lab Casework	20	20	0%	18-Mar-26	14-Apr-26
A12350	2nd Floor_Area 2 - Final Connections to CER Rooms - Electrical	5	5	0%	18-Mar-26	24-Mar-26
A12370	2nd Floor_Area 2 - Condensate Piping Install	5	5	0%	18-Mar-26	24-Mar-26
A12390	2nd Floor_Area 2 - Final Connections to CER Rooms - Mechanical	5	5	0%	18-Mar-26	24-Mar-26
A12410	2nd Floor_Area 2 - Fire Protection Heads in CER Rooms	5	5	0%	18-Mar-26	24-Mar-26
A12430	2nd Floor_Area 2 - Refrigerant Piping for CER Rooms	10	10	0%	18-Mar-26	31-Mar-26
A11820	2nd Floor_Area 2 - Technology Devices Install	2	2	0%	25-Mar-26	26-Mar-26
A11490	2nd Floor_Area 2 - Millwork Install	10	10	0%	01-Apr-26	14-Apr-26
A11500	2nd Floor_Area 2 - Casework/Countertop Install	5	5	0%	01-Apr-26	07-Apr-26
A11750	2nd Floor_Area 2 - Above ACT Ceiling Inspection - Electrical	1	1	0%	01-Apr-26	01-Apr-26
A12310	2nd Floor_Area 2 - UK Above ACT Ceiling Inspection	1	1	0%	02-Apr-26	02-Apr-26
A11480	2nd Floor_Area 2 - Ceiling Pad Install	5	5	0%	03-Apr-26	09-Apr-26
A11560	2nd Floor_Area 2 - Resilient Floor Install	10	10	0%	03-Apr-26	16-Apr-26
A12330	2nd Floor_Area 2 - Polished Concrete	20	20	0%	03-Apr-26	30-Apr-26
A11550	2nd Floor_Area 2 - Sealed Concrete Install	5	5	0%	08-Apr-26	14-Apr-26
A11540	2nd Floor_Area 2 - Carpet Install	5	5	0%	15-Apr-26	21-Apr-26
A12340	2nd Floor_Area 2 - Hook Up Lab Casework - Electrical	10	10	0%	15-Apr-26	28-Apr-26
A12360	2nd Floor_Area 2 - Hookup Lab Casework - Technology	10	10	0%	15-Apr-26	28-Apr-26
A12380	2nd Floor_Area 2 - Hookup Lab Casework - Mechanical	5	5	0%	15-Apr-26	21-Apr-26
A12400	2nd Floor_Area 2 - Hookups for Lab Casework - Plumbing	10	10	0%	15-Apr-26	28-Apr-26
A11590	2nd Floor_Area 2 - Doors/Hardware Install	10	10	0%	22-Apr-26	05-May-26
A12440	2nd Floor_Area 2 - Final Electrical Inspection	5	5	0%	29-Apr-26	05-May-26
A11600	2nd Floor_Area 2 - Final Paint	15	15	0%	06-May-26	27-May-26
A11610	2nd Floor_Area 2 - Wall Base Install	5	5	0%	28-May-26	03-Jun-26
A11620	2nd Floor_Area 2 - TV Bracket Install	2	2	0%	28-May-26	29-May-26
Area 1		159	159		11-Dec-25	27-Jul-26
A10160	2nd Floor_Area 1 - Layout/Top Track	5	5	0%	11-Dec-25	17-Dec-25
A10700	2nd Floor_Area 1 - Layout Duct Openings In Wall	2	2	0%	11-Dec-25	12-Dec-25
A10710	2nd Floor_Area 1 - OA/SA Duct Mains	10	10	0%	15-Dec-25	29-Dec-25
A10170	2nd Floor_Area 1 - Frame Priority Walls	10	10	0%	18-Dec-25	02-Jan-26
A10180	2nd Floor_Area 1 - Set Priority Wall Door Frames	1	1	0%	18-Dec-25	18-Dec-25
A10490	2nd Floor_Area 1 - Electrical Feeder Conduit	5	5	0%	18-Dec-25	24-Dec-25
A10840	2nd Floor_Area 1 - SWV/AW/AV Piping Install	5	5	0%	18-Dec-25	24-Dec-25
A10500	2nd Floor_Area 1 - PWR/LGT Homerun Conduit Rough In	10	10	0%	26-Dec-25	09-Jan-26
A10890	2nd Floor_Area 1 - Storm/Roof Leader Piping Install	3	3	0%	26-Dec-25	30-Dec-25
A10720	2nd Floor_Area 1 - LEA/RA Duct Mains	10	10	0%	30-Dec-25	13-Jan-26
A10770	2nd Floor_Area 1 - Insulate SA Duct Mains	5	5	0%	30-Dec-25	06-Jan-26
A10810	2nd Floor_Area 1 - HHW Piping Install	15	15	0%	30-Dec-25	20-Jan-26
A10190	2nd Floor_Area 1 - Top out Priority Walls	10	10	0%	05-Jan-26	16-Jan-26
A10200	2nd Floor_Area 1 - Frame Remaining Walls	8	8	0%	05-Jan-26	14-Jan-26
A10210	2nd Floor_Area 1 - Set Remaining Wall Door Frames	1	1	0%	05-Jan-26	05-Jan-26
A10980	2nd Floor_Area 1 - OH Misc Metal/Unistruct Supports	5	5	0%	05-Jan-26	09-Jan-26
A10730	2nd Floor_Area 1 - EA Duct Mains	5	5	0%	14-Jan-26	20-Jan-26



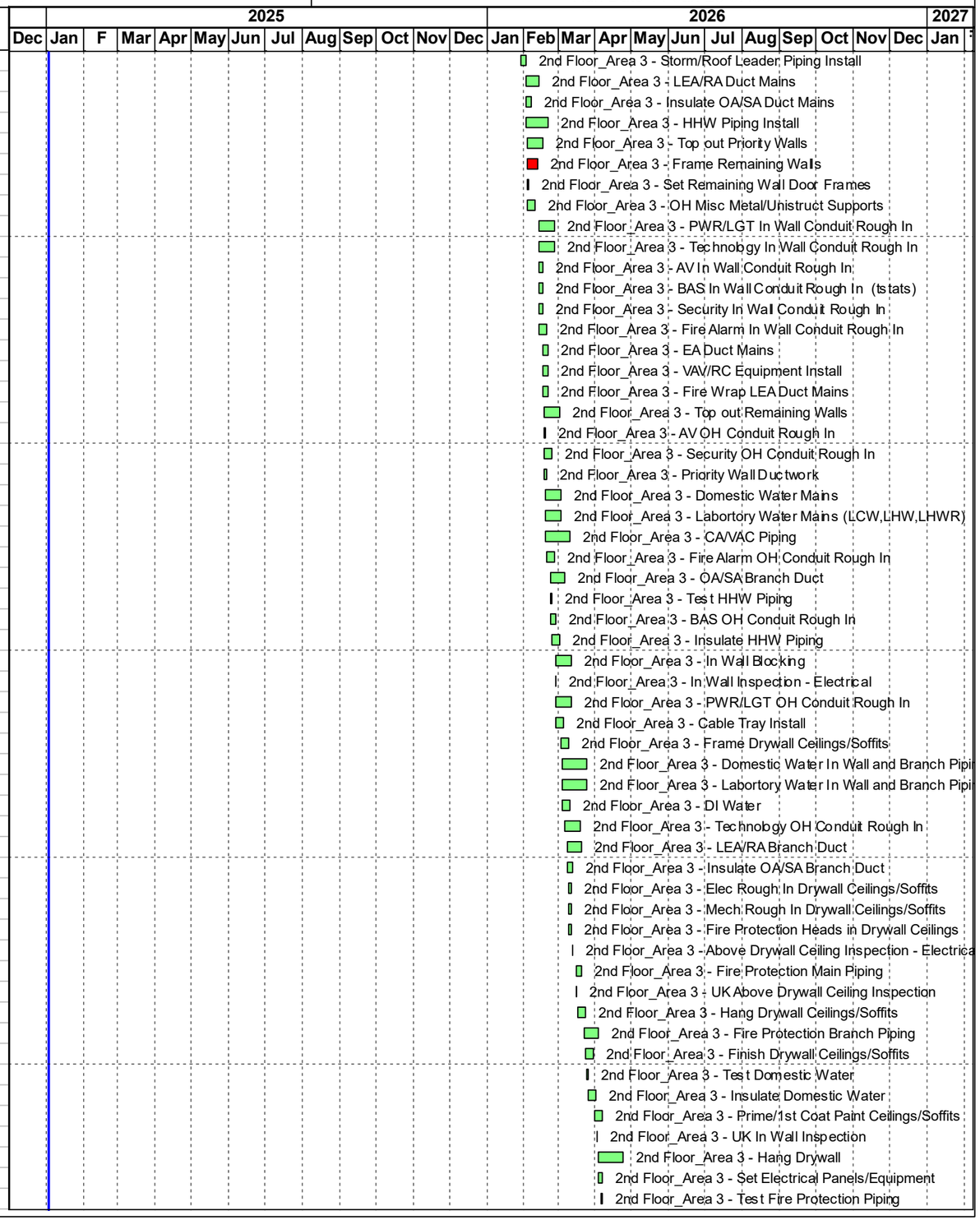
Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
A10740	2nd Floor_Area 1 - VAV/RC Equipment Install	5	5	0%	14-Jan-26	20-Jan-26
A10850	2nd Floor_Area 1 - Domestic Water Mains	10	10	0%	14-Jan-26	27-Jan-26
A12510	2nd Floor_Area 1 - Labortory Water Mains (LCW,LHW,LHWR)	10	10	0%	14-Jan-26	27-Jan-26
A10510	2nd Floor_Area 1 - PWR/LGT In Wall Conduit Rough In	10	10	0%	15-Jan-26	28-Jan-26
A10620	2nd Floor_Area 1 - Technology In Wall Conduit Rough In	10	10	0%	15-Jan-26	28-Jan-26
A10960	2nd Floor_Area 1 - AV In Wall Conduit Rough In	2	2	0%	15-Jan-26	16-Jan-26
A10990	2nd Floor_Area 1 - BAS In Wall Conduit Rough In (tstats)	2	2	0%	15-Jan-26	16-Jan-26
A11040	2nd Floor_Area 1 - Security In Wall Conduit Rough In	2	2	0%	15-Jan-26	16-Jan-26
A11090	2nd Floor_Area 1 - Fire Alarm In Wall Conduit Rough In	2	2	0%	15-Jan-26	16-Jan-26
A10220	2nd Floor_Area 1 - Top out Remaining Walls	10	10	0%	19-Jan-26	30-Jan-26
A10970	2nd Floor_Area 1 - AV OH Conduit Rough In	2	2	0%	19-Jan-26	20-Jan-26
A11050	2nd Floor_Area 1 - Security OH Conduit Rough In	5	5	0%	19-Jan-26	23-Jan-26
A11100	2nd Floor_Area 1 - Fire Alarm OH Conduit Rough In	5	5	0%	19-Jan-26	23-Jan-26
A11140	2nd Floor_Area 1 - Priority Wall Ductwork	5	5	0%	19-Jan-26	23-Jan-26
A10750	2nd Floor_Area 1 - OA/SA Branch Duct	10	10	0%	21-Jan-26	03-Feb-26
A10820	2nd Floor_Area 1 - Test HHW Piping	1	1	0%	21-Jan-26	21-Jan-26
A11000	2nd Floor_Area 1 - BAS OH Conduit Rough In	5	5	0%	21-Jan-26	27-Jan-26
A10830	2nd Floor_Area 1 - Insulate HHW Piping	5	5	0%	22-Jan-26	28-Jan-26
A10860	2nd Floor_Area 1 - Domestic Water In Wall and Branch Piping	15	15	0%	28-Jan-26	17-Feb-26
A12520	2nd FLoor_Area 1 - Labortory Water In Wall and Branch Piping (LCW,LHW,LHV	15	15	0%	28-Jan-26	17-Feb-26
A12530	2nd Floor_Area 1 - CA/VAC Piping	15	15	0%	28-Jan-26	17-Feb-26
A12540	2nd Floor_Area 1 - DI Water	5	5	0%	28-Jan-26	03-Feb-26
A10230	2nd Floor_Area 1 - In Wall Blocking	5	5	0%	29-Jan-26	04-Feb-26
A10590	2nd Floor_Area 1 - In Wall Inspection - Electrical	1	1	0%	29-Jan-26	29-Jan-26
A10640	2nd Floor_Area 1 - PWR/LGT OH Conduit Rough In	10	10	0%	29-Jan-26	11-Feb-26
A10650	2nd Floor_Area 1 - Cable Tray Install	2	2	0%	29-Jan-26	30-Jan-26
A10260	2nd Floor_Area 1 - Frame Drywall Ceilings/Soffits	5	5	0%	02-Feb-26	06-Feb-26
A10630	2nd Floor_Area 1 - Technology OH Conduit Rough In	10	10	0%	02-Feb-26	13-Feb-26
A10760	2nd Floor_Area 1 - LEA/RA Branch Duct	10	10	0%	04-Feb-26	17-Feb-26
A10780	2nd Floor_Area 1 - Insulate SA Branch Duct	5	5	0%	04-Feb-26	10-Feb-26
A10560	2nd Floor_Area 1 - Elec Rough In Drywall Ceilings/Soffits	3	3	0%	09-Feb-26	11-Feb-26
A10790	2nd Floor_Area 1 - Mech Rough In Drywall Ceilings/Soffits	3	3	0%	09-Feb-26	11-Feb-26
A10930	2nd Floor_Area 1 - Fire Protection Heads in Drywall Ceilings	3	3	0%	09-Feb-26	11-Feb-26
A10910	2nd Floor_Area 1 - Fire Protection Main Piping	5	5	0%	11-Feb-26	17-Feb-26
A10600	2nd Floor_Area 1 - Above Drywall Ceiling Inspection - Electrical	1	1	0%	12-Feb-26	12-Feb-26
A11160	2nd Floor_Area 1 - UK Above Drywall Ceiling Inspection	1	1	0%	13-Feb-26	13-Feb-26
A10270	2nd Floor_Area 1 - Hang Drywall Ceilings/Soffits	5	5	0%	16-Feb-26	20-Feb-26
A10870	2nd Floor_Area 1 - Test Domestic Water	1	1	0%	18-Feb-26	18-Feb-26
A10920	2nd Floor_Area 1 - Fire Protection Branch Piping	5	5	0%	18-Feb-26	24-Feb-26
A12500	2nd Floor_Area 1 - Gas Piping	5	5	0%	18-Feb-26	24-Feb-26
A10880	2nd Floor_Area 1 - Insulate Domestic Water	5	5	0%	19-Feb-26	25-Feb-26
A10280	2nd Floor_Area 1 - Finish Drywall Ceilings/Soffits	5	5	0%	23-Feb-26	27-Feb-26
A10950	2nd Floor_Area 1 - Test Fire Protection Piping	1	1	0%	25-Feb-26	25-Feb-26
A11150	2nd Floor_Area 1 - UK In Wall Inspection	1	1	0%	26-Feb-26	26-Feb-26
A10240	2nd Floor_Area 1 - Hang Drywall	15	15	0%	27-Feb-26	19-Mar-26
A10530	2nd Floor_Area 1 - Set Electrical Panels/Equipment	2	2	0%	27-Feb-26	02-Mar-26
A10300	2nd Floor_Area 1 - Prime/1st Coat Paint Ceilings/Soffits	5	5	0%	02-Mar-26	06-Mar-26
A10520	2nd Floor_Area 1 - Pull Wire - Feeders	3	3	0%	03-Mar-26	05-Mar-26
A10540	2nd Floor_Area 1 - PWR/LGT Pull Wire Homeruns	5	5	0%	03-Mar-26	09-Mar-26
A10550	2nd Floor_Area 1 - PWR/LGT Pull Wire Branch Circuits	10	10	0%	10-Mar-26	23-Mar-26
A10250	2nd Floor_Area 1 - Finish Drywall	20	20	0%	20-Mar-26	16-Apr-26
A10580	2nd Floor_Area 1 - Electrical Devices Install	5	5	0%	24-Mar-26	30-Mar-26
A10290	2nd Floor_Area 1 - Prime/1st Coat Paint Walls	10	10	0%	17-Apr-26	30-Apr-26
A10310	2nd Floor_Area 1 - ACT Ceilings Install	10	10	0%	01-May-26	14-May-26
A10420	2nd Floor_Area 1 - Restroom Wall Tile Install	10	10	0%	01-May-26	14-May-26
A10660	2nd Floor_Area 1 - Technology Pull Wire	10	10	0%	01-May-26	14-May-26



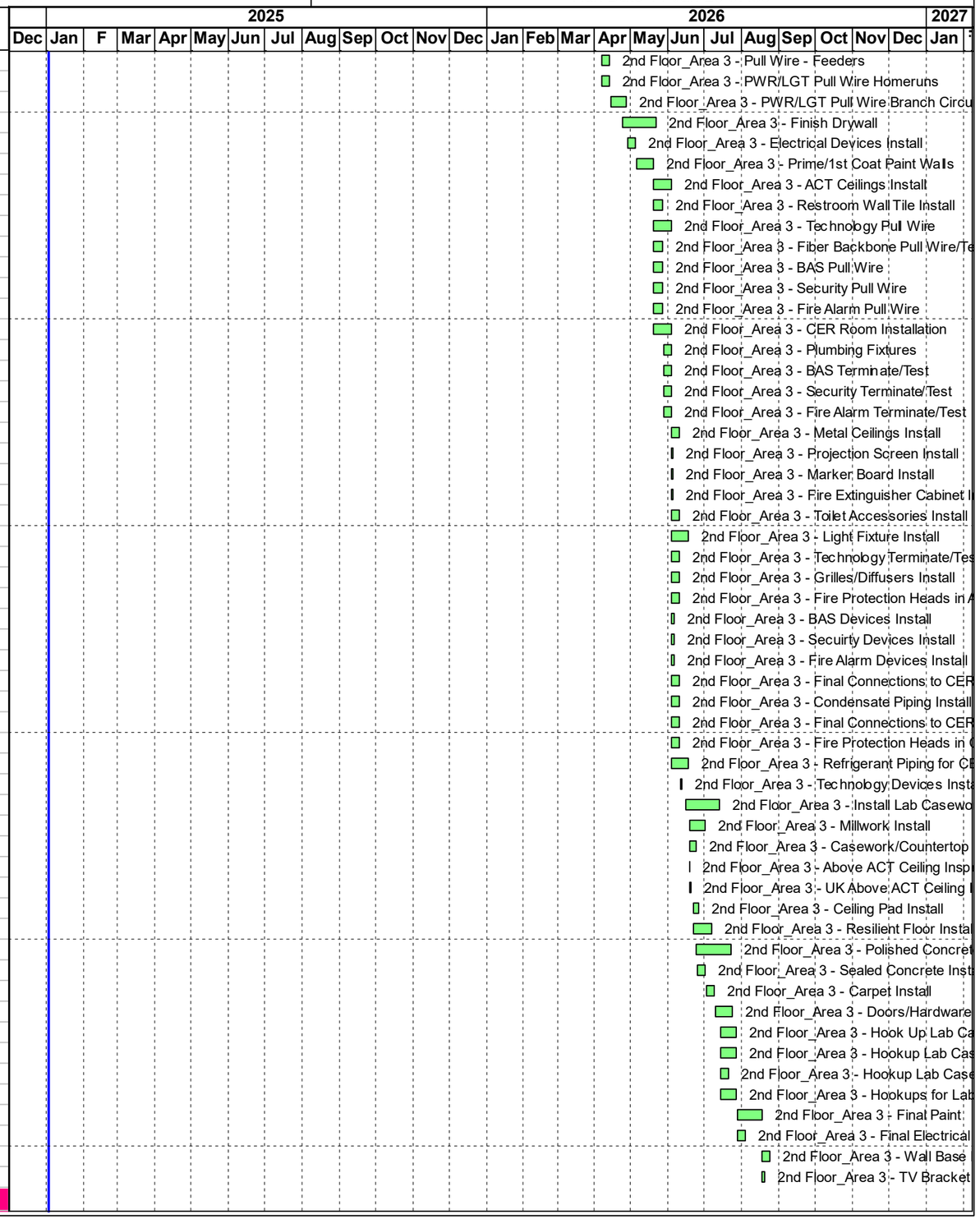
Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
A10690	2nd Floor_Area 1 - Fiber Backbone Pull Wire/Test	5	5	0%	01-May-26	07-May-26
A11010	2nd Floor_Area 1 - BAS Pull Wire	5	5	0%	01-May-26	07-May-26
A11060	2nd Floor_Area 1 - Security Pull Wire	5	5	0%	01-May-26	07-May-26
A11110	2nd Floor_Area 1 - Fire Alarm Pull Wire	5	5	0%	01-May-26	07-May-26
A11280	2nd Floor_Area 1 - CER Room Installation	10	10	0%	01-May-26	14-May-26
A11020	2nd Floor_Area 1 - BAS Terminate/Test	5	5	0%	08-May-26	14-May-26
A11070	2nd Floor_Area 1 - Security Terminate/Test	5	5	0%	08-May-26	14-May-26
A11130	2nd Floor_Area 1 - Fire Alarm Terminate/Test	5	5	0%	08-May-26	14-May-26
A10320	2nd Floor_Area 1 - Metal Ceilings Install	5	5	0%	15-May-26	21-May-26
A10360	2nd Floor_Area 1 - Projection Screen Install	1	1	0%	15-May-26	15-May-26
A10370	2nd Floor_Area 1 - Marker Board Install	1	1	0%	15-May-26	15-May-26
A10380	2nd Floor_Area 1 - Fire Extinguisher Cabinet Install	1	1	0%	15-May-26	15-May-26
A10570	2nd Floor_Area 1 - Light Fixture Install	10	10	0%	15-May-26	29-May-26
A10670	2nd Floor_Area 1 - Technology Terminate/Test Wire	5	5	0%	15-May-26	21-May-26
A10800	2nd Floor_Area 1 - Grilles/Diffusers Install	5	5	0%	15-May-26	21-May-26
A10900	2nd Floor_Area 1 - Plumbing Fixtures	10	10	0%	15-May-26	29-May-26
A10940	2nd Floor_Area 1 - Fire Protection Heads in ACT Ceilings	5	5	0%	15-May-26	21-May-26
A11030	2nd Floor_Area 1 - BAS Devices Install	2	2	0%	15-May-26	18-May-26
A11080	2nd Floor_Area 1 - Secuirty Devices Install	2	2	0%	15-May-26	18-May-26
A11120	2nd Floor_Area 1 - Fire Alarm Devices Install	2	2	0%	15-May-26	18-May-26
A11180	2nd Floor_Area 1 - Install Lab Casework	20	20	0%	15-May-26	12-Jun-26
A11210	2nd Floor_Area 1 - Final Connections to CER Rooms - Electrical	5	5	0%	15-May-26	21-May-26
A11230	2nd Floor_Area 1 - Condensate Piping Install	5	5	0%	15-May-26	21-May-26
A11250	2nd Floor_Area 1 - Final Connections to CER Rooms - Mechanical	5	5	0%	15-May-26	21-May-26
A11270	2nd Floor_Area 1 - Fire Protection Heads in CER Rooms	5	5	0%	15-May-26	21-May-26
A11290	2nd Floor_Area 1 - Refrigerant Piping for CER Rooms	10	10	0%	15-May-26	29-May-26
A10680	2nd Floor_Area 1 - Technology Devices Install	2	2	0%	22-May-26	26-May-26
A10340	2nd Floor_Area 1 - Millwork Install	10	10	0%	01-Jun-26	12-Jun-26
A10350	2nd Floor_Area 1 - Casework/Countertop Install	5	5	0%	01-Jun-26	05-Jun-26
A10430	2nd Floor_Area 1 - Toilet Partitions Install	5	5	0%	01-Jun-26	05-Jun-26
A10610	2nd Floor_Area 1 - Above ACT Ceiling Inspection - Electrical	1	1	0%	01-Jun-26	01-Jun-26
A11170	2nd Floor_Area 1 - UK Above ACT Ceiling Inspection	1	1	0%	02-Jun-26	02-Jun-26
A10330	2nd Floor_Area 1 - Ceiling Pad Install	5	5	0%	03-Jun-26	09-Jun-26
A10410	2nd Floor_Area 1 - Resilient Floor Install	10	10	0%	03-Jun-26	16-Jun-26
A11190	2nd Floor_Area 1 - Polished Concrete	15	15	0%	03-Jun-26	23-Jun-26
A10400	2nd Floor_Area 1 - Sealed Concrete Install	5	5	0%	08-Jun-26	12-Jun-26
A10440	2nd Floor_Area 1 - Toilet Accessories Install	5	5	0%	08-Jun-26	12-Jun-26
A10390	2nd Floor_Area 1 - Carpet Install	5	5	0%	15-Jun-26	19-Jun-26
A11200	2nd Floor_Area 1 - Hook Up Lab Casework - Electrical	10	10	0%	15-Jun-26	26-Jun-26
A11220	2nd Floor_Area 1 - Hookup Lab Casework - Technology	10	10	0%	15-Jun-26	26-Jun-26
A11240	2nd Floor_Area 1 - Hookup Lab Casework - Mechanical	5	5	0%	15-Jun-26	19-Jun-26
A11260	2nd Floor_Area 1 - Hookups for Lab Casework - Plumbing	5	5	0%	15-Jun-26	19-Jun-26
A10450	2nd Floor_Area 1 - Doors/Hardware Install	5	5	0%	22-Jun-26	26-Jun-26
A10460	2nd Floor_Area 1 - Final Paint	15	15	0%	29-Jun-26	20-Jul-26
A11300	2nd Floor_Area 1 - Final Electrical Inspection	5	5	0%	29-Jun-26	06-Jul-26
A10470	2nd Floor_Area 1 - Wall Base Install	5	5	0%	21-Jul-26	27-Jul-26
A10480	2nd Floor_Area 1 - TV Bracket Install	1	1	0%	21-Jul-26	21-Jul-26
Area 3		156	156		15-Jan-26	24-Aug-26
A12550	2nd Floor_Area 3 - Layout/Top Track	5	5	0%	15-Jan-26	21-Jan-26
A13080	2nd Floor_Area 3 - Layout Duct Openings In Wall	2	2	0%	15-Jan-26	16-Jan-26
A13090	2nd Floor_Area 3 - OA/SA Duct Mains	10	10	0%	19-Jan-26	30-Jan-26
A12560	2nd Floor_Area 3 - Frame Priority Walls	8	8	0%	22-Jan-26	02-Feb-26
A12570	2nd Floor_Area 3 - Set Priority Wall Door Frames	2	2	0%	22-Jan-26	23-Jan-26
A12870	2nd Floor_Area 3 - Electrical Feeder Conduit	5	5	0%	22-Jan-26	28-Jan-26
A13220	2nd Floor_Area 3 - SWV/AW/AV Piping Install	5	5	0%	22-Jan-26	28-Jan-26
A12880	2nd Floor_Area 3 - PWR/LGT Homerun Conduit Rough In	10	10	0%	29-Jan-26	11-Feb-26



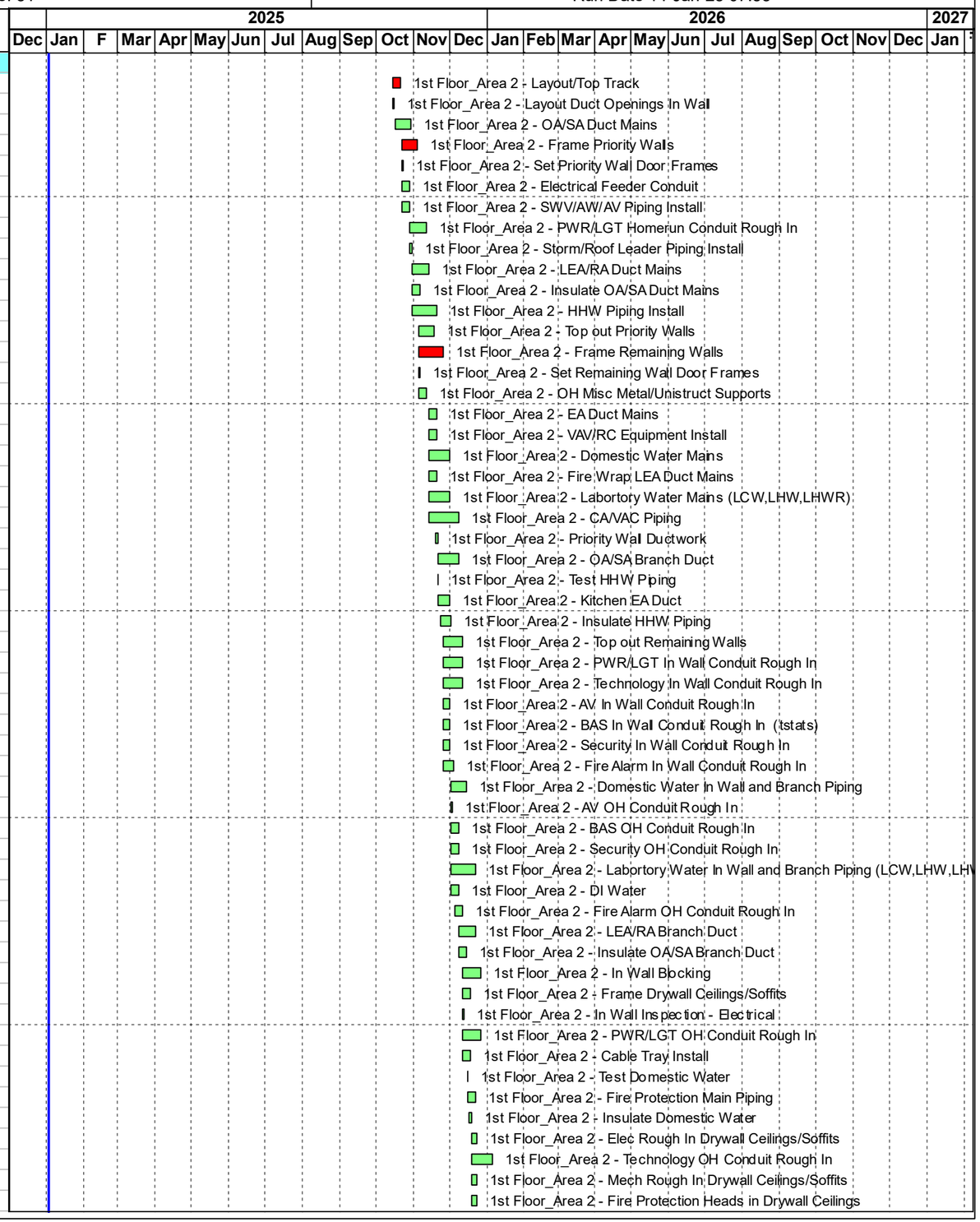
Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
A13270	2nd Floor_Area 3 - Storm/Roof Leader Piping Install	3	3	0%	29-Jan-26	02-Feb-26
A13100	2nd Floor_Area 3 - LEA/RA Duct Mains	10	10	0%	02-Feb-26	13-Feb-26
A13150	2nd Floor_Area 3 - Insulate OA/SA Duct Mains	5	5	0%	02-Feb-26	06-Feb-26
A13190	2nd Floor_Area 3 - HHW Piping Install	15	15	0%	02-Feb-26	20-Feb-26
A12580	2nd Floor_Area 3 - Top out Priority Walls	10	10	0%	03-Feb-26	16-Feb-26
A12590	2nd Floor_Area 3 - Frame Remaining Walls	8	8	0%	03-Feb-26	12-Feb-26
A12600	2nd Floor_Area 3 - Set Remaining Wall Door Frames	2	2	0%	03-Feb-26	04-Feb-26
A13360	2nd Floor_Area 3 - OH Misc Metal/Unistruct Supports	5	5	0%	03-Feb-26	09-Feb-26
A12890	2nd Floor_Area 3 - PWR/LGT In Wall Conduit Rough In	10	10	0%	13-Feb-26	26-Feb-26
A13000	2nd Floor_Area 3 - Technology In Wall Conduit Rough In	10	10	0%	13-Feb-26	26-Feb-26
A13340	2nd Floor_Area 3 - AV In Wall Conduit Rough In	2	2	0%	13-Feb-26	16-Feb-26
A13370	2nd Floor_Area 3 - BAS In Wall Conduit Rough In (tstats)	2	2	0%	13-Feb-26	16-Feb-26
A13420	2nd Floor_Area 3 - Security In Wall Conduit Rough In	2	2	0%	13-Feb-26	16-Feb-26
A13470	2nd Floor_Area 3 - Fire Alarm In Wall Conduit Rough In	5	5	0%	13-Feb-26	19-Feb-26
A13110	2nd Floor_Area 3 - EA Duct Mains	5	5	0%	16-Feb-26	20-Feb-26
A13120	2nd Floor_Area 3 - VAV/RC Equipment Install	5	5	0%	16-Feb-26	20-Feb-26
A13690	2nd Floor_Area 3 - Fire Wrap LEA Duct Mains	5	5	0%	16-Feb-26	20-Feb-26
A12610	2nd Floor_Area 3 - Top out Remaining Walls	10	10	0%	17-Feb-26	02-Mar-26
A13350	2nd Floor_Area 3 - AV OH Conduit Rough In	2	2	0%	17-Feb-26	18-Feb-26
A13430	2nd Floor_Area 3 - Security OH Conduit Rough In	5	5	0%	17-Feb-26	23-Feb-26
A13520	2nd Floor_Area 3 - Priority Wall Ductwork	3	3	0%	17-Feb-26	19-Feb-26
A13230	2nd Floor_Area 3 - Domestic Water Mains	10	10	0%	18-Feb-26	03-Mar-26
A13700	2nd Floor_Area 3 - Labortory Water Mains (LCW,LHW,LHWR)	10	10	0%	18-Feb-26	03-Mar-26
A13720	2nd Floor_Area 3 - CA/VAC Piping	15	15	0%	18-Feb-26	10-Mar-26
A13480	2nd Floor_Area 3 - Fire Alarm OH Conduit Rough In	5	5	0%	20-Feb-26	26-Feb-26
A13130	2nd Floor_Area 3 - OA/SA Branch Duct	10	10	0%	23-Feb-26	06-Mar-26
A13200	2nd Floor_Area 3 - Test HHW Piping	1	1	0%	23-Feb-26	23-Feb-26
A13380	2nd Floor_Area 3 - BAS OH Conduit Rough In	5	5	0%	23-Feb-26	27-Feb-26
A13210	2nd Floor_Area 3 - Insulate HHW Piping	5	5	0%	24-Feb-26	02-Mar-26
A12620	2nd Floor_Area 3 - In Wall Blocking	10	10	0%	27-Feb-26	12-Mar-26
A12970	2nd Floor_Area 3 - In Wall Inspection - Electrical	1	1	0%	27-Feb-26	27-Feb-26
A13020	2nd Floor_Area 3 - PWR/LGT OH Conduit Rough In	10	10	0%	27-Feb-26	12-Mar-26
A13030	2nd Floor_Area 3 - Cable Tray Install	5	5	0%	27-Feb-26	05-Mar-26
A12650	2nd Floor_Area 3 - Frame Drywall Ceilings/Soffits	5	5	0%	03-Mar-26	09-Mar-26
A13240	2nd Floor_Area 3 - Domestic Water In Wall and Branch Piping	15	15	0%	04-Mar-26	24-Mar-26
A13710	2nd Floor_Area 3 - Labortory Water In Wall and Branch Piping (LCW,LHW,LHW	15	15	0%	04-Mar-26	24-Mar-26
A13730	2nd Floor_Area 3 - DI Water	5	5	0%	04-Mar-26	10-Mar-26
A13010	2nd Floor_Area 3 - Technology OH Conduit Rough In	10	10	0%	06-Mar-26	19-Mar-26
A13140	2nd Floor_Area 3 - LEA/RA Branch Duct	10	10	0%	09-Mar-26	20-Mar-26
A13160	2nd Floor_Area 3 - Insulate OA/SA Branch Duct	5	5	0%	09-Mar-26	13-Mar-26
A12940	2nd Floor_Area 3 - Elec Rough In Drywall Ceilings/Soffits	3	3	0%	10-Mar-26	12-Mar-26
A13170	2nd Floor_Area 3 - Mech Rough In Drywall Ceilings/Soffits	3	3	0%	10-Mar-26	12-Mar-26
A13310	2nd Floor_Area 3 - Fire Protection Heads in Drywall Ceilings	3	3	0%	10-Mar-26	12-Mar-26
A12980	2nd Floor_Area 3 - Above Drywall Ceiling Inspection - Electrical	1	1	0%	13-Mar-26	13-Mar-26
A13290	2nd Floor_Area 3 - Fire Protection Main Piping	5	5	0%	16-Mar-26	20-Mar-26
A13540	2nd Floor_Area 3 - UK Above Drywall Ceiling Inspection	1	1	0%	16-Mar-26	16-Mar-26
A12660	2nd Floor_Area 3 - Hang Drywall Ceilings/Soffits	5	5	0%	17-Mar-26	23-Mar-26
A13300	2nd Floor_Area 3 - Fire Protection Branch Piping	10	10	0%	23-Mar-26	03-Apr-26
A12670	2nd Floor_Area 3 - Finish Drywall Ceilings/Soffits	5	5	0%	24-Mar-26	30-Mar-26
A13250	2nd Floor_Area 3 - Test Domestic Water	1	1	0%	25-Mar-26	25-Mar-26
A13260	2nd Floor_Area 3 - Insulate Domestic Water	5	5	0%	26-Mar-26	01-Apr-26
A12690	2nd Floor_Area 3 - Prime/1st Coat Paint Ceilings/Soffits	5	5	0%	31-Mar-26	06-Apr-26
A13530	2nd Floor_Area 3 - UK In Wall Inspection	1	1	0%	02-Apr-26	02-Apr-26
A12630	2nd Floor_Area 3 - Hang Drywall	15	15	0%	03-Apr-26	23-Apr-26
A12910	2nd Floor_Area 3 - Set Electrical Panels/Equipment	2	2	0%	03-Apr-26	06-Apr-26
A13330	2nd Floor_Area 3 - Test Fire Protection Piping	1	1	0%	06-Apr-26	06-Apr-26



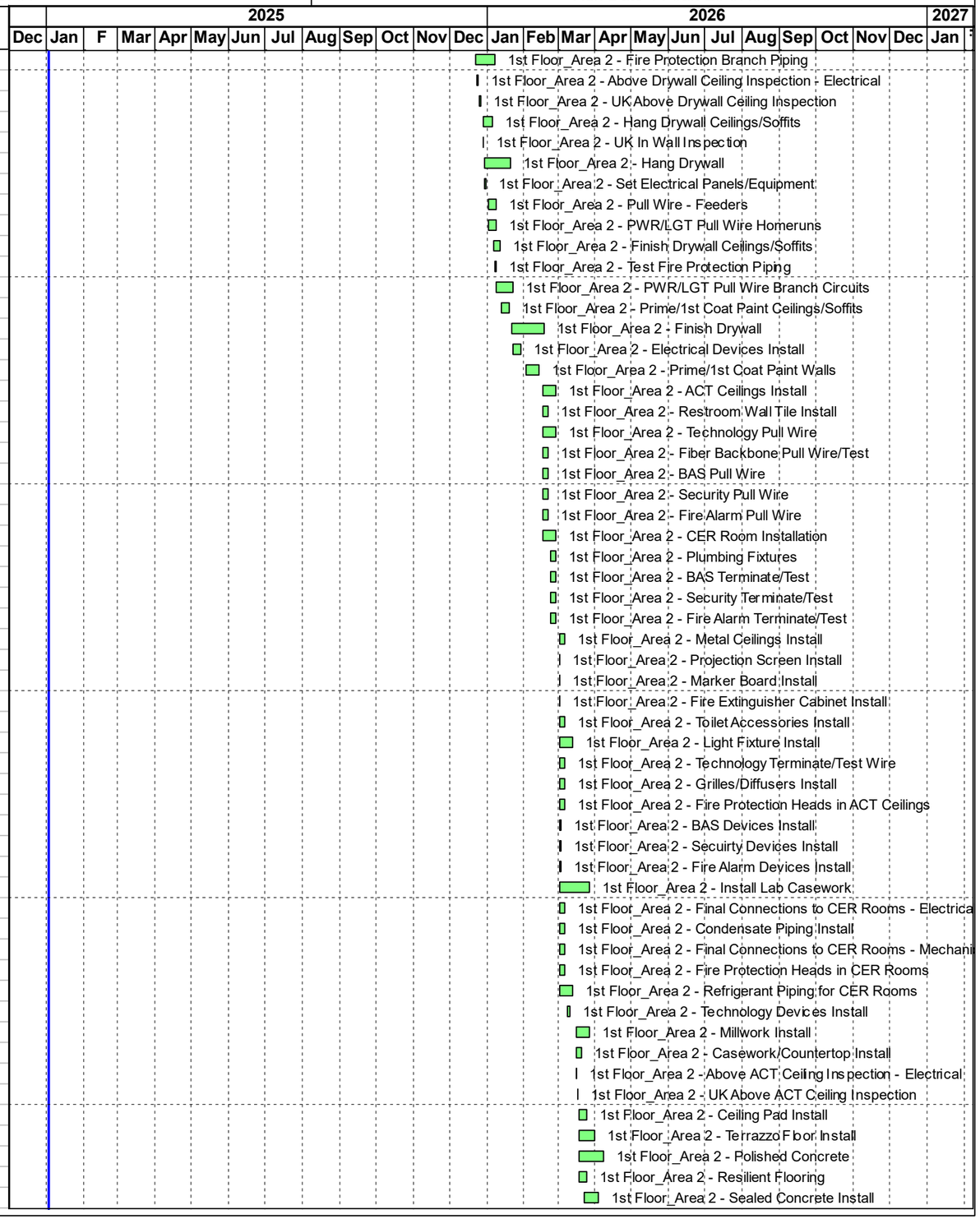
Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
A12900	2nd Floor_Area 3 - Pull Wire - Feeders	5	5	0%	07-Apr-26	13-Apr-26
A12920	2nd Floor_Area 3 - PWR/LGT Pull Wire Homeruns	5	5	0%	07-Apr-26	13-Apr-26
A12930	2nd Floor_Area 3 - PWR/LGT Pull Wire Branch Circuits	10	10	0%	14-Apr-26	27-Apr-26
A12640	2nd Floor_Area 3 - Finish Drywall	20	20	0%	24-Apr-26	21-May-26
A12960	2nd Floor_Area 3 - Electrical Devices Install	5	5	0%	28-Apr-26	04-May-26
A12680	2nd Floor_Area 3 - Prime/1st Coat Paint Walls	10	10	0%	06-May-26	19-May-26
A12700	2nd Floor_Area 3 - ACT Ceilings Install	10	10	0%	20-May-26	03-Jun-26
A12810	2nd Floor_Area 3 - Restroom Wall Tile Install	5	5	0%	20-May-26	27-May-26
A13040	2nd Floor_Area 3 - Technology Pull Wire	10	10	0%	20-May-26	03-Jun-26
A13070	2nd Floor_Area 3 - Fiber Backbone Pull Wire/Test	5	5	0%	20-May-26	27-May-26
A13390	2nd Floor_Area 3 - BAS Pull Wire	5	5	0%	20-May-26	27-May-26
A13440	2nd Floor_Area 3 - Security Pull Wire	5	5	0%	20-May-26	27-May-26
A13490	2nd Floor_Area 3 - Fire Alarm Pull Wire	5	5	0%	20-May-26	27-May-26
A13660	2nd Floor_Area 3 - CER Room Installation	10	10	0%	20-May-26	03-Jun-26
A13280	2nd Floor_Area 3 - Plumbing Fixtures	5	5	0%	28-May-26	03-Jun-26
A13400	2nd Floor_Area 3 - BAS Terminate/Test	5	5	0%	28-May-26	03-Jun-26
A13450	2nd Floor_Area 3 - Security Terminate/Test	5	5	0%	28-May-26	03-Jun-26
A13510	2nd Floor_Area 3 - Fire Alarm Terminate/Test	5	5	0%	28-May-26	03-Jun-26
A12710	2nd Floor_Area 3 - Metal Ceilings Install	5	5	0%	04-Jun-26	10-Jun-26
A12750	2nd Floor_Area 3 - Projection Screen Install	1	1	0%	04-Jun-26	04-Jun-26
A12760	2nd Floor_Area 3 - Marker Board Install	1	1	0%	04-Jun-26	04-Jun-26
A12770	2nd Floor_Area 3 - Fire Extinguisher Cabinet Install	1	1	0%	04-Jun-26	04-Jun-26
A12820	2nd Floor_Area 3 - Toilet Accessories Install	5	5	0%	04-Jun-26	10-Jun-26
A12950	2nd Floor_Area 3 - Light Fixture Install	10	10	0%	04-Jun-26	17-Jun-26
A13050	2nd Floor_Area 3 - Technology Terminate/Test Wire	5	5	0%	04-Jun-26	10-Jun-26
A13180	2nd Floor_Area 3 - Grilles/Diffusers Install	5	5	0%	04-Jun-26	10-Jun-26
A13320	2nd Floor_Area 3 - Fire Protection Heads in ACT Ceilings	5	5	0%	04-Jun-26	10-Jun-26
A13410	2nd Floor_Area 3 - BAS Devices Install	2	2	0%	04-Jun-26	05-Jun-26
A13460	2nd Floor_Area 3 - Secuirty Devices Install	2	2	0%	04-Jun-26	05-Jun-26
A13500	2nd Floor_Area 3 - Fire Alarm Devices Install	2	2	0%	04-Jun-26	05-Jun-26
A13590	2nd Floor_Area 3 - Final Connections to CER Rooms - Electrical	5	5	0%	04-Jun-26	10-Jun-26
A13610	2nd Floor_Area 3 - Condensate Piping Install	5	5	0%	04-Jun-26	10-Jun-26
A13630	2nd Floor_Area 3 - Final Connections to CER Rooms - Mechanical	5	5	0%	04-Jun-26	10-Jun-26
A13650	2nd Floor_Area 3 - Fire Protection Heads in CER Rooms	5	5	0%	04-Jun-26	10-Jun-26
A13670	2nd Floor_Area 3 - Refrigerant Piping for CER Rooms	10	10	0%	04-Jun-26	17-Jun-26
A13060	2nd Floor_Area 3 - Technology Devices Install	2	2	0%	11-Jun-26	12-Jun-26
A13560	2nd Floor_Area 3 - Install Lab Casework	20	20	0%	15-Jun-26	13-Jul-26
A12730	2nd Floor_Area 3 - Millwork Install	10	10	0%	18-Jun-26	01-Jul-26
A12740	2nd Floor_Area 3 - Casework/Countertop Install	5	5	0%	18-Jun-26	24-Jun-26
A12990	2nd Floor_Area 3 - Above ACT Ceiling Inspection - Electrical	1	1	0%	18-Jun-26	18-Jun-26
A13550	2nd Floor_Area 3 - UK Above ACT Ceiling Inspection	1	1	0%	19-Jun-26	19-Jun-26
A12720	2nd Floor_Area 3 - Ceiling Pad Install	5	5	0%	22-Jun-26	26-Jun-26
A12800	2nd Floor_Area 3 - Resilient Floor Install	10	10	0%	22-Jun-26	06-Jul-26
A13570	2nd Floor_Area 3 - Polished Concrete	20	20	0%	24-Jun-26	22-Jul-26
A12790	2nd Floor_Area 3 - Sealed Concrete Install	5	5	0%	25-Jun-26	01-Jul-26
A12780	2nd Floor_Area 3 - Carpet Install	5	5	0%	02-Jul-26	09-Jul-26
A12830	2nd Floor_Area 3 - Doors/Hardware Install	10	10	0%	10-Jul-26	23-Jul-26
A13580	2nd Floor_Area 3 - Hook Up Lab Casework - Electrical	10	10	0%	14-Jul-26	27-Jul-26
A13600	2nd Floor_Area 3 - Hookup Lab Casework - Technology	10	10	0%	14-Jul-26	27-Jul-26
A13620	2nd Floor_Area 3 - Hookup Lab Casework - Mechanical	5	5	0%	14-Jul-26	20-Jul-26
A13640	2nd Floor_Area 3 - Hookups for Lab Casework - Plumbing	10	10	0%	14-Jul-26	27-Jul-26
A12840	2nd Floor_Area 3 - Final Paint	15	15	0%	28-Jul-26	17-Aug-26
A13680	2nd Floor_Area 3 - Final Electrical Inspection	5	5	0%	28-Jul-26	03-Aug-26
A12850	2nd Floor_Area 3 - Wall Base Install	5	5	0%	18-Aug-26	24-Aug-26
A12860	2nd Floor_Area 3 - TV Bracket Install	2	2	0%	18-Aug-26	19-Aug-26
First Floor		292	292		17-Jun-25	10-Aug-26



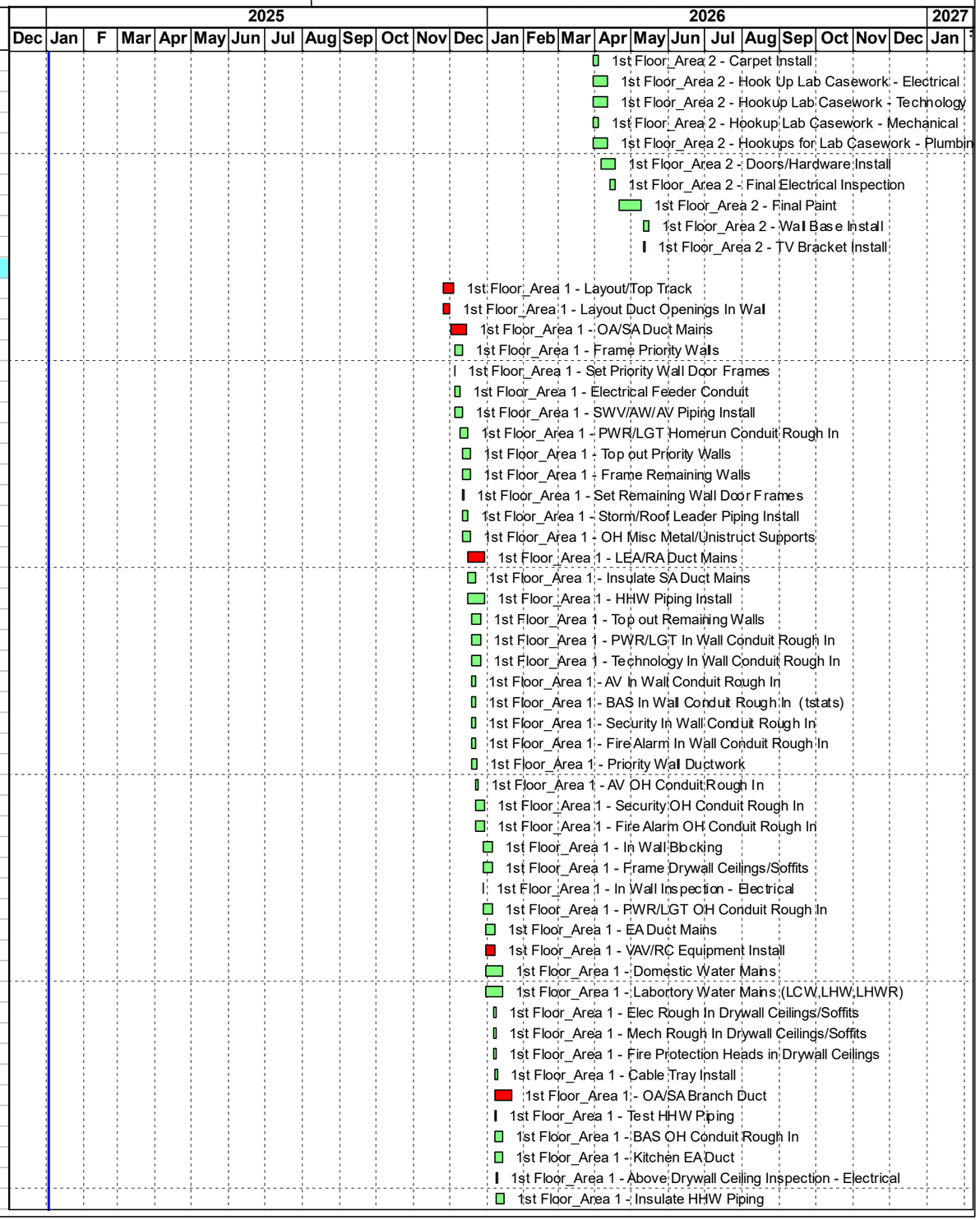
Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
Area 2		149	149		15-Oct-25	15-May-26
A2920	1st Floor_Area 2 - Layout/Top Track	5	5	0%	15-Oct-25	21-Oct-25
A2930	1st Floor_Area 2 - Layout Duct Openings In Wall	2	2	0%	15-Oct-25	16-Oct-25
A2940	1st Floor_Area 2 - OA/SA Duct Mains	10	10	0%	17-Oct-25	30-Oct-25
A2950	1st Floor_Area 2 - Frame Priority Walls	10	10	0%	22-Oct-25	04-Nov-25
A2960	1st Floor_Area 2 - Set Priority Wall Door Frames	2	2	0%	22-Oct-25	23-Oct-25
A2970	1st Floor_Area 2 - Electrical Feeder Conduit	5	5	0%	22-Oct-25	28-Oct-25
A3010	1st Floor_Area 2 - SWV/AW/AV Piping Install	5	5	0%	22-Oct-25	28-Oct-25
A3050	1st Floor_Area 2 - PWR/LGT Homerun Conduit Rough In	10	10	0%	29-Oct-25	11-Nov-25
A3100	1st Floor_Area 2 - Storm/Roof Leader Piping Install	3	3	0%	29-Oct-25	31-Oct-25
A2980	1st Floor_Area 2 - LEA/RA Duct Mains	10	10	0%	31-Oct-25	13-Nov-25
A2990	1st Floor_Area 2 - Insulate OA/SA Duct Mains	5	5	0%	31-Oct-25	06-Nov-25
A3000	1st Floor_Area 2 - HHW Piping Install	15	15	0%	31-Oct-25	20-Nov-25
A3020	1st Floor_Area 2 - Top out Priority Walls	10	10	0%	05-Nov-25	18-Nov-25
A3030	1st Floor_Area 2 - Frame Remaining Walls	15	15	0%	05-Nov-25	25-Nov-25
A3040	1st Floor_Area 2 - Set Remaining Wall Door Frames	2	2	0%	05-Nov-25	06-Nov-25
A3090	1st Floor_Area 2 - OH Misc Metal/Unistruct Supports	5	5	0%	05-Nov-25	11-Nov-25
A3060	1st Floor_Area 2 - EA Duct Mains	5	5	0%	14-Nov-25	20-Nov-25
A3070	1st Floor_Area 2 - VAV/RC Equipment Install	5	5	0%	14-Nov-25	20-Nov-25
A3080	1st Floor_Area 2 - Domestic Water Mains	10	10	0%	14-Nov-25	01-Dec-25
A3370	1st Floor_Area 2 - Fire Wrap LEA Duct Mains	5	5	0%	14-Nov-25	20-Nov-25
A4060	1st Floor_Area 2 - Labortory Water Mains (LCW,LHW,LHWR)	10	10	0%	14-Nov-25	01-Dec-25
A4140	1st Floor_Area 2 - CA/VAC Piping	15	15	0%	14-Nov-25	08-Dec-25
A3240	1st Floor_Area 2 - Priority Wall Ductwork	3	3	0%	19-Nov-25	21-Nov-25
A3180	1st Floor_Area 2 - OA/SA Branch Duct	10	10	0%	21-Nov-25	08-Dec-25
A3260	1st Floor_Area 2 - Test HHW Piping	1	1	0%	21-Nov-25	21-Nov-25
A3250	1st Floor_Area 2 - Kitchen EA Duct	5	5	0%	21-Nov-25	01-Dec-25
A3310	1st Floor_Area 2 - Insulate HHW Piping	5	5	0%	24-Nov-25	02-Dec-25
A3170	1st Floor_Area 2 - Top out Remaining Walls	10	10	0%	26-Nov-25	11-Dec-25
A3110	1st Floor_Area 2 - PWR/LGT In Wall Conduit Rough In	10	10	0%	26-Nov-25	11-Dec-25
A3120	1st Floor_Area 2 - Technology In Wall Conduit Rough In	10	10	0%	26-Nov-25	11-Dec-25
A3130	1st Floor_Area 2 - AV In Wall Conduit Rough In	2	2	0%	26-Nov-25	01-Dec-25
A3140	1st Floor_Area 2 - BAS In Wall Conduit Rough In (tstats)	2	2	0%	26-Nov-25	01-Dec-25
A3150	1st Floor_Area 2 - Security In Wall Conduit Rough In	2	2	0%	26-Nov-25	01-Dec-25
A3160	1st Floor_Area 2 - Fire Alarm In Wall Conduit Rough In	5	5	0%	26-Nov-25	04-Dec-25
A3190	1st Floor_Area 2 - Domestic Water In Wall and Branch Piping	10	10	0%	02-Dec-25	15-Dec-25
A3200	1st Floor_Area 2 - AV OH Conduit Rough In	2	2	0%	02-Dec-25	03-Dec-25
A3210	1st Floor_Area 2 - BAS OH Conduit Rough In	5	5	0%	02-Dec-25	08-Dec-25
A3220	1st Floor_Area 2 - Security OH Conduit Rough In	5	5	0%	02-Dec-25	08-Dec-25
A4130	1st Floor_Area 2 - Labortory Water In Wall and Branch Piping (LCW,LHW,LHWI	15	15	0%	02-Dec-25	22-Dec-25
A4150	1st Floor_Area 2 - DI Water	5	5	0%	02-Dec-25	08-Dec-25
A3230	1st Floor_Area 2 - Fire Alarm OH Conduit Rough In	5	5	0%	05-Dec-25	11-Dec-25
A3340	1st Floor_Area 2 - LEA/RA Branch Duct	10	10	0%	09-Dec-25	22-Dec-25
A3350	1st Floor_Area 2 - Insulate OA/SA Branch Duct	5	5	0%	09-Dec-25	15-Dec-25
A3270	1st Floor_Area 2 - In Wall Blocking	10	10	0%	12-Dec-25	26-Dec-25
A3320	1st Floor_Area 2 - Frame Drywall Ceilings/Soffits	5	5	0%	12-Dec-25	18-Dec-25
A3280	1st Floor_Area 2 - In Wall Inspection - Electrical	1	1	0%	12-Dec-25	12-Dec-25
A3290	1st Floor_Area 2 - PWR/LGT OH Conduit Rough In	10	10	0%	12-Dec-25	26-Dec-25
A3300	1st Floor_Area 2 - Cable Tray Install	5	5	0%	12-Dec-25	18-Dec-25
A3360	1st Floor_Area 2 - Test Domestic Water	1	1	0%	16-Dec-25	16-Dec-25
A3440	1st Floor_Area 2 - Fire Protection Main Piping	5	5	0%	16-Dec-25	22-Dec-25
A3380	1st Floor_Area 2 - Insulate Domestic Water	3	3	0%	17-Dec-25	19-Dec-25
A3420	1st Floor_Area 2 - Elec Rough In Drywall Ceilings/Soffits	3	3	0%	19-Dec-25	23-Dec-25
A3330	1st Floor_Area 2 - Technology OH Conduit Rough In	10	10	0%	19-Dec-25	05-Jan-26
A3430	1st Floor_Area 2 - Mech Rough In Drywall Ceilings/Soffits	3	3	0%	19-Dec-25	23-Dec-25
A3450	1st Floor_Area 2 - Fire Protection Heads in Drywall Ceilings	3	3	0%	19-Dec-25	23-Dec-25



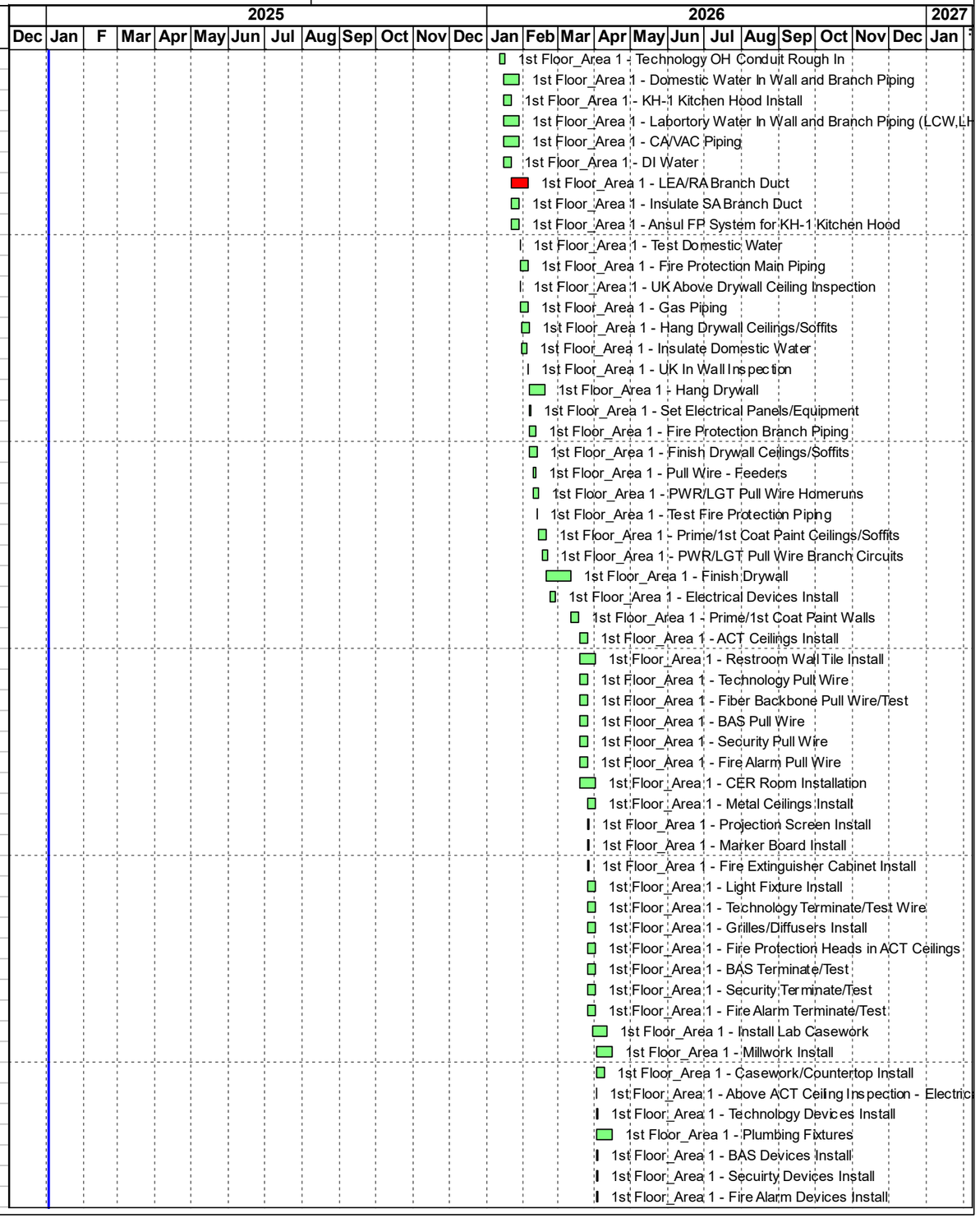
Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
A3530	1st Floor_Area 2 - Fire Protection Branch Piping	10	10	0%	23-Dec-25	07-Jan-26
A3490	1st Floor_Area 2 - Above Drywall Ceiling Inspection - Electrical	1	1	0%	24-Dec-25	24-Dec-25
A3500	1st Floor_Area 2 - UK Above Drywall Ceiling Inspection	1	1	0%	26-Dec-25	26-Dec-25
A3520	1st Floor_Area 2 - Hang Drywall Ceilings/Soffits	5	5	0%	29-Dec-25	05-Jan-26
A3390	1st Floor_Area 2 - UK In Wall Inspection	1	1	0%	29-Dec-25	29-Dec-25
A3400	1st Floor_Area 2 - Hang Drywall	15	15	0%	30-Dec-25	20-Jan-26
A3410	1st Floor_Area 2 - Set Electrical Panels/Equipment	2	2	0%	30-Dec-25	31-Dec-25
A3470	1st Floor_Area 2 - Pull Wire - Feeders	5	5	0%	02-Jan-26	08-Jan-26
A3480	1st Floor_Area 2 - PWR/LGT Pull Wire Homeruns	5	5	0%	02-Jan-26	08-Jan-26
A3550	1st Floor_Area 2 - Finish Drywall Ceilings/Soffits	5	5	0%	06-Jan-26	12-Jan-26
A3560	1st Floor_Area 2 - Test Fire Protection Piping	1	1	0%	08-Jan-26	08-Jan-26
A3540	1st Floor_Area 2 - PWR/LGT Pull Wire Branch Circuits	10	10	0%	09-Jan-26	22-Jan-26
A3590	1st Floor_Area 2 - Prime/1st Coat Paint Ceilings/Soffits	5	5	0%	13-Jan-26	19-Jan-26
A3510	1st Floor_Area 2 - Finish Drywall	20	20	0%	21-Jan-26	17-Feb-26
A3570	1st Floor_Area 2 - Electrical Devices Install	5	5	0%	23-Jan-26	29-Jan-26
A3580	1st Floor_Area 2 - Prime/1st Coat Paint Walls	10	10	0%	02-Feb-26	13-Feb-26
A3600	1st Floor_Area 2 - ACT Ceilings Install	10	10	0%	16-Feb-26	27-Feb-26
A3610	1st Floor_Area 2 - Restroom Wall Tile Install	5	5	0%	16-Feb-26	20-Feb-26
A3620	1st Floor_Area 2 - Technology Pull Wire	10	10	0%	16-Feb-26	27-Feb-26
A3630	1st Floor_Area 2 - Fiber Backbone Pull Wire/Test	5	5	0%	16-Feb-26	20-Feb-26
A3640	1st Floor_Area 2 - BAS Pull Wire	5	5	0%	16-Feb-26	20-Feb-26
A3650	1st Floor_Area 2 - Security Pull Wire	5	5	0%	16-Feb-26	20-Feb-26
A3660	1st Floor_Area 2 - Fire Alarm Pull Wire	5	5	0%	16-Feb-26	20-Feb-26
A3670	1st Floor_Area 2 - CER Room Installation	10	10	0%	16-Feb-26	27-Feb-26
A3890	1st Floor_Area 2 - Plumbing Fixtures	5	5	0%	23-Feb-26	27-Feb-26
A3760	1st Floor_Area 2 - BAS Terminate/Test	5	5	0%	23-Feb-26	27-Feb-26
A3770	1st Floor_Area 2 - Security Terminate/Test	5	5	0%	23-Feb-26	27-Feb-26
A3780	1st Floor_Area 2 - Fire Alarm Terminate/Test	5	5	0%	23-Feb-26	27-Feb-26
A3680	1st Floor_Area 2 - Metal Ceilings Install	5	5	0%	02-Mar-26	06-Mar-26
A3690	1st Floor_Area 2 - Projection Screen Install	1	1	0%	02-Mar-26	02-Mar-26
A3700	1st Floor_Area 2 - Marker Board Install	1	1	0%	02-Mar-26	02-Mar-26
A3710	1st Floor_Area 2 - Fire Extinguisher Cabinet Install	1	1	0%	02-Mar-26	02-Mar-26
A4080	1st Floor_Area 2 - Toilet Accessories Install	5	5	0%	02-Mar-26	06-Mar-26
A3720	1st Floor_Area 2 - Light Fixture Install	10	10	0%	02-Mar-26	13-Mar-26
A3730	1st Floor_Area 2 - Technology Terminate/Test Wire	5	5	0%	02-Mar-26	06-Mar-26
A3740	1st Floor_Area 2 - Grilles/Diffusers Install	5	5	0%	02-Mar-26	06-Mar-26
A3750	1st Floor_Area 2 - Fire Protection Heads in ACT Ceilings	5	5	0%	02-Mar-26	06-Mar-26
A3900	1st Floor_Area 2 - BAS Devices Install	2	2	0%	02-Mar-26	03-Mar-26
A3910	1st Floor_Area 2 - Secuirty Devices Install	2	2	0%	02-Mar-26	03-Mar-26
A3920	1st Floor_Area 2 - Fire Alarm Devices Install	2	2	0%	02-Mar-26	03-Mar-26
A3790	1st Floor_Area 2 - Install Lab Casework	20	20	0%	02-Mar-26	27-Mar-26
A3800	1st Floor_Area 2 - Final Connections to CER Rooms - Electrical	5	5	0%	02-Mar-26	06-Mar-26
A3810	1st Floor_Area 2 - Condensate Piping Install	5	5	0%	02-Mar-26	06-Mar-26
A3820	1st Floor_Area 2 - Final Connections to CER Rooms - Mechanical	5	5	0%	02-Mar-26	06-Mar-26
A3830	1st Floor_Area 2 - Fire Protection Heads in CER Rooms	5	5	0%	02-Mar-26	06-Mar-26
A3840	1st Floor_Area 2 - Refrigerant Piping for CER Rooms	10	10	0%	02-Mar-26	13-Mar-26
A3880	1st Floor_Area 2 - Technology Devices Install	2	2	0%	09-Mar-26	10-Mar-26
A3850	1st Floor_Area 2 - Millwork Install	10	10	0%	16-Mar-26	27-Mar-26
A3860	1st Floor_Area 2 - Casework/Countertop Install	5	5	0%	16-Mar-26	20-Mar-26
A3870	1st Floor_Area 2 - Above ACT Ceiling Inspection - Electrical	1	1	0%	16-Mar-26	16-Mar-26
A3970	1st Floor_Area 2 - UK Above ACT Ceiling Inspection	1	1	0%	17-Mar-26	17-Mar-26
A3980	1st Floor_Area 2 - Ceiling Pad Install	5	5	0%	18-Mar-26	24-Mar-26
A4000	1st Floor_Area 2 - Terrazzo Floor Install	10	10	0%	18-Mar-26	31-Mar-26
A4010	1st Floor_Area 2 - Polished Concrete	15	15	0%	18-Mar-26	07-Apr-26
A4020	1st Floor_Area 2 - Resilient Flooring	5	5	0%	18-Mar-26	24-Mar-26
A4030	1st Floor_Area 2 - Sealed Concrete Install	10	10	0%	23-Mar-26	03-Apr-26



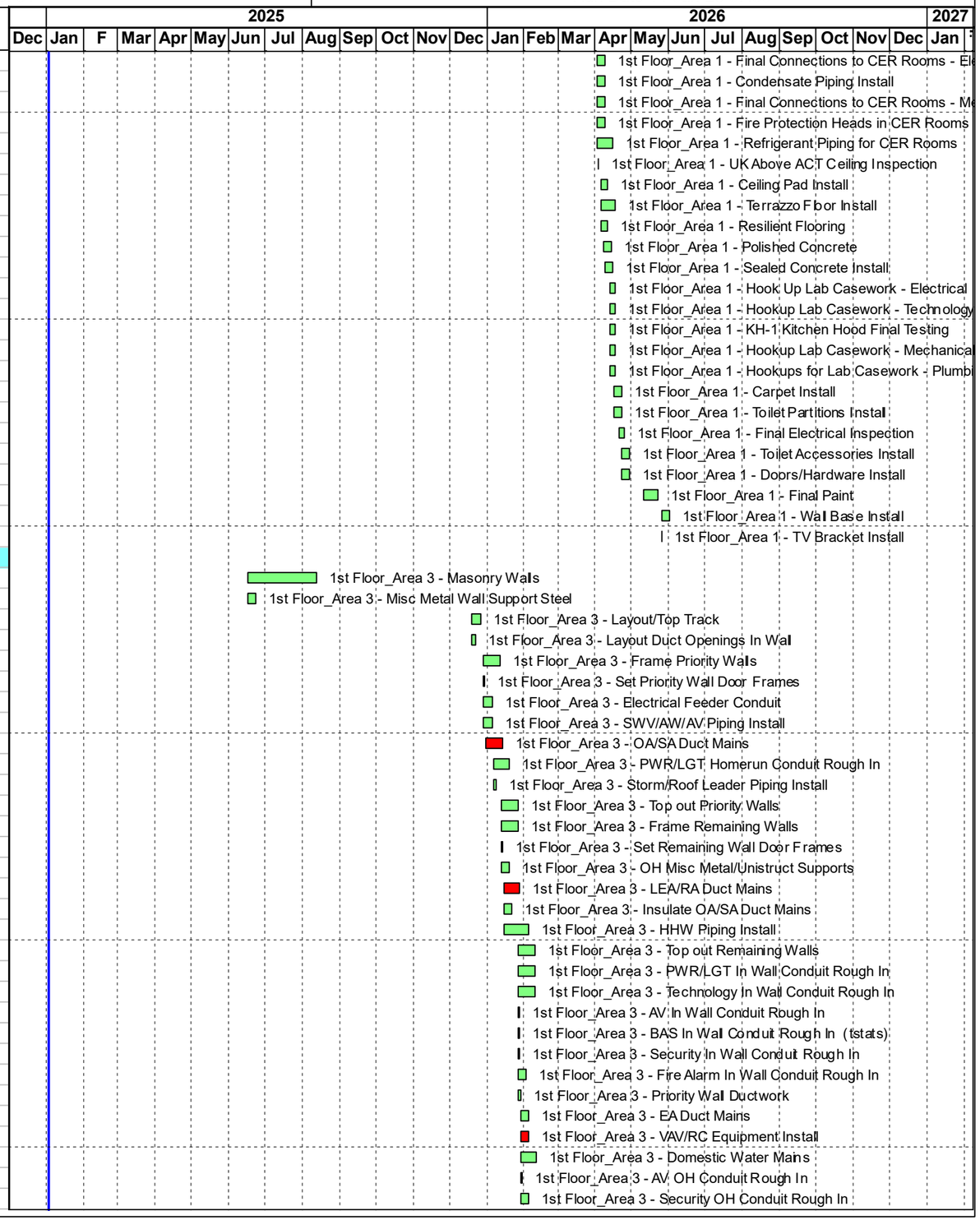
Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
A4070	1st Floor_Area 2 - Carpet Install	5	5	0%	30-Mar-26	03-Apr-26
A3930	1st Floor_Area 2 - Hook Up Lab Casework - Electrical	10	10	0%	30-Mar-26	10-Apr-26
A3940	1st Floor_Area 2 - Hookup Lab Casework - Technology	10	10	0%	30-Mar-26	10-Apr-26
A3950	1st Floor_Area 2 - Hookup Lab Casework - Mechanical	5	5	0%	30-Mar-26	03-Apr-26
A3960	1st Floor_Area 2 - Hookups for Lab Casework - Plumbing	10	10	0%	30-Mar-26	10-Apr-26
A4090	1st Floor_Area 2 - Doors/Hardware Install	10	10	0%	06-Apr-26	17-Apr-26
A4050	1st Floor_Area 2 - Final Electrical Inspection	5	5	0%	13-Apr-26	17-Apr-26
A4100	1st Floor_Area 2 - Final Paint	15	15	0%	20-Apr-26	08-May-26
A4110	1st Floor_Area 2 - Wall Base Install	5	5	0%	11-May-26	15-May-26
A4120	1st Floor_Area 2 - TV Bracket Install	2	2	0%	11-May-26	12-May-26
Area 1		129	129		26-Nov-25	01-Jun-26
A1710	1st Floor_Area 1 - Layout/Top Track	5	5	0%	26-Nov-25	04-Dec-25
A1720	1st Floor_Area 1 - Layout Duct Openings In Wall	2	2	0%	26-Nov-25	01-Dec-25
A2030	1st Floor_Area 1 - OA/SA Duct Mains	10	10	0%	02-Dec-25	15-Dec-25
A1730	1st Floor_Area 1 - Frame Priority Walls	5	5	0%	05-Dec-25	11-Dec-25
A1740	1st Floor_Area 1 - Set Priority Wall Door Frames	1	1	0%	05-Dec-25	05-Dec-25
A1750	1st Floor_Area 1 - Electrical Feeder Conduit	3	3	0%	05-Dec-25	09-Dec-25
A1760	1st Floor_Area 1 - SWV/AW/AV Piping Install	5	5	0%	05-Dec-25	11-Dec-25
A1800	1st Floor_Area 1 - PWR/LGT Homerun Conduit Rough In	5	5	0%	10-Dec-25	16-Dec-25
A1770	1st Floor_Area 1 - Top out Priority Walls	5	5	0%	12-Dec-25	18-Dec-25
A1780	1st Floor_Area 1 - Frame Remaining Walls	5	5	0%	12-Dec-25	18-Dec-25
A1790	1st Floor_Area 1 - Set Remaining Wall Door Frames	1	1	0%	12-Dec-25	12-Dec-25
A1840	1st Floor_Area 1 - Storm/Roof Leader Piping Install	3	3	0%	12-Dec-25	16-Dec-25
A1820	1st Floor_Area 1 - OH Misc Metal/Unistruct Supports	5	5	0%	12-Dec-25	18-Dec-25
A2110	1st Floor_Area 1 - LEA/RA Duct Mains	10	10	0%	16-Dec-25	30-Dec-25
A2120	1st Floor_Area 1 - Insulate SA Duct Mains	5	5	0%	16-Dec-25	22-Dec-25
A2140	1st Floor_Area 1 - HHW Piping Install	10	10	0%	16-Dec-25	30-Dec-25
A1850	1st Floor_Area 1 - Top out Remaining Walls	5	5	0%	19-Dec-25	26-Dec-25
A1860	1st Floor_Area 1 - PWR/LGT In Wall Conduit Rough In	5	5	0%	19-Dec-25	26-Dec-25
A1870	1st Floor_Area 1 - Technology In Wall Conduit Rough In	5	5	0%	19-Dec-25	26-Dec-25
A1880	1st Floor_Area 1 - AV In Wall Conduit Rough In	2	2	0%	19-Dec-25	22-Dec-25
A1890	1st Floor_Area 1 - BAS In Wall Conduit Rough In (tstats)	2	2	0%	19-Dec-25	22-Dec-25
A1900	1st Floor_Area 1 - Security In Wall Conduit Rough In	2	2	0%	19-Dec-25	22-Dec-25
A1910	1st Floor_Area 1 - Fire Alarm In Wall Conduit Rough In	2	2	0%	19-Dec-25	22-Dec-25
A1970	1st Floor_Area 1 - Priority Wall Ductwork	3	3	0%	19-Dec-25	23-Dec-25
A1930	1st Floor_Area 1 - AV OH Conduit Rough In	2	2	0%	23-Dec-25	24-Dec-25
A1950	1st Floor_Area 1 - Security OH Conduit Rough In	5	5	0%	23-Dec-25	30-Dec-25
A1960	1st Floor_Area 1 - Fire Alarm OH Conduit Rough In	5	5	0%	23-Dec-25	30-Dec-25
A1980	1st Floor_Area 1 - In Wall Blocking	5	5	0%	29-Dec-25	05-Jan-26
A1990	1st Floor_Area 1 - Frame Drywall Ceilings/Soffits	5	5	0%	29-Dec-25	05-Jan-26
A2000	1st Floor_Area 1 - In Wall Inspection - Electrical	1	1	0%	29-Dec-25	29-Dec-25
A2010	1st Floor_Area 1 - PWR/LGT OH Conduit Rough In	5	5	0%	29-Dec-25	05-Jan-26
A2220	1st Floor_Area 1 - EA Duct Mains	5	5	0%	31-Dec-25	07-Jan-26
A2230	1st Floor_Area 1 - VAV/RC Equipment Install	5	5	0%	31-Dec-25	07-Jan-26
A2240	1st Floor_Area 1 - Domestic Water Mains	10	10	0%	31-Dec-25	14-Jan-26
A4170	1st Floor_Area 1 - Labortory Water Mains (LCW,LHW,LHWR)	10	10	0%	31-Dec-25	14-Jan-26
A2100	1st Floor_Area 1 - Elec Rough In Drywall Ceilings/Soffits	3	3	0%	06-Jan-26	08-Jan-26
A2130	1st Floor_Area 1 - Mech Rough In Drywall Ceilings/Soffits	3	3	0%	06-Jan-26	08-Jan-26
A2150	1st Floor_Area 1 - Fire Protection Heads in Drywall Ceilings	3	3	0%	06-Jan-26	08-Jan-26
A2020	1st Floor_Area 1 - Cable Tray Install	2	2	0%	08-Jan-26	09-Jan-26
A2270	1st Floor_Area 1 - OA/SA Branch Duct	10	10	0%	08-Jan-26	21-Jan-26
A2280	1st Floor_Area 1 - Test HHW Piping	1	1	0%	08-Jan-26	08-Jan-26
A1940	1st Floor_Area 1 - BAS OH Conduit Rough In	5	5	0%	08-Jan-26	14-Jan-26
A2800	1st Floor_Area 1 - Kitchen EA Duct	5	5	0%	08-Jan-26	14-Jan-26
A2200	1st Floor_Area 1 - Above Drywall Ceiling Inspection - Electrical	1	1	0%	09-Jan-26	09-Jan-26
A2300	1st Floor_Area 1 - Insulate HHW Piping	5	5	0%	09-Jan-26	15-Jan-26



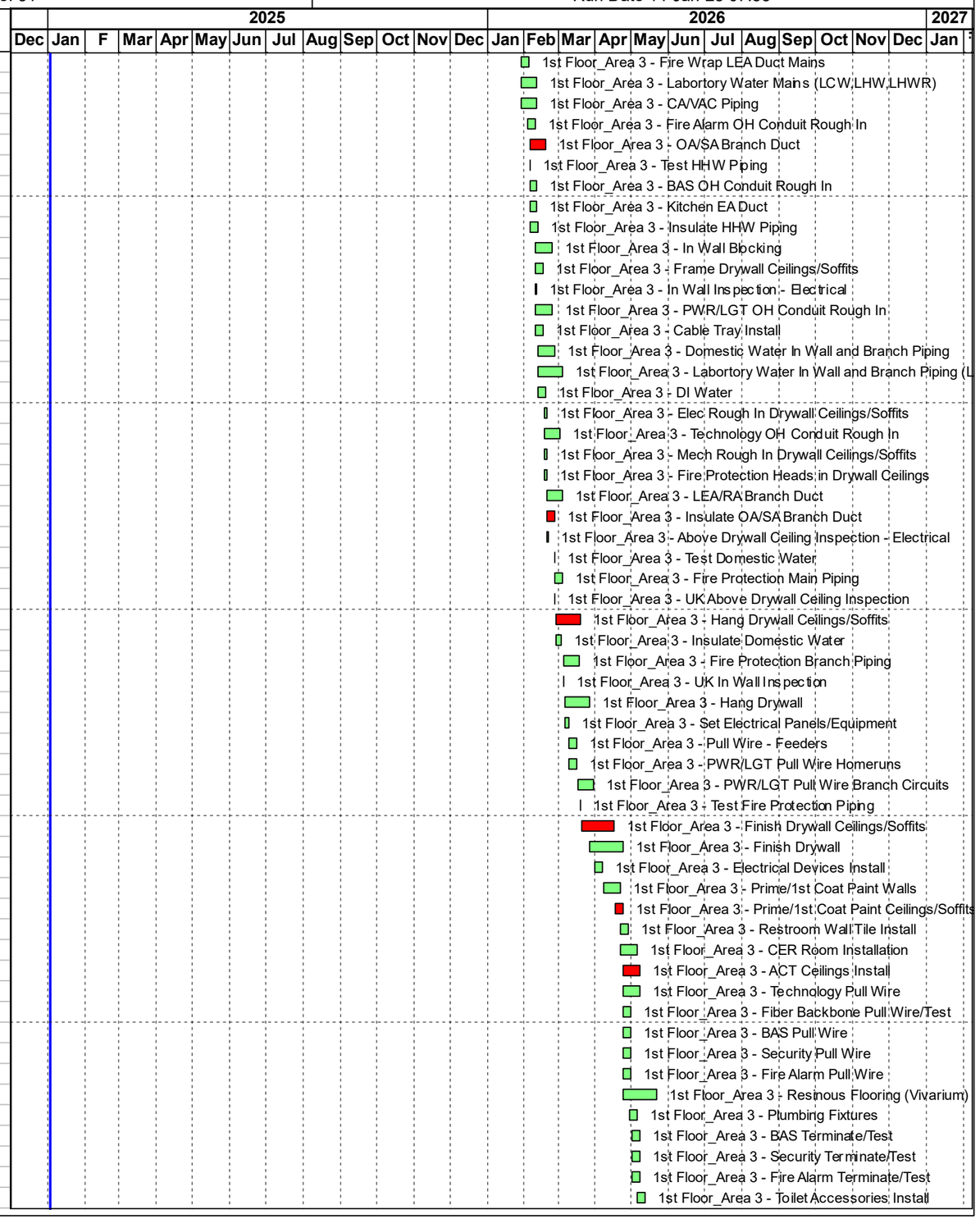
Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
A2040	1st Floor_Area 1 - Technology OH Conduit Rough In	5	5	0%	12-Jan-26	16-Jan-26
A2290	1st Floor_Area 1 - Domestic Water In Wall and Branch Piping	10	10	0%	15-Jan-26	28-Jan-26
A2790	1st Floor_Area 1 - KH-1 Kitchen Hood Install	5	5	0%	15-Jan-26	21-Jan-26
A4190	1st Floor_Area 1 - Labortory Water In Wall and Branch Piping (LCW,LHW,LHWI	10	10	0%	15-Jan-26	28-Jan-26
A4180	1st Floor_Area 1 - CA/VAC Piping	10	10	0%	15-Jan-26	28-Jan-26
A4200	1st Floor_Area 1 - DI Water	5	5	0%	15-Jan-26	21-Jan-26
A2320	1st Floor_Area 1 - LEA/RA Branch Duct	10	10	0%	22-Jan-26	04-Feb-26
A2330	1st Floor_Area 1 - Insulate SA Branch Duct	5	5	0%	22-Jan-26	28-Jan-26
A2860	1st Floor_Area 1 - Ansul FP System for KH-1 Kitchen Hood	5	5	0%	22-Jan-26	28-Jan-26
A2340	1st Floor_Area 1 - Test Domestic Water	1	1	0%	29-Jan-26	29-Jan-26
A2380	1st Floor_Area 1 - Fire Protection Main Piping	5	5	0%	29-Jan-26	04-Feb-26
A2390	1st Floor_Area 1 - UK Above Drywall Ceiling Inspection	1	1	0%	29-Jan-26	29-Jan-26
A4160	1st Floor_Area 1 - Gas Piping	5	5	0%	29-Jan-26	04-Feb-26
A2400	1st Floor_Area 1 - Hang Drywall Ceilings/Soffits	5	5	0%	30-Jan-26	05-Feb-26
A2350	1st Floor_Area 1 - Insulate Domestic Water	3	3	0%	30-Jan-26	03-Feb-26
A2360	1st Floor_Area 1 - UK In Wall Inspection	1	1	0%	04-Feb-26	04-Feb-26
A2370	1st Floor_Area 1 - Hang Drywall	10	10	0%	05-Feb-26	18-Feb-26
A1810	1st Floor_Area 1 - Set Electrical Panels/Equipment	2	2	0%	05-Feb-26	06-Feb-26
A2420	1st Floor_Area 1 - Fire Protection Branch Piping	5	5	0%	05-Feb-26	11-Feb-26
A2430	1st Floor_Area 1 - Finish Drywall Ceilings/Soffits	5	5	0%	06-Feb-26	12-Feb-26
A1830	1st Floor_Area 1 - Pull Wire - Feeders	3	3	0%	09-Feb-26	11-Feb-26
A1920	1st Floor_Area 1 - PWR/LGT Pull Wire Homeruns	5	5	0%	09-Feb-26	13-Feb-26
A2440	1st Floor_Area 1 - Test Fire Protection Piping	1	1	0%	12-Feb-26	12-Feb-26
A2450	1st Floor_Area 1 - Prime/1st Coat Paint Ceilings/Soffits	5	5	0%	13-Feb-26	19-Feb-26
A2090	1st Floor_Area 1 - PWR/LGT Pull Wire Branch Circuits	5	5	0%	16-Feb-26	20-Feb-26
A2410	1st Floor_Area 1 - Finish Drywall	15	15	0%	19-Feb-26	11-Mar-26
A2210	1st Floor_Area 1 - Electrical Devices Install	5	5	0%	23-Feb-26	27-Feb-26
A2460	1st Floor_Area 1 - Prime/1st Coat Paint Walls	5	5	0%	12-Mar-26	18-Mar-26
A2470	1st Floor_Area 1 - ACT Ceilings Install	5	5	0%	19-Mar-26	25-Mar-26
A2480	1st Floor_Area 1 - Restroom Wall Tile Install	10	10	0%	19-Mar-26	01-Apr-26
A2160	1st Floor_Area 1 - Technology Pull Wire	5	5	0%	19-Mar-26	25-Mar-26
A2050	1st Floor_Area 1 - Fiber Backbone Pull Wire/Test	5	5	0%	19-Mar-26	25-Mar-26
A2060	1st Floor_Area 1 - BAS Pull Wire	5	5	0%	19-Mar-26	25-Mar-26
A2070	1st Floor_Area 1 - Security Pull Wire	5	5	0%	19-Mar-26	25-Mar-26
A2080	1st Floor_Area 1 - Fire Alarm Pull Wire	5	5	0%	19-Mar-26	25-Mar-26
A2880	1st Floor_Area 1 - CER Room Installation	10	10	0%	19-Mar-26	01-Apr-26
A2510	1st Floor_Area 1 - Metal Ceilings Install	5	5	0%	26-Mar-26	01-Apr-26
A2520	1st Floor_Area 1 - Projection Screen Install	1	1	0%	26-Mar-26	26-Mar-26
A2530	1st Floor_Area 1 - Marker Board Install	1	1	0%	26-Mar-26	26-Mar-26
A2540	1st Floor_Area 1 - Fire Extinguisher Cabinet Install	1	1	0%	26-Mar-26	26-Mar-26
A2550	1st Floor_Area 1 - Light Fixture Install	5	5	0%	26-Mar-26	01-Apr-26
A2250	1st Floor_Area 1 - Technology Terminate/Test Wire	5	5	0%	26-Mar-26	01-Apr-26
A2560	1st Floor_Area 1 - Grilles/Diffusers Install	5	5	0%	26-Mar-26	01-Apr-26
A2570	1st Floor_Area 1 - Fire Protection Heads in ACT Ceilings	5	5	0%	26-Mar-26	01-Apr-26
A2170	1st Floor_Area 1 - BAS Terminate/Test	5	5	0%	26-Mar-26	01-Apr-26
A2180	1st Floor_Area 1 - Security Terminate/Test	5	5	0%	26-Mar-26	01-Apr-26
A2190	1st Floor_Area 1 - Fire Alarm Terminate/Test	5	5	0%	26-Mar-26	01-Apr-26
A2740	1st Floor_Area 1 - Install Lab Casework	10	10	0%	30-Mar-26	10-Apr-26
A2580	1st Floor_Area 1 - Millwork Install	10	10	0%	02-Apr-26	15-Apr-26
A2590	1st Floor_Area 1 - Casework/Countertop Install	5	5	0%	02-Apr-26	08-Apr-26
A2600	1st Floor_Area 1 - Above ACT Ceiling Inspection - Electrical	1	1	0%	02-Apr-26	02-Apr-26
A2310	1st Floor_Area 1 - Technology Devices Install	2	2	0%	02-Apr-26	03-Apr-26
A2610	1st Floor_Area 1 - Plumbing Fixtures	10	10	0%	02-Apr-26	15-Apr-26
A2260	1st Floor_Area 1 - BAS Devices Install	2	2	0%	02-Apr-26	03-Apr-26
A2490	1st Floor_Area 1 - Secuirty Devices Install	2	2	0%	02-Apr-26	03-Apr-26
A2500	1st Floor_Area 1 - Fire Alarm Devices Install	2	2	0%	02-Apr-26	03-Apr-26



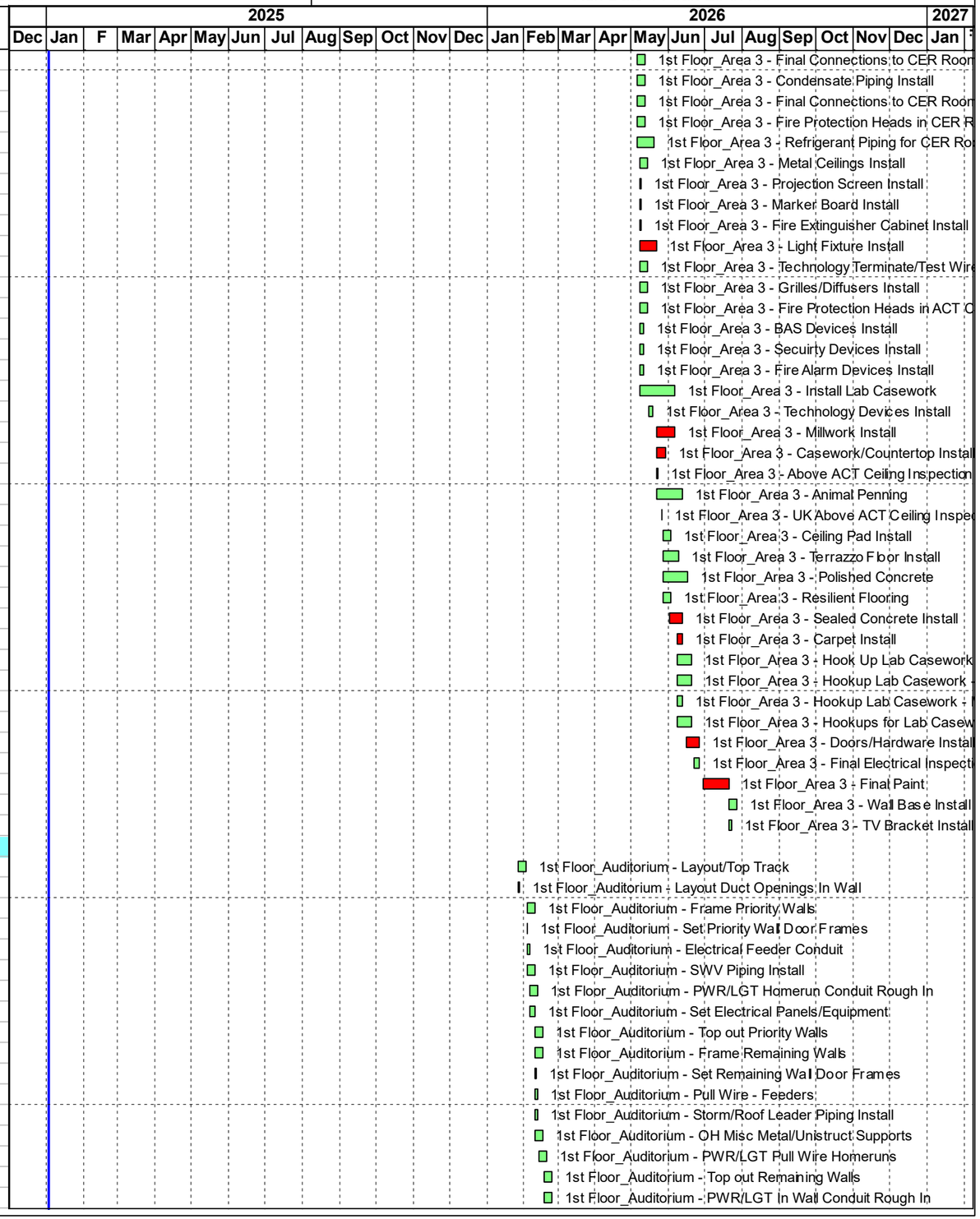
Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
A2770	1st Floor_Area 1 - Final Connections to CER Rooms - Electrical	5	5	0%	02-Apr-26	08-Apr-26
A2810	1st Floor_Area 1 - Condensate Piping Install	5	5	0%	02-Apr-26	08-Apr-26
A2840	1st Floor_Area 1 - Final Connections to CER Rooms - Mechanical	5	5	0%	02-Apr-26	08-Apr-26
A2870	1st Floor_Area 1 - Fire Protection Heads in CER Rooms	5	5	0%	02-Apr-26	08-Apr-26
A2890	1st Floor_Area 1 - Refrigerant Piping for CER Rooms	10	10	0%	02-Apr-26	15-Apr-26
A2620	1st Floor_Area 1 - UK Above ACT Ceiling Inspection	1	1	0%	03-Apr-26	03-Apr-26
A2630	1st Floor_Area 1 - Ceiling Pad Install	5	5	0%	06-Apr-26	10-Apr-26
A2650	1st Floor_Area 1 - Terrazzo Floor Install	10	10	0%	06-Apr-26	17-Apr-26
A2900	1st Floor_Area 1 - Resilient Flooring	5	5	0%	06-Apr-26	10-Apr-26
A2750	1st Floor_Area 1 - Polished Concrete	5	5	0%	08-Apr-26	14-Apr-26
A2660	1st Floor_Area 1 - Sealed Concrete Install	5	5	0%	09-Apr-26	15-Apr-26
A2760	1st Floor_Area 1 - Hook Up Lab Casework - Electrical	5	5	0%	13-Apr-26	17-Apr-26
A2780	1st Floor_Area 1 - Hookup Lab Casework - Technology	5	5	0%	13-Apr-26	17-Apr-26
A2820	1st Floor_Area 1 - KH-1 Kitchen Hood Final Testing	5	5	0%	13-Apr-26	17-Apr-26
A2830	1st Floor_Area 1 - Hookup Lab Casework - Mechanical	5	5	0%	13-Apr-26	17-Apr-26
A2850	1st Floor_Area 1 - Hookups for Lab Casework - Plumbing	5	5	0%	13-Apr-26	17-Apr-26
A2680	1st Floor_Area 1 - Carpet Install	5	5	0%	16-Apr-26	22-Apr-26
A2670	1st Floor_Area 1 - Toilet Partitions Install	5	5	0%	16-Apr-26	22-Apr-26
A2910	1st Floor_Area 1 - Final Electrical Inspection	5	5	0%	20-Apr-26	24-Apr-26
A2690	1st Floor_Area 1 - Toilet Accessories Install	5	5	0%	23-Apr-26	29-Apr-26
A2700	1st Floor_Area 1 - Doors/Hardware Install	5	5	0%	23-Apr-26	29-Apr-26
A2710	1st Floor_Area 1 - Final Paint	10	10	0%	11-May-26	22-May-26
A2720	1st Floor_Area 1 - Wall Base Install	5	5	0%	26-May-26	01-Jun-26
A2730	1st Floor_Area 1 - TV Bracket Install	1	1	0%	26-May-26	26-May-26
Area 3		282	282		17-Jun-25	27-Jul-26
A5420	1st Floor_Area 3 - Masonry Walls	40	40	0%	17-Jun-25	12-Aug-25
A5440	1st Floor_Area 3 - Misc Metal Wall Support Steel	5	5	0%	17-Jun-25	23-Jun-25
A4210	1st Floor_Area 3 - Layout/Top Track	5	5	0%	19-Dec-25	26-Dec-25
A4220	1st Floor_Area 3 - Layout Duct Openings In Wall	2	2	0%	19-Dec-25	22-Dec-25
A4240	1st Floor_Area 3 - Frame Priority Walls	10	10	0%	29-Dec-25	12-Jan-26
A4250	1st Floor_Area 3 - Set Priority Wall Door Frames	2	2	0%	29-Dec-25	30-Dec-25
A4260	1st Floor_Area 3 - Electrical Feeder Conduit	5	5	0%	29-Dec-25	05-Jan-26
A4270	1st Floor_Area 3 - SWV/AW/AV Piping Install	5	5	0%	29-Dec-25	05-Jan-26
A4230	1st Floor_Area 3 - OA/SA Duct Mains	10	10	0%	31-Dec-25	14-Jan-26
A4340	1st Floor_Area 3 - PWR/LGT Homerun Conduit Rough In	10	10	0%	06-Jan-26	19-Jan-26
A4350	1st Floor_Area 3 - Storm/Roof Leader Piping Install	3	3	0%	06-Jan-26	08-Jan-26
A4310	1st Floor_Area 3 - Top out Priority Walls	10	10	0%	13-Jan-26	26-Jan-26
A4320	1st Floor_Area 3 - Frame Remaining Walls	10	10	0%	13-Jan-26	26-Jan-26
A4330	1st Floor_Area 3 - Set Remaining Wall Door Frames	2	2	0%	13-Jan-26	14-Jan-26
A4360	1st Floor_Area 3 - OH Misc Metal/Unistruct Supports	5	5	0%	13-Jan-26	19-Jan-26
A4280	1st Floor_Area 3 - LEA/RA Duct Mains	10	10	0%	15-Jan-26	28-Jan-26
A4290	1st Floor_Area 3 - Insulate OA/SA Duct Mains	5	5	0%	15-Jan-26	21-Jan-26
A4300	1st Floor_Area 3 - HHW Piping Install	15	15	0%	15-Jan-26	04-Feb-26
A4430	1st Floor_Area 3 - Top out Remaining Walls	10	10	0%	27-Jan-26	09-Feb-26
A4440	1st Floor_Area 3 - PWR/LGT In Wall Conduit Rough In	10	10	0%	27-Jan-26	09-Feb-26
A4450	1st Floor_Area 3 - Technology In Wall Conduit Rough In	10	10	0%	27-Jan-26	09-Feb-26
A4460	1st Floor_Area 3 - AV In Wall Conduit Rough In	2	2	0%	27-Jan-26	28-Jan-26
A4470	1st Floor_Area 3 - BAS In Wall Conduit Rough In (tstats)	2	2	0%	27-Jan-26	28-Jan-26
A4480	1st Floor_Area 3 - Security In Wall Conduit Rough In	2	2	0%	27-Jan-26	28-Jan-26
A4490	1st Floor_Area 3 - Fire Alarm In Wall Conduit Rough In	5	5	0%	27-Jan-26	02-Feb-26
A4500	1st Floor_Area 3 - Priority Wall Ductwork	3	3	0%	27-Jan-26	29-Jan-26
A4370	1st Floor_Area 3 - EA Duct Mains	5	5	0%	29-Jan-26	04-Feb-26
A4380	1st Floor_Area 3 - VAV/RC Equipment Install	5	5	0%	29-Jan-26	04-Feb-26
A4390	1st Floor_Area 3 - Domestic Water Mains	10	10	0%	29-Jan-26	11-Feb-26
A4530	1st Floor_Area 3 - AV OH Conduit Rough In	2	2	0%	29-Jan-26	30-Jan-26
A4550	1st Floor_Area 3 - Security OH Conduit Rough In	5	5	0%	29-Jan-26	04-Feb-26



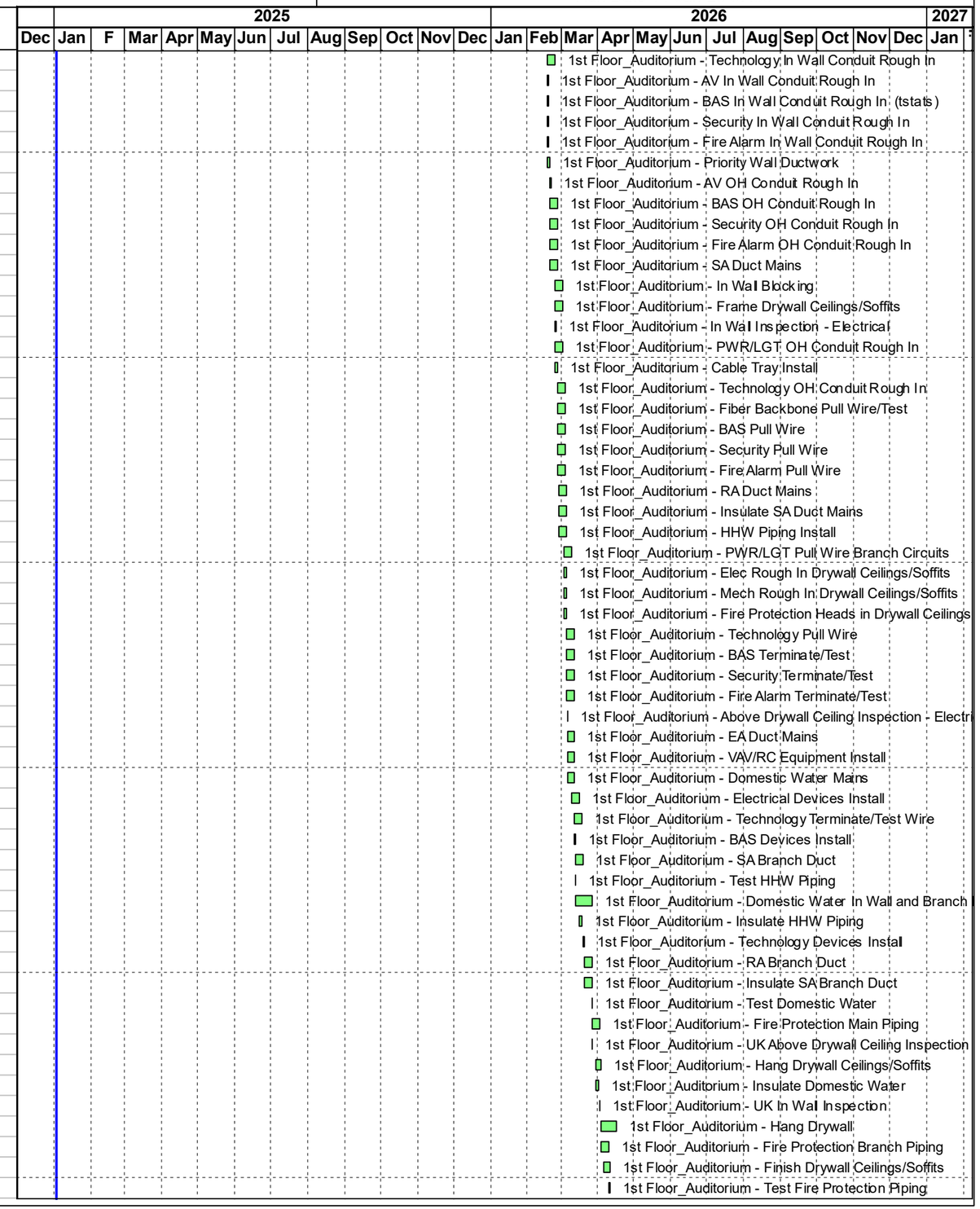
Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
A4400	1st Floor_Area 3 - Fire Wrap LEA Duct Mains	5	5	0%	29-Jan-26	04-Feb-26
A4410	1st Floor_Area 3 - Labortory Water Mains (LCW,LHW,LHWR)	10	10	0%	29-Jan-26	11-Feb-26
A4420	1st Floor_Area 3 - CA/VAC Piping	10	10	0%	29-Jan-26	11-Feb-26
A4580	1st Floor_Area 3 - Fire Alarm OH Conduit Rough In	5	5	0%	03-Feb-26	09-Feb-26
A4510	1st Floor_Area 3 - OA/SA Branch Duct	10	10	0%	05-Feb-26	18-Feb-26
A4520	1st Floor_Area 3 - Test HHW Piping	1	1	0%	05-Feb-26	05-Feb-26
A4540	1st Floor_Area 3 - BAS OH Conduit Rough In	5	5	0%	05-Feb-26	11-Feb-26
A4560	1st Floor_Area 3 - Kitchen EA Duct	5	5	0%	05-Feb-26	11-Feb-26
A4570	1st Floor_Area 3 - Insulate HHW Piping	5	5	0%	06-Feb-26	12-Feb-26
A4640	1st Floor_Area 3 - In Wall Blocking	10	10	0%	10-Feb-26	23-Feb-26
A4650	1st Floor_Area 3 - Frame Drywall Ceilings/Soffits	5	5	0%	10-Feb-26	16-Feb-26
A4660	1st Floor_Area 3 - In Wall Inspection - Electrical	1	1	0%	10-Feb-26	10-Feb-26
A4670	1st Floor_Area 3 - PWR/LGT OH Conduit Rough In	10	10	0%	10-Feb-26	23-Feb-26
A4680	1st Floor_Area 3 - Cable Tray Install	5	5	0%	10-Feb-26	16-Feb-26
A4610	1st Floor_Area 3 - Domestic Water In Wall and Branch Piping	10	10	0%	12-Feb-26	25-Feb-26
A4620	1st Floor_Area 3 - Labortory Water In Wall and Branch Piping (LCW,LHW,LHWI	15	15	0%	12-Feb-26	04-Mar-26
A4630	1st Floor_Area 3 - DI Water	5	5	0%	12-Feb-26	18-Feb-26
A4720	1st Floor_Area 3 - Elec Rough In Drywall Ceilings/Soffits	3	3	0%	17-Feb-26	19-Feb-26
A4730	1st Floor_Area 3 - Technology OH Conduit Rough In	10	10	0%	17-Feb-26	02-Mar-26
A4740	1st Floor_Area 3 - Mech Rough In Drywall Ceilings/Soffits	3	3	0%	17-Feb-26	19-Feb-26
A4750	1st Floor_Area 3 - Fire Protection Heads in Drywall Ceilings	3	3	0%	17-Feb-26	19-Feb-26
A4590	1st Floor_Area 3 - LEA/RA Branch Duct	10	10	0%	19-Feb-26	04-Mar-26
A4600	1st Floor_Area 3 - Insulate OA/SA Branch Duct	5	5	0%	19-Feb-26	25-Feb-26
A4770	1st Floor_Area 3 - Above Drywall Ceiling Inspection - Electrical	1	1	0%	20-Feb-26	20-Feb-26
A4690	1st Floor_Area 3 - Test Domestic Water	1	1	0%	26-Feb-26	26-Feb-26
A4700	1st Floor_Area 3 - Fire Protection Main Piping	5	5	0%	26-Feb-26	04-Mar-26
A4780	1st Floor_Area 3 - UK Above Drywall Ceiling Inspection	1	1	0%	26-Feb-26	26-Feb-26
A4790	1st Floor_Area 3 - Hang Drywall Ceilings/Soffits	15	15	0%	27-Feb-26	19-Mar-26
A4710	1st Floor_Area 3 - Insulate Domestic Water	3	3	0%	27-Feb-26	03-Mar-26
A4760	1st Floor_Area 3 - Fire Protection Branch Piping	10	10	0%	05-Mar-26	18-Mar-26
A4800	1st Floor_Area 3 - UK In Wall Inspection	1	1	0%	05-Mar-26	05-Mar-26
A4810	1st Floor_Area 3 - Hang Drywall	15	15	0%	06-Mar-26	26-Mar-26
A4820	1st Floor_Area 3 - Set Electrical Panels/Equipment	2	2	0%	06-Mar-26	09-Mar-26
A4830	1st Floor_Area 3 - Pull Wire - Feeders	5	5	0%	10-Mar-26	16-Mar-26
A4840	1st Floor_Area 3 - PWR/LGT Pull Wire Homeruns	5	5	0%	10-Mar-26	16-Mar-26
A4870	1st Floor_Area 3 - PWR/LGT Pull Wire Branch Circuits	10	10	0%	17-Mar-26	30-Mar-26
A4860	1st Floor_Area 3 - Test Fire Protection Piping	1	1	0%	19-Mar-26	19-Mar-26
A4850	1st Floor_Area 3 - Finish Drywall Ceilings/Soffits	20	20	0%	20-Mar-26	16-Apr-26
A4890	1st Floor_Area 3 - Finish Drywall	20	20	0%	27-Mar-26	23-Apr-26
A4900	1st Floor_Area 3 - Electrical Devices Install	5	5	0%	31-Mar-26	06-Apr-26
A4910	1st Floor_Area 3 - Prime/1st Coat Paint Walls	10	10	0%	08-Apr-26	21-Apr-26
A4880	1st Floor_Area 3 - Prime/1st Coat Paint Ceilings/Soffits	5	5	0%	17-Apr-26	23-Apr-26
A4930	1st Floor_Area 3 - Restroom Wall Tile Install	5	5	0%	22-Apr-26	28-Apr-26
A4990	1st Floor_Area 3 - CER Room Installation	10	10	0%	22-Apr-26	05-May-26
A4920	1st Floor_Area 3 - ACT Ceilings Install	10	10	0%	24-Apr-26	07-May-26
A4940	1st Floor_Area 3 - Technology Pull Wire	10	10	0%	24-Apr-26	07-May-26
A4950	1st Floor_Area 3 - Fiber Backbone Pull Wire/Test	5	5	0%	24-Apr-26	30-Apr-26
A4960	1st Floor_Area 3 - BAS Pull Wire	5	5	0%	24-Apr-26	30-Apr-26
A4970	1st Floor_Area 3 - Security Pull Wire	5	5	0%	24-Apr-26	30-Apr-26
A4980	1st Floor_Area 3 - Fire Alarm Pull Wire	5	5	0%	24-Apr-26	30-Apr-26
A5430	1st Floor_Area 3 - Resinous Flooring (Vivarium)	20	20	0%	24-Apr-26	21-May-26
A5000	1st Floor_Area 3 - Plumbing Fixtures	5	5	0%	29-Apr-26	05-May-26
A5010	1st Floor_Area 3 - BAS Terminate/Test	5	5	0%	01-May-26	07-May-26
A5020	1st Floor_Area 3 - Security Terminate/Test	5	5	0%	01-May-26	07-May-26
A5030	1st Floor_Area 3 - Fire Alarm Terminate/Test	5	5	0%	01-May-26	07-May-26
A5130	1st Floor_Area 3 - Toilet Accessories Install	5	5	0%	06-May-26	12-May-26



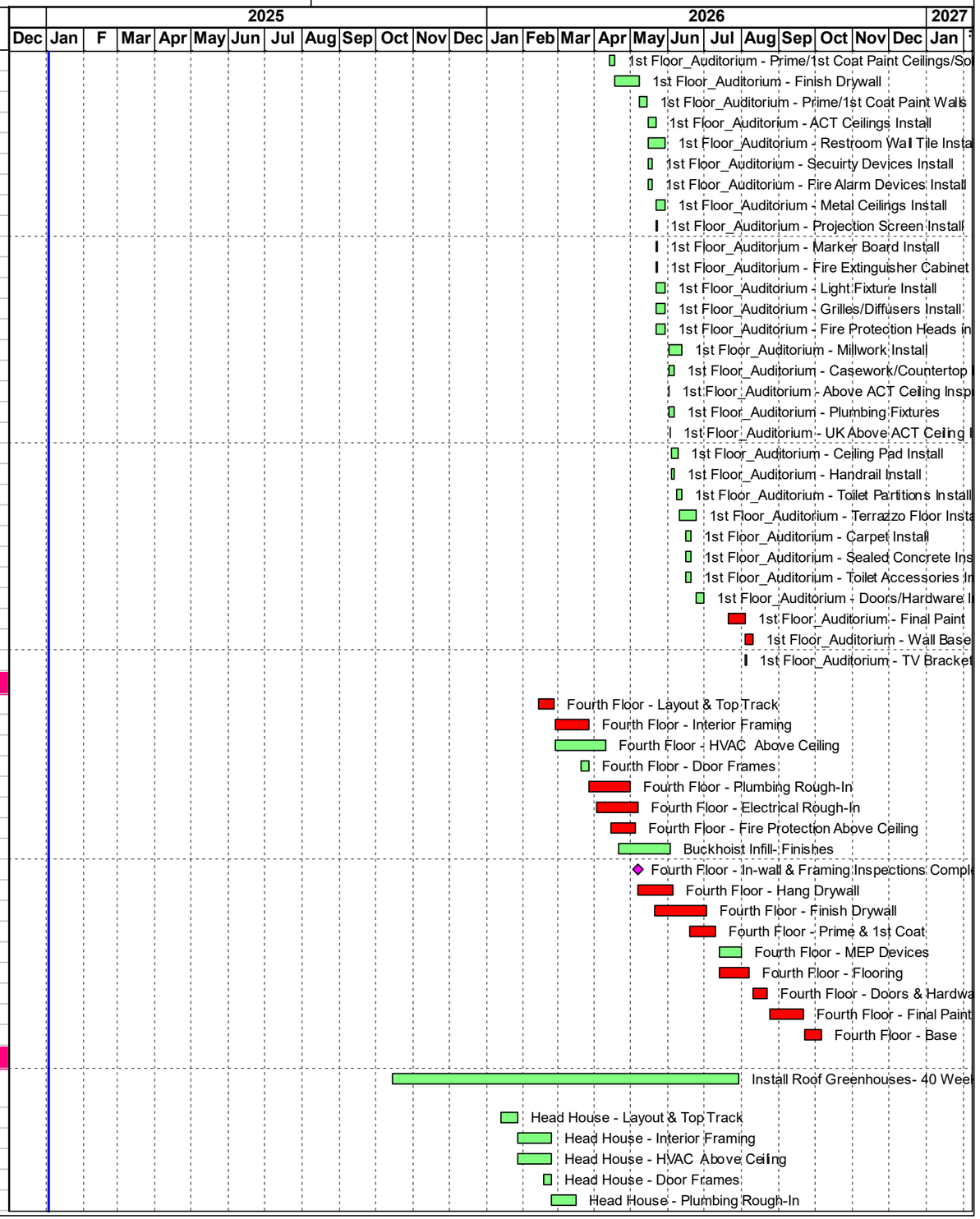
Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
A5040	1st Floor_Area 3 - Final Connections to CER Rooms - Electrical	5	5	0%	06-May-26	12-May-26
A5050	1st Floor_Area 3 - Condensate Piping Install	5	5	0%	06-May-26	12-May-26
A5060	1st Floor_Area 3 - Final Connections to CER Rooms - Mechanical	5	5	0%	06-May-26	12-May-26
A5070	1st Floor_Area 3 - Fire Protection Heads in CER Rooms	5	5	0%	06-May-26	12-May-26
A5080	1st Floor_Area 3 - Refrigerant Piping for CER Rooms	10	10	0%	06-May-26	19-May-26
A5090	1st Floor_Area 3 - Metal Ceilings Install	5	5	0%	08-May-26	14-May-26
A5100	1st Floor_Area 3 - Projection Screen Install	1	1	0%	08-May-26	08-May-26
A5110	1st Floor_Area 3 - Marker Board Install	1	1	0%	08-May-26	08-May-26
A5120	1st Floor_Area 3 - Fire Extinguisher Cabinet Install	1	1	0%	08-May-26	08-May-26
A5140	1st Floor_Area 3 - Light Fixture Install	10	10	0%	08-May-26	21-May-26
A5150	1st Floor_Area 3 - Technology Terminate/Test Wire	5	5	0%	08-May-26	14-May-26
A5160	1st Floor_Area 3 - Grilles/Diffusers Install	5	5	0%	08-May-26	14-May-26
A5170	1st Floor_Area 3 - Fire Protection Heads in ACT Ceilings	5	5	0%	08-May-26	14-May-26
A5180	1st Floor_Area 3 - BAS Devices Install	2	2	0%	08-May-26	11-May-26
A5190	1st Floor_Area 3 - Secuirty Devices Install	2	2	0%	08-May-26	11-May-26
A5200	1st Floor_Area 3 - Fire Alarm Devices Install	2	2	0%	08-May-26	11-May-26
A5210	1st Floor_Area 3 - Install Lab Casework	20	20	0%	08-May-26	05-Jun-26
A5220	1st Floor_Area 3 - Technology Devices Install	2	2	0%	15-May-26	18-May-26
A5230	1st Floor_Area 3 - Millwork Install	10	10	0%	22-May-26	05-Jun-26
A5240	1st Floor_Area 3 - Casework/Countertop Install	5	5	0%	22-May-26	29-May-26
A5250	1st Floor_Area 3 - Above ACT Ceiling Inspection - Electrical	1	1	0%	22-May-26	22-May-26
A5450	1st Floor_Area 3 - Animal Penning	15	15	0%	22-May-26	12-Jun-26
A5260	1st Floor_Area 3 - UK Above ACT Ceiling Inspection	1	1	0%	26-May-26	26-May-26
A5270	1st Floor_Area 3 - Ceiling Pad Install	5	5	0%	27-May-26	02-Jun-26
A5280	1st Floor_Area 3 - Terrazzo Floor Install	10	10	0%	27-May-26	09-Jun-26
A5290	1st Floor_Area 3 - Polished Concrete	15	15	0%	27-May-26	16-Jun-26
A5300	1st Floor_Area 3 - Resilient Flooring	5	5	0%	27-May-26	02-Jun-26
A5310	1st Floor_Area 3 - Sealed Concrete Install	10	10	0%	01-Jun-26	12-Jun-26
A5320	1st Floor_Area 3 - Carpet Install	5	5	0%	08-Jun-26	12-Jun-26
A5330	1st Floor_Area 3 - Hook Up Lab Casework - Electrical	10	10	0%	08-Jun-26	19-Jun-26
A5340	1st Floor_Area 3 - Hookup Lab Casework - Technology	10	10	0%	08-Jun-26	19-Jun-26
A5350	1st Floor_Area 3 - Hookup Lab Casework - Mechanical	5	5	0%	08-Jun-26	12-Jun-26
A5360	1st Floor_Area 3 - Hookups for Lab Casework - Plumbing	10	10	0%	08-Jun-26	19-Jun-26
A5370	1st Floor_Area 3 - Doors/Hardware Install	10	10	0%	15-Jun-26	26-Jun-26
A5380	1st Floor_Area 3 - Final Electrical Inspection	5	5	0%	22-Jun-26	26-Jun-26
A5390	1st Floor_Area 3 - Final Paint	15	15	0%	29-Jun-26	20-Jul-26
A5400	1st Floor_Area 3 - Wall Base Install	5	5	0%	21-Jul-26	27-Jul-26
A5410	1st Floor_Area 3 - TV Bracket Install	2	2	0%	21-Jul-26	22-Jul-26
Auditorium/Lobby		138	138		27-Jan-26	10-Aug-26
A680	1st Floor_Auditorium - Layout/Top Track	5	5	0%	27-Jan-26	02-Feb-26
A1230	1st Floor_Auditorium - Layout Duct Openings In Wall	2	2	0%	27-Jan-26	28-Jan-26
A690	1st Floor_Auditorium - Frame Priority Walls	5	5	0%	03-Feb-26	09-Feb-26
A700	1st Floor_Auditorium - Set Priority Wall Door Frames	1	1	0%	03-Feb-26	03-Feb-26
A1020	1st Floor_Auditorium - Electrical Feeder Conduit	3	3	0%	03-Feb-26	05-Feb-26
A1370	1st Floor_Auditorium - SWV Piping Install	5	5	0%	03-Feb-26	09-Feb-26
A1030	1st Floor_Auditorium - PWR/LGT Homerun Conduit Rough In	5	5	0%	06-Feb-26	12-Feb-26
A1060	1st Floor_Auditorium - Set Electrical Panels/Equipment	2	2	0%	06-Feb-26	09-Feb-26
A710	1st Floor_Auditorium - Top out Priority Walls	5	5	0%	10-Feb-26	16-Feb-26
A720	1st Floor_Auditorium - Frame Remaining Walls	5	5	0%	10-Feb-26	16-Feb-26
A730	1st Floor_Auditorium - Set Remaining Wall Door Frames	1	1	0%	10-Feb-26	10-Feb-26
A1050	1st Floor_Auditorium - Pull Wire - Feeders	3	3	0%	10-Feb-26	12-Feb-26
A1420	1st Floor_Auditorium - Storm/Roof Leader Piping Install	3	3	0%	10-Feb-26	12-Feb-26
A1510	1st Floor_Auditorium - OH Misc Metal/Unistruct Supports	5	5	0%	10-Feb-26	16-Feb-26
A1070	1st Floor_Auditorium - PWR/LGT Pull Wire Homeruns	5	5	0%	13-Feb-26	19-Feb-26
A740	1st Floor_Auditorium - Top out Remaining Walls	5	5	0%	17-Feb-26	23-Feb-26
A1040	1st Floor_Auditorium - PWR/LGT In Wall Conduit Rough In	5	5	0%	17-Feb-26	23-Feb-26



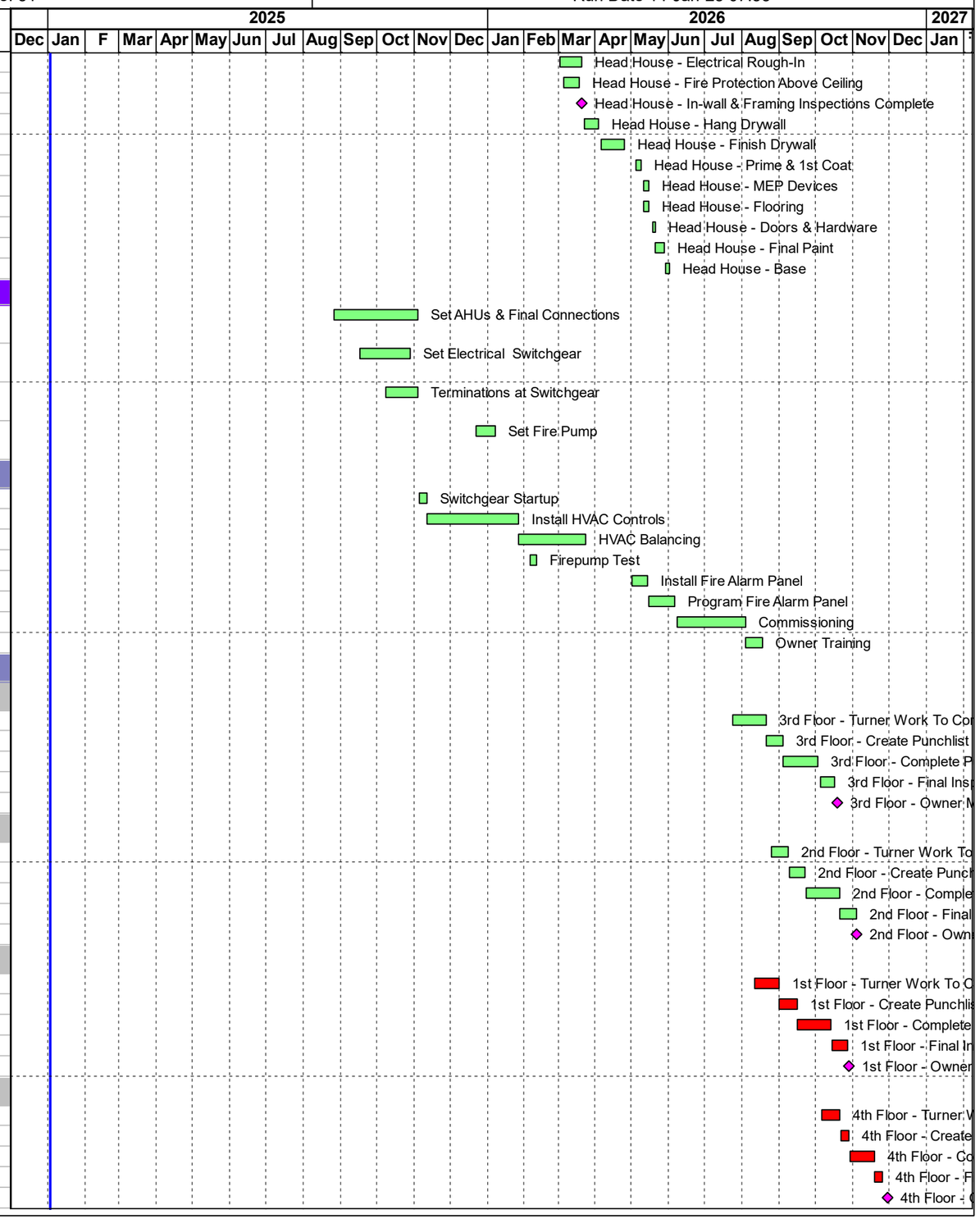
Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
A1150	1st Floor_Auditorium - Technology In Wall Conduit Rough In	5	5	0%	17-Feb-26	23-Feb-26
A1490	1st Floor_Auditorium - AV In Wall Conduit Rough In	2	2	0%	17-Feb-26	18-Feb-26
A1520	1st Floor_Auditorium - BAS In Wall Conduit Rough In (tstats)	2	2	0%	17-Feb-26	18-Feb-26
A1570	1st Floor_Auditorium - Security In Wall Conduit Rough In	2	2	0%	17-Feb-26	18-Feb-26
A1620	1st Floor_Auditorium - Fire Alarm In Wall Conduit Rough In	2	2	0%	17-Feb-26	18-Feb-26
A1670	1st Floor_Auditorium - Priority Wall Ductwork	3	3	0%	17-Feb-26	19-Feb-26
A1500	1st Floor_Auditorium - AV OH Conduit Rough In	2	2	0%	19-Feb-26	20-Feb-26
A1530	1st Floor_Auditorium - BAS OH Conduit Rough In	5	5	0%	19-Feb-26	25-Feb-26
A1580	1st Floor_Auditorium - Security OH Conduit Rough In	5	5	0%	19-Feb-26	25-Feb-26
A1630	1st Floor_Auditorium - Fire Alarm OH Conduit Rough In	5	5	0%	19-Feb-26	25-Feb-26
A1240	1st Floor_Auditorium - SA Duct Mains	5	5	0%	20-Feb-26	26-Feb-26
A750	1st Floor_Auditorium - In Wall Blocking	5	5	0%	24-Feb-26	02-Mar-26
A780	1st Floor_Auditorium - Frame Drywall Ceilings/Soffits	5	5	0%	24-Feb-26	02-Mar-26
A1120	1st Floor_Auditorium - In Wall Inspection - Electrical	1	1	0%	24-Feb-26	24-Feb-26
A1170	1st Floor_Auditorium - PWR/LGT OH Conduit Rough In	5	5	0%	24-Feb-26	02-Mar-26
A1180	1st Floor_Auditorium - Cable Tray Install	2	2	0%	24-Feb-26	25-Feb-26
A1160	1st Floor_Auditorium - Technology OH Conduit Rough In	5	5	0%	26-Feb-26	04-Mar-26
A1220	1st Floor_Auditorium - Fiber Backbone Pull Wire/Test	5	5	0%	26-Feb-26	04-Mar-26
A1540	1st Floor_Auditorium - BAS Pull Wire	5	5	0%	26-Feb-26	04-Mar-26
A1590	1st Floor_Auditorium - Security Pull Wire	5	5	0%	26-Feb-26	04-Mar-26
A1640	1st Floor_Auditorium - Fire Alarm Pull Wire	5	5	0%	26-Feb-26	04-Mar-26
A1250	1st Floor_Auditorium - RA Duct Mains	5	5	0%	27-Feb-26	05-Mar-26
A1300	1st Floor_Auditorium - Insulate SA Duct Mains	5	5	0%	27-Feb-26	05-Mar-26
A1340	1st Floor_Auditorium - HHW Piping Install	5	5	0%	27-Feb-26	05-Mar-26
A1080	1st Floor_Auditorium - PWR/LGT Pull Wire Branch Circuits	5	5	0%	03-Mar-26	09-Mar-26
A1090	1st Floor_Auditorium - Elec Rough In Drywall Ceilings/Soffits	3	3	0%	03-Mar-26	05-Mar-26
A1320	1st Floor_Auditorium - Mech Rough In Drywall Ceilings/Soffits	3	3	0%	03-Mar-26	05-Mar-26
A1460	1st Floor_Auditorium - Fire Protection Heads in Drywall Ceilings	3	3	0%	03-Mar-26	05-Mar-26
A1190	1st Floor_Auditorium - Technology Pull Wire	5	5	0%	05-Mar-26	11-Mar-26
A1550	1st Floor_Auditorium - BAS Terminate/Test	5	5	0%	05-Mar-26	11-Mar-26
A1600	1st Floor_Auditorium - Security Terminate/Test	5	5	0%	05-Mar-26	11-Mar-26
A1660	1st Floor_Auditorium - Fire Alarm Terminate/Test	5	5	0%	05-Mar-26	11-Mar-26
A1130	1st Floor_Auditorium - Above Drywall Ceiling Inspection - Electrical	1	1	0%	06-Mar-26	06-Mar-26
A1260	1st Floor_Auditorium - EA Duct Mains	5	5	0%	06-Mar-26	12-Mar-26
A1270	1st Floor_Auditorium - VAV/RC Equipment Install	5	5	0%	06-Mar-26	12-Mar-26
A1380	1st Floor_Auditorium - Domestic Water Mains	5	5	0%	06-Mar-26	12-Mar-26
A1110	1st Floor_Auditorium - Electrical Devices Install	5	5	0%	10-Mar-26	16-Mar-26
A1200	1st Floor_Auditorium - Technology Terminate/Test Wire	5	5	0%	12-Mar-26	18-Mar-26
A1560	1st Floor_Auditorium - BAS Devices Install	2	2	0%	12-Mar-26	13-Mar-26
A1280	1st Floor_Auditorium - SA Branch Duct	5	5	0%	13-Mar-26	19-Mar-26
A1350	1st Floor_Auditorium - Test HHW Piping	1	1	0%	13-Mar-26	13-Mar-26
A1390	1st Floor_Auditorium - Domestic Water In Wall and Branch Piping	10	10	0%	13-Mar-26	26-Mar-26
A1360	1st Floor_Auditorium - Insulate HHW Piping	3	3	0%	16-Mar-26	18-Mar-26
A1210	1st Floor_Auditorium - Technology Devices Instal	2	2	0%	19-Mar-26	20-Mar-26
A1290	1st Floor_Auditorium - RA Branch Duct	5	5	0%	20-Mar-26	26-Mar-26
A1310	1st Floor_Auditorium - Insulate SA Branch Duct	5	5	0%	20-Mar-26	26-Mar-26
A1400	1st Floor_Auditorium - Test Domestic Water	1	1	0%	27-Mar-26	27-Mar-26
A1440	1st Floor_Auditorium - Fire Protection Main Piping	5	5	0%	27-Mar-26	02-Apr-26
A1690	1st Floor_Auditorium - UK Above Drywall Ceiling Inspection	1	1	0%	27-Mar-26	27-Mar-26
A790	1st Floor_Auditorium - Hang Drywall Ceilings/Soffits	5	5	0%	30-Mar-26	03-Apr-26
A1410	1st Floor_Auditorium - Insulate Domestic Water	3	3	0%	30-Mar-26	01-Apr-26
A1680	1st Floor_Auditorium - UK In Wall Inspection	1	1	0%	02-Apr-26	02-Apr-26
A760	1st Floor_Auditorium - Hang Drywall	10	10	0%	03-Apr-26	16-Apr-26
A1450	1st Floor_Auditorium - Fire Protection Branch Piping	5	5	0%	03-Apr-26	09-Apr-26
A800	1st Floor_Auditorium - Finish Drywall Ceilings/Soffits	5	5	0%	06-Apr-26	10-Apr-26
A1480	1st Floor_Auditorium - Test Fire Protection Piping	1	1	0%	10-Apr-26	10-Apr-26



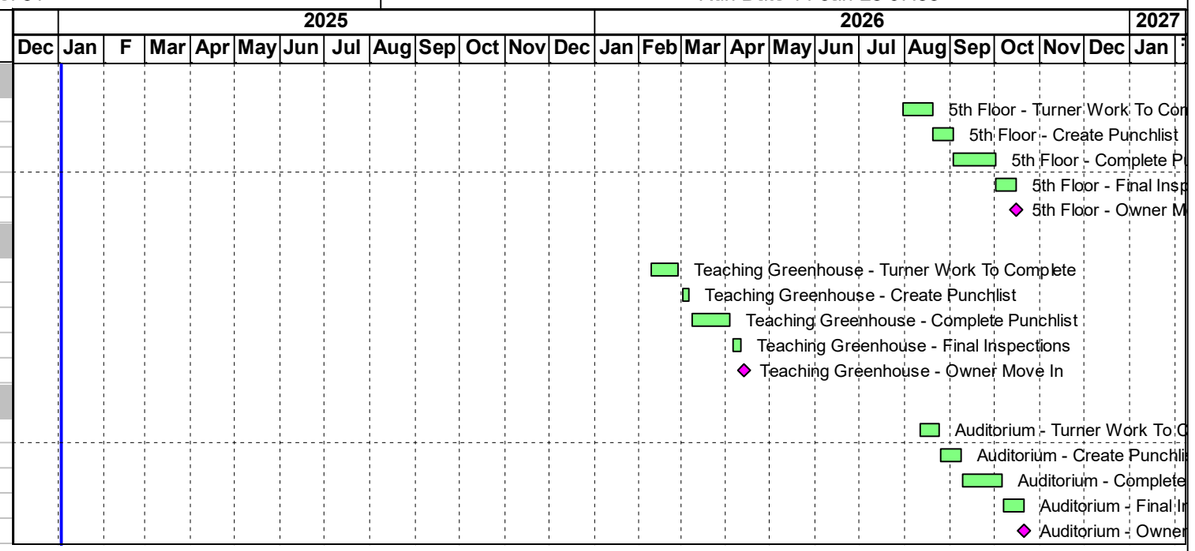
Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
A820	1st Floor_Auditorium - Prime/1st Coat Paint Ceilings/Soffits	5	5	0%	13-Apr-26	17-Apr-26
A770	1st Floor_Auditorium - Finish Drywall	15	15	0%	17-Apr-26	07-May-26
A810	1st Floor_Auditorium - Prime/1st Coat Paint Walls	5	5	0%	08-May-26	14-May-26
A830	1st Floor_Auditorium - ACT Ceilings Install	5	5	0%	15-May-26	21-May-26
A950	1st Floor_Auditorium - Restroom Wall Tile Install	10	10	0%	15-May-26	29-May-26
A1610	1st Floor_Auditorium - Secuirty Devices Install	2	2	0%	15-May-26	18-May-26
A1650	1st Floor_Auditorium - Fire Alarm Devices Install	2	2	0%	15-May-26	18-May-26
A840	1st Floor_Auditorium - Metal Ceilings Install	5	5	0%	22-May-26	29-May-26
A890	1st Floor_Auditorium - Projection Screen Install	1	1	0%	22-May-26	22-May-26
A900	1st Floor_Auditorium - Marker Board Install	1	1	0%	22-May-26	22-May-26
A910	1st Floor_Auditorium - Fire Extinguisher Cabinet Install	1	1	0%	22-May-26	22-May-26
A1100	1st Floor_Auditorium - Light Fixture Install	5	5	0%	22-May-26	29-May-26
A1330	1st Floor_Auditorium - Grilles/Diffusers Install	5	5	0%	22-May-26	29-May-26
A1470	1st Floor_Auditorium - Fire Protection Heads in ACT Ceilings	5	5	0%	22-May-26	29-May-26
A860	1st Floor_Auditorium - Millwork Install	10	10	0%	01-Jun-26	12-Jun-26
A870	1st Floor_Auditorium - Casework/Countertop Install	5	5	0%	01-Jun-26	05-Jun-26
A1140	1st Floor_Auditorium - Above ACT Ceiling Inspection - Electrical	1	1	0%	01-Jun-26	01-Jun-26
A1430	1st Floor_Auditorium - Plumbing Fixtures	5	5	0%	01-Jun-26	05-Jun-26
A1700	1st Floor_Auditorium - UK Above ACT Ceiling Inspection	1	1	0%	02-Jun-26	02-Jun-26
A850	1st Floor_Auditorium - Ceiling Pad Install	5	5	0%	03-Jun-26	09-Jun-26
A880	1st Floor_Auditorium - Handrail Install	3	3	0%	03-Jun-26	05-Jun-26
A960	1st Floor_Auditorium - Toilet Partitions Install	5	5	0%	08-Jun-26	12-Jun-26
A940	1st Floor_Auditorium - Terrazzo Floor Install	10	10	0%	10-Jun-26	23-Jun-26
A920	1st Floor_Auditorium - Carpet Install	5	5	0%	15-Jun-26	19-Jun-26
A930	1st Floor_Auditorium - Sealed Concrete Install	5	5	0%	15-Jun-26	19-Jun-26
A970	1st Floor_Auditorium - Toilet Accessories Install	5	5	0%	15-Jun-26	19-Jun-26
A980	1st Floor_Auditorium - Doors/Hardware Install	5	5	0%	24-Jun-26	30-Jun-26
A990	1st Floor_Auditorium - Final Paint	10	10	0%	21-Jul-26	03-Aug-26
A1000	1st Floor_Auditorium - Wall Base Install	5	5	0%	04-Aug-26	10-Aug-26
A1010	1st Floor_Auditorium - TV Bracket Install	1	1	0%	04-Aug-26	04-Aug-26
Fourth Floor		164	164		13-Feb-26	05-Oct-26
INTP100	Fourth Floor - Layout & Top Track	10	10	0%	13-Feb-26	26-Feb-26
INTP110	Fourth Floor - Interior Framing	20	20	0%	27-Feb-26	26-Mar-26
INTP120	Fourth Floor - HVAC Above Ceiling	30	30	0%	27-Feb-26	09-Apr-26
INTP130	Fourth Floor - Door Frames	5	5	0%	20-Mar-26	26-Mar-26
INTP140	Fourth Floor - Plumbing Rough-In	25	25	0%	27-Mar-26	30-Apr-26
INTP160	Fourth Floor - Electrical Rough-In	25	25	0%	02-Apr-26	06-May-26
INTP150	Fourth Floor - Fire Protection Above Ceiling	15	15	0%	14-Apr-26	04-May-26
INTP430	Buckhoist Infill- Finishes	30	30	0%	21-Apr-26	02-Jun-26
INTP170	Fourth Floor - In-wall & Framing Inspections Complete	0	0	0%		06-May-26
INTP180	Fourth Floor - Hang Drywall	20	20	0%	07-May-26	04-Jun-26
INTP190	Fourth Floor - Finish Drywall	30	30	0%	21-May-26	02-Jul-26
INTP200	Fourth Floor - Prime & 1st Coat	15	15	0%	19-Jun-26	10-Jul-26
INTP210	Fourth Floor - MEP Devices	15	15	0%	13-Jul-26	31-Jul-26
INTP220	Fourth Floor - Flooring	20	20	0%	13-Jul-26	07-Aug-26
INTP230	Fourth Floor - Doors & Hardware	10	10	0%	10-Aug-26	21-Aug-26
INTP240	Fourth Floor - Final Paint	20	20	0%	24-Aug-26	21-Sep-26
INTP250	Fourth Floor - Base	10	10	0%	22-Sep-26	05-Oct-26
Head House / Greenhouse		200	200		15-Oct-25	29-Jul-26
ENV 160	Install Roof Greenhouses- 40 Weeks	200	200	0%	15-Oct-25	29-Jul-26
INTP260	Head House - Layout & Top Track	10	10	0%	13-Jan-26	26-Jan-26
INTP270	Head House - Interior Framing	20	20	0%	27-Jan-26	23-Feb-26
INTP280	Head House - HVAC Above Ceiling	20	20	0%	27-Jan-26	23-Feb-26
INTP290	Head House - Door Frames	5	5	0%	17-Feb-26	23-Feb-26
INTP300	Head House - Plumbing Rough-In	15	15	0%	24-Feb-26	16-Mar-26



Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
INTP320	Head House - Electrical Rough-In	15	15	0%	02-Mar-26	20-Mar-26
INTP310	Head House - Fire Protection Above Ceiling	10	10	0%	05-Mar-26	18-Mar-26
INTP330	Head House - In-wall & Framing Inspections Complete	0	0	0%		20-Mar-26
INTP340	Head House - Hang Drywall	10	10	0%	23-Mar-26	03-Apr-26
INTP350	Head House - Finish Drywall	15	15	0%	06-Apr-26	24-Apr-26
INTP360	Head House - Prime & 1st Coat	5	5	0%	04-May-26	08-May-26
INTP370	Head House - MEP Devices	5	5	0%	11-May-26	15-May-26
INTP380	Head House - Flooring	5	5	0%	11-May-26	15-May-26
INTP390	Head House - Doors & Hardware	3	3	0%	18-May-26	20-May-26
INTP400	Head House - Final Paint	5	5	0%	21-May-26	28-May-26
INTP410	Head House - Base	2	2	0%	29-May-26	01-Jun-26
MEP Equipment		92	92		26-Aug-25	07-Jan-26
MEP 120	Set AHUs & Final Connections	50	50	0%	26-Aug-25	04-Nov-25
MEP 110	Set Electrical Switchgear	30	30	0%	17-Sep-25	28-Oct-25
MEP 130	Terminations at Switchgear	20	20	0%	08-Oct-25	04-Nov-25
MEP 100	Set Fire Pump	10	10	0%	23-Dec-25	07-Jan-26
Start-Up & Commissioning		198	198		05-Nov-25	17-Aug-26
COM 110	Switchgear Startup	5	5	0%	05-Nov-25	11-Nov-25
COM 120	Install HVAC Controls	50	50	0%	12-Nov-25	26-Jan-26
COM 140	HVAC Balancing	40	40	0%	27-Jan-26	23-Mar-26
COM 100	Firepump Test	5	5	0%	05-Feb-26	11-Feb-26
COM 130	Install Fire Alarm Panel	10	10	0%	01-May-26	14-May-26
COM 150	Program Fire Alarm Panel	15	15	0%	15-May-26	05-Jun-26
COM 160	Commissioning	40	40	0%	08-Jun-26	03-Aug-26
COM 170	Owner Training	10	10	0%	04-Aug-26	17-Aug-26
Turnover		205	205		09-Feb-26	30-Nov-26
3rd Floor Turnover		60	60		24-Jul-26	19-Oct-26
A13740	3rd Floor - Turner Work To Complete	20	20	0%	24-Jul-26	20-Aug-26
A13750	3rd Floor - Create Punchlist	10	10	0%	21-Aug-26	03-Sep-26
A13760	3rd Floor - Complete Punchlist	20	20	0%	04-Sep-26	02-Oct-26
A13770	3rd Floor - Final Inspections	10	10	0%	05-Oct-26	16-Oct-26
A13780	3rd Floor - Owner Move In	0	0	0%	19-Oct-26	
2nd Floor Turnover		50	50		25-Aug-26	04-Nov-26
A13790	2nd Floor - Turner Work To Complete	10	10	0%	25-Aug-26	08-Sep-26
A13800	2nd Floor - Create Punchlist	10	10	0%	09-Sep-26	22-Sep-26
A13810	2nd Floor - Complete Punchlist	20	20	0%	23-Sep-26	20-Oct-26
A13820	2nd Floor - Final Inspections	10	10	0%	21-Oct-26	03-Nov-26
A13830	2nd Floor - Owner Move In	0	0	0%	04-Nov-26	
1st Floor Turnover		55	55		11-Aug-26	28-Oct-26
A13840	1st Floor - Turner Work To Complete	15	15	0%	11-Aug-26	31-Aug-26
A13850	1st Floor - Create Punchlist	10	10	0%	01-Sep-26	15-Sep-26
A13860	1st Floor - Complete Punchlist	20	20	0%	16-Sep-26	13-Oct-26
A13870	1st Floor - Final Inspections	10	10	0%	14-Oct-26	27-Oct-26
A13880	1st Floor - Owner Move In	0	0	0%	28-Oct-26	
4th Floor Turnover		37	37		06-Oct-26	30-Nov-26
A13890	4th Floor - Turner Work To Complete	12	12	0%	06-Oct-26	21-Oct-26
A13900	4th Floor - Create Punchlist	5	5	0%	22-Oct-26	28-Oct-26
A13910	4th Floor - Complete Punchlist	15	15	0%	29-Oct-26	18-Nov-26
A13920	4th Floor - Final Inspections	5	5	0%	19-Nov-26	25-Nov-26
A13930	4th Floor - Owner Move In	0	0	0%	30-Nov-26	



Activity ID	Activity Name	Orig Dur	Rem Dur	% Compl	Start	Finish
5th Floor Greenhouse Level Turnover		55	55		30-Jul-26	16-Oct-26
A13940	5th Floor - Turner Work To Complete	15	15	0%	30-Jul-26	19-Aug-26
A13950	5th Floor - Create Punchlist	10	10	0%	20-Aug-26	02-Sep-26
A13960	5th Floor - Complete Punchlist	20	20	0%	03-Sep-26	01-Oct-26
A13970	5th Floor - Final Inspections	10	10	0%	02-Oct-26	15-Oct-26
A13980	5th Floor - Owner Move In	0	0	0%	16-Oct-26	
Teaching Greenhouse Turnover		45	45		09-Feb-26	13-Apr-26
A13990	Teaching Greenhouse - Turner Work To Complete	15	15	0%	09-Feb-26	27-Feb-26
A14000	Teaching Greenhouse - Create Punchlist	5	5	0%	02-Mar-26	06-Mar-26
A14010	Teaching Greenhouse - Complete Punchlist	20	20	0%	09-Mar-26	03-Apr-26
A14020	Teaching Greenhouse - Final Inspections	5	5	0%	06-Apr-26	10-Apr-26
A14030	Teaching Greenhouse - Owner Move In	0	0	0%	13-Apr-26	
Auditorium Turnover		50	50		11-Aug-26	21-Oct-26
A14040	Auditorium - Turner Work To Complete	10	10	0%	11-Aug-26	24-Aug-26
A14050	Auditorium - Create Punchlist	10	10	0%	25-Aug-26	08-Sep-26
A14060	Auditorium - Complete Punchlist	20	20	0%	09-Sep-26	06-Oct-26
A14070	Auditorium - Final Inspections	10	10	0%	07-Oct-26	20-Oct-26
A14080	Auditorium - Owner Move In	0	0	0%	21-Oct-26	



SAVE DATE: 01-14-2025

BBASS

UNIVERSITY OF KENTUCKY

1421 UNIVERSITY DRIVE LEXINGTON, KENTUCKY 40503

GREENHOUSE DESIGNER, MANUFACTURER & SUPPLIER:

PROSPIANT

GROWTH ROOTED IN PARTNERSHIP

5513 VINE STREET : CINCINNATI, OH 45217
WWW.PROSPIANT.COM
PH. (513) 242-0310

PROSPIANT, INC. JOB NO.2420004

PROJECT CONTACT: JIM DUNBAR

CONSULTING ENGINEER:
MOHAMED ALY, PE
1460 BETTY DRIVE : BEAVERCREEK, OH 45434
PH. (513) 460-1977

Drawing Index	
Sheet Number	Sheet Title
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GH-1.00A	POST PLAN
GH-1.00B	POST PLAN
GH-1.01A	FOUNDATION PLAN
GH-1.01B	FOUNDATION PLAN
GH-2.00A	FRAMING PLAN
GH-2.00B	FRAMING PLAN
GH-2.10A	JOIST SECTIONS
GH-2.10B	JOIST SECTIONS
GH-3.00A	SIDEWALL ELEVATIONS
GH-3.00B	SIDEWALL ELEVATIONS
GH-3.01A	SIDEWALL PARTITION ELEVATIONS
GH-3.01B	SIDEWALL PARTITION ELEVATIONS
GH-3.10A	GABLE ELEAVTIONS
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GE-1.00A	NORTH EQUIPMENT PLAN
GE-1.00B	SOUTH EQUIPMENT PLAN
GE-1.01A	NORTH LIGHT & BENCH PLAN
GE-1.01B	SOUTH LIGHT & BENCH PLAN

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PROSPIANT
5513 Vine Street - Cincinnati, OH 45217
(513) 242-0310 - www.Prospiant.com

CONSULTING ENGINEER:
MOHAMED ALY, PE
1460 Betty Drive - Beavercreek, OH 45434
(513) 460-1977

ROOFTOP GREENHOUSE
FOR
UNIVERSITY OF KENTUCKY

1421 UNIVERSITY DRIVE LEXINGTON, KENTUCKY 40503

NO.	DATE	DESCRIPTION

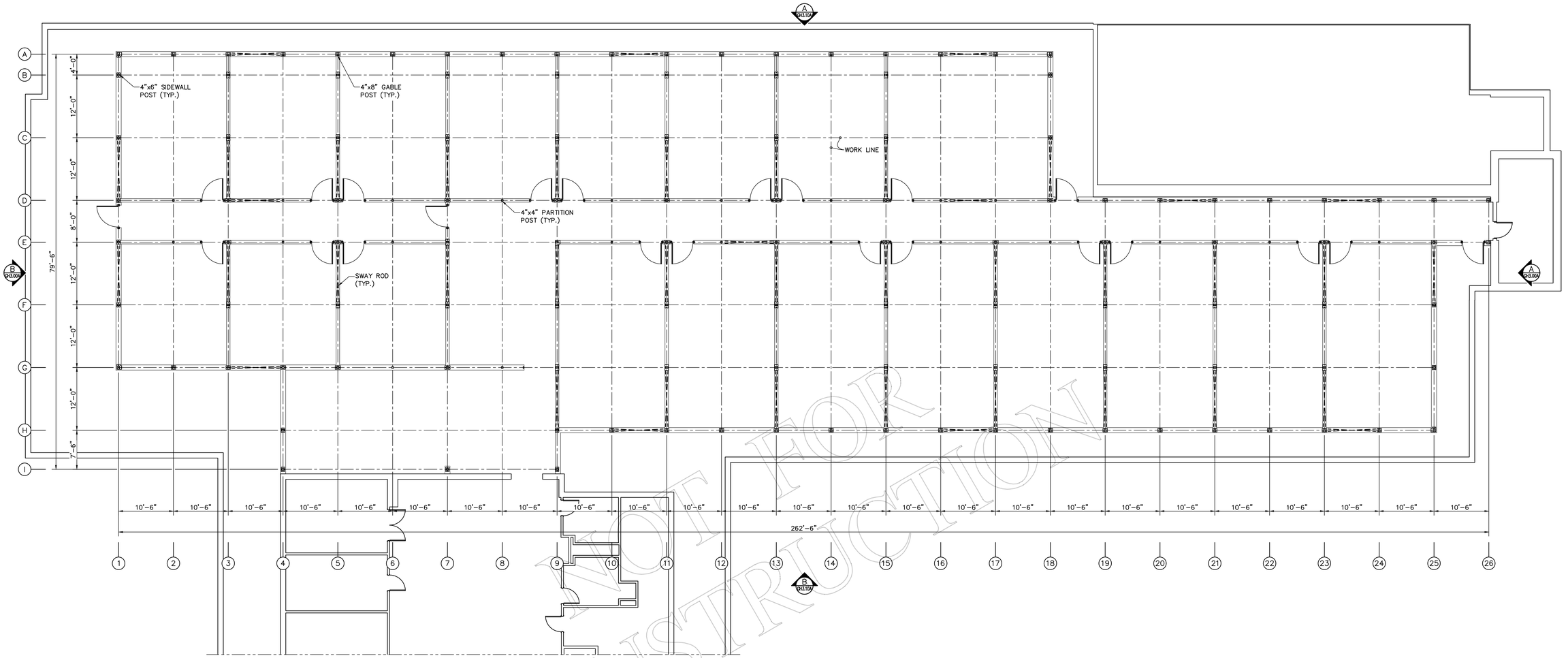
RELEASE AND ISSUE:
QC Set 10/03/2024
EQUIP. PLAN 10/11/2024
UPDATE SET 01/14/2025

REVIEWED BY: ----
DRAWN BY: BB

PROJECT No.: 2420004

COVER SHEET

GH-0.00



PRELIMINARY
DATE 01/14/2025
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1460 Betty Drive - Beavercreek, OH 45434
(513) 460-1977

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ROOFTOP GREENHOUSE FOR UNIVERSITY OF KENTUCKY

1421 UNIVERSITY DRIVE, LEXINGTON, KENTUCKY 40503

NO.	DATE	DESCRIPTION

RELEASE AND ISSUE:
QC Set 10/03/2024
EQUIP. PLAN 10/11/2024
UPDATE SET 01/14/2025

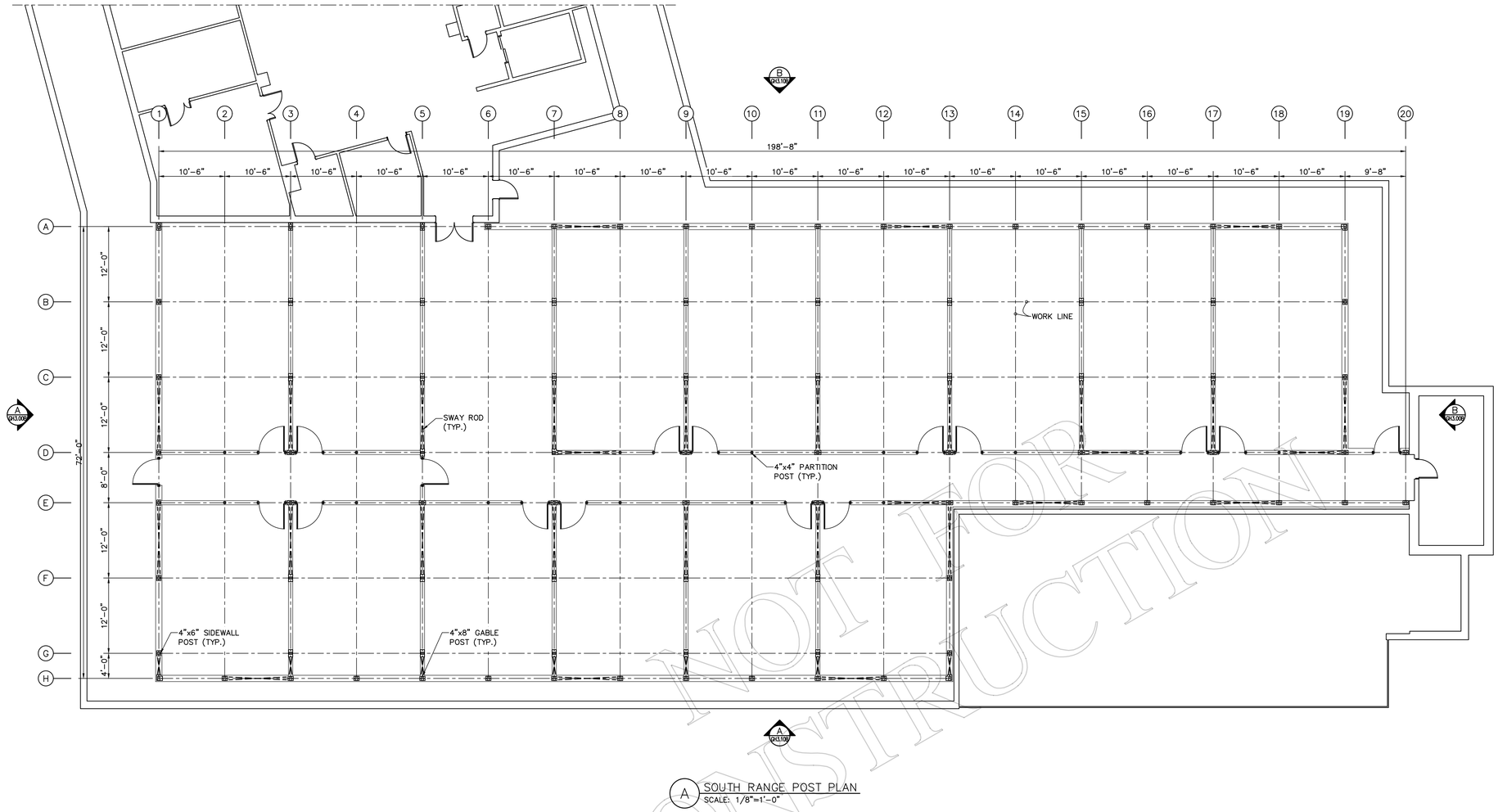
REVIEWED BY: ----- | DRAWN BY: BB

PROJECT No.: 2420004

POST PLAN

GH-1.00A

SAVE DATE: 01-14-2025
BBASS
FILE NAME: S:\INSTITUTIONAL\DESIGN\2024 JOBS\2420004 - UNIV KY ROOFTOP AND TEACHING HOUSE\DRAWINGS\GH1.00 - ROOF TOP\2420004 - GH1.00 - FOUNDATION AND POSTS.DWG



A SOUTH RANGE POST PLAN
SCALE: 1/8"=1'-0"

PRELIMINARY
DATE 01/14/2025
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PROSPIANT
5513 Vine Street - Cincinnati, OH 45217
(513) 242-0310 - www.Prospiant.com

CONSULTING ENGINEER:
MOHAMED ALY, PE
1460 Betty Drive - Beavercreek, OH 45434
(513) 460-1977

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ROOFTOP GREENHOUSE FOR UNIVERSITY OF KENTUCKY

1421 UNIVERSITY DRIVE LEXINGTON, KENTUCKY 40503

NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

RELEASE AND ISSUE:
QC Set 10/03/2024
EQUIP. PLAN 10/11/2024
UPDATE SET 01/14/2025

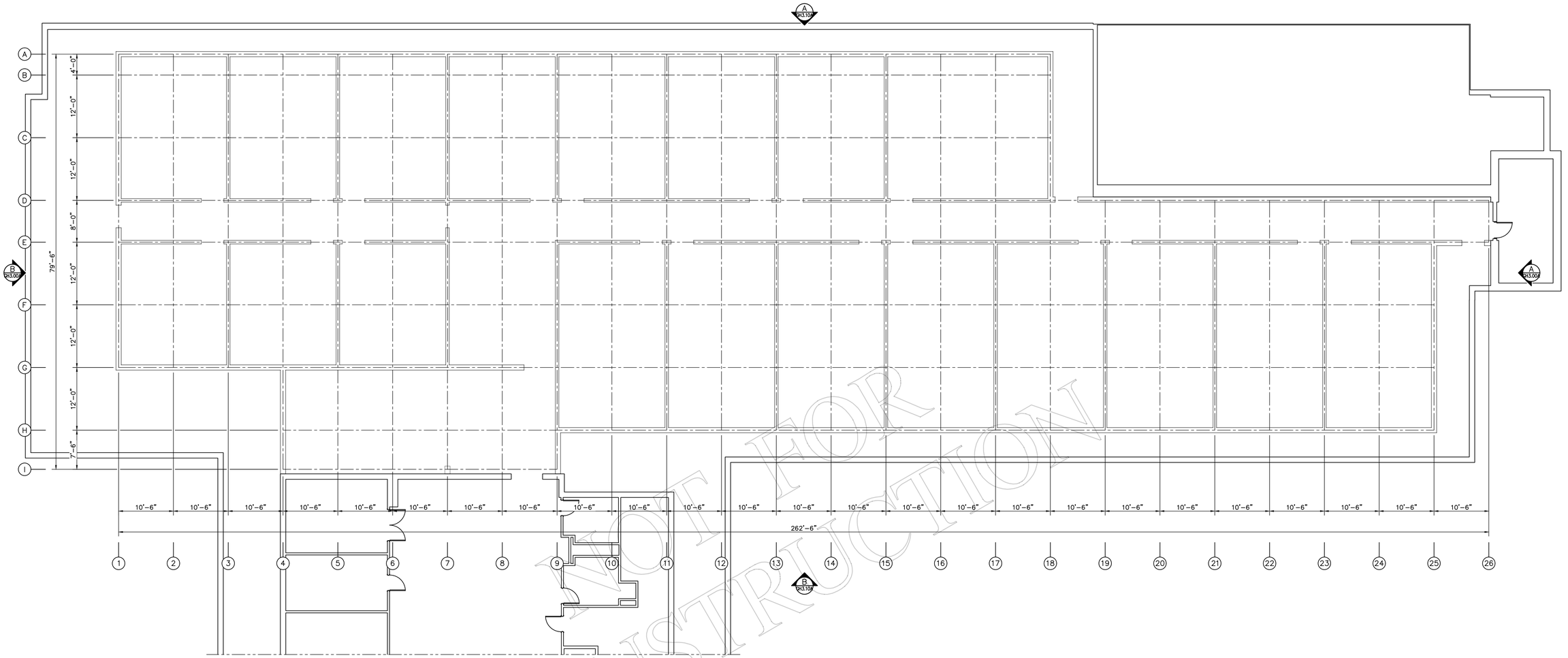
REVIEWED BY: ---
DRAWN BY: BB

PROJECT No.: 2420004

POST PLAN

GH-1.00B

SAVE DATE: 01-14-2025
BBASS
FILE NAME: S:\INSTITUTIONAL\DESIGN\2024 JOBS\2420004 - UNIV KY ROOFTOP AND TEACHING HOUSE\DRAWINGS\GH1.00 - ROOF TOP\2420004 - GH1.00 - FOUNDATION AND POSTS.DWG



A NORTH RANGE FOUNDATION PLAN
SCALE: 1/8"=1'-0"

PRELIMINARY
DATE 01/14/2025
PROSPIANT, INC. IS NOT RESPONSIBLE FOR CONSTRUCTION THAT IS BUILT FROM SET LABELED "PRELIMINARY"

PROSPIANT
5513 Vine Street - Cincinnati, OH 45217
(513) 242-0310 - www.Prospiant.com

CONSULTING ENGINEER:
MOHAMED ALY, PE
1460 Betty Drive - Beavercreek, OH 45434
(513) 460-1977

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ROOFTOP GREENHOUSE
FOR
UNIVERSITY OF KENTUCKY

1421 UNIVERSITY DRIVE, LEXINGTON, KENTUCKY 40503

NO.	DATE	DESCRIPTION

RELEASE AND ISSUE:
QC Set 10/03/2024
EQUIP. PLAN 10/11/2024
UPDATE SET 01/14/2025

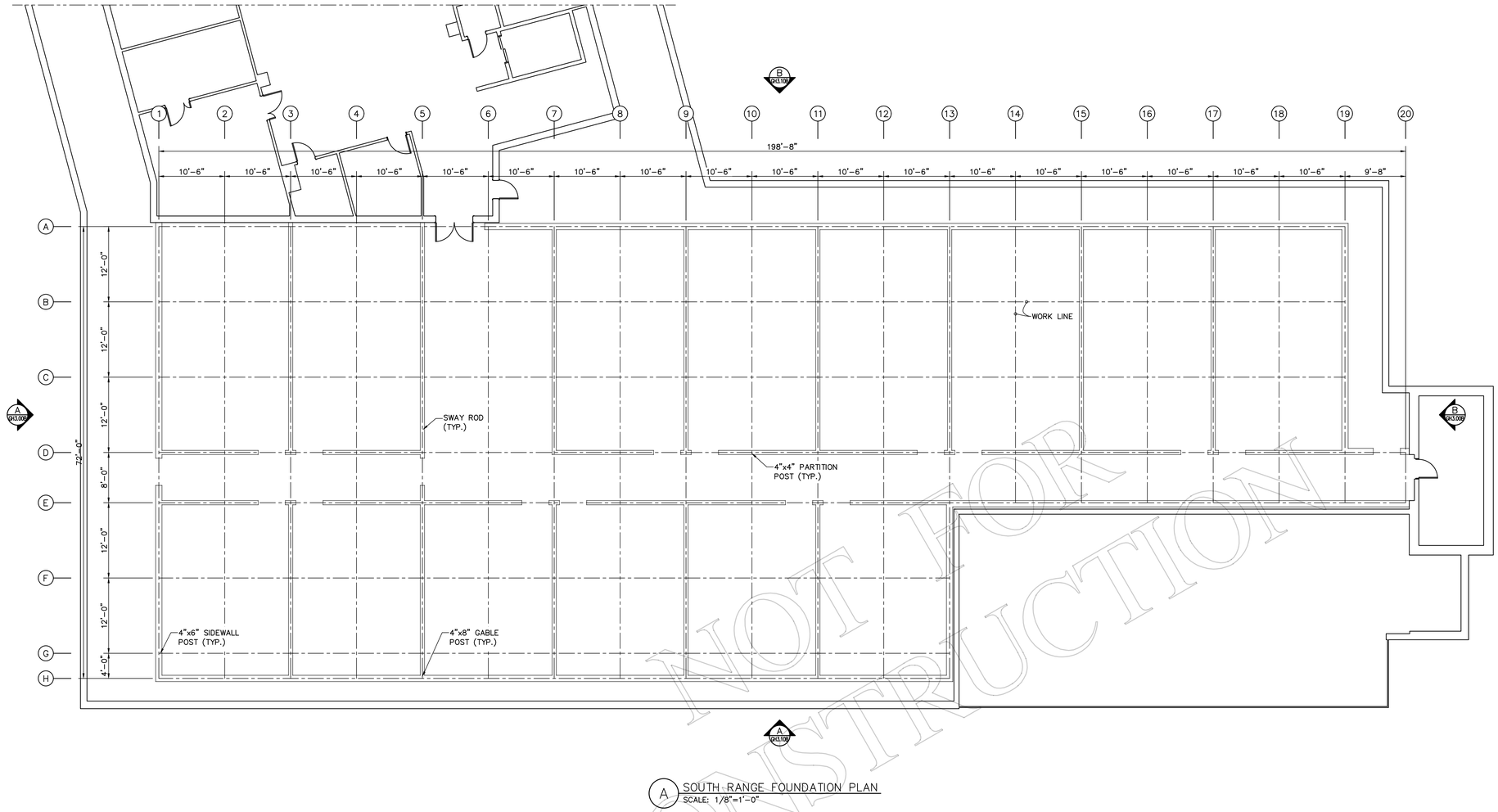
REVIEWED BY: ----- | DRAWN BY: BB

PROJECT No.: 2420004

FOUNDATION PLAN

GH-1.01A

SAVE DATE: 01-14-2025
BBASS
FILE NAME: S:\INSTITUTIONAL\DESIGN\2024 JOBS\2420004 - UNIV KY ROOFTOP AND TEACHING HOUSE\DRAWINGS\GH-0 - ROOF TOP\2420004 - GH-00 - FOUNDATION AND POSTS.DWG



A SOUTH RANGE FOUNDATION PLAN
SCALE: 1/8"=1'-0"

PRELIMINARY
DATE 01/14/2025
PROSPIANT, INC. IS NOT RESPONSIBLE FOR CONSTRUCTION THAT IS BUILT FROM SET LABELED "PRELIMINARY"

PROSPIANT
5513 Vine Street - Cincinnati, OH 45217
(513) 242-0310 - www.Prospiant.com

CONSULTING ENGINEER:
MOHAMED ALY, PE
1460 Betty Drive - Beavercreek, OH 45434
(513) 460-1977

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ENGINEER'S SEAL APPLIES TO DESIGN OF STRUCTURAL COMPONENTS ONLY

ROOFTOP GREENHOUSE
FOR
UNIVERSITY OF KENTUCKY

1421 UNIVERSITY DRIVE LEXINGTON, KENTUCKY 40503

NO.	DATE	DESCRIPTION
1		
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RELEASE AND ISSUE:
QC Set 10/03/2024
EQUIP. PLAN 10/11/2024
UPDATE SET 01/14/2025

REVIEWED BY: ---
DRAWN BY: BB

PROJECT No.: 2420004

FOUNDATION PLAN

GH-1.01B

SAVE DATE: 01-14-2025
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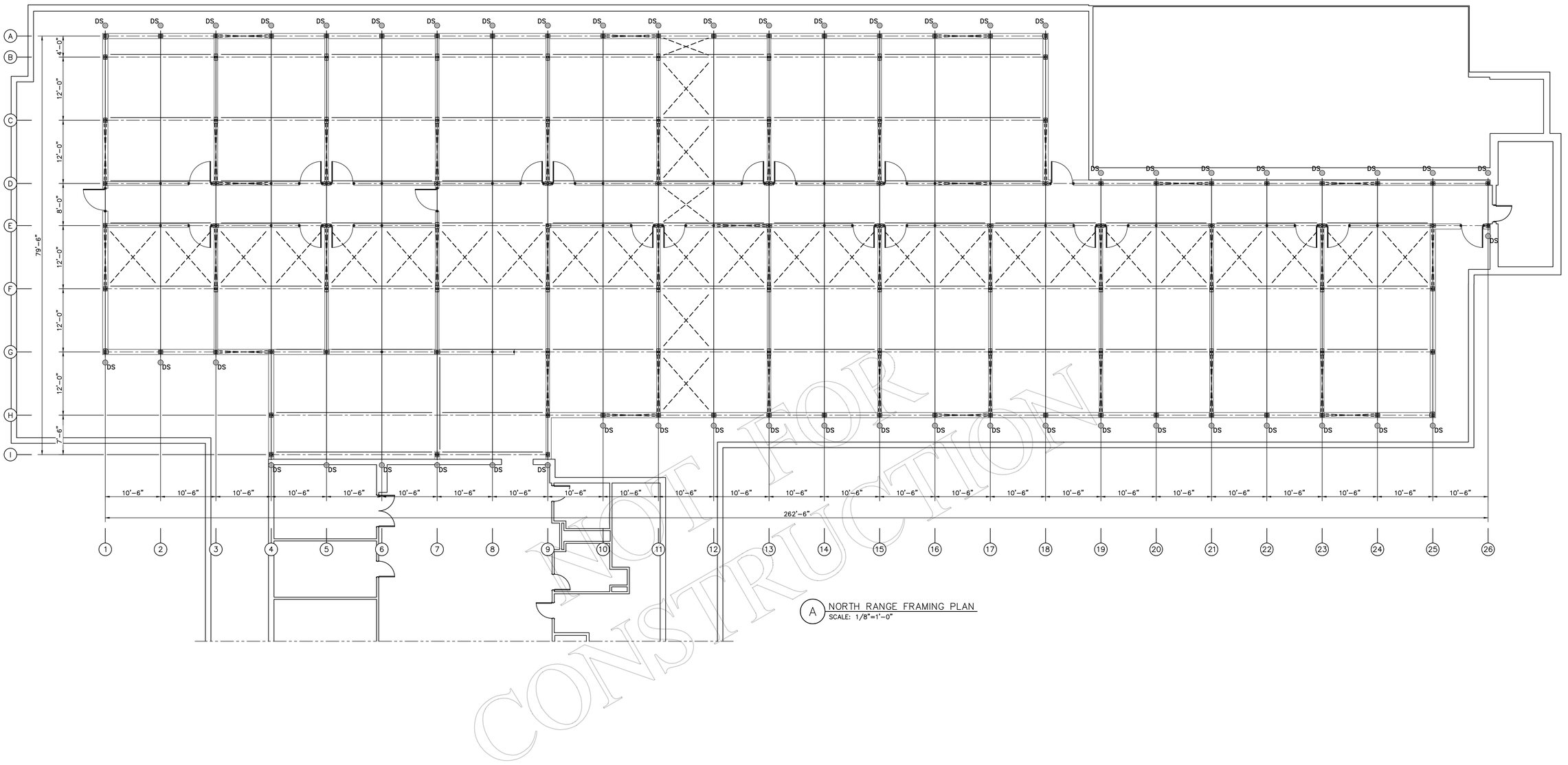
FILE NAME: S:\INSTITUTIONAL\DESIGN\2024 JOBS\2420004 - UNIV KY ROOFTOP AND TEACHING HOUSE\DRAWINGS\GH-0 - ROOF TOP\2420004 - GH1.00 - FOUNDATION AND POSTS.DWG



A NORTH RANGE FRAMING PLAN
SCALE: 1/8"=1'-0"

JOIST DESCRIPTION		
I.D. #	TYPE	QTY
JOIST #1	21'-0" [6.4M] DOUBLE PEAK JOIST – 2"x4" XXGA TOP AND BOTTOM CHORDS – 2" SQ. XXGA STRUTS	---

DOWNSPOUT SCHEDULE		
I.D. #	TYPE	QTY
DS	EXTERNAL DOWNSPOUT	52

PRELIMINARY
DATE 01/14/2025
PROSPIANT, INC. IS NOT RESPONSIBLE FOR CONSTRUCTION THAT IS BUILT FROM SET LABELED "PRELIMINARY"

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FILE NAME: S:\INSTITUTIONAL\DESIGN\2024 JOBS\2420004 - UNIV KY ROOFTOP AND TEACHING HOUSE\DRAWINGS\2420004 - ROOF TOP\2420004 - GH2.00 - TRUSS AND STRUCTURAL.DWG

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ROOFTOP GREENHOUSE FOR UNIVERSITY OF KENTUCKY

1421 UNIVERSITY DRIVE, LEXINGTON, KENTUCKY 40503

NO.	DATE	DESCRIPTION

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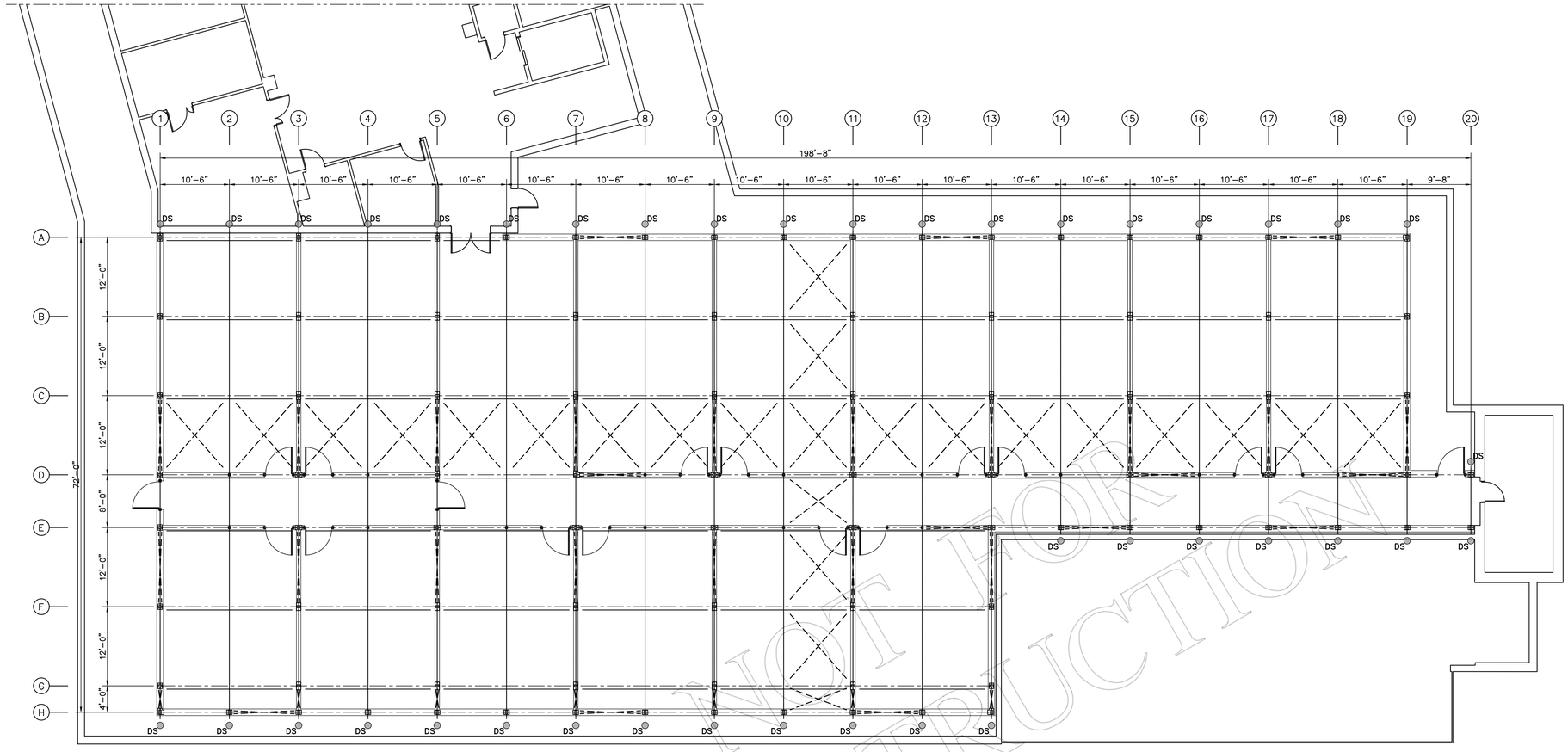
PROJECT No.: 2420004

FRAMING PLAN

GH-2.00A



A SOUTH RANGE FRAMING PLAN
SCALE: 1/8"=1'–0"

JOIST DESCRIPTION		
I.D. #	TYPE	QTY
JOIST #1	21'–0" [6.4M] DOUBLE PEAK JOIST – 2"x4" XXGA TOP AND BOTTOM CHORDS – 2" SQ. XXGA STRUTS	---

DOWNSPOUT SCHEDULE		
I.D. #	TYPE	QTY
DS	EXTERNAL DOWNSPOUT	40

PRELIMINARY
DATE 01/14/2025
PROSPIANT, INC. IS NOT RESPONSIBLE FOR CONSTRUCTION THAT IS BUILT FROM SET LABELED "PRELIMINARY"

SAVE DATE: 01-14-2025

BB4SS

FILE NAME: S:\INSTITUTIONAL\DESIGN\2024_JOBS\2420004 - UNIV KY ROOFTOP AND TEACHING HOUSE\PLANS\DWGS\2420004 - UK ROOFTOP - ROOF 20K\2420004 - UK ROOFTOP - GH2.00 - TRUSS AND STRUCTURAL.DWG

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ROOFTOP GREENHOUSE FOR UNIVERSITY OF KENTUCKY

1421 UNIVERSITY DRIVE, LEXINGTON, KENTUCKY 40503

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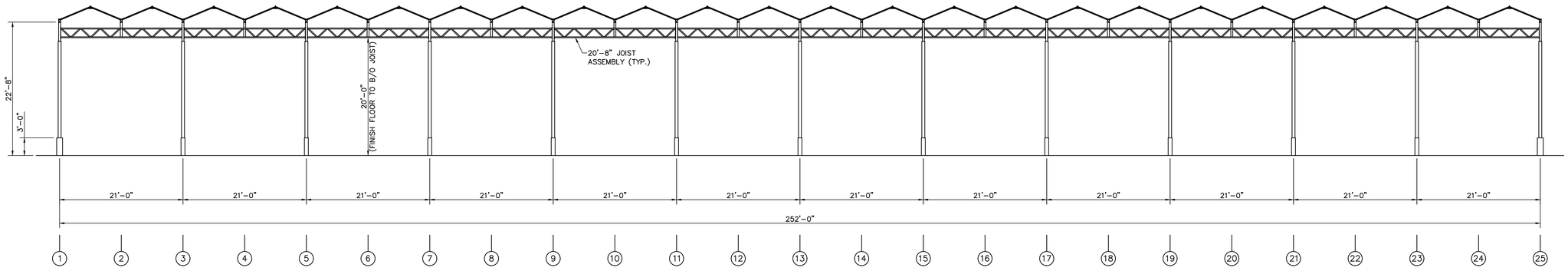
REVIEWED BY: ----
DRAWN BY: BB

PROJECT No.: 2420004

FRAMING PLAN

GH-2.00B



A NORTH RANGE TRUSS CROSS SECTION
SCALE: 1/8"=1'-0"

PRELIMINARY
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FOR
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1421 UNIVERSITY DRIVE LEXINGTON, KENTUCKY 40503

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JOIST SECTIONS

GH-2.10A

SAVE DATE: 01-14-2025
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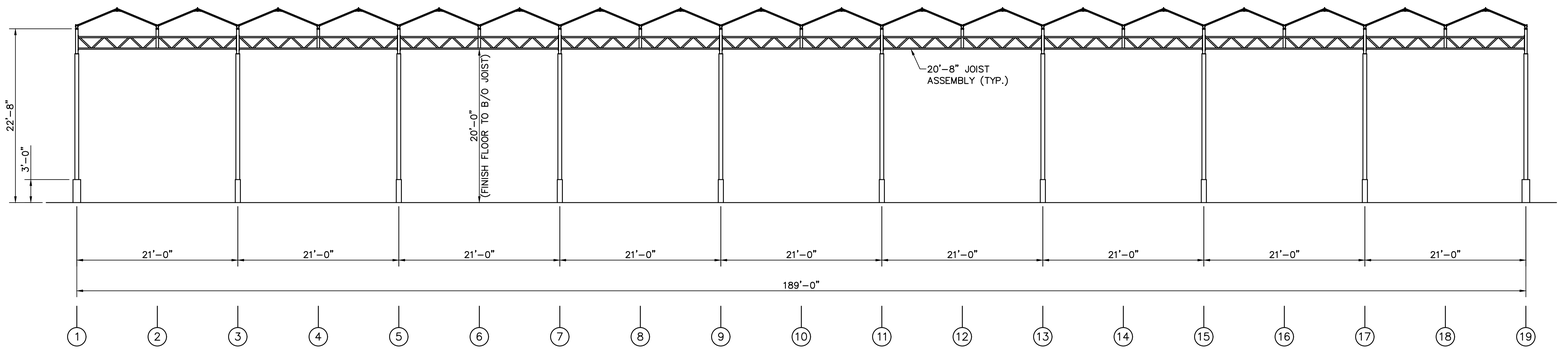
FILE NAME: S:\INSTITUTIONAL\DESIGN\2024 JOBS\2420004 - UNIV KY ROOFTOP AND TEACHING HOUSE\DRAWINGS\GH2.0 - ROOF TOP\2420004 - GH2.00 - TRUSS AND STRUCTURAL.DWG



A SOUTH RANGE TRUSS CROSS SECTION
SCALE: 1/8"=1'-0"

PRELIMINARY
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FOR
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1421 UNIVERSITY DRIVE LEXINGTON, KENTUCKY 40503

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PROJECT No.: 2420004

JOIST SECTIONS

GH-2.10B

SAVE DATE: 01-14-2025
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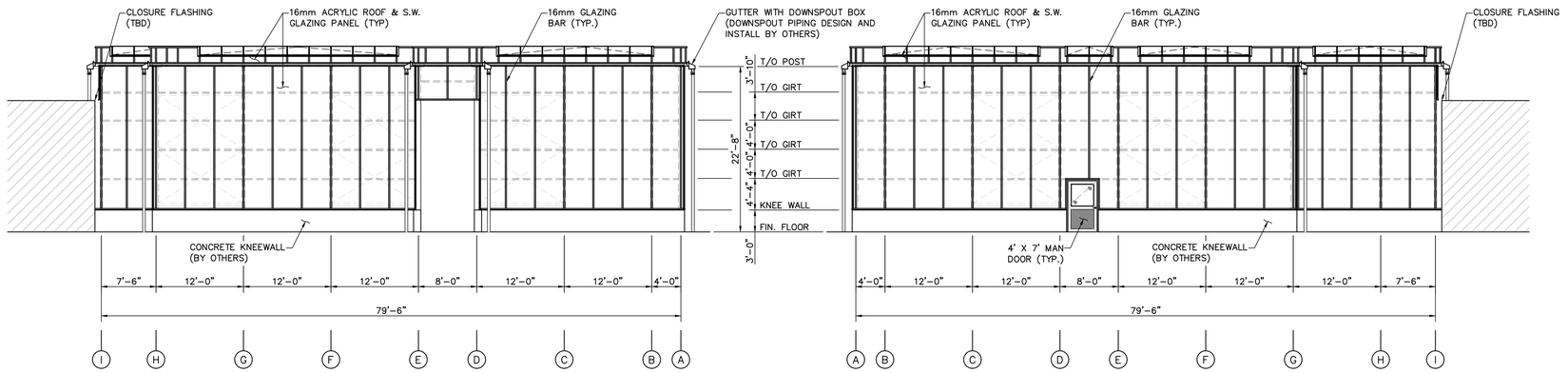

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1421 UNIVERSITY DRIVE LEXINGTON, KENTUCKY 40503

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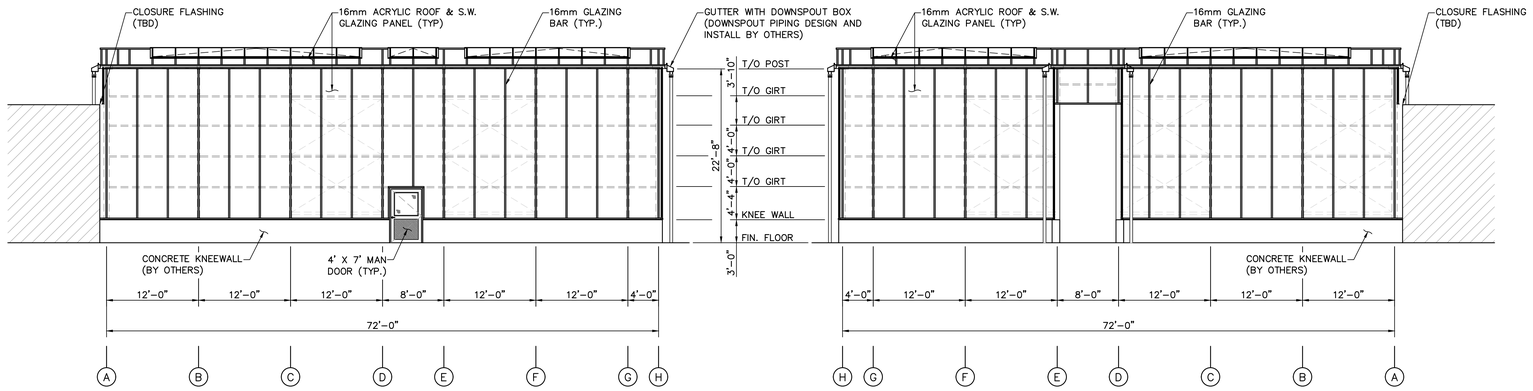
PROJECT No.: 2420004

SIDEWALL ELEVATIONS

GH-3.00A

SAVE DATE: 01-14-2025
BBASS
FILE NAME: S:\INSTITUTIONAL\DESIGN\2024 JOBS\2420004 - UNIV KY ROOFTOP AND TEACHING HOUSE\DRAWINGS\GH3.00 - ROOF TOP\2420004 - GH3.00 - ELEVATIONS.DWG



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

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

PRELIMINARY
DATE 01/14/2025
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FILE NAME: S:\INSTITUTIONAL\DESIGN\2024 JOBS\2420004 - UNIV KY ROOFTOP AND TEACHING HOUSE\DRAWINGS\GH3.00 - ROOF TOP\2420004 - GH3.00 - ELEVATIONS.DWG

BBASS

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ROOFTOP GREENHOUSE
FOR
UNIVERSITY OF KENTUCKY
1421 UNIVERSITY DRIVE LEXINGTON, KENTUCKY 40503

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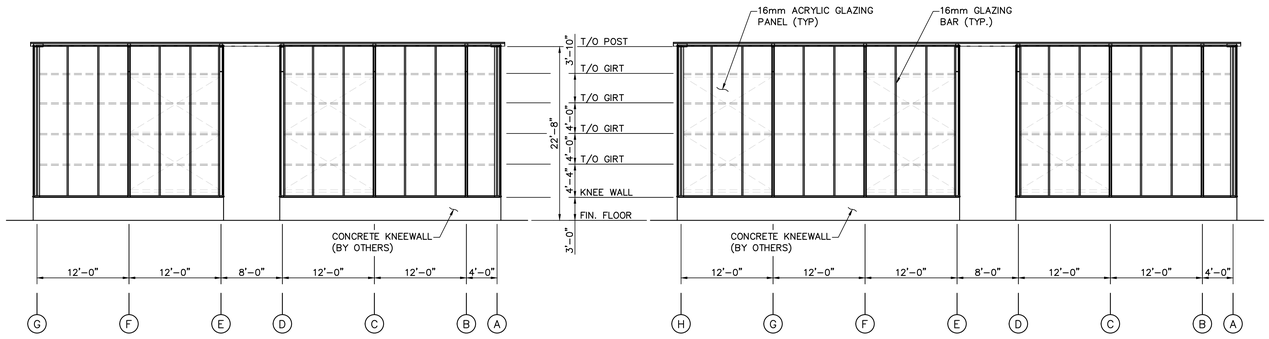
EQUIP. PLAN 10/11/2024
UPDATE SET 01/14/2025

REVIEWED BY: ---
DRAWN BY: BD/CBG

PROJECT No.: 2420004

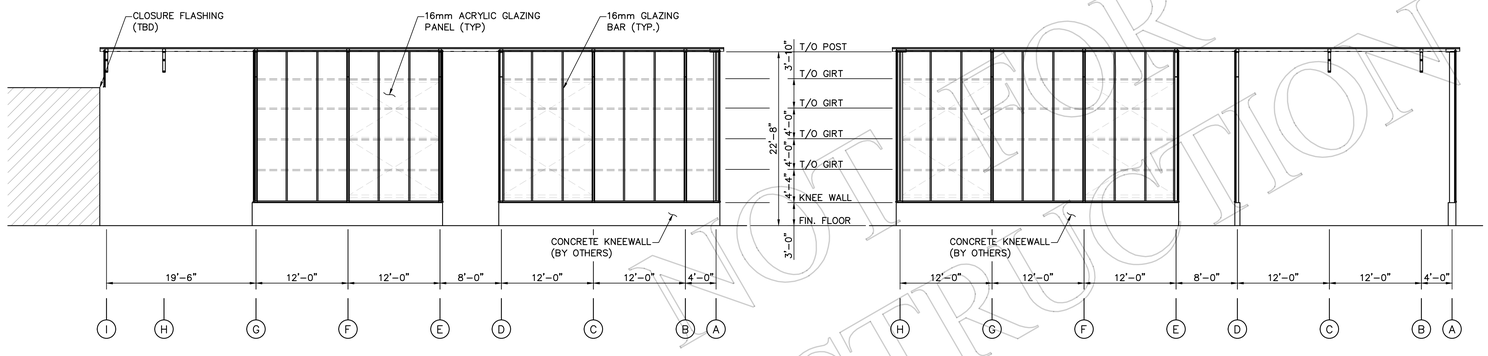
SIDEWALL ELEVATIONS

GH-3.00B



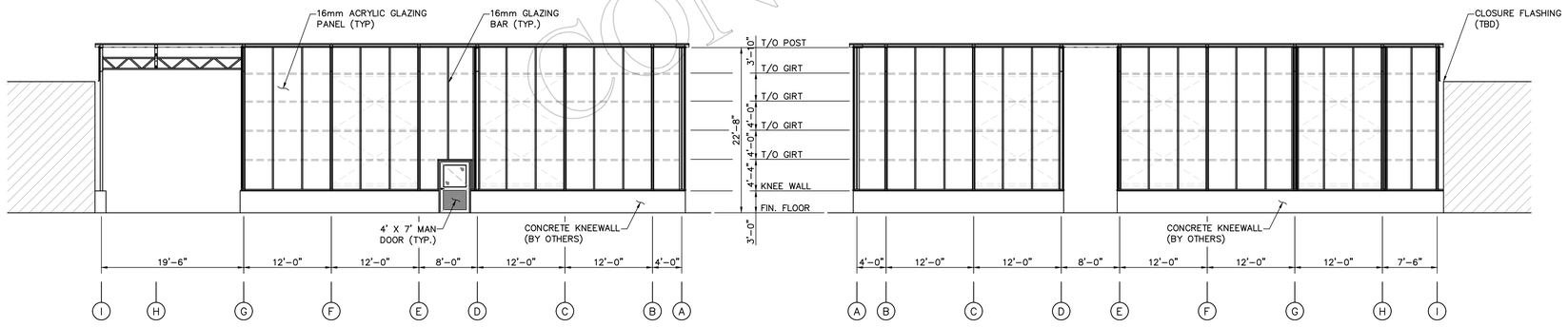
A NORTH RANGE PARTITION ELEVATION @ C.L. 3
SCALE: 1/8"=1'-0"

B NORTH RANGE PARTITION ELEVATION @ C.L. 11,13,&15
SCALE: 1/8"=1'-0"



C NORTH RANGE PARTITION ELEVATION @ C.L. 5
SCALE: 1/8"=1'-0"

D NORTH RANGE PARTITION ELEVATION @ C.L. 17
SCALE: 1/8"=1'-0"



E NORTH RANGE PARTITION ELEVATION @ C.L. 7
SCALE: 1/8"=1'-0"

F NORTH RANGE PARTITION ELEVATION @ C.L. 9
SCALE: 1/8"=1'-0"

PRELIMINARY
DATE 01/14/2025
PROSPIANT, INC. IS NOT RESPONSIBLE FOR CONSTRUCTION THAT IS BUILT FROM SET LABELED "PRELIMINARY"

SAVE DATE: 01-14-2025

FILE NAME: S:\INSTITUTIONAL\DESIGN\2024_JOBS\2420004 - UNIV KY ROOFTOP AND TEACHING HOUSE\DRAWINGS\2420004 - ROOF TOP'S\2420004 - UK ROOFTOP - GH3.00 - ELEVATIONS.DWG

BB/ASS

PROSPIANT

5513 Vine Street - Cincinnati, OH 45217
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CONSULTING ENGINEER:
MOHAMED ALY, PE
1460 Betty Drive - Beavercreek, OH 45434
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ENGINEER'S SEAL APPLIES TO DESIGN OF STRUCTURAL COMPONENTS ONLY

ROOFTOP GREENHOUSE
FOR
UNIVERSITY OF KENTUCKY

1421 UNIVERSITY DRIVE LEXINGTON, KENTUCKY 40503

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RELEASE AND ISSUE:
QC Set 10/03/2024
EQUIP. PLAN 10/11/2024
UPDATE SET 01/14/2025

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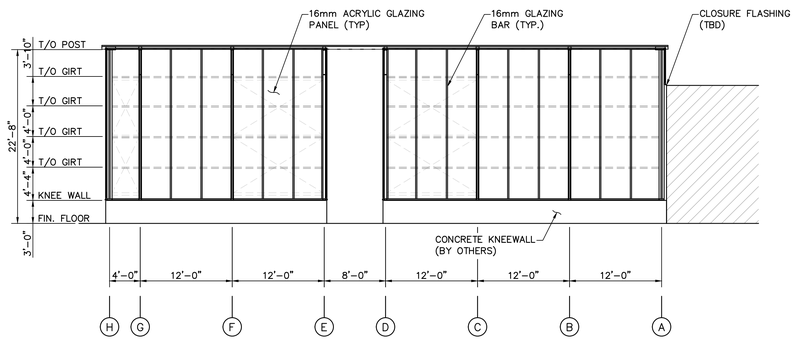
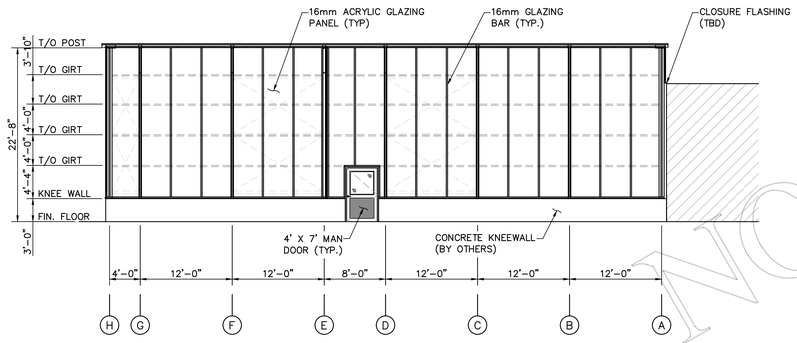
PROJECT No.: 2420004

SIDEWALL PARTITION ELEVATIONS

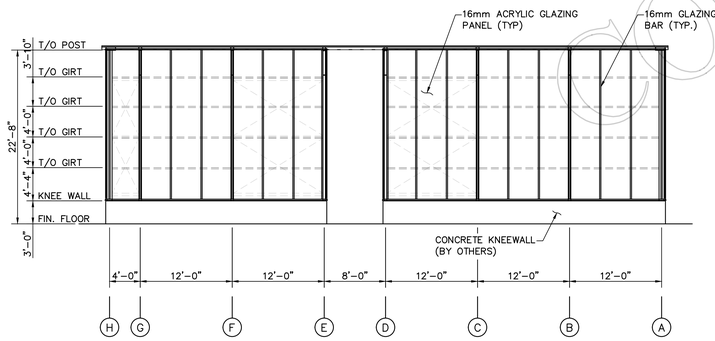
GH-3.01A



A SOUTH RANGE PARTITION ELEVATION @ C.L. 3
SCALE: 1/8"=1'-0"



B SOUTH RANGE PARTITION ELEVATION @ C.L. 5
SCALE: 1/8"=1'-0"



C SOUTH RANGE PARTITION ELEVATION @ C.L. 7,9,&11
SCALE: 1/8"=1'-0"

PRELIMINARY
DATE 01/14/2025
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FOR
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1421 UNIVERSITY DRIVE LEXINGTON, KENTUCKY 40503

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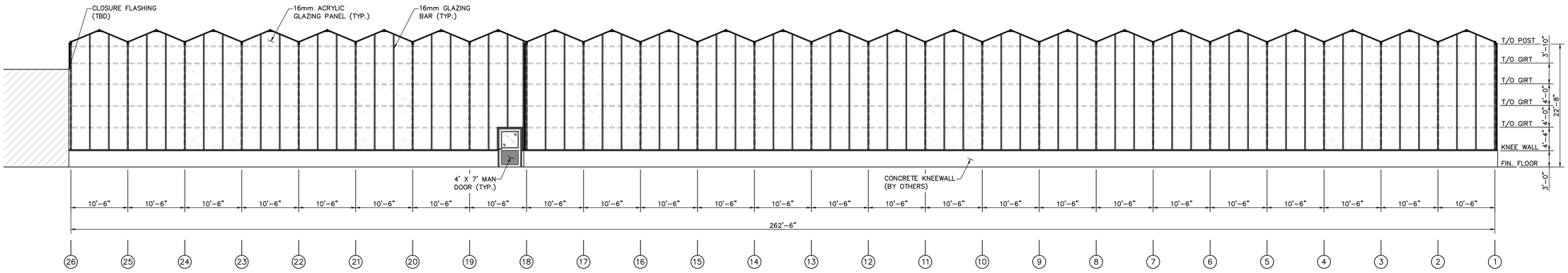
PROJECT No.: 2420004

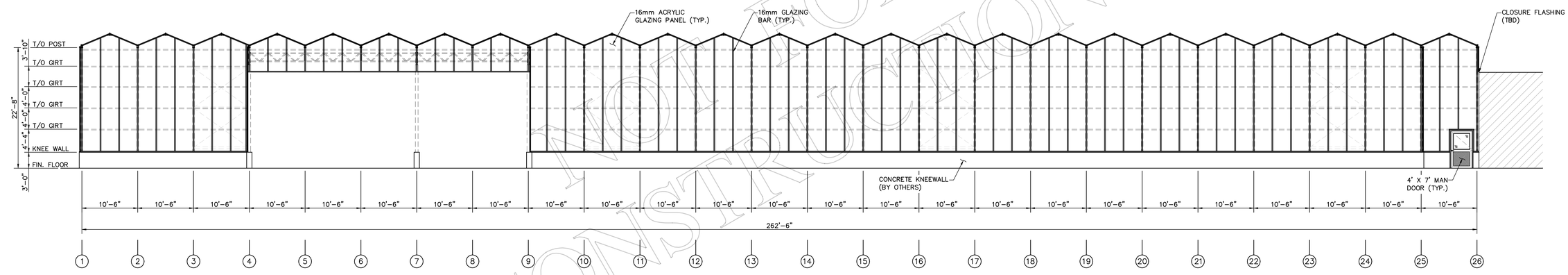
SIDEWALL PARTITION ELEVATIONS

GH-3.01B

SAVE DATE: 01-14-2025
BBASS
FILE NAME: S:\INSTITUTIONAL\DESIGN\2024_ABS\2420004 - UNIV KY ROOFTOP AND TEACHING HOUSE\DRAWINGS\2420 - ROOF TOP\2420004 - UK ROOFTOP - GH3.00 - ELEVATIONS.DWG



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



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

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GABLE ELEAVTIONS

GH-3.10A

SAVE DATE: 01-14-2025

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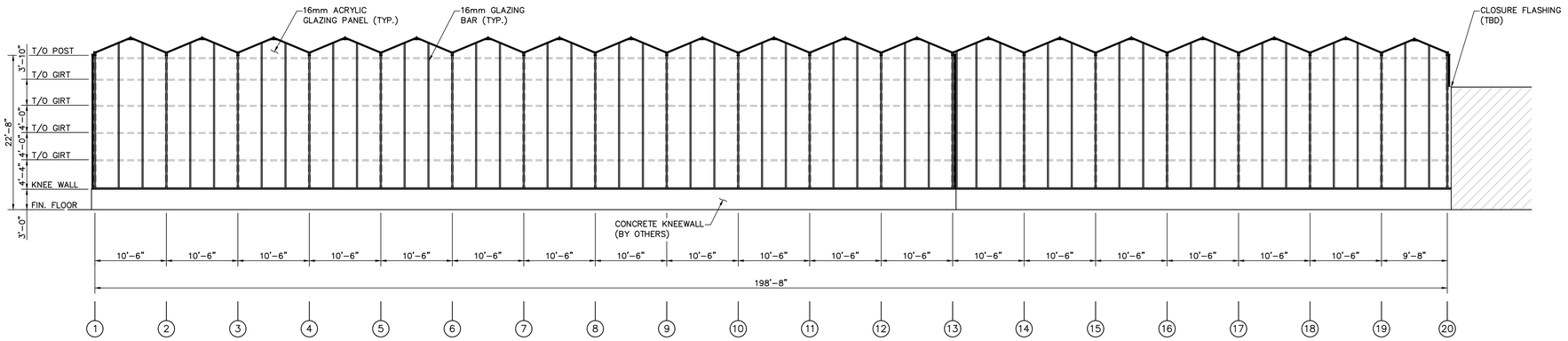
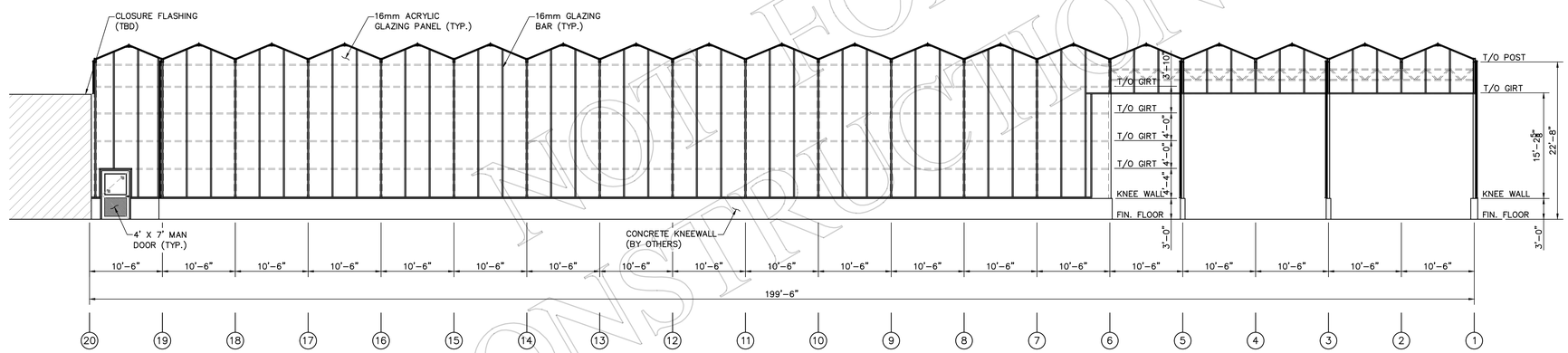
FILE NAME: S:\INSTITUTIONAL\DESIGN\2024_JOBS\2420004 - UNIV KY ROOFTOP AND TEACHING HOUSE\DRAWINGS\DWG\2 - ROOF TOP\2420004 - UK ROOFTOP - GH3.00 - ELEVATIONS.DWG



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



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

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GABLE ELEAVTIONS

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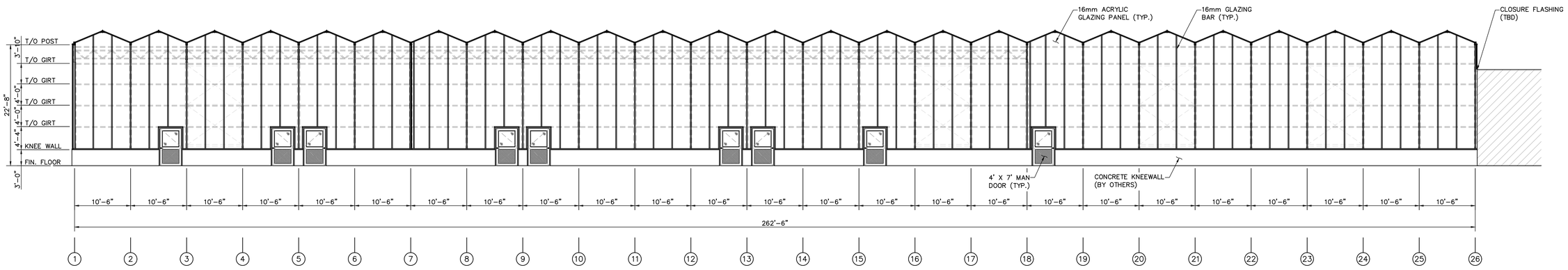
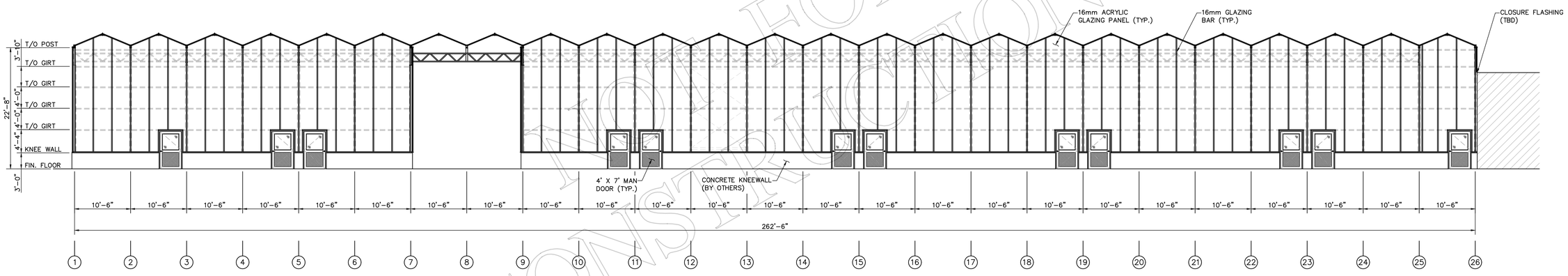
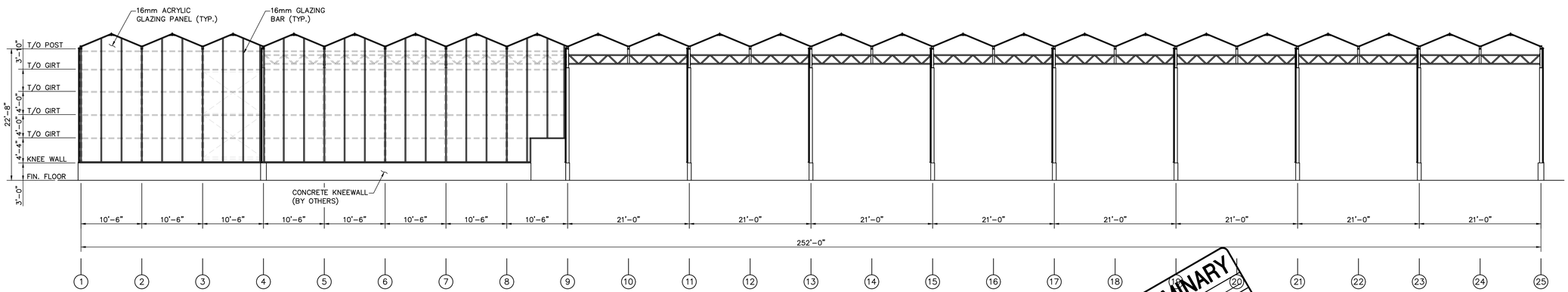


A NORTH RANGE PARTITION ELEVATION @ C.L. D
SCALE: 1/8"=1'-0"



B NORTH RANGE PARTITION ELEVATION @ C.L. E
SCALE: 1/8"=1'-0"



C NORTH RANGE PARTITION ELEVATION @ C.L. G
SCALE: 1/8"=1'-0"

PROSPIANT
5513 Vine Street - Cincinnati, OH 45217
(513) 242-0310 - www.Prospiant.com

CONSULTING ENGINEER:
MOHAMED ALY, PE
1460 Betty Drive - Beavercreek, OH 45434
(513) 460-1977

NOT FOR CONSTRUCTION

PROSPIANT, INC.
IS NOT RESPONSIBLE FOR CONSTRUCTION THAT IS BUILT FROM SET LABELED "NOT FOR CONSTRUCTION"

ENGINEER'S SEAL APPLIES TO DESIGN OF STRUCTURAL COMPONENTS ONLY

ROOFTOP GREENHOUSE FOR UNIVERSITY OF KENTUCKY

1421 UNIVERSITY DRIVE LEXINGTON, KENTUCKY 40503

NO.	DATE	DESCRIPTION

RELEASE AND ISSUE:
QC Set 10/03/2024
EQUIP. PLAN 10/11/2024
UPDATE SET 01/14/2025

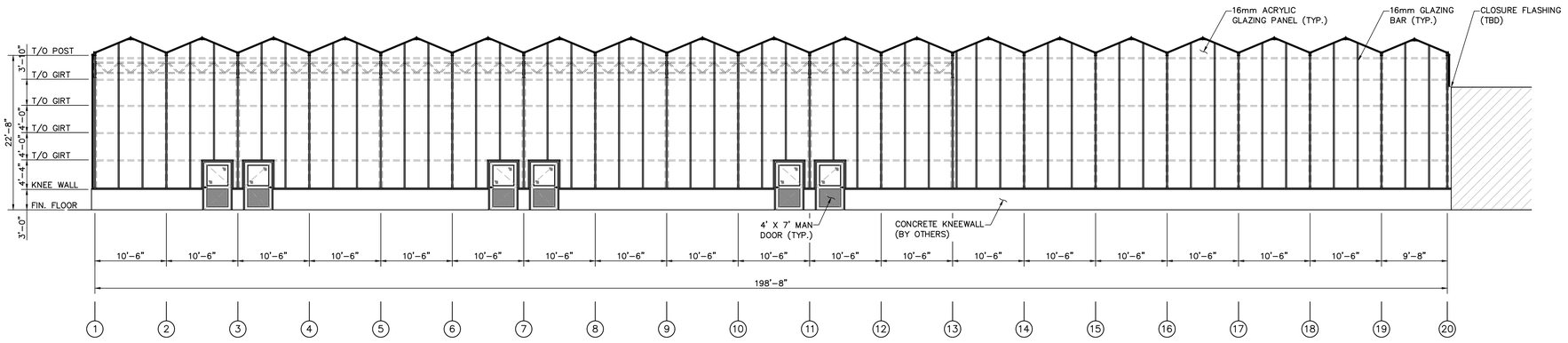
REVIEWED BY:	DRAWN BY:
----	BB

PROJECT No.: 2420004

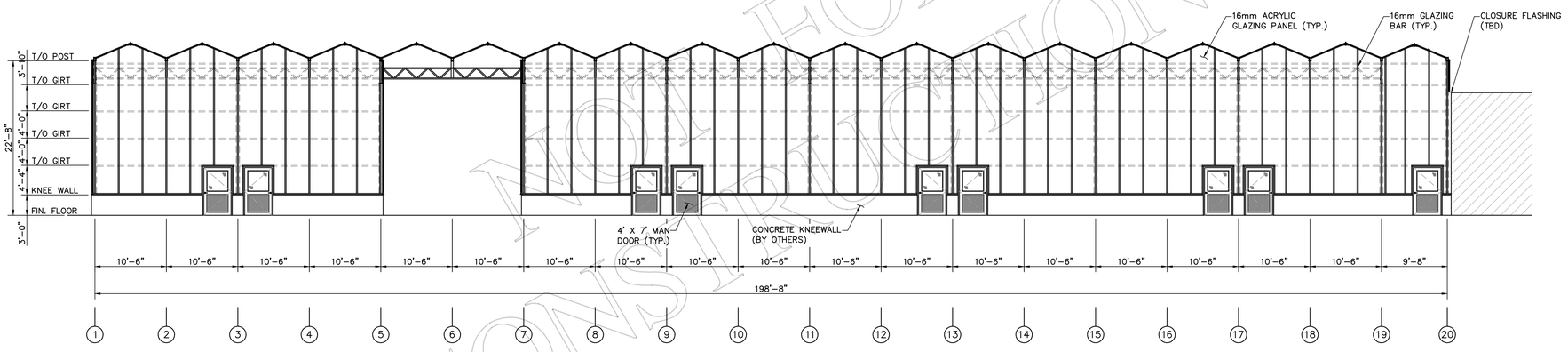
GABLE PARTITION ELEAVTIONS

GH-3.11A

SAVE DATE: 01-14-2025
BBASS
FILE NAME: S:\INSTITUTIONAL\DESIGN\2024_JOBS\2420004 - UNIV KY ROOFTOP AND TEACHING HOUSE\DRAWINGS\DEVELO - ROOF TOP\2420004 - UK ROOFTOP - SHL100 - ELEVATIONS.DWG



A SOUTH RANGE PARTITION ELEVATION @ C.L. E
SCALE: 1/8"=1'-0"



B SOUTH RANGE PARTITION ELEVATION @ C.L. D
SCALE: 1/8"=1'-0"

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ROOFTOP GREENHOUSE
FOR
UNIVERSITY OF KENTUCKY

1421 UNIVERSITY DRIVE LEXINGTON, KENTUCKY 40503

NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

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EQUIP. PLAN 10/11/2024
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REVIEWED BY:	DRAWN BY:
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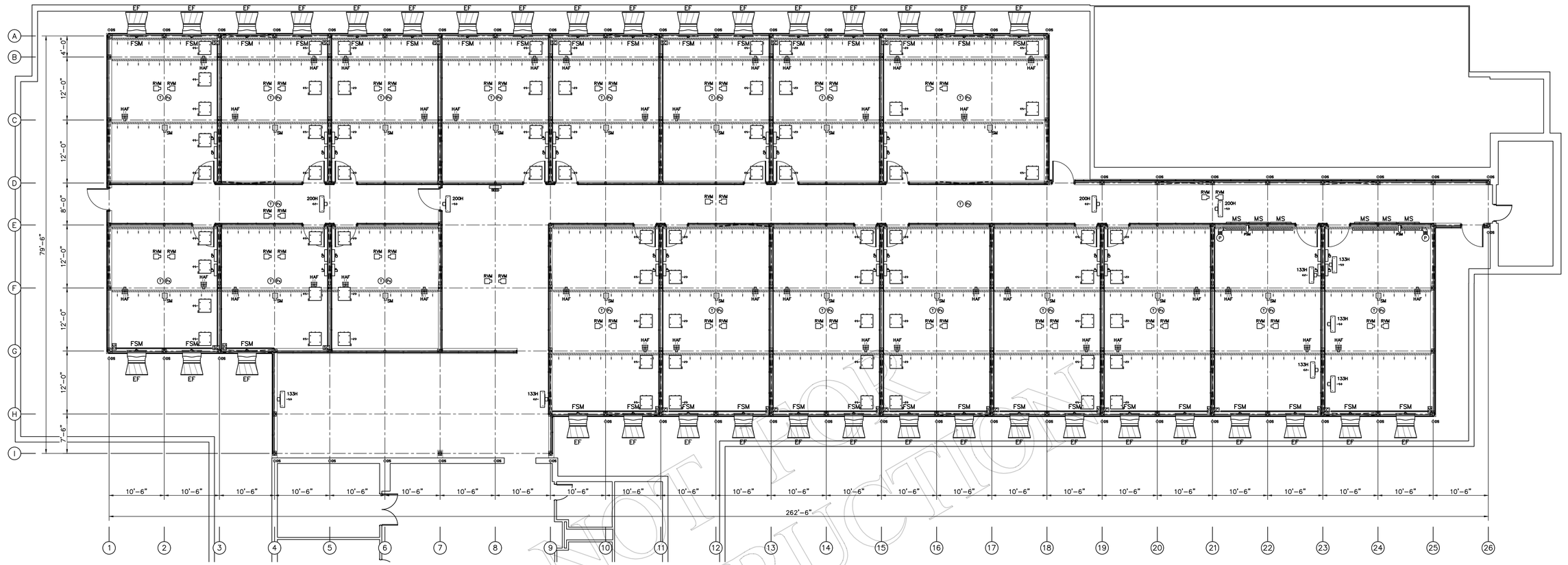
PROJECT No.: 2420004

GABLE PARTITION ELEAVTIONS

GH-3.11B

SAVE DATE: 01-14-2025
BB&SS
FILE NAME: S:\INSTITUTIONAL\DESIGN\2024_JOBS\2420004 - UNIV KY ROOFTOP AND TEACHING HOUSE\DRAWINGS\2420-0 - ROOF TOP\2420004 - UK ROOFTOP - (H)A30 - ELEVATIONS.DWG



A NORTH RANGE EQUIPMENT PLAN
SCALE: 1/8"=1'-0"

EQUIPMENT SCHEDULE							
SYMBOL	QTY.	DESCRIPTION	HP	VOLT	PH	AMP	RPM
RVM.#	44	ROOF VENT MOTOR, LOCK EWA50.1503, 150Nm, WITH OPEN/CLOSE LIMIT SWITCH	.5	120	1	3.6	3.2
SM.#	19	SHADE MOTOR, LOCK EWA50.1503, 150Nm, WITH OPEN/CLOSE LIMIT SWITCH	.5	120	1	3.6	3.2
HAF.#	39	PROSPIANT 12" HORIZONTAL AIRFLOW FAN. (MOUNT TO TRUSS BOTTOM CHORD, DO NOT MOUNT TO LIGHT SUPPORTS).	1/10	115	1	1.3	1725
EF.#	36	36" EXHAUST FAN, MUNTERS VX36-HE W/ FIBERGLASS HOUSING, DISCHARGE CONE **AND OSHA INLET & OUTLET GUARDS**	.5	460	3	1.3	796
	54	MOTORIZED SUSPENDED ROOF SHADE/HEAT RETENTION CURTAIN SYSTEM. FLAME RETARDANT SHADE FABRIC WITH XX% LIGHT REDUCTION FACTOR. 50% SHADE FACTOR	–	–	–	–	–
FSM	36	42" MOTORIZED SHUTTER, MUNTERS SW42 ALUMINUM SHUTTER	–	24	1	1.0	–
MS	6	60" MOTORIZED SHUTTER, MUNTERS SW60 ALUMINUM SHUTTER W/ (1) PAD SHUTTER MOTOR (PSM.#) FOR EVERY (4) SHUTTERS. (SEE BELOW FOR PSM.# DATA)	–	–	–	–	–
PSM.#	2	BELIMO AFBUP [180 IN-LB (20 Nm)] ACTUATOR	–	24	1	1.0	–
EP.1	2	MUNTERS "CT" EVAPORATIVE COOLING PAD SYSTEM, 6" THK. X 5'-0" H X 12'-6" LG. W/ 10" PVC SUMP TANK, PUMP (SEE BELOW) & PIPING, W/ MUNTERS CELDEK PADS, DISTRIBUTION PIPE, RETURN GUTTERS, AND END PANELS	–	–	–	–	–
P	2	MUNTERS EC1319 (LITTLE GIANT 6EN-CIM), SUBMERSIBLE PUMP	1/3	115	1	6.0	–
	75	SIGMA SGHO-B-030 1250CFM FAN COIL UNIT	1/2	277	1	2.2	–

EQUIPMENT SCHEDULE							
SYMBOL	QTY.	DESCRIPTION	HP	VOLT	PH	AMP	RPM
133H	7	SIGMA 133H 2600CFM HOT WATER UNIT HEATER	1/4	120	1	3.5	–
200H	4	SIGMA 200H 4280CFM HOT WATER UNIT HEATER	1/2	120	1	5.6	–
LS	–	ROLL UP VERTICAL SHADE SYSTEM – LOCK RMA 20 TUBE MOTOR	–	120	1	2.3	12
DS	52	6" ALUM. DOWNSPOUT PIPING	–	–	–	–	–
SEED	1	ENVIRONMENTAL CONTROL SYSTEM, WADSWORTH SEED CONTROL PANEL	–	–	–	–	–
CP.#	19	WADSWORTH CONTACTOR PANEL	–	–	–	–	–
LP.#	19	WADSWORTH LIGHTING CONTROL PANEL	–	–	–	–	–
WS.#	1	WADSWORTH OUTDOOR WEATHER STATION, W/ MAST	–	24	–	–	–
T.#	21	WADSWORTH ASPIRATOR TEMPERATURE/HUMIDITY SENSOR (INSTALLED BY ELECTRICAL CONTRACTOR)	–	24	–	–	–
PX.#	21	WADSWORTH APOGEE SQ512 INDOOR LIGHT SENSOR W/ APOGEE AI-100 SENSOR LEVELING PLATE	–	24	–	–	–

PRELIMINARY
DATE 01/14/2025
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ROOFTOP GREENHOUSE
FOR
UNIVERSITY OF KENTUCKY
1421 UNIVERSITY DRIVE LEXINGTON, KENTUCKY 40503

NO.	DATE	DESCRIPTION

RELEASE AND ISSUE:
QC Set 10/03/2024
EQUIP. PLAN 10/11/2024
UPDATE SET 01/14/2025

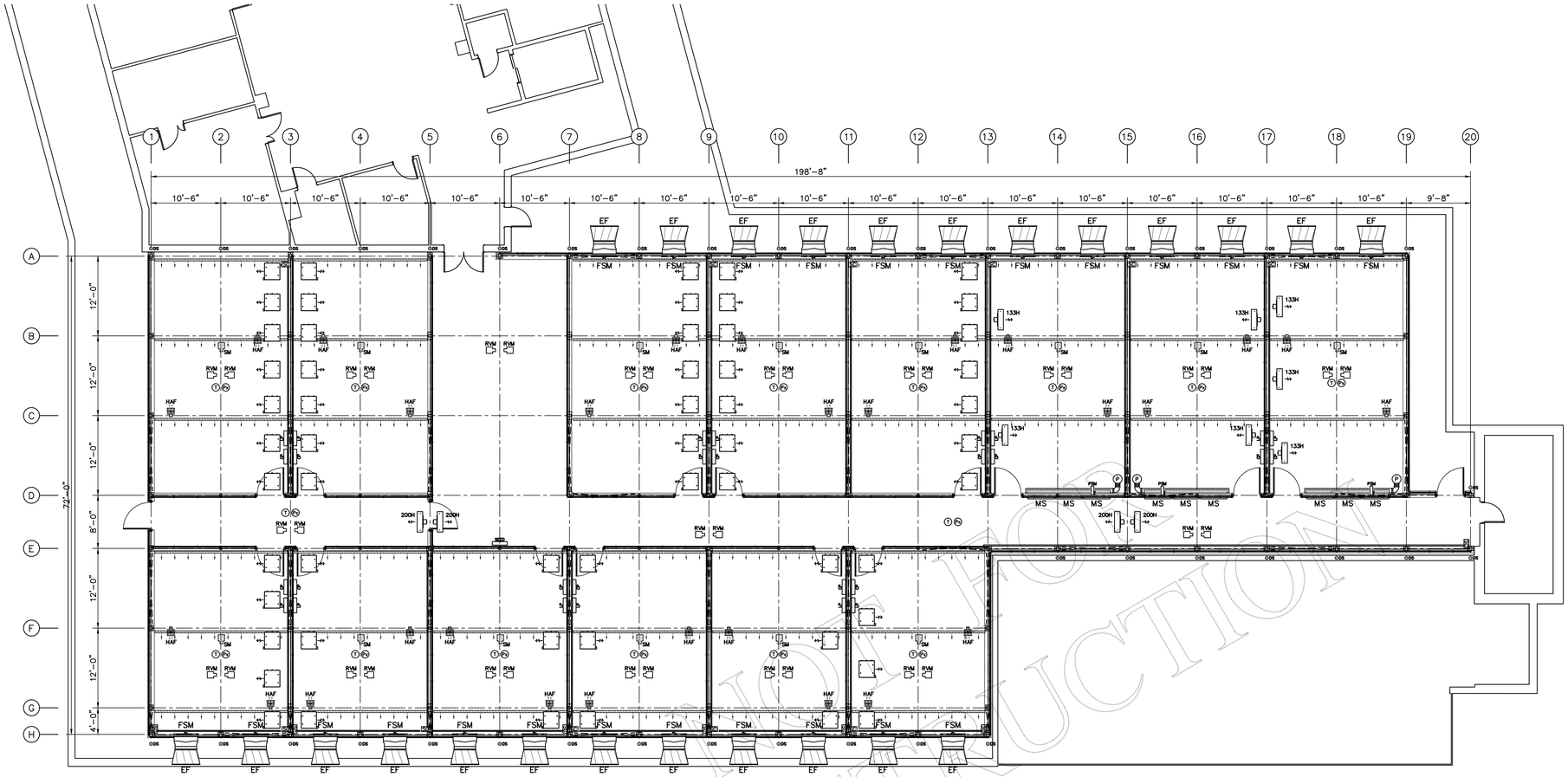
REVIEWED BY: ----
DRAWN BY: BB

PROJECT No.: 2420004

NORTH EQUIPMENT PLAN

GE-1.00A

SAVE DATE: 01-14-2025
BBASS
FILE NAME: S:\INSTITUTIONAL\DESIGN\2024 JOBS\2420004 - UNIV KY ROOFTOP AND TEACHING HOUSE\DRAWINGS\2420-0 - ROOF TOP\2420004 - GH-00 - FOUNDATION AND POSTS.DWG



A SOUTH RANGE EQUIPMENT PLAN
SCALE: 1/8"=1'-0"

EQUIPMENT SCHEDULE							
SYMBOL	QTY.	DESCRIPTION	HP	VOLT	PH	AMP	RPM
RVM.#	36	ROOF VENT MOTOR, LOCK EWA50.1503, 150Nm, WITH OPEN/CLOSE LIMIT SWITCH	.5	120	1	3.6	3.2
SM.#	14	SHADE MOTOR, LOCK EWA50.1503, 150Nm, WITH OPEN/CLOSE LIMIT SWITCH	.5	120	1	3.6	3.2
HAF.#	28	PROSPIANT 12" HORIZONTAL AIRFLOW FAN. (MOUNT TO TRUSS BOTTOM CHORD, DO NOT MOUNT TO LIGHT SUPPORTS).	1/10	115	1	1.3	1725
EF.#	24	36" EXHAUST FAN, MUNTERS VX36-HE W/ FIBERGLASS HOUSING, DISCHARGE CONE **AND OSHA INLET & OUTLET GUARDS**	.5	460	3	1.3	796
	42	MOTORIZED SUSPENDED ROOF SHADE/HEAT RETENTION CURTAIN SYSTEM. FLAME RETARDANT SHADE FABRIC WITH XX% LIGHT REDUCTION FACTOR. 50% SHADE FACTOR	–	–	–	–	–
FSM	24	42" MOTORIZED SHUTTER, MUNTERS SW42 ALUMINUM SHUTTER	–	24	1	1.0	–
MS	9	60" MOTORIZED SHUTTER, MUNTERS SW60 ALUMINUM SHUTTER W/ (1) PAD SHUTTER MOTOR (PSM.#) FOR EVERY (4) SHUTTERS. (SEE BELOW FOR PSM.# DATA)	–	–	–	–	–
PSM.#	3	BELIMO AFBUP [180 IN-LB (20 Nm)] ACTUATOR	–	24	1	1.0	–
EP.1	3	MUNTERS "CT" EVAPORATIVE COOLING PAD SYSTEM, 6" THK. X 5'-0" H X 12'-6" LG. W/ 10" PVC SUMP TANK, PUMP (SEE BELOW) & PIPING, W/ MUNTERS CELDEK PADS, DISTRIBUTION PIPE, RETURN GUTTERS, AND END PANELS	–	–	–	–	–
P	3	MUNTERS EC1319 (LITTLE GIANT 6EN-CIM), SUBMERSIBLE PUMP	1/3	115	1	6.0	–
	56	FAN COIL UNIT	1/2	277	1	2.2	–

EQUIPMENT SCHEDULE							
SYMBOL	QTY.	DESCRIPTION	HP	VOLT	PH	AMP	RPM
133H	7	133H HOT WATER UNIT HEATER	1/4	120	1	3.5	–
200H	4	200H HOT WATER UNIT HEATER	1/2	120	1	5.6	–
OS	–	ROLL UP VERTICAL SHADE SYSTEM – LOCK RMA 20 TUBE MOTOR	–	120	1	2.3	12
DS	40	6" ALUM. DOWNSPOUT PIPING	–	–	–	–	–
SEED	1	ENVIRONMENTAL CONTROL SYSTEM, WADSWORTH SEED CONTROL PANEL	–	–	–	–	–
CP.#	14	WADSWORTH CONTACTOR PANEL	–	–	–	–	–
LP.#	14	WADSWORTH LIGHTING CONTROL PANEL	–	–	–	–	–
WS.#	1	WADSWORTH OUTDOOR WEATHER STATION, W/ MAST	–	24	–	–	–
T.#	16	WADSWORTH ASPIRATOR TEMPERATURE/HUMIDITY SENSOR (INSTALLED BY ELECTRICAL CONTRACTOR)	–	24	–	–	–
PX.#	16	WADSWORTH APOGEE SQ512 INDOOR LIGHT SENSOR W/ APOGEE AI-100 SENSOR LEVELING PLATE	–	24	–	–	–

PRELIMINARY
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ROOFTOP GREENHOUSE
FOR
UNIVERSITY OF KENTUCKY
1421 UNIVERSITY DRIVE, LEXINGTON, KENTUCKY 40503

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QC Set 10/03/2024
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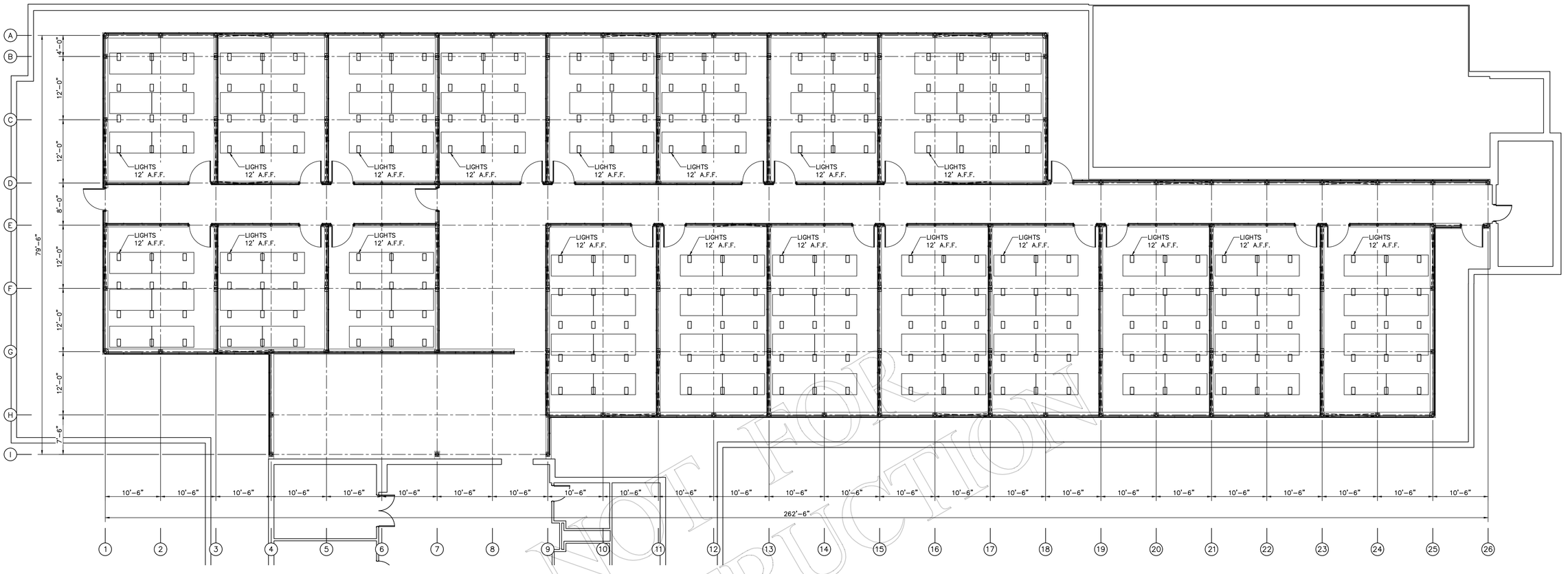
REVIEWED BY: ----
DRAWN BY: BB

PROJECT No.: 2420004

SOUTH EQUIPMENT PLAN

GE-1.00B



EQUIPMENT SCHEDULE							
SYMBOL	QTY.	DESCRIPTION	HP	VOLT	PH	AMP	RPM
	256	PHOTOBIO-CX 2125 LED GROW LIGHT - 850W	-	120	-	-	-
	133	PROSPIANT PRE-GALVANIZED STEEL RO-FLO FIXED BENCH	-	-	-	-	-

A NORTH RANGE LIGHT & BENCH PLAN
SCALE: 1/8"=1'-0"

PRELIMINARY
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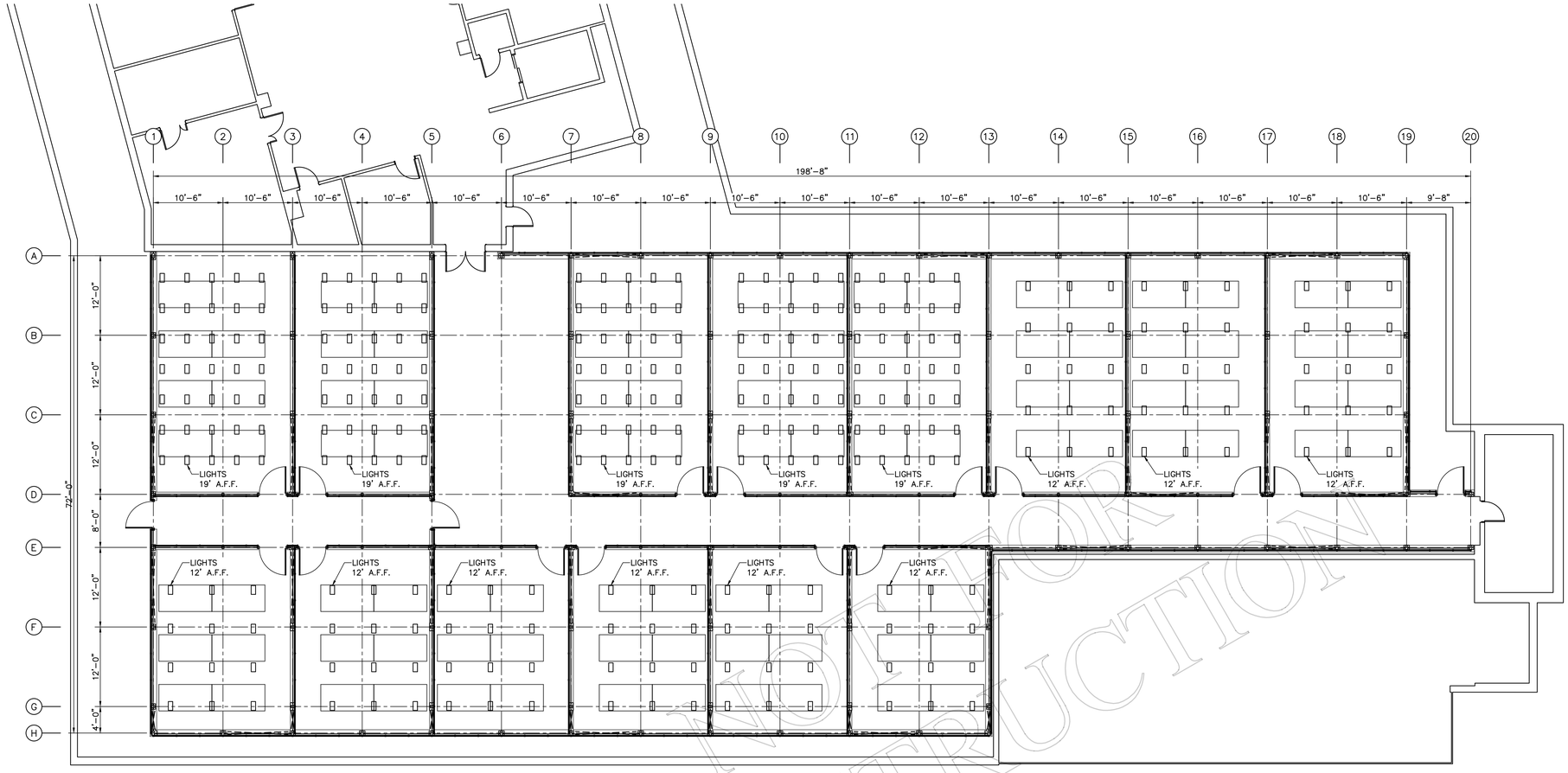
NORTH LIGHT & BENCH PLAN

GE-1.01A



EQUIPMENT SCHEDULE							
SYMBOL	QTY.	DESCRIPTION	HP	VOLT	PH	AMP	RPM
	292	PHOTOBIO-CX 2125 LED GROW LIGHT - 850W	-	120	-	-	-
	100	PROSPIANT PRE-GALVANIZED STEEL RO-FLO FIXED BENCH	-	-	-	-	-

A SOUTH RANGE LIGHT & BENCH PLAN
SCALE: 1/8"=1'-0"

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BB/ASS

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SOUTH LIGHT & BENCH PLAN

GE-1.01B

SK-003 Tent and HVAC Rental Agreements

Lafayette Tents & Events, LLC dba L2 Structures
3320 South 460 East
Lafayette, Indiana 47905
Phone: (765) 742-4277
Fax: (765) 742-4462

EQUIPMENT LEASE AGREEMENT

Proposal: 2407111948
Job Code:
Date: 7/11/2024

BILLING CONTACT INFORMATION		
Josh Marrillia		
Marrillia Design & Construction		
University of Kentucky	Direct:	859.519.7306
Lexington, KY	Email:	jmarrillia@marrillia.com

L2 CONTACT INFORMATION		
Kyle Sayman | Account Executive		
L2 Structures	Main:	765.742.4277
3320 S 460 E	Direct:	765.204.0134
Lafayette, IN 47905	Email:	Kyle@L2Structures.com

SITE NAME AND ADDRESS		
Josh Marrillia		
Marrillia Design & Construction	Direct:	859.519.7306
University of Kentucky	Email:	jmarrillia@marrillia.com
Lexington, KY	Surface:	Staked

ESTIMATED SCHEDULE & LEASE TERM			
Install Start:	Jun, 17 2024 (Mon)	Event Start:	n/a
Install End:	Jun, 17 2024 (Mon)	Event End:	n/a
Removal Start:	Apr, 20 2026 (Mon)	Minimum Lease Term:	24 Months
Removal End:	Apr, 21 2026 (Tue)		

QTY	DESCRIPTION AND EQUIPMENT	PRICE	TOTAL
	One-Time Charges		
1	Installation (Includes Labor, Lodging, Heavy Equipment)	$10,653.46	$10,653.46
1	Removal (Includes Labor, Lodging, Heavy Equipment)	$10,235.82	$10,235.82
1	Freight (Install)	$1,100.00	$1,100.00
1	Freight (Removal)	$1,100.00	$1,100.00
1	***Preferred Customer Discount***	($2,000.00)	($2,000.00)
	Monthly Charges - Pricing Based On 24 Month Total Contract		
1	12M x 20M x 3M L2 Pro Series Engineered Clear Span Structure (~39'x66'x10')	$2,187.90	$2,187.90
3	Lighting	$20.00	$60.00
2	Steel/Glass Entry Doors	$275.00	$550.00
25	Picnic Style Tables W/Bench - 4 Person	$30.00	$750.00

Amount Due Each Month: $3,547.90

Contract Duration to be 24 months. Marrillia Construction is only responsible for Installation, Installation freight, and 6 month rental. The remainder of the contract (including removal, removal freight, and remaining 18 month rental) to be assigned to Turner Construction, or a contractor selected by Turner Construction, subject to L2 Structures consent which shall not be unreasonably withheld.

TC-030 to take over remaining contract

L2 Pro series is a non-insulated structure and is not engineered for snow without heat. Must have heat during accumulating snow events 24/7 - nights and weekends included.

L2 uses a 28-day billing cycle.

TERMS: (Taxes Included)		
50% Of Installation Charges Due Upon Signed Contract (To Reserve Equipment/Install)	$	5,266.87
50% Of First Month Rental Due Upon Signed Contract (To Reserve Equipment/Install)	$	1,915.87
TOTAL DEPOSIT DUE UPON SIGNED CONTRACT	**$**	**7,182.74**
REMAINDER DUE UPON DELIVERY AND INSTALLATION OF EQUIPMENT	**$**	**7,182.74**
ALL REMAINING MONTHLY CHARGES BILLED AT THE FIRST OF EACH MONTH -	**Net 30**	

TOTAL ONE TIME CHARGES:	$21,089.28
TOTAL MONTHLY CHARGES:	$85,149.60
ITEMIZED:	$106,238.88
EST. LOCAL SALES TAX (8.00%)	$8,499.11
TOTAL:	$114,737.99
LESS: DEPOSIT RECEIVED:	$--
BALANCE:	**$114,737.99**

PAYMENT INSTRUCTIONS:

By ACH: **Preferred Method**
Beneficiary Name: L2 Structures
Beneficiary Account Number: 103886508
Bank Name: Centier Bank
Routing Number: 071902878

By Check:
Payable to: L2 Structures
Mail payment to:
L2 Structures
3320 S 460 E
Lafayette, IN 47905
Attn: Accounts Receivable

*** THIS QUOTE IS VALID FOR 7 DAYS. RENTALS ARE ONLY GUARANTEED IF A SIGNED CONTRACT *AND DEPOSIT* ARE RECEIVED.**

*** To confirm this order, this Equipment Lease Agreement must be fully executed by all parties and a 25% non-refundable deposit must be received for any project greater than six months out and a 50% non-refundable deposit must be received for any project less than six months out.**

*** This proposal is subject to the terms and conditions set forth on the following pages which include the Lessor's disclaimer from all liability for injury or damage and details of Lessee's obligations.**

Lessor: Lafayette Tents & Events, LLC	Lessee: Marrillia Design & Construction	Lessee: Turner Construction
By:	By:	By:
Dated:	Dated:	Dated: 7/15/24

MOBILE
Air & Power Rentals
a division of Resolute Industrial

QUOTE ONLY

Quote date: 5/20/2024
Equipment and Pricing subject to availability at time of order
Proposal: 001-00-9949197
UK 25 ton 6 month pricing

Contact Josh Marrillia

Rental - Mobile Air

To:
Marrillia Construction
794 Manchester St
Lexington, KY 40508

Delivery:
Marrillia Construction
794 Manchester St
Lexington, KY 40508

Dear Josh Marrillia,

Thank you for the opportunity to present Mobile Air & Power Rental as your partner for temporary climate control and power. Below for your consideration you will find our proposal for equipment and services. Thank you for the opportunity to earn your business!

Est. Rental Start Date: 06/10/2024 **Est. Rental End Date: 07/07/2024**

Period Pricing

Equipment Description	Rental Term	# Periods	Quantity	Unit Price	Extended
25 TON AIR COND. W HEATER; SKID MOUNT *6 month pricing*	Monthly	1	1	$ 3,500.00	$ 3,500.00
20" White Duct - 25FT	Monthly	1	3	$ 25.00	$ 75.00
2/5 BANDED CAM-LOK CABLE - 50FT *If required*	Monthly	1	1	$ 75.00	$ 75.00
Sub-Total:					**$ 3,650.00**

One-Time Pricing

		Rental Term	# Periods	Quantity	Unit Price	Extended
Service	LABOR *per man hour if required*	One Time	1	1	$150.00	$150.00

Comments: Price is based on 6 month rental
shipping is not included in this quote and will be determined at the time of order

Your monthly subtotal cost is $4,343.50

By signing below, I agree to pay the amount indicated to Mobile Air in exchange for the products listed on this agreement. By signing this agreement, you also accept Mobile Air's terms and conditions (Available upon request).
By signing this agreement, I agree to make all payments on time. I understand that each payment is due within 30 days of the invoice date.

_____ (Y/N) I accept MARPP damage waiver.

Damage waiver will automatically be added if COI is not provided in a timely manner.

Sub-Total:	$3,800.00
Delivery/Freight:	$0.00
MA-RPP: (Period Charge)	$547.50
Environmental & Tech Fee: (Period Charge)	$146.00
Estimated Tax:	$269.61
Grand Total:	**$4,763.11**

Currency: USD

Customer Signature:_____ Date:_____

Terms and Conditions

- Provide a temporary climate design tailored to the request and needs of the customer for the project.
- Delivery to the project site. Assistance from customer may be required to include lifting and positioning on site by machinery as required.
- Start-up of units. Included gas pressure leak test and safety run testing of units for proper operation.
- Tool Box Safety Talk. Introduce related safety practices and identify emergency procedures of equipment.
- Pick-up of equipment at end of rental. Assistance from customer may be required to include lifting and positioning on site by machinery as required.

Customer Responsibility

- Maintenance charges will apply for a problem ocurring with a rental unit due to any of the following conditions;
- No power, poor power, low running voltage or reverse polarity. Debris obstructing the air intake of the unit, no fuel or low fuel pressure and/or physical damage stopping the rental unit from operation. An invoice will be created to include travel time, mileage, parts and labor at the following rates.
- $150.00 per hour straight time (8 AM - 5 PM Monday-Friday)
- $225 per hour (Saturday & after 5 PM Monday-Friday) (Door to door charge) with 4-hour minimum charge
- $300.00 per hour (Sundays & Holidays) (Door to door charge) with 4-hour minimum charge
- $1.75 per mile travel charges (added to labor above)
- Provide full replacement cost insurance on all rental equipment on project site.
- Standby Charges for delivery/pick-up for standby time at $ 150.00 per hour during delays
- Customer is required to provide all Permits that may be required by the city, state or local codes if any.
- Customer provides any and all required union labor
- All lifting/off-loading of equipment (as applicable)
- State and local taxes (Tax exempt customers must provide a tax exempt certificate with purchase order)
- Purchase orders and this proposal (signed) are required prior to delivery.
- All equipment and services provided by Mobile Air are subject to the “Mobile Air, LLC Rental Agreement Terms & Conditions.” Document online at: https://www.mobileair.com/terms-and-conditions Customer accepts these Terms & Conditions.

Rental Protection Plan

- Mobile Air, LLC Rental Protection Plan, MARPP, is not insurance, it is to offset possible damages that may occur during the rental. The cost of this plan is 15.00% of the rental. To opt out of this plan a certificate of insurance can be provided. MARPP covers repairs and replacements up to the first $75,000. The customer would be responsible for all rental charges, cost of rental protection, 10% of repairs/replacement up to $1000. Any damage over $75,000, Mobile Air, LLC will work with the customer and their insurance company. The rental contract must be paid in full for an MARPP claim to be approved. For additional information and limitations please refer to the MARPP Terms and Conditions. More detail realted to our Rental Protection Plan can be read on our website at https://mobileair.com/wp-content/uploads/2024/03/rental-protection-plan-2024.pdf.

Environmental & Tech Fee

- To promote a clean and sustainable environment, Mobile Air takes various measures to comply with certain environmental regulations. Mobile Air also incurs a wide range of environmental related expenses (both direct and indirect) which may include services such as construction and maintenance of cleaning facilities, water disposal as well as labor costs and administration costs, etc. To help recover these and other costs, Mobile Air assesses an Environmental & Tech Fee, plus applicable taxes thereon in connection with certain rentals. The Environmental & Tech Fee is not a tax or governmentally mandated charge, and is not designated for any particular use or placed in an escrow account, but is a charge that Mobile Air collects as revenue and uses at its own discretion.

Terms

- Payment Terms: Invoiced same month as delivery of equipment, net 30 day terms. All monthly pricing is based on a 28 day billing cycle.
- Proposals are valid for 30 days and equipment selection is contingent upon availability.

I look forward to providing you with our best climate designs and our personal attention for your project site. Please provide me with a completed and signed proposal form, along with a P.O. to start your climate control order. Contact me with any questions at (513) 262-4200 (cell).

Sincerely,

Adam Pennington

Adam Pennington | Mobile Air
Technical Sales Representative
9950 Commerce Park Drive Cincinnati, OH 45246
(513) 262-4200 | apennington@mobileair.com

Initials _____

Work Authorization and Proposal Acceptance

❑ STEP 1: Complete Purchase Order Information (If Company to use Purchase Order to Lease Equipment)

Purchase Order #: _____

Purchase Order Amount: _____(If amount unknown, write 'Per Invoice" or "To Advise")

_____ Initial here if a Purchase Order is "not required" for payment

Is order exempt from sales tax? Yes ___ No X

Accounts Payable Contact: _____

Contact Name | Contact E-mail | Contact Phone

Bill To Address: 794 Manchester St, Lexington, KY 40508

❑ STEP 2: Read the following statement and sign below (Must complete and sign as Lessee of equipment)

By executing this Acknowledgement, I certify that I am authorized to enter into this agreement on behalf of Lessee and accept the Mobile Air, LLC Terms and Agreement. Additionally, I acknowledge that since the Purchase Order Amount (or Credit Card amount) identified on this Work Authorization and Proposal Acceptance may not reflect the cost of services to be determined after the commencement of the work (i.e. additional rental term, labor, repair etc.) any amount so stated shall not be deemed a restriction on Mobile Air's right to charge customer for continued obligations identified in this proposal .

_____ _____ _____ _____

Signature | Date | Printed Name | Title

❑ STEP 3: Complete the following information (Must complete)

Requested Delivery Date: 06/10/2024

Delivery Contact: _____

Delivery Contact Phone: _____

Ship To Address: Marrillia Construction

794 Manchester St, Lexington, KY 40508

❑ STEP 4: Return this entire signed proposal along with a hard copy of:

❑ Purchase Order

❑ Sales Tax Exempt Certificate (if applicable)

MOBILE
Air & Power Rentals
a division of Resolute Industrial

RENTAL PROTECTION PLAN

The Rental Protection Plan (RPP) from Mobile Air & Power Rentals (MAPR) limits your liability in case of equipment damage.

BENEFITS

- Low cost option to manage the unexpected
- Saves money on repairs or replacement
- Waives rental fees during repair time COVERAGE*
- Accidental damage

HOW IT WORKS

- RPP covers the first $75K of damage or loss when an authorized user incurs an unintentional damage.
- Purchase RPP for 15.00% of the rental fee. Fee will be automatically added to the rental unless the customer provides MAPR a Certificate of Insurance (COI) naming MAPR as additional insured. This must be property insurance not liability. Email completed COI to your MAPR sales manager.
- If a covered loss occurs, pay a deductible of (a) 10% of the cost to repair/replace or (b) $1,000 max; whichever is less.
- For repair or lost costs over $75K, MAPR will work with the customer and their insurance company to recover the remaining balance.

For Example:

Pay less if something goes wrong...		
	With RPP	Without RPP
Generator Rental	$500	$500
RPP Cost ($15)	$75	$0
Out-of-Pocket Cost	$575	$500
Cost to Replace	$75,000	$75,000
Deductible*	$1,000	$0
RPP Benefit	$74,000	$0
Total Cost to Customer	**$1,575**	**$75,500**

More details related to our Rental Protection Plan can be read on our website at https://mobileair.com/wp-content/uploads/2024/03/rental-protection-plan-2024.pdf

Rental Protection Plan Covers...	
Damage to equipment	Accidental damage if the damage does not result from intentional abuse or negligence of equipment.
Damage to vehicles	Accidental damage if the damage does not result from intentional abuse or negligence of vehicle.
Damage to ancillary	Accidental damage if the damage does not result from intentional abuse or negligence of ancillary.
Rental Protection Plan NOT Cover...	
Damage to tires	Damage to tires and tubes caused by blow out, bruises, cuts, punctures or other causes inherent in the use of the equipment.
Damage from abuse	Damage to equipment resulting from intentional abuse
Theft	Theft of equipment, vehicles and ancillary items

**Customer is responsible for the care and safekeeping of the rental equipment from the time of delivery until retrieval by the company per MAPR's Rental Agreement Terms and Conditions. Customer agrees that it will use its best efforts to protect the equipment from loss, theft or damage at all times during the rental period, and until the equipment is retrieved and in MAPR's possession.

MARPP Restrictions and Exclusions:

- Damaged Equipment -When a customer rents equipment covered under the RPP program, the customer will not be required to fill out a claim form for damages less than $15,000.
- If damage to a piece of equipment exceeds $15,000, the customer is required to complete an incident report form for the RPP Claims Management team to review. Claims will be subject to denial if the damage is determined to be due to: striking an overhead object while in motion, acts of God such as floods, hurricanes, wind, storms, earthquakes or fires, overloading rated capacity, exposing equipment to corrosive material, damage to tubes and tires, overturning equipment, claims history, filling a reservoir with the wrong type of fluid, situations where equipment is used outside the intended purpose or capacity of the machine.
- RPP claims may be denied or put on hold if customer account balance is significantly past due.
- The RPP and Rental contract must be paid in full for an RPP claim to be approved.

* MARPP covers the first $75K of damage or loss. For repair or lost costs over $75K, MA will work with the customer and their insurance company.
* MARPP claims may be denied or put on hold if customer account balances are significantly past due.
* The RPP and Rental contract must be paid in full for an RPP claim to be approved.

SK-005 - Temp Electric Plan

Temp Lights, Power and Heat & A/C

Provide a temporary electrical system throughout the project. Include all cabling, conduit, risers, panels, transformers and sleeves as required to make a complete temporary power system to power the entire building for temporary electric and lighting. All labor and material to be provided for the installation, grounding and maintenance of the temporary lighting and power system as may be required during the construction period.

1. Temporary Power Requirements

General:

- **Temporary work shall not interfere with permanent construction or with the operations of other trades.**
- **Permanent Power and lighting systems may be used in the temporary system provided that Turner approves prior to installation. At no time should the system be loaded to more than 80% of its rating.**
- **The cost of electrical power (consumption chargers) shall not be included in the price by the subcontractor except when such costs are due to the nonperformance of the duties included in this work.**

A. Power Skids

1. **Deployment:**
   - Install two (2) temporary power skids per floor.
   - Install one (1) power skid for the assembly area.
   - Power supply for skids runs vertically through floor chases (not externally).
2. **Removal:**
   - Remove all temporary power components (utility poles, main distribution panels, house panels, etc.) when permanent power is activated.

B. Coordination and Re-Routing

1. Coordinate temporary power with permanent systems (HVAC, fire protection, drywall walls, etc.) to avoid interference.
2. Re-route temporary power if necessary:
   - Perform re-routing during weekends or after hours with Turner's permission.
3. Provide a one-line diagram of proposed temporary electrical system through the building. Include locations of risers, transformers, panels, ect.
4. The Electrical Contractor shall furnish and install services and disconnects for miscellaneous items rated at 100 amp/440volt/3phase. Assume 2 per floor.

C. Components and Specifications

1. **Transformers, Breakers, and Panels:**
    - Provide transformers, main breakers, and distribution panels.
    - Equip secondary lighting and power panels with permanent covers, marking circuits clearly.
2. **Voltage Drop Management:**
    - Ensure no more than a 5% voltage drop at the furthest end of the line under full load.
3. **Compliance:**
    - Use fused safety switches to meet utility company requirements.
    - Submit a single-line diagram before starting.

D. Power Transition

1. Transfer temporary power to permanent service upon availability as directed by Turner.
2. Include costs for transfer and any required overtime in the base subcontract.

E. Relocation

1. Relocate power circuits during construction at no additional cost to the owner or Turner.

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2. Temporary Lighting Requirements

General:

- **Use permanent conduit feeds whenever possible. Preferences will be given to provide temporary lighting through the use of LED fixtures whenever possible.**
- **All lights to have non-current carrying guards.**
- **Should lighting or lighting circuits have to be relocated during construction, this shall be done at no additional cost to the Owner or Turner.**
- **All Temporary lighting and wiring to be a minimum of 8'-0" above finished floor.**

A. Lighting Deployment

1. Provide temporary lighting at one (1) watt per square foot for:
    - All floor levels.
    - Stairwells and elevator shafts.
2. Provide a minimum of 1 100W lamp per room, closet, ect., including rooms and unlit areas as work develops.
3. Stair lights and lights in other critical areas are to be installed on circuits separate from the General Lighting circuit and are to be kept energized at all times.
4. Supply fifty (50) temporary light stands:
    - Equip with proper plugs.
    - Include a minimum 10-foot cord.

B. Compliance and Removal

1. Ensure compliance with NEC, State, and Local codes.
2. Arrange and cover costs for inspections.
3. Remove temporary lighting and power setups after ceiling grids and permanent lighting are installed and operational.
4. Grounding shall comply with applicable codes relating to permanent and construction work.
5. Direct Connections for tools and equipment required by a particular contractor shall be the responsibility of that Contractor.

SK-006 - Lab Furnishings Responsibility Matrix

TAG - LABORATORY FURNISHING

#X

LAB FURNISHING DESIGNATION

LABORATORY AND VIVARIUM FURNISHINGS SCHEDULE

FURNISHING NUMBER	FURNISHING DESCRIPTION	DETAIL / SPEC SECTION	Trade Contractor Responsibility
1A	SS PEGBOARD DRYING RACK, 24" x 36" WITH SS DRIP TROUGH WITH SCREEN	SPECIFICATION SECTION 11 5346	TC-041
1B	SS PEGBOARD DRYING RACK, 30" x 36" WITH SS DRIP TROUGH WITH SCREEN	SPECIFICATION SECTION 11 5346	TC-041
1C	SS PEGBOARD DRYING RACK, 36" x 36" WITH SS DRIP TROUGH WITH SCREEN	SPECIFICATION SECTION 11 5346	TC-041
1D	SS PEGBOARD DRYING RACK, 48" x 36" WITH SS DRIP TROUGH WITH SCREEN	SPECIFICATION SECTION 11 5346	TC-041
1E	SS PEGBOARD, 48" x 72"; FOR TOOL ORGANIZATION	SPECIFICATION SECTION 11 5346	TC-041
2A	VERTICAL SERVICE CHASE, 6"x8", BY LAB CASEWORK CONTRACTOR	SPECIFICATION SECTION 12 3553.13	TC-041
2B	POWER PEDESTAL (4) DUPLEX RECEPTACLES EACH SIDE OF PEDESTAL	BOD: WATERSAVER FAUCET CO. E600WS	TC-041
2C	OVERHEAD EXTENSION CORD REEL	SEE ELECTRICAL DRAWINGS	TC-034
2D	OVERHEAD SERVICE CARRIER, LENGTH VARIES, BY LAB CASEWORK CONTRACTOR	SPECIFICATION SECTION 12 3553.13; SEE DETAIL 8/Q502	TC-041
2E	VERTICAL SERVICE CHASE, 6"x24", BY LAB CASEWORK CONTRACTOR	SPECIFICATION SECTION 12 3553.13	TC-041
2F	TABLETOP SERVICE MODULE	SPECIFICATION SECTION 12 3553.13; SEE DETAIL 9/Q502	TC-041
3A	POINT EXHAUST - 10" FLEXIBLE EXHAUST FROM OFOI EQUIPMENT TO RIGID DUCT CONNECTION AT CEILING (10" DIAMETER SS) PER MECHANICAL DRAWINGS.		TC-033
3B	POINT EXHAUST - ARTICULATING ARM (SNORKEL)	SPECIFICATION SECTION 11 5346	TC-033
3C	POINT EXHAUST - FLEXIBLE DUCT CONNECTION		TC-033
3D	POINT EXHAUST - RIGID DUCT CONNECTION (4" SS)		TC-033
3E	POINT EXHAUST - 6" FLEXIBLE EXHAUST FROM OFOI EQUIPMENT TO RIGID DUCT CONNECTION AT CEILING (6" DIAMETER SS) PER MECHANICAL DRAWINGS.		TC-033
3F	POINT EXHAUST - 4" FLEXIBLE EXHAUST FROM OFOI EQUIPMENT THROUGH PERFORATED EXHAUST GRILLE IN CEILING PER MECHANICAL DRAWINGS.		TC-033
3G	POINT EXHAUST - RIGID DUCT CONNECTION (2" SS)		TC-033
3H	VENTILATED SAFETY ENCLOSURE	SPECIFICATION SECTION 11 5346	TC-041
4A	WIRE SHELVING, 12" DEEP	OFOI	by owner
4B	WIRE SHELVING, 18" DEEP	OFOI	by owner
4C	WIRE SHELVING, 24" DEEP	OFOI	by owner
4D	EXISTING SHELVING TO BE RELOCATED	OFOI	by owner
4E	WIRE SHELF, WALL MOUNTED GOWNING RACK WITH HOOKS	SPECIFICATION SECTION	TC-041
5A	CYLINDER GAS RESTRAINT - 2 CYLINDERS	SPECIFICATION SECTION 11 5346	TC-041
5B	CYLINDER GAS RESTRAINT - 3 CYLINDERS	SPECIFICATION SECTION 11 5346	TC-041
5D	RACK FOR COMPRESSED GAS CYLINDERS - 2 WIDE x 2 DEEP	SPECIFICATION SECTION 11 5346	TC-041
5E	RACK FOR COMPRESSED GAS CYLINDERS - 3 WIDE x 2 DEEP	SPECIFICATION SECTION 11 5346	TC-041
6A	FRP GRATING AT TRENCH DRAIN	SPECIFICATION SECTION 06 7413	TC-040
6B	FRP GRATING AT PIT	SPECIFICATION SECTION 06 7413	TC-040
7A	ANIMAL PENNING SYSTEM, WALL-ANCHORED PEN POST	DETAIL 8/Q504, SPECIFICATION SECTION 13 1926	TC-030
7B	ANIMAL PENNING SYSTEM, FLOOR-ANCHORED PEN POST AND BASE PLATE	DETAIL 7/Q504, SPECIFICATION SECTION 13 1926	TC-030
7C	ANIMAL PENNING SYSTEM, PEN ENTRY PANEL/GATE AND HARDWARE	DETAIL 6/Q504, SPECIFICATION SECTION 13 1926	TC-030
7D	ANIMAL PENNING SYSTEM, PEN DIVISION PANEL/GATE AND HARDWARE (ALIGN BOTTOM TO FLOOR SLOPE)	DETAIL 8/Q504, SPECIFICATION SECTION 13 1926	TC-030
7E	ANIMAL PENNING SYSTEM, GATE AND HARDWARE IN HOLDING ROOM BETWEEN PEN ROWS	SPECIFICATION SECTION 13 1926	TC-030
7F	ANIMAL PENNING SYSTEM, CROSS-CORRIDOR GATE AND HARDWARE	SPECIFICATION SECTION 13 1926; SEE DETAIL 6/Q504	TC-030
7G	ANIMAL PENNING SYSTEM, PEN DIVISION PANEL/GATE AND HARDWARE (ALIGN BOTTOM TO FLOOR SLOPE)	SPECIFICATION SECTION 13 1926	TC-030
7H	ANIMAL PENNING SYSTEM, ANIMAL RECOVERY PEN ENTRY PANEL/GATE AND HARDWARE	SPECIFICATION SECTION 13 1926	TC-030
7J	ANIMAL PENNING SYSTEM, PEN DIVISION PANEL/GATE AND HARDWARE (ALIGN BOTTOM TO FLOOR SLOPE)	SPECIFICATION SECTION 13 1926	TC-030
8A	ADW RECOIL HOSE		by owner
8B	ADW TANK FOR DOSATRON	OFOI	by owner
9A	FREE-STANDING PVC VENTED CORROSIVE STORAGE CABINET 30"x22"x84"H OR 36"x22"x84"H	SPECIFICATION SECTION 11 5346.23	TC-041
9B	FREE-STANDING PAINTED METAL VENTED PESTICIDE STORAGE CABINET 43"x18"x65" (LOCKABLE)	SPECIFICATION SECTION 11 5346.23	TC-041
9C	FREE-STANDING PAINTED METAL VENTED CORROSIVE STORAGE CABINET 30"x22"x84"H OR 36"x22"x84"H	SPECIFICATION SECTION 11 5346.23	TC-041
9D	FREE-STANDING FLAMMABLE LIQUID STORAGE CABINET 43"x18"x65"H	SPECIFICATION SECTION 11 5346.23	TC-041
9E	FREE-STANDING FLAMMABLE LIQUID STORAGE CABINET 35"x36"x24"H	SPECIFICATION SECTION 11 5346.23	TC-041
9F	FREE-STANDING STAINLESS STEEL VENTED STORAGE CABINET 25"x36"x86"H	SPECIFICATION SECTION 11 5346.23	TC-041
9G	FREE-STANDING FLAMMABLE LIQUID STORAGE CABINET, 24"x34"x65"H	SPECIFICATION SECTION 11 5346.23	TC-041
10	LAB COAT HOOKS	SPECIFICATION SECTION 11 5346	TC-041
11	MOP HOLDER, WALL-MOUNT, 18" WIDE, 3-SPRING-LOADED CAM HOLDERS	BOD: T&S BRASS AND BRONZE WORKS NO.B-0653, WITH RETURNED EDGES	TC-041
12	SOAP DISPENSER	OFOI	by owner
13	PAPER TOWEL DISPENSER, SURFACE-MOUNT, C-FOLD	OFOI	by owner
14	PAPER TOWEL DISPENSER, SURFACE-MOUNT, BATTERY AUTOMATED ROLL DISPENSER	OFOI	by owner
15	BLACKOUT CURTAIN AND CEILING-MOUNTED TRACK	SPECIFICATION SECTION 10 2123.23	TC-030
16	PASS-THROUGH WINDOW	SPECIFICATION SECTION 11 5346	TC-041
17	2" x 3" EXTRUDED ALUMINUM REMOVABLE INSECT SCREEN SYSTEM	OFOI	by owner
18	AIR CURTAIN	SEE MECHANICAL DRAWINGS	TC-033
19	CEILNG MOUNTED SURGERY LIGHT	DETAIL 4/Q502, SPECIFICATION SECTION 11 7213.13	TC-034
20	WALL MOUNTED EXAM LIGHT	SPECIFICATION SECTION 11 7213.13	TC-034
21	SCRUB SINK	SPECIFICATION SECTION 11 5346	TC-041
22	SINK - PHOTO DEVELOPMENT	SPECIFICATION SECTION 11 5346	TC-041
23	SINK - PHOTO DEVELOPMENT, STAINLESS STEEL, 63"W x 32"D, TWO FAUCETS, SINGLE-DRAIN/OUTLET	SPECIFICATION SECTION 11 5346	TC-041
24	FIRE EXTINGUISHER CABINET, NON-RATED. STAINLESS STEEL, RECESSED INSTALLATION, FLAT TRIM, CLEAR ACRYLIC 180-DEGREE VIEW "BUBBLE" IN DOOR, MOUNT FIRE EXTINGUISHER ON ITS BRACKET INSIDE CABINET	SPECIFICATION SECTION 10 4413, BOD: LARSEN'S SS-C2409R	TC-030
25	FIRE EXTINGUISHER CABINET, FIRE-RATED, STAINLESS STEEL, RECESSED INSTALLATION, FLAT TRIM, CLEAR ACRYLIC 180-DEGREE VIEW "BUBBLE" IN DOOR, MOUNT FIRE EXTINGUISHER ON ITS BRACKET INSIDE CABINET.	SPECIFICATION SECTION 10 4413, BOD: LARSEN'S FS-SS-C2409R	TC-030
26	NON-RATED, GASKETED PASS-THROUGH FOR EQUIPMENT HOOK-UPS FED THROUGH GWB/STUD WALL	BOD: HILTI, CS-SL SA 4"	TC-041
27A	4" CLEAR PVC DUST COLLECTION PIPE	SPECIFICAITON SECTOIN 11 5346	TC-033
27B	4" CLEAR PVC "Y"-FITTING WITH INTEGRATED CLOG RESISTANT DUST COLLECTION BLAST GATE	SPECIFICATION SECTOIN 11 5346	TC-033
28	18 GA. TYPE 304 STAINLESS STEEL SHEET WALL PROTECTION WITH #4 SATIN FINISH. 3'-0" HEIGHT FROM TOP OF SINK BACKSPLASH; IN WIDTH TO MATCH BACKSPLASH. ADHESIVE-MOUNT.		TC-041

University of Kentucky

No. 1 — FIT-OUT PACKAGE - BID AND PERMIT — Issue/Revision/Submission — 11.15.2024 Date

Flad Architects
MADISON
644 SOUTHEXT DR.
MADISON, WI 53711
PHONE 608.358.3681
WWW.FLADARCH.COM

BHDP
COLUMBUS
274 THRONDON BLVD.
SUITE 200
COLUMBUS, OHIO 43215
PHONE 614.487.1900

BCAE ENGINEERING: DAYTON, OH
DELMAX CONSTRUCTION: URBANA, OH
TERRACON: LEXINGTON, KY
FLAD: MADISON, WI

CMTA INC: LEXINGTON, KY
THP LIMITED INC: CINCINNATI, OH
NV5: PITTSBURGH, PA
BELL ENGINEERING: HOPKINSVILLE, KY
VIBRASURE: SAN FRANCISCO, CA

UNIVERSITY OF KENTUCKY
AGRICULTURE RESEARCH FACILITY 1
1411 UNIVERSITY DR. LEXINGTON, KENTUCKY 40503

LAB FURNISHINGS SCHEDULE

MATTHEW T. GARNETT
REGISTERED
No. 9216
COMMONWEALTH OF KENTUCKY
ARCHITECT
11-15-2024

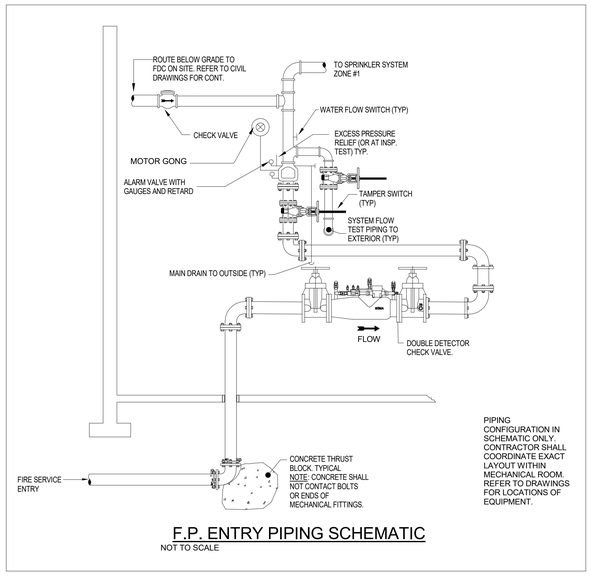
Project Manager: A. MEDINA
Drawn: FLAD
Checked: FLAD / BHDP
Initial Drawing Date: 11.15.2024
Project Number: UKX05.00

Q003

11/13/2024 11:32:58 AM

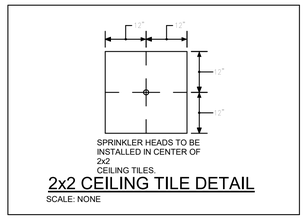
Autodesk Docs://UKX0500 University of Kentucky - Ag Research Facility 1/UKX0500-R23-B3-LAB.rvt

Teaching Greenhouse Fire Protection Drawings/Specifications



F.P. ENTRY PIPING SCHEMATIC

NOT TO SCALE



SPRINKLER HEADS TO BE INSTALLED IN CENTER OF 2x2 CEILING TILES.

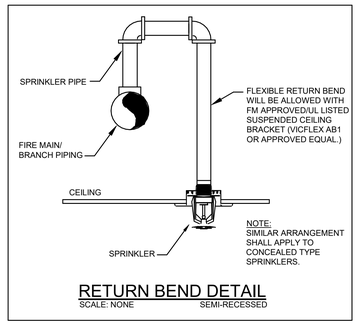
2x2 CEILING TILE DETAIL

SCALE: NONE

FLOW TEST INFORMATION

PERFORMED BY: JOHNSON CONTROLS
ADDRESS: 410 ADMINISTRATIVE DR. LEXINGTON KY 40406
TYPE: EDUCATION

STATIC:	60 PSI	
RESIDUAL:	50 PSI	
FLOW:	860 GPM	DATE: 02/09/2023



RETURN BEND DETAIL

SCALE: NONE SEMI-RECESSED

FIRE PROTECTION LEGEND

NEW FIRE PROTECTION PIPING	FP
SEMI-RECESSED HEAD	◉
UPRIGHT SPRINKLER HEAD	○
SIDEWALL SPRINKLER HEAD	◁

GENERAL FIRE PROTECTION NOTES:

A. THE ENTIRE BUILDING SHALL BE 100% PROTECTED WITH A FULLY AUTOMATIC FIRE PROTECTION SYSTEM DESIGNED IN ACCORDANCE WITH ALL APPLICABLE NFPA (13, 14, 20), STATE, LOCAL, AND OWNERS INSURANCE UNDERWRITERS REQUIREMENTS (WHICHEVER IS GREATER)

B. THE SUCCESSFUL FIRE PROTECTION CONTRACTOR SHALL OBTAIN AND UTILIZE ALL APPLICABLE ARCHITECTURAL FLOOR PLANS, SECTIONS, AND REFLECTED CEILING PLANS FOR LAYING OUT SPRINKLERS. REFER TO A COMPLETE SET OF DOCUMENTS (ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND ELECTRICAL PLANS AND SPECIFICATIONS FOR COORDINATION OF TRADES, ROOMS, STRUCTURE, AND EQUIPMENT).

C. ALL AREAS ARE TO BE PROVIDED WITH QUICK RESPONSE SPRINKLERS (EXCEPTIONS PER NFPA SHALL BE APPLIED, IE MECHANICAL SPACES, ETC.). REFER TO FLOOR PLANS FOR LOCATIONS AND SPECIFICATIONS FOR ACCEPTABLE MANUFACTURERS AND MODELS.

D. ALL SPRINKLERS LOCATIONS SHALL BE COORDINATED WITH ALL OTHER CEILING RELATED DEVICES. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION RELATED TO CEILING CONSTRUCTION.

E. WHERE CEILINGS ARE INDICATED, ALL SPRINKLER PIPING MUST BE INSTALLED ABOVE CEILINGS. SPRINKLER PIPING MUST BE COORDINATED WITH OTHER TRADES. PIPING MUST OFFSET AS REQUIRED TO AVOID CONFLICTS WITH DUCTWORK, CONDUIT, ALL EQUIPMENT, ETC.

F. HVAC DUCTWORK MAINS SHALL BE INSTALLED PRIOR TO FIRE PROTECTION PIPING. PROVIDE DRAIN VALVES IN THE FIRE PROTECTION SYSTEM WHERE NECESSARY TO COMPLETELY DRAIN THE SYSTEM.

G. PROVIDE ALL REQUIRED DRAIN PIPING TO TEST FLOW SWITCHES. DISCHARGE DRAIN PIPING TO OUTDOORS.

H. SIZE ALL FIRE PROTECTION PIPING IN ACCORDANCE WITH NFPA 13. PIPE SIZING SHALL BE ACCOMPLISHED USING HYDRAULIC CALCULATIONS.

I. CONTRACTOR TO PROVIDE UPDATED FLOW TEST. SUBMIT HYDRAULIC CALCULATIONS AND SYSTEMS DESIGN FOR REVIEW TO THE M/E ENGINEER. REFER TO CHART ON THIS SHEET FOR PREVIOUS FLOW INFORMATION.

J. THE SPARE SPRINKLERS, WRENCH AND CABINET SHALL BE LOCATED IN THE FIRE PUMP ROOM.

K. ONLY CERTIFIED TECHNICIANS APPROVED BY THE LOCAL WATER COMPANY SHALL INSTALL OR TEST BACKFLOW PREVENTERS.

L. CERTIFIED CONTRACTOR SHALL TEST BACKFLOW PREVENTER AFTER INSTALLATION, PROVIDE TEST RESULTS (INCLUDE IN OPERATION AND MAINTENANCE MANUALS).

M. BUILDING SHALL BE CLASSIFIED AS LIGHT/ORDINARY HAZARD. LIGHT HAZARD AREAS (HC-1) (IE, OFFICES, RESTROOM, ETC.) SHALL BE PROVIDED WITH A SPRINKLER DENSITY OF 0.10 GPM / 1500 SQFT. ORDINARY HAZARD GROUP I AREAS (HC-2) (IE CANOPIES WHERE VEHICLES CAN PARK, ETC.) SHALL BE PROVIDED WITH A SPRINKLER DENSITY OF 0.20 GPM / 3000 SQFT. EACH SHALL INCLUDE A 250 GPM HOSE STREAM ALLOWANCE. THE AREA REDUCTION METHOD SHALL NOT BE APPLIED. COORDINATE ALL REQUIRED SPRINKLER DENSITIES WITH THE OWNERS INSURANCE UNDERWRITER AND USE THE GREATER. PROVIDE PLACARD AT INCOMING FIRE SERVICE.

N. COORDINATE ALL SPRINKLER PIPE ROUTINGS WITH ALL ELECTRICAL EQUIPMENT.

O. THE CONTRACTOR SHALL INSURE THAT ALL PENETRATIONS OF THE AIR BARRIER BE SEALED TO MAINTAIN AN AIR TIGHT BUILDING.

P. FLOOR CONTROL VALVE ASSEMBLIES FOR EACH FIRE ZONE SHALL CONSIST OF, BUT ARE NOT LIMITED TO THE FOLLOWING: CONTROL VALVE WITH FLOW & TAMPER SWITCH, PRESSURE GAUGES, DRAIN VALVE WITH BYPASS, ETC.

Q. ALL SPRINKLERS/ESCUTCHEONS/COVER PLATES SHALL BE WHITE.

R. ALL AREAS HAVING NO CEILINGS SHALL BE PROVIDED WITH UPRIGHT TYPE SPRINKLERS.

S. ARCHITECTURAL REFLECTED CEILING PLANS SHALL BE UTILIZED AS AN AID IN LOCATING SPRINKLERS BUT DOES NOT RELIEVE THE SPRINKLER CONTRACTOR FROM PROVIDING A FULLY PROTECTED BUILDING SPRINKLER LAYOUT. CONTRACTOR SHALL ALSO COORDINATE ALL SPRINKLER LOCATION WITH ALL TRADE DRAWINGS (LIGHTING, FIRE ALARM, SECURITY, HVAC, ETC.)

T. COORDINATE LOCATIONS OF THE FOLLOWING FIRE PROTECTION APARATUS' WITH THE LOCAL FIRE DEPARTMENT PRIOR TO INSTALLATION: FIRE DEPARTMENT CONNECTION (F.D.C.), POST INDICATOR VALVE (P.I.V.), FIRE ALAM BELLS, ETC. COORDINATION SHALL ALSO INCLUDE VERIFICATION OF ALL HOSE CONNECTION SIZES, THREAD TYPES.

U. ALL SPRINKLER DRAIN PIPING SHALL BE DISCHARGED TO THE BUILDING EXTERIOR AT AN APPROVED LOCATION.

V. ALL SPRINKLERS LOCATED IN IDF/MDF AND ELECTRICAL ROOMS SHALL BE HIGH TEMPERATURE SPRINKLERS WITH PROTECTIVE WIRE CAGES.

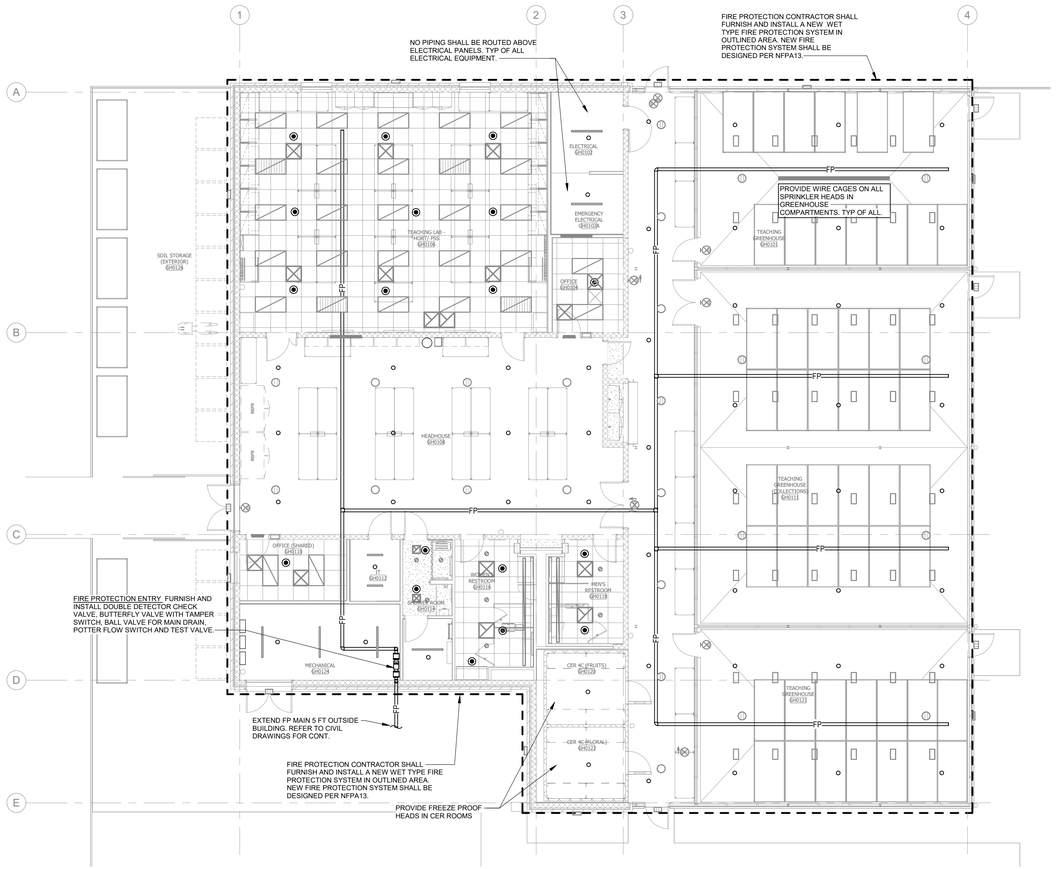
W. EXPOSED PIPING SHALL BE PAINTED WHITE TO MATCH ADJACENT SURFACES WITH THE EXCEPTION OF MECHANICAL SPACES. CARE SHALL BE TAKEN TO AVOID OVERSPRAY ONTO ADJACENT SURFACES/ SPRINKLER HEADS.

X. PROVIDE HEAVY DUTY WIRE CAGES FOR ALL SPRINKLERS LOCATED IN STORAGE / MECHANICAL/ GREENHOSUE ROOMS .

Y. ALL SPRINKLER CONTROL VALVES AND TEST VALVES SHALL BE FULLY ACCESSIBLE. VALVES SHALL NOT BE MOUNTED HIGHER THAN 6' A.F.F.

Z. ALL SPRINKLER HEADS SHALL BE CENTERED IN BOTH DIRECTIONS OF A 2'x2' CEILING TILE. REFER TO CEILING GRID DETAIL.

AA. REFER TO M001.3 FOR PROJECT GENERAL NOTES.



FIRST FLOOR - FIRE PROTECTION

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

NORTH

Revit Template Version 2021

University of Kentucky

No.	Issue/Revision/Submission	Date
1	FIT-OUT PACKAGE - ADDENDUM 3	12.09.2024

BHDP Flad Architects

COLUMBUS
274 MARCONI BLVD.
COLUMBUS, OHIO 43215
PHONE 614.481.6300

MADISON
644 ECONO CT. DR.
MADISON, WI 53711
PHONE 608.358.3681
WWW.FLADARCH.COM

BCAE ENGINEERING: DAYTON, OH
DELMAX CONSTRUCTION: URBANA, OH
TERRACON: LEXINGTON, KY

CMTA INC: LEXINGTON, KY
THP LIMITED INC: CINCINNATI, OH
NV5: PITTSBURGH, PA
BELL ENGINEERING: HOPKINSVILLE, KY
VIBRASURE: SAN FRANCISCO, CA

UNIVERSITY OF KENTUCKY
TEACHING GREENHOUSE
1421 UNIVERSITY DR. LEXINGTON, KENTUCKY 40503

FIRE PROTECTION PLAN

STATE OF KENTUCKY
ROBERT S. JOHNSON
27666
LICENSED
PROFESSIONAL ENGINEER

Project Manager	S. JOHNSON
Drawn	C. YOUNGBLOOD
Checked	N. ROGERS
Initial Drawing Date	10.11.24
Project Number	UKX05.00

FP001.3

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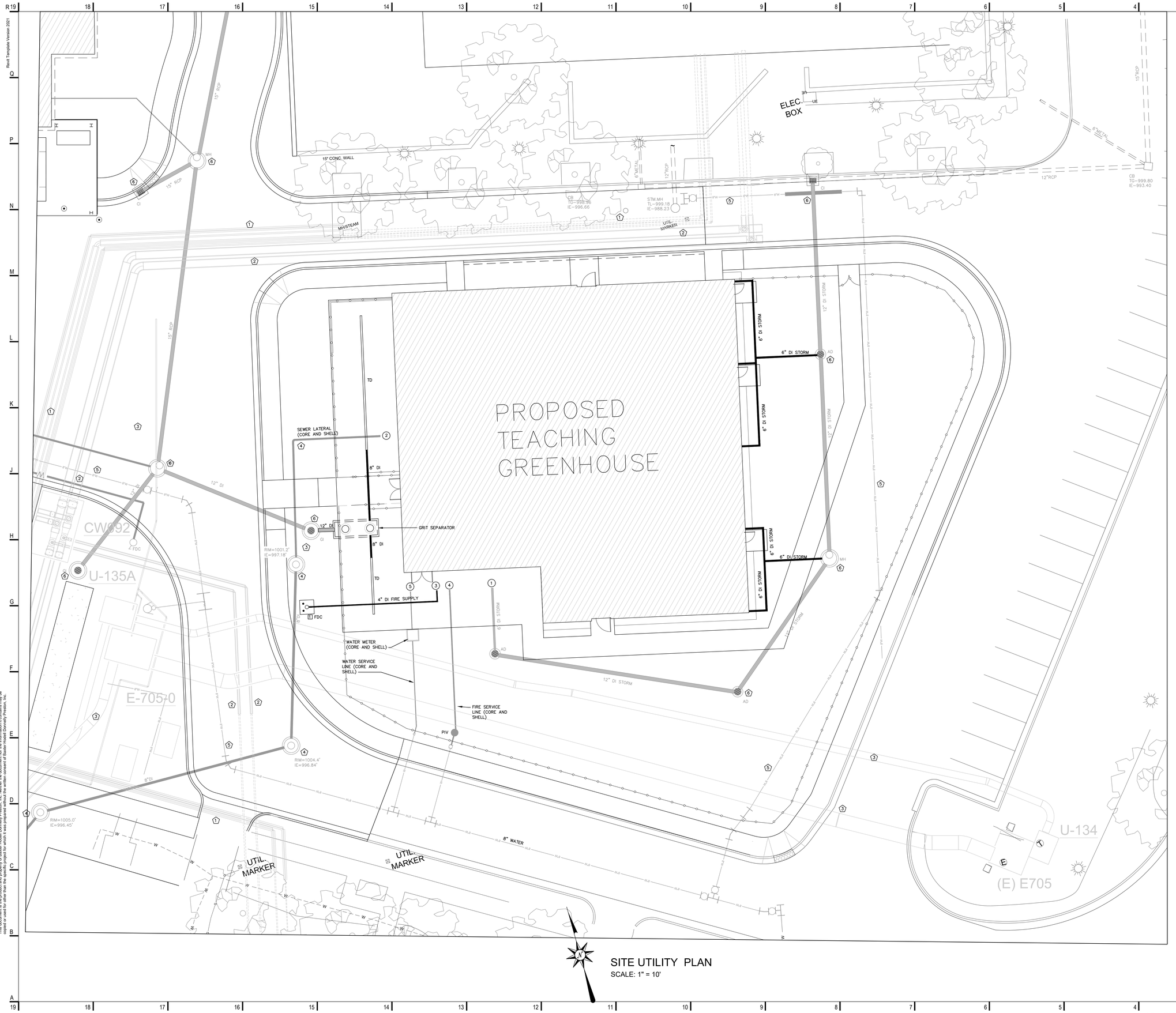

SITE UTILITY PLAN
SCALE: 1" = 10'

UTILITY NOTES

1. BUILDING DRAINAGE PIPING. SEE PLUMBING DRAWINGS FOR SIZE AND INVERT.
2. BUILDING SEWER PIPING. SEE PLUMBING DRAWINGS FOR SIZE AND INVERT. INSTALL SEWER LATERALS AT 1.0% MINIMUM.
3. BUILDING FDC SUPPLY LINE. SEE FIRE PROTECTION DRAWING
4. BUILDING FIRE SUPPLY LINES. SEE PLUMBING DRAWINGS FOR SIZE.
5. BUILDING DOMESTIC WATER LINE. SEE PLUMBING DRAWINGS FOR SIZE.

EXISTING UTILITIES KEY NOTES
(LOCATION BASED ON PREVIOUS CONSTRUCTION DRAWINGS)

1. STEAM LINE AND STRUCTURE INSTALLED IN PREVIOUS PACKAGE
2. CHILLED WATER LINE AND STRUCTURE INSTALLED IN PREVIOUS PACKAGE
3. ELECTRIC AND COMMUNICATION DUCT BANK AND STRUCTURE INSTALLED IN PREVIOUS PACKAGE
4. SANITARY SEWER LINE AND STRUCTURE INSTALLED IN PREVIOUS PACKAGE
5. WATER MAIN INSTALLED IN PREVIOUS PACKAGE
6. STORM DRAINAGE PIPE AND STRUCTURE INSTALLED IN PREVIOUS PACKAGE

STORM LEGEND
MH – MANHOLE
GI – GRATED INLET
CI – CURB INLET
AD – AREA DRAIN
TD – TRENCH DRAIN
DI – DUCTILE IRON PIPE

UTILITY DETAILS

T FIRE DEPARTMENT CONNECTION – FDC

University of Kentucky

No.	Issue/Revision/Submission	Date
1	BID AND PERMIT	10.11.2024

Flad Architects
MADISON
644 ASCHER DR
MADISON, WI 53711
PHONE 608.238.2661
FAX 608.238.2241
WWW.FLADARCH.COM

BCAE ENGINEERING: DAYTON, OH
DELMAX CONSTRUCTION: URBANA, OH
TERRACON: LEXINGTON, KY
FLAD: MADISON, WI

BHDP
COLUMBUS
274 BASSCOMB RD.
COLUMBUS, OHIO 43215
PHONE 614.481.6000

CMTA INC: LEXINGTON, KY
THP LIMITED INC: CINCINNATI, OH
NV5: PITTSBURGH, PA
BELL ENGINEERING: HOPKINSVILLE, KY
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1421 UNIVERSITY DR. LEXINGTON, KENTUCKY 40503

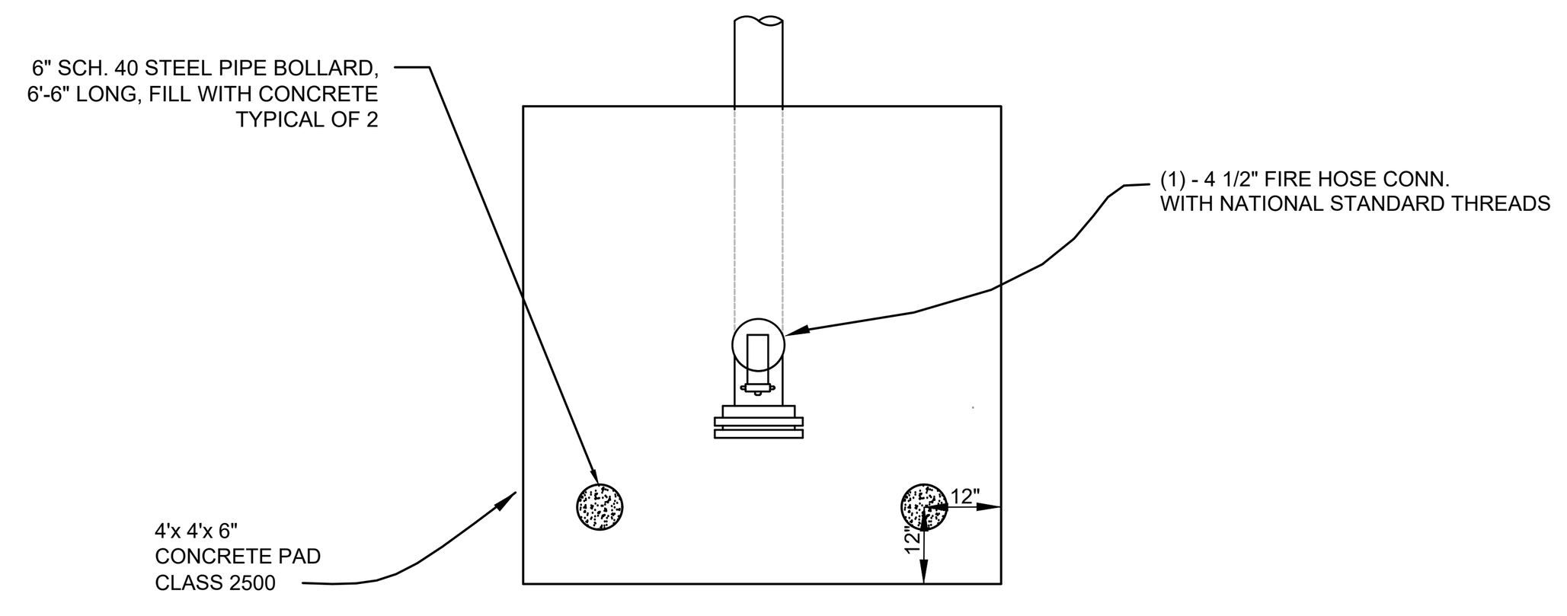
ENLARGED SITE UTILITY PLAN

COMMONWEALTH OF KENTUCKY
THOMAS F. HARPER III
17315
LICENSED PROFESSIONAL ENGINEER
10/11/24

Project manager: B. PICKERILL
Drawn: D. BOYD
Checked: R. HARPER
Initial Drawing Date: 10.11.2024
Project Number: UKX05.00

C600.3

bell engineering
Lexington, KY (859) 278-5412
Hopkinsville, KY (270) 886-5466
Somerset, KY (606) 485-4011



TOP VIEW
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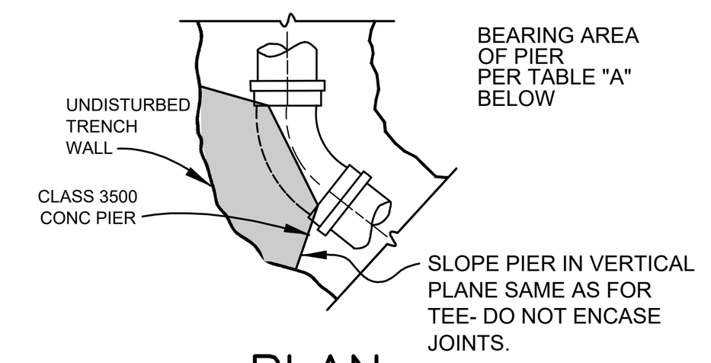
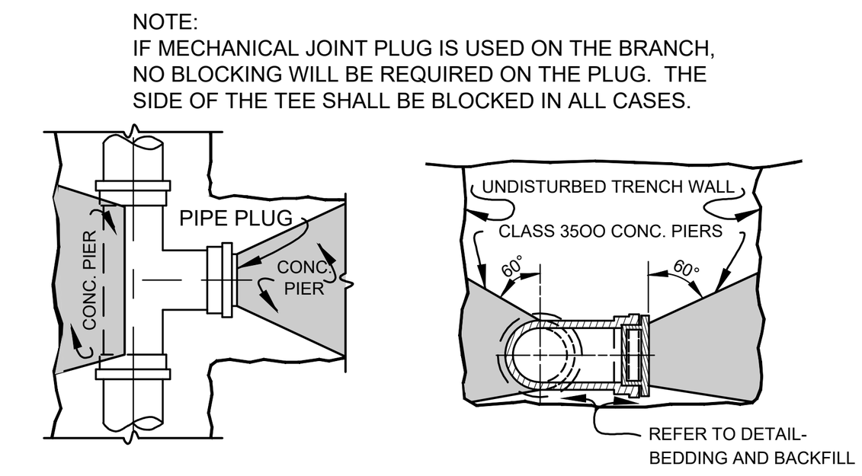
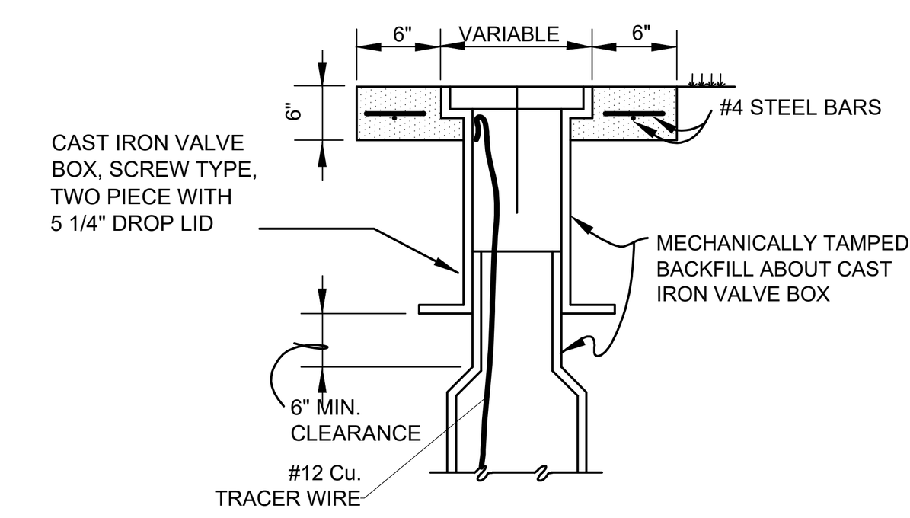


TYPICAL DETAIL OF CONCRETE BLOCKING AT BENDS VERTICAL AND HORIZONTAL
NOT TO SCALE

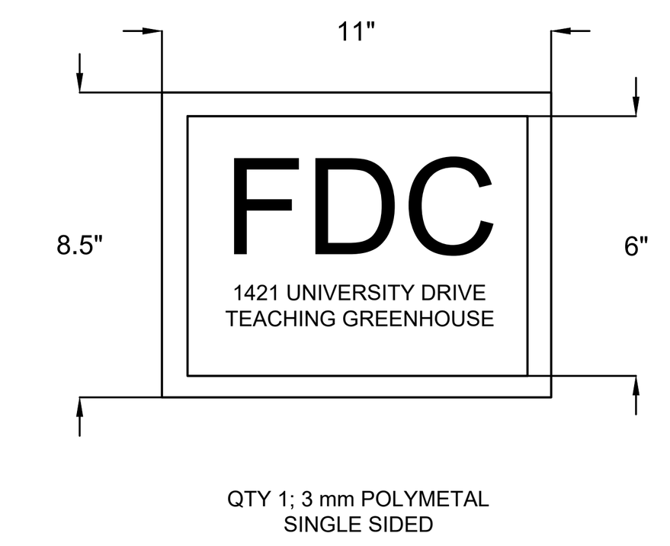
NOTE:
IF MECHANICAL JOINT PLUG IS USED ON THE BRANCH, NO BLOCKING WILL BE REQUIRED ON THE PLUG. THE SIDE OF THE TEE SHALL BE BLOCKED IN ALL CASES.



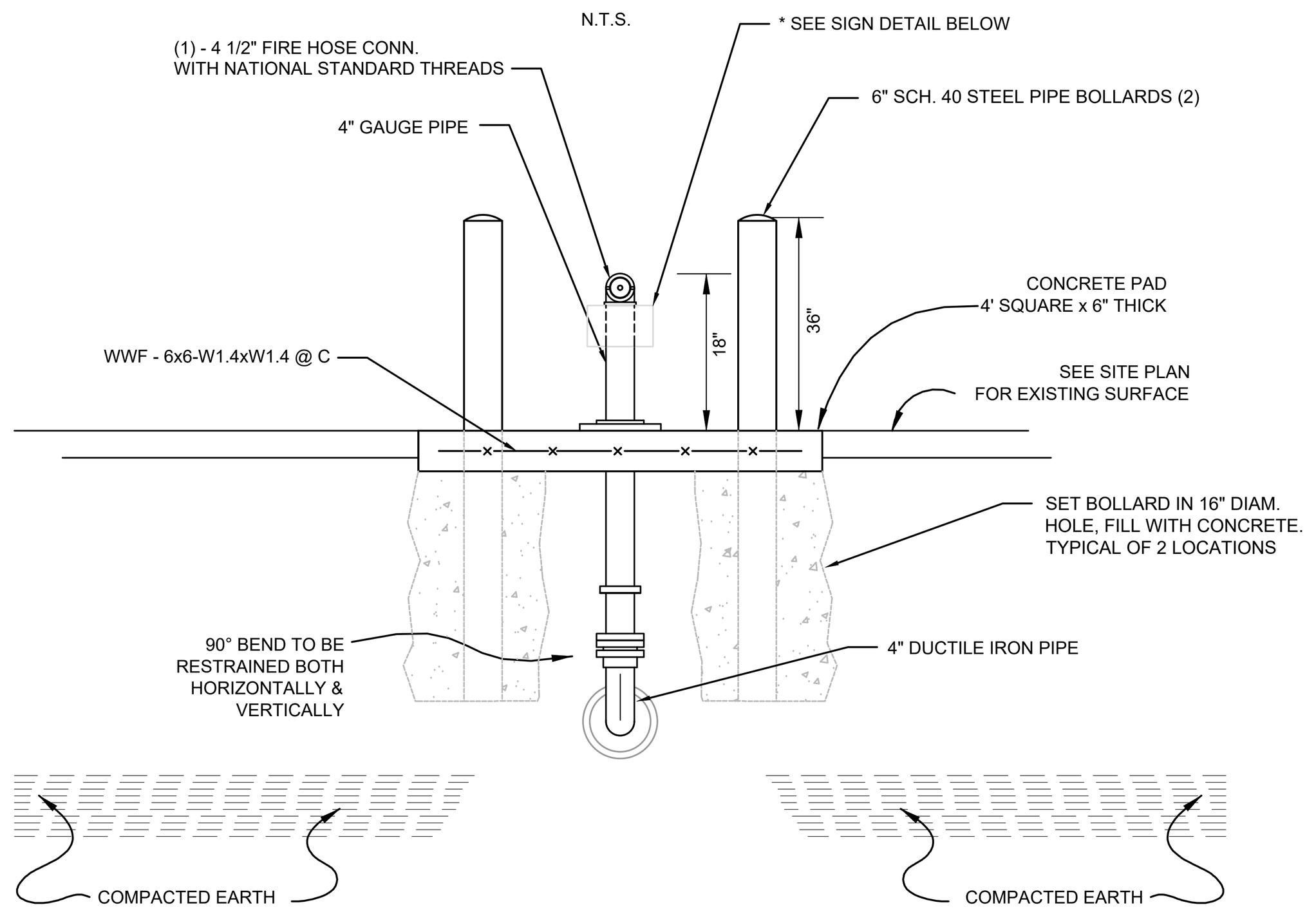
TYPICAL DETAIL OF CONCRETE BLOCKING AT TEES & PLUGS
NOT TO SCALE



VALVE BOX WITH CONCRETE COLLAR
(REQUIRED ON ALL VALVES)
NOT TO SCALE



*FIRE DEPARTMENT CONNECTION SIGN
N.T.S.



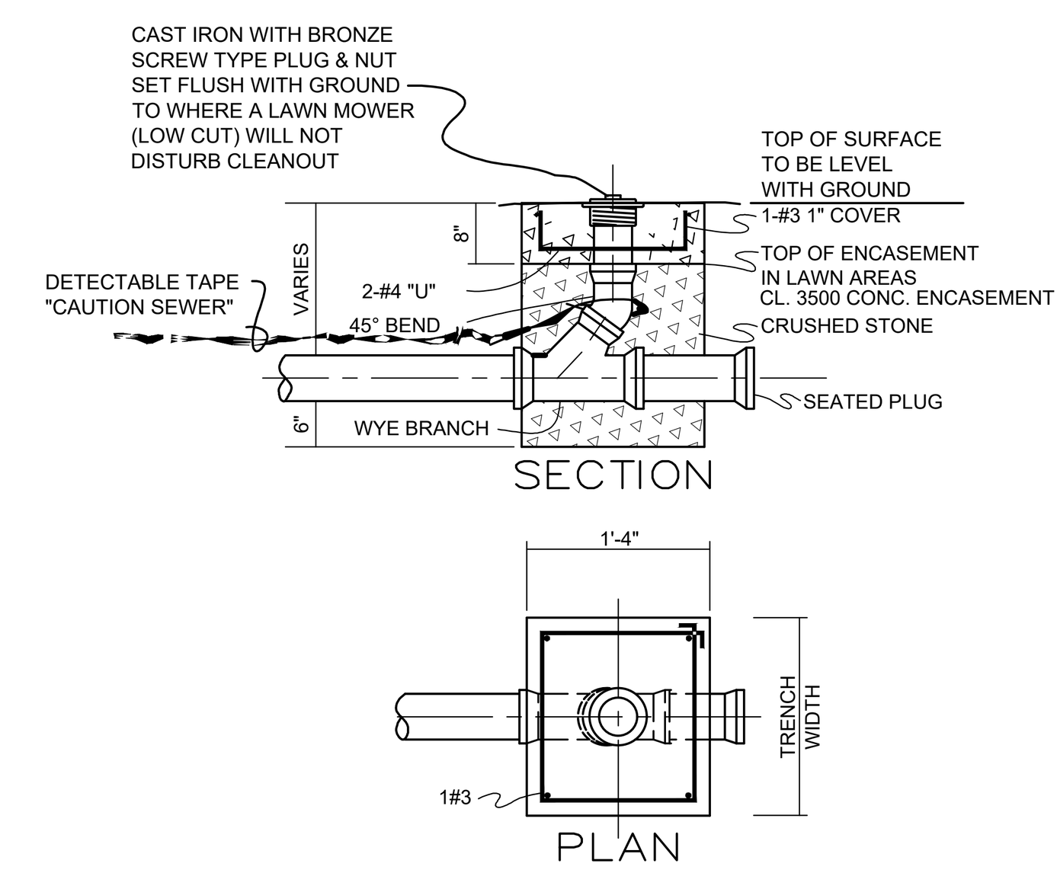
ELEVATION
FIRE DEPARTMENT CONNECTION
N.T.S.

TABLE "A"

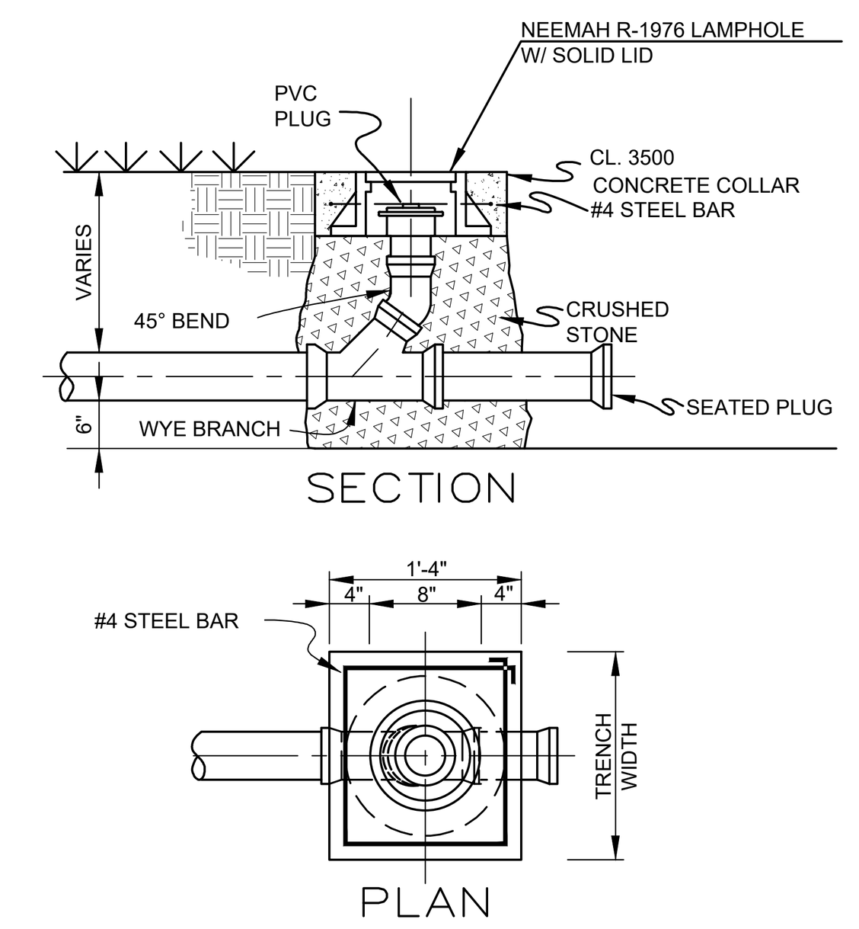
SOIL TYPE	SOIL BEARING PRESSURE (PSF)	BEARING AREA FACTOR FOR DEGREE OF BEND (SQUARE FEET) 90	PLUG/TEE	45	22 1/2	11 1/4
SANDY CLAY	3,000	13.33	9.42	7.21	3.68	1.85
HARD CLAY	6,000	6.66	4.71	3.61	1.84	0.92
SHALE	12,000	3.33	2.36	1.80	0.92	0.46
SOLID ROCK	16,000	2.50	1.77	1.35	0.69	0.35

TABLE "B"

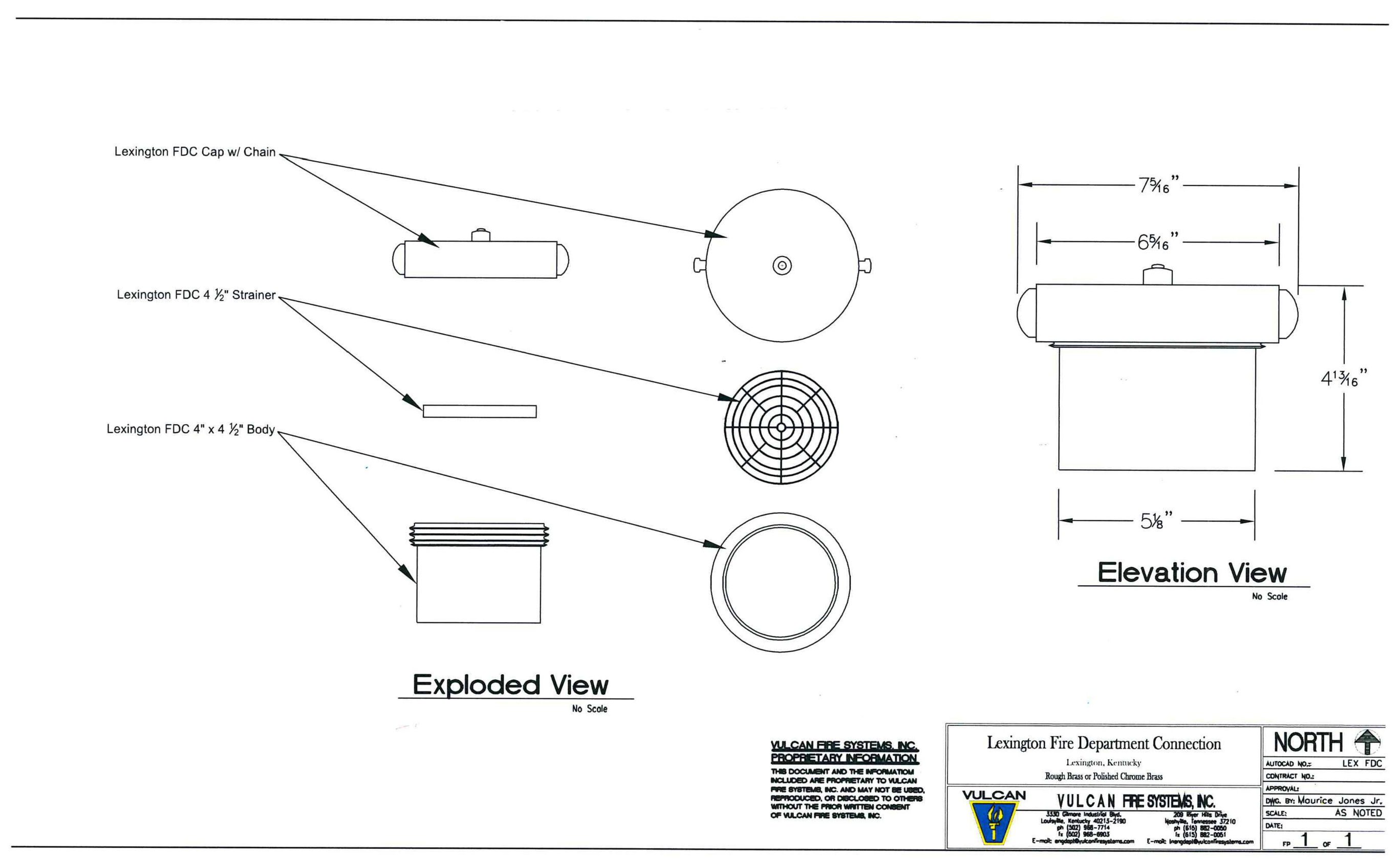
PIPE DIA. (IN.)	MIN. BEARING AREA (S.F.)	MULTIPLIER FOR PIPE TEST PRESSURE (TP) (TP) 350 PSI	(TP) 300 PSI	(TP) 250 PSI	(TP) 200 PSI	(TP) 150 PSI	(TP) 100 PSI	(TP) 50 PSI
3	1.0	0.16	0.13	0.11	0.09	0.07	0.04	0.02
4	1.0	0.16	0.13	0.11	0.09	0.07	0.04	0.02
6	1.0	0.35	0.30	0.25	0.20	0.15	0.10	0.05
8	1.0	0.62	0.53	0.44	0.36	0.27	0.18	0.09
10	1.0	0.97	0.83	0.69	0.56	0.42	0.28	0.14
12	1.3	1.40	1.20	1.00	0.80	0.60	0.40	0.20
14	1.5	1.91	1.63	1.36	1.09	0.82	0.54	0.27
16	1.8	2.49	2.13	1.78	1.42	1.07	0.71	0.36
18	2.3	3.15	2.70	2.25	1.80	1.35	0.90	0.45
20	2.5	3.89	3.33	2.78	2.22	1.67	1.11	0.56
24	3.6	5.60	4.80	4.00	3.20	2.40	1.60	0.80



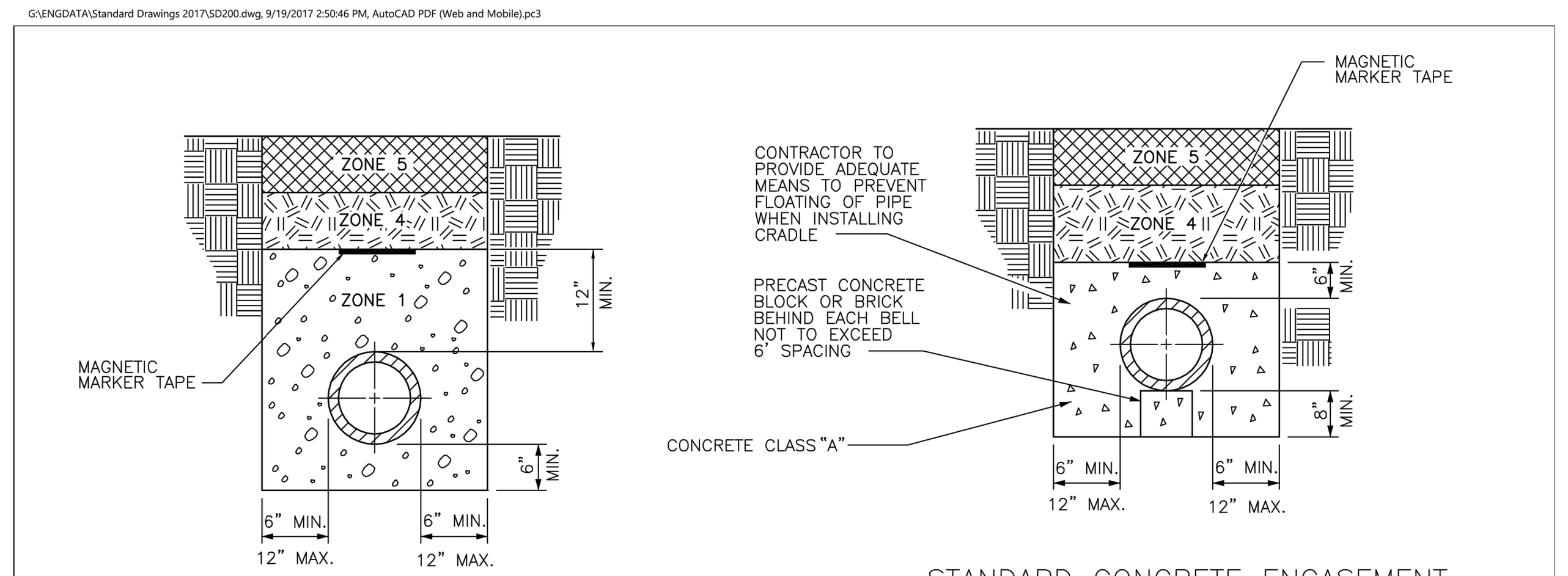
CLEANOUT ASSEMBLY FOR LAWN AREAS
NTS



CLEANOUT ASSEMBLY FOR PAVED AREAS
NTS



FIRE DEPARTMENT CONNECTION
N.T.S.



PIPE LAID IN ROCK OR SOIL TRENCH

STANDARD CONCRETE ENCASEMENT (NOTE: AS REQUIRED BY DESIGN)

PIPE BACKFILL DESCRIPTIONS	
ZONE 1	NO. 9 STONE
ZONE 2	NO. 9 OR NO. 57 STONE
ZONE 3	COMPACTED DGA
ZONE 4	CONSOLIDATED SOIL, (NO ROCK GREATER THAN 6" DIAMETER), NO. 9, OR NO. 57 STONE
ZONE 5	12" MAX. TOPSOIL, NO ROCK ALLOWED

NOTES:

1. COVER, UP TO AND INCLUDING ZONE 4 SHALL BE ESTABLISHED BEFORE TRENCH EXCAVATION.
2. ALL SANITARY SEWER LINES CONSTRUCTED FROM NON-METALLIC MATERIALS SHALL HAVE MAGNETIC MARKER TAPE INSTALLED IN THE TRENCH ABOVE THE SANITARY SEWER LINE.
3. MAGNETIC MARKER TAPE FOR SANITARY SEWER ONLY.

LEXINGTON
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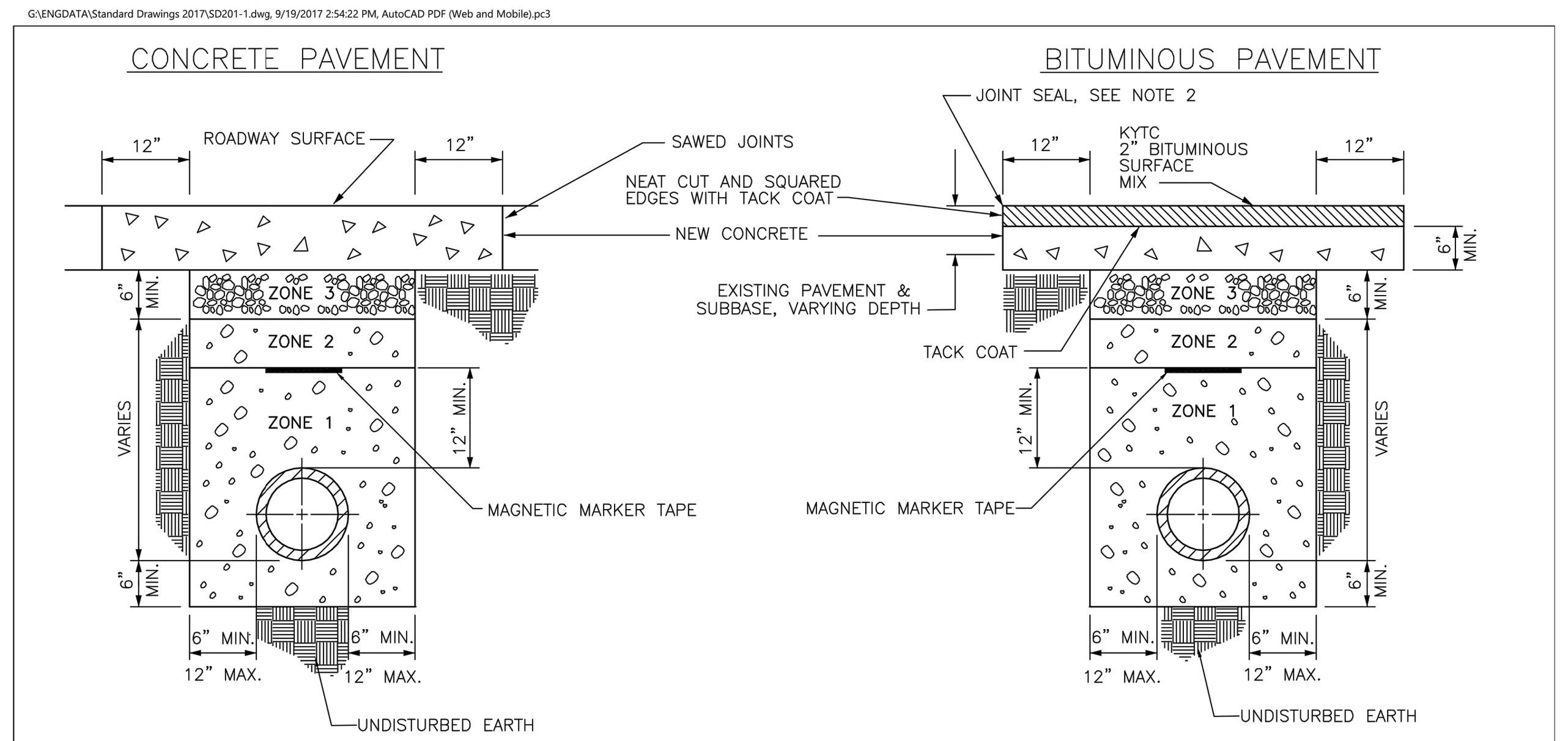
TRENCHING, LAYING, BACKFILLING AND BEDDING OUTSIDE R/W LIMITS
STANDARD DRAWING NO. 200

LEXINGTON – FAYETTE URBAN COUNTY GOVERNMENT



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ZONE 4	CONSOLIDATED SOIL, (NO ROCK GREATER THAN 6" DIAMETER), NO. 9, OR NO. 57 STONE
ZONE 5	12" MAX. TOPSOIL, NO ROCK ALLOWED

NOTES:

1. REPLACE CONCRETE PAVEMENT WITH NEW CONCRETE PAVEMENT, 6"MINIMUM OR EXISTING THICKNESS, WHICHEVER IS GREATER.
2. SEAL PERIMETER OF CUT PAVEMENT WITH CRACK SEALANT THAT MEETS ASTM D6690, TYPE 2.
3. MAGNETIC MARKER TAPE FOR SANITARY SEWER ONLY.

LEXINGTON
DIVISION OF ENGINEERING
TRENCHING, LAYING, BACKFILLING AND BEDDING UNDER STREET PAVEMENT
STANDARD DRAWING NO. 201-1

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bell engineering
Lexington, KY (859) 278-5412
Hopkinsville, KY (270) 886-5466
Somerset, KY (606) 485-4011

University of Kentucky

No.	Issue/Revision/Submission	Date
1	BID AND PERMIT	10.11.2024

Flad Architects
MADISON
BC&E ENGINEERING: DAYTON, OH
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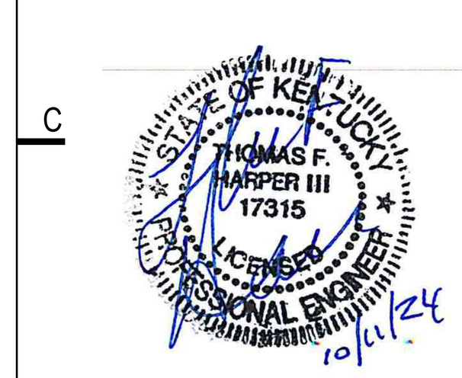
TEACHING GREENHOUSE
1421 UNIVERSITY DR, LEXINGTON, KENTUCKY 40503
UTILITY DETAILS



Project Manager: B. PICKERILL
Drawn: D. BOYD
Checked: R. HARPER
Initial Drawing Date: 10.11.2024
Project Number: UKX05.00

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SECTION 210100 - FIRE PROTECTION SYSTEM

1. GENERAL

A. The General Conditions, Instructions to Bidders, Section 200100, 1. A, and other Contract Documents are a part of this specification and shall be binding on the Contractor. It shall be the Contractor's responsibility to apprise himself of all information pertinent to his work prior to submitting his proposal. No adjustments will be made in this Contract which is a result of failure to comply with this requirement.

B. No Contractor, other than those regularly engaged in the installation of approved and franchised automatic sprinkler systems, will be considered or approved for the work under this section of the specifications. Bidders must have had not less than five (5) years experience in the fabrication and erection of such systems: wet, dry and rack storage types, and shall have completed installations similar and equivalent in scope to this system under approval by one or more of the recognized Underwriting Associations in the Insurance Field.

C. Before submitting bid, examine all Mechanical, Architectural, and Structural Drawings, visit the site and become acquainted with all conditions that may, in any way whatsoever, affect the execution of this work. Also, the Contractor shall coordinate with the rating bureau and insuring agency to verify adequacy of water supply for the proposed sprinkler system extension.

D. The Contractor shall take his own measurements and be responsible for exact size and location of all openings required for installation of this work. Figured dimensions where indicated are reasonably accurate and should govern in setting out work. Detailed method of installation is not indicated. Where variations exist between described work and approved practice, the Engineer shall be consulted for directive.

E. It is the intent of the Plans and Specifications to provide a general layout only and locate major equipment, piping, etc. Variations in head locations, pipe routing, etc., may be anticipated by the Contractor and shall be coordinated with all other trades and indicated on the drawings and descriptive literature called for hereinafter. It shall be the express responsibility of the Contractor to provide all required materials and equipment and perform all work required to install a complete and approved installation.

F. All materials and methods shall be in accordance with applicable codes, regulations and/or ordinances and meet approval of local inspection authority and the State Fire Marshal. Also, all work shall comply with the latest editions of the National Board of Fire Underwriters, National Fire Protection Association, OSHA Regulations, the National Building Code, the Life Safety Code, IMC Code and the Southern Building Code (Where applicable). The local insuring agency shall review plans prepared and submitted by the Contractor but shall have no authority to make changes once work has begun.

G. All work performed under this section shall be accomplished in close harmony with all other trades. All work not so coordinated shall be removed and reinstalled at the expense of the Contractor.

H. The Contractor shall submit a proposed layout to the Engineer prior to submittal to the Fire Marshal's Office.

I. Provide labels on ceiling grid and/or at access panels to locate concealed valves and switches. Refer to section 202400 for additional requirements.

2. SCOPE OF WORK

A. Furnish all material, labor, tools, equipment and supervision required for installation of a complete fire protection and stand pipe system as indicated on the project drawings. Include all necessary piping, sprinkler heads, test connections, valves, drains, cabinets, siamese connections, fire hydrants, fire pump, etc.

B. The Contractor shall provide flushing and sterilization of all water lines in accordance with current Kentucky Plumbing Codes, Rules and Regulations and shall make connection to domestic water mains in accord with current rules and regulations of the State Department of Sanitary Engineering and Division of Water.

C. Per University standards, provide stand pipes with 2-1/2 inch connections in a labeled cabinet with glass breakout panel. Do not provide with fire hose or 1-1/2 inch connection.

D. Provide sprinklers in attics, overhangs, awnings, cooler/freezers, in accessible spaces and all other areas required by NFPA and the local fire authority.

E. Provide dry pipe systems or freeze proof heads as required to provide continuous coverage without freezing.

3. WATER SUPPLIES AND SYSTEM LAYOUT CRITERIA

A. Where flow and pressure data are available, they are indicated on the project drawings. The Contractor shall independently verify all such information and notify the engineer of any discrepancies discovered prior to beginning the work. Where no flow information is indicted on the project drawings, the Contractor shall obtain it and indicate it on the shop drawing submittal.
B. Piping systems shall be hydraulically sized based on the most conservative flow information obtained. No adjustments in the contract amount will be allowed for failure of the Contractor to obtain adequate flow information.
C. Per University standards, water velocity in sprinkler pipes is not to exceed 32 ft/sec.
D. Per University standards, all newly installed sprinkler systems must be fully flow-tested by the Contractor in the presence of the Consultant’s engineer, University Project Manager, and the University Fire Marshall.

4. DRAWINGS AND DESCRIPTIVE LITERATURE

A. The Contractor shall prepare and submit to the Engineers, seven (7) copies of detailed drawings indicating his proposed Automatic Sprinkler System. These drawings shall indicate minimally the following components when they are used in the system.

(1) Name and address of Owner, Architect and Engineers.
(2) Make and type of sprinkler heads (Catalog cuts).
(3) Make and type of fire department connection (Catalog cuts).
(4) Make and type of post indicator valve (Catalog cuts).
(5) Make and type of detector check valve (Catalog cuts).
(6) Make and type of electric alarm bell (Catalog cuts).
(7) Make and type of retard chamber (Catalog cuts).
(8) Make and type of flanged check valve (Catalog cuts).
(9) Make and type of flanged gate valve (Catalog cuts).
(10) Make and type of automatic drains (Catalog cuts).
(11) Make and type of pipe hangers (1 catalog cut of each make and/or type).

(12) Make, type and electrical characteristics of:

a. The pressure sensing switch*.
b. The post indicator supervisory switch*.
c. The main gate valve supervisory switch*.
d. The flow switch*.
e. Air compressor.

(13) Make and type of supervised O.S & Y valve.
(14) Make and type of indicating butterfly valve.
(15) Make and type of reduced pressure backflow preventer.

Note: All layouts and drawings are to be closely coordinated with the work of all other trades. The Engineers will, upon request, provide a complete set of Architectural, Structural, Mechanical and Electrical Plans and Specifications to aid the Contractor in this work.

*SPECIAL NOTE: 1) The items (indicated by asterisk) must be clearly coordinated with the Fire Alarm System supplier. 2) Supervisory switches located in wet locations (i.e., fire protection vault) shall be provided with NEMA 6 enclosures.

(16) On a set of drawings to the same scale as the drawings accompanying these specifications, indicate:

a. Each head location coordinated with lights, diffusers and other ceiling mounted device.
b. Location of all risers, mains, runout lines, etc.
c. Size of all risers, mains, runout lines, etc.
d. Location and type of pipe hangers.
e. All other information required by the Kentucky Department of Housing, Buildings and Construction.

The Contractor shall submit these drawings to the Engineer through the General Contractor/Construction Manager and Architect where applicable. The Contractor shall submit reviewed drawings to the Kentucky Department of Housing, Buildings and Construction for their review and approval. No work shall be done until drawings are approved by the Kentucky Department of HBC.

5. SYSTEM DRAINAGE

A. The entire Standpipe and Sprinkler System (except that part which is below grade and will not freeze) shall be installed so as to allow 100% drainage.

B. All sprinkler branch piping shall be installed so as to drain back to the main riser.

C. Approved 2" drawoff piping shall be provided on sprinkler risers with discharge piping running to nearest floor drain or open air.

D. Where sprinkler piping is trapped, an approved auxiliary draw-off shall be provided and neatly installed.

E. All draw-offs shall have a metal tag labeled "Sprinkler Drain."

6. INSPECTIONS AND TESTS

A. Furnish all labor, equipment and conduct all required tests in the presence of the Owner and Engineer or designated representative.

B. All piping and devices comprising the fire protection system shall be tested under hydrostatic pressure of not less than 200 PSI and maintained for not less than two (2) hours.

C. Upon completion of his work, the Contractor shall submit a written and signed certificate to the Engineers indicating that he performed the above prescribed tests and rectified all malfunctions arising there from.

7. PERMITS

A. The Contractor shall obtain and pay for all necessary state, municipal, county, city and other permits and fees and pay all State taxes which are applicable.

8. GUARANTEE

A. All workmanship, equipment and material shall be guaranteed in writing against defects from any cause, other than misuse, for a period of one year after date of final acceptance.

9. ACCEPTANCE CERTIFICATE

A. Upon completion, the Contractor shall submit to the Engineers, a properly filled out "Sprinkler Contractor's Certificate Covering Materials and Tests." (4 copies).

10. CLEANING

A. Upon completion of this work all debris, material, and equipment shall be removed from the building and premises; all piping shall be cleaned ready for finish painting. Note: Do not remove rust inhibitive primer specified hereinafter.

11. PAINTING

A. All fire protection piping, fittings, etc., shall have one factory or shop coat of rust inhibitive primer. The Contractor shall thoroughly clean all such items in areas where the piping will be exposed so as to readily receive the finish coat specified in the Architectural Division of Painting. Colors shall be as specified in Identification Section of these specifications.

12. PIPE LAYING

A. Bell holes shall be excavated accurately to size and barrel of pipe shall bear firmly on bottom of trench throughout its length. All foreign matter and dirt shall be removed from the inside of the pipe before it is lowered into its position in the trench, and it shall be kept clean by approved means during and after laying. At times when pipe laying is not in progress, the open ends of pipe shall be closed by approved means, and no trench water shall be permitted to enter the pipe. Cutting of pipe, where necessary, shall be done in a neat and workmanlike manner, without damage to pipe. Refer also to Excavation.

13. EQUIPMENT AND MATERIALS

A. Signs

Appropriate code approved and required signs shall be installed on all control valves, drains, inspector's test, etc., indicating the function, installation, etc. Signs shall be neatly affixed with rust inhibitive screws, rivets or where hung from piping; with stainless steel No. 14 AWG wire.

B. Finish

All exposed materials such as valves, fire department connections, sprinkler heads, fire pump test headers, etc., shall be brass or chrome-plated brass.

C. Check Valves

(1) 2-1/2" and over; listed and approved by UL and FM; marked SV-FM; 175# working pressure; 1 BBM; flanged; equivalent to Mueller, Scott or Lunkenheimer.

(2) 2" and under; 150# working pressure; bronze; screwed; equivalent to Jenkins, Scott or Lunkenheimer.

D. Pipe & Fittings

(1) Nipples and fittings shall be of same material, composition, and weight classification as pipe in which installed.

(2) Up to 2" (Interior) Schedule 40 ASTM A-53 black steel; 125# cast iron screwed fittings or Schedule 10, ASTM A-135 black steel with victaulic or similar type approved fittings.

(3) 2-1/2" and larger (Interior) Schedule 40 black steel with flanged, welded or victaulic (or similar) type approved fittings or Schedule 10, ASTM A-135 black steel with victaulic or similar type approved fittings.

(4) Exterior: Class 200 PVC piping for exterior fire protection piping. Piping shall meet AWWA C900 requirements, be UL listed, Factory Mutual approved and NSF approved. Joints shall have spigot pipe ends with a flexible elastomeric ring seated in a groove to provide water tight seal. Minimum burst pressure to be 900 psi when tested in accordance with ASTM D1599. No. 8 copper wire (tracer wire) shall parallel all exterior PVC pipe.

E. Clamps and Anchors

(1) Furnish and install approved clamps, as required, at all (45 degree) l/8 bends, (90 degree) 1/4 bends and flange and spigot pieces to the straight pipe to ensure permanent anchorage of all fire lines. Clamps, clamp rods, nuts, washers, and glands shall be coated with a quick drying coal tar bituminous paint after installation.

F. Hangers

(1) All piping shall be adequately and permanently supported in an approved manner on approved hangers (Submit with drawings).

G. Sleeves and Escutcheon Plates

(1) Furnish and install sleeves for pipes where piping penetrates masonry walls; exterior wall sleeves to be watertight. Fire and smoke stop all penetrations through fire and smoke walls and coordinate with General Contractor for locations.

(2) Furnish and install cast brass chrome plated split ring type escutcheons where piping penetrates walls, ceilings and floors, whether in finished areas or not.

H. Electric Wiring

(1) All electric wiring for the system which may be required shall be installed in accordance with the National Board of Fire Underwriters, and National Electric Code. The cost of this electric wiring shall be included under this Contract. All electrical wiring and conduit installed in fire protection pits shall be sealed watertight.

I. Inspection Test Connections & Pressure Gauges

(1) A 1" inspection test connection as required by the Kentucky Building Code. Per University of Kentucky standards, provide a test station at the furthest point on each zone. Plumb all test station discharge to nearest drain / floor drain.

(2) Control valve for test connection shall be installed not over 7' above the floor.

(3) A pressure gauge at the inspection. Test connection at each location indicated on the Plans. Pressure gauges shall be 2-1/2" diameter and readable from the floor.

J. Gate Valves

(1) 2-1/2" and over; listed and approved by UL and FM; marked SV-FM; 175# working pressure; 1 BBM; OS&Y; flanged; cast iron discs; bronze seat rings; four-point wedging mechanism; equivalent to Mueller, Scott or Lunkenheimer.

(2) 2" and under; 150# working pressure; bronze; rising stem; screwed; bronze discs; bronze seat rings; two-point wedging mechanism; equivalent to Jenkins, Scott or Lunkenheimer.

K. Sprinkler Head Cabinet

(1) Furnish and install a cabinet, clearly labeled, with four (4) sprinklers of each type complete with required wrenches. Locate as directed by Engineer. Label "Sprinkler Heads."

L. Fire Department Connection

(1) Furnish and install a fire department connection with threads as approved by the local fire department; cast brass polished and chromium plated; with connection sizes and lettering as directed by the local authority having jurisdiction; Units shall be Acron Brass or equal single 4" nozzle, clapper, etc. Per University standards, fire department connection to be painted.

M. Siamese Hose Connection

(1) Furnish and install on the fire protection pit where required by the local authority a siamese hose connections with threads as approved by the local Fire Department. Unit shall be similar to Larsen's No. 15 sidewalk siamese, size: 2-1/2" x 2-1/2" x 6". Coordinate threads type with local Fire Department.

N. Post Indicator Valve

(1) Furnish and install a post indicator valve as required by the local authority. It shall be listed and approved by Underwriters Laboratories and Associated Factory Mutual Laboratories; Marked SV-FM; vertical; non-adjustable; with electric supervisory switch, handle, view window, brass padlock with (2) keys; gate valve to meet gate valve specifications, except to have non-rising stem and mechanical joint ends; equivalent to Mueller, Scott or Lunkenheimer. Per University standards, post indicator valve to be painted.

O. Detector Check Valve

(1) Furnish and install detector check valve as required by the local authority. It shall be listed and approved by Underwriter Laboratories and Associated Factory Mutual Laboratories; 175# working pressure; IBBM; flanged; with tapped bosses each side for by-pass meter trimming; equivalent to Viking, Badger or Grinnell.

(2) The Contractor shall contact the servicing water company and ascertain their policy pertaining to the by-pass water meter; if not furnished by water company. The Contractor shall furnish and install the by-pass meter and trimming as detailed on the drawings.

P. Sprinkler Heads

Gem, Grinnell, Star, Viking, Reliable, Central or approved equivalent as follows:

(1) Where piping is exposed: "Standard up right."

(2) Where piping is concealed above finished ceilings, provide two pieces, semi recessed, white plated sprinkler heads with removable escutcheon.

(3) Install sprinkler head guards where heads are subject to physical abuse. Heads located below seven (7) feet above floor, etc.

(4) Sprinkler head degree ratings shall be determined by the area serviced in accord with current Codes and Standard Practices. Indicate degree ratings on submitted Shop Drawings.

(5) The Contractor shall submit to the Engineer for inspection, one (1) sample of each type of sprinkler head, proposed to be used on the project.

(6) Where heads are installed in a tile ceiling, they shall be installed in the middle of the tiles, at half or quarter points along the length of the tiles. Install sprinkler heads at quarter points of center scoured 2' X 4' ceiling tiles.

(7) Provide high temperature heads around range hoods, kitchen equipment, kilns, boilers, water heaters and other heat producing equipment.

(8) Per University standards, provide guards where sprinkler heads are to be located in mechanical spaces, in work shops, in athletic spaces, below eight (8) ft AFF or any other location in which heads may be subject to damage. If in doubt, consult with engineer.

(9) Per University standards, automatic reset or self-closing sprinkler heads are prohibited.

(10) Per University standards, concealed sprinkler heads are prohibited.

(11) Per University standards, extended range sprinkler heads are prohibited.

Q. Water Motor Gong

(1) Furnish and install a water motor gong on the building exterior.

Grinnell, Viking, Mueller or equivalent.

(2) Per University standards, provide a permanent emergency telephone number label near the external alarm.

R. Retard Chamber

(1) Same as water motor gong.

S. Flow Indicator Switches

(1) Furnish and install flow indicator switches as required by NFPA 13. All flow indicator switches shall be UL approved. Coordinate with Fire Alarm System supplier/installer. Provide a set of dry contacts on each flow switch for interface to the Control System if this control point is specified in the Controls Section.

T. Tamper Switches for Water Shut-Off Valves

(1) Furnish and install tamper switches where required by NFPA 13. All tamper switches shall be UL approved. Coordinate with fire alarm system supplier/installer. All tamper switches located in fire protection pits shall be waterproof, capable of operating beneath water similar to Potter PTS Series and be NFPA approved.

U. Fire Hydrant

(1) Furnish and install fire hydrants as approved by local Fire Department.
(2) Per University standards, fire hydrants to be painted red, located away from the building near a hard surface for access and clearly labeled as to the building served with a permanent sign attached to the collar with 1” or larger letters.

V. Reduced Pressure Backflow Preventer

(1) Refer to plumbing specialties section of these specifications.

14. GUARANTEE

A. All workmanship, equipment and material shall be guaranteed in writing against defects from any cause, other than misuse, or vandalism, for a period of one year after date of final acceptance.

END OF SECTION 210100

Johnson Controls Fire Protection LP
973 Beasley Street, Suite 150
Lexington , KY 40509
(859) 294-7233

Johnson Controls Fire Protection LP Quotation

To:
University of Kentucky
Room 222
Lexington, KY 40506

Project: UK AG Research 1 FA - CPQ-755867
Johnson Controls Reference: 650755867
Proposal #: 1
Date: 01/14/2025

Items cited on this quote are products and services on the Johnson Controls Fire Protection LP Sourcewell Contract # 030421-JHN.

Johnson Controls is pleased to offer for your consideration this quotation for the above project

Scope of Work

THIS PRICE WILL BE HONORED FOR 30 DAYS FROM THE DATE LISTED ON THE PROPOSAL. THIS IS DUE TO MATERIAL COST VOLITILITY.

This quote is for Johnson Controls Fire Protection (JCFP) to provide the fire alarm system for the UK Ag Research 1 project.

The following items were utilized for takeoff / design:

- Fire alarm drawings dated 11-15-24
- XUKA23 - MECH - C&S - Addendum 3 - 2024-08-16. provided by CMTA showing smoke damper locations
- AG Research AC_PS Locations drawing. provided by CMTA showing all access control closet headend locations.
- No specification was provided for the fire alarm system.

This price includes the following items:

- Design / CAD
- State submittal fees

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Lexington , KY 40509
(859) 294-7233

- Equipment
- Shipping
- Commissioning / Acceptance testing
    - Additional trips are provided for pretest for each bank of elevators.
- 1 year of central station monitoring
- Installation of all fire alarm wiring and device trim out.

The electrical contractor shall provide and install all conduit, back boxes, and 120v circuits per the approved JCFP drawings.

PROJECT SPECIFIC DETAILS:

- Equipment counts were taken from the documents provided by CMTA.
    - Value engineered pricing can be provided if requested.
- All smoke damper locations will have a duct smoke detector, remote test switch, and addressable relay for AHU shutdown and/or damper control.
- An addressable relay is provided at all access control closet headend locations, and stairwell doors.
- The fire alarm system will be added to the new ESnet South fire alarm network loop.
- All work will be performed from aerial lifts to meet Turner Construction safety protocol.
- All door holders will be powered from the FACP power supplies.

EXCLUSIONS:

- Fiber optic run to the FACP. A 6 strand Multimode fiber will need to be provided to the FACP location.
- Power for smoke dampers.

BASE BID - FIRE ALARM SYSTEM

FACP

QTY	MODEL NUMBER	DESCRIPTION
1	4100-9701	ES-PS MSTR CTRLR 2X40
1	41002153	3Bay Glass Dr Pkg Factory Only
1	41007905	FACTORY BUILT-MAIN CONFIGURED
1	4100-3117	MSTR CTLR IDNET2, FACTORY ONLY
8	4100-0644	120V ES-PS PDM HARNESS
3	4100-0634	POWER DISTRIBUTION MODULE 120V
7	4100-2300	EXPANSION BAY (PHASE 10 ONLY)
2	41002163	INDICATOR ONLY 3 BAY SOLID
1	4100-6104	ESNET NTWK INTERFACE CARD SLOT
5	4100-5451	IDNAC CARD
1	4100-6309	ES NET MM FIBER MEDIA CARD
1	4100-5131	ES-PS FAN MODULE
7	4100-5401	ES-PS POWER SUPPLY
1	4100-1412	ES NET BASIC AUDIO W/MIC
1	4100-1288	64/64 LED/SWITCH CONTROLLER
2	4100-0011	FACTORY USE ONLY-AUDIO SHIPKIT
11	4100-1279	2 BLANK DISPLAY MODULE
3	4100-2320	AUDIO EXPANSION BAY
3	4100-5128	BATTERY DIST TERM MODULE
2	4100-0636	BOX TO BOX HARNESS KIT
1	4100-0637	AUDIO BOX TO BOX HARNESS KIT
1	4100-3112	4 LOOP EPS MSTR CNTLR OPTION
1	4100-1294	LED/SWITCH SLIDE-IN LABEL KIT
1	4100-1240	AUX AUDIO INPUT MODULE
2	4100-1280	8 SWITCH, 8 RED LED MODULE
1	4100-1253	AUDIO IF MODULE, MULTI-CHANNEL
1	4100-2504	CS GATEWAY W/IP COM 4100 SIDE
5	4100-1327	FLEX 50W AMP W/3 NACS - 70V

FACP ACCESSORIES

QTY	MODEL NUMBER	DESCRIPTION
6	2081-9296	BATTERY 50AH
3	4100-0650	BATTERY SHELF
4	DTK-120HW	Type 1 Parallel Connected SPD
1	2975-9446	3 BAY BB/GDOOR/DRESS PNL PLAT
2	2975-9452	3 BAY BOX& SOLID DOOR PLATINUM

TPR 1

QTY	MODEL NUMBER	DESCRIPTION
1	4100-9600	BASIC TRANSPONDER
2	41002163	INDICATOR ONLY 3 BAY SOLID
1	41007905	FACTORY BUILT-MAIN CONFIGURED
6	4100-5401	ES-PS POWER SUPPLY
6	4100-0644	120V ES-PS PDM HARNESS
2	4100-0634	POWER DISTRIBUTION MODULE 120V
5	4100-2300	EXPANSION BAY (PHASE 10 ONLY)
1	4100-0622	DIGITAL AUDIO RISER MODULE
4	4100-5451	IDNAC CARD
2	4100-2320	AUDIO EXPANSION BAY
2	4100-5128	BATTERY DIST TERM MODULE
1	4100-0636	BOX TO BOX HARNESS KIT
4	4100-1327	FLEX 50W AMP W/3 NACS - 70V

TPR 1 ACCESSORIES

QTY	MODEL NUMBER	DESCRIPTION
4	2081-9296	BATTERY 50AH
2	4100-0650	BATTERY SHELF
4	2081-9274	BATTERY 10AH
4	DTK-120HW	Type 1 Parallel Connected SPD
2	2975-9452	3 BAY BOX& SOLID DOOR PLATINUM
2	HPF-PS10	6 Amp and 10 Amp

REMOTE ANNUNCIATOR

QTY	MODEL NUMBER	DESCRIPTION
1	4100-9611	REMOTE ANNUN EXTERNAL POWER
1	41002153	3Bay Glass Dr Pkg Factory Only
1	41007905	FACTORY BUILT-MAIN CONFIGURED
1	4100-2300	EXPANSION BAY (PHASE 10 ONLY)
1	4100-1292	REMOTE PANEL MOUNT LCD AUUNU
1	4100-1294	LED/SWITCH SLIDE-IN LABEL KIT
1	4100-1244	REMOTE AUDIO INTERFACE W/MIC
2	4100-1280	8 SWITCH, 8 RED LED MODULE
2	4100-0011	FACTORY USE ONLY-AUDIO SHIPKIT
1	4100-1288	64/64 LED/SWITCH CONTROLLER
3	4100-1279	2 BLANK DISPLAY MODULE
1	4100-2302	8 SLOT EXP BAY FILLER PANEL
1	4100-1253	AUDIO IF MODULE, MULTI-CHANNEL

REMOTE ANNUNCIATOR ACCESSORIES

QTY	MODEL NUMBER	DESCRIPTION
1	2975-9443	3 BAY BB/GDOOR/DRESS PNL RED

INITIATING DEVICES

QTY	MODEL NUMBER	DESCRIPTION
37	4098-9714	PHOTO SENSOR
7	4098-9733	HEAT SENSOR
44	4098-9792	SENSOR BASE
2	2975-9211	WEATHERPROOF BOX FOR 2099-9138
36	4098-9755	DUCT SENSOR HOUSING
36	4098-9856	"SAMPLING TUBE 49"", PLASTIC"
36	2098-9806	REMOTE TEST STATION
36	4090-9002	RELAY IAM
36	4090-9801	COVER-ADDRESS MODULE FLUSH
38	4099-9006	STATION-LED, DA PUSH ADDR
2	2099-9139	PULL STAT CAST D/A B LOCK SPST
2	4081-9004	EOL, 6.8K 1/2W

NOTIFICATION DEVICES

QTY	MODEL NUMBER	DESCRIPTION
546	4906-9211	AMBER/CLEAR WHITE WALL MT VO
109	49HF-APPLW	HIFI SPKR APPLIANC ONLY WALL
109	49SOC-WWFIRE	SPKR COVER WALL WHITE FIRE
461	49HF-APPLC	HIFI SPKR APPL ONLY CEILING
461	49SOC-CWFIRE	COVER SPKR ONLY CEIL WHIT FIRE
25	49SV-APPLW-O	SPKR/VISIBLE APPL ONLY WALL WP
25	49SVC-WWFIRE-O	SV COVER,WALL,WHITE,FIRE WP
25	49WPBB-SVWW	WEATHERPF BB SPKR/VIS WALL WHT
109	49MP-SOWW	MTG PLATE SPKR WALL WHITE
49	49SVH-APPLC-O	SV HICD APPL ONLY CEILING WP
49	49SVC-CWFIRE-O	SV COVER, CEILING WHT FIRE WP
49	49WPBB-SVCW	SV BACKBOX,CEILING WHITE WP
49	SCWKLED-P	WP Ceiling Strobe
49	LENS-AC	Amber Lens

PROFESSIONAL LABOR

QTY	MODEL NUMBER	DESCRIPTION
	DSGN LAB	DESIGN LABOR
	CAD LAB	CAD LABOR
	PM LAB	PROJECT/CONSTRUCTION MGMT
	COMM LAB	COMMISSIONING LABOR

SYSTEM ACCESSORIES

QTY	MODEL NUMBER	DESCRIPTION
14	DH24120FPC	DR HLDR,SEMI-FLUSH,CHRM
4	2088-9008	RELAY, SPDT W/LED

ACCESS CONTROL SHUTDOWN

QTY	MODEL NUMBER	DESCRIPTION

24	4090-9002	RELAY IAM
24	4090-9802	COVER-ADDRESS MODULE SURFACE

SPRINKLER MONITIORING

QTY	MODEL NUMBER	DESCRIPTION
30	4090-9001	SUPERVISED IAM
30	YJ1283	SINGLE GANG IAM BRACKET
30	4081-9004	EOL, 6.8K 1/2W
1	2081-9027	TRANSIENT CUBE

KITCHEN HOOD MONITORING

QTY	MODEL NUMBER	DESCRIPTION
1	4090-9001	SUPERVISED IAM
1	YJ1283	SINGLE GANG IAM BRACKET
1	4081-9004	EOL, 6.8K 1/2W

ELEVATOR CONTROL

QTY	MODEL NUMBER	DESCRIPTION
8	4090-9002	RELAY IAM
8	4090-9802	COVER-ADDRESS MODULE SURFACE
2	4090-9001	SUPERVISED IAM
2	YJ1283	SINGLE GANG IAM BRACKET
2	4081-9004	EOL, 6.8K 1/2W
2	SSU-MR-201/C/R	RELAY 20-32DC 24/120AC DPDT10A

SUBMITTAL FEES

QTY	MODEL NUMBER	DESCRIPTION
	DPSVC	DP SVCS (PERMITS/FEES/BONDS)

CENTRAL STATION MONITORING

QTY	MODEL NUMBER	DESCRIPTION
	DPSVC	DP SVCS (PERMITS/FEES/BONDS)

INSTALL LABOR

QTY	MODEL NUMBER	DESCRIPTION
	PM LAB	PROJECT/CONSTRUCTION MGMT
	INST LAB	INSTALLATION LABOR

INSTALL MATERIAL

QTY	MODEL NUMBER	DESCRIPTION
1	DPIM	INSTALLATION MATERIALS

LIFT

QTY	MODEL NUMBER	DESCRIPTION
	DPRENTAL	EQUIPMENT RENTAL

ALTERNATE - 4TH FL FITUP

EQUIPMENT

QTY	MODEL NUMBER	DESCRIPTION
6	4906-9211	AMBER/CLEAR WHITE WALL MT VO
32	49HF-APPLC	HIFI SPKR APPL ONLY CEILING
32	49SOC-CWFIRE	COVER SPKR ONLY CEIL WHIT FIRE

LABOR ESTIMATOR

QTY	MODEL NUMBER	DESCRIPTION
	DSGN LAB	DESIGN LABOR
	CAD LAB	CAD LABOR
	PM LAB	PROJECT/CONSTRUCTION MGMT
	COMM LAB	COMMISSIONING LABOR
	INST LAB	INSTALLATION LABOR

Johnson Controls has **not** included an estimate for all state and local sales tax for this quote based on the understanding that a valid exemption and/or resale certificate is received by Johnson Controls from Purchaser. Otherwise, actual sales tax due will be calculated and billed

Payment Options:
Johnson Controls Capital Funding Solutions
Offering flexible solutions for your business needs! Allows for payment over time for products and installation costs with no down payment requirement. We offer a fast turnaround time with a simple web-based application and closing process.

For more information on JC Capital funding solutions, please forward this proposal along with any questions to your sales representative.

IMPORTANT NOTICE TO CUSTOMER

This Agreement is contingent on credit approval, which may be checked at JCI's discretion and requires final approval of a JCI authorized manager before any equipment/ services may be provided. Should credit and/or approval be declined, this Agreement will be terminated and JCI's only obligation to customer will be to notify Customer of such termination and refund any amounts paid in advance.

For Customers located in Canada, this Fire Domain Sale and Installation Agreement has been drawn up and executed in English at the request of and with the full concurrence of Customer. Ce contrat a été rédigé en anglais à la demande et avec l'assentiment du client.

CUSTOMER ACCEPTANCE:

In accepting this Agreement, Customer agrees to the terms and conditions contained herein including those on the following page(s) of this Proposal and any attachments or riders attached hereto that contain additional terms and conditions. It is understood that these terms and conditions shall prevail over any variation in terms and conditions on any purchase order or other document that Customer may issue. Any changes requested by Customer after the execution of this Agreement shall be paid for by the Customer and such changes shall be authorized by the parties in writing. **ATTENTION IS DIRECTED TO THE LIMITATION OF LIABILITY, WARRANTY, INDEMNITY AND OTHER CONDITIONS CONTAINED IN THIS AGREEMENT.**

Customer agrees to pay Johnson Controls pursuant to the progress-based billing schedule of values set forth below. If the schedule of values includes an upfront deposit, it will be paid within 30 days of contract signing and Johnson Controls will not commence work until the upfront deposit is received. Customer agrees to pay for materials, goods, and equipment (ordered, delivered, or stored) pursuant to the schedule of values, prior to installation commencement. The remaining portion of the total price will be progress billed through completion of the work. Johnson Controls progress based billing can also include any services performed on-site or off-site. All invoices will be delivered via Email(), paid via Electronic Funds Transfer and are due PWP (Pay When Paid) from the date of invoice. Electronic Funds Transfer details will be provided upon contract execution. The proposed total price is contingent upon Customer agreeing to these payment and invoicing terms.

Planned Monthly Progress Billing Schedule of Values

Item #	Description	%
1	Deposit	0%
2	Mobilization	10%
3	Engineering	TBD*
4	Material	TBD*
5	Installation	TBD*
6	Commissioning	TBD*

*To be mutually agreed upon in writing at a later date

This offer shall be void if not accepted in writing within thirty (30) days from the date first set forth above.

To ensure that JCI is compliant with your company's billing requirements, please provide the following information:

PO is required to facilitate billing: ☐ NO: This signed contract satisfies requirement

☐ YES: Please reference this PO Number: _____

Deposit Invoice accepted (___%):

☐ **No** ☐ **Yes**

Offered By:	Accepted By: (Customer)
Johnson Controls Fire Protection LP	Company: _____
973 Beasley Street, Suite 150	Address: _____
	Signature: _____
Lexington , KY 40509	Title: _____
Telephone: (859) 294-7233	Date: _____
Representative: _____	
Email: william.fraley@jci.com	

TERMS AND CONDITIONS
(Rev. 12.12.24)

1. Deposit, Invoicing and Payments. Customer agrees to pay Company pursuant to the progress-based billing schedule of values set forth in Company's proposal. If the schedule of values includes an upfront deposit, it will be paid within 30 days of contract signing and Company will not commence work until the upfront deposit is received. Customer agrees to pay for materials, goods, and equipment (ordered, delivered, or stored) pursuant to the schedule of values, prior to installation commencement. The remaining portion of the total price will be progress billed through completion of the work. Company progress-based billing can also include any services performed on-site or off-site. Invoicing disputes must be identified in writing within 21 days of the invoice date. Payments of any disputed amounts are due and payable upon resolution. All invoices will be delivered via Email, paid via Electronic Funds Transfer and are due PWP (Pay When Paid) days from the date of invoice. Electronic Funds Transfer details will be provided upon contract execution. The proposed total price is contingent on Customer agreeing to these payment and invoicing terms. In exchange for close-out documents to be provided by Company, Customer agrees to pay Company the remaining project balance when on-site labor is completed and prior to any final inspections. Customers without established satisfactory credit and Customers who fail to pay amounts when due may be required to make payments of cash in advance, upon delivery or as otherwise specified by Company. Company reserves the right to revoke or modify Customer's credit in its sole discretion. Customer acknowledges and agrees that timely payments of the full amounts listed on invoices is an essential term of this Agreement and that Customer's failure to make payment when due is a material breach of this Agreement. Customer further acknowledges that if there is any amount outstanding on an invoice, it is material to Company and will give Company, without prejudice to any other right or remedy, the right to, without notice: (i) suspend, discontinue or terminate performing any services and/or withhold further deliveries of equipment and other materials, terminate or suspend any unpaid software licenses, and/or suspend Company's obligations under or terminate this Agreement; (ii) charge Customer interest on the amounts unpaid at a rate equal to the lesser of one and one half (1.5) percent per month or the maximum rate permitted under applicable law, until payment is made in full; and iii) pay all of JCI's costs of collection, including (1) actual out of pocket expenses and (2) charge Customer a collection fee of twenty-five percent (25%) of the past due amount if collected through a collection agency or attorney and thirty-five percent (35%) if litigation is commenced to collect such past due amount.

Company's election to continue providing future services does not, in any way diminish Company's right to terminate or suspend services or exercise any or all rights or remedies under this Agreement. Company shall not be liable for any damages, claims, expenses, or liabilities arising from or relating to suspension of services for non-payment. In the event that there are exigent circumstances requiring services or the Company otherwise performs services at the premises following suspension, those services shall be governed by the terms of this Agreement unless a separate contract is executed. If Customer disputes any late payment notice or Company's efforts to collect payment, Customer shall immediately notify Company in writing and explain the basis of the dispute. Customer agrees to pay all of Company's reasonable collection costs, including legal fees and expenses.

2. Pricing. The pricing set forth in this Agreement is based on the number of devices to be installed and services to be performed as set forth in the Scope of Work ("Equipment" and "Services"). If the actual number of devices installed or services to be performed is greater than that set forth in the Scope of Work, the price will be increased accordingly. If this Agreement extends beyond one year, Company may increase prices upon notice to the Customer.

Prices in any quotation or proposal from Company are subject to change upon notice sent to Customer at any time before the quotation or proposal has been accepted. Prices do not include taxes, fees, duties, tariffs, false alarm assessments, permits and levies or other charges imposed and/or enacted by a government, however designated or imposed (collectively, "Taxes"). All Taxes are the responsibility of Customer, unless Customer presents an exemption certificate acceptable to Company and the applicable taxing authorities. If Company is required to pay any such Taxes or other charges, Customer shall reimburse Company on demand. If any such exemption certificate is invalid, then Customer will immediately pay Company the amount of the Taxes, plus penalties and interest. Prices in any quotation or proposal from Company are subject to change upon notice sent to Customer at any time before the quotation or proposal has been accepted. Prices may be adjusted by Company prior to shipment to take into account increases in the cost of raw materials, component parts, third party products or labor rates or taxes; Trade Restrictions (as defined below); government actions; or to cover any unforeseen or other extra cost elements. "Trade Restrictions" means any additional or new tariff/duty, quota, tariff-rate quota, or cost associated with the withdrawal of tariff/duty concessions pursuant to a trade agreement(s).

This Agreement is entered into with the understanding that the services to be provided by Company are not subject to any local, state, or federal prevailing wage statute. If it is later determined that local, state, or federal prevailing wage rates apply to the services to be provided by Company, Company reserves the right to issue a modification or change order to adjust the wage rates to the required prevailing wage rate. Customer agrees to pay for the applicable prevailing wage rates.

3. Alarm Monitoring Services. Any reference to alarm monitoring services in this Agreement is included for pricing purposes only. Alarm monitoring services are performed pursuant to the terms and conditions of Company's standard alarm monitoring services agreement.

4. Code Compliance. Company does not undertake an obligation to inspect for compliance with laws or regulations unless specifically stated in the Scope of Work. Customer acknowledges that the Authority Having Jurisdiction (e.g., Fire Marshal) may establish additional requirements for compliance with federal, state/ provincial, and local codes. Any additional services or

equipment required will be provided at an additional cost to Customer.

5. Limitation of Liability; Limitations of Remedy. **It is understood and agreed by the Customer that Company is not an insurer and that insurance coverage shall be obtained by the Customer and that amounts payable to company hereunder are based upon the value of the services and the scope of liability set forth in this Agreement and are unrelated to the value of the Customer's property and the property of others located on the premises. Customer agrees to look exclusively to the Customer's insurer to recover for injuries or damage in the event of any loss or injury and that Customer releases and waives all right of recovery against Company arising by way of subrogation. Company makes no guaranty or Warranty, including any implied warranty of merchantability or fitness for a particular purpose that equipment or services supplied by Company will detect or avert occurrences or the consequences therefrom that the equipment or service was designed to detect or avert. It is impractical and extremely difficult to fix the actual damages, if any, which may proximately result from failure on the part of Company to perform any of its obligations under this Agreement. Accordingly, Customer agrees that, Company shall be exempt from liability for any loss, damage or injury arising directly or indirectly from occurrences, or the consequences therefrom, which the equipment or service was designed to detect or avert. Should Company be found liable for any loss, damage or injury arising from a failure of the equipment or service in any respect, Company's liability shall be limited to an amount equal to the Agreement price (as increased by the price for any additional work) or where the time and material payment term is selected, Customer's time and material payments to Company to be calculated with reference to payments made at the time the loss is sustained. Where this Agreement covers multiple sites, liability shall be limited to the amount of the payments allocable to the site where the incident occurred. Such sum shall be complete and exclusive. In no event shall Company be liable for any damage, loss, injury, or any other claim arising from any servicing, alterations, modifications, changes, or movements of the Covered System(s) or any of its component parts by Customer or any third party. To the maximum extent permitted by law, in no event shall Company and its affiliates and their respective personnel, suppliers and vendors be liable to Customer or any third party under any cause of action or theory of liability, even if advised of the possibility of such damages, for any (a) special, incidental, consequential, punitive or indirect damages of any kind; (b) loss of profits, revenues, data, customer opportunities, business, anticipated savings or goodwill; (c) business interruption; or (d) data loss or other losses arising from viruses, ransomware, cyber-attacks or failures or interruptions to network systems. The limitations of liability set forth in this Agreement shall inure to the benefit of all parents, subsidiaries and affiliates of Company, whether direct or indirect, Company's employees, agents, officers and directors.**

6. Reciprocal Waiver of Claims (SAFETY Act). Certain of Company's systems and services have received Certification and/or Designation as Qualified Anti-Terrorism Technologies ("QATT") under the Support Anti-terrorism by Fostering Effective Technologies Act of 2002, 6 U.S.C. §§ 441-444 (the "SAFETY Act"). As required under 6 C.F.R. 25.5 (e), to the maximum extent permitted by law, Company and Customer hereby agree to waive their right to make any claims against the other for any losses, including business interruption losses, sustained by either party or their respective employees, resulting from an activity resulting from an "Act of Terrorism" as defined in 6 C.F.R. 25.2, when QATT have been deployed in defense against, response to, or recovery from such Act of Terrorism.

7. General Provisions. Customer has selected the service level desired after considering and balancing various levels of protection afforded, and their related costs. All work to be performed by Company will be performed during normal working hours of normal working days (8:00 a.m. – 5:00 p.m., Monday through Friday, excluding Company holidays), as defined by Company, unless additional times are specifically described in this Agreement. Company will perform the services described in the Scope of Work section ("Services") for one or more system(s) or equipment as described in the Scope of Work section or the listed attachments ("Covered System(s)"). The Customer shall promptly notify Company of any malfunction in the Covered System(s) which comes to Customer's attention. This Agreement assumes the Covered System(s) are in operational and maintainable condition as of the Agreement date. If, upon initial inspection, Company determines that repairs are recommended, repair charges will be submitted for approval prior to any work. Should such repair work be declined Company shall be relieved from any and all liability arising therefrom. Unless otherwise specified in this Agreement, any inspection (and, if specified, testing) provided under this Agreement does not include any maintenance, repairs, alterations, replacement of parts, or any field adjustments whatsoever, nor does it include the correction of any deficiencies identified by Company to Customer. Company shall not be responsible for equipment failure occurring while Company is in the process of following its inspection techniques, where the failure also results from the age or obsolescence of the item or due to normal wear and tear. This Agreement does not cover systems, equipment, components or PARTS THAT are below grade, behind walls or other obstructions or exterior to the building, electrical wiring, and piping.

8. Customer Responsibilities. Customer shall furnish all necessary facilities for performance of its work by Company, adequate space for storage and handling of materials, light, water, heat, heat tracing, electrical service, local telephone, watchman, and crane and elevator service and necessary permits. Where wet pipe system is installed, Customer shall supply and maintain sufficient heat to prevent freezing of the system. Customer shall promptly notify Company of any malfunction in the Covered System(s) which comes to Customer's attention. This Agreement assumes any existing system(s) are in operational and maintainable condition as of the Agreement date. If, upon initial inspection, Company determines that repairs are

recommended, repair charges will be submitted for approval prior to any work. Should such repair work be declined Company shall be relieved from any and all liability arising therefrom. Customer shall further:

- supply required schematics and drawings unless they are to be supplied by Company in accordance with this Agreement;
- Provide a safe work environment, in the event of an emergency or Covered System(s) failure, take reasonable safety precautions to protect against personal injury, death, and property damage, continue such measures until the Covered System(s) are operational, and notify Company as soon as possible under the circumstances.
- Provide Company access to any system(s) to be serviced,
- Comply with all laws, codes, and regulations pertaining to the equipment and/or services provided under this Agreement.

Customer is solely responsible for the establishment, operation, maintenance, access, security and other aspects of its computer network ("Network") and shall supply Company secure Network access for providing its services. Products networked, connected to the internet, or otherwise connected to computers or other devices must be appropriately protected by Customer and/or end user against unauthorized access. Customer is responsible to take appropriate measures, including performing back-ups, to protect information, including without limit data, software, or files (collectively "Data") prior to receiving the service or products.

9. Excavation. In the event the Work includes excavation, Customer shall pay, as an extra to the contract price, the cost of any additional work performed by Company dues to water, quicksand, rock or other unforeseen condition or obstruction encountered or shoring required.

10.Structure and Site Conditions. While employees of Company will exercise reasonable care in this respect, Company shall be under not responsibility for loss or damage due to the character, condition or use of foundations, walls, or other structures not erected by Company or resulting from the excavation in proximity thereto, or for damage resulting from concealed piping, wiring, fixtures, or other equipment or condition of water pressure. All shoring or protection of foundation, walls or other structures subject to being disturbed by any excavation required hereunder shall be the responsibility of Customer. Customer shall have all things in readiness for installation including, without limitation, structure to support the sprinkler system and related equipment (including tanks), other materials, floor or suitable working base, connections and facilities for erection at the time the materials are delivered. In the event Customer fails to have all things in readiness at the time scheduled for receipt of materials, Customer shall reimburse Company for all expenses caused by such failure. Failure to make areas available to Company during performance in accordance with schedules that are the basis for Company's proposal shall be considered a failure to have things in readiness in accordance with the terms of this Agreement.

11. Confined Space. If access to confined space by Company is required for the performance of Services, Services shall be scheduled and performed in accordance with Company's then-current hourly rate.

12. Hazardous Materials. Customer represents that, except to the extent that Company has been given written notice of the following hazards prior to the execution of this Agreement, to the best of Customer's knowledge there is no:

- Space in which work must be performed that, because of its construction, location, contents or work activity therein, accumulation of a hazardous gas, vapor, dust or fume or the creation of an oxygen-deficient atmosphere may occur,
- "permit confined space," as defined by OSHA for work performed by Company in the United States,
- risk of infectious disease,
- need for air monitoring, respiratory protection, or other medical risk,
- asbestos, asbestos-containing material, formaldehyde or other potentially toxic or otherwise hazardous material contained in or on the surface of the floors, walls, ceilings, insulation or other structural components of the area of any building where work is required to be performed under this Agreement.

All of the above are hereinafter referred to as "Hazardous Conditions". Company shall have the right to rely on the representations listed above. If hazardous conditions are encountered by Company during the course of Company's work, the discovery of such materials shall constitute an event beyond Company's control and Company shall have no obligation to further perform in the area where the hazardous conditions exist until the area has been made safe by Customer as certified in writing by an independent testing agency, and Customer shall pay disruption expenses and re-mobilization expenses as determined by Company. This Agreement does not provide for the cost of testing involving a discharge or release, capture, containment, transport, removal, or disposal (collectively, the "Discharge Services") of any hazardous waste materials, hazardous materials, or firefighting materials including without limitation firefighting foam encountered in and/or discharged from any of the Covered System(s) and/or during performance of the Services. Said materials shall at all times remain the responsibility and property of Customer. Customer shall be responsible for any Discharge Services associated with such materials, including all discharged firefighting foam in accordance with all applicable law. Company shall not be responsible for the testing, removal or disposal of such hazardous materials. Customer shall indemnify and hold Company harmless from and against any and all claims, demands and/or damages arising in whole or in part from the use of or any Discharge Services associated with any hazardous waste, hazardous materials, or firefighting materials including without limitation firefighting foam encountered or discharged from any of the Covered System(s) and/or during performance of the Services.

13. Occupational Health and Safety/OSHA Compliance. Customer shall indemnify and hold Company harmless from and against any and all claims, demands and/or damages arising in whole or in part from the enforcement of applicable laws regarding occupational health and safety for work performed in

Canada or the Occupational Safety Health Act for work performed by Company in the United States. (and any amendments or changes thereto) unless said claims, demands or damages are a direct result of causes within the exclusive control of Company.

14. Interferences. Customer shall be responsible to coordinate the work of other trades (including but not limited to ducting, piping, and electrical) and for and additional costs incurred by Company arising out of interferences to Company's work caused by other trades.

15. Modifications and Substitutions. Company reserves the right to modify materials, including substituting materials of later design, providing that such modifications or substitutions will not materially affect the performance of the Covered System(s).

16. Changes, Alterations, Additions. Changes, alterations and additions to the Scope of Work, plans, specifications or construction schedule shall be invalid unless approved in writing by Company. Should changes be approved by Company, that increase or decrease the cost of the work to Company, the parties shall agree, in writing, to the change in price prior to performance of any work. However, if no agreement is reached prior to the time for performance of said work, and Company elects to perform said work so as to avoid delays, then Company's estimate as to the value of said work shall be deemed accepted by Customer. In addition, Customer shall pay for all extra work requested by Customer or made necessary because of incompleteness or inaccuracy of plans or other information submitted by Customer with respect to the location, type of occupancy, or other details of the work to be performed. In the event the layout of Customer's facilities has been altered, or is altered by Customer prior to the completion of the Work, Customer shall advise Company, and prices, delivery and completion dates shall be changed by Company as may be required.

17. Commodities Availability. Company shall not be responsible for failure to provide services, deliver products, or otherwise perform work required by this Agreement due to lack of available steel products or products made from plastics or other commodities. In the event Company is unable, after reasonable commercial efforts, to acquire and provide steel products, or products made from plastics or other commodities, if required to perform work required by this Agreement, Customer hereby agrees that Company may terminate the Agreement, or the relevant portion of the Agreement, at no additional cost and without penalty. Customer agrees to pay Company in full for all work performed up to the time of any such termination.

18. Project Claims. Any claim of failure to perform against Company arising hereunder shall be deemed waived unless received by Company, in writing specifically setting forth the basis for such claim, within ten (10) days after such claims arises.

19. Back charges. No charges shall be levied against Company unless seventy-two (72) hours prior written notice is given to Company to correct any alleged deficiencies which are alleged to necessitate such charges and unless such alleged deficiencies are solely and directly caused by Company.

20. System Equipment. The purchase of equipment or peripheral devices (including but not limited to smoke detectors, passive infrared detectors, card readers, sprinkler system components, extinguishers and hoses) from Company shall be subject to the terms and conditions of this Agreement. If, in Company's sole judgment, any peripheral device or other system equipment, which is attached to the Covered System(s), whether provided by Company or a third party, interferes with the proper operation of the Covered System(s), Customer shall remove or replace such device or equipment promptly upon notice from Company. Failure of Customer to remove or replace the device shall constitute a material breach of this Agreement. If Customer adds any third party device or equipment to the Covered System(s), Company shall not be responsible for any damage to or failure of the Covered System(s) caused in whole or in part by such device or equipment.

21. Reports. Where inspection and/or test services are selected, such inspection and/or test shall be completed on Company's then current Report form, which shall be given to Customer, and, where applicable, Company may submit a copy thereof to the local authority having jurisdiction. The Report and recommendations by Company are only advisory in nature and are intended to assist Customer in reducing the risk of loss to property by indicating obvious defects or impairments noted to the system and equipment inspected and/or tested. They are not intended to imply that no other defects or hazards exist or that all aspects of the Covered System(s), equipment, and components are under control at the time of inspection. Final responsibility for the condition and operation of the Covered System(s) and equipment and components lies with Customer.

22. Limited Warranty. Subject to the limitations below, Company warrants any equipment (as distinguished from the Software) installed pursuant to this Agreement to be free from defects in material and workmanship under normal use for a period of one (1) year from the date of first beneficial use or all or any part of the Covered System(s) or 18 months after Equipment shipments, whichever is earlier, provided however, that Company's sole liability, and Customer's sole remedy, under this limited warranty shall be limited to the repair or replacement of the Equipment or any part thereof, which Company determines is defective, at Company's sole option and subject to the availability of service personnel and parts, as determined by Company. Company warrants expendable items, including, but not limited to, video and print heads, television camera tubes, video monitor displays tubes, batteries and certain other products in accordance with the applicable manufacturer's warranty. Company does not warrant devices designed to fail in protecting the System, such as, but not limited to, fuses and circuit breakers. Company warrants that any Company software described in this Agreement, as well as software contained in or sold as part of any Equipment described in this Agreement, will reasonably conform to its published specifications in effect at the time of delivery and for ninety (90) days after delivery. However, Customer agrees and acknowledges that the software may have inherent defects because of its complexity. Company's sole obligation with respect to software, and

Customer's sole remedy, shall be to make available published modifications, designed to correct inherent defects, which become available during the warranty period. If Repair Services are included in this Agreement, Company warrants that its workmanship and material for repairs made pursuant to this Agreement will be free from defects for a period of ninety (90) days from the date of furnishing.

EXCEPT AS EXPRESSLY SET FORTH HEREIN, COMPANY DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE SERVICES PERFORMED OR THE PRODUCTS, SYSTEMS OR EQUIPMENT, IF ANY, SUPPORTED HEREUNDER.

Warranty service will be performed during Company's normal working hours. If Customer requests warranty service at other than normal working hours, service will be performed at Company's then current rates for after ours services. All repairs or adjustments that are or may become necessary shall be performed by and authorized representative of Company. Any repairs, adjustments or interconnections performed by Customer or any third party shall void all warranties. Company makes no and specifically disclaims all representations or warranties that the services, products, software or third party product or software will be secure from cyber threats, hacking or other similar malicious activity, or will detect the presence of, or eliminate, treat, or mitigate the spread transmission, or outbreak of any pathogen, disease, virus or other contagion, including but not limited to COVID-19. Unless agreed to in writing by the parties, any technical support, assistance, or advice ("Technical Support") provided by Company, such as suggestions as to design use and suitability of the products for the customer's application, is provided in good faith, but Customer acknowledges and agrees that Company is not the designer, engineer, or installer of record. Any Technical Support is provided for informational purposes only and shall not be construed as a representation or warranty, express or implied, concerning the proper selection, use, and/or application of products. Customer assumes exclusive responsibility for determining if the equipment and products supplied by Company are suitable for its intended application and all risk and liability, whether based in contract, tort or otherwise, in connection with its application and use of the products.

23 . Indemnity. Customer agrees to indemnify, hold harmless and defend Company against any and all losses, damages, costs, including expert fees and costs, and expenses including reasonable defense costs, arising from any and all third party claims for personal injury, death, property damage or economic loss, including specifically any damages resulting from the exposure of workers to Hazardous Conditions whether or not Customer pre-notifies Company of the existence of said hazardous conditions, arising in any way from any act or omission of Customer or Company relating in any way to this Agreement, including but not limited to the Services under this Agreement, whether such claims are based upon contract, warranty, tort (including but not limited to active or passive negligence), strict liability or otherwise. Company reserves the right to select counsel to represent it in any such action.

24. Insurance. Customer shall name Company, its officers, employees, agents, subcontractors, suppliers, and representatives as additional insureds on Customer's general liability and auto liability policies.

25. Termination. Any termination under the terms of this Agreement shall be made in writing. In the event Customer terminates this Agreement prior to completion for any reason not arising solely from Company's performance or failure to perform, Customer understands and agrees that Company will incur costs of administration and preparation that are difficult to estimate or determine. Accordingly, should Customer terminate this Agreement as described above, Customer agrees to pay all charges incurred for products and equipment installed and services performed, and in addition pay an amount equal to twenty (20%) percent of the price of products and equipment not yet delivered and Services not yet performed, return all products and equipment delivered and pay a restocking fee of twenty (20%) percent the price of products or equipment returned. Company may terminate this Agreement immediately at its sole discretion upon the occurrence of any Event of Default as hereinafter defined. If Company's performance of its obligations becomes impracticable due to obsolescence or unavailability of systems, equipment, or products (including component parts and/or materials) or because the Company or its supplier(s) has discontinued the manufacture or the sale of the equipment and/or products or is no longer in the business of providing the Services, Company may terminate this Agreement, or the affected portions, at its sole discretion upon notice to Customer. Company may terminate this Agreement, or the affected portions, at its sole discretion upon notice to the Customer if Company's performance of its obligations are prohibited because of changes in applicable laws, regulations or codes.

26. Default. An Event of Default shall be (a) failure of Customer to pay any amount when due and payable, (b) abuse of the System or the Equipment, (c) dissolution, termination, discontinuance, insolvency or business failure of Customer. Upon the occurrence of an Event of Default, Company may pursue one or more of the following remedies: (i) discontinue furnishing Services and delivering Equipment, (ii)) by written notice to Customer declare the balance of unpaid amounts due and to become due under this Agreement to be immediately due and payable; (iii) receive immediate possession of any Equipment for which Customer has not paid; (iv) proceed at law or equity to enforce performance by Customer or recover damages for breach of this Agreement, and (v) recover all costs and expenses, including without limitation reasonable attorneys' fees, in connection with enforcing or attempting to enforce this Agreement.

27. Exclusions. Unless expressly included in the Scope of Work, this Agreement expressly excludes, without limitation, testing inspection and repair of duct detectors, beam detectors, and UV/IR equipment; provision of fire watches; clearing of ice blockage; draining of improperly pitched piping; replacement of batteries; recharging of chemical suppression systems; reloading of, upgrading, and maintaining computer software; system upgrades and the replacement of obsolete systems, equipment,

components or parts; making repairs or replacements necessitated by reason of negligence or misuse of components or equipment or changes to Customer's premises, vandalism, corrosion (including but not limited to micro-bacterially induced corrosion ("MIC")), power failure, current fluctuation, failure due to non-Company installation, lightning, electrical storm, or other severe weather, water, accident, fire, acts of God or any other cause external to the Covered System(s). Repair Services provided pursuant to this Agreement do not cover and specifically excludes system upgrades and the replacement of obsolete systems, equipment, components or parts. All such services may be provided by Company at Company's sole discretion at an additional charge. If Emergency Services are expressly included in the scope of work section, the Agreement price does not include travel expenses.

28. No Option to Solicit. Customer shall not, directly or indirectly, on its own behalf or on behalf of any other person, business, corporation or entity, solicit or employ any Company employee, or induce any Company employee to leave his or her employment, for a period of two years after termination of this Agreement.

29. Force Majeure; Delays. Company shall not be liable, nor in breach or default of its obligations under this Agreement, for delays, interruption, failure to render services, or any other failure by Company to perform an obligation under this Agreement, where such delay, interruption or failure is caused, in whole or in part, directly or indirectly, by a Force Majeure Event. A "Force Majeure Event" is a condition or event that is beyond the reasonable control of Company, whether foreseeable or unforeseeable, including, without limitation, acts of God, severe weather (including but not limited to hurricanes, tornados, severe snowstorms or severe rainstorms), wildfires, floods, earthquakes, seismic disturbances, or other natural disasters, acts or omissions of any governmental authority (including change of any applicable law or regulation), epidemics, pandemics, disease, viruses, quarantines, or other public health risks and/or responses thereto, condemnation, strikes, lock-outs, labor disputes, an increase of 5% or more in tariffs or other excise taxes for materials to be used on the project, fires, explosions or other casualties, thefts, vandalism, civil disturbances, insurrection, mob violence, riots, war or other armed conflict (or the serious threat of same), acts of terrorism, electrical power outages, interruptions or degradations in telecommunications, computer, network, or electronic communications systems, data breach, cyber-attacks, ransomware, unavailability or shortage of parts, materials, supplies, or transportation, or any other cause or casualty beyond the reasonable control of Company. If Company's performance of the work is delayed, impacted, or prevented by a Force Majeure Event or its continued effects, Company shall be excused from performance under the Agreement. Without limiting the generality of the foregoing, if Company is delayed in achieving one or more of the scheduled milestones set forth in the Agreement due to a Force Majeure Event, Company will be entitled to extend the relevant completion date by the amount of time that Company was delayed as a result of the Force Majeure Event, plus such additional time as may be reasonably necessary to overcome the effect of the delay. To the extent that the Force Majeure Event directly or indirectly increases Company's cost to perform the services, Customer is obligated to reimburse Company for such increased costs, including, without limitation, costs incurred by Company for additional labor, inventory storage, expedited shipping fees, trailer and equipment rental fees, subcontractor fees, compliance with vaccination requirements, or other costs and expenses incurred by Company in connection with the Force Majeure Event.

30. One-Year Claims Limitation; Forum; Choice of Law. Company shall have the sole and exclusive right to determine whether any dispute, controversy or claim arising out of or relating to the Agreement, or the breach thereof, shall be submitted to a court of law or arbitrated. For Customers located in the United States, the laws of Delaware shall govern the validity, enforceability, and interpretation of this Agreement, without regard to conflicts of law principles thereof, and the exclusive venue for any such litigation or arbitration shall be in Milwaukee, Wisconsin. For customers located in Canada, this agreement shall be governed by and be construed in accordance with the laws of Ontario, without regard to conflicts of law principles thereof, and the exclusive venue for any such litigation or arbitration shall be in Ontario, Canada. The parties waive any objection to the exclusive jurisdiction of the specified forums, including any objection based on forum non conveniens. In the event the matter is submitted to a court, Company and Customer hereby agree to waive their right to trial by jury. In the event the matter is submitted to arbitration by Company, the costs of arbitration shall be borne equally by the parties, and the arbitrator's award may be confirmed and reduced to judgment in any court of competent jurisdiction. Except as provided below, no claim or cause of action, whether known or unknown, shall be brought by either party against the other more than one year after the claim first arose. Claims not subject to the one-year limitation include claims for unpaid: (1) contract amounts, (2) change order amounts (approved or requested) and (3) delays and/or work inefficiencies. Customer will pay all of Company's reasonable collection costs (including legal fees and expenses).

31. Assignment. This Agreement is not assignable by the Customer except upon written consent of Company first being obtained. Company shall have the right to assign this Agreement, in whole or in part, or to subcontract any of its obligations under this Agreement without notice to Customer.

32. Entire Agreement. The parties intend this Agreement, together with any attachments or Riders (collectively the "Agreement) to be the final, complete and exclusive expression of their Agreement and the terms and conditions thereof. This Agreement supersedes all prior representations, understandings or agreements between the parties, written or oral, and shall constitute the sole terms and conditions of sale for all equipment and services. No waiver, change, or modification of any terms or conditions of this Agreement shall be binding on Company unless made in writing and signed by an Authorized Representative of Company.

33. Severability. If any provision of this Agreement is held by any court or other competent authority to be void or unenforceable in whole or in part, this

Agreement will continue to be valid as to the other provisions and the remainder of the affected provision.

34. Legal Fees. Company shall be entitled to recover from the customer all reasonable legal fees incurred in connection with Company enforcing the terms and conditions of this Agreement.

35. Software and Digital Services.

Digital Enabled Services. Data. If Company provides Digital Enabled Services under this Agreement, these Digital Enabled Services require the collection, transfer and ingestion of building, equipment, system time series, and other data to Company's cloud-hosted software applications. Customer consents to and grants Company the right to collect, transfer, ingest and use such data to enable Company and its affiliates and agents to provide, maintain, protect, develop and improve the Digital Enabled Services and Company products and services. Customer acknowledges that, while Digital Enabled Services generally improve equipment performance and services, Digital Enabled Services do not prevent all potential malfunction, insure against all loss, or guarantee a certain level of performance. Customer shall be solely responsible for the establishment, operation, maintenance, access, security and other aspects of its computer network ("Network"), shall appropriately protect hardware and products connected to the Network and will supply Company secure Network access for providing its Digital Enabled Services. As used herein, "Digital Enabled Services" mean services provided hereunder that employ Company software and related equipment installed at Customer facilities and Company cloud-hosted software offerings and tools to improve, develop, and enable such services. Digital Enabled Service may include, but are not limited to, (a) remote servicing and inspection, (b) advanced equipment fault detection and diagnostics, and (c) data dashboarding and health reporting. If Customer accesses and uses Software that is used to provide the Digital Enabled Services, the Software Terms (defined below) will govern such access and use.

Digital Solutions. Use, implementation, and deployment of the software and hosted software products ("Software") offered under these terms shall be subject to, and governed by, Company's standard terms for such Software and Software related professional services in effect from time to time at www.johnsoncontrols.com/techterms (collectively, the "Software Terms"). Specifically, the Company General EULA set forth at www.johnsoncontrols.com/buildings/legal/digital/generaleula governs access to and use of software installed on Customer's premises or systems and the Company Terms of Service set forth at www.johnsoncontrols.com/buildings/legal/digital/generaltos govern access to and use of hosted software products. The applicable Software Terms are incorporated herein by this reference. Other than the right to use the Software as set forth in the Software Terms, Company and its licensors reserve all right, title, and interest (including all intellectual property rights) in and to the Software and improvements to the Software. The Software that is licensed hereunder is licensed subject to the Software Terms and not sold. If there is a conflict between the other terms herein and the Software Terms, the Software Terms shall take precedence and govern with respect to rights and responsibilities relating to the Software, its implementation and deployment and any improvements thereto.

Notwithstanding any other provisions of this Agreement and unless otherwise agreed to by the parties in writing, the following terms apply to Software that is provided to Customer on a subscription basis (i.e., a time limited license or use right), (each a "Software Subscription"): Each Software Subscription provided hereunder will commence on the date the initial credentials for the Software are made available (the "Subscription Start Date") and will continue in effect until the expiration of the subscription term noted herein. At the expiration of the Software Subscription, such Software Subscription will automatically renew for consecutive one (1) year terms (each a "Renewal Subscription Term"), unless either party provides the other party with a notice of non-renewal at least ninety (90) days prior to the expiration of the then-current term. To the extent permitted by applicable law, Software Subscriptions purchases are non-cancelable and the sums paid nonrefundable. Fees for Software Subscriptions shall be paid annually in advance, invoiced on the Subscription Start Date and each subsequent anniversary thereof. Unless otherwise agreed by the parties in writing, the subscription fee for each Renewal Subscription Term will be priced at Company's then-applicable list price for that Software offering. Any use of Software that exceeds the scope, metrics or volume set forth in this Agreement will be subject to additional fees based on the date such excess use began.

36. Electronic Media. Electronic Media. Either party may scan, fax, email, image, or otherwise convert this Agreement into an electronic format of any type or form, now known or developed in the future. Any unaltered or unadulterated copy of this Agreement produced from such an electronic format will be legally binding upon the parties and equivalent to the original for all purposes, including litigation. Company may rely upon Customer's assent to the terms and conditions of this Agreement, if Customer has signed this Agreement or demonstrated its intent to be bound whether by electronic signature or otherwise.

37. Lien Legislation. Notwithstanding anything to the contrary contained herein, the terms of this Agreement shall be subject to the lien legislation applicable to the location where the work will be performed, and, in the event of conflict, the applicable lien legislation shall prevail.

38. Privacy. ***Company as Processor*** **:** Where Company factually acts as Processor of Personal Data on behalf of Customer (as such terms are defined in the DPA) the terms at www.johnsoncontrols.com/dpa ("DPA") shall apply. ***Company as Controller :*** Company will collect, process and transfer certain personal data of Customer and its personnel related to the business relationship between it and Customer (for example names, email addresses, telephone numbers) as controller and in accordance with Company's Privacy Notice at https://www.johnsoncontrols.com/privacy. Customer acknowledges Company's Privacy Notice and strictly to the extent consent is mandatorily required under applicable law, Customer consents to such collection, processing and transfer. To the extent consent to such collection, processing and transfer by Company is mandatorily required from Customer's

personnel under applicable law, Customer warrants and represents that it has obtained such consent.

39. FAR. Company supplies “commercial items” within the meaning of the Federal Acquisition Regulations (FAR), 48 CFR Parts 1-53. As to any customer order for a U.S. Government contract, Company will comply only with those mandatory flow-downs for commercial item and commercial services subcontracts listed either at FAR 52.244-6, or 52.212-5(e)(1), as applicable.

40. LICENSE INFORMATION (US SECURITY SYSTEM CUSTOMERS): AL Alabama Electronic Security Board of Licensure 7956 Vaughn Road, Pmb 392, Montgomery, Alabama 36116 (334) 264-9388: AR Regulated by: Arkansas Board of Private Investigators And Private Security Agencies, #1 State Police Plaza Drive, Little Rock 72209 (501) 618-8600: CA Alarm company operators are licensed and regulated by the Bureau of Security and Investigative Services, Department of Consumer Affairs, Sacramento, CA, 95814. Upon completion of the installation of the alarm system, the alarm company shall thoroughly instruct the purchaser in the proper use of the alarm system. Failure by the licensee, without legal excuse, to substantially commence work within 20 days from the approximate date specified in the agreement when the work will begin is a violation of the Alarm Company Act: NY Licensed by N.Y.S. Department of the State: TX Texas Commission on Private Security, 5805 N. Lamar Blvd., Austin, 78752-4422, 512-424-7710.License numbers available at www.johnsoncontrols.com or contact your local Johnson Controls office.

IMPORTANT NOTICE TO CUSTOMER

This Agreement is contingent on credit approval, which may be checked at JCI’s discretion and requires final approval of a JCI authorized manager before any equipment/services may be provided. Should credit and/or approval be declined, this Agreement will be terminated and JCI’s only obligation to customer will be to notify Customer of such termination and refund any amounts paid in advance. In accepting this Proposal, Customer agrees to the terms and conditions contained herein and any attachments or riders attached hereto that contain additional terms and conditions. It is understood that these terms and conditions shall prevail over any variation in terms and conditions on any purchase order or other document that the Customer may issue. Any changes in the system requested by the Customer after the execution of this Agreement shall be paid for by Customer and such changes shall be authorized in writing. **ATTENTION IS DIRECTED TO THE LIMITATION OF LIABILITY, WARRANTY, INDEMNITY AND OTHER CONDITIONS ON THE PRECEDING PAGES. This proposal shall be void if not accepted in writing within 30 days from the date of the Proposal.**

For Customers located in Canada, this Fire Domain Sale and Installation Agreement has been drawn up and executed in English at the request of and with the full concurrence of Customer. Ce contrat a été rédigé en anglais à la demande et avec l’assentiment du client.

Submittal Review Summary

Project: 2617.0-UK Ag Research Facility

Submittal: #565-230200-Chiller-SD

CMTA Project Code: XUKA23 Reviewed by: RSJ

Date Received: 2024-12-18 Date Returned: 2024-12-31

Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with requirements of the drawings and specifications. This check is only for review of general compliance with the information given in the contract documents. The contractor is responsible for confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner.

☒ **Reviewed** ☐ **Furnish as Corrected**

☐ **Rejected** ☐ **Revise and Resubmit**

COMMENTS:

1. No exceptions

220 Lexington Green Circle Suite 600 Lexington KY 40503 859.253.0892 www.cmta.com

MEP Engineering | Performance Contracting | Zero Energy Engineering | Technology | Commissioning

Turner

Project Name: UK Agriculture Research Facility **Signature:** _____ **Date:** 12/18/24

Tim Taylor, TCCo Project Engineer

This review does not relieve the Trade Contractor of the responsibility for making the work conform to the requirements of the Contract. The Trade Contractor is responsible for all dimensions, correct fabrication and accurate fit with the work of other trades.

Date of Submittal Reception: 12/4/24 **Type:** Shop Drawing
Submittal #: 230200-02 **Submittal Description:** Chiller SD
Spec Section #: 230200
Trade Contractor: SAI

TURNER COMMENTS IN **BLUE**

Additional Comments: _____

Turner Reviewed ☑

Equipment Submittal

Project Name:	UK AG Research Facility	**Spec Section:**	230200
Manufacturer:	Trane	**Date Submitted:**	12-4-24
Description:	HVAC Equip/Chiller	**Original or Revision #:**	Original

PROJECT INFO:
UK Agricultural Research Facility
1411 University Dr
Lexington KY 40546

CONSTRUCTION MANAGER:
Turner Construction
1411 University Dr
Lexington KY 40546

ENGINEER:
CMTA, Inc
220 Lexington Green Circle # 600
Lexington KY 40503

EQUIPMENT SUPPLIER:
Stoermer-Anderson Inc
220 Production Court
Louisville KY 40299

Submittal

Prepared For:
Stoermer-Anderson – Tom Davies

Date: November 26, 2024

Job Name:
UK - Agriculture Research Facility 1

Opportunity ID: 7929306

Trane U.S. Inc. is pleased to provide the following submittal for your review and approval.

Product Summary

Qty	Product
1	Trane Water-Cooled Modular Scroll by Arctic Chill

Bill Morrissey, Senior Sales Engineer
Trane U.S. Inc.
2350 Fortune Drive
Lexington, KY 40509
E-mail: bill.morrissey@tranetechnologies.com
Office Phone: (859) 514-7000
Cell: (859) 537-5875
Fax: (859) 514-7870

The attached information describes the equipment we propose to furnish for this project and is submitted for your approval.

Submittal acceptance and return is a critical step, so please ensure submittals are returned with approval to release to production within 14 days of submittal date.

Product performance and submittal data is valid for a period of 6 months from the date of submittal generation. If six months or more has elapsed between submittal generation and equipment release, the product performance and submittal data will need to be verified. It is the customer's responsibility to obtain such verification.

Table of Contents

Product Summary 1

Water-Cooled Modular Scroll (Item A1) 3

Tag Data 3

Product Data 3

Performance Data 4

Product Report 5

Mechanical Specifications 7

Dimensional Drawings 8

Tag Data - Water-Cooled Modular Scroll (Qty: 1)

Item	Tag(s)	Qty	Description	Model Number
A1	HRC-1	1	Thermafit Water-Cooled Modular (MWC)	

Product Data – Trane Water-Cooled Modular Scroll by Arctic Chill
Item: A1 Qty: 1 Tag(s): HRC-1

Start up allowance by Trane during normal working hours
460V/3/60 Incoming Line Voltage
Water Cooled Heat Recovery (MWC)
80 Ton Modular Chiller - 3 Modules
No redundant modules
Complies with ASHRAE 90.1 - 2019
R454B Refrigerant
Compressor Sound Wraps
Non Fused Disconnect Single Point Power Connection
Standard SCCR
With Acoustical Insulation Panels
With BACnet BMS Interface
Brazed Plate Heat Exchangers
1 Condenser Per Module
Variable Speed Drive Lead Compressor Each Module
Constant Flow Evaporator System
Constant Flow Condenser System
2 Refrigerant Circuits per Module
Scroll Compressors
2nd thru 5th Year Standard Compressor Parts Only Warranty
1st year Parts, Labor, and Refrigerant Warranty on Entire Chiller

Performance Data - Water-Cooled Modular Scroll

Tags	HRC-1
Full Load amps Ckt 1 (A)	406.36
Cooling Capacity (tons)	247.40
Minimum Circuit Ampacity Ckt 1 (A)	423.21
Maximum over current protection Ckt 1 (A)	450.00
Evaporator fouling factor (hr-sq ft-deg F/ Btu)	0.000100
Condenser fouling factor (hr-sq ft-deg F/ Btu)	0.000250
Refrigerant Charge per Module (lb)	64.0
Evaporator flow rate (gpm)	593.50
Evaporator pressure drop (ft H2O)	9.14
Condenser Flow Rate (gpm)	257.20
Condenser pressure drop (ft H2O)	1.69
Heating Capacity (MBh)	3738.89
Compressor Current Each Module (A)	134.80
Cooling Total Input Power (kW)	242.60
Total Operating Module Nominal Tonnage (tons)	240.00

Product Report - Water-Cooled Modular Scroll
Item: A1 Qty: 1 Tag(s): HRC-1

Unit Overview	
Application	W/C Heat Recovery (MWC)
Unit Model	80 Ton Modular Chiller
Nominal Tonnage	80 Ton
Operating Water Cooled Module Quantity	3 Modules
Redundant Module Quantity	No redundant modules
Incoming Line Voltage	460 V
Incoming Line Frequency	60 Hz
Refrigerant	R454B Refrigerant
Refrigerant Charge per Circuit	64.0 lb
Number of Refrigerant Circuits per Module	2 Refrig Circuits per Module
Compressor Type	Scroll Compressor
Net Weight per Module	2680.0 lb

Evaporator			
Tons of Refrigeration	247.4 tons	Fluid Type	Water
Entering Fluid Temperature	65.00 F	Heat Exchanger Type	Brazed Plate
Leaving Fluid Temperature	55.00 F		
Flow Rate	593.5 gpm		
Pressure Drop	9.14 ft H2O		
Fouling Factor	0.000100 hr-sq ft-deg F/ Btu		

Condenser			
Entering Fluid Temperature	100.00 F	System Flow	Constant Flow System
Leaving Fluid Temperature	130.00 F	Condenser Type	Brazed Plate
Flow Rate	257.2 gpm	Fluid Type	Water
Pressure Drop	1.69 ft H2O	Heating Capacity	3739 MBh
Fouling Factor	0.000250 hr-sq ft-deg F/ Btu		

Electrical			
Power Distribution	Consolidated Power Connection(s)	Short Circuit Current Rating	Standard SCCR
Number of Points of Power	1 point of power	Disconnect Switch	Non Fused Disconnect Single Point
Full Load Amps	406.36 A		
Compressor Amps per Module	134.80 A		
Minimum Circuit Ampacity	423.21 A		
Maximum Over Current Protection	450.00 A		

Additional Options	
Start Up	Start up allowance
Compressor Wraps	Compressor Wrap
BMS Interface	With BMS Interface
Variable Speed Drive Lead Compressor	VS Drive Lead Compressor Each Module

Product Report - Water-Cooled Modular Scroll
Item: A1 Qty: 1 Tag(s): HRC-1

Warranty	
Compressor Parts Warranty	5 Year Standard Compressor Parts
Whole Unit Labor Warranty (Beyond 1st Year)	1st year whole unit labor
Refrigerant Warranty (Beyond 1st Year)	1st Year Standard Refrigerant Warranty
Parts Less Compressor Warranty	1st year Standard Parts Less Compressor

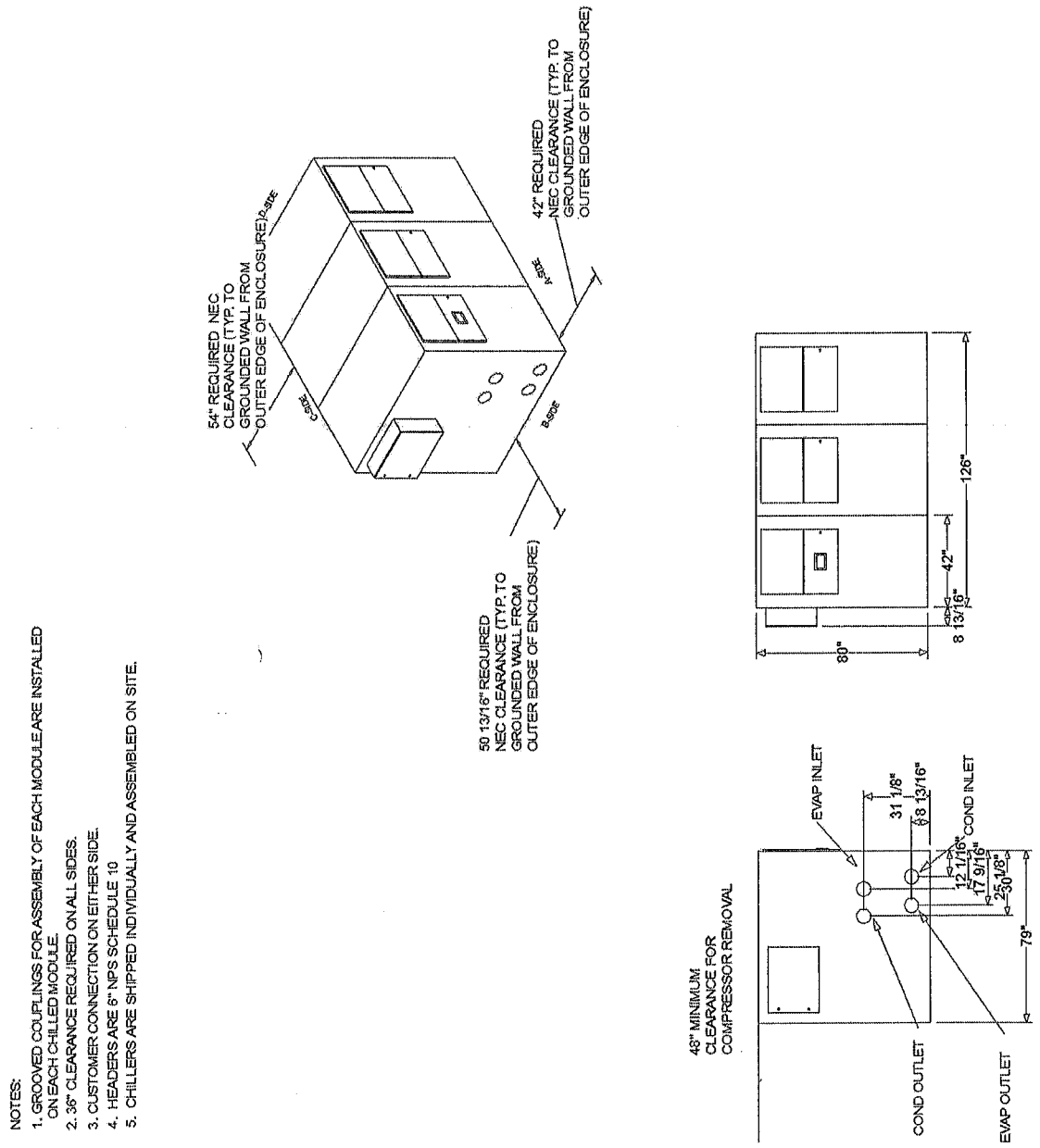
Outside the scope of AHRI Water-Cooled Water-Chilling and Heat Pump Water-Heating Packages Certification Program or not optionally certified, but is rated in accordance with AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI).

Mechanical Specifications - Water-Cooled Modular Scroll
Item: A1 Qty: 1 Tag(s): HRC-1

Modular Water Cooled (MWC) Chiller Equipment and Features:

*Dual refrigerant circuits on each chiller module
*Hermetic scroll compressor on each refrigeration circuit each with rotalock service valves solid state internal overload and in-line circuit breaker
*Frame is constructed of formed sheet metal and is powder coated with an oven baked finish.
*Cabinet panels are powder coated steel and easily removable for servicing via stainless steel fasteners.
*Dual circuit brazed plate evaporator and condenser in each chiller module
*Fine mesh strainer and thermal dispersion flow switch on each evaporator and condenser branch line
*Manual isolation valves on each evaporator and condenser branch line for service isolation
*The primary chiller module shall incorporate the primary microprocessor controller with 7" touch screen graphical interface display. The primary microprocessor shall communicate with the remaining secondary microprocessors in each module via a local network communications protocol.
*Distributed primary microprocessor control system on each secondary module to allow the secondary modules to continue to operate should there be a failure of the primary microprocessor controller (Only applicable when secondary modules are required)
*Phase monitor on the power supply to protect against low voltage, phase unbalance, phase loss, and phase reversal conditions
*Rolled grooved pipe connections
*3/4" Insulation on each evaporator and associated piping
*One year parts and one year refrigerant and five years compressor limited warranty

Dimensional Drawings - Water-Cooled Modular Scroll
Item: A1 Qty: 1 Tag(s): HRC-1



Thermafit® Modular Units

The ultimate, all-electric combination of flexibility, reliability and high performance

TRANE TECHNOLOGIES

Solve space challenges. Move in higher performance.

Achieve the level of performance your building requires where space is limited. Thermafit® modular chillers and heat pumps fit easily where others can't. Components are sized to easily go through standard doorways and onto freight elevators. Modules reassemble into a fully functional, high-performance chiller in a matter of hours.

Thermafit® modular equipment performance is lab-verified and validated by Trane. Modules provide true redundancy—meaning they eliminate as many single points of failure as possible.

Check more boxes on your way to meeting decarbonization goals.

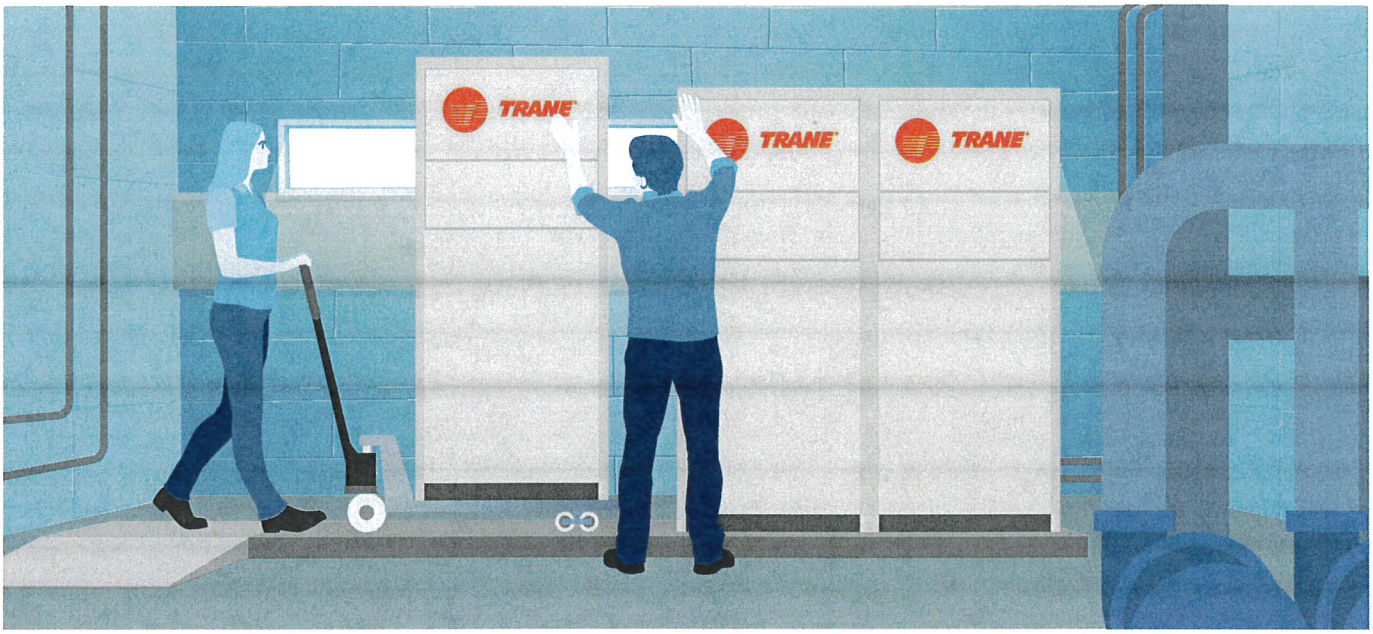
Maximizing energy efficiency is essential to building sustainability and help to reduce operating costs. Various Thermafit® modules include the following features to stretch energy efficiency to its max:

- Heat recovery
- Free cooling
- Variable speed compressors and fans
- Heat pumps
- Multi-pipe

Switch to electric heating.
Select the heating capabilities you need to help reduce carbon emissions. One major step in the journey to building decarbonization is the replacement of boilers that burn fossil fuels with an energy-efficient, electrified heating source. Many Thermafit® modules have an electric heating capability, making them ideal for bringing existing buildings into compliance with building codes and regulations for electrification.

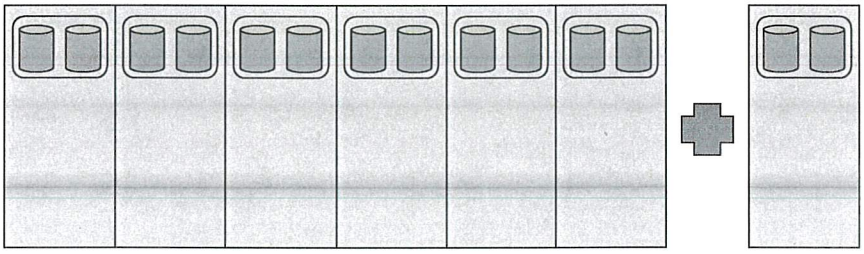
Trane is the real difference.

When you select a modular unit, the name standing behind it may make a difference in how well it performs in a building, and how high satisfaction stays during its many years of service. At Trane, we bring our depth and breadth of expertise, backgrounds, and perspectives to new technology innovation—as well as individualized solutions. Our exceptional system design and expert support makes sure that we get it right for your building today and the world tomorrow. With over 250 local sales offices throughout North America, help is always nearby when you need it.



Build the capacity you need today with foresight into future needs.
Meet big and small capacity requirements by joining several Thermafit® modules. Multiple independent modules can be coupled together on a shared header system, electrical system, and control system. Installing multiple modules creates true redundancy and builds peace of mind. A bank of modules enables different levels of control to optimize comfort, reliability and more: A primary microprocessor controller activates/deactivates modules as needed to maintain proper leaving water temperature. Easily add capacity as the business and occupancy grows—without expanding electrical service.

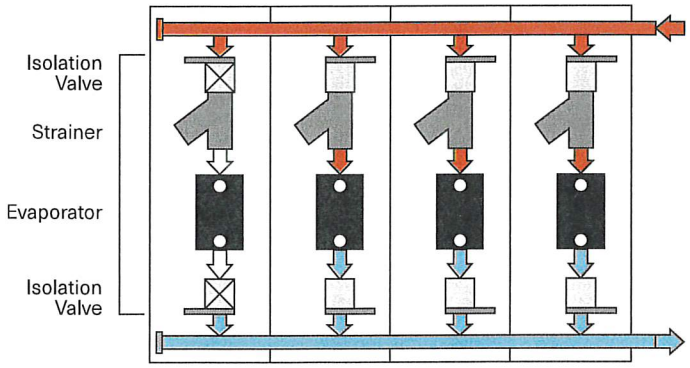
Multiple Modules



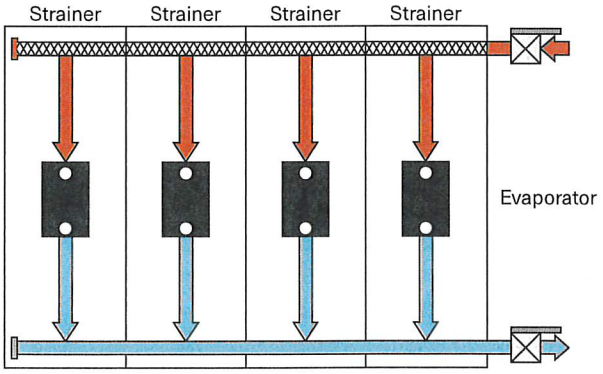
Achieve service and operational advantages.
Thermafit® simplifies service and maintenance by providing easy access to strainers. Strainer cleaning is a method of removing debris from the fluid loop to protect the heat exchanger. Fine mesh strainers allow for cleaning without equipment shutdown. Isolation valves allow some modules to be serviced while others continue operating.

Thermafit modular units fit where other chillers don't. Now every retrofit is an opportunity to help introduce greater energy efficiency and sustainability.

Thermafit – Strainer Cleaning



Competitor – Strainer Cleaning



Connectivity: take the next step.
The easy-to-operate touchscreen controller connects with any building automation system (BAS) or building management system (BMS) including Trane's Tracer® SC+ and Tracer® Ensemble®. This makes Thermafit® easy to integrate with other energy-using systems, such as lighting. Coordinated scheduling through the BMS lets you match system use to occupancy, so you can help reduce your energy bill along with your carbon impact.

Trane gives you complete support

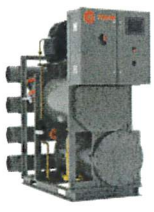
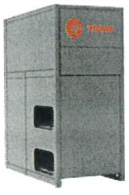
Every Thermafit® unit is wrapped in Trane's unique domain of systems expertise and lifecycle chiller maintenance and service.

- **Collaboration at every step**—assistance with start-up, with 250 local sales offices to making it more convenient to get the support you need.
- **System design**—ensuring you have the best equipment and controls working together to establish performance-driven solutions.
- **Installation and commissioning**—establishing proper performance within the space.
- **Local, professional service and maintenance**—ensuring your equipment is installed and operating as designed.
- **Professional refrigerant handling**—Trane technicians support worry-free compliance with EPA Section 608.

Put data to use.
Once a unit is connected, our digital services can leverage its data to create simple dashboards that help you to understand performance of your building and its assets. Dashboards can proactively identify trends to help find opportunities that help increase efficiency and productivity and decrease energy use through system optimization.

Thermafit® Family

Choose from a comprehensive line of modular chillers with an array of choices: cooling only, or heating and cooling; air- and water-cooled units; scalable capacities; and multiple features to serve specific application requirements and site limitations. You tell us about the vision for your building, and we'll make it happen.

	Chiller	Chiller	Chiller + Free Cooling	Chiller + Heat Recovery	Heat Pump	Multi-pipe
	Cooling Only	High Efficiency Cooling	Cooling with Low Ambient	Heating while Cooling	Heating or Cooling	Any Combination
Air Cooled	AMC 15-80 Ton (1-12 mod/bank)	MAR 15-80 Ton (1-12 mod/bank)	AMC 15-80 Ton (1-12 mod/bank)	AMC 30-80 Ton 410-1074 MBH (1-12 mod/bank)	AXM 30 Ton 374 MBH (2-12 mod/bank)	MAS 30 Ton 433 MBH (3-10 mod/bank)
						
Water Cooled	MWC 15-80 Ton (1-12 mod/bank)	TACW 65-135 Ton (1-8 mod/bank)	n/a	MWC 15-80 Ton 203-1083 MBH (1-12 mod/bank)	WXM 20-80 Ton 262-1033 MBH (1-12 mod/bank)	MWS 30-60 Ton 432-842 MBH (3-10 mod/bank)
						

Heating Performance based on 105 EWT | 120 LWT

Thermafit® Water-cooled Chillers

Cooling and heat recovery

Models MWC

Thermafit® water-cooled modules provide a energy-efficient way to decarbonize cooling and heating.

Sustainability and efficiency features

Variable speed drives with permanent magnet motors work to match load needs precisely, providing superior part load efficiency. Along with exceptionally energy-efficient cooling, electrified cooling with a heat recovery option can help reduce the overall carbon footprint.

Noteworthy

- Heat recovery produces hot water up to 175°F.
- Set of fixed- and variable-speed drives work in tandem to optimize part load efficiency.
- Multiple circuits enable tighter, more precise temperature control.
- Optional double wall brazed plate heat exchanger on model MWC produces domestic hot water.

Specifications

Capacity Range:
15-80 Ton (203-1083 MBH) per module
(1-12 mod/bank)

Refrigerant: R-454B

Compressor Design:
Fixed speed scroll with optional variable speed

Factory-Installed Optional Features:
Tank and Pump Module, Variable Speed Drive, Electronic Isolation Valve, Shell and Tube Condenser, Double Wall Condenser, BMS Integration

Submittal Review Summary

Project: 2617.0-UK Ag Research Facility

Submittal: #564-230200-AHU-1, OA N1-N-3, OA S1-S4

CMTA Project Code: XUKA23 Reviewed by: RSJ

Date Received: 2024-12-18 Date Returned: 2024-12-27

Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with requirements of the drawings and specifications. This check is only for review of general compliance with the information given in the contract documents. The contractor is responsible for confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner.

☐ **Reviewed** ☒ **Furnish as Corrected**

☐ **Rejected** ☐ **Revise and Resubmit**

COMMENTS:

1. SA fans for both OA-S and AHU-1 units operating point are too close to the fan surge line limiting performance if higher static pressure is encountered due to unexpected constructability issues. Revise fan performance for better operating point and protection from surge line under 6 operational fans.
2. AHU and OA unit motor control panels shall be field installed. Provide junction box on AHU and OA units housings for field wiring connection.
3. OA-N units shall have both inlet and outlet duct connections on the ends. Refer to reference drawing included in review comments.
4. OA-S units shall have inlet duct connection on side near end and mirrored between units. Refer to reference drawing included in review comments.

220 Lexington Green Circle Suite 600 Lexington KY 40503 859.253.0892 www.cmta.com

TAGGED NOTES

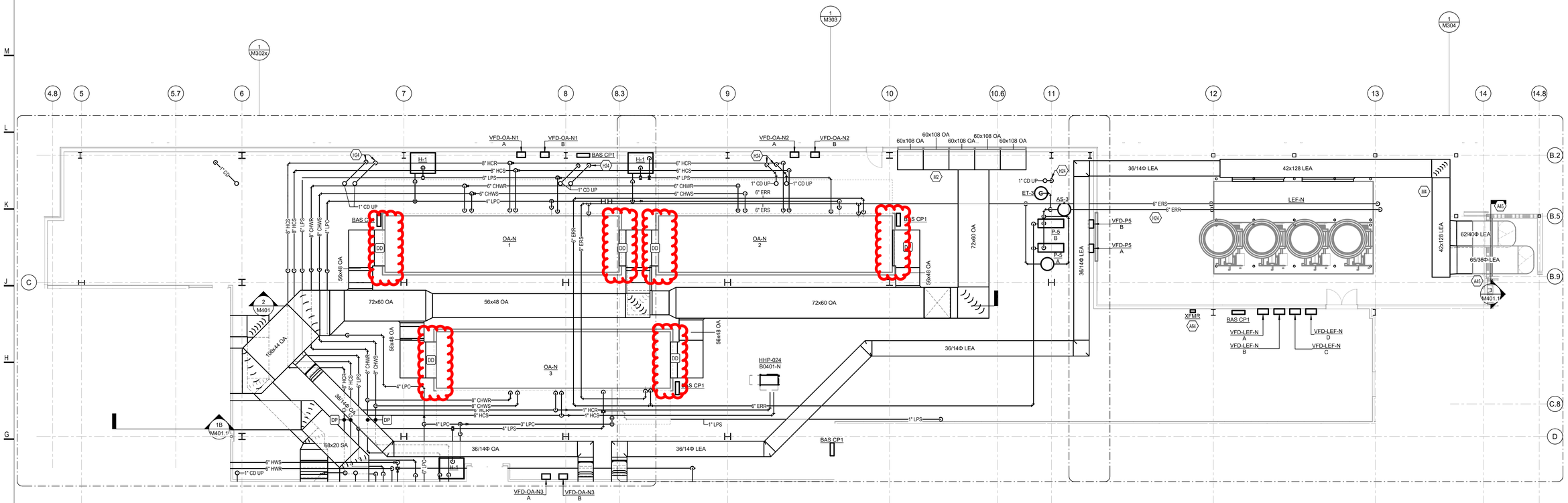
A45 FIRE/SMOKE DAMPERS PROVIDED IN CORE AND SHELL PACKAGE.

A64 XFMR TO BE INSTALLED ABOVE CEILING.

H24 ROUTE TO PLUMBING STORM PIPE. REFER TO PLUMBING PLANS FOR ADDITIONAL INFORMATION. PLACE CONNECTION AT TOP OF MAIN WITH A CHECK VALVE PRIOR TO THE CONNECTION. CONNECT CONDENSATE VIA A WYE CONNECTION TO STORM PIPING.

M2 PROVIDE INSULATED PLENUM FULL SIZE OF LOUVER CONNECTION. FLOOR OF LOUVER PLENUM SHALL BE SLOPED BACK TO LOUVER FOR DRAINAGE. FULLY SEAL AROUND LOUVER TO PREVENT AIR LEAKAGE. DUCT TAPS TO PLENUM SHALL BE A MINIMUM OF 6" ABOVE PLENUM FLOOR TO PREVENT WATER ENTRAINMENT.

M4 EXTERIOR DUCT WALL SHALL BE CONSTRUCTED WITH FLANGED AND GASKETED FITTINGS AND THEN SEALED. DUCT SHALL BE RESSURE TESTED AT -0.25" WITH LESS THAN 1% LEAKAGE. DUCT SHALL BE INSULATED WITH THE FOLLOWING, OWENS CORNING INDUSTRIAL TYPE 705, 2" RIGID FIBERGLASS INDUSTRIAL BOARD WITH EXTERIOR VAPOR BARRIER FACING, 8.0 PCF DENSITY, K=0.23 BTU IN/HR.AT 75 DEG F. PROVIDE WEATHER PROOFING, POLYGAURD, ALUMAGAURD, ALL WEATHER PROOFING JACKET OR EQUAL. INSTALLED "R" VALUE SHALL BE MINIMUM OF 12. REFER TO DETAIL 5/M605 FOR DUCTWORK SUPPORT INSTALLATION.

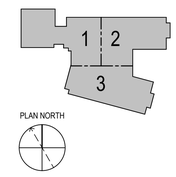


MECHANICAL PENTHOUSE N - ENLARGED

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

NORTH

KEY PLAN



University of Kentucky

No.		Date
1	FIT-OUT PACKAGE - BID AND PERMIT Issue/Revision/Submission	11.15.2024

Flad Architects
MADISON
644 SOUTHPOINTE CT.
VERONA, WI 53593-8771
PHONE 608.358.3681
WWW.FLADARCH.COM

BCAE ENGINEERING: DAYTON, OH
DELMAX CONSTRUCTION: URBANA, OH
TERRACON: LEXINGTON, KY
FLAD: MADISON, WI

BHDP
COLUMBUS
274 MARCONI BLVD.
COLUMBUS, OHIO 43215
PHONE 614.481.6000

CMTA INC.: LEXINGTON, KY
THP LIMITED INC: CINCINNATI, OH
NV5: PITTSBURGH, PA
BELL ENGINEERING: HOPKINSVILLE, KY
VIBRASURE: SAN FRANCISCO, CA

UNIVERSITY OF KENTUCKY
AGRICULTURE RESEARCH FACILITY 1
1411 UNIVERSITY DR. LEXINGTON, KENTUCKY 40503

ENLARGED PLANS - MECHANICAL

STATE OF KENTUCKY — ROBERT S JOHNSON 27666 — LICENSED PROFESSIONAL ENGINEER

Project Manager	S. JOHNSON
Drawn	K. TEAGUE
Checked	N. ROGERS
Initial Drawing Date	11.15.24
Project Number	UKX05.00

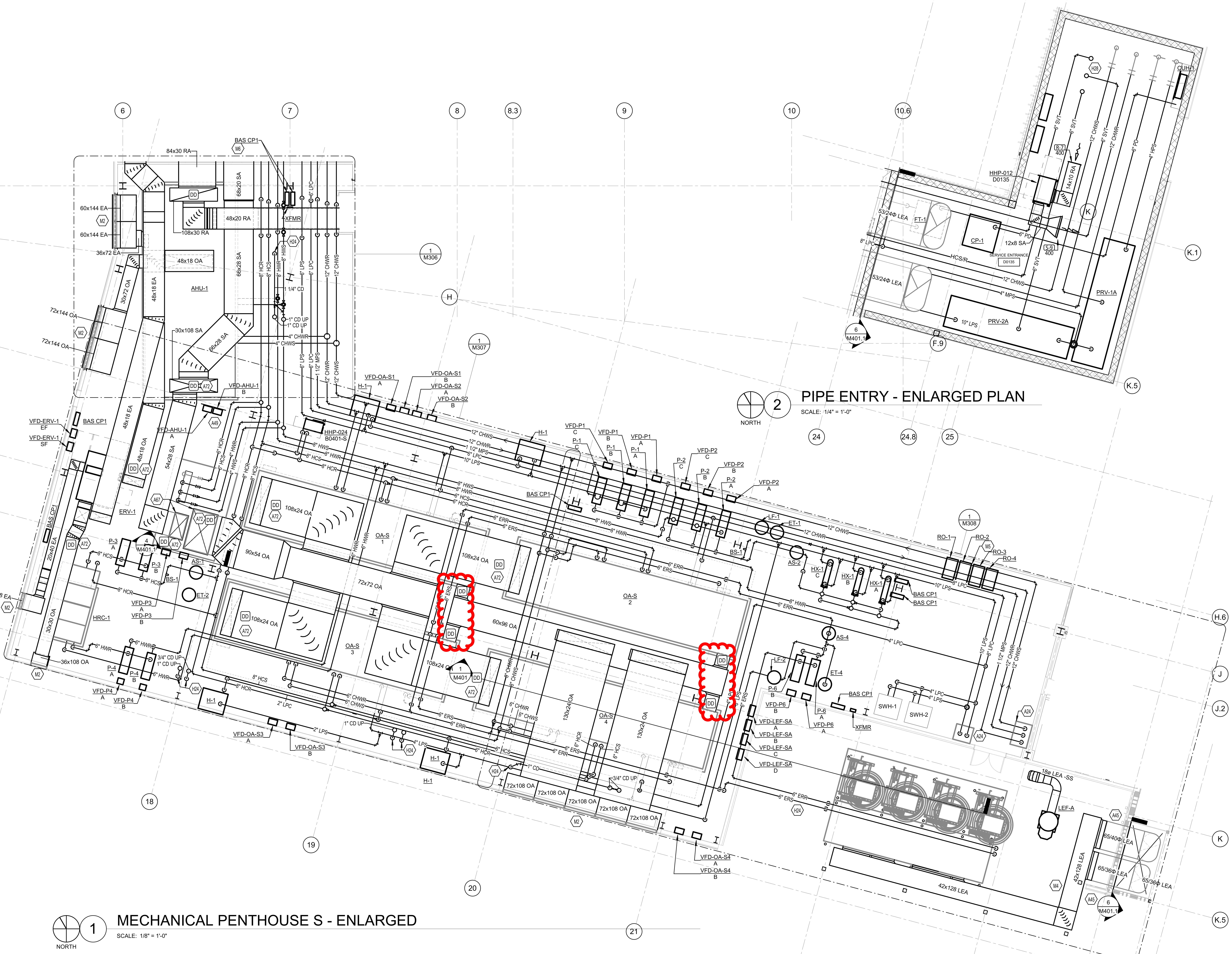
M301

Autodesk Docs://UKX0500 University of Kentucky - Ag Research Facility 1/XUKA23_MECH_R23.rvt — 11/14/2024 5:30:09 PM

Revit Template Version 2021

OUTSIDE AIR UNIT RUNOUT SCHEDULE

SYMBOL	CHWR/CHWS PIPE SIZE	CHWR/CHWS GPM	HCR/HCS PIPE SIZE	HCR/HCS GPM	STEAM PRESSURE	LPS PIPE SIZE	FLOW RATE	LPC PIPE SIZE	FLOW RATE	ERS/ERR PIPE SIZE	ERS/ERR GPM



MECHANICAL PENTHOUSE S - ENLARGED

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

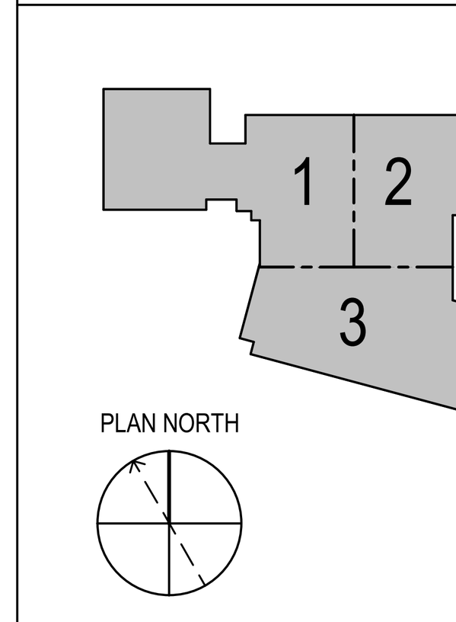
PIPE ENTRY - ENLARGED PLAN

SCALE: 1/4" = 1'-0"

TAGGED NOTES

- A24 4" THICK CONCRETE HOUSEKEEPING PAD. REFER TO DETAIL ON SHEET S004.1.
- A45 FIRE/SMOKE DAMPERS PROVIDED IN CORE AND SHELL PACKAGE.
- A49 MOUNT VFD(S) ON UNISTRUT RACK.
- A67 FSD AT FLOOR PROVIDED IN CORE AND SHELL.
- A72 INSTALL DUCT SMOKE DETECTOR FOR FSD PROVIDED IN CORE AND SHELL PACKAGE.
- H24 ROUTE TO PLUMBING STORM PIPE. REFER TO PLUMBING PLANS FOR ADDITIONAL INFORMATION. PLACE CONNECTION AT TOP OF MAIN WITH A CHECK VALVE PRIOR TO THE CONNECTION. CONNECT CONDENSATE VIA A WYE CONNECTION TO STORM PIPING.
- H28 REFER TO DETAIL 8/M602 FOR STEAM AND RELIEF VENT PIPING THROUGH ROOF DETAIL.
- M2 PROVIDE INSULATED PLENUM FULL SIZE OF LOUVER CONNECTION. FLOOR OF LOUVER PLENUM SHALL BE SLOPED BACK TO LOUVER FOR DRAINAGE. FULLY SEAL AROUND LOUVER TO PREVENT AIR LEAKAGE. DUCT TAPS TO PLENUM SHALL BE A MINIMUM OF 6" ABOVE PLENUM FLOOR TO PREVENT WATER ENTRAINMENT.
- M4 EXTERIOR DUCT WALL SHALL BE CONSTRUCTED WITH FLANGED AND GASKETED FITTINGS AND THEN SEALED. DUCT SHALL BE RESSURE TESTED AT -0.25" WITH LESS THAN 1% LEAKAGE. DUCT SHALL BE INSULATED WITH THE FOLLOWING, OWENS CORNING INDUSTRIAL TYPE 705, 2" RIGID FIBERGLASS INDUSTRIAL BOARD WITH EXTERIOR VAPOR BARRIER FACING, 8.0 PCF DENSITY, K=0.23 BTU IN/HR AT 75 DEG F. PROVIDE WEATHER PROOFING, POLYGAURD, ALUMAGAURD, ALL WEATHER PROOFING JACKET OR EQUAL. INSTALLED "R" VALUE SHALL BE MINIMUM OF 12. REFER TO DETAIL 5/M605 FOR DUCTWORK SUPPORT INSTALLATION.
- M5 REVERSE OSMOSIS SHALL BE PROVIDED BY HUMIDIFYER MANUFACTURER. COORDINATE INSTALLATION UNIT WITH PLUMBING CONTRACTOR. REFER TO RO/DI PIPING SCHEMATIC ON SHEET P005.
- M6 PROVIDE UNISTRUT RACK BETWEEN FLOOR AND STRUCTURE ABOVE TO SUPPORT EQUIPMENT.

KEY PLAN



University of Kentucky

No.	Issue/Revision/Submission	Date
1	FIT-OUT PACKAGE - BID AND PERMIT	11.15.2024

Flad Architects
MADISON
644 SCIENCE DR
MADISON, WI 53711
PHONE 608.238.2661
WWW.FLAD.COM

BHDP
COLUMBUS
274 MARCONI BLVD.
SUITE 200
COLUMBUS, OHIO 43215
PHONE 614.486.1960

BC&E ENGINEERING: DAYTON, OH
DELMAX CONSTRUCTION: URBANA, OH
TERRACON: LEXINGTON, KY
FLAD: MADISON, WI

CMTA INC: LEXINGTON, KY
THP LIMITED INC: CINCINNATI, OH
NV5: PITTSBURGH, PA
BELL ENGINEERING: HOPKINSVILLE, KY
VIBRASURE: SAN FRANCISCO, CA

UNIVERSITY OF KENTUCKY
AGRICULTURE RESEARCH FACILITY 1
1411 UNIVERSITY DR. LEXINGTON, KENTUCKY 40503
ENLARGED PLANS - MECHANICAL

STATE OF KENTUCKY
ROBERT S. JOHNSON
27666
LICENSED PROFESSIONAL ENGINEER

Project Manager: S. JOHNSON
Drawn: K. TEAGUE
Checked: N. ROGERS
Initial Drawing Date: 11.15.24
Project Number: UKX05.00

M302

Turner

Project Name: UK Agriculture Research Facility **Signature:** _____ **Date:** 12/18/24

Tim Taylor, TCCo Project Engineer

This review does not relieve the Trade Contractor of the responsibility for making the work conform to the requirements of the Contract. The Trade Contractor is responsible for all dimensions, correct fabrication and accurate fit with the work of other trades.

Date of Submittal Reception: 11/26/24 **Type:** Shop Drawing
Submittal #: 230200-01 **Submittal Description:** AHU-1, OA N1-N3, OA S1-S4 SD
Spec Section #: 230200
Trade Contractor: SAI

TURNER COMMENTS IN **BLUE**

Additional Comments: _____

Turner Reviewed ☑

2676 S 26TH ST KALAMAZOO, MI 49048 269-381-9070 FAX: 269-381-9075

SUBMITTAL

PROJECT: **UNIVERSITY OF KENTUCKY HEALTH AGRICULTURE RESEARCH FACILITY 1, TC-025 MECHANICAL UK-2617.0-8-25 AHU 1, N1-N3, S1-S4**

LOCATION: **LEXINGTON, KY**

DATE: **NOVEMBER 26th, 2024**

TABLE OF CONTENTS

1. GENERAL NOTES
2. AHU 1 PERFORMANCE
3. AHU OA N1-N3 PERFORMANCE
4. AHU OA S1-S4 PERFORMANCE
5. ELECTRICAL
6. CONSTRUCTION DETAILS

Listing Constructional Data Report (CDR)

1.0 Reference and Address			
Report Number	3185459COL-001	Original Issued: 22-Jul-2009	Revised: 16-Sep-2016
Standard(s)	UL 1995 Issued: 2011/10/14 Ed: 4 Rev: 2014/10/03 Heating and Cooling Equipment - Expires 2022/11/30		
Entirely Replaces Report Number	3042219-001		
Applicant	Air Flow Equipment	Manufacturer	**Air Flow Equipment**
Address	2676 South 26th Street Kalamazoo, MI 49048	Address	2676 South 26th Street Kalamazoo, MI 49048
Country	USA	Country	USA
Contact	Mr. Matt De Young	Contact	Mr. Matt De Young
Phone	(269) 381-9070	Phone	(269) 381-9070
FAX	N/A	FAX	N/A
Email	matt@airflowequipment.com	Email	matt@airflowequipment.com

2.0 Product Description	
Product	Custom Air Handling Units
Brand name	NA
Description	The custom made AHU units that include fan(s), motor(s), hot water/steam coils, chilled water coils, dampers, filters, air blenders, and sound attenuators. Units are built primarily for pharmaceutical plants, hospitals, medical and research labs, and educational facilities. Units are to be installed on rooftops, in penthouses, mechanical rooms or slabs on grade.
Models	Champion followed by a serial number
Model Similarity	Units vary in physical size, CFM delivered, heating and cooling capacity. All units are field connected.
Ratings	Electrical Ratings vary with the size of the motors being used. 120Vac 1 Phase, 208/230Vac 1Phase and 3Phase, 480Vac 3Phase
Other Ratings	MINIMUM CIRCUIT AMPACITY (MCA): The MCA will be calculated using the following formulas. On equipment with heating & cooling modes of operation, both modes shall be considered, and the larger calculated value will be used. MCAcooling = 125%(largest motor) + sum of remaining concurrent motor loads and loads rated 1 Amp or more. MCAheating = 125%(sum of all concurrent motor load, loads rated 1 Amp or more and all electric heat loads) MAXIMUM OVERCURRENT PROTECTIVE DEVICE RATING (MOPD): The MOPD value will be selected from the list of standard ratings below. If the calculated value does not equal a standard rating, the next smaller rating will be used. On equipment with heating & cooling modes of operation, both modes shall be considered, and the larger calculated value will be used to select the standard rating. MOPDcooling = 225%(largest motor) + sum of remaining concurrent motor loads and loads rated 1 Amp or more.

1

GENERAL NOTES

AIR FLOW EQUIPMENT, INC.

2676 S 26TH ST KALAMAZOO, MI 49048 Phone: (269)381-9070 Fax: (269)381-9075

GENERAL NOTES

(10) Custom Air Handling Units

a. **Mixed Air Units**
   i. **AHU 1: 40,000 CFM: QTY 1**
b. **100% OA Units**
   i. **AHU's OA-N1 - N3, 38,500 CFM: QTY 3**
   ii. **AHU's OA – S1-S4, 28,500 CFM: QTY 4**

Work Not provided by AFE:

1. **Installation of ship split covers and sealing of the ship splits is not included**
2. **Reconnection of the 120 V lighting circuit at the ship splits is not included**
3. **VFD's are NOT included**
4. **Damper actuators are not included**

Notes:

1. **Ship Splits will be thermally broken, similar to unit casing.**
2. **Unit doors and viewports will be insulated with closed cell, poly-urethane foam.**

Units are ETL listed to UL1995

- Structural Steel Bases
  - 8", Structural Aluminum C channel, perimeter, solid welded.
  - 8"x2"x7 Gauge, Structural Aluminum cross members (as needed)
  - Unit bases are thermally broken, with no through penetrations.
  - Flooring: 3/16", Bright finish Aluminum tread plate flooring. Flooring shall be sloped to a 1 ½" galvanized drain with cap, which sticks through the base rail, where shown on the drawing. All others floors shall be flat. Flooring shall be braced underneath to prevent oil canning.
  - The flooring shall incorporate a 1 ½", solid welded, turned lip to form drainable floors.
  - Bases shall have stainless steel drain pans in the CW, HW coil and humidifier sections.
  - 0.053", Aluminum sub-flooring
  - 3", poly-urethane foam insulation (R-21)
  - Each unit section will come with integral lifting lugs.
  - ERU bases will be painted with (1) coat DTM acrylic primer and (2) coats DTM acrylic finish paint
- Casing
  - Casing shall be 4", double wall, tongue and groove, formed panels.
  - 4", 3.0# density, injected polyurethane foam insulation. The insulation shall have R value of 26.8
  - Panels shall be thermal break construction, with no thru metal.
  - Exterior skins: 16-gauge, galvanized, G90 mill finish

- Interior skins: 20-gauge, galvanized, G90 mill finish
- Interior skins in CW coil and Humidifier Sections: 20-gauge, 304 Stainless steel, mill finsh mill finish
- 18-gauge galvanized safing
- Removable Panels – Casing shall be provided with removal plugs on both sides of the unit for coil removal. Casing shall also be provided with additional removable plugs as required to service major components.
- Deflection shall not exceed 1/200th of largest panel span.
- Leakage shall not exceed ½% of design CFM
- Unit shall be provided with all gaskets, screws, bolts etc to install unit.
- **Note: Installation of ship split covers, gaskets etc., to be by installing contractor.**

- Doors
  - 4" thick Galvanized Steel doors with extruded aluminum frame.
  - Doors shall be thermal break construction
  - Doors shall be 24" x 72", unless shown differently in the drawing.
  - Doors shall have 12"x12", double pane insulated viewports with wire mesh.
  - Unit doors to match casing construction.
  - Doors shall have Ventlock 699 Test Ports
  - All doors to open against air pressure.
  - Doors insulated with 2.25 # density polyurethane foam insulation
  - Full length stainless steel piano hinge
  - Continuous neoprene bulb gasket
  - Each door to have (2) Allegis door latches
- Fans & Motor
  - <u>Fan Arrays</u>
    - Twin City Fan or Greenheck, Direct Drive Cube fans with airfoil wheels, Arrangement 4, Class II and III construction as required
    - Motors: Premium Efficient, VFD Compatible, TEFC, 3,600 or 1,800 RPM, 460V, 3 Phase, 60 Hertz.
    - Motors shall have Aegis shaft grounding kits
    - Fans cubes are internally isolated
    - Fans shall have piezometer rings for air flow measurements
    - Fan shall have gravity backdraft dampers for fan isolation
    - Fan rooms shall have motor trolley beams that extend outside the unit.
- Fan Motor Panels:
  - Each fan array will be wired to a NEMA3R Multi Motor panel with main, non-fused disconnect and individual disconnects and overload protection for each fan motor
  - All fans will be prewired to the motor panels.
  - Motor panels shall be mounted on the exterior of the fan section
- Filters
  - Pre Filters: Farr, 30/30, 30%, MERV 8, 24"x24"x2" pleated filters
  - Final Filters: Farr RigaFlo PH, MERV 14, 85%, 24"x24"x4" cartridge filters.
  - Filter Frames: Front loading Farr Type 8 Universal Filter frames built into built up banks with stiffeners.
  - Unit to ship with (1) complete sets of filters
  - All clips(C78-XX) required to hold filters in racks provided.
  - Dwyer Magnehelic 2000 Series differential pressure gauge shall be flush mounted to measure pressure drop across filter banks
- Chilled Water Coils
  - The CW coils shall be Cooney Coils with Cooney's freeze protection system
  - The Pre-Coil coils on AHU OA N1-N3 and S1-S4 shall be Modine CW coils.
  - Chilled water coils with 5/8" tube OD, 0.035" Copper wall thickness., .0095" aluminum fin thickness
  - 16 Ga, 304 stainless steel casings, copper headers and non-ferrous Red Brass connections.
  - Coil rated & certified in accordance with ARI Standard 410.
  - Coil headers and return bends contained within unit casing.

- Coils to be mounted on 4”x4”x1/4” stainless steel coil uprights.
- Removable coil plugs shall be provided on both sides of the unit. Coils can be individually serviced.
- 16 gauge 304, 2B stainless steel fully welded IAQ drain pans
  - Triple sloped IAQ drain pan
  - Pan extends full width of unit
  - 1-1/2” stainless steel drain coupling extended through base rail
- Intermediate drain pans extending full coil length, sloped to a 1 1/2” stainless downspout to lower drain pan.
- Coil connections shall be extended to outside of casing for continuation by mechanical contractor.

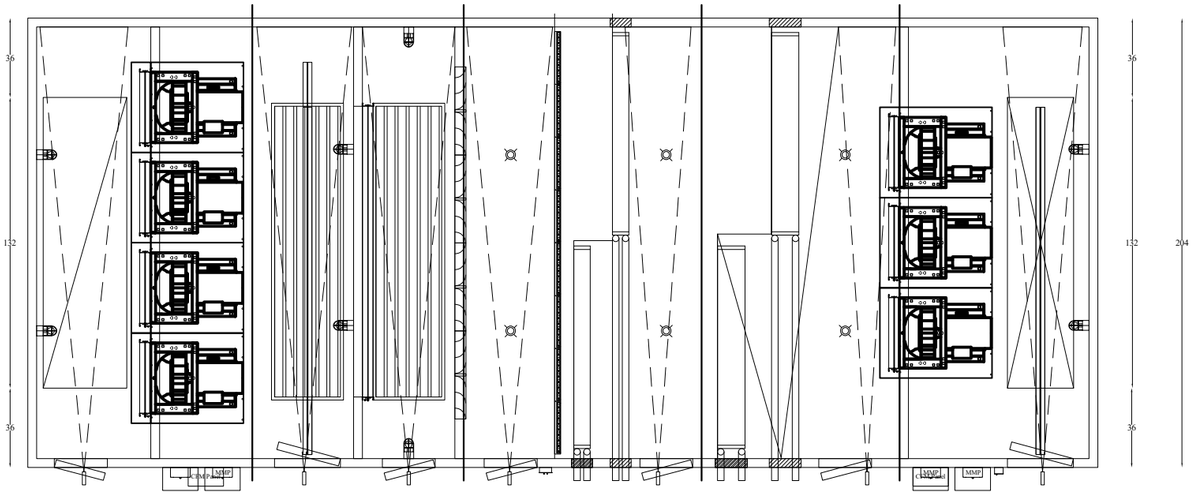
- Hot Water Coils
  - Heatcraft or Aerofin hot water coil with 5/8” tube OD, 0.035” Copper wall thickness., .0095” aluminum fin thickness
  - 16 Ga, galvanized steel casings, copper headers and non-ferrous Red Brass connections.
  - Coil rated & certified in accordance with ARI Standard 410.
  - Coil headers and return bends contained within unit casing.
  - Coils to be mounted on 4”x4”x1/4” mild steel coil uprights.
  - Removable coil plugs shall be provided on both sides of the unit. Coils can be individually serviced.
  - Coil connections shall be extended to outside of casing for continuation by mechanical contractor.
- Piping
  - Internal coils shall be extended to the unit exterior with Schedule 40 Black Pipe
  - Coils with connections 2 ½” and larger shall have 150# flanges at the coil, with MPT on the unit exterior
  - Coils with connections 2” and smaller shall have unions at the coil, with MPT on the unit exterior.
- Dampers
  - <u>Control Dampers</u>
    - TAMCO 1500 Series, Aluminum Control dampers
  - **Damper actuators are not included and are by others.**
  - <u>Backdraft Dampers</u>
    - Greenheck, EM-32, Extruded Aluminum Back draft dampers for fan isolation
- Humidifiers
  - None, space left for future humidifier manifolds to be installed later.
- Electrical (3/4” EMT galvanized conduit minimum)
  - <u>Lighting Circuits</u>
    - Units shall be provided with vapor proof, LED light fixtures
    - The lighting circuit shall be wired to a combination timer switch/GFCI receptacle mounted near the supply fan doors
    - All lighting circuit wiring shall be ran in galvanized conduit, and will terminate in junction boxes at ship splits.
  - <u>Motor Electrical</u>
    - Motors shall be wired to motor panel mounted on the unit exterior
    - The MMP panels shall have individual disconnects and overloads for each fan motor.
    - **<u>Motor leads shall be in flexible, metallic conduit</u>**
    - **<u>No VFD’s are being included</u>**
  - **Reconnection of wiring at the ship splits is by installing electrical contractor**
- AFMS
  - <u>Fan and Filter CFM Display Panel</u>
    - Unit to be provided with an Air Flow Measuring Display Panel.
    - Panel to display the CFM of each fan and the total CFM of each fan array
    - Panel to display the pressure drop across the filter banks
    - Panel to have BAcNet out put for communication to the BMS system
  - <u>Outside Air AFMS</u>
    - Ebtron Gold AFMS with display and transmitter
    - The AF probe shall be mounted in a sleeve before the MIN OA damper

        - The transmitter/display shall be mounted on the unit exterior
- Air Blenders
    - Blender Products Air Blenders
    - Blenders shall be fabricated from min. 0.0081" Aluminum

- Finish:
    - Unpainted, galvanized mill finish
- Factory Testing
    - AHU 1 and (1) of the OA units shall be tested as follows as below:
        - Units shall be tested for casing leakage and deflection
            - Leakage shall be no more than 0.5%, when tested to 10" TSP.
            - Deflection shall be no more than L/200 when tested to 10" TSP
        - Units shall be tested for fan capacity and vibration
- Field Testing
    - None
- Shipping
    - Units shall be shrunk wrap prior to shipping to job site.
- Installation and Start-up Support
    - (5) days of installation support is included
    - (2) days of Start-up support is included
    - (2) day of owner training is included
- **Other/Extra Material**
    - None
    - **Material not specifically listed in the bid is NOT included**

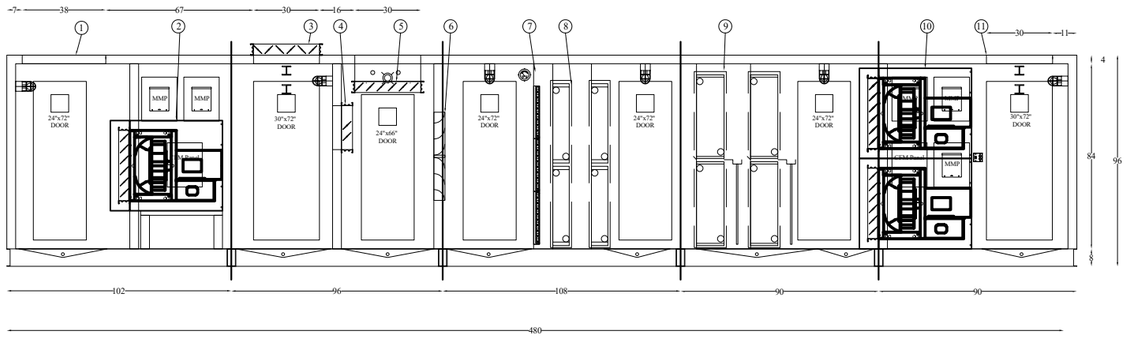
2

AHU 1 PERFORMANCE



Section Weight: 10,420 #'s | Section Weight: 4,274 #'s | Section Weight: 5,688 #'s | Section Weight: 7,915 #'s | Section Weight: 10,043 #'s

PLAN VIEW



ELEVATION

Unit Weight: 38,340 #'s

1- 132x38" RETURN AIR INTAKE
2- (4) RETURN FANS
3- 132"x30" EXHAUST AIR DAMPER
4- 132"x20" RETURN AIR DAMPER
5- 132"x30" OUTSIDE AIR DAMPER
w/EBTRON AFMS
6- (3) AIRBLENDERS
7- 2", MERV 8 PRE-FILTERS
8- (4) PRE HEAT COILS
9- (4) COLD WATER COILS
10- (6) SUPPLY FANS
11-132"x30" SUPPLY AIR OPENING

UNIVERSITY OF KENTUCKY - AGRICULTURE RESEARCH FACILITY 1

UNIT NAME: AHU1_REV1_100224

FILE LOCATION: S:\ACTIVE JOBS\UK AG BUILDING\4-DRAWINGS(CAD)

DESIGNED BY: Tony Palmatier
DRAWN BY:
DATE: November 15, 2024
LAST EDIT BY: Tpalmatier
PAPER SIZE: TABLOID
SCALE: 0":0"

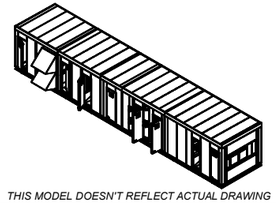
AIR FLOW EQUIPMENT, INC.

AIRFLOW EQUIPMENT
2676 S. 26TH ST.
KALAMAZOO, MI 49048
269.381.9070

UNLESS NOTED OTHERWISE
DIMENSIONS ARE IN INCHES
OVERALL DIMENSION
TOLERANCE +3/4"/-0"

DO NOT SCALE PRINT U.N.O.

U.S. CUSTOM AIR HANDLING UNIT MANUFACTURER



THIS MODEL DOESN'T REFLECT ACTUAL DRAWING

AHU 1 System Static & Unit Summary

	Supply Fan	Return Fan
External Static Pressure	3.00	1.50
Intake/Dampers	0.12	0.12
Air Blender	0.20	
2", MERV 8 Filter	0.26	
HW Coil	0.17	
CW Coil	0.60	
Fan/System Effect(Backdraft Damper)	0.15	0.15
Discharge	0.15	0.15
Filter Loading	1.07	
TOTAL	5.72	1.92
Fan	6 x 24"-HPA-24-65-C	4 x 24"-HPA-24-100-C
CFM	6 x 6,667= 40,000 CFM	4 x 10,000 = 40,000 CFM
TSP	5.72	1.92
RPM	1,910 RPM	1,444 RPM
BHP	6 x 9.02 = 54.12 BHP	4 x 5.47 = 21.88 BHP
Motor HP	6 x 15 HP	4 x 10 HP
	For 2 Motors	For 2 Motors
MCA	45.25 A	35.25 A
MOCP	60 A	50 A

MOTOR/VFD SUMMARY

Fans	QTY	Motor Power	VFD	Multi Motor Panel	Voltage	HZ
Supply Fans	4	15 HP	By others	Yes	460V, 3 PH	65 Hz
Return Fans	4	10 HP	By others	Yes	460V, 3 PH	49 Hz

FILTER SUMMARY

Filter	QTY	Size	TYPE	Sq. Ft.	APD	FPM
Pre Filters	24	(24) 24"x24"x2"	Farr, 30/30, MERV 8	96	0.26	417

DAMPER SUMMARY

DAMPER	QTY	Type	Size	Sq. Ft.	CFM	FPM	Blade
Exhaust Air Damper	1	TAMCO 1500	132"x30"	27.50	40,000	1,455	Opposed
Outside Air Damper	1	TAMCO 1500	132"x30"	27.50	40,000	1,455	Parrellel
Return Air Damper	1	TAMCO 1500	132"x20"	18.33	28,000	1,528	Parrellel

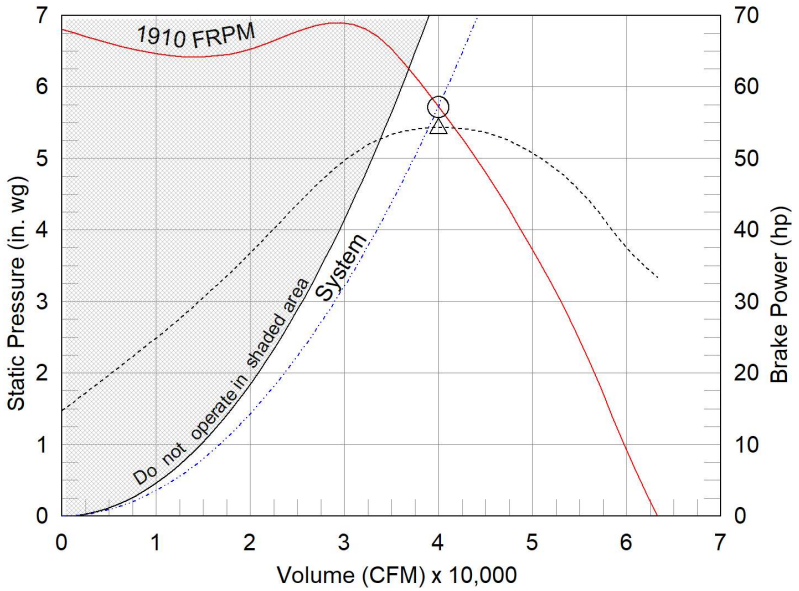
HPA-24-65-C-150

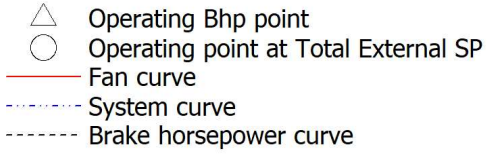
Mark: AHU 1 Supply Fans

Chart Type: Operating Conditions

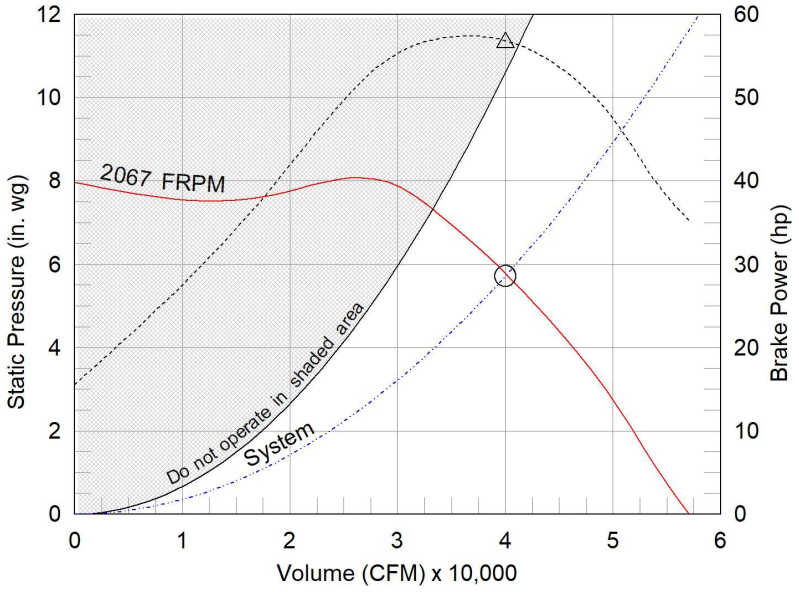
Requested Volume (CFM)	6,667	Actual Volume (CFM)	6,667	Total External SP (in. wg)	5.718
Elevation (ft)	896	Airstream Temp. (F)	70	Operating Power (hp)	9.02
Fan RPM	1910	Static Efficiency (%)	66	Fan Quantity	6
(N-1) Volume (CFM)	8,000	(N-1) Fan RPM	2067	(N-1) Operating Power (hp)	11.32

Operating Performance





Redundancy Performance (N-1)



Sound Power by Octave Band (Array)

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA
Inlet	95	90	101	97	92	89	84	81	99	87
Outlet	99	96	93	93	88	85	83	82	94	83

Sound Power by Octave Band (Single Fan)

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA
Inlet	87	82	93	90	85	81	76	74	91	80
Outlet	91	89	85	85	80	77	75	75	87	75

LwA - A weighted sound power level, based on ANSI S1.4
dBA - A weighted sound pressure level, based on 11.5 dB attenuation per Octave band at 5 ft. dBA levels are not licensed by AMCA International

Fan Array	
# fans	6
Fans high	2
Fans wide	3
Total volume	40,000
Total Oper. Power (hp)	54.14

Performance(single fan)	
Volume (CFM)	6,667
Total External SP (in. wg)	5.718
Operating Power (hp)	9.02
Required Power (hp)	9.02
Fan RPM	1910
Max Fan RPM	2,514
Oper. Frequency (Hz)	65
Elevation (ft)	896
Start-up Temp.(F)	70
Operating Temp.(F)	70

N-1 Redundancy Performance(Single Fan)	
Volume (CFM)	8,000
Operating Power (hp)	11.32
Required Power (hp)	11.32
Fan RPM	2067
Max Fan RPM	2514
Oper. Frequency (Hz)	70

Fan Configuration	
Size	24
Arrangement	4
Housing Size	Compact
Wheel Width	65
Wheel Class	II
Rotation CW Qty	6
Rotation CCW Qty	0
Orientation	Horizontal
Inlet Cone Material	Steel

Total Array Weights	
Fan (LMD)(lb)	2,280
Motor/Drive (lb)	1,350
Accessories (lb)	456

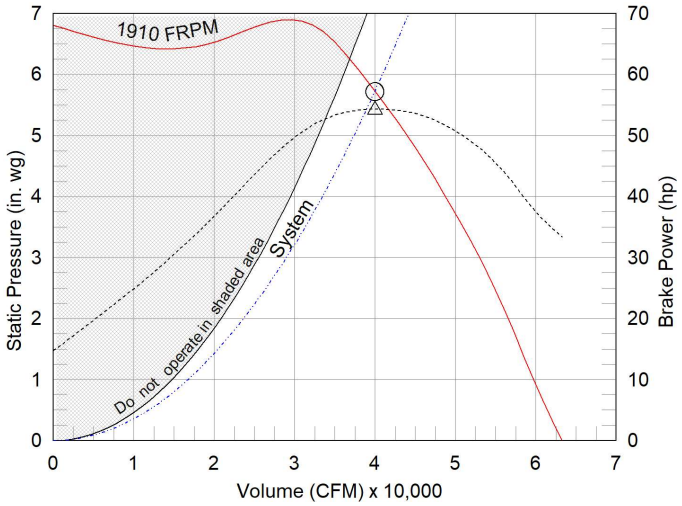
Misc Fan Data	
Fan Energy Index (FEI)	1.16
Outlet Velocity (ft/min)	711
Static Efficiency (%)	66
Wheel WR2 (lb-ft2)	0
Tip Speed (ft/min)	12,248

Motor and Drives	
Size (hp)	15
RPM	1770
Enclosure	TEFC
V/C/P	460/60/3
Frame Size	254T
Max Frame Size	286
Location	Centered

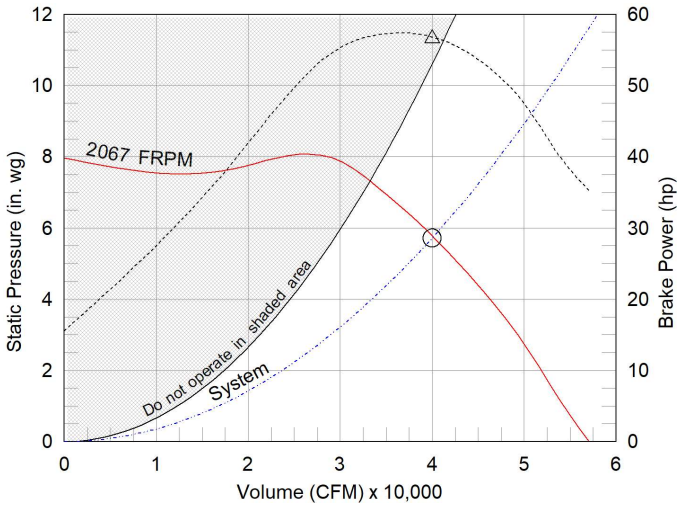
Model: HPA-24-65-C-150

Housed Plenum Array

Operating Performance



Redundancy Performance



Operating performance shown is for fans operating in parallel. For individual fan performance, divide the airflow and power scales by the number of fans.

△ Operating Bhp point
○ Operating point at Total External SP
Fan curve
System curve
Brake horsepower curve

Static Pressure Calculations	
External SP	5.63 in. wg
Inlet Damper	0.088 in. wg
Total External SP	5.718 in. wg

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA
Inlet	87	82	93	90	85	81	76	74	91	80
Outlet	91	89	85	85	80	77	75	75	87	75

LwA - A weighted sound power level, based on ANSI S1.4
dBA - A weighted sound pressure level, based on 11.5 dB attenuation per octave band at 5 ft- dBA levels are not licensed by AMCA International

Sound Power by Octave Band (Array)

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA
Total Inlet	95	90	101	97	92	89	84	81	99	87
Total Outlet	99	96	93	93	88	85	83	82	94	83

Total Array sound is not licensed by AMCA International

Model: HPA-24-65-C-150

Housed Plenum Array

Standard Construction Features:

HPA Standard Construction Features

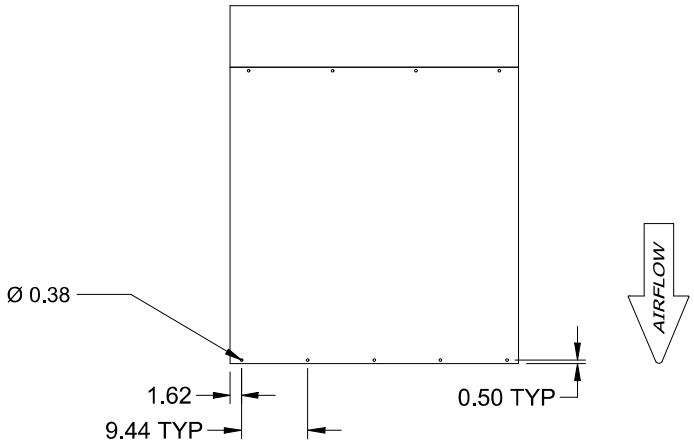
FRAMEWORK: Heavy gauge laser cut and die formed galvanized steel frame integrally isolated from the fan housing with rubber isolators. HOUSING: Heavy gauge galvanized panels containing 2" of sound absorbing insulation with integral lifting points and punched flanges for fan array assembly. Motor lubrication lines will be extended to the outside of the housing panels on all motors with re-greasable bearings. WHEEL: Welded, aluminum 12- blade airfoil centrifugal.

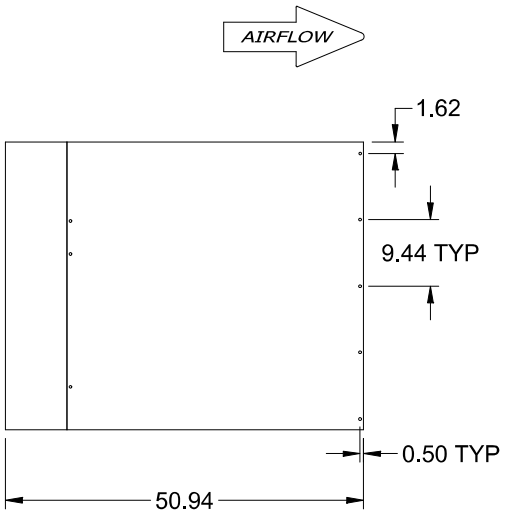
Selected Options & Accessories:

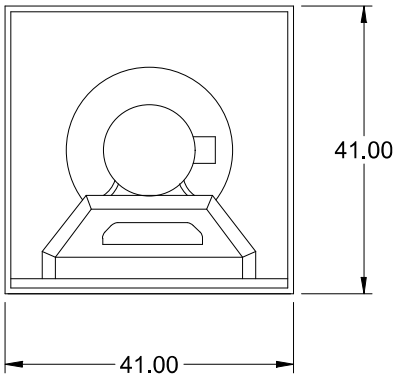
Motor PN - 311094, Baldor Motor Model Number - EM2333T-G
NEMA Premium Efficient Motor - meets NEMA Table 12-12
Motor VFD Rated
Motor with Shaft Grounding
Motor with Class F or Greater Insulation
Direct Mount Isolators, Isolator-Rubber Mount, 0.25 Inch
Rotation CW Qty - 6, Rotation CCW Qty - 0
Inlet Damper, Gravity, EM-32, Alum. Blade, Parallel, w/ Mill Finish
Sure-Aire Flow Station (No Electronics)
Unit Warranty: 1 Yr (Standard)

Model: HPA-24-65-C-150 Housed Plenum Array

Overview Drawing



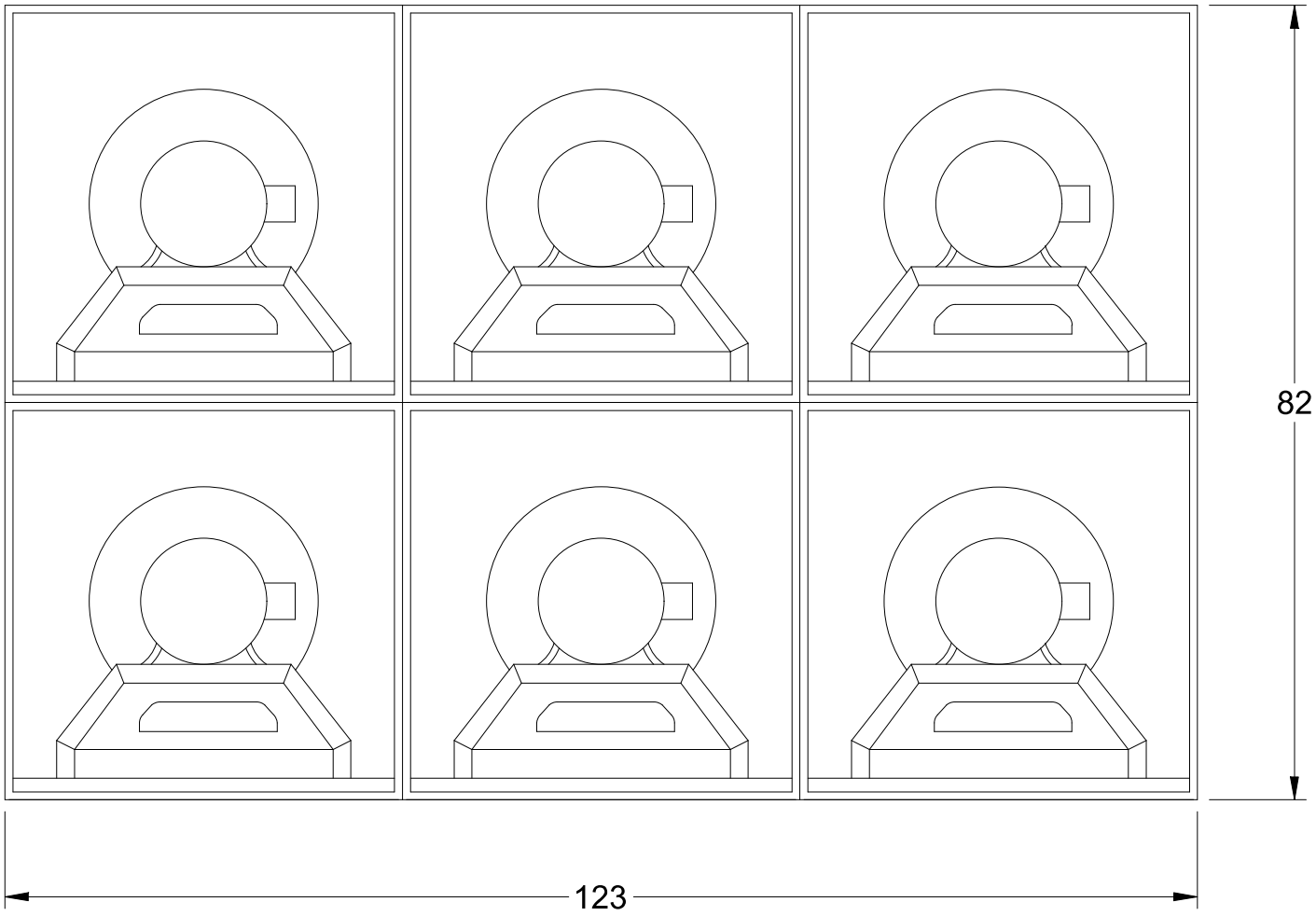




Notes: All dimensions shown are in units of in.

Model: HPA-24-65-C-150 Housed Plenum Array

ASSEMBLED ARRAY DRAWING



Notes: All dimensions shown are in units of in.

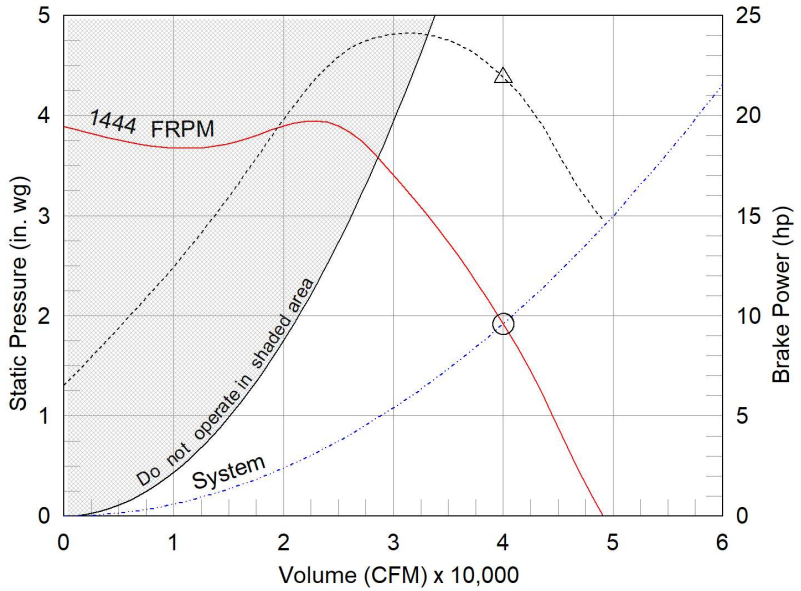
HPA-24-100-C-150

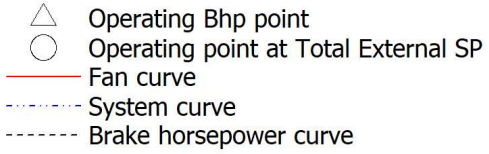
Mark: AHU 1 Return Fans

Chart Type: Operating Conditions

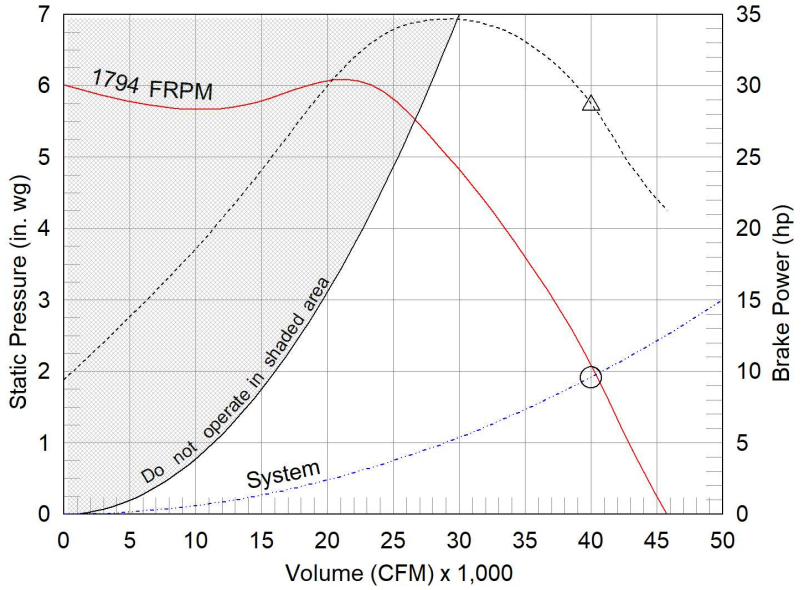
Requested Volume (CFM)	10,000	Actual Volume (CFM)	10,000	Total External SP (in. wg)	1.919
Elevation (ft)	896	Airstream Temp. (F)	70	Operating Power (hp)	5.47
Fan RPM	1444	Static Efficiency (%)	55	Fan Quantity	4
(N-1) Volume (CFM)	13,333	(N-1) Fan RPM	1794	(N-1) Operating Power (hp)	9.54

Operating Performance





Redundancy Performance (N-1)



Sound Power by Octave Band (Array)

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA
Inlet	88	85	108	85	84	81	75	71	100	88
Outlet	94	89	91	84	81	77	73	67	87	76

Sound Power by Octave Band (Single Fan)

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA
Inlet	81	79	102	79	78	75	69	65	94	82
Outlet	88	83	85	78	75	71	67	61	81	70

LwA - A weighted sound power level, based on ANSI S1.4
dBA - A weighted sound pressure level, based on 11.5 dB attenuation per Octave band at 5 ft. dBA levels are not licensed by AMCA International

Fan Array	
# fans	4
Fans high	1
Fans wide	4
Total volume	40,000
Total Oper. Power (hp)	21.89

Performance(single fan)	
Volume (CFM)	10,000
Total External SP (in. wg)	1.919
Operating Power (hp)	5.47
Required Power (hp)	5.47
Fan RPM	1444
Max Fan RPM	2,178
Oper. Frequency (Hz)	74
Elevation (ft)	896
Start-up Temp.(F)	70
Operating Temp.(F)	70

Fan Configuration	
Size	24
Arrangement	4
Housing Size	Compact
Wheel Width	100
Wheel Class	II
Rotation CW Qty	4
Rotation CCW Qty	0
Orientation	Horizontal
Inlet Cone Material	Steel

Total Array Weights	
Fan (LMD)(lb)	1,520
Motor/Drive (lb)	1,288
Accessories (lb)	304

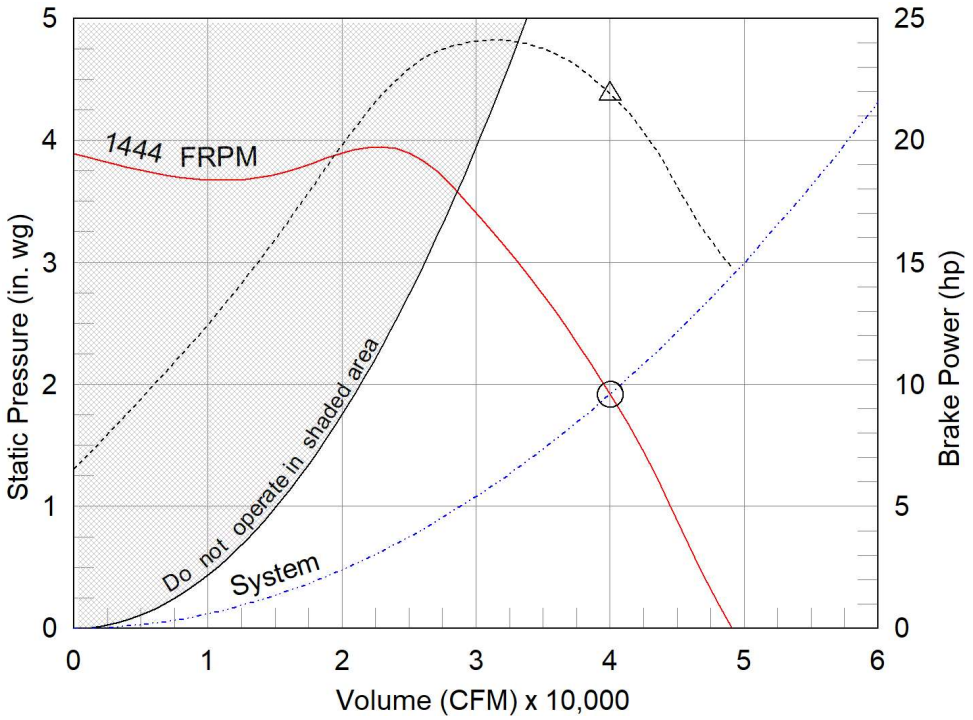
Misc Fan Data	
Fan Energy Index (FEI)	1.07
Outlet Velocity (ft/min)	1,066
Static Efficiency (%)	55
Wheel WR2 (lb-ft2)	0
Tip Speed (ft/min)	9,263

Motor and Drives	
Size (hp)	10
RPM	1170
Enclosure	TEFC
V/C/P	460/60/3
Frame Size	256T
Max Frame Size	286
Location	Centered

Model: HPA-24-100-C-100

Housed Plenum Array

Operating Performance



Operating performance shown is for fans operating in parallel. For individual fan performance, divide the airflow and power scales by the number of fans.

△ Operating Bhp point
◯ Operating point at Total External SP
Fan curve
System curve
Brake horsepower curve

Static Pressure Calculations	
External SP	1.72 in. wg
Inlet Damper	0.199 in. wg
Total External SP	1.919 in. wg

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA
Inlet	81	79	102	79	78	75	69	65	94	82
Outlet	88	83	85	78	75	71	67	61	81	70

LwA - A weighted sound power level, based on ANSI S1.4
dBA - A weighted sound pressure level, based on 11.5 dB attenuation per octave band at 5 ft- dBA levels are not licensed by AMCA International

Sound Power by Octave Band (Array)

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA
Total Inlet	88	85	108	85	84	81	75	71	100	88
Total Outlet	94	89	91	84	81	77	73	67	87	76

Total Array sound is not licensed by AMCA International

Model: HPA-24-100-C-100

Housed Plenum Array

Standard Construction Features:

HPA Standard Construction Features

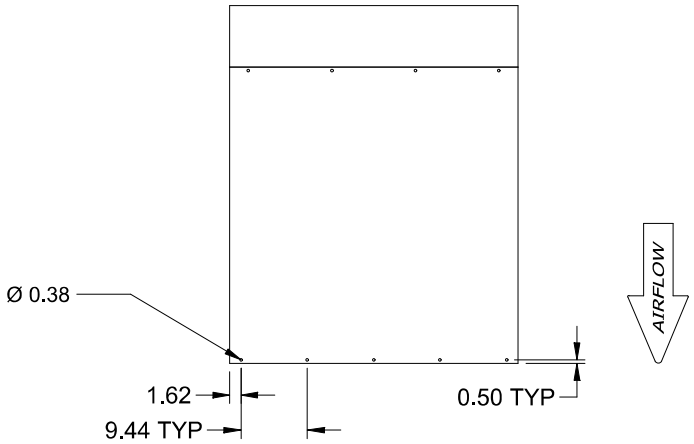
FRAMEWORK: Heavy gauge laser cut and die formed galvanized steel frame integrally isolated from the fan housing with rubber isolators. HOUSING: Heavy gauge galvanized panels containing 2" of sound absorbing insulation with integral lifting points and punched flanges for fan array assembly. Motor lubrication lines will be extended to the outside of the housing panels on all motors with re-greasable bearings. WHEEL: Welded, aluminum 12- blade airfoil centrifugal.

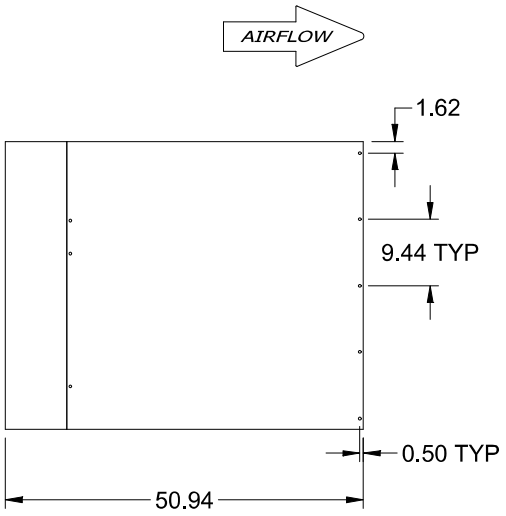
Selected Options & Accessories:

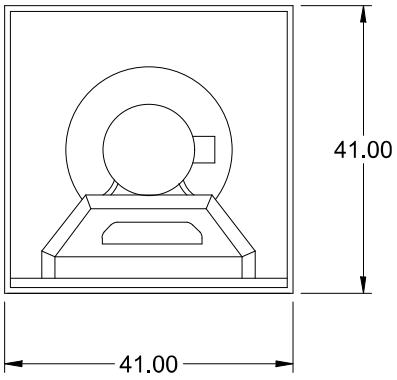
Motor PN - 311881, Baldor Motor Model Number - EM2332T-G
NEMA Premium Efficient Motor - meets NEMA Table 12-12
Motor VFD Rated
Motor with Shaft Grounding
Motor with Class F or Greater Insulation
Direct Mount Isolators, Isolator-Rubber Mount, 0.25 Inch
Rotation CW Qty - 4, Rotation CCW Qty - 0
Inlet Damper, Gravity, EM-32, Alum. Blade, Parallel, w/ Mill Finish
Sure-Aire Flow Station (No Electronics)
Unit Warranty: 1 Yr (Standard)

Model: HPA-24-100-C-100 Housed Plenum Array

Overview Drawing



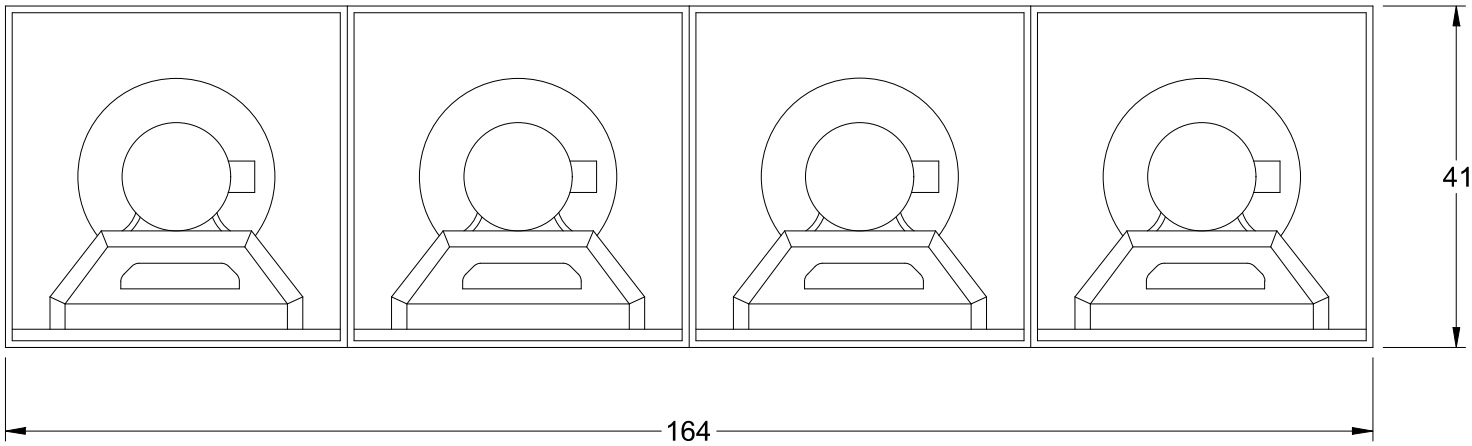




Notes: All dimensions shown are in units of in.

Model: HPA-24-100-C-100 Housed Plenum Array

ASSEMBLED ARRAY DRAWING



Notes: All dimensions shown are in units of in.

SUPER RADIATOR COILS

Enterprise Version: 4.5.6.0 © 2024

Customer: Airflow
Project: UK CAFE - AG Research
Item: AHU-1 CWC

Date: 11/21/2024
By: Bruce Michalowski
Units: English

Water Coil | Coil Qty (Coil Bank): 4 | Model: 36x89 - 8R - 0.625/120

Input

Finside Requirements (Coil Bank):

Coil Application:		Cooling
Air Flow:	SCFM	40,000
Capacity:	Btu/Hr.	1,775,960
Entering Air Dry-Bulb:	°F	80.0
Entering Air Wet-Bulb:	°F	67.0
Leaving Air Dry-Bulb:	°F	52.7
Leaving Air Wet-Bulb:	°F	52.1
Air Pressure:	PSIA	14.696
Coil Hand:		Right Hand

Tubeside Requirements (Coil Bank):

Tubeside Fluid:		Water
Total Flow Rate:	GPM	230.0
Entering Fluid Temperature:	°F	44.0

Output

Coil Selection:

Model Number:		36x89 - 8R - 0.625/120
Tube Size:	In.	0.625
Arrangement:		1.5 x 1.299 Staggered
Fin Surface:		Flat
Face Area / Coil:	ft²	22.3
Face Velocity / Coil:	Ft/Min. (STD)	449.4
Number of Circuits:	Qty	23
Tube Velocity / Coil:	Ft/Second/Coil	2.9
Reynolds Number:		10,537
Circuitry Flow:		Thermal Counter Flow
Tube Material:		Copper
Tube Wall:	In.	0.035
Fin Material:		Aluminum
Fin Thickness:	In.	0.0095
Header Material:		Std.Type 'L' Copper
Header OD:	In.	2.125
Connection Material:		Sche.40 Red Brass
Connection NPS:	In.	2
Casing Material:		12 Ga. 304 Stainless Steel
Casing Depth:	In.	12.500
Dry Weight:	Lbs./Coil	889
Internal Volume:	ft³	2.88

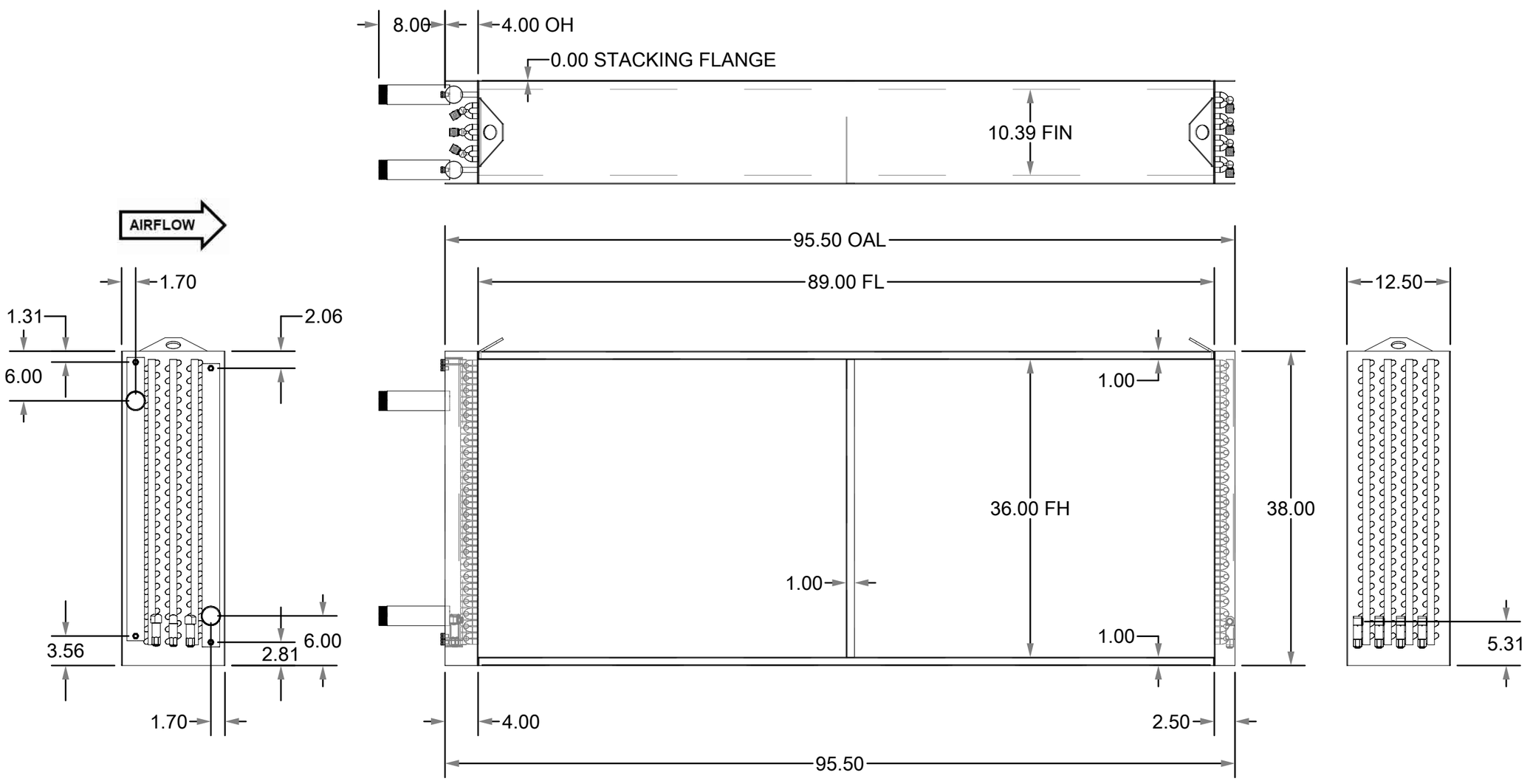
Standard Options:

Lifting Bracket:	Qty	2
Stacking Flange		
Freeze Block Design		
MPT Conn. Red Brass:	Qty	2
Vent and Drain:	Qty	4

Coil Rating

Capacity (Coil Bank):

Total Capacity:	Btu/Hr.	1,743,800
Leaving Air Dry-Bulb:	°F	52.6
Leaving Air Wet-Bulb:	°F	52.4
Total Sensible Capacity:	Btu/Hr.	1,190,702
Air Friction:	In.H2O/Coil	0.60
Surface Condition:		Wet
Leaving Fluid Temperature:	°F	59.1
Fluid Pressure Drop:	Ft.H2O/Coil	8.87



DIE NUMBER	1
FACE TUBES	24
# CIRCUITS	23
PASS / CIRCUIT	8
TUBE MATERIAL	
0.625 x 0.035 Copper SMOOTH	
FIN MATERIAL	
10 FINS PER INCH 0.0095 Aluminum Flat	
CASING MATERIAL	
12 GAUGE 304 S.S.	
HEADER MATERIAL	
TYPE L Copper	
HEADER SIZES	
SUPPLY: 2" NOM RETURN: 2" NOM	
CONNECTIONS	
SUPPLY: 2" NOM Sch 40 Red Brass	
RETURN: 2" NOM Sch 40 Red Brass	
DRY WEIGHT	
889 Lbs./Coil	
INTERNAL VOLUME	
21.54 GAL PER COIL	
TEST PRESSURE	
na	
CASING STYLE	
STANDARD	
COIL QTY	4

FEATURES:
- Lifting Bracket (2)
- Stacking Flange
- MPT Conn. Red Brass (2)
- Vent and Drain (4)

NOTES:
[Circuitry ID: 100060278]

COONEY FREEZE BLOCK POWERED BY

COIL I.D. V10020600

COIL DESCRIPTION	FLUID 36x89 - 8R - 0.625/120
DATE 11/21/2024	CUST. P/N AHU-1 CWC
CUSTOMER Airflow	REV R0

Heatcraft® heat transfer coils

MODINE

COILCALC FLUID VERIFICATION

Customer		**Date**	11/15/2024 8:15:26 AM
Contact		**By**	Tony Palmatier
Telephone		**Company**	Air Flow Equipment
Email		**Return telephone**	
Project	(140218) UK Ag Building	**Email**	tony@airflowequipment.com

Saved run \ Version#: 2836160 \ 2.1.2384.760

Item/Description AHU 1 HW Coil

CONSTRUCTION DATA

Model		5MQ0702B - 33 x 89	Connection material		Red Brass
Coils per bank		4 †	Connection type		MPT
Coil duty		Heat-Return Bend	Connection rotation		None
Tube OD	[in]	5/8	Connection size	[in]	1.50
Fin spacing	[/in]	7.000	Connection qty		1
Rows		2	Connection end		Same End
Fin surface		B			
Fin height x length	[in]	33.00 x 89.00			
Circuiting		Quarter			
Tube material	[in]	0.035 Copper			
Fin material	[in]	0.0095 Aluminum			

THERMODYNAMIC

AIR SIDE			**FLUID SIDE**		
Face velocity (Standard)	[ft/min]	490.3	Fluid		Water
Air flow (Standard)	[cfm]	40,000	Fouling factor		0
Altitude	[ft]	978.0	Entering fluid temp.	[°F]	130.0
EAT db	[°F]	40.00	Leaving fluid temp.	[°F]	100.0
Fin fouling factor		0			

OPTIONS/SPECIALTIES

Casing material	Galvanized Steel
Casing type	Flanged
Coating	None
Hand	Right
Vent / Drain	.50 MPT Ext./Length of Conn.

RESULTS

CONSTRUCTION †			**AIR SIDE**		
Weight	[lbs]	194.6	Total / Sensible capacity	[MBH]	1,307 / 1,307
Weight with fluid	[lbs]	240.5	LAT db	[°F]	70.12
Face area	[ft²]	20.40	Air pressure drop (Standard)	[in wg]	0.1671

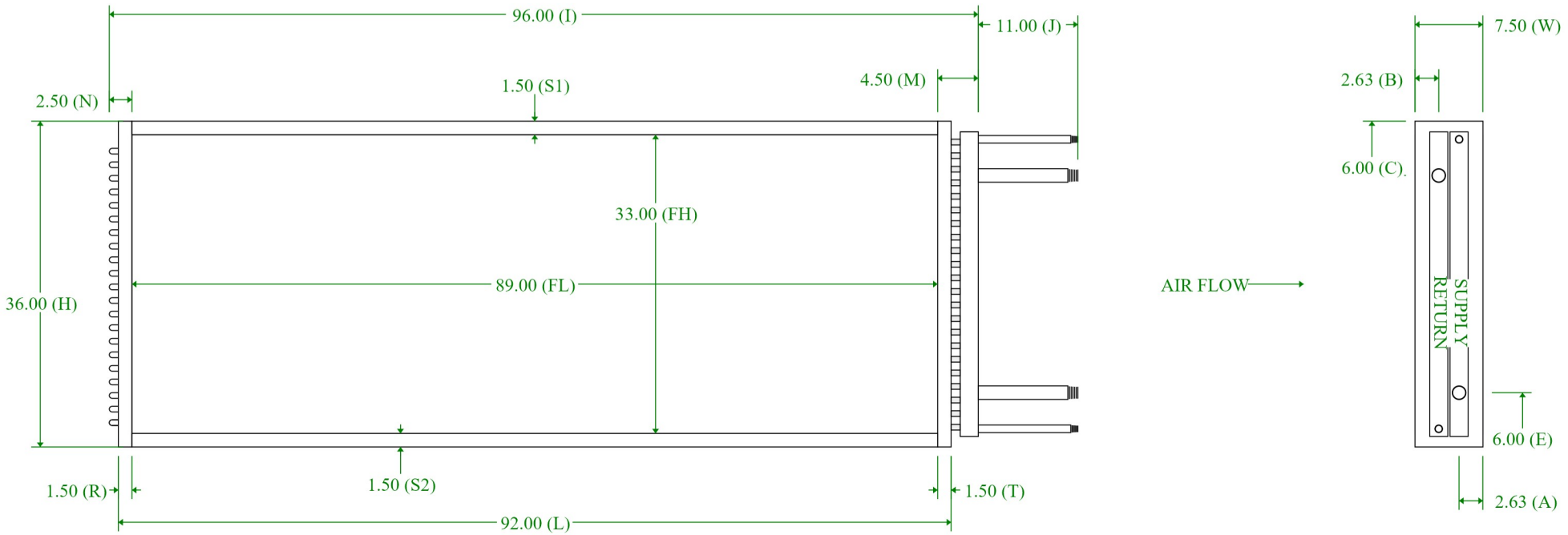
† Construction items are per coil.
All other values are for the bank.

FLUID SIDE		
Fluid pressure drop	[ft H2O]	10.46
Fluid flow rate	[gpm]	88.03
Leaving fluid temp.	[°F]	100.0
Internal volume	[in³]	1,286
Tubeside velocity	[ft/s]	4.412

NOTES FROM CALCULATIONS

A - Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory at www.ahridirectory.org.
L - Coil rating valid for Heatcraft coils only.

USER NOTES



General Notes

1. All dimensions are in inches.
2. Manually verifying dimensions is highly recommended.
3. One intermediate tube support fabricated from stock of the same material as the casing will be provided.
4. The supply line should be connected to the lower connection on the leaving air side for counterflow operation.
5. Coils will vent and drain through factory-installed vent and drain fittings when mounted level for horizontal flow.
6. Connection location other than standard could affect vent and drain locations. Consult factory.

Options

Casing type: Flanged
Fluid: Water
Vent/Drain: .50 MPT Ext./Length of Conn.

Materials of Construction

Tube [in]: 5/8 x 0.035 Copper
Fin [in]: 7 FPI, 0.0095 Aluminum
Rows: 2
Casing material: Galvanized Steel
Hand: Right
Conn. material: Red Brass
Conn. type: MPT
Conn. qty: 1
Conn. size [in]: 1.50 Same End
Weight [lbs]: 194.6

Heatcraft® heat transfer coils

MODINE

Date:	11-15-2024
Item:	AHU 1 HW Coil
Quantity:	4
Model:	5MQ0702B - 33 x 89
Project:	(140218) UK Ag Building
Saved run:	2797480

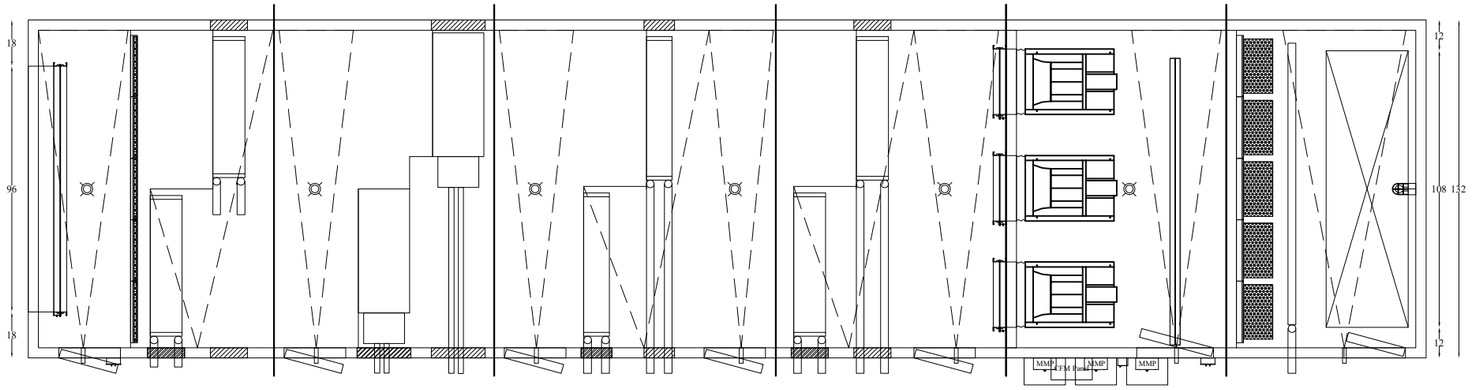
Mixers:

STATIC MIXER			AIR FLOW		PLENUM					MIXING DISTANCE		
QTY	MODEL ABS/F	SIZE	MAX cfm	MIN cfm	Wp in.	Hp in.	Mixer Velocity @ Max CFM (fpm)	MIXER Ft2 AREA	PD in W.G.	Dus in.	Dds in.	Total in.
1	AB	84	40000	16230	196	84	986	40.57	0.16	33	67	100
2	AB	58	40000	15480	196	84	1034	38.69	0.17	24	46	70
3	AB	48	40000	15900	196	84	1007	39.74	0.16	15	38	53
4	AB	40	40000	14720	196	84	1087	36.8	0.2	13	32	45
5	AB	36	40000	14900	196	84	1074	37.26	0.18	14	28	42

3

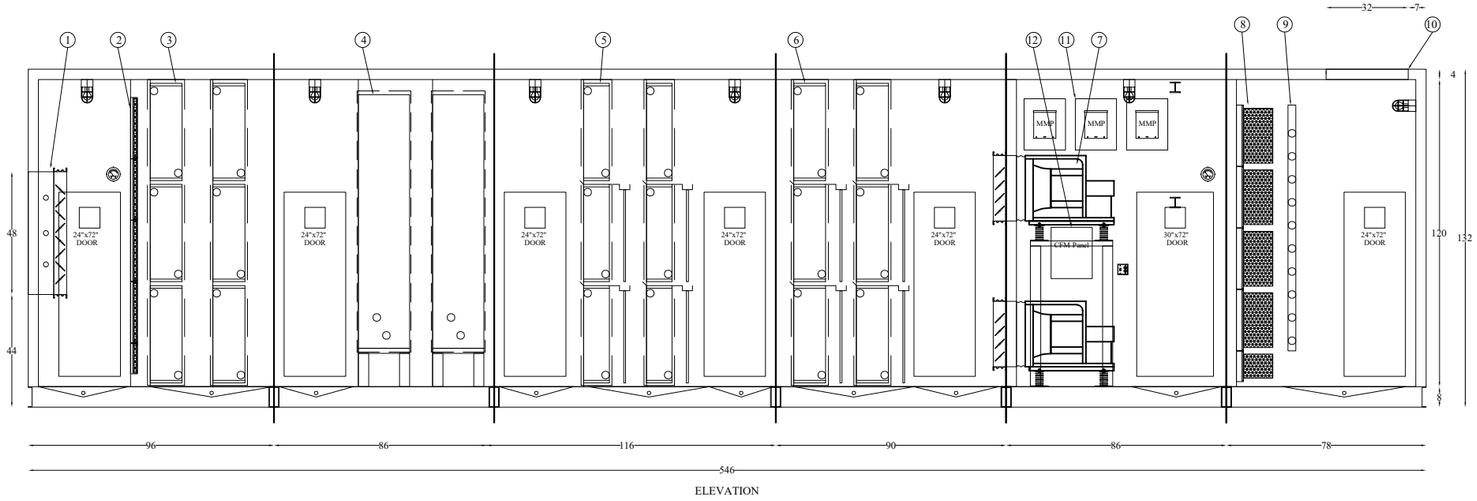
AHU OA N1-N3 PERFORMANCE

HUMIDIFIER MANIFLD
SHOWN FOR REFERENCE,
IT IS NOT INCLUDED



Section Weight: 7,716 #'s | Section Weight: 4,625 #'s | Section Weight: 6,624 #'s | Section Weight: 6,700 #'s | Section Weight: 6,460 #'s | Section Weight: 3,775 #'s

PLAN VIEW



ELEVATION

Unit Weight: 35,900 #'s

1-96"x48"OA DAMPER w/EBTRON AFMS
2-2" PRE FILTER
3-(4) HEAT RECOVERY COILS
4-(2) STEAM IFB COIL
5-(4)PRE COOLING COILS
6- (4) COOLING COILS
7-(6) SUPPLY FANS
8-12" FINAL FILTERS
9-HUMIDIFIER MANIFOLD
10-SUPPLY DISCHARGE
11-(3) MMP PANELS
12-CFM DISPLAY PANEL

UNIVERSITY OF KENTUCKY - CAFE

UNIT NAME: AHU OA-N1_N3

FILE LOCATION: S:\ACTIVE JOBS\UK AG BUILDING\4-DRAWINGS(CAD)

DESIGNED BY: Tony Palmatier
DRAWN BY:
DATE: November 25, 2024
LAST EDIT BY: Tpalmatier
PAPER SIZE: TABLOID
SCALE: 0":0"

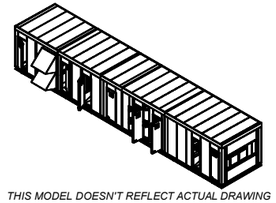
AIR FLOW EQUIPMENT, INC.

AIRFLOW EQUIPMENT
2676 S. 26TH ST.
KALAMAZOO, MI 49048
269.381.9070

UNLESS NOTED OTHERWISE
DIMENSIONS ARE IN INCHES
OVERALL DIMENSION
TOLERANCE +3/4"/-0"

DO NOT SCALE PRINT U.N.O.

U.S. CUSTOM AIR HANDLING UNIT MANUFACTURER



THIS MODEL DOESN'T REFLECT ACTUAL DRAWING

AHU OA N1-N3 System Static & Unit Summary

	Supply Fan
External Static Pressure	4.00
Intake/Dampers	0.10
2", MERV 8 Filter	0.27
Heat Recovery Coil	0.71
Steam IFB Coil	0.32
Pre Cool Coil	0.84
CW Coil	0.93
Fan system Effect/Backdraft Dampers	0.12
12", MERV 13 Filter	0.51
Humidifier - Future	0.10
Discharge	0.10
Filter Loading	0.97
TOTAL	8.97
Fan	18"-APH-4-75-III
CFM	6 x 6,417 = 38,500 CFM
TSP	8.97
RPM	3,489 RPM
BHP	6 x 13.98 = 83.88 BHP
Motor HP	6 x 15 HP
	For (2) Fans
MCA	43.75A
MOCP	60A

MOTOR/VFD SUMMARY

Fans	QTY	Motor Power	VFD	Multi Motor Panel	Voltage	HZ
Supply Fans	6	15 HP	By others	Yes	460V, 3 PH	60 Hz

FILTER SUMMARY

Filter	QTY	Size	TYPE	Sq. Ft.	APD	FPM
Pre Filters	25	(20) 24"x24"x2" (5) 12"x24"x2"	Farr, 30/30, MERV 8	90	0.27	428
Final Filters	24	(20) 24"x24"x2" (5) 12"x24"x2"	Farr, Riga Flo PH, MERV 13	96	0.51	428

DAMPER SUMMARY

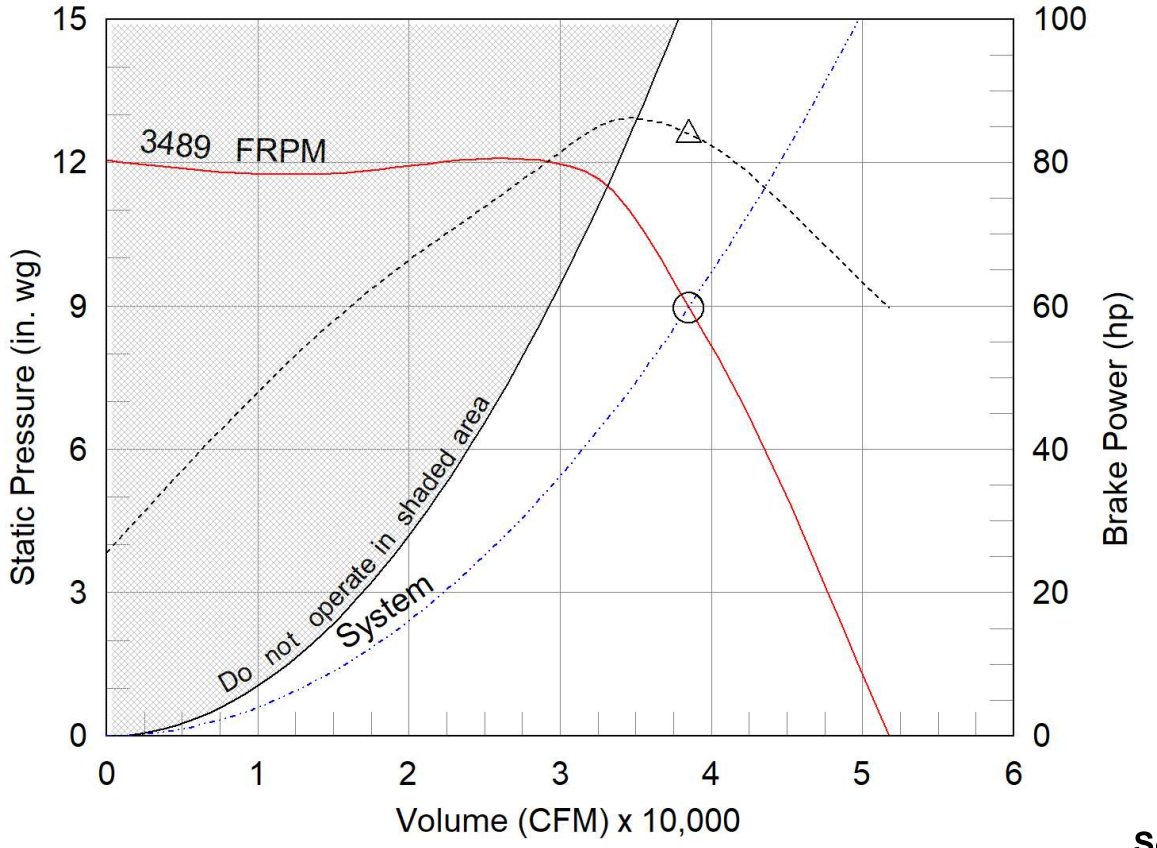
DAMPER	QTY	Type	Size	Sq. Ft.	CFM	FPM	Blade
Outside Air Damper	1	TAMCO 1500	96"x48"	32.00	38,500	1,203	Opposed

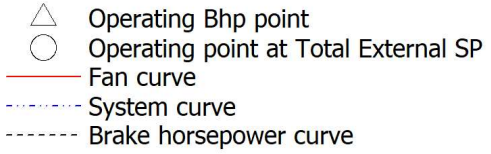
18-APH-4-75-III-150

Mark: OA N1-N3 SF

Chart Type: Operating Conditions

Requested Volume (CFM)	6,417	Actual Volume (CFM)	6,417	Total External SP (in. wg)	8.97
Elevation (ft)	896	Airstream Temp. (F)	70	Operating Power (hp)	13.98
Fan RPM	3489	Static Efficiency (%)	65		





Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA
Inlet	90	92	93	97	94	91	88	83	99	88
Outlet	92	96	97	99	99	97	93	87	103	92

LwA - A weighted sound power level, based on ANSI S1.4
dBA - A weighted sound pressure level, based on 11.5 dB attenuation per Octave band at 5 ft. dBA levels are not licensed by AMCA International

Fan Array	
# fans	6
Total volume	38,500
Total Oper. Power (hp)	83.86

Performance(single fan)	
Volume (CFM)	6,417
Total External SP (in. wg)	8.97
Operating Power (hp)	13.98
Required Power (hp)	14.1
Fan RPM	3489
Max Fan RPM	4,111
Oper. Frequency (Hz)	60
Elevation (ft)	896
Start-up Temp.(F)	70
Operating Temp.(F)	70

Fan Configuration	
Size	18
Arrangement	4
Class	III
Rotation CW Qty	6
Rotation CCW Qty	0
Orientation	Horizontal

Total Array Weights	
Fan (LMD)(lb)	702
Motor/Drive (lb)	1,518
Accessories (lb)	96

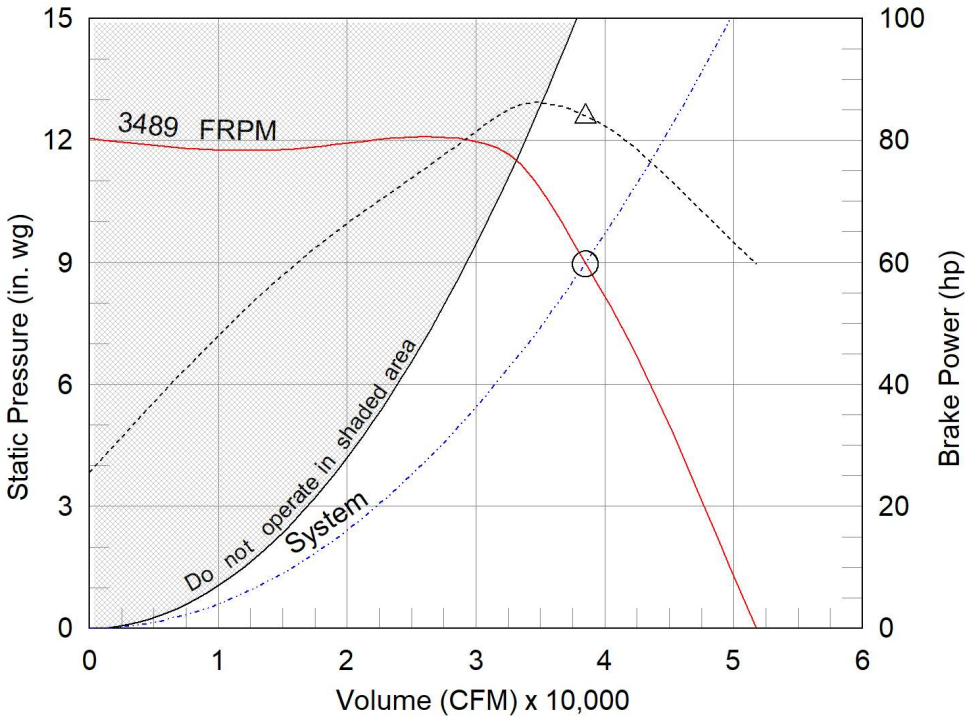
Misc Fan Data	
Fan Energy Index (FEI)	1.08
Outlet Velocity (ft/min)	2,526
Static Efficiency (%)	65
Tip Speed (ft/min)	16,672
Thrust Weight (%)	9.2
Thrust Force (lb)	212
Corner Weight A (lb)	110
Corner Weight B (lb)	110
Corner Weight C (lb)	83
Corner Weight D (lb)	83

Motor and Drives	
Motor	Included
Size (hp)	15
RPM	3500
Enclosure	TEFC
V/C/P	460/60/3
Frame Size	254T
Max Frame Size	286
Location	Centered

Model: 18-APH-4-75-III-150

Plenum Fan

Operating Performance



Operating performance shown is for fans operating in parallel. For individual fan performance, divide the airflow and power scales by the number of fans.

△ Operating Bhp point
◯ Operating point at Total External SP
Fan curve
System curve
Brake horsepower curve

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA
Inlet	90	92	93	97	94	91	88	83	99	88
Outlet	92	96	97	99	99	97	93	87	103	92

LwA - A weighted sound power level, based on ANSI S1.4
dBA - A weighted sound pressure level, based on 11.5 dB attenuation per octave band at 5 ft- dBA levels are not licensed by AMCA International

Sound Power by Octave Band (Array)

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA
Total Inlet	97	100	100	105	102	99	96	91	107	95
Total Outlet	99	104	105	107	107	104	100	95	111	100

Total Array sound is not licensed by AMCA International

Model: 18-APH-4-75-III-150

Plenum Fan

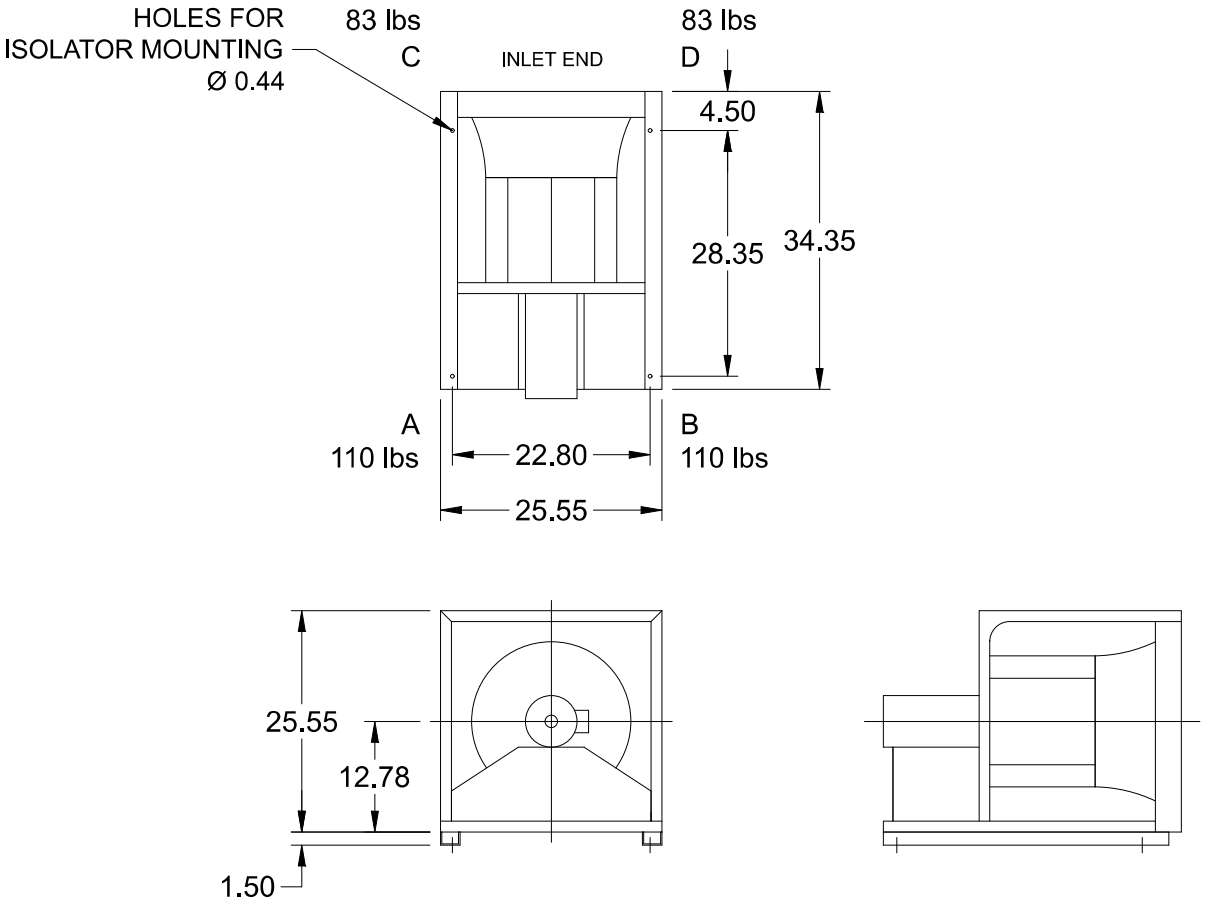
Standard Construction Features:

HOUSING: Heavy gauge, welded steel mounting frame with die formed flanges - Inlet panel is heavy gauge steel with die formed flanges with welded corners - Steel components are phosphatized and coated - Corrosion resistant fasteners BEARINGS, SHAFT, AND WHEEL: Heavy duty, concentric locking, self-aligning ball or roller pillow block bearings - Polished, solid steel shafts - Welded, aluminum centrifugal wheel - 12 bladed construction- Airfoil blade profile

Selected Options & Accessories:

Motor PN - 311916, Baldor Motor Model Number - EM2394T-G
NEMA Premium Efficient Motor - meets NEMA Table 12-12
Motor VFD Rated
Motor with Shaft Grounding
Motor with Minimum 40 Degree C Ambient Temperature
Motor with Class B or Greater Insulation
Fan Class - III
Motor Position - Centered
Coating - Permatector, Concrete Gray-RAL 7023, Mill Finish on Aluminum Components, Mill Finish on Aluminum Wheel
Fan Orientation - Horizontal
Rotation CW Qty - 6, Rotation CCW Qty - 0
Direct Mount Isolators, Isolator-Spring, Free Standing, 1 Inch, Indoor Use Only
Protective Cage - Totally Enclosed, coated w/Safety yellow finish
Sure-Aire Flow Station (No Electronics)
Factory Vibration Test, 0.08 in/sec, peak, filter-in as measured at the fan RPM
Unit Warranty: 1 Yr (Standard)

Model: 18-APH-4-75-III-150 Plenum Fan



ONE WHEEL DIAMETER SPACING REQUIRED BETWEEN FANS FOR CATALOG PERFORMANCE

Notes: All dimensions shown are in units of in.
Drawings are not to scale. Drawings are of standard unit and do not include dimensions for accessories or design modifications.

Heatcraft® heat transfer coils

MODINE

COILCALC FLUID VERIFICATION

Customer		**Date**	11/15/2024 2:03:03 PM
Contact		**By**	Tony Palmatier
Telephone		**Company**	Air Flow Equipment
Email		**Return telephone**	
Project	(140218) UK Ag Building	**Email**	tony@airflowequipment.com

Saved run \ Version#: 2851702 \ 2.1.2384.760

Item/Description OA N1-N3 Pre Cool Coil

CONSTRUCTION DATA

Model		5WL1206B - 36 x 53	Connection material		Red Brass
Coils per bank		6 †	Connection type		MPT
Coil duty		Cool-Standard	Connection rotation		None
Tube OD	[in]	5/8	Connection size	[in]	2.00
Fin spacing	[/in]	12.00	Connection qty		1
Rows		6	Connection end		Same End
Fin surface		B			
Fin height x length	[in]	36.00 x 53.00			
Circuiting		Three Quarter			
Tube material	[in]	0.035 Copper			
Fin material	[in]	0.0095 Aluminum			

THERMODYNAMIC

AIR SIDE			FLUID SIDE		
Face velocity (Standard)	[ft/min]	484.3	Fluid		Water
Air flow (Standard)	[cfm]	38,500	Fouling factor		0
Altitude	[ft]	978.0	Entering fluid temp.	[°F]	55.00
EAT db / wb	[°F]	92.00 / 75.00	Fluid flow	[gal/min]	362.0
Fin fouling factor		0			

OPTIONS/SPECIALTIES

Casing material	304L S/S
Casing type	Flanged
Coating	None
Hand	Right
Vent / Drain	.50 MPT Ext./Length of Conn.

RESULTS

CONSTRUCTION †			AIR SIDE		
Weight	[lbs]	373.2	Total / Sensible capacity	[MBH]	1,834 / 1,237
Weight with fluid	[lbs]	464.2	LAT db / wb	[°F]	62.62 / 62.08
Face area	[ft²]	13.25	Air pressure drop (Standard)	[in wg]	0.8059

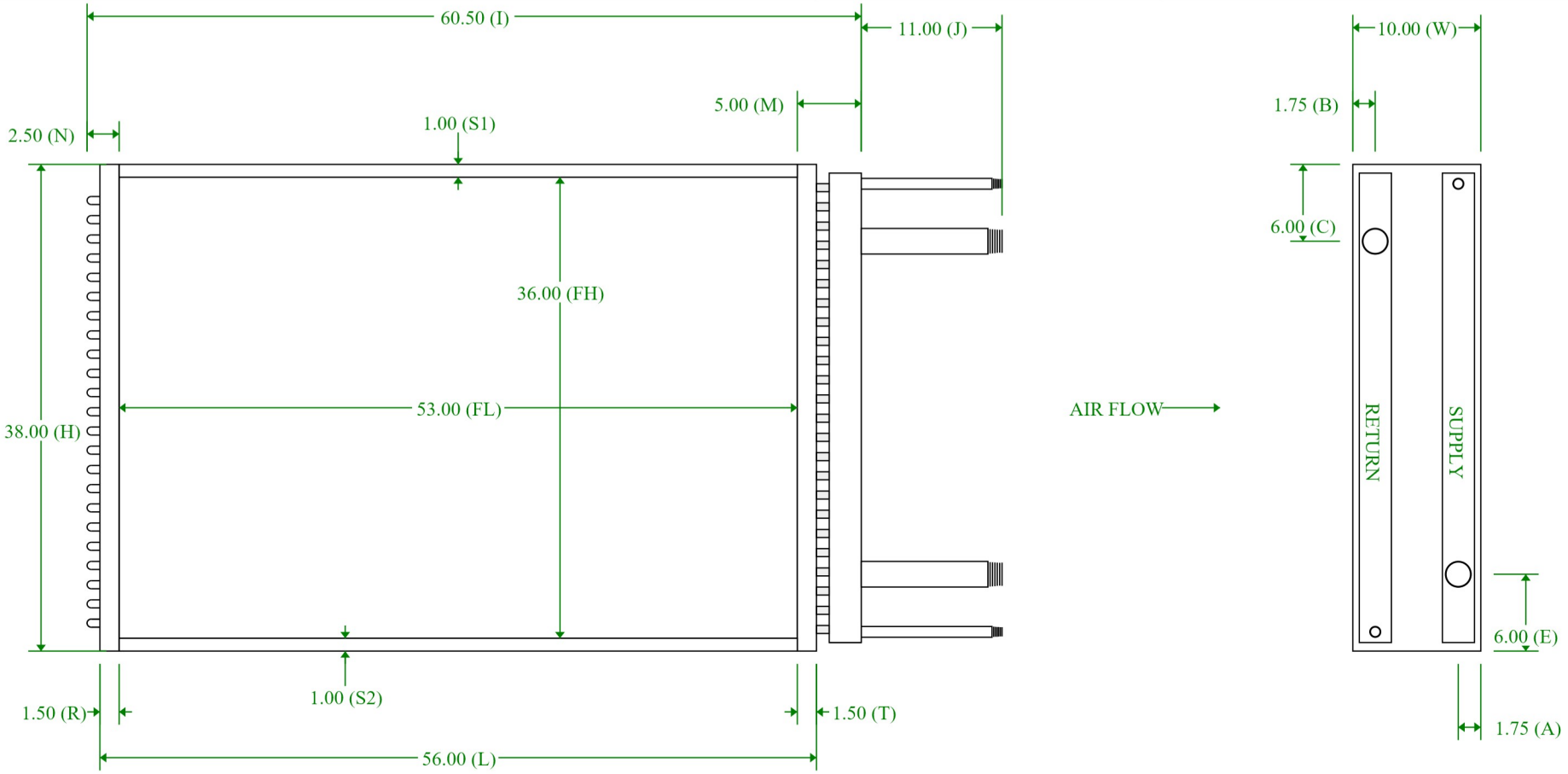
† Construction items are per coil.
All other values are for the bank.

FLUID SIDE		
Fluid pressure drop	[ft H2O]	9.369
Fluid flow rate	[gpm]	362.0
Leaving fluid temp.	[°F]	65.12
Internal volume	[in³]	2,519
Tubeside velocity	[ft/s]	4.032

NOTES FROM CALCULATIONS

A - Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory at www.ahridirectory.org.
L - Coil rating valid for Heatcraft coils only.

USER NOTES



General Notes

1. All dimensions are in inches.
2. Manually verifying dimensions is highly recommended.
3. One intermediate tube support fabricated from stock of the same material as the casing will be provided.
4. The supply line should be connected to the lower connection on the leaving air side for counterflow operation.
5. Coils will vent and drain through factory-installed vent and drain fittings when mounted level for horizontal flow.
6. Connection location other than standard could affect vent and drain locations. Consult factory.

Options

Casing type: Flanged
Fluid: Water
Vent/Drain: .50 MPT Ext./Length of Conn.

Materials of Construction

Tube [in]: 5/8 x 0.035 Copper
Fin [in]: 12 FPI, 0.0095 Aluminum
Rows: 6
Casing material: 304L S/S
Hand: Right
Conn. material: Red Brass
Conn. type: MPT
Conn. qty: 1
Conn. size [in]: 2.00 Same End
Weight [lbs]: 373.2

Heatcraft® heat transfer coils

MODINE

Date:	11-15-2024
Item:	OA N1-N3 Pre Cool Coil
Quantity:	18
Model:	5WL1206B - 36 x 53
Project:	(140218) UK Ag Building
Saved run:	2797480

Enterprise Version: 4.5.6.0 © 2024

Customer: Airflow
Project: UK CAFE - AG Research
Item: OA-N1,2,3 - CWC

Date: 11/21/2024
By: Bruce Michalowski
Units: English

Water Coil | Coil Qty (Coil Bank): 6 | Model: 36x53 - 8R - 0.625/132

Input

Finside Requirements (Coil Bank):

Coil Application:		Cooling
Air Flow:	SCFM	38,500
Capacity:	Btu/Hr.	2,884,025
Entering Air Dry-Bulb:	°F	92.0
Entering Air Wet-Bulb:	°F	75.0
Leaving Air Dry-Bulb:	°F	52.5
Leaving Air Wet-Bulb:	°F	52.0
Air Pressure:	PSIA	14.696
Coil Hand:		Right Hand

Tubeside Requirements (Coil Bank):

Tubeside Fluid:		Water
Total Flow Rate:	GPM	489.1
Entering Fluid Temperature:	°F	44.0

Output

Coil Selection:

Model Number:		36x53 - 8R - 0.625/132
Tube Size:	In.	0.625
Arrangement:		1.5 x 1.299 Staggered
Fin Surface:		Flat
Face Area / Coil:	ft²	13.3
Face Velocity / Coil:	Ft/Min. (STD)	484.3
Number of Circuits:	Qty	23
Tube Velocity / Coil:	Ft/Second/Coil	4.2
Reynolds Number:		14,549
Circuitry Flow:		Thermal Counter Flow
Tube Material:		Copper
Tube Wall:	In.	0.035
Fin Material:		Aluminum
Fin Thickness:	In.	0.0095
Header Material:		Std.Type 'L' Copper
Header OD:	In.	2.625
Connection Material:		Sche.40 Red Brass
Connection NPS:	In.	2.5
Casing Material:		14 Ga. 304 Stainless Steel
Casing Depth:	In.	12.500
Dry Weight:	Lbs./Coil	539
Internal Volume:	ft³	1.86

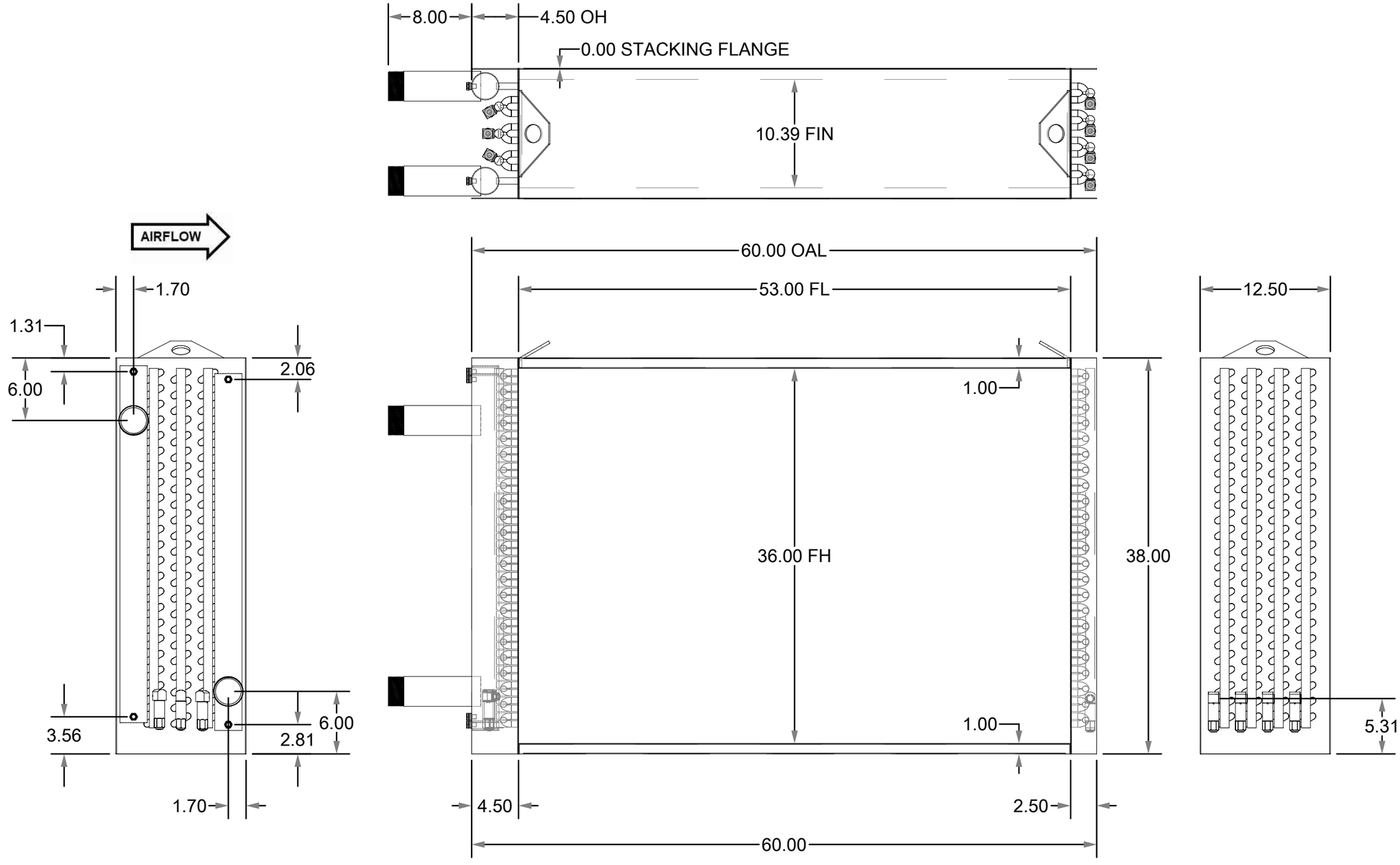
Standard Options:

Lifting Bracket:	Qty	2
Stacking Flange		
Freeze Block Design		
MPT Conn. Red Brass:	Qty	2
Vent and Drain:	Qty	4

Coil Rating

Capacity (Coil Bank):

Total Capacity:	Btu/Hr.	2,900,427
Leaving Air Dry-Bulb:	°F	52.0
Leaving Air Wet-Bulb:	°F	51.8
Total Sensible Capacity:	Btu/Hr.	1,674,815
Air Friction:	In.H2O/Coil	0.84
Surface Condition:		Wet
Leaving Fluid Temperature:	°F	55.8
Fluid Pressure Drop:	Ft.H2O/Coil	9.77



DIE NUMBER	1
FACE TUBES	24
# CIRCUITS	23
PASS / CIRCUIT	8
TUBE MATERIAL	
0.625 x 0.035 Copper SMOOTH	
FIN MATERIAL	
11 FINS PER INCH 0.0095 Aluminum Flat	
CASING MATERIAL	
14 GAUGE 304 S.S.	
HEADER MATERIAL	
TYPE L Copper	
HEADER SIZES	
SUPPLY: 2.5" NOM RETURN: 2.5" NOM	
CONNECTIONS	
SUPPLY: 2.5" NOM Sch 40 Red Brass	
RETURN: 2.5" NOM Sch 40 Red Brass	
DRY WEIGHT	
539 Lbs./Coil	
INTERNAL VOLUME	
13.91 GAL PER COIL	
TEST PRESSURE	
na	
CASING STYLE	
STANDARD	
COIL QTY	6

FEATURES:
- Lifting Bracket (2)
- Stacking Flange
- MPT Conn. Red Brass (2)
- Vent and Drain (4)

NOTES:
[Circuitry ID: 100060285]

COONEY FREEZE BLOCK POWERED BY

COIL I.D. V10020609

COIL DESCRIPTION: FLUID 36x53 - 8R - 0.625/132

DATE: 11/21/2024

CUST. P/N: OA-N1,2,3 - CWC

CUSTOMER: Airflow

REV: R0

AEROFIN
Heat Transfer Products

Date: 11/15/2024
Job Name: UK Research BLDG 1
System ID: 38K OA

Model No.	Qty. In Face	FL INCH	Total Weight LBS.
VMX-6.0AS-48.4 X 84.0-2-1	2	84.00	1,623

Coil Type: VMX
Totals: 2 1,623

Coil Hand: Unspecified
Tube: 0.625 inch X 0.035 inch Copper Seamless Tubes
TF: 20
Fin Material: Aluminum Star
Thickness: 0.0095 IN.
Row: 2
Csg Material: Standard with Galvanized Casings & Dampers
Fin: 6 / IN
Connection: 2.5" Threaded, Carbon Stl, Extended 12 inches
Circuit: N/A
Hdr Material: Schedule 40 Carbon Stl Header, Silver Brazed Joints

Misc: - Pneumatic Test - Mixing Baffles

Dwg: CA-VMX-1

Performance V

Pressure: 28.89 IN HG Elevation: 965.0 FT

Airflow:	38,500.0	SCFM	**Saturated Steam**		
System Face Area:	51.3	FT²	Steam Press:	15.0	PSIG
Standard Face Velocity:	750.0	FPM	Steam Temp:	248.8	°F
Entering Dry Bulb Temp:	0.0	°F	Condensate Rate:	2,412.9	LB/HR
			Inside Surface Fouling:	0.0000	HR·FT²·°F/BTU
Leaving Dry Bulb Temp:	55.0	°F			
Outside Surface Fouling:	0.0000	HR·FT²·°F/BTU			
Sensible Heat Load:	2,283.4	MBH			
Total Heat Load:	2,283.4	MBH			

Losses
Air Pressure Drop: 0.32 IN H2O

Comments:

Notes & Warnings:

112 Mixing baffles are selected - coil hand required when ordering.
56 Rated in accordance with AHRI Standard 410.

1-800-AEROFINwww.Aerofin.com 4621 Murray Place, Lynchburg, VA 24502 (434) 528-6242(Fax)

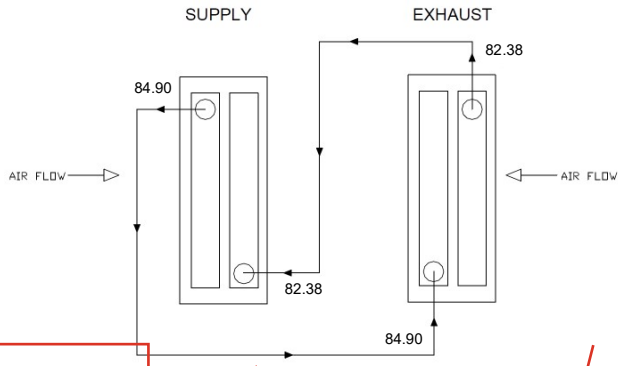
Heatcraft® heat transfer coils

MODINE

COILCALC RUN AROUND

Season: Summer

Item/Description: OA N1-N3_38K HR Coils(72,000)



	Supply	Exhaust
Total / sensible capacity (MBH)	614.6 / 614.6	619.3 / 619.3
Model	5WL1008B	5WD1008B
Coils per bank	12	4
Connections end	Same End	Same End
Tube OD (in)	5/8	5/8
Coil duty	Cool-Standard	Heat-Return Bend
Fins per inch (/in)	10.00	10.00
Rows	8	8
Fin surface	B	B
Fin height x finned length	36.00 x 52.00	39.00 x 148.0
Turbuspirals	NO	NO
Tube material (in)	0.035 Copper	0.035 Copper
Fin material (in)	0.0095 Aluminum	0.0095 Aluminum
Connection qty - size (in)	1 - 2.00	1 - 3.00
Fluid Type	Propylene	Propylene
Percent Glycol (%)	50.00	50.00
Altitude (ft)	980.0	980.0
Air flow rate (cfm)	77,000	77,000
Air flow type	Standard	Standard
Face Velocity (ft/min)	493.6	480.2
Air Pressure Drop (in wg)	0.7319	0.6988
Entering Air Temp. DB / WB (°F)	92.00 / 75.00	75.00 / 0
Leaving Air Temp. DB / WB (°F)	84.70 / N/A	82.42 / 0
Fluid Flow Rate (gpm)	550.0	550.0
Bypass ratio	N/A	N/A
Fluid pressure drop (ft H2O)	10.83	11.35
Entering fluid temp	82.38	84.90
Leaving fluid temp (°F)	84.90	82.38
Delta T fluid	2.518	-2.518
Weight - Dry / w/Fluid (lbs)	446.5 / 568.2	1,292 / 1,631
Casing Material	304L S/S	304L S/S
Casing type	Flanged	Flanged
Coating	None	Corrosion Resistant
Vent/Drain	HalfInchMPTLengthofConn	None
Hand	Right	Left
Notes	A;L	B;E;L

A - Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory at www.ahridirectory.org.

B - Coil is NOT certified by AHRI. Coil is outside the scope of the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program.

E - Rating is an estimate of performance. Actual performance may vary by application.

L - Coil rating valid for Heatcraft coils only.

Heatcraft® heat transfer coils

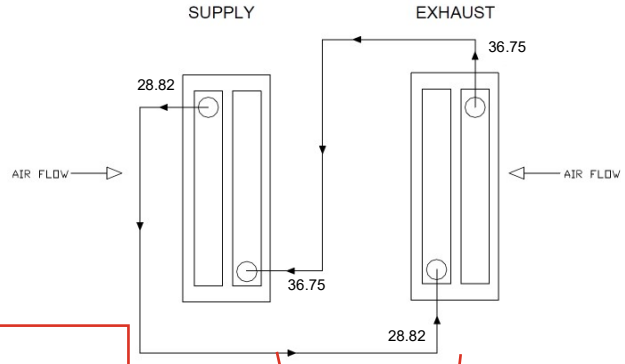
MODINE

COILCALC RUN AROUND

Customer		**Date**	11/15/2024 1:41:27 PM
Contact		**By**	Tony Palmatier
Telephone		**Company**	Air Flow Equipment
Email		**Return telephone**	
Project	(140218) UK Ag Building	**Email**	tony@airflowequipment.com

Season: Winter

Item/Description: OA N1-N3_38K HR Coils(72,000)



	Supply	Exhaust
Total / sensible capacity (MBH)	1,903 / 1,903	1,898 / 1,898
Model	5WL1008B	5WD1008B
Coils per bank	12	4
Connections end	Same End	Same End
Tube OD (in)	5/8	5/8
Coil duty	Heat-Return Bend	Cool-Standard
Fins per inch (/in)	10.00	10.00
Rows	8	8
Fin surface	B	B
Fin height x finned length	36.00 x 52.00	39.00 x 148.0
Turbuspirals	NO	NO
Tube material (in)	0.035 Copper	0.035 Copper
Fin material (in)	0.0095 Aluminum	0.0095 Aluminum
Connection qty - size (in)	1 - 2.00	1 - 3.00
Fluid Type	Propylene	Propylene
Percent Glycol (%)	50.00	50.00
Altitude (ft)	0	980.0
Air flow rate (cfm)	77,000	77,000
Air flow type	Standard	Standard
Face Velocity (ft/min)	493.6	480.2
Air Pressure Drop (in wg)	0.7319	0.6988
Entering Air Temp. DB / WB (°F)	0 / 0	70.00 / 53.00
Leaving Air Temp. DB / WB (°F)	22.79 / N/A	47.46 / 42.53
Fluid Flow Rate (gpm)	550.0	550.0
Bypass ratio	N/A	N/A
Fluid pressure drop (ft H2O)	18.35	17.95
Entering fluid temp	36.75	28.82
Leaving fluid temp (°F)	28.82	36.75
Delta T fluid	-7.930	7.930
Weight - Dry / w/Fluid (lbs)	446.5 / 569.9	1,292 / 1,636
Casing Material	304L S/S	304L S/S
Casing type	Flanged	Flanged
Coating	None	Corrosion Resistant
Vent/Drain	HalfInchMPTLengthofConn	None
Hand	Right	Left
Notes	B;E;L	A;L

A - Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory at www.ahridirectory.org.

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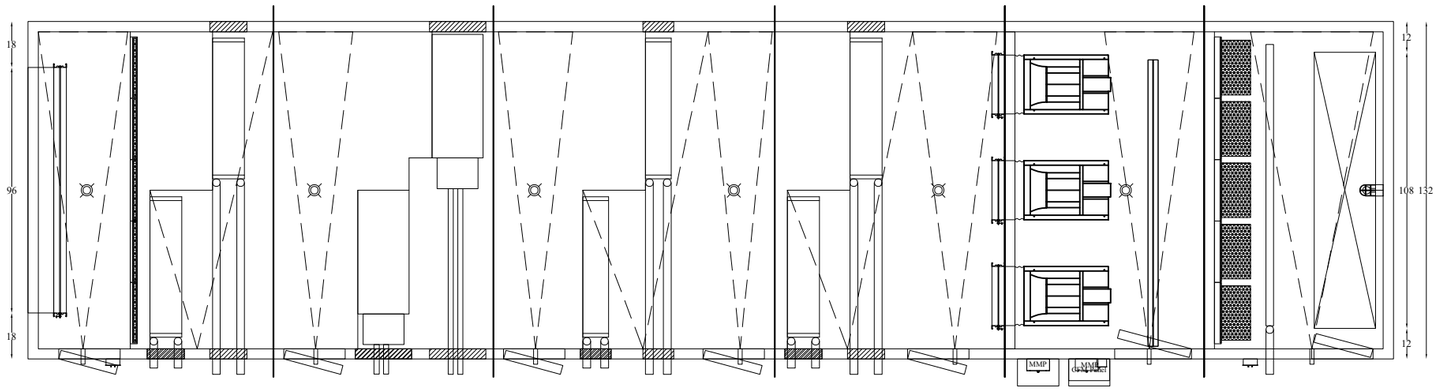
E - Rating is an estimate of performance. Actual performance may vary by application.

L - Coil rating valid for Heatcraft coils only.

4

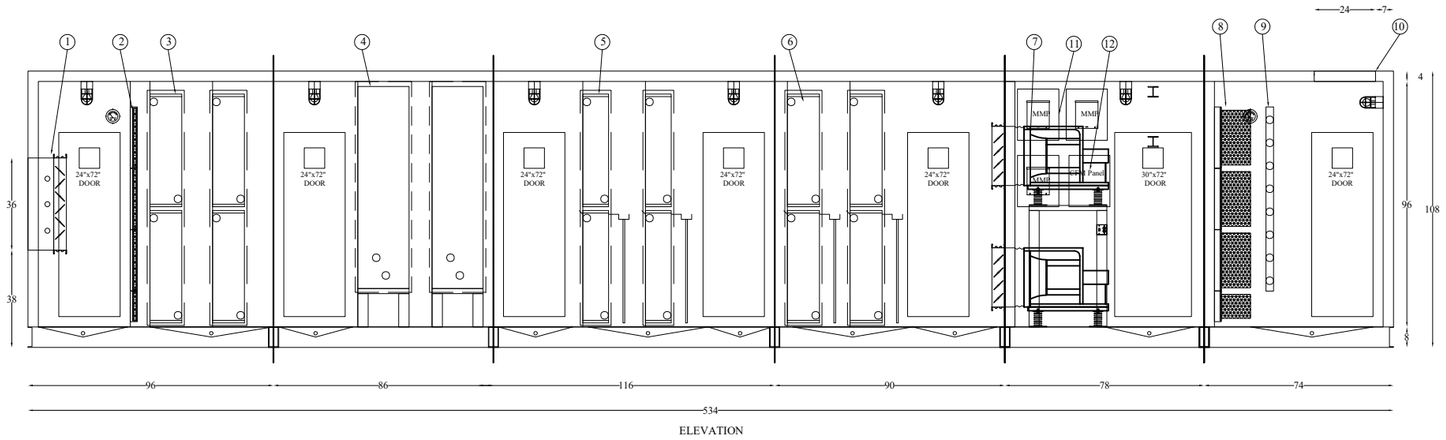
AHU OA S1-S4 PERFORMANCE

HUMIDIFIER MANIFLD
SHOWN FOR REFERENCE,
IT IS NOT INCLUDED



Section Weight: 6,238 #'s | Section Weight: 4,194 #'s | Section Weight: 5,612 #'s | Section Weight: 5,547 #'s | Section Weight: 5,778 #'s | Section Weight: 3,337 #'s

PLAN VIEW



ELEVATION

Unit Weight: 30,706 #'s

1-96"x36"OA DAMPER w/EBTRON AFMS
2-2" PRE FILTER
3-(4) HEAT RECOVERY COILS
4-(2) STEAM IFB COIL
5-(4)PRE COOLING COILS
6- (4) COOLING COILS
7-(6) SUPPLY FANS
8-12" FINAL FILTERS
9-"FUTURE" HUMIDIFIER MANIFOLD
10-SUPPLY DISCHARGE
11-MMP PANELS
12-CFM DISPLAY PANELS

UNIVERSITY OF KENTUCKY - CAFE

UNIT NAME: AHU OA-S1_S4

FILE LOCATION: S:\ACTIVE JOBS\UK AG BUILDING\4-DRAWINGS(CAD)

DESIGNED BY: Tony Palmatier
DRAWN BY:
DATE: November 25, 2024
LAST EDIT BY: Tpalmatier
PAPER SIZE: TABLOID
SCALE: 0":0"

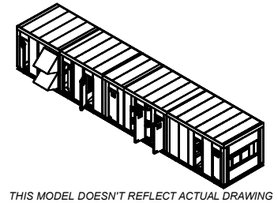
AIR FLOW EQUIPMENT, INC.

AIRFLOW EQUIPMENT
2676 S. 26TH ST.
KALAMAZOO, MI 49048
269.381.9070

UNLESS NOTED OTHERWISE
DIMENSIONS ARE IN INCHES
OVERALL DIMENSION
TOLERANCE +3/4"/-0"

DO NOT SCALE PRINT U.N.O.

U.S. CUSTOM AIR HANDLING UNIT MANUFACTURER



THIS MODEL DOESN'T REFLECT ACTUAL DRAWING

AHU OA S1-S4 System Static and Unit Summary

	Supply Fan
External Static Pressure	4.00
Intake/Dampers	0.12
2", MERV 8 Filter	0.22
Heat Recovery Coil	0.67
Stean IFB Coil	0.30
Pre Cool Coil	0.77
CW Coil	0.70
Fan system Effect/Backdraft Dampers	0.15
12", MERV 13 Filter	0.42
Humidifier	0.10
Discharge	0.12
Filter Loading	0.99
TOTAL	8.56
Fan	6 x 16" - APH-16-4-85-III
CFM	6 x 4,750 = 28,500 CFM
TSP	8.56
RPM	3,526 RPM
BHP	6 x 9.09 = 54.54 BHP
Motor HP	6 x 15 HP
	For (2) Fans
MCA	43.75 A
MOCP	60 A

MOTOR/VFD SUMMARY

Fans	QTY	Motor Power	VFD	Multi Motor Panel	Voltage	HZ
Supply Fans	6	15 HP	By others	Yes	460V, 3 PH	60 Hz

FILTER SUMMARY

Filter	QTY	Size	TYPE	Sq. Ft.	APD	FPM
Pre Filters	20	(15) 24"x24"x2" (5) 12"x24"x2"	Farr, 30/30, MERV 8	90	0.22	407
Final Filters	20	(15) 24"x24"x2" (5) 12"x24"x2"	Farr, Riga Flo PH, MERV 13	96	0.42	407

DAMPER SUMMARY

DAMPER	QTY	Type	Size	Sq. Ft.	CFM	FPM	Blade
Outside Air Damper	1	TAMCO 1500	96"x36"	24.00	28,500	1,188	Opposed

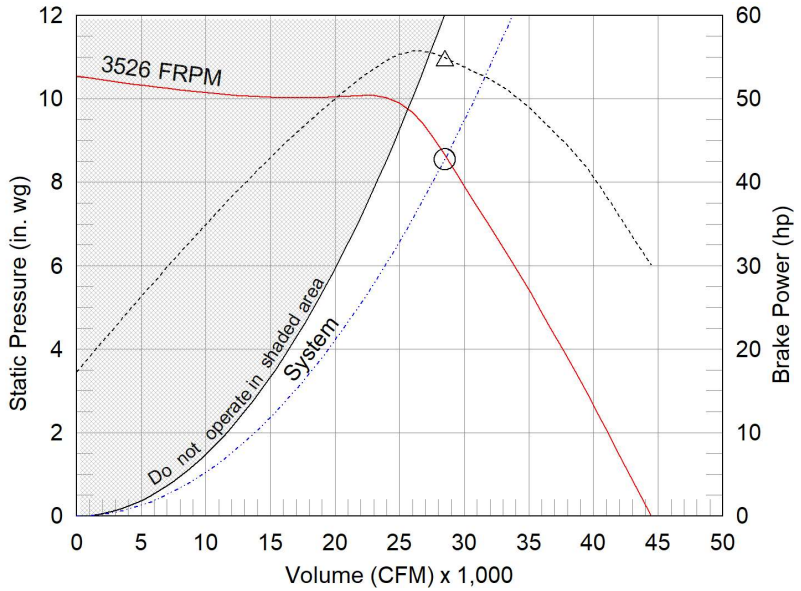
16-APH-4-85-III-150

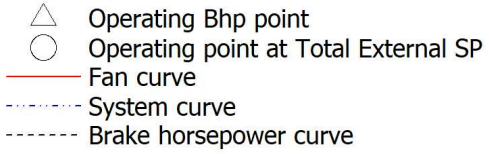
Mark: OA S1-S4 Supply Fans

Chart Type: Operating Conditions

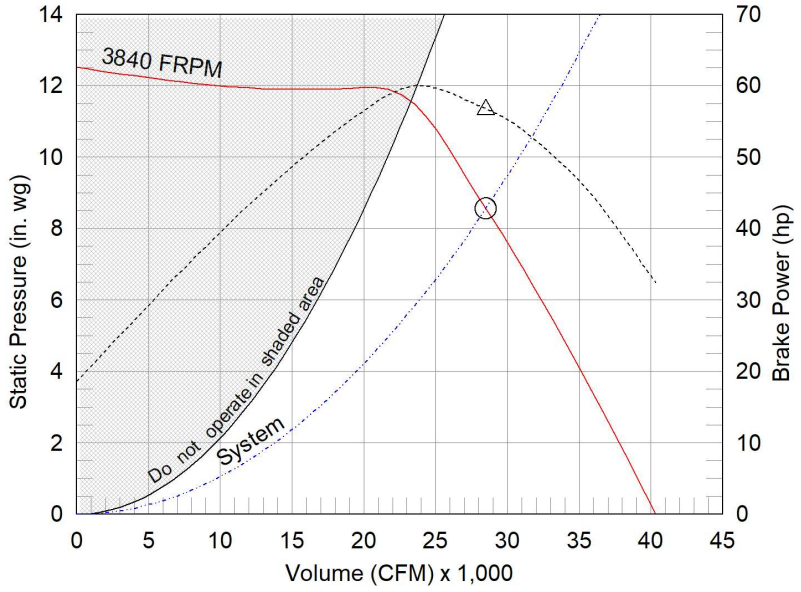
Requested Volume (CFM)	4,750	Actual Volume (CFM)	4,750	Total External SP (in. wg)	8.56
Elevation (ft)	896	Airstream Temp. (F)	70	Operating Power (hp)	9.09
Fan RPM	3526	Static Efficiency (%)	70		
(N-1) Volume (CFM)	5,700	(N-1) Fan RPM	3840	(N-1) Operating Power (hp)	11.33

Operating Performance





Redundancy Performance (N-1)



Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA
Inlet	93	95	89	91	87	83	81	80	93	81
Outlet	93	93	91	94	93	91	88	85	98	86

LwA - A weighted sound power level, based on ANSI S1.4
dBA - A weighted sound pressure level, based on 11.5 dB attenuation per Octave band at 5 ft. dBA levels are not licensed by AMCA International

Fan Array	
# fans	6
Total volume	28,500
Total Oper. Power (hp)	54.52

Performance(single fan)	
Volume (CFM)	4,750
Total External SP (in. wg)	8.56
Operating Power (hp)	9.09
Required Power (hp)	9.09
Fan RPM	3526
Max Fan RPM	4,117
Oper. Frequency (Hz)	60
Elevation (ft)	896
Start-up Temp.(F)	70
Operating Temp.(F)	70

N-1 Redundancy Performance(Single Fan)	
Volume (CFM)	5,700
Operating Power (hp)	11.33
Required Power (hp)	11.33
Fan RPM	3840
Max Fan RPM	4117
Oper. Frequency (Hz)	66

Fan Configuration	
Size	16
Arrangement	4
Class	III
Rotation CW Qty	6
Rotation CCW Qty	0
Orientation	Horizontal

Total Array Weights	
Fan (LMD)(lb)	570
Motor/Drive (lb)	1,518
Accessories (lb)	54

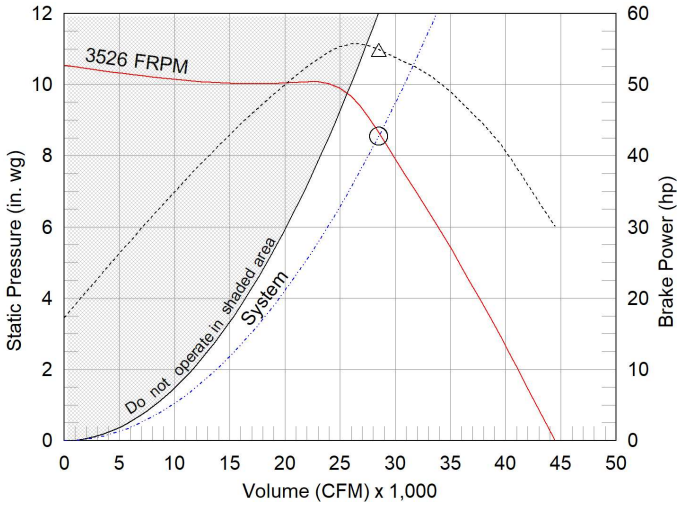
Misc Fan Data	
Fan Energy Index (FEI)	1.17
Outlet Velocity (ft/min)	2,284
Static Efficiency (%)	70
Tip Speed (ft/min)	15,231
Thrust Weight (%)	7.7
Thrust Force (lb)	165
Corner Weight A (lb)	105
Corner Weight B (lb)	105
Corner Weight C (lb)	73
Corner Weight D (lb)	73

Motor and Drives	
Motor	Included
Size (hp)	15
RPM	3500
Enclosure	TEFC
V/C/P	460/60/3
Frame Size	254T
Max Frame Size	256
Location	Centered

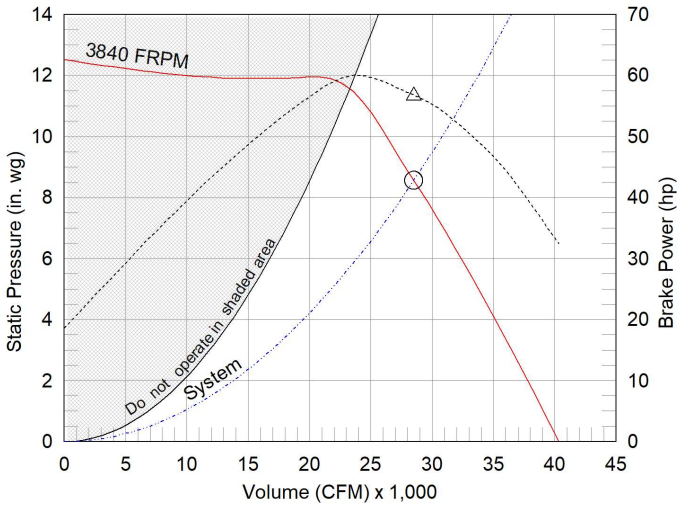
Model: 16-APH-4-85-III-150

Plenum Fan

Operating Performance



Redundancy Performance



Operating performance shown is for fans operating in parallel. For individual fan performance, divide the airflow and power scales by the number of fans.

△ Operating Bhp point
○ Operating point at Total External SP
Fan curve
System curve
Brake horsepower curve

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA
Inlet	93	95	89	91	87	83	81	80	93	81
Outlet	93	93	91	94	93	91	88	85	98	86

LwA - A weighted sound power level, based on ANSI S1.4
dBA - A weighted sound pressure level, based on 11.5 dB attenuation per octave band at 5 ft- dBA levels are not licensed by AMCA International

Sound Power by Octave Band (Array)

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA
Total Inlet	101	102	96	99	95	91	89	87	100	89
Total Outlet	101	101	99	102	101	98	96	93	106	94

Total Array sound is not licensed by AMCA International

Model: 16-APH-4-85-III-150

Plenum Fan

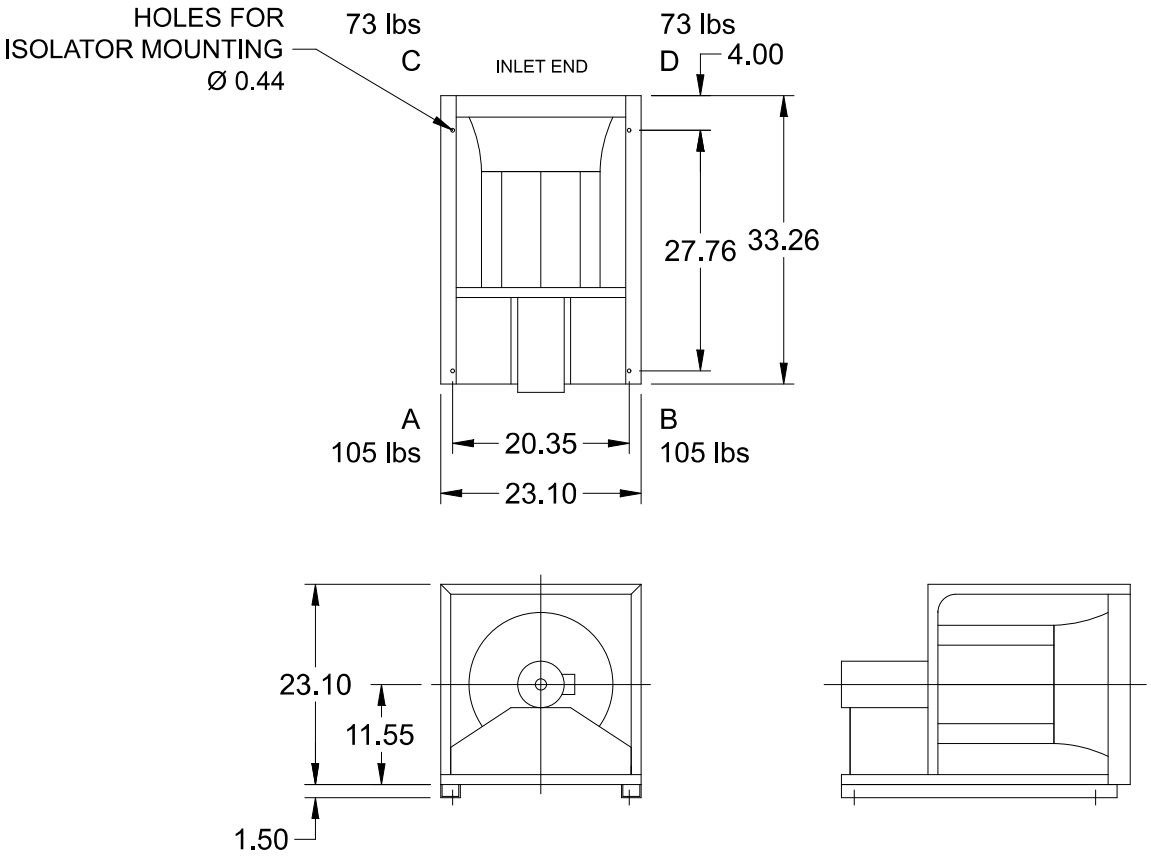
Standard Construction Features:

HOUSING: Heavy gauge, welded steel mounting frame with die formed flanges - Inlet panel is heavy gauge steel with die formed flanges with welded corners - Steel components are phosphatized and coated - Corrosion resistant fasteners BEARINGS, SHAFT, AND WHEEL: Heavy duty, concentric locking, self-aligning ball or roller pillow block bearings - Polished, solid steel shafts - Welded, aluminum centrifugal wheel - 12 bladed construction- Airfoil blade profile

Selected Options & Accessories:

Motor PN - 311916, Baldor Motor Model Number - EM2394T-G
NEMA Premium Efficient Motor - meets NEMA Table 12-12
Motor VFD Rated
Motor with Shaft Grounding
Motor with Minimum 40 Degree C Ambient Temperature
Motor with Class F or Greater Insulation
Fan Class - III
Motor Position - Centered
Coating - Permatector, Concrete Gray-RAL 7023, Mill Finish on Aluminum Components, Mill Finish on Aluminum Wheel
Fan Orientation - Horizontal
Rotation CW Qty - 6, Rotation CCW Qty - 0
Direct Mount Isolators, Isolator-Spring, Free Standing, 1 Inch, Indoor Use Only
Protective Cage - Totally Enclosed, coated w/Safety yellow finish
Sure-Aire Flow Station (No Electronics)
Factory Vibration Test, 0.08 in/sec, peak, filter-in as measured at the fan RPM
Unit Warranty: 1 Yr (Standard)

Model: 16-APH-4-85-III-150 Plenum Fan



ONE WHEEL DIAMETER SPACING REQUIRED BETWEEN FANS FOR CATALOG PERFORMANCE

Notes: All dimensions shown are in units of in.
Drawings are not to scale. Drawings are of standard unit and do not include dimensions for accessories or design modifications.

Heatcraft® heat transfer coils

MODINE

COILCALC FLUID VERIFICATION

Customer		**Date**	11/19/2024 1:29:07 PM
Contact		**By**	Tony Palmatier
Telephone		**Company**	Air Flow Equipment
Email		**Return telephone**	
Project	(140218) UK Ag Building	**Email**	tony@airflowequipment.com

Saved run \ Version#: 2866078 \ 2.1.2405.807

Item/Description OA S1-S4 Pre Cool Coil

CONSTRUCTION DATA

Model		5WL1206B - 42 x 52	Connection material		Red Brass
Coils per bank		4 †	Connection type		MPT
Coil duty		Cool-Standard	Connection rotation		None
Tube OD	[in]	5/8	Connection size	[in]	2.50
Fin spacing	[/in]	12.00	Connection qty		1
Rows		6	Connection end		Same End
Fin surface		B			
Fin height x length	[in]	42.00 x 52.00			
Circuiting		Three Quarter			
Tube material	[in]	0.035 Copper			
Fin material	[in]	0.0095 Aluminum			

THERMODYNAMIC

AIR SIDE			FLUID SIDE		
Face velocity (Standard)	[ft/min]	469.8	Fluid		Water
Air flow (Standard)	[cfm]	28,500	Fouling factor		0
Altitude	[ft]	978.0	Entering fluid temp.	[°F]	55.00
EAT db / wb	[°F]	92.00 / 75.00	Leaving fluid temp.	[°F]	65.00
Fin fouling factor		0			

OPTIONS/SPECIALTIES

Casing material	304L S/S
Casing type	Flanged
Coating	None
Hand	Right
Vent / Drain	.50 MPT Ext./Length of Conn.

RESULTS

CONSTRUCTION †			AIR SIDE		
Weight	[lbs]	423.8	Total / Sensible capacity	[MBH]	1,369 / 920.3
Weight with fluid	[lbs]	532.7	LAT db / wb	[°F]	62.47 / 61.96
Face area	[ft²]	15.17	Air pressure drop (Standard)	[in wg]	0.7679

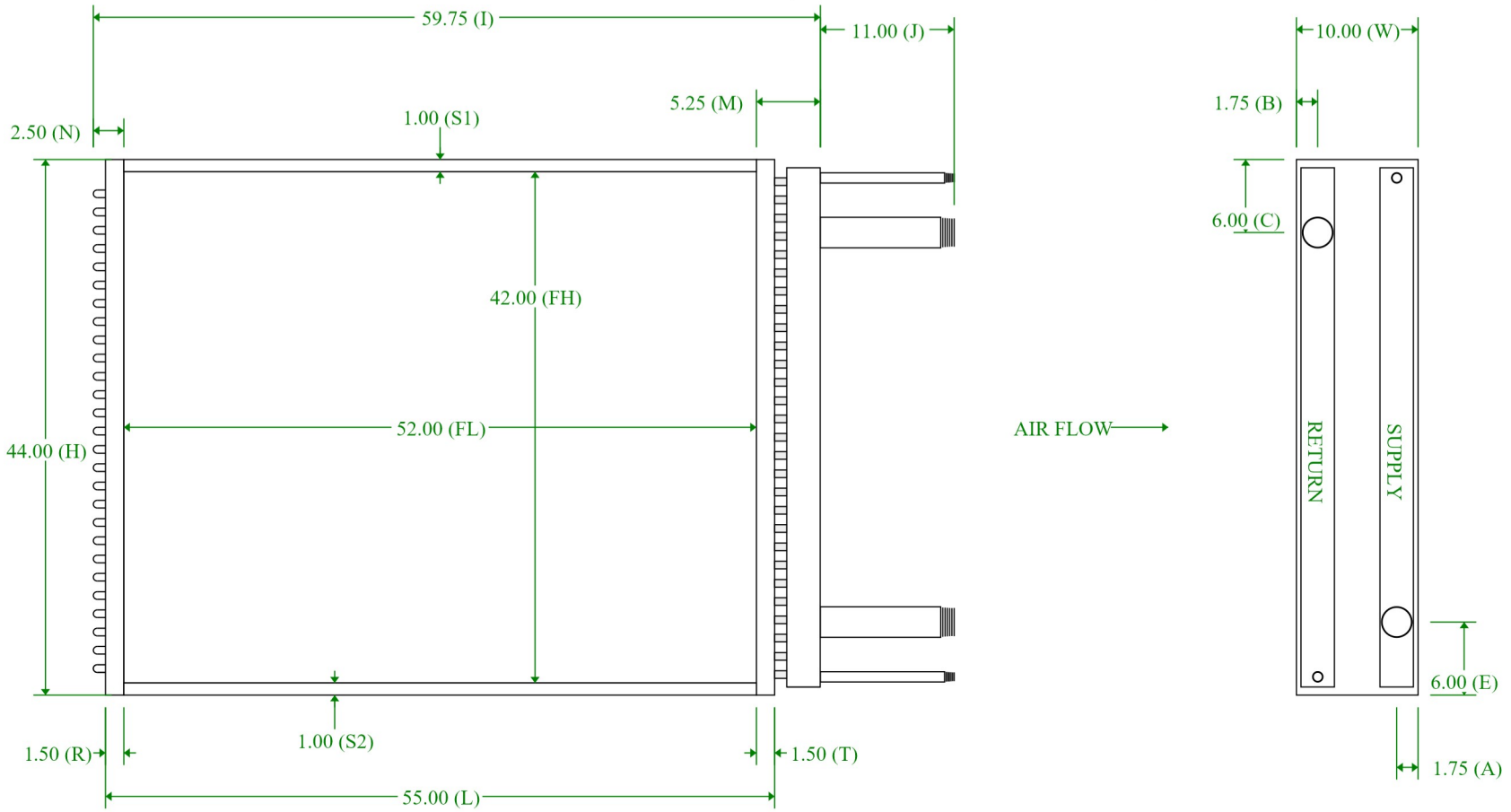
† Construction items are per coil.
All other values are for the bank.

FLUID SIDE		
Fluid pressure drop	[ft H2O]	8.241
Fluid flow rate	[gpm]	273.7
Leaving fluid temp.	[°F]	65.00
Internal volume	[in³]	3,020
Tubeside velocity	[ft/s]	3.919

NOTES FROM CALCULATIONS

A - Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory at www.ahridirectory.org.
L - Coil rating valid for Heatcraft coils only.

USER NOTES



General Notes

1. All dimensions are in inches.
2. Manually verifying dimensions is highly recommended.
3. One intermediate tube support fabricated from stock of the same material as the casing will be provided.
4. The supply line should be connected to the lower connection on the leaving air side for counterflow operation.
5. Coils will vent and drain through factory-installed vent and drain fittings when mounted level for horizontal flow.
6. Connection location other than standard could affect vent and drain locations. Consult factory.

Options

Casing type: Flanged
Fluid: Water
Vent/Drain: .50 MPT Ext./Length of Conn.

Materials of Construction

Tube [in]: 5/8 x 0.035 Copper
Fin [in]: 12 FPI, 0.0095 Aluminum
Rows: 6
Casing material: 304L S/S
Hand: Right
Conn. material: Red Brass
Conn. type: MPT
Conn. qty: 1
Conn. size [in]: 2.50 Same End
Weight [lbs]: 423.8

Heatcraft® heat transfer coils

MODINE

Date:	11-19-2024
Item:	OA S1-S4 Pre Cool Coil
Quantity:	16
Model:	5WL1206B - 42 x 52
Project:	(140218) UK Ag Building
Saved run:	2797480

SUPER RADIATOR COILS

Enterprise Version: 4.5.6.0 © 2024

Customer: Airflow
Project: UK CAFE - AG Research
Item: OA-S1,2,3,4 CWC

Date: 11/21/2024
By: Bruce Michalowski
Units: English

Water Coil | Coil Qty (Coil Bank): 4 | Model: 42x52 - 8R - 0.625/120

Input

Finside Requirements (Coil Bank):

Coil Application:		Cooling
Air Flow:	SCFM	27,000
Capacity:	Btu/Hr.	1,987,707
Entering Air Dry-Bulb:	°F	92.0
Entering Air Wet-Bulb:	°F	75.0
Leaving Air Dry-Bulb:	°F	53.4
Leaving Air Wet-Bulb:	°F	52.5
Air Pressure:	PSIA	14.696
Coil Hand:		Right Hand

Tubeside Requirements (Coil Bank):

Tubeside Fluid:		Water
Total Flow Rate:	GPM	349.0
Entering Fluid Temperature:	°F	44.0

Output

Coil Selection:

Model Number:		42x52 - 8R - 0.625/120
Tube Size:	In.	0.625
Arrangement:		1.5 x 1.299 Staggered
Fin Surface:		Flat
Face Area / Coil:	ft²	15.2
Face Velocity / Coil:	Ft/Min. (STD)	445.1
Number of Circuits:	Qty	27
Tube Velocity / Coil:	Ft/Second/Coil	3.8
Reynolds Number:		13,237
Circuitry Flow:		Thermal Counter Flow
Tube Material:		Copper
Tube Wall:	In.	0.035
Fin Material:		Aluminum
Fin Thickness:	In.	0.0095
Header Material:		Std.Type 'L' Copper
Header OD:	In.	2.625
Connection Material:		Sche.40 Red Brass
Connection NPS:	In.	2.5
Casing Material:		14 Ga. 304 Stainless Steel
Casing Depth:	In.	12.500
Dry Weight:	Lbs./Coil	588
Internal Volume:	ft³	2.14

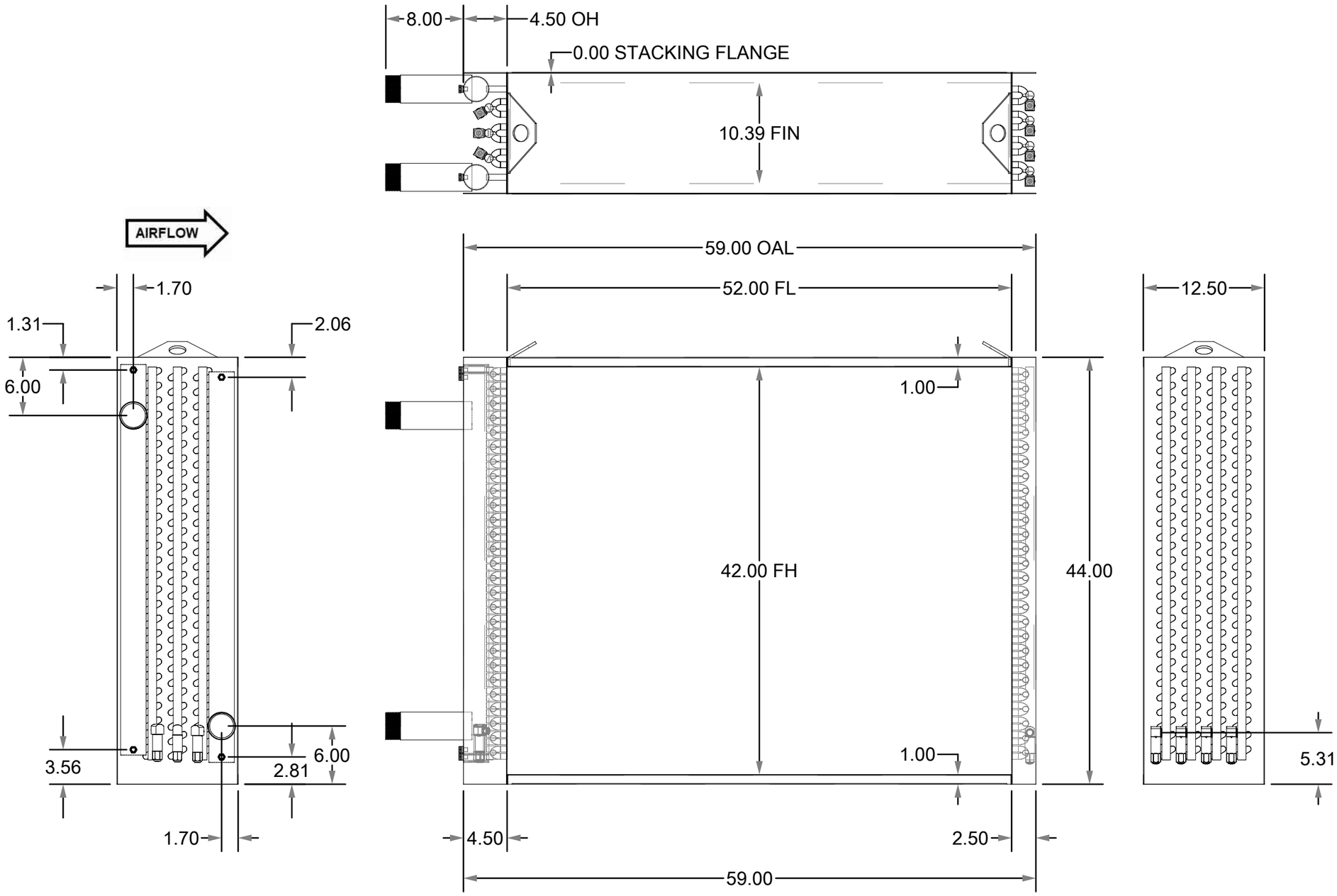
Standard Options:

Lifting Bracket:	Qty	2
Stacking Flange		
Freeze Block Design		
MPT Conn. Red Brass:	Qty	2
Vent and Drain:	Qty	4

Coil Rating

Capacity (Coil Bank):

Total Capacity:	Btu/Hr.	2,023,785
Leaving Air Dry-Bulb:	°F	52.2
Leaving Air Wet-Bulb:	°F	52.0
Total Sensible Capacity:	Btu/Hr.	1,169,197
Air Friction:	In.H2O/Coil	0.65
Surface Condition:		Wet
Leaving Fluid Temperature:	°F	55.6
Fluid Pressure Drop:	Ft.H2O/Coil	8.67



DIE NUMBER	1
FACE TUBES	28
# CIRCUITS	27
PASS / CIRCUIT	7

TUBE MATERIAL

0.625 x 0.035
Copper SMOOTH

FIN MATERIAL

10 FINS PER INCH
0.0095 Aluminum
Flat

CASING MATERIAL

14 GAUGE
304 S.S.

HEADER MATERIAL

TYPE L Copper

HEADER SIZES

SUPPLY: 2.5" NOM
RETURN: 2.5" NOM

CONNECTIONS

SUPPLY: 2.5" NOM
Sch 40 Red Brass
RETURN: 2.5" NOM
Sch 40 Red Brass

DRY WEIGHT

588 Lbs./Coil

INTERNAL VOLUME

16.01 GAL PER COIL

TEST PRESSURE

na

CASING STYLE

STANDARD

COIL QTY	4

FEATURES:
- Lifting Bracket (2)
- Stacking Flange
- MPT Conn. Red Brass (2)
- Vent and Drain (4)

NOTES:
[Circuitry ID: 100060287]

COONEY FREEZE BLOCK POWERED BY

COIL I.D. V10020611

COIL DESCRIPTION	FLUID 42x52 - 8R - 0.625/120
DATE	11/21/2024
CUST. P/N	OA-S1,2,3,4 CWC
CUSTOMER	Airflow
REV	R0

AEROFIN
Heat Transfer Products

Date: 9/30/2024
Job Name: UK Research BLDG 1
System ID: 28K OA

Model No.	Qty. In Face	FL INCH	Total Weight LBS.
VMX-6.0AS-48.4 X 64.0-2-1	2	64.00	1,397

Coil Type: VMX
Totals: 2 1,397

Coil Hand: Unspecified
Tube: 0.625 inch X 0.035 inch Copper Seamless Tubes

TF: 20
Fin Material: Aluminum Star
Thickness: 0.0095 IN.

Row: 2
Csg Material: Standard with Galvanized Casings & Dampers

Fin: 6 / IN
Connection: 2.5" Threaded, Carbon Stl, Extended 12 inches

Circuit: N/A
Hdr Material: Schedule 40 Carbon Stl Header, Silver Brazed Joints

Misc: - Pneumatic Test - Mixing Baffles

Dwg: CA-VMX-1

Performance V

Pressure: 28.89 IN HG Elevation: 965.0 FT

Airflow:	28,500.0	SCFM
System Face Area:	39.1	FT²
Standard Face Velocity:	728.7	FPM
Entering Dry Bulb Temp:	0.0	°F
Leaving Dry Bulb Temp:	55.0	°F
Outside Surface Fouling:	0.0000	HR·FT²·°F/BTU
Sensible Heat Load:	1,690.3	MBH
Total Heat Load:	1,690.3	MBH

Saturated Steam

Steam Press:	15.0	PSIG
Steam Temp:	248.8	°F
Condensate Rate:	1,786.2	LB/HR
Inside Surface Fouling:	0.0000	HR·FT²·°F/BTU

Losses
Air Pressure Drop: 0.30 IN H2O

Comments:

Notes & Warnings:

112 Mixing baffles are selected - coil hand required when ordering.
56 Rated in accordance with AHRI Standard 410.

1-800-AEROFINwww.Aerofin.com 4621 Murray Place, Lynchburg, VA 24502 (434) 528-6242(Fax)

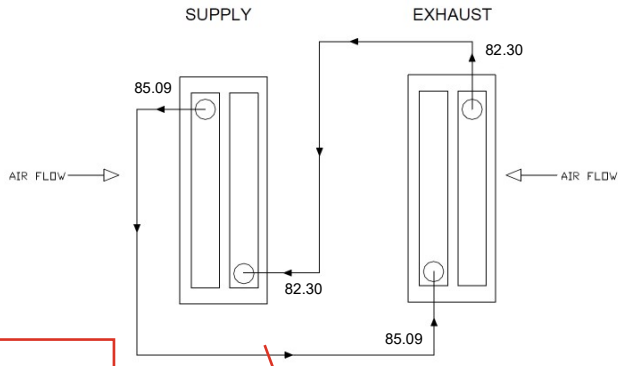
Heatcraft® heat transfer coils

MODINE

COILCALC RUN AROUND

Season: Summer

Item/Description: OA S1-S4 28K HR(81,000)



	Supply	Exhaust
Total / sensible capacity (MBH)	681.4 / 681.4	684.4 / 684.4
Model	5WG1008B	5WD1008B
Coils per bank	12	4
Connections end	Same End	Same End
Tube OD (in)	5/8	5/8
Coil duty	Cool-Standard	Heat-Return Bend
Fins per inch (/in)	10.00	10.00
Rows	8	8
Fin surface	B	B
Fin height x finned length	42.00 x 52.00	39.00 x 160.0
Turbuspirals	NO	NO
Tube material (in)	0.035 Copper	0.035 Copper
Fin material (in)	0.0095 Aluminum	0.0095 Aluminum
Connection qty - size (in)	1 - 2.00	1 - 3.00
Fluid Type	Propylene	Propylene
Percent Glycol (%)	50.00	50.00
Altitude (ft)	980.0	980.0
Air flow rate (cfm)	85,500	85,000
Air flow type	Standard	Standard
Face Velocity (ft/min)	469.8	490.4
Air Pressure Drop (in wg)	0.6733	0.7239
Entering Air Temp. DB / WB (°F)	92.00 / 75.00	75.00 / 0
Leaving Air Temp. DB / WB (°F)	84.71 / N/A	82.42 / 0
Fluid Flow Rate (gpm)	550.0	550.0
Bypass ratio	N/A	N/A
Fluid pressure drop (ft H2O)	10.90	11.92
Entering fluid temp	82.30	85.09
Leaving fluid temp (°F)	85.09	82.30
Delta T fluid	2.792	-2.792
Weight - Dry / w/Fluid (lbs)	515.9 / 657.6	1,393 / 1,757
Casing Material	304L S/S	304L S/S
Casing type	Flanged	Flanged
Coating	None	Corrosion Resistant
Vent/Drain	HalfInchMPTLengthofConn	None
Hand	Right	Left
Notes	A;L	B;E;L

A - Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory at www.ahridirectory.org.

B - Coil is NOT certified by AHRI. Coil is outside the scope of the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program.

E - Rating is an estimate of performance. Actual performance may vary by application.

L - Coil rating valid for Heatcraft coils only.

Heatcraft® heat transfer coils

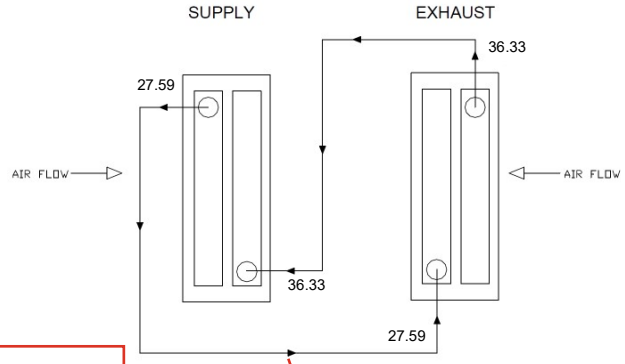
MODINE

COILCALC RUN AROUND

Customer		**Date**	11/19/2024 1:48:49 PM
Contact		**By**	Tony Palmatier
Telephone		**Company**	Air Flow Equipment
Email		**Return telephone**	
Project	(140218) UK Ag Building	**Email**	tony@airflowequipment.com

Season: Winter

Item/Description: OA S1-S4 28K HR(81,000)



	Supply	Exhaust
Total / sensible capacity (MBH)	2,096 / 2,096	2,092 / 2,092
Model	5WG1008B	5WD1008B
Coils per bank	12	4
Connections end	Same End	Same End
Tube OD (in)	5/8	5/8
Coil duty	Heat-Return Bend	Cool-Standard
Fins per inch (/in)	10.00	10.00
Rows	8	8
Fin surface	B	B
Fin height x finned length	42.00 x 52.00	39.00 x 160.0
Turbuspirals	NO	NO
Tube material (in)	0.035 Copper	0.035 Copper
Fin material (in)	0.0095 Aluminum	0.0095 Aluminum
Connection qty - size (in)	1 - 2.00	1 - 3.00
Fluid Type	Propylene	Propylene
Percent Glycol (%)	50.00	50.00
Altitude (ft)	0	980.0
Air flow rate (cfm)	85,500	85,000
Air flow type	Standard	Standard
Face Velocity (ft/min)	469.8	490.4
Air Pressure Drop (in wg)	0.6733	0.7239
Entering Air Temp. DB / WB (°F)	0 / 0	70.00 / 53.00
Leaving Air Temp. DB / WB (°F)	22.61 / N/A	47.50 / 42.55
Fluid Flow Rate (gpm)	550.0	550.0
Bypass ratio	N/A	N/A
Fluid pressure drop (ft H2O)	19.65	19.40
Entering fluid temp	36.33	27.59
Leaving fluid temp (°F)	27.59	36.33
Delta T fluid	-8.738	8.738
Weight - Dry / w/Fluid (lbs)	515.9 / 659.7	1,393 / 1,763
Casing Material	304L S/S	304L S/S
Casing type	Flanged	Flanged
Coating	None	Corrosion Resistant
Vent/Drain	HalfInchMPTLengthofConn	None
Hand	Right	Left
Notes	B;E;L	A;L

A - Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory at www.ahridirectory.org.

B - Coil is NOT certified by AHRI. Coil is outside the scope of the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program.

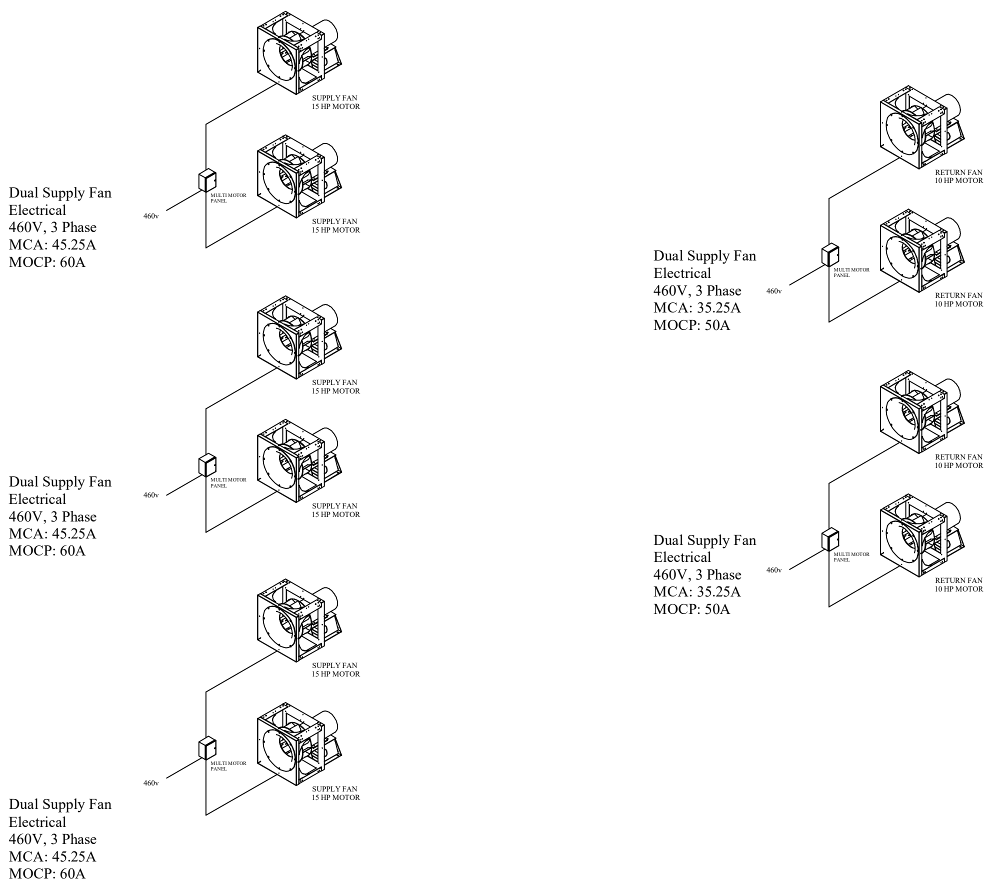
E - Rating is an estimate of performance. Actual performance may vary by application.

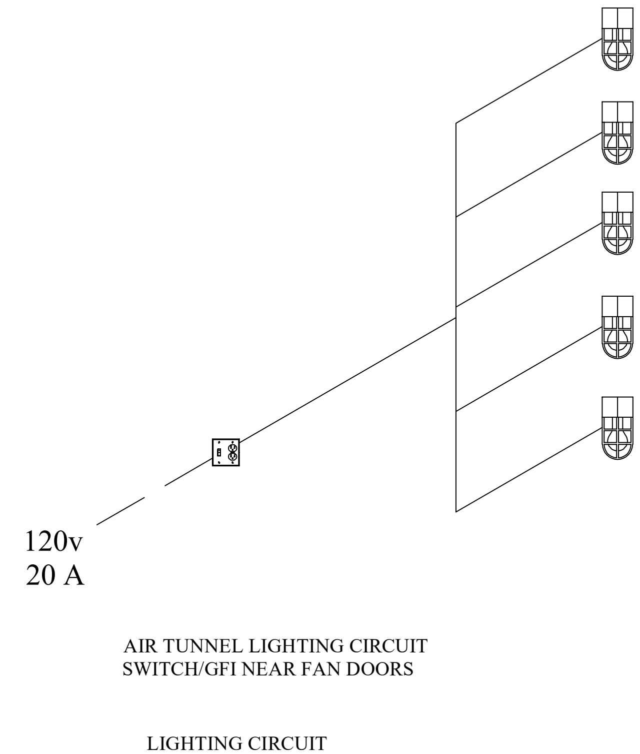
L - Coil rating valid for Heatcraft coils only.

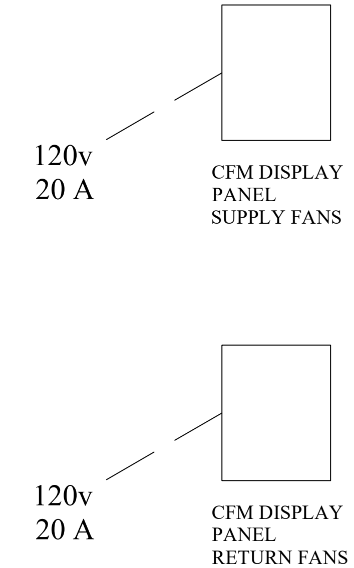
5

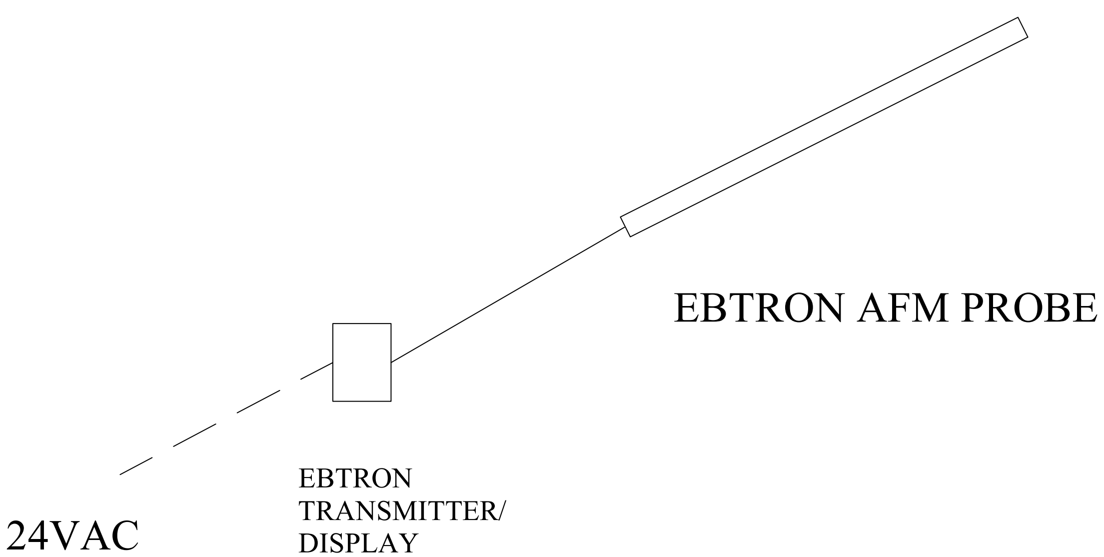
ELECTRICAL

AHU 1 Electrical Schematic









Eelectrical Schematic:

1. Solid lines are wiring provided by AFE
2. Dashed lines are wiring provided by others

AIR FLOW EQUIPMENT, INC.

SUPPLY FAN MMP Panel

REV	DESCRIPTION	DATE	BY
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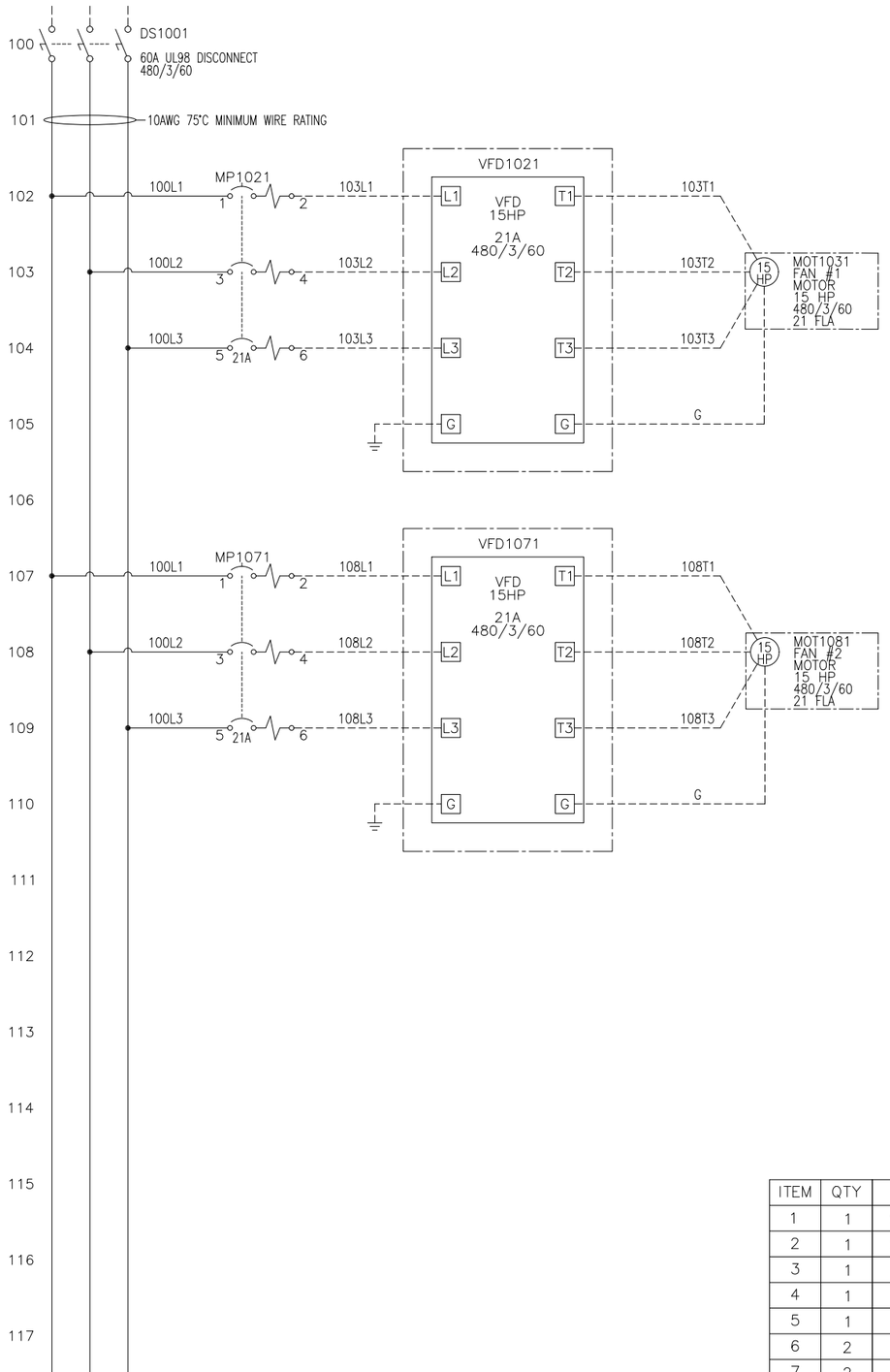
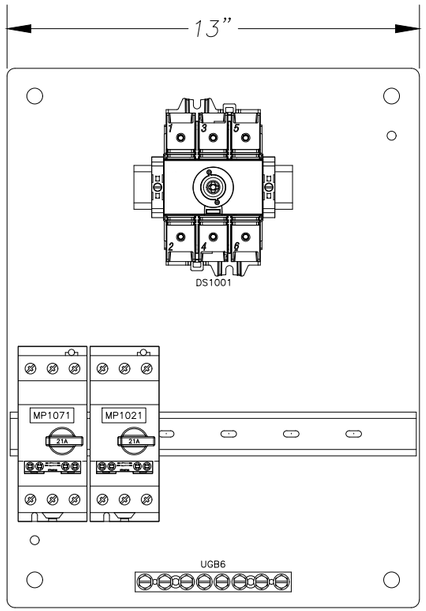
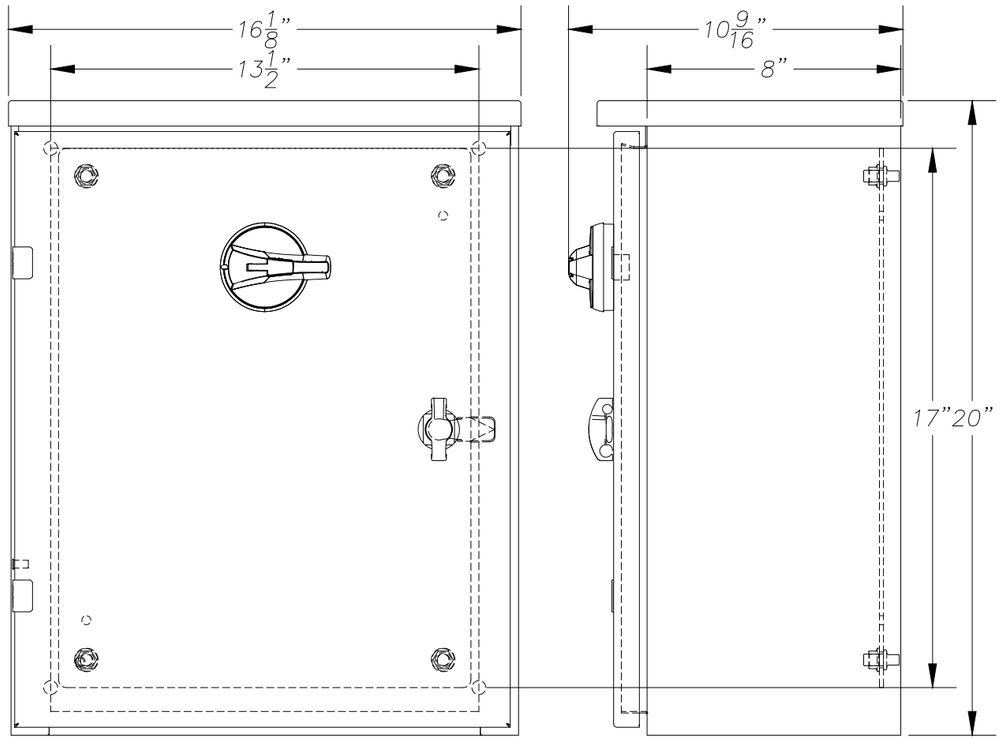






UNIT
AHU–1–SF
AHU–OA–N1
AHU–OA–N2
AHU–OA–N3
AHU–OA–S1
AHU–OA–S2
AHU–OA–S3
AHU–OA–S4

ITEM	QTY	PART #	MANUFACTURE	DESCRIPTION	DESCRIPTOR
1	1	SCE–20R1608LP	SCE	20”x16”x8” NEMA 3R ENCLOSURE	.
2	1	SCE–20P16GALV	SCE	GALVANIZED SUB PANEL	.
3	1	22013006	SOCOMEC	60A UL98 NON–FUSIBLE DISCONNECT	DS1001
4	1	14070520	SOCOMEC	200mm 5x5 DISCONNECT SHAFT	DS1001
5	1	14831111	SOCOMEC	ROTARY HANDLE, S0, TYPE 3R/12, BLUE/BLACK	DS1001
6	2	XTPR025DC1	EATON	16–25A MOTOR PROTECTOR, D FRAME	MP1021,1071
7	2	XTPAXFA11	EATON	1 NO/ 1 NC FRONT MOUNT AUX CONTACT BLOCK	MP1021,1071
8	2	0800886	PHOENIX	SCREW ON END STOP	.
9	1.5’	0801733	PHOENIX	35mm DIN RAIL	.
10	1	UGB2/0–414–6	PANDUIT	UNIVERSAL GROUND BAR (#4–14) 6 POINT	UGB6
11					

VOLTAGE:	480 VOLT
PHASE & FREQ.:	3PH., 60HZ
FULL LOAD CURRENT:	42 AMP
S.C.C.R.:	65k AMP
ENCLOSURE RATING:	TYPE 3R
SCHEMATIC:	AF–UK–CAFE–15HP–MMP
MFG. BY:	JP Motors and Drives

JP MOTORS
JP MOTORS & DRIVES
7870 S. SPRINKLE ROAD, PORTAGE, MICHIGAN 49002
PHONE (269) 321–0070 FAX (269) 321–0072

DATE 11/19/2024	JOB NO. AF–UK–CAFE–15HP–MMP	DRAWN CB	
SCALE N/A		BOM = 1	DWG = 1

TITLE

MOTOR WIRING DIAGRAM

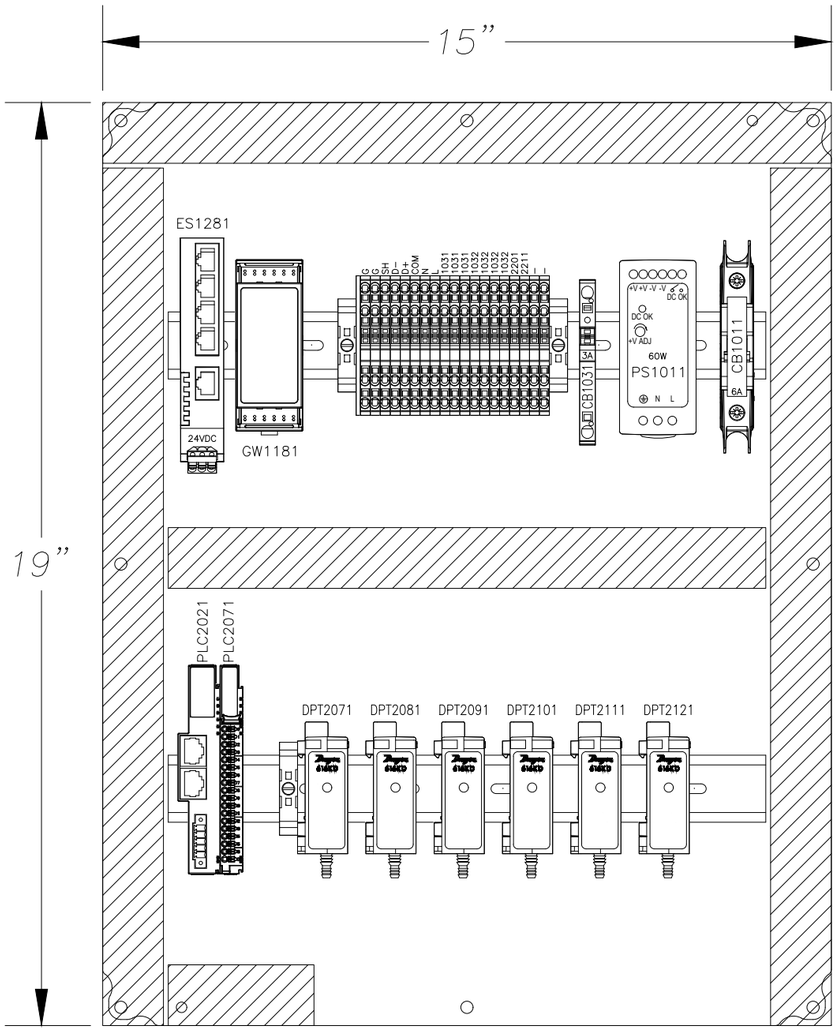
FAN MULTI – MOTOR PANEL

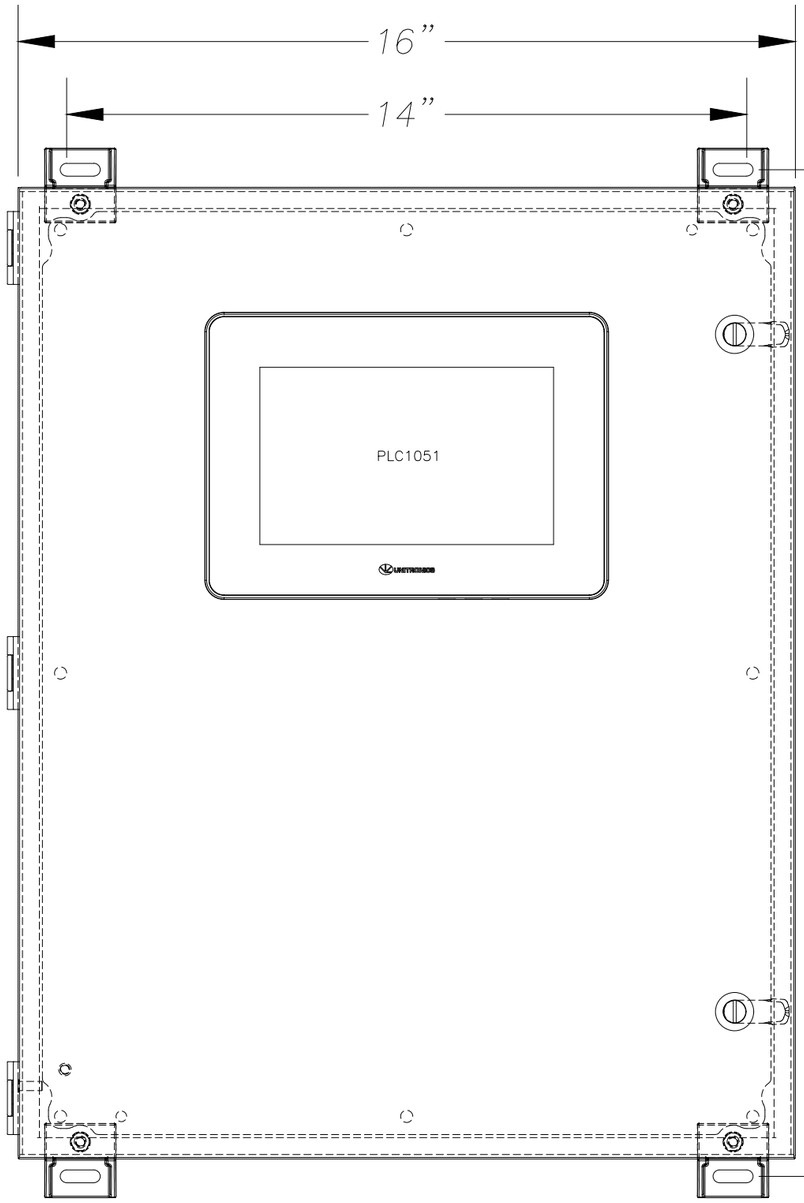
CUST. AIR FLOW EQUIPMENT

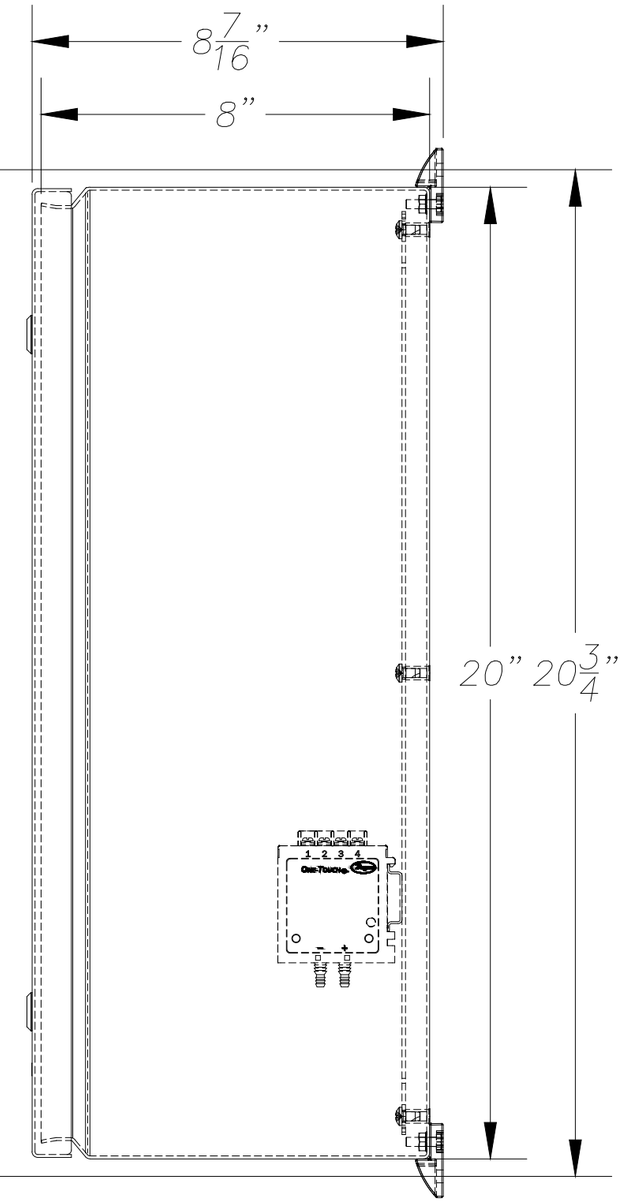
SHEET	OF	DWG. NO.	REV.
1	1	AF–UK–CAFE–15HP–MMP	.

REV	DESCRIPTION	DATE	BY
.	.	.	.

SUPPLY FAN CFM DISPLAY PANEL







VOLTAGE:	120 VOLT
FULL LOAD CURRENT:	3 AMP
S.C.C.R.:	N/A
ENCLOSURE RATING:	TYPE 4
SCHEMATIC:	AF-UK-CAFE-CFM-SF
MFG. BY:	JP Motors and Drives

JP MOTORS
JP MOTORS & DRIVES
7870 S. SPRINKLE ROAD, PORTAGE, MICHIGAN 49002
PHONE (269) 321-0070 FAX (269) 321-0072

DATE 11/19/2024	JOB NO. AF-UK-CAFE-CFM-SF	DRAWN CB	
SCALE N/A		BOM = 1	DWG = 1

TITLE

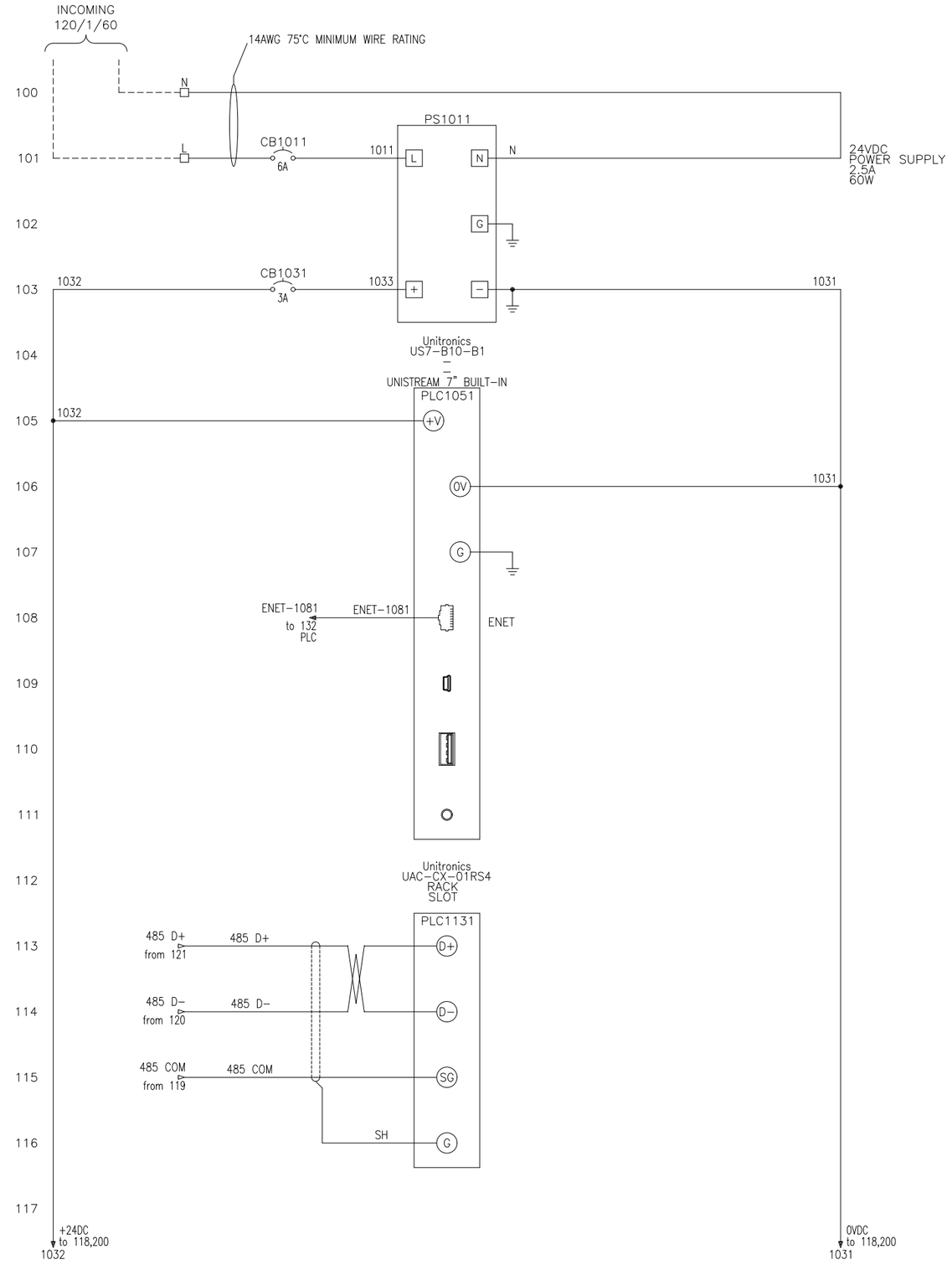
PANEL LAYOUT

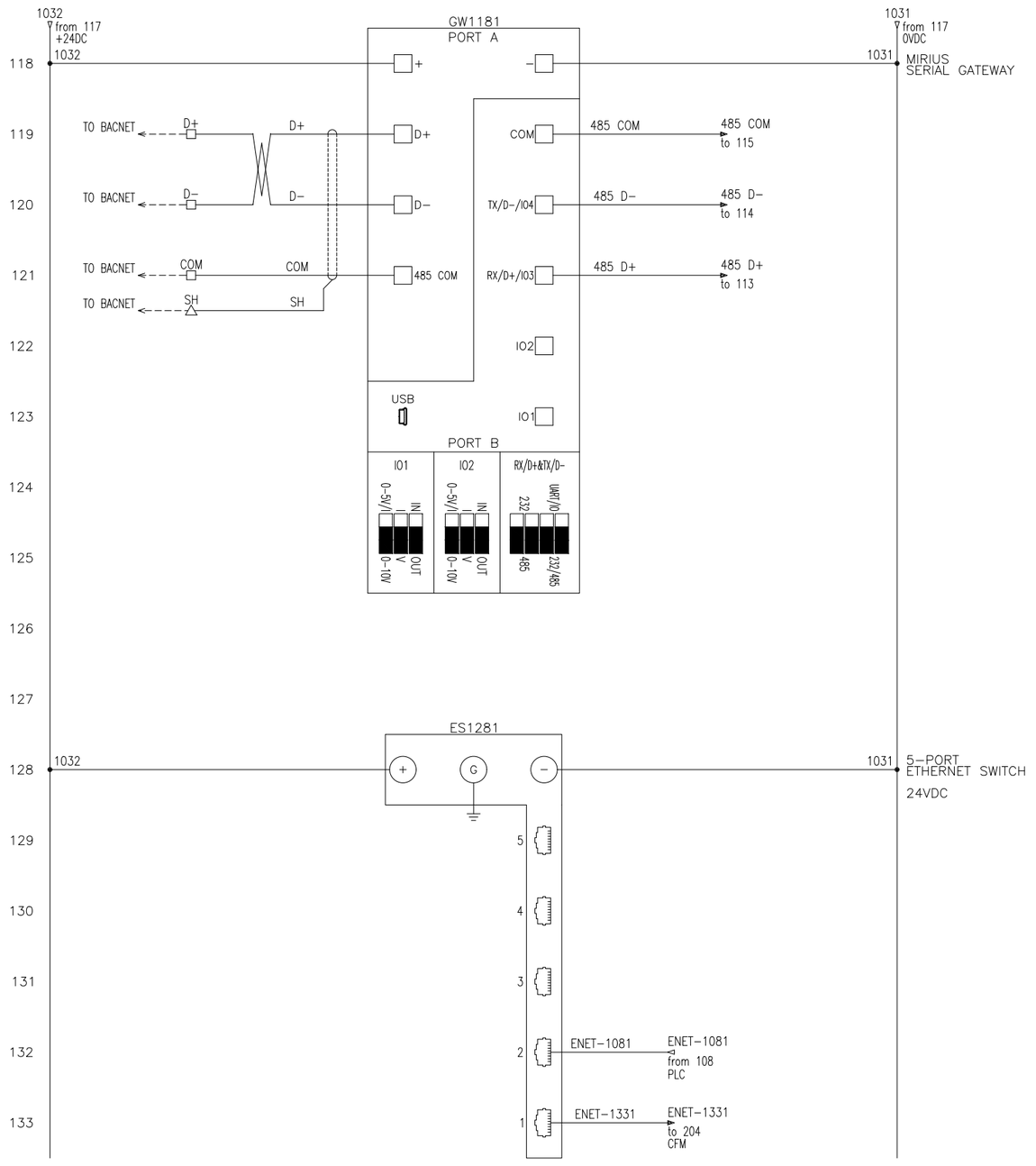
NEMA 4/12 – FAN CFM PANEL

CUST. AIR FLOW EQUIPMENT

SHEET	OF	DWG. NO.	REV.
4	5	AF-UK-CAFE-CFM-SF	.

REV	DESCRIPTION	DATE	BY
.	.	.	.





JP MOTORS	JP MOTORS & DRIVES 7870 S. SPRINKLE ROAD, PORTAGE, MICHIGAN 49002 PHONE (269) 321−0070 FAX (269) 321−0072		
DATE 11/19/2024	JOB NO. AF−UK−CAFE−CFM−SF	DRAWN	CB
SCALE N/A		BOM = 1	DWG = 1

TITLE

24VDC WIRING DIAGRAM

NEMA 4/12 − FAN CFM PANEL

CUST. AIR FLOW EQUIPMENT

SHEET	OF	DWG. NO.	REV.
1	5	AF−UK−CAFE−CFM−SF	.

REV	DESCRIPTION	DATE	BY
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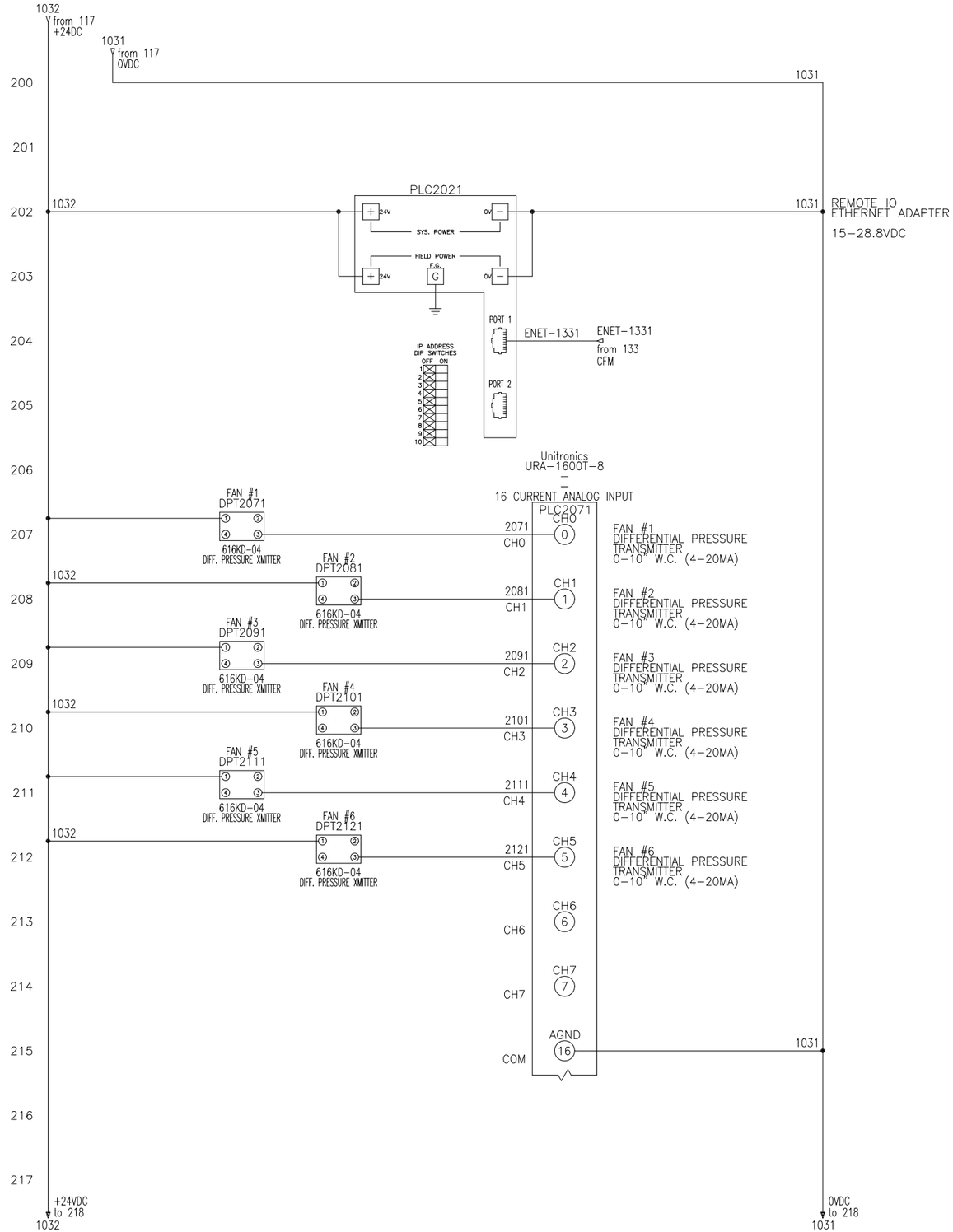

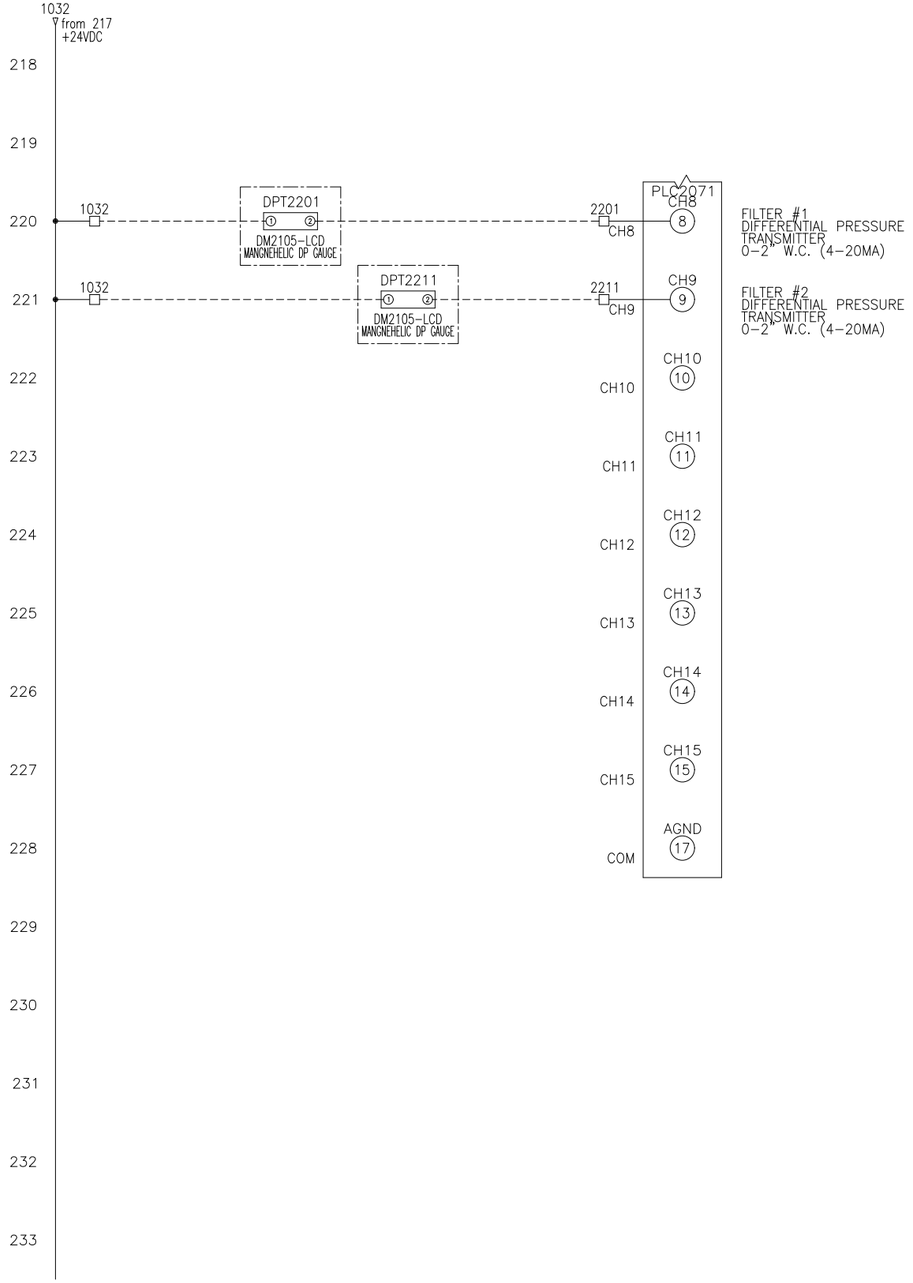

JP MOTORS

JP MOTORS & DRIVES
7870 S. SPRINKLE ROAD, PORTAGE, MICHIGAN 49002
PHONE (269) 321–0070 FAX (269) 321–0072

DATE 11/19/2024	JOB NO. AF–UK–CAFE–CFM–SF	DRAWN CB	
SCALE N/A		BOM = 1	DWG = 1

TITLE

24VDC WIRING DIAGRAM

NEMA 4/12 – FAN CFM PANEL

CUST. AIR FLOW EQUIPMENT

SHEET 2 OF 5	DWG. NO. AF–UK–CAFE–CFM–SF	REV. .

REV	DESCRIPTION	DATE	BY
.	.	.	.

ITEM	QTY	PART #	MANUFACTURE	DESCRIPTION	DESCRIPTOR
1	1	SCE-20168ELJ	SCE	20"x16"x8" NEMA 4/12 ENCLOSURE	.
2	1	SCE-20P16JGALV	SCE	GALVANIZED SUB PANEL	.
3	1	1489-M1C060	AB	1P 6A UL489 CIRCUIT BREAKER, C-CURVE	CB1011
4	1	MDR-60-24	MEANWELL	60W 24VDC POWER SUPPLY, 100-240V INPUT	PS1011
5	1	3212166	PHOENIX	8.2mm PUSH IN TERMINAL, MINI CB	CB1031
6	1	0712233	PHOENIX	3A UL1077 SUPPLEMENTARY PROTECTOR, PLUG IN	CB1031
7	1	US7-B10-B1	UNITRONICS	UNISTREAM 7" HMI+PLC	PLC1051
8	1	UAC-CX-01RS4	UNITRONICS	RS485 MODULE	PLC1131
9	1	MIRIUS	ICC	SERIAL GATEWAY	GW1181
10	1	1085039	PHOENIX	5 PORT UNMANAGED ETHERNET SWITCH	ES1281
11	1	C5EMBS-7-BLU	FIRE	7' SHIELDED CAT5E ETHERNET CABLE	ENET-1081
12	1	C5EMBS-1-BLU	FIRE	1' SHIELDED CAT5E ETHERNET CABLE	ENET-1331
13	1	URB-TCP2	UNITRONICS	UNISTREAM REMOTE IO ETHERNET ADAPTER, 6 MODULES	PLC2021
14	1	URA-1600T-8	UNITRONICS	UNISTREAM REMOTE IO 16 ANALOG CURRENT INPUT MODULE 16BIT	PLC2071
15	6	616KD-04	DWYER	(0-10" W.C.) 4-20mA DIFFERENTIAL PRESSURE TRANSMITTER (BY OTHERS)	DPT2071-2121
16	16	3209578	PHOENIX	5.2mm 4-WIRE PUSH IN TERMINAL	.
17	3	3209594	PHOENIX	5.2mm 4-WIRE PUSH IN GROUND TERMINAL	.
18	1	3030514	PHOENIX	END PLATE FOR 5.2mm 4-WIRE PUSH IN TERMINAL	.
19	3	0800886	PHOENIX	SCREW ON END STOP	.
20	6.5'	F1X2LG6	PANDUIT	1"x2" WIREWAY	.
21	6.5'	C1LG6	PANDUIT	1" WIREWAY COVER	.
22	3'	0801733	PHOENIX	35mm DIN RAIL	.
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ITEM	QTY	PART #	MANUFACTURE	DESCRIPTION	DESCRIPTOR
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JP MOTORS
JP MOTORS & DRIVES
7870 S. SPRINKLE ROAD, PORTAGE, MICHIGAN 49002
PHONE (269) 321-0070 FAX (269) 321-0072

DATE	11/19/2024	JOB NO.	AF-UK-CAFE-CFM-SF	DRAWN	CB
SCALE	N/A			BOM = 1	DWG = 1

TITLE

BILL OF MATERIALS

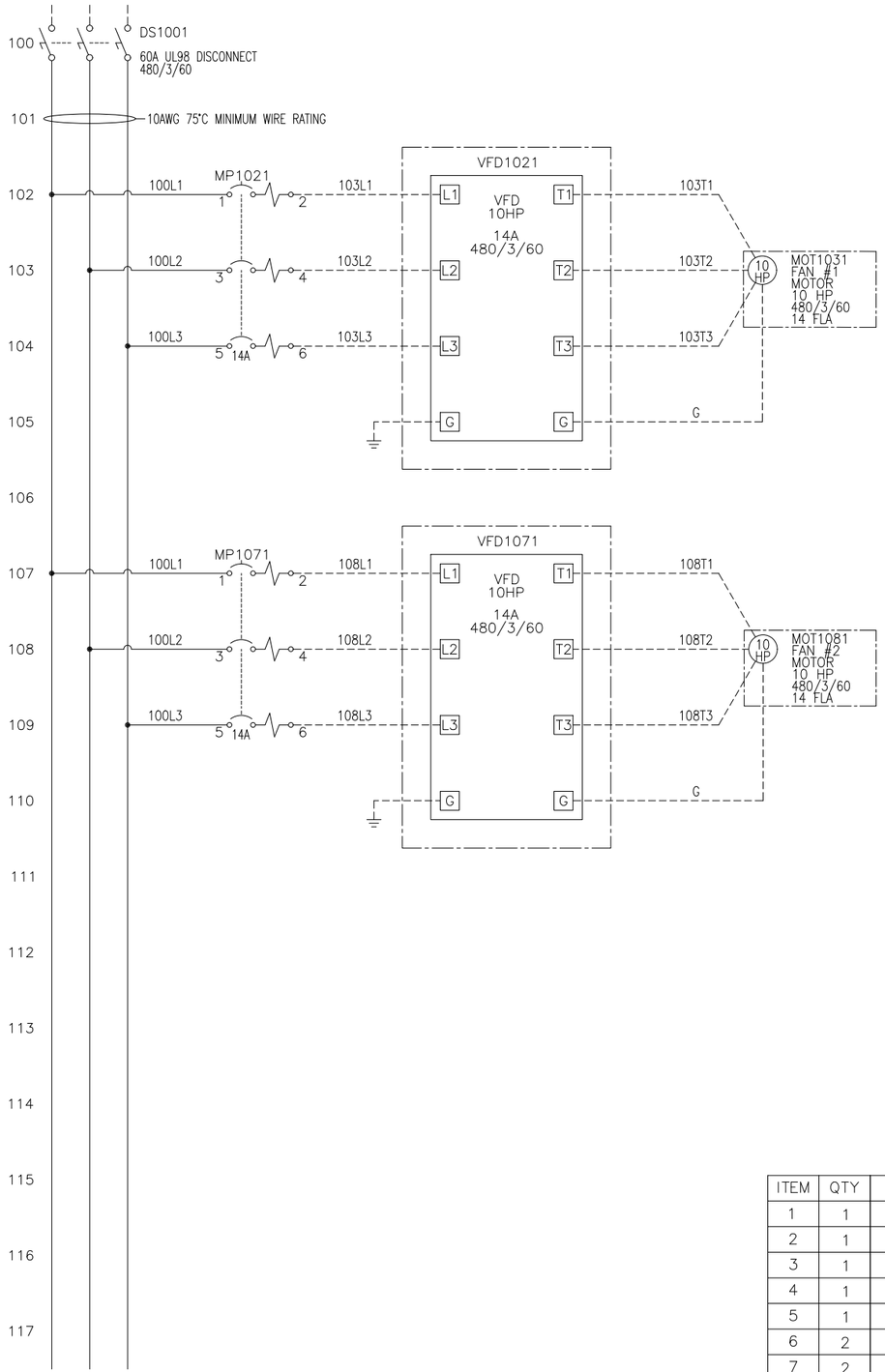
NEMA 4/12 - FAN CFM PANEL

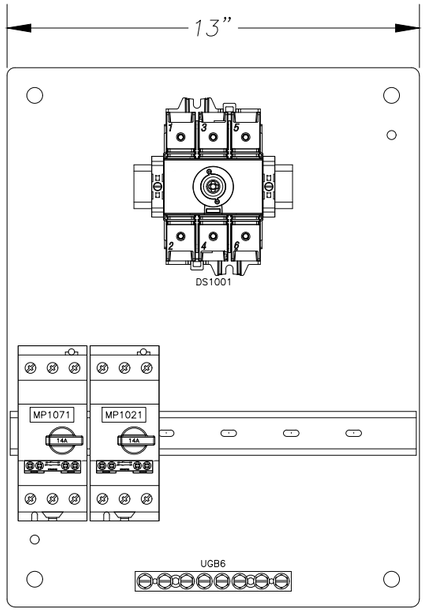
CUST. AIR FLOW EQUIPMENT

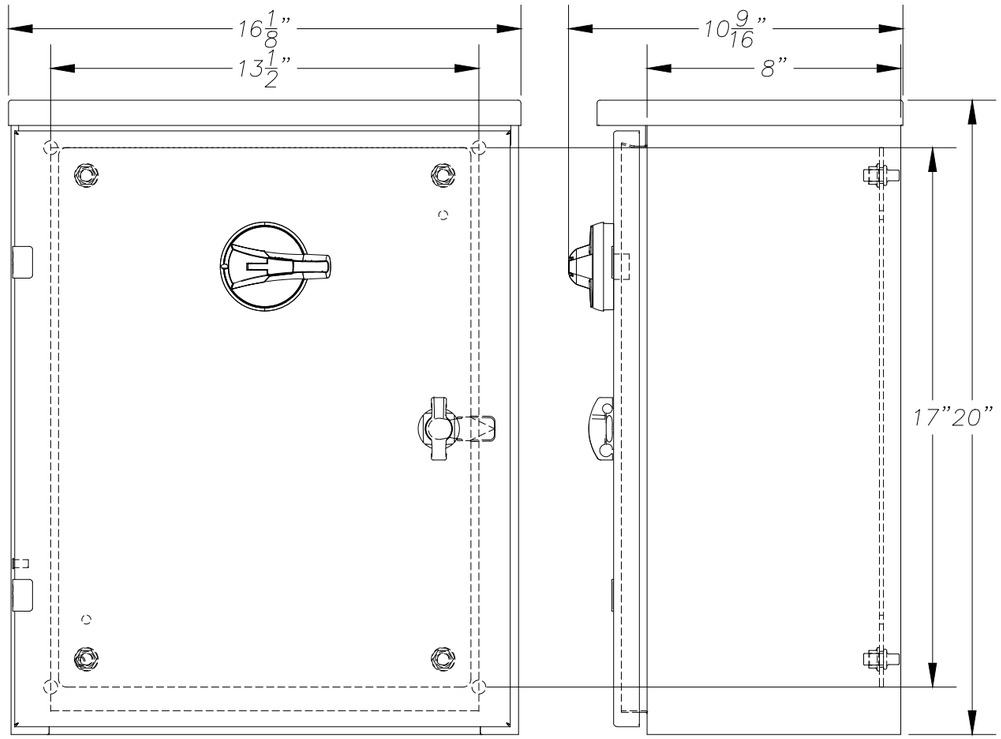
SHEET	OF	DWG. NO.	REV.
5	5	AF-UK-CAFE-CFM-SF	.

REV	DESCRIPTION	DATE	BY
.	.	.	.

RETURN FAN MMP Panel







UNIT
AHU–1–RF

VOLTAGE:	480 VOLT
PHASE & FREQ.:	3PH., 60HZ
FULL LOAD CURRENT:	28 AMP
S.C.C.R.:	65k AMP
ENCLOSURE RATING:	TYPE 3R
SCHEMATIC:	AF–UK–CAFE–10HP–MPP
MFG. BY:	JP Motors and Drives

ITEM	QTY	PART #	MANUFACTURE	DESCRIPTION	DESCRIPTOR
1	1	SCE–20R1608LP	SCE	20”x16”x8” NEMA 3R ENCLOSURE	.
2	1	SCE–20P16GALV	SCE	GALVANIZED SUB PANEL	.
3	1	22013006	SOCOMEC	60A UL98 NON–FUSIBLE DISCONNECT	DS1001
4	1	14070520	SOCOMEC	200mm 5x5 DISCONNECT SHAFT	DS1001
5	1	14831111	SOCOMEC	ROTARY HANDLE, S0, TYPE 3R/12, BLUE/BLACK	DS1001
6	2	XTPR016DC1	EATON	10–16A MOTOR PROTECTOR, D FRAME	MP1021,1071
7	2	XTPAXFA11	EATON	1 NO/ 1 NC FRONT MOUNT AUX CONTACT BLOCK	MP1021,1071
8	2	0800886	PHOENIX	SCREW ON END STOP	.
9	1.5’	0801733	PHOENIX	35mm DIN RAIL	.
10	1	UGB2/0–414–6	PANDUIT	UNIVERSAL GROUND BAR (#4–14) 6 POINT	UGB6
11					

JP MOTORS
JP MOTORS & DRIVES
7870 S. SPRINKLE ROAD, PORTAGE, MICHIGAN 49002
PHONE (269) 321–0070 FAX (269) 321–0072

DATE 11/21/2024	JOB NO. AF–UK–CAFE–10HP–MMP	DRAWN CB	
SCALE N/A		BOM = 1	DWG = 1

TITLE

MOTOR WIRING DIAGRAM

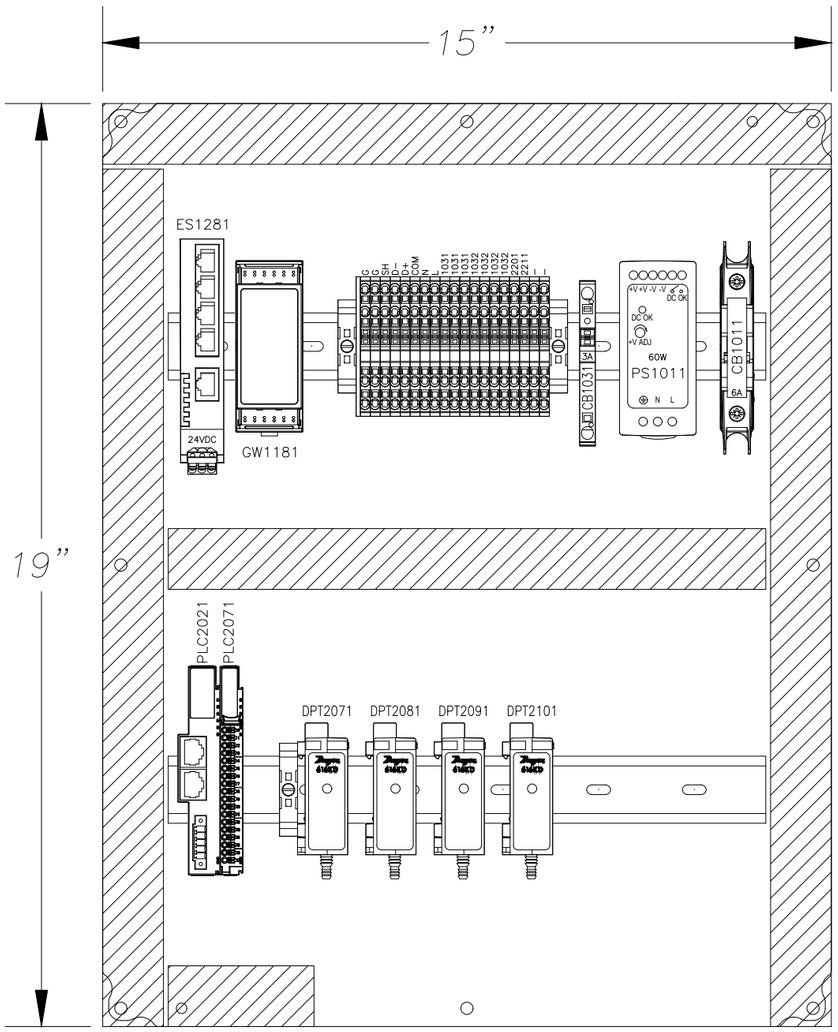
FAN MULTI – MOTOR PANEL

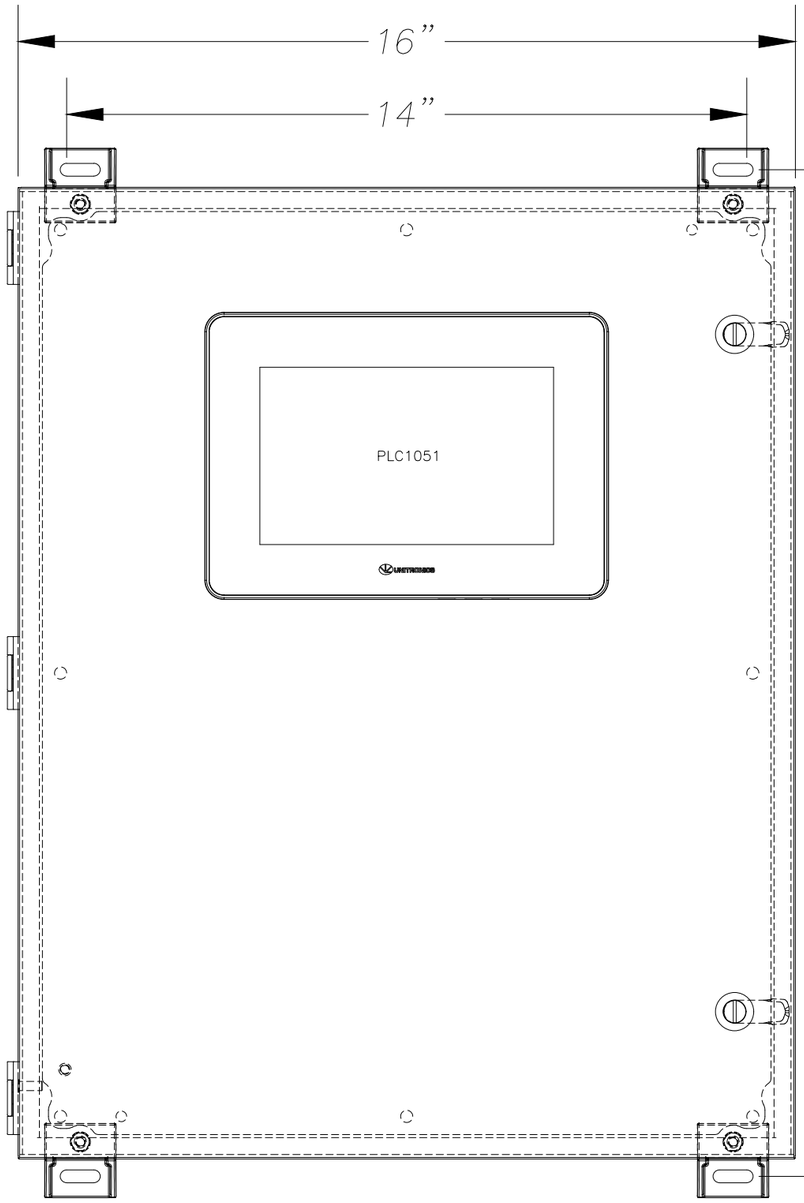
CUST. AIR FLOW EQUIPMENT

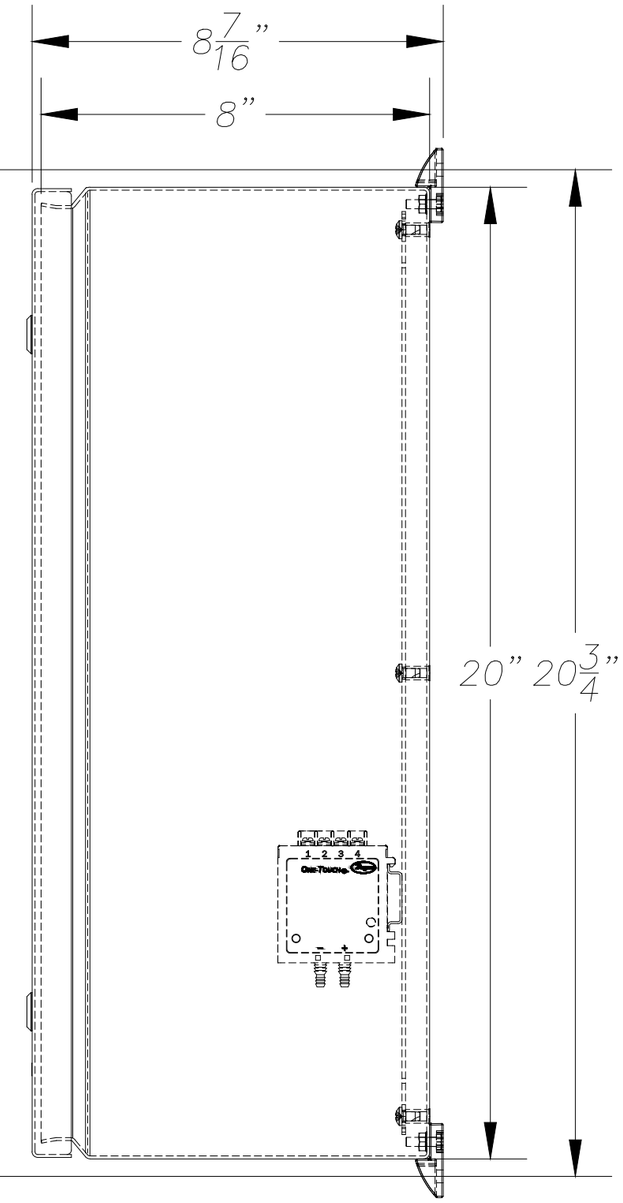
SHEET	OF	DWG. NO.	REV.
1	1	AF–UK–CAFE–10HP–MMP	.

REV	DESCRIPTION	DATE	BY
.	.	.	.

RETURN FAN CFM DISPLAY PANEL







VOLTAGE:	120 VOLT
FULL LOAD CURRENT:	3 AMP
S.C.C.R.:	N/A
ENCLOSURE RATING:	TYPE 4
SCHEMATIC:	AF-UK-CAFE-CFM-RF
MFG. BY:	JP Motors and Drives

JP MOTORS
JP MOTORS & DRIVES
7870 S. SPRINKLE ROAD, PORTAGE, MICHIGAN 49002
PHONE (269) 321-0070 FAX (269) 321-0072

DATE 11/19/2024	JOB NO. AF-UK-CAFE-CFM-RF	DRAWN	CB
SCALE N/A		BOM = 1	DWG = 1

TITLE

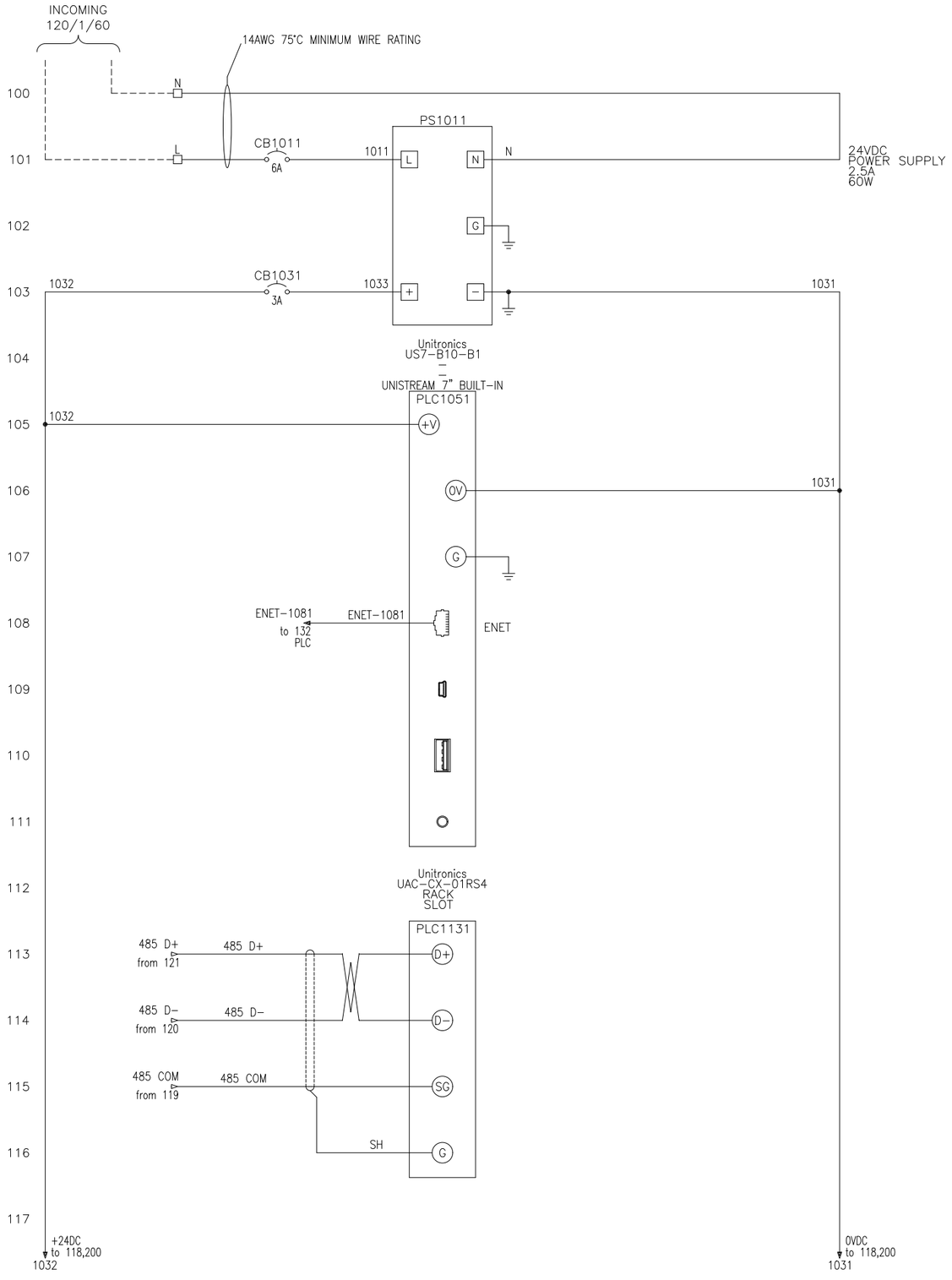
PANEL LAYOUT

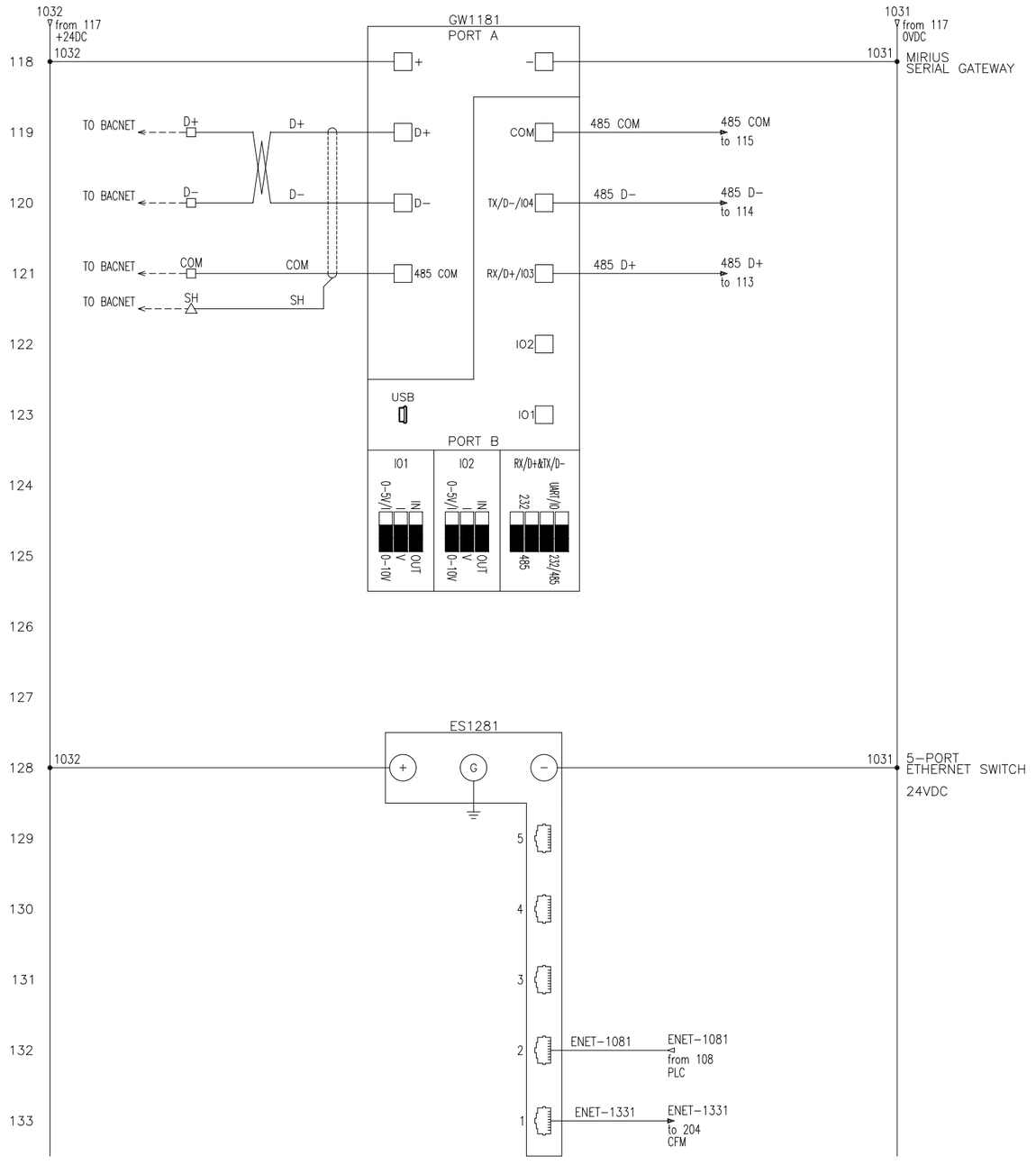
NEMA 4/12 – FAN CFM PANEL

CUST. AIR FLOW EQUIPMENT

SHEET	OF	DWG. NO.	REV.
4	5	AF-UK-CAFE-CFM-RF	.

REV	DESCRIPTION	DATE	BY
.	.	.	.





JP MOTORS	JP MOTORS & DRIVES 7870 S. SPRINKLE ROAD, PORTAGE, MICHIGAN 49002 PHONE (269) 321−0070 FAX (269) 321−0072		
DATE 11/19/2024	JOB NO. AF−UK−CAFE−CFM−RF	DRAWN CB	
SCALE N/A		BOM = 1	DWG = 1

TITLE

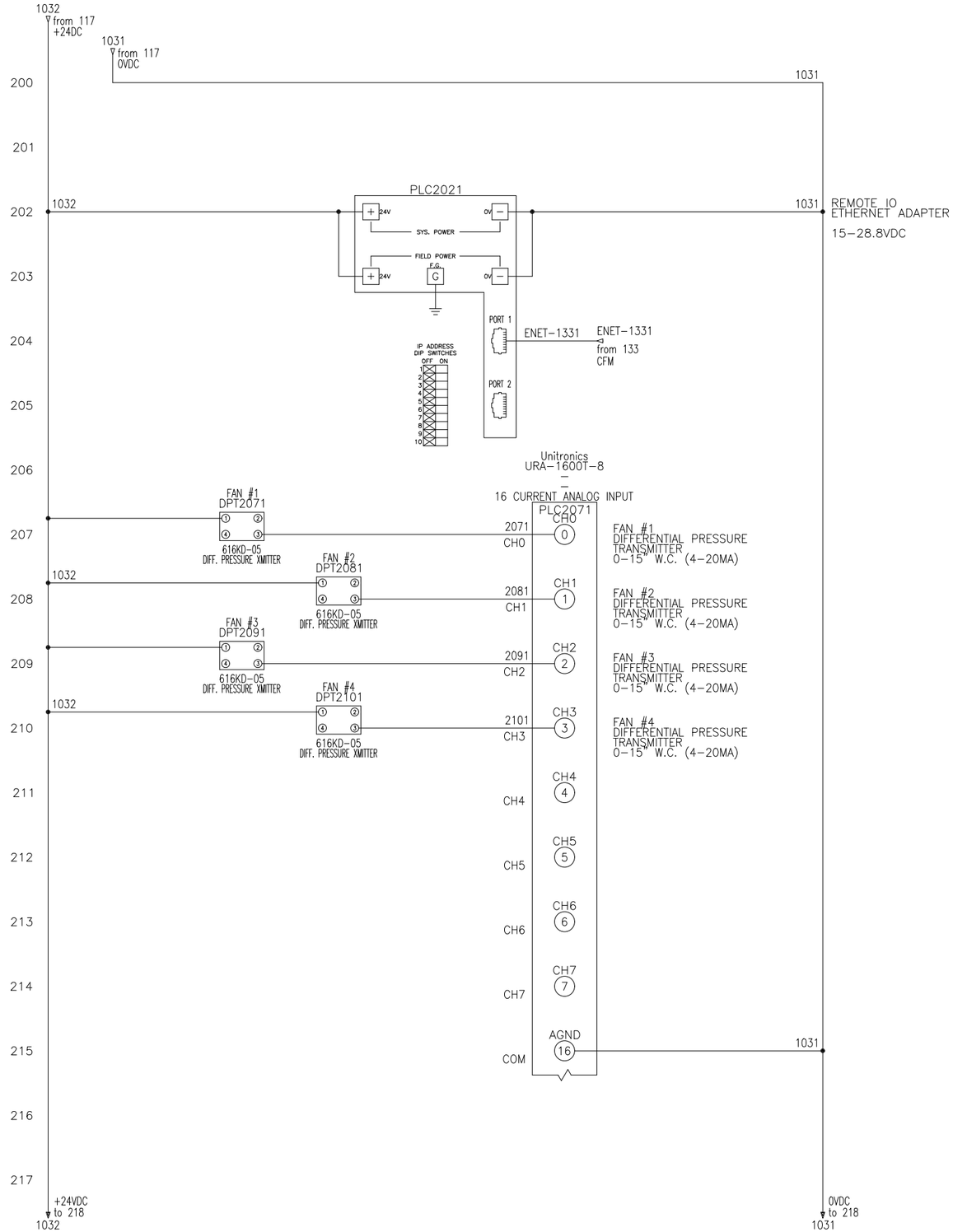
24VDC WIRING DIAGRAM

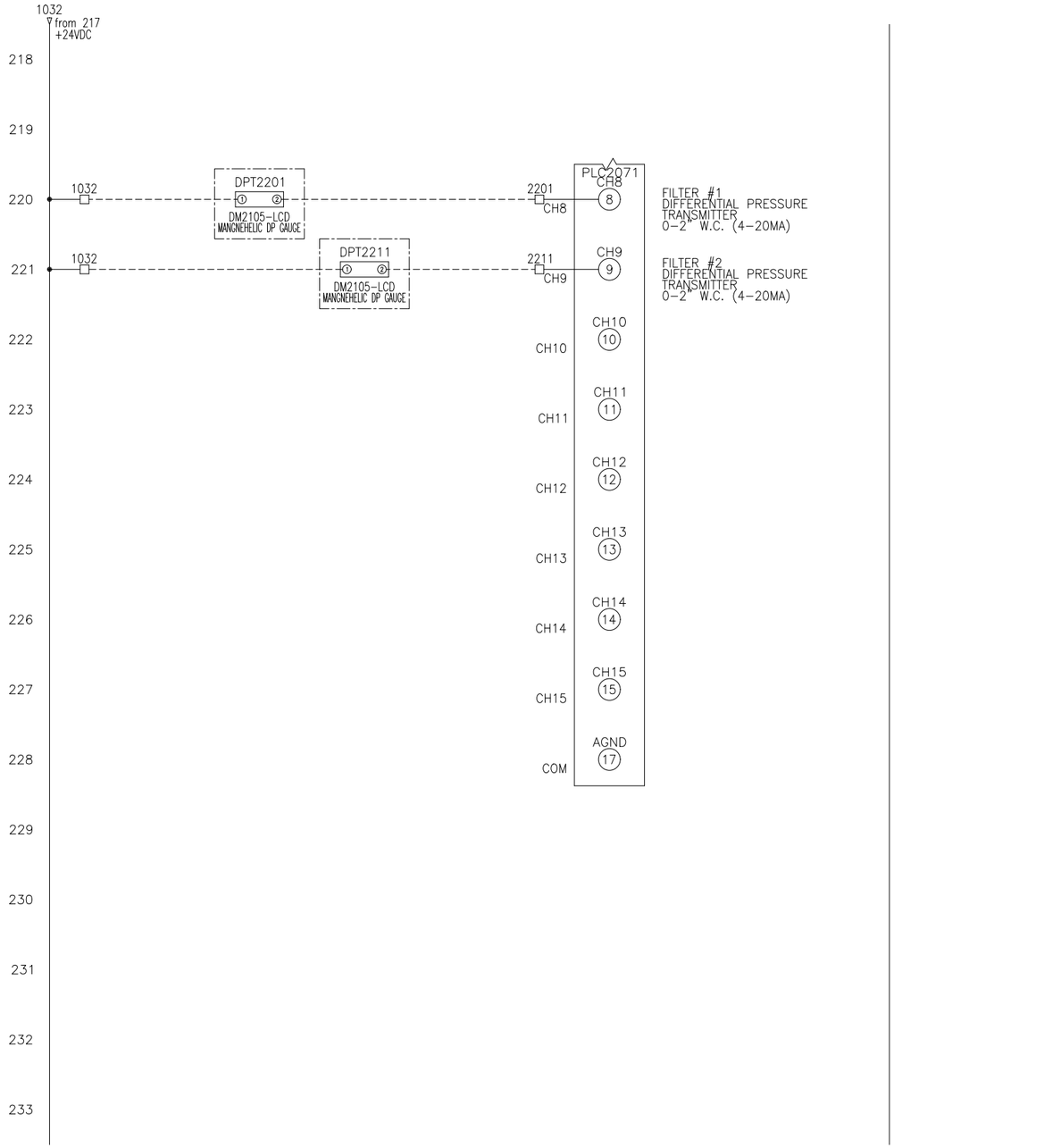
NEMA 4/12 − FAN CFM PANEL

CUST. AIR FLOW EQUIPMENT

SHEET 1 OF 5	DWG. NO. AF−UK−CAFE−CFM−RF	REV. .

REV	DESCRIPTION	DATE	BY
.	.	.	.





JP MOTORS

JP MOTORS & DRIVES
7870 S. SPRINKLE ROAD, PORTAGE, MICHIGAN 49002
PHONE (269) 321−0070 FAX (269) 321−0072

DATE 11/19/2024	JOB NO. AF−UK−CAFE−CFM−RF	DRAWN CB	
SCALE N/A		BOM = 1	DWG = 1

TITLE

24VDC WIRING DIAGRAM

NEMA 4/12 − FAN CFM PANEL

CUST. AIR FLOW EQUIPMENT

SHEET 2 OF 5	DWG. NO. AF−UK−CAFE−CFM−RF	REV. .

REV	DESCRIPTION	DATE	BY
.	.	.	.

ITEM	QTY	PART #	MANUFACTURE	DESCRIPTION	DESCRIPTOR
1	1	SCE-20168ELJ	SCE	20"x16"x8" NEMA 4/12 ENCLOSURE	.
2	1	SCE-20P16JGALV	SCE	GALVANIZED SUB PANEL	.
3	1	1489-M1C060	AB	1P 6A UL489 CIRCUIT BREAKER, C-CURVE	CB1011
4	1	MDR-60-24	MEANWELL	60W 24VDC POWER SUPPLY, 100-240V INPUT	PS1011
5	1	3212166	PHOENIX	8.2mm PUSH IN TERMINAL, MINI CB	CB1031
6	1	0712233	PHOENIX	3A UL1077 SUPPLEMENTARY PROTECTOR, PLUG IN	CB1031
7	1	US7-B10-B1	UNITRONICS	UNISTREAM 7" HMI+PLC	PLC1051
8	1	UAC-CX-01RS4	UNITRONICS	RS485 MODULE	PLC1131
9	1	MIRIUS	ICC	SERIAL GATEWAY	GW1181
10	1	1085039	PHOENIX	5 PORT UNMANAGED ETHERNET SWITCH	ES1281
11	1	C5EMBS-7-BLU	FIRE	7' SHIELDED CAT5E ETHERNET CABLE	ENET-1081
12	1	C5EMBS-1-BLU	FIRE	1' SHIELDED CAT5E ETHERNET CABLE	ENET-1331
13	1	URB-TCP2	UNITRONICS	UNISTREAM REMOTE IO ETHERNET ADAPTER, 6 MODULES	PLC2021
14	1	URA-1600T-8	UNITRONICS	UNISTREAM REMOTE IO 16 ANALOG CURRENT INPUT MODULE 16BIT	PLC2071
15	4	616KD-05	DWYER	(0-15" W.C.) 4-20mA DIFFERENTIAL PRESSURE TRANSMITTER (BY OTHERS)	DPT2071-2101
16	16	3209578	PHOENIX	5.2mm 4-WIRE PUSH IN TERMINAL	.
17	3	3209594	PHOENIX	5.2mm 4-WIRE PUSH IN GROUND TERMINAL	.
18	1	3030514	PHOENIX	END PLATE FOR 5.2mm 4-WIRE PUSH IN TERMINAL	.
19	3	0800886	PHOENIX	SCREW ON END STOP	.
20	6.5'	F1X2LG6	PANDUIT	1"x2" WIREWAY	.
21	6.5'	C1LG6	PANDUIT	1" WIREWAY COVER	.
22	3'	0801733	PHOENIX	35mm DIN RAIL	.
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ITEM	QTY	PART #	MANUFACTURE	DESCRIPTION	DESCRIPTOR
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JP MOTORS
JP MOTORS & DRIVES
7870 S. SPRINKLE ROAD, PORTAGE, MICHIGAN 49002
PHONE (269) 321-0070 FAX (269) 321-0072

DATE	11/19/2024	JOB NO.	AF-UK-CAFE-CFM-RF	DRAWN	CB
SCALE	N/A			BOM = 1	DWG = 1

TITLE

BILL OF MATERIALS

NEMA 4/12 - FAN CFM PANEL

CUST. AIR FLOW EQUIPMENT

SHEET	OF	DWG. NO.	REV.
5	5	AF-UK-CAFE-CFM-RF	.

BALDOR • RELIANCE

Customer information packet

EM2333T-G

AHU 1 Supply Fan Motor

15HP, 1765RPM, 3PH, 60HZ, 254T, 0944M, TEFC, F1
Class - None
Division - Not Applicable

11/22/2024 2:11:25 PM

Specifications

Enclosure	TEFC
Frame	254T
Frame Material	Iron
Frequency	60.00 Hz
Haz Area Class and Group	None
Haz Area Division	Not Applicable
Motor Letter Type	Three Phase
Output @ Frequency	15.000 HP @ 60 HZ
Phase	3
Synchronous Speed @ Frequency	1800 RPM @ 60 HZ
Voltage @ Frequency	230.0 V @ 60 HZ
	460.0 V @ 60 HZ
Agency Approvals	CSA
	CSA EEV
	NEMA PREMIUM
	UR
Ambient Temperature	40 °C
Auxillary Box	No Auxillary Box
Auxillary Box Lead Termination	None
Base Indicator	Rigid
Bearing Grease Type	Polyrex EM (-20F +300F)
Blower	None
Current @ Voltage	38.000 A @ 208.0 V
	36.200 A @ 230.0 V
	18.100 A @ 460.0 V
Design Code	A
Drip Cover	No Drip Cover
Duty Rating	CONT
Efficiency @ 100% Load	92.4 %
Electrically Isolated Bearing	Not Electrically Isolated
Feedback Device	NO FEEDBACK
Front Shaft Indicator	None

Part detail

Revision	M
Type	AC
Mech. spec.	09J359
Base	
Status	PRD/A
Elec. spec.	09WGT597
Layout	09LYJ359
Eff. date	03-19-2024
CD Diagram	CD0005
Poles	04
Leads	9#12
Proprietary	False
Created date	11-11-2020

Heater Indicator	No Heater
High Voltage Full Load Amps	18.1 a
Insulation Class	H
Inverter Code	Inverter Ready
KVA Code	H
Lifting Lugs	Standard Lifting Lugs
Locked Bearing Indicator	Locked Bearing
Motor Lead Quantity/Wire Size	9 @ 12 AWG
Motor Lead Termination	Flying Leads
Motor Standards	NEMA
Motor Type	0944M
Mounting Arrangement	F1
Number of Poles	4
Overall Length	23.30 IN
Power Factor	83
Product Family	General Purpose
Pulley End Bearing Type	Ball
Pulley Face Code	Standard
Pulley Shaft Indicator	Standard
Rodent Screen	None
RoHS Status	ROHS COMPLIANT
Service Factor	1.15
Shaft Diameter	1.625 IN
Shaft Ground Indicator	Shaft Grounding
Shaft Rotation	Reversible
Shaft Slinger Indicator	Shaft Slinger
Speed	1765 rpm
Speed Code	Single Speed
Starting Method	Direct on line
Thermal Device - Bearing	None
Thermal Device - Winding	None
Vibration Sensor Indicator	No Vibration Sensor
Winding Thermal 1	None
Winding Thermal 2	None

Nameplate

NP3441LUA										
CAT.NO.	EM2333T-G									
SPEC	09J359T597G1									
HP	15									
VOLTS	230/460									
AMPS	36.2/18.1									
RPM	1765									
FRAME	254T	**HZ**	60	**PH**	3					
SF	1.15	**CODE**	H	**DES**	A	**CLASS**	H			
NEMA NOM. EFF	92.4	**PF**	83							
RATING	40C AMB-CONT									
CC	010A									
ENCL	TEFC	**SER**								
DE	6309	**ODE**	6208							
VPWM INVERTER READY	SFA 41.2/20.6									
CT6-60H(10:1)VT3-60H(20:1										
	50HZ 15HP 190/380V 42.2/21.1A									SF1.0

AC Induction Motor Performance Data
Record # 86504
Preliminary Data Sheet

Winding: 09WGT597-R002	**Type:** 0944M	**Enclosure:** TEFC

Nameplate Data			
Rated Output (HP)			15
Volts			230/460
Full Load Amps			36.2/18.1
R.P.M.			1765
Hz	60	**Phase**	3
NEMA Design Code	A	**KVA Code**	H
Service Factor (S.F.)			1.15
NEMA Nom. Eff.	92.4	**Power Factor**	84
Rating - Duty			40C AMB-CONT
S.F. Amps			41.0/20.5

460 V, 60 Hz: High Voltage Connection	
Full Load Torque	44.5 LB-FT
Start Configuration	direct on line
Breakdown Torque	154 LB-FT
Pull-up Torque	67.2 LB-FT
Locked-rotor Torque	83.5 LB-FT
Starting Current	129 A
No-load Current	7.32 A
Line-line Res. @ 25ºC	0.57 Ω
Temp. Rise @ Rated Load	52°C
Temp. Rise @ S.F. Load	64°C
Locked-rotor Power Factor	33.3
Rotor inertia	1.92 lb-ft²

Load Characteristics 460 V, 60 Hz, 15 HP

% of Rated Load	**25**	**50**	**75**	**100**	**125**	**150**	**S.F.**
Power Factor	48	70	79	84	86	87	86
Efficiency	87.3	91.8	92.8	92.3	91.6	90.7	91.9
Speed	1792	1785	1777	1768	1759	1749	1761
Line amperes	8.45	11	14.3	18.1	22.2	26.7	20.5

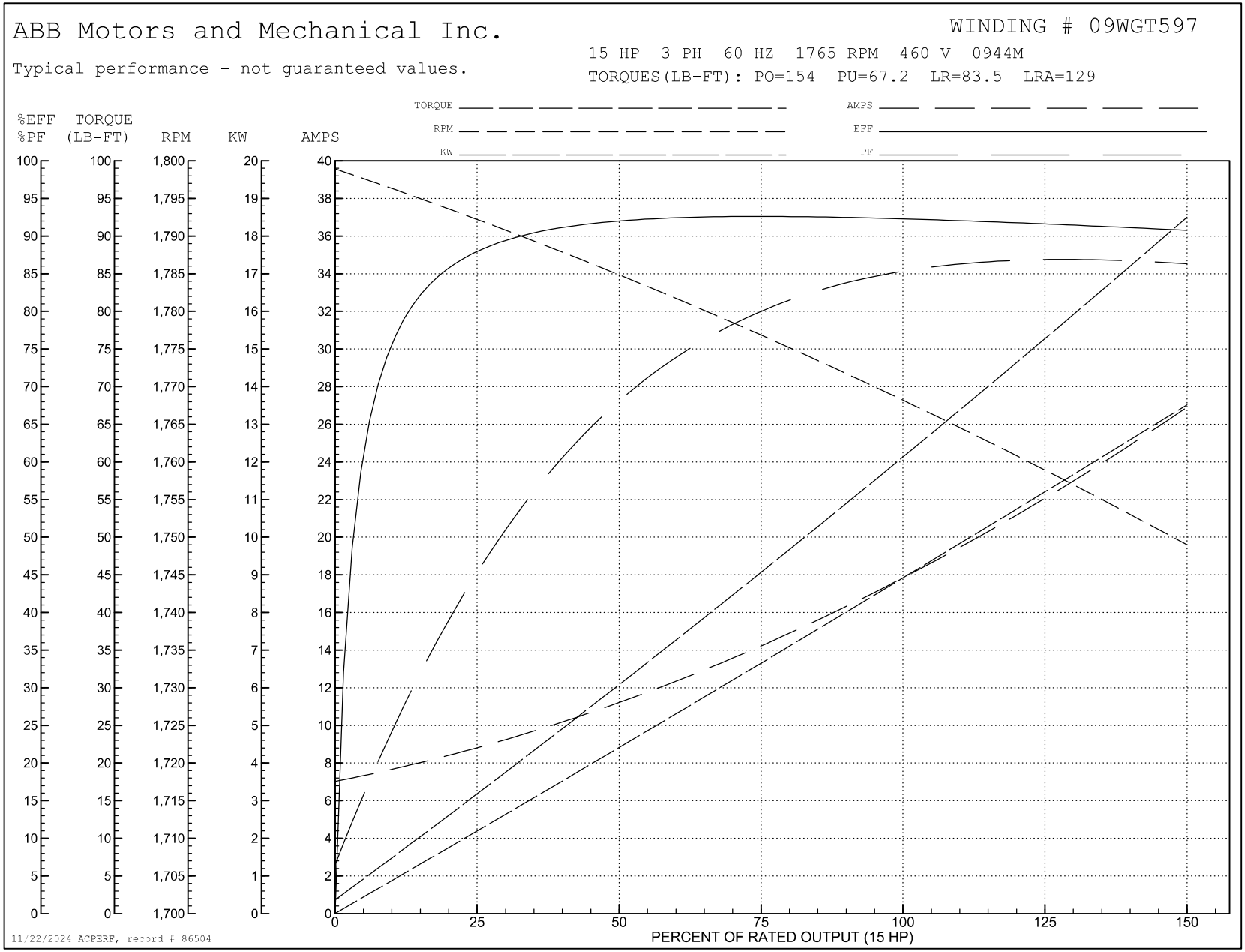
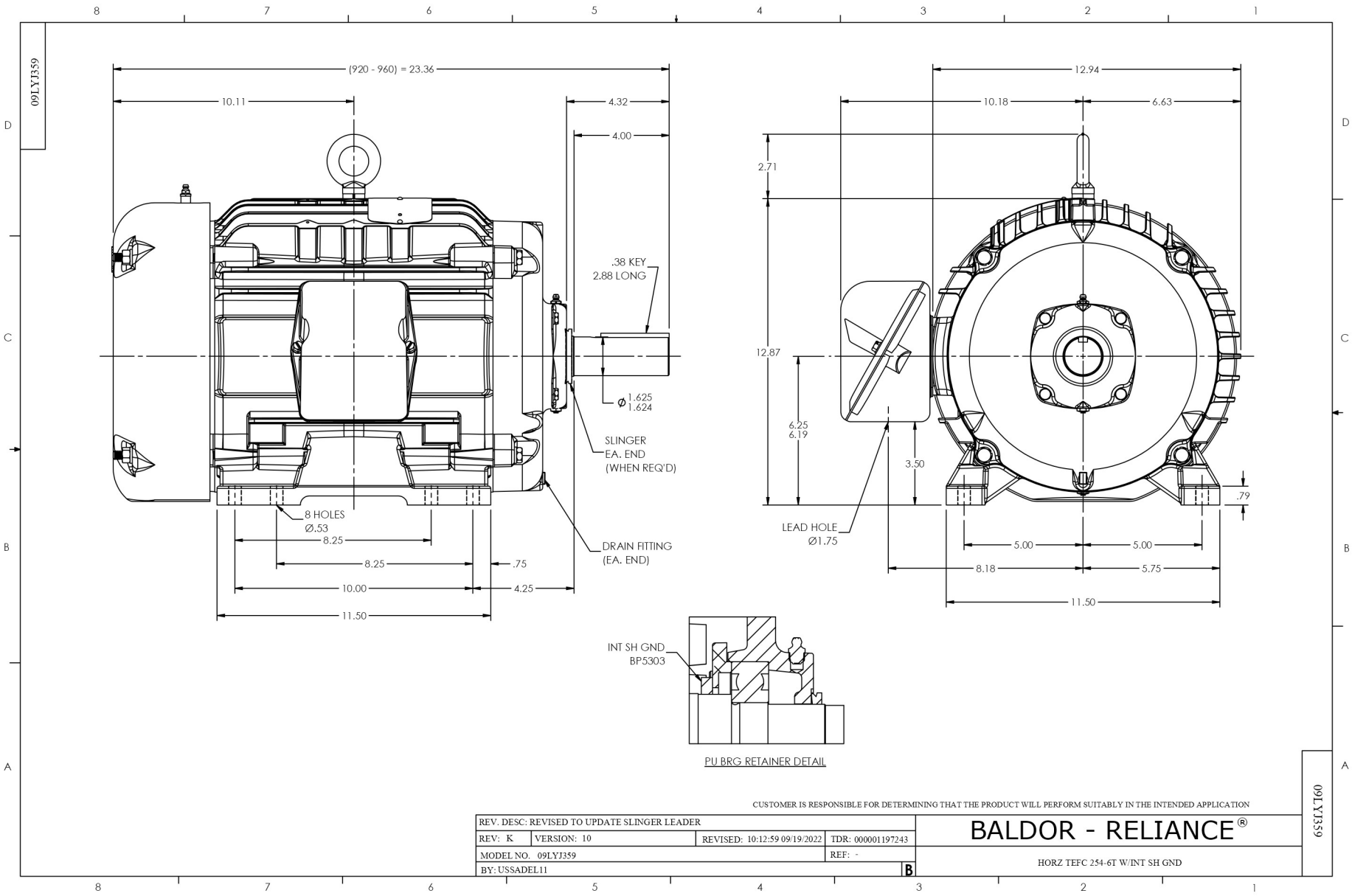


ABB Motors and Mechanical Inc.
WINDING # 09WGT597
Typical performance - not guaranteed values.
15 HP 3 PH 60 HZ 1765 RPM 460 V 0944M
TORQUES(LB-FT): PO=154 PU=67.2 LR=83.5 LRA=129
TORQUE
RPM
KW
AMPS
EFF
PF
%EFF %PF
TORQUE (LB-FT)
RPM
KW
AMPS
PERCENT OF RATED OUTPUT (15 HP)
11/22/2024 ACPERF, record # 86504


09LYJ359
(920 - 960) = 23.36
10.11
4.32
4.00
.38 KEY
2.88 LONG
Ø 1.625
1.624
SLINGER
EA. END
(WHEN REQ'D)
8 HOLES
Ø.53
8.25
8.25
.75
10.00
4.25
11.50
DRAIN FITTING
(EA. END)
12.94
10.18
6.63
2.71
12.87
6.25
6.19
3.50
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LEAD HOLE
Ø1.75
5.00
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8.18
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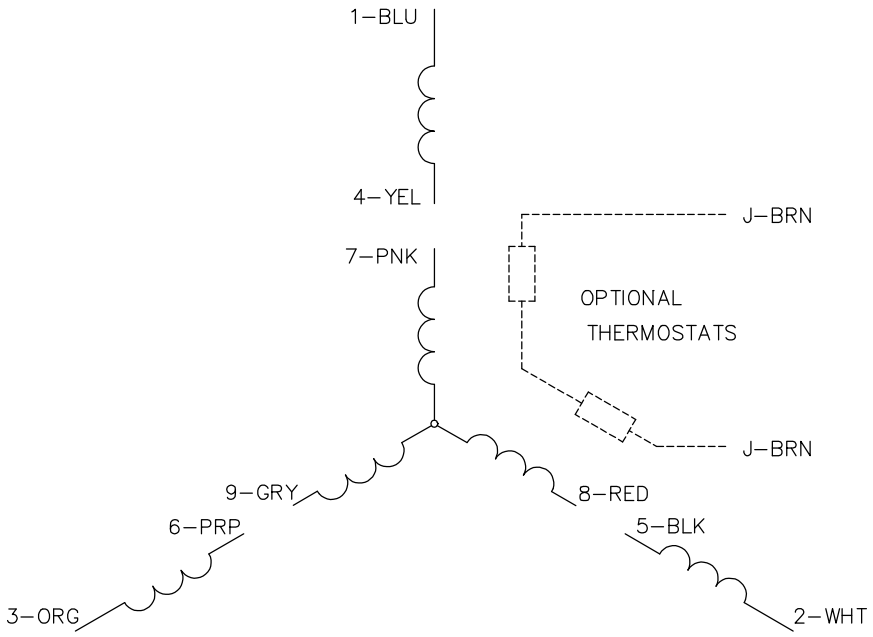
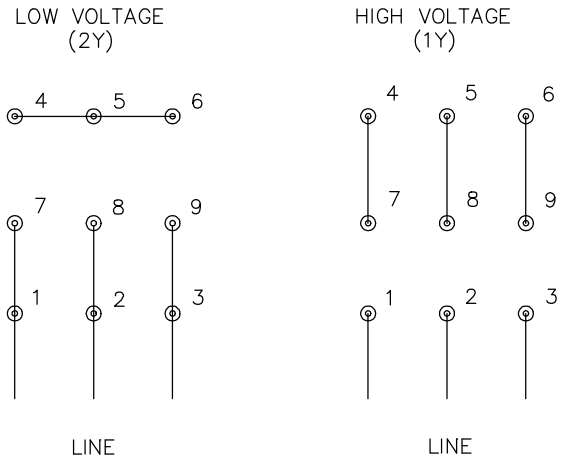
INT SH GND
BP5303
PU BRG RETAINER DETAIL
CUSTOMER IS RESPONSIBLE FOR DETERMINING THAT THE PRODUCT WILL PERFORM SUITABLY IN THE INTENDED APPLICATION
REV. DESC: REVISED TO UPDATE SLINGER LEADER
REV: K
VERSION: 10
REVISED: 10:12:59 09/19/2022
TDR: 000001197243
MODEL NO. 09LYJ359
REF: -
BY: USSADEL11
B
BALDOR - RELIANCE®
HORZ TEFC 254-6T W/INT SH GND
09LYJ359

CD0005





NOTES:

1. INTERCHANGE ANY TWO LINE LEADS TO REVERSE ROTATION.
2. OPTIONAL THERMOSTATS ARE PROVIDED WHEN SPECIFIED.
3. ACTUAL NUMBER OF INTERNAL PARALLEL CIRCUITS MAY BE A MULTIPLE OF THOSE SHOWN ABOVE.
4. LEAD COLORS ARE OPTIONAL. LEADS MUST ALWAYS BE NUMBERED AS SHOWN.

CD0005

REV. DESC: REVISE TO SHOW OPTIONAL COLORS			BALDOR ELECTRIC Co.
REV. LTR: E	BY: JLP	REVISED: 01/19/99 10:15	TDR: 0171435
CD0005		FILE: AAA00005140	MDL: –
		MTL: –	3PH, DV, 9 LEADS

BALDOR • RELIANCE

Customer information packet

EM2332T-G

AHU 1 Return Fan Motor

10HP, 1180RPM, 3PH, 60HZ, 256T, 0960M, TEFC, F1
Class - None
Division - Not Applicable

11/25/2024 12:45:51 PM

Specifications

Enclosure	TEFC
Frame	256T
Frame Material	Iron
Frequency	60.00 Hz
Haz Area Class and Group	None
Haz Area Division	Not Applicable
Motor Letter Type	Three Phase
Output @ Frequency	10.000 HP @ 60 HZ
Phase	3
Synchronous Speed @ Frequency	1200 RPM @ 60 HZ
Voltage @ Frequency	460.0 V @ 60 HZ
	230.0 V @ 60 HZ
Agency Approvals	CSA
	CSA EEV
	UR
Ambient Temperature	40 °C
Auxillary Box	No Auxillary Box
Auxillary Box Lead Termination	None
Base Indicator	Rigid
Bearing Grease Type	Polyrex EM (-20F +300F)
Blower	None
Current @ Voltage	28.200 A @ 230.0 V
	30.000 A @ 208.0 V
	14.100 A @ 460.0 V
Design Code	B
Drip Cover	No Drip Cover
Duty Rating	CONT
Efficiency @ 100% Load	91.0 %
Electrically Isolated Bearing	Not Electrically Isolated
Feedback Device	NO FEEDBACK
Front Face Code	Standard
Front Shaft Indicator	None

Part detail

Revision	AJ
Type	AC
Mech. spec.	09J359
Base	
Status	PRD/A
Elec. spec.	09WGT193
Layout	09LYJ359
Eff. date	03-19-2024
CD Diagram	CD0005
Poles	06
Leads	9#12
Proprietary	False
Created date	08-21-2015

Heater Indicator	No Heater
High Voltage Full Load Amps	14.1 a
Insulation Class	H
Inverter Code	Inverter Ready
KVA Code	H
Lifting Lugs	Standard Lifting Lugs
Locked Bearing Indicator	Locked Bearing
Motor Lead Exit	Ko Box
Motor Lead Quantity/Wire Size	9 @ 12 AWG
Motor Lead Termination	Flying Leads
Motor Standards	NEMA
Motor Type	0960M
Mounting Arrangement	F1
Number of Poles	6
Overall Length	23.30 IN
Power Factor	72
Product Family	General Purpose
Pulley End Bearing Type	Ball
Pulley Face Code	Standard
Pulley Shaft Indicator	Standard
Rodent Screen	None
Service Factor	1.15
Shaft Diameter	1.625 IN
Shaft Extension Location	Pulley End
Shaft Ground Indicator	Shaft Grounding
Shaft Rotation	Reversible
Shaft Slinger Indicator	Shaft Slinger
Speed	1180 rpm
Speed Code	Single Speed
Starting Method	Direct on line
Thermal Device - Bearing	None
Thermal Device - Winding	None
Vibration Sensor Indicator	No Vibration Sensor
Winding Thermal 1	None

Winding Thermal 2	None

Nameplate

NP3441LUA										
CAT.NO.	EM2332T-G									
SPEC	09J359T193G1									
HP	10									
VOLTS	230/460									
AMPS	28.2/14.1									
RPM	1180									
FRAME	256T	**HZ**	60	**PH**	3					
SF	1.15	**CODE**	H	**DES**	B	**CLASS**	H			
NEMA NOM. EFF	91	**PF**	72							
RATING	40C AMB-CONT									
CC	010A									
ENCL	TEFC	**SER**								
DE	6309	**ODE**	6208							
VPWM INVERTER READY	SFA 32.2/16.1									
CT6-60H(10:1)VT3-60H(20:1										
	50HZ 10HP 190/380V 33.2/16.6A									SF1.0

AC Induction Motor Performance Data
Record # 52520
Typical performance - not guaranteed values

Winding: 09WGT193-R005	**Type:** 0960M	**Enclosure:** TEFC

Nameplate Data		
Rated Output (HP)		10
Volts		230/460
Full Load Amps		28.2/14.1
R.P.M.		1180
Hz	60 **Phase**	3
NEMA Design Code	B **KVA Code**	H
Service Factor (S.F.)		1.15
NEMA Nom. Eff.	91 **Power Factor**	72
Rating - Duty		40C AMB-CONT
S.F. Amps		

460 V, 60 Hz: High Voltage Connection	
Full Load Torque	44.3 LB-FT
Start Configuration	direct on line
Breakdown Torque	121 LB-FT
Pull-up Torque	50.6 LB-FT
Locked-rotor Torque	67 LB-FT
Starting Current	81 A
No-load Current	6.84 A
Line-line Res. @ 25ºC	0.746 Ω
Temp. Rise @ Rated Load	38°C
Temp. Rise @ S.F. Load	46°C
Locked-rotor Power Factor	24.9
Rotor inertia	4.82 LB-FT2

Load Characteristics 460 V, 60 Hz, 10 HP

% of Rated Load	**25**	**50**	**75**	**100**	**125**	**150**	**S.F.**
Power Factor	36	57	67	72	74	75	73
Efficiency	85.8	90.7	91.9	91.7	91.1	89.4	91.3
Speed	1195	1191	1186	1181	1174	1166	1177
Line amperes	7.45	9.13	11.4	14.1	17.3	21.1	16

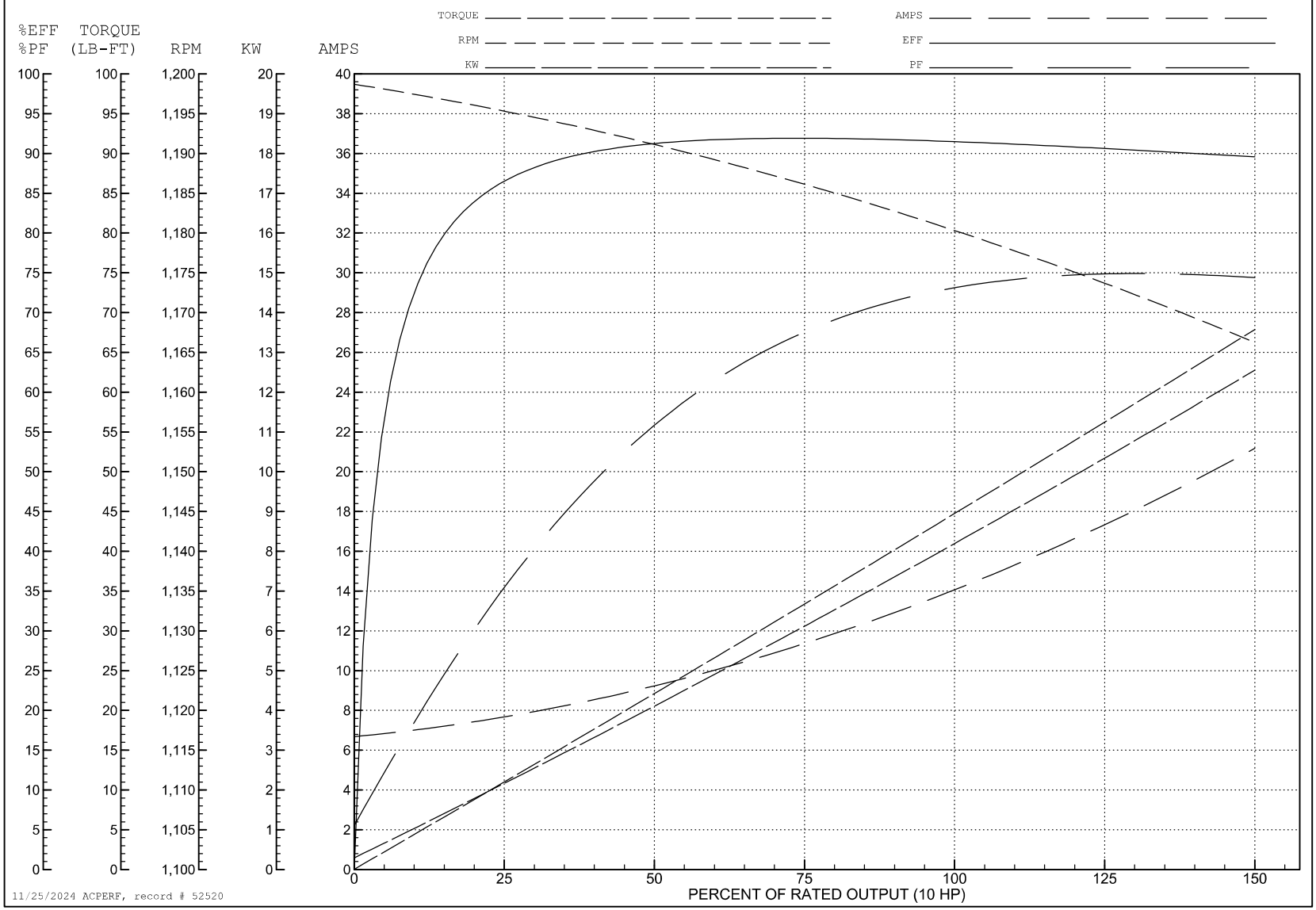
ABB Motors and Mechanical Inc.

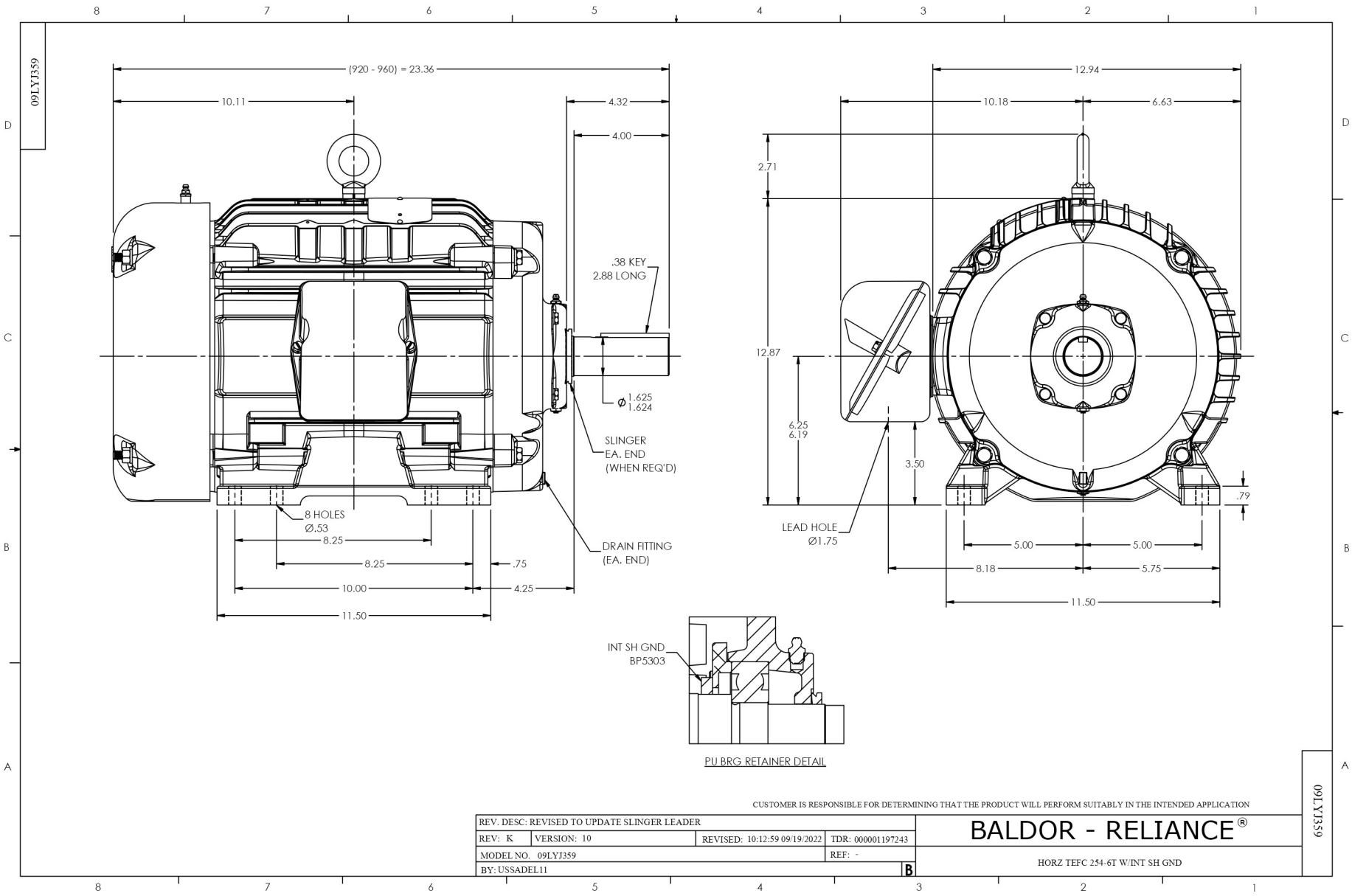
WINDING # 09WGT193

10 HP 3 PH 60 HZ 1180 RPM 460 V 0960M

Typical performance - not guaranteed values.

TORQUES(LB-FT): PO=121 PU=50.6 LR=67 LRA=81




09LYJ359
(920 - 960) = 23.36
10.11
4.32
4.00
.38 KEY
2.88 LONG
Ø 1.625
1.624
SLINGER
EA. END
(WHEN REQ'D)
8 HOLES
Ø.53
8.25
8.25
.75
10.00
4.25
11.50
DRAIN FITTING
(EA. END)
12.94
10.18
6.63
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3.50
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LEAD HOLE
Ø1.75
5.00
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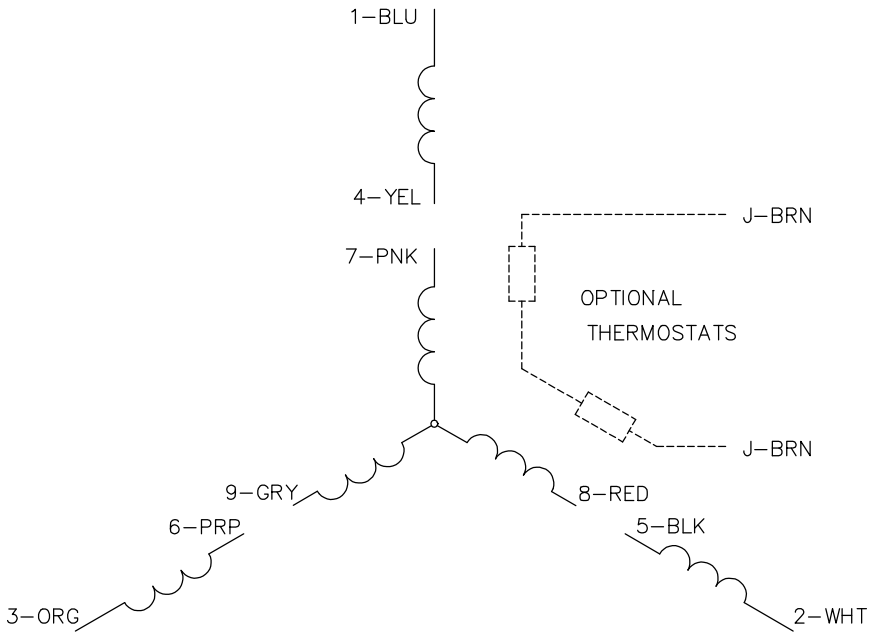
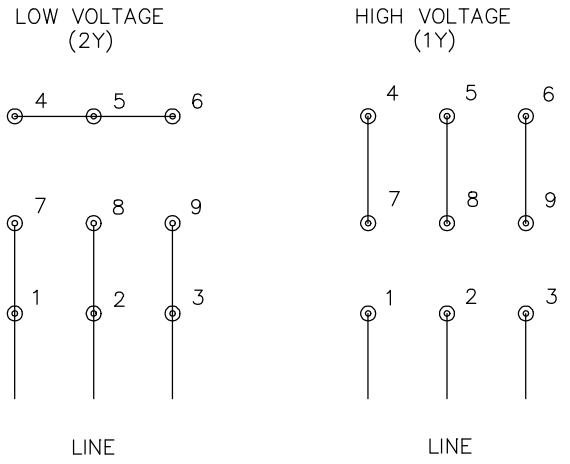
8.18
5.75
11.50
INT SH GND
BP5303
PU BRG RETAINER DETAIL
CUSTOMER IS RESPONSIBLE FOR DETERMINING THAT THE PRODUCT WILL PERFORM SUITABLY IN THE INTENDED APPLICATION
REV. DESC: REVISED TO UPDATE SLINGER LEADER
REV: K
VERSION: 10
REVISED: 10:12:59 09/19/2022
TDR: 000001197243
MODEL NO. 09LYJ359
REF: -
BY: USSADEL11
B
BALDOR - RELIANCE®
HORZ TEFC 254-6T W/INT SH GND
09LYJ359

CD0005





NOTES:

1. INTERCHANGE ANY TWO LINE LEADS TO REVERSE ROTATION.
2. OPTIONAL THERMOSTATS ARE PROVIDED WHEN SPECIFIED.
3. ACTUAL NUMBER OF INTERNAL PARALLEL CIRCUITS MAY BE A MULTIPLE OF THOSE SHOWN ABOVE.
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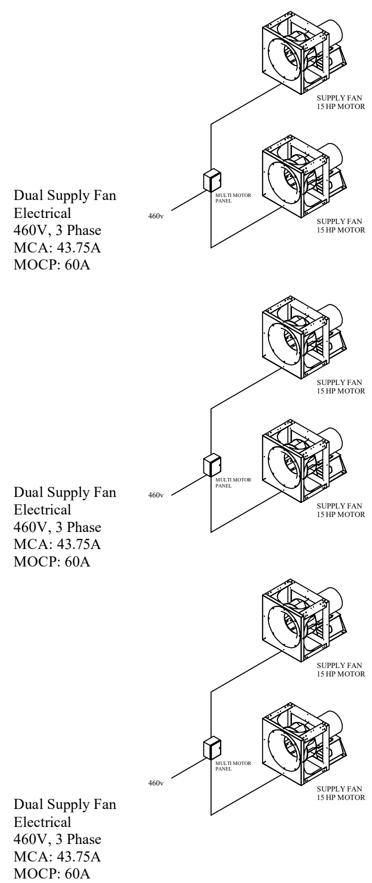
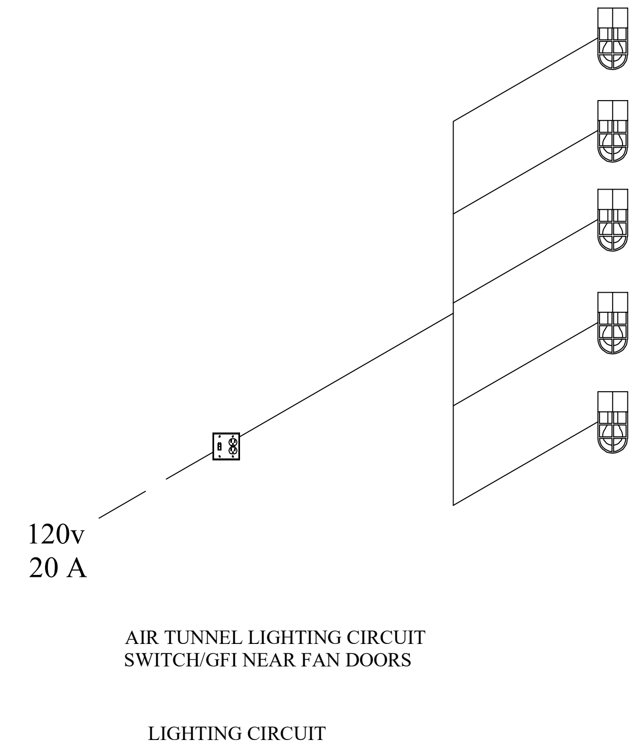
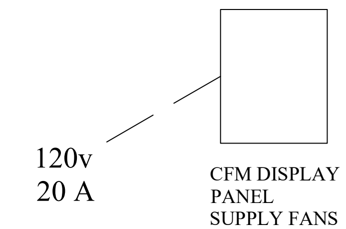
CD0005

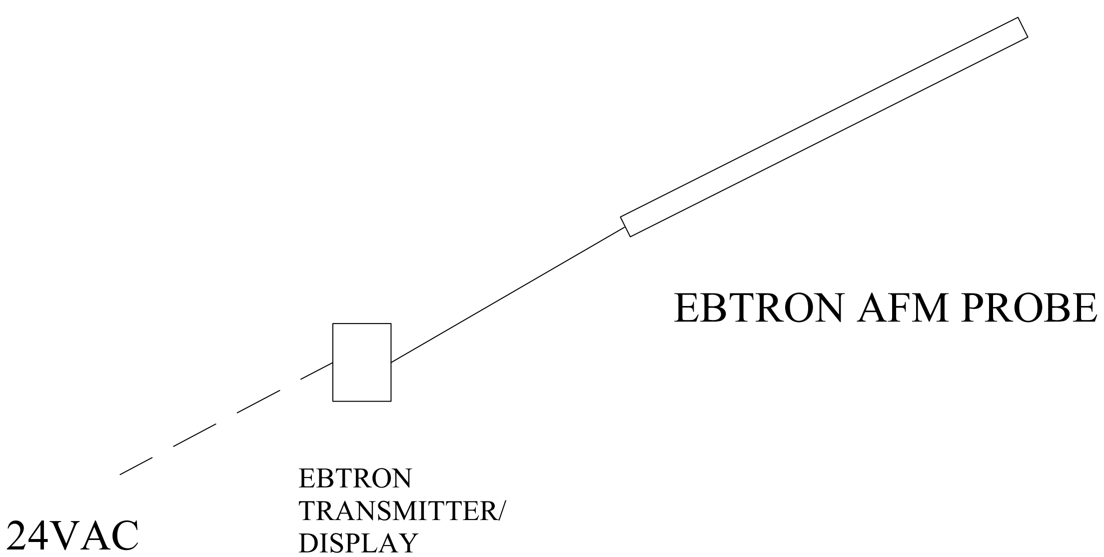
REV. DESC: REVISE TO SHOW OPTIONAL COLORS			BALDOR ELECTRIC Co.
REV. LTR: E	BY: JLP	REVISED: 01/19/99 10:15	TDR: 0171435
CD0005		FILE: AAA00005140	MDL: –
		MTL: –	3PH, DV, 9 LEADS

AHU OA N1-N3 Electrical Schematic







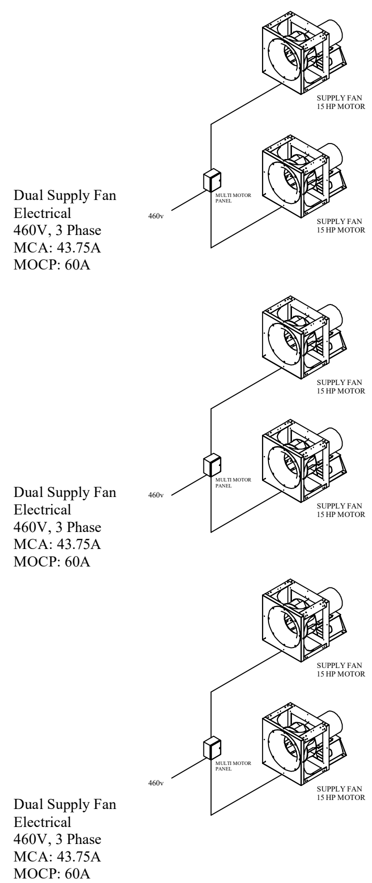


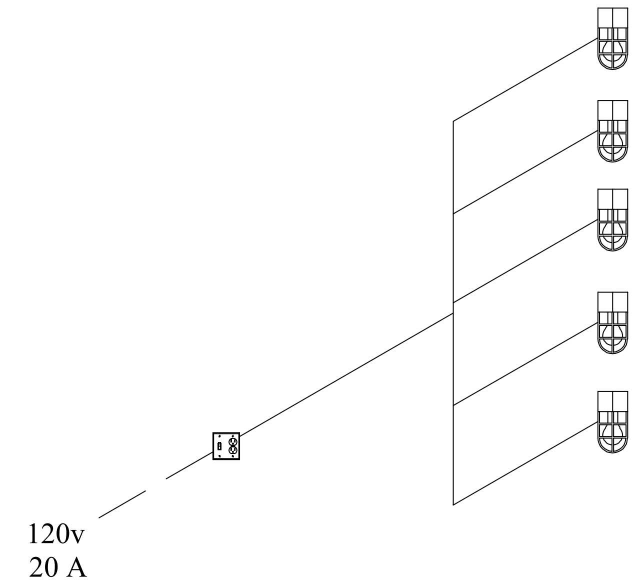
Eelectrical Schematic:

1. Solid lines are wiring provided by AFE
2. Dashed lines are wiring provided by others

AIR FLOW EQUIPMENT, INC.

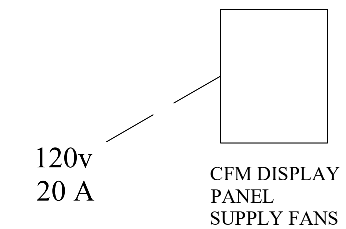
AHU OA S1-S4 Electrical Schematic

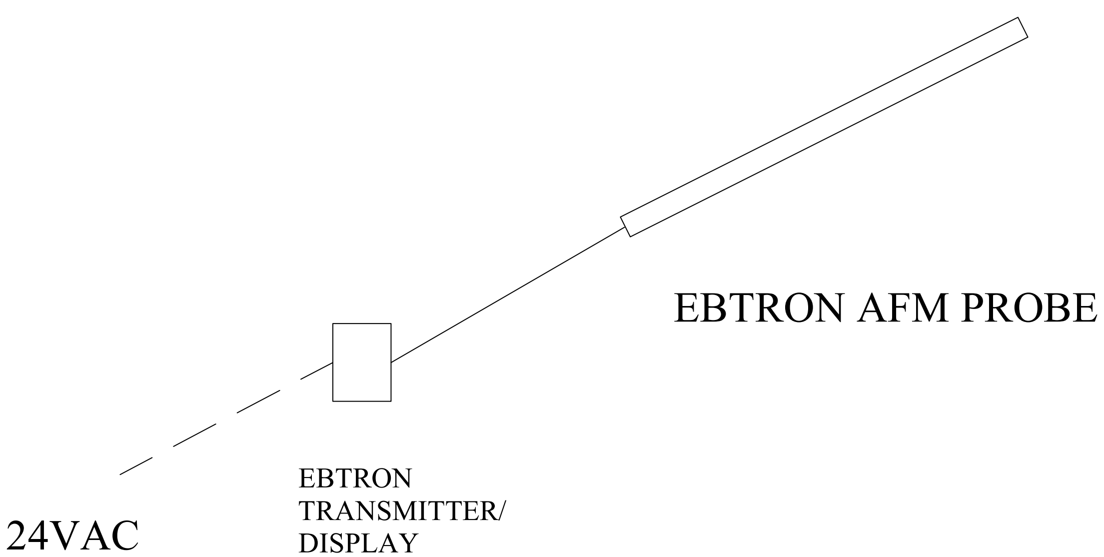




AIR TUNNEL LIGHTING CIRCUIT
SWITCH/GFI NEAR FAN DOORS

LIGHTING CIRCUIT



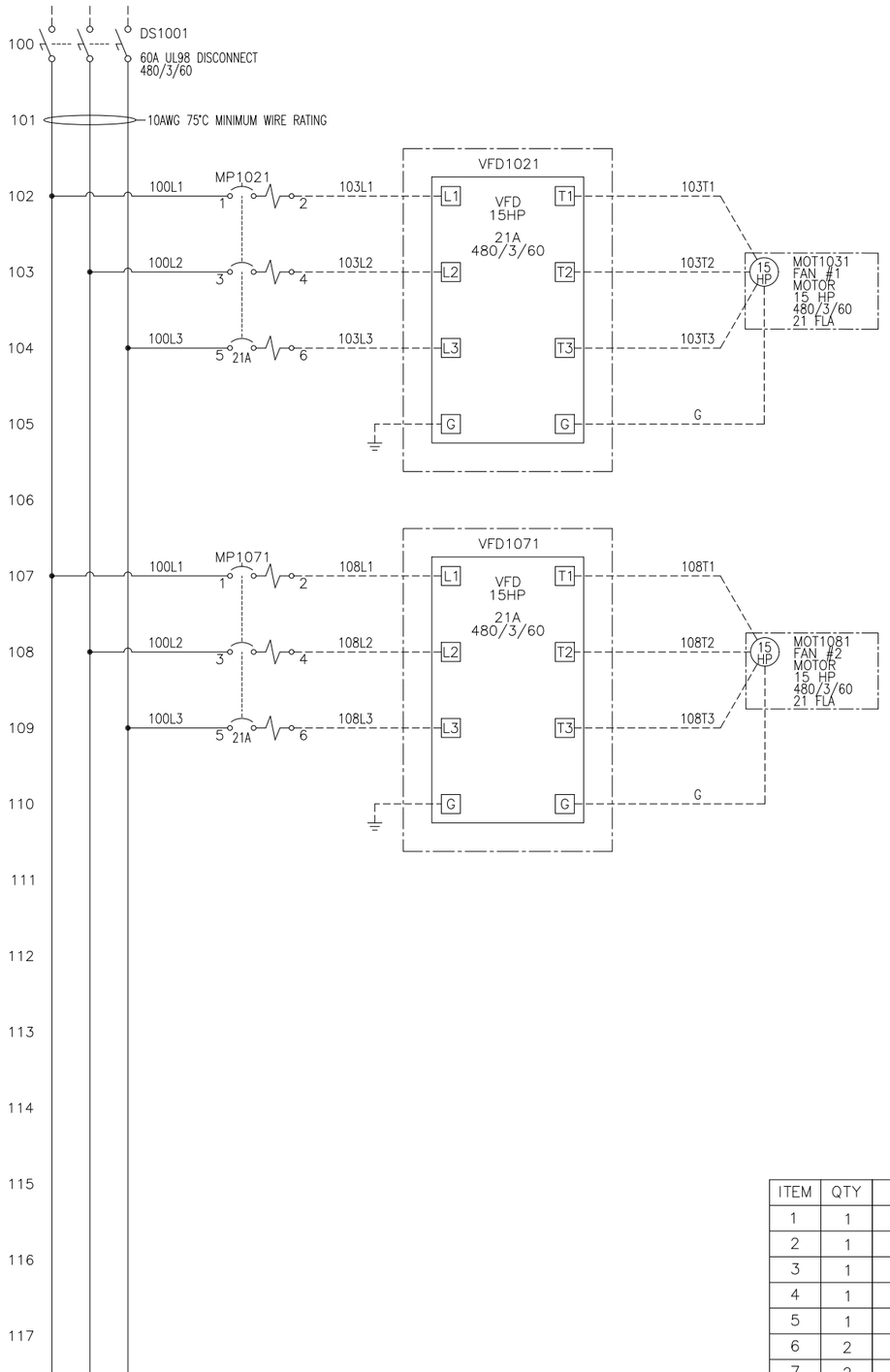


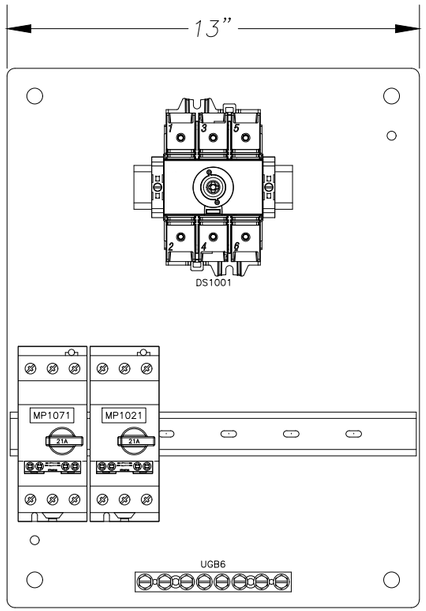
Eelectrical Schematic:
1. Solid lines are wiring provided by AFE
2. Dashed lines are wiring provided by others

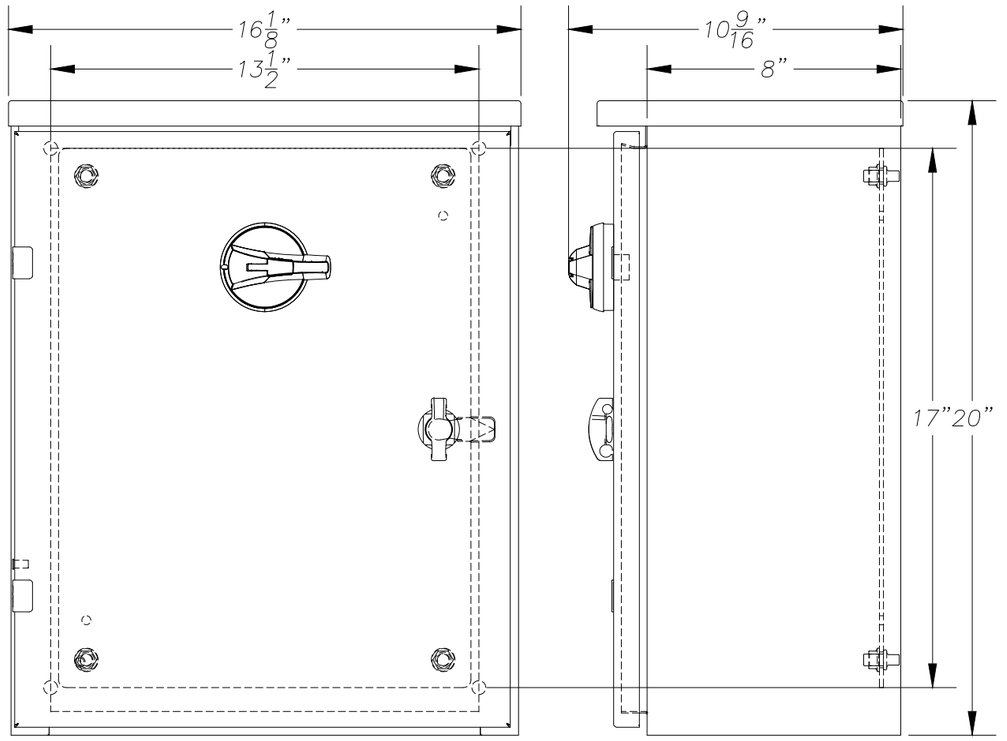
AIR FLOW EQUIPMENT, INC.

OA Unit MMP's

REV	DESCRIPTION	DATE	BY
.	.	.	.







UNIT
AHU–1–SF
AHU–OA–N1
AHU–OA–N2
AHU–OA–N3
AHU–OA–S1
AHU–OA–S2
AHU–OA–S3
AHU–OA–S4

ITEM	QTY	PART #	MANUFACTURE	DESCRIPTION	DESCRIPTOR
1	1	SCE–20R1608LP	SCE	20”x16”x8” NEMA 3R ENCLOSURE	.
2	1	SCE–20P16GALV	SCE	GALVANIZED SUB PANEL	.
3	1	22013006	SOCOMEC	60A UL98 NON–FUSIBLE DISCONNECT	DS1001
4	1	14070520	SOCOMEC	200mm 5x5 DISCONNECT SHAFT	DS1001
5	1	14831111	SOCOMEC	ROTARY HANDLE, S0, TYPE 3R/12, BLUE/BLACK	DS1001
6	2	XTPR025DC1	EATON	16–25A MOTOR PROTECTOR, D FRAME	MP1021,1071
7	2	XTPAXFA11	EATON	1 NO/ 1 NC FRONT MOUNT AUX CONTACT BLOCK	MP1021,1071
8	2	0800886	PHOENIX	SCREW ON END STOP	.
9	1.5’	0801733	PHOENIX	35mm DIN RAIL	.
10	1	UGB2/0–414–6	PANDUIT	UNIVERSAL GROUND BAR (#4–14) 6 POINT	UGB6
11					

VOLTAGE:	480 VOLT
PHASE & FREQ.:	3PH., 60HZ
FULL LOAD CURRENT:	42 AMP
S.C.C.R.:	65k AMP
ENCLOSURE RATING:	TYPE 3R
SCHEMATIC:	AF–UK–CAFE–15HP–MMP
MFG. BY:	JP Motors and Drives

JP MOTORS
JP MOTORS & DRIVES
7870 S. SPRINKLE ROAD, PORTAGE, MICHIGAN 49002
PHONE (269) 321–0070 FAX (269) 321–0072

DATE 11/19/2024	JOB NO. AF–UK–CAFE–15HP–MMP	DRAWN CB	
SCALE N/A		BOM = 1	DWG = 1

TITLE

MOTOR WIRING DIAGRAM

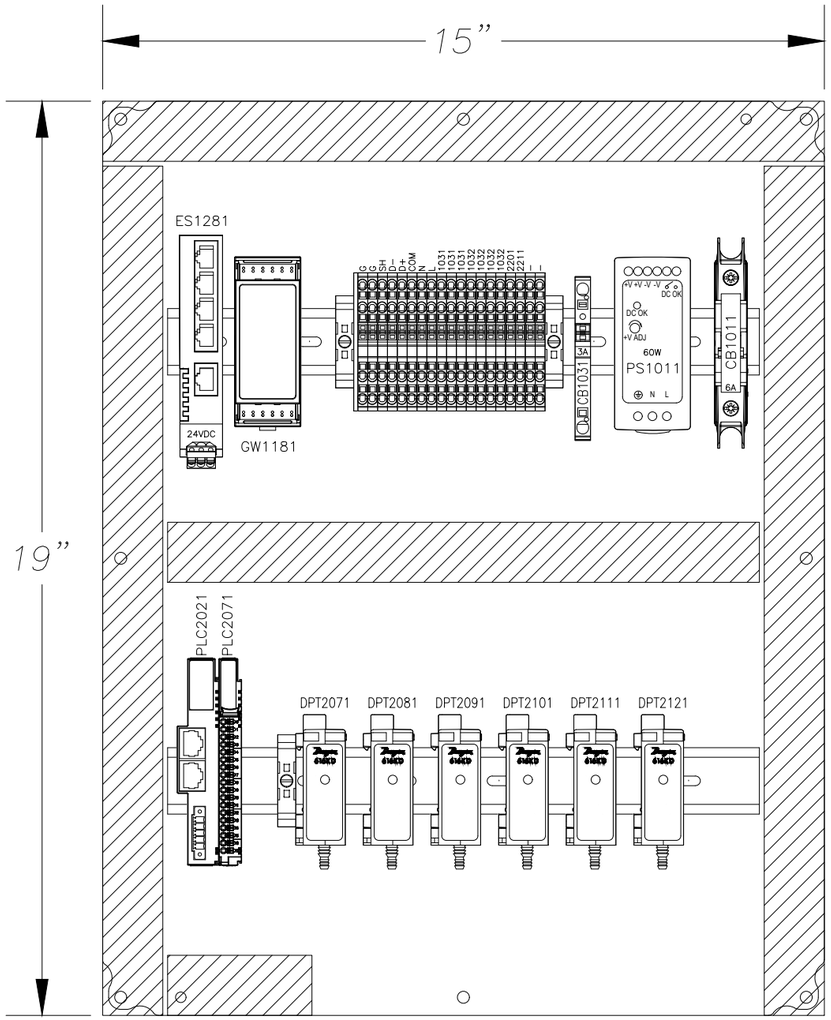
FAN MULTI – MOTOR PANEL

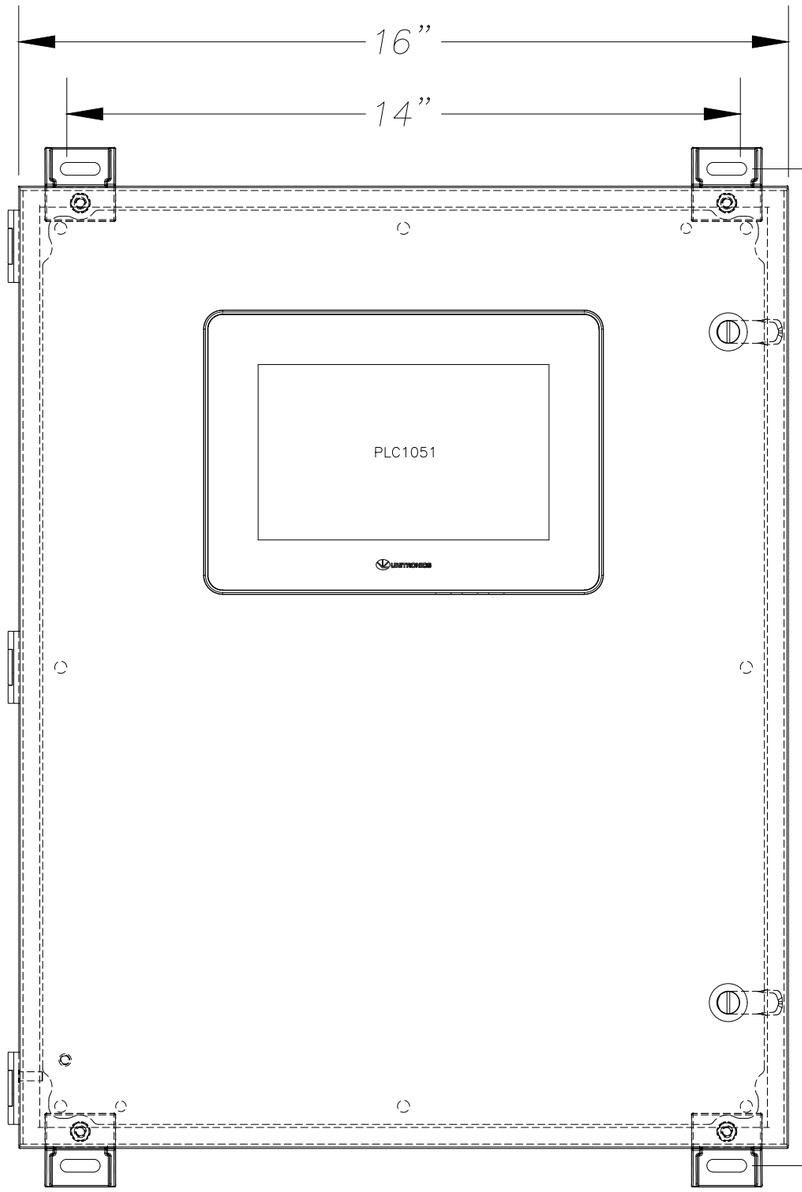
CUST. AIR FLOW EQUIPMENT

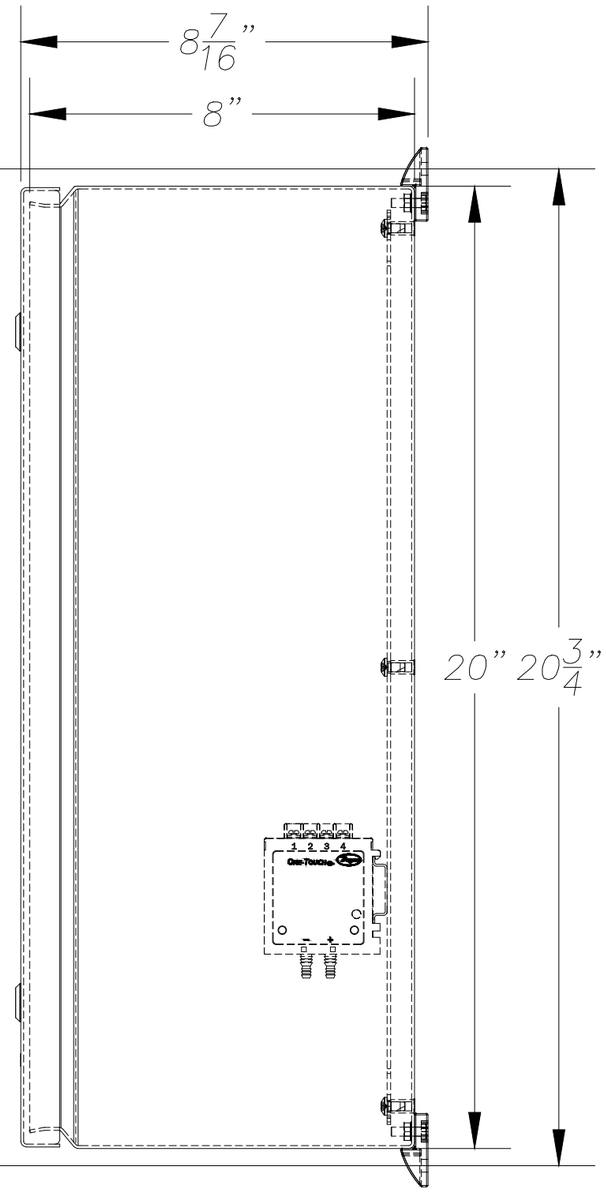
SHEET	OF	DWG. NO.	REV.
1	1	AF–UK–CAFE–15HP–MMP	.

REV	DESCRIPTION	DATE	BY
.	.	.	.

OA Units CFM Display Panel







VOLTAGE:	120 VOLT
FULL LOAD CURRENT:	3 AMP
S.C.C.R.:	N/A
ENCLOSURE RATING:	TYPE 4
SCHEMATIC:	AF-UK-CAFE-CFM-OA
MFG. BY:	JP Motors and Drives

JP MOTORS
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DATE 11/19/2024	JOB NO. AF-UK-CAFE-CFM-OA	DRAWN CB	
SCALE N/A		BOM = 1	DWG = 1

TITLE

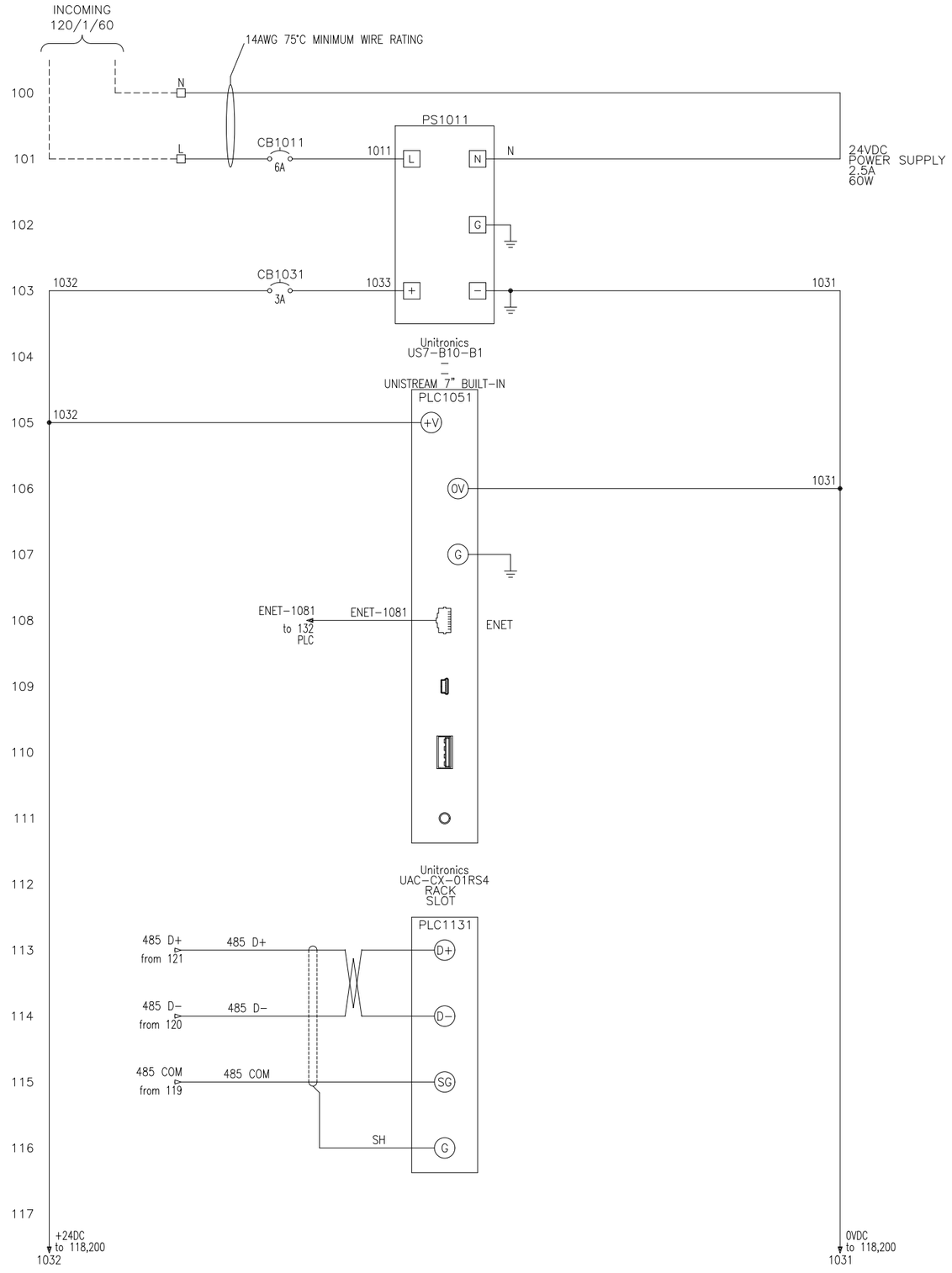
PANEL LAYOUT

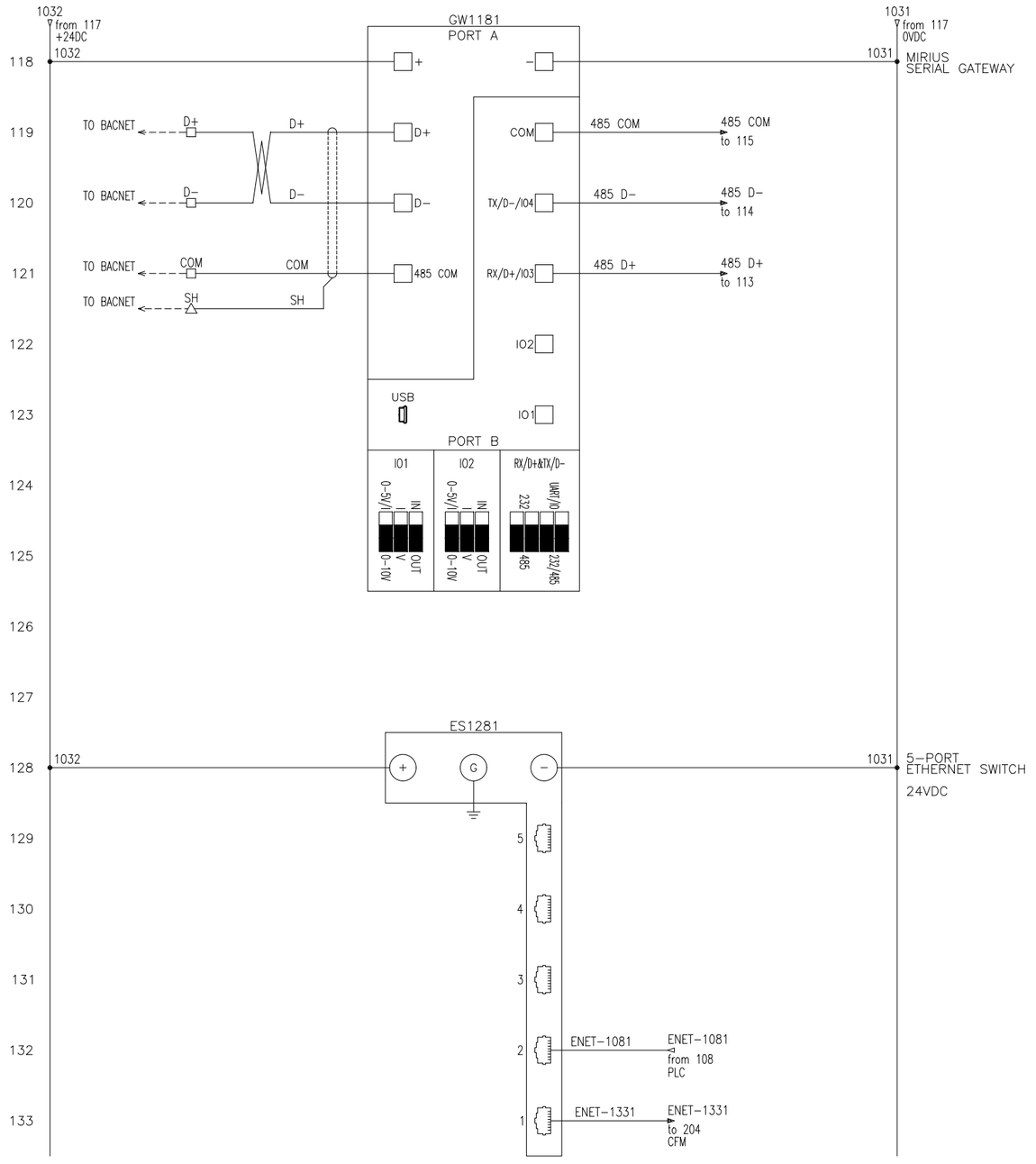
NEMA 4/12 – FAN CFM PANEL

CUST. AIR FLOW EQUIPMENT

SHEET	OF	DWG. NO.	REV.
4	5	AF-UK-CAFE-CFM-OA	.

REV	DESCRIPTION	DATE	BY
.	.	.	.





UNIT
AHU-OA-N1
AHU-OA-N2
AHU-OA-N3
AHU-OA-S1
AHU-OA-S2
AHU-OA-S3
AHU-OA-S4

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DATE 11/19/2024	JOB NO. AF-UK-CAFE-CFM-OA	DRAWN CB	
SCALE N/A		BOM = 1	DWG = 1

TITLE

24VDC WIRING DIAGRAM

NEMA 4/12 - FAN CFM PANEL

CUST. AIR FLOW EQUIPMENT

SHEET 1 OF 5	DWG. NO. AF-UK-CAFE-CFM-OA	REV. .

REV	DESCRIPTION	DATE	BY
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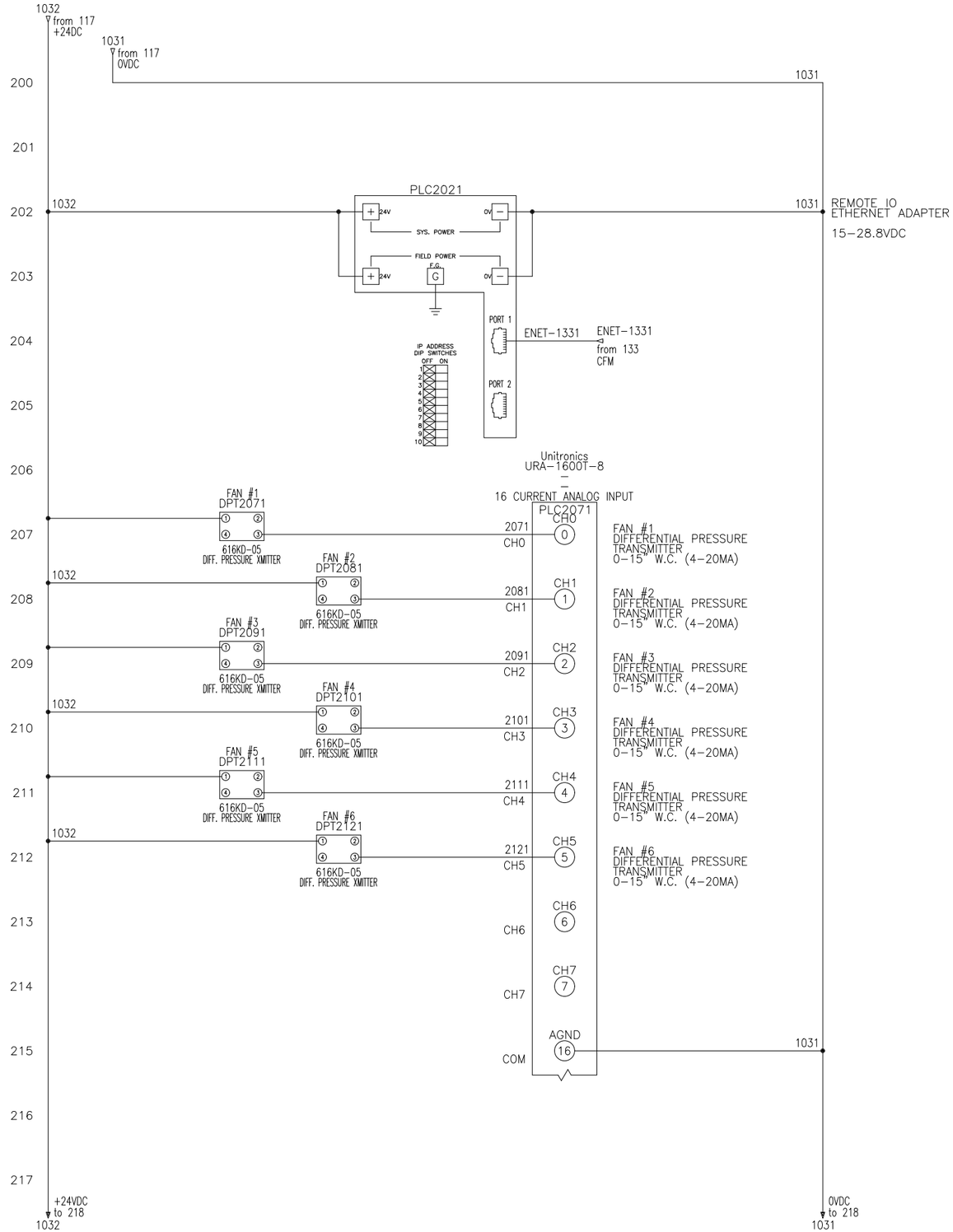

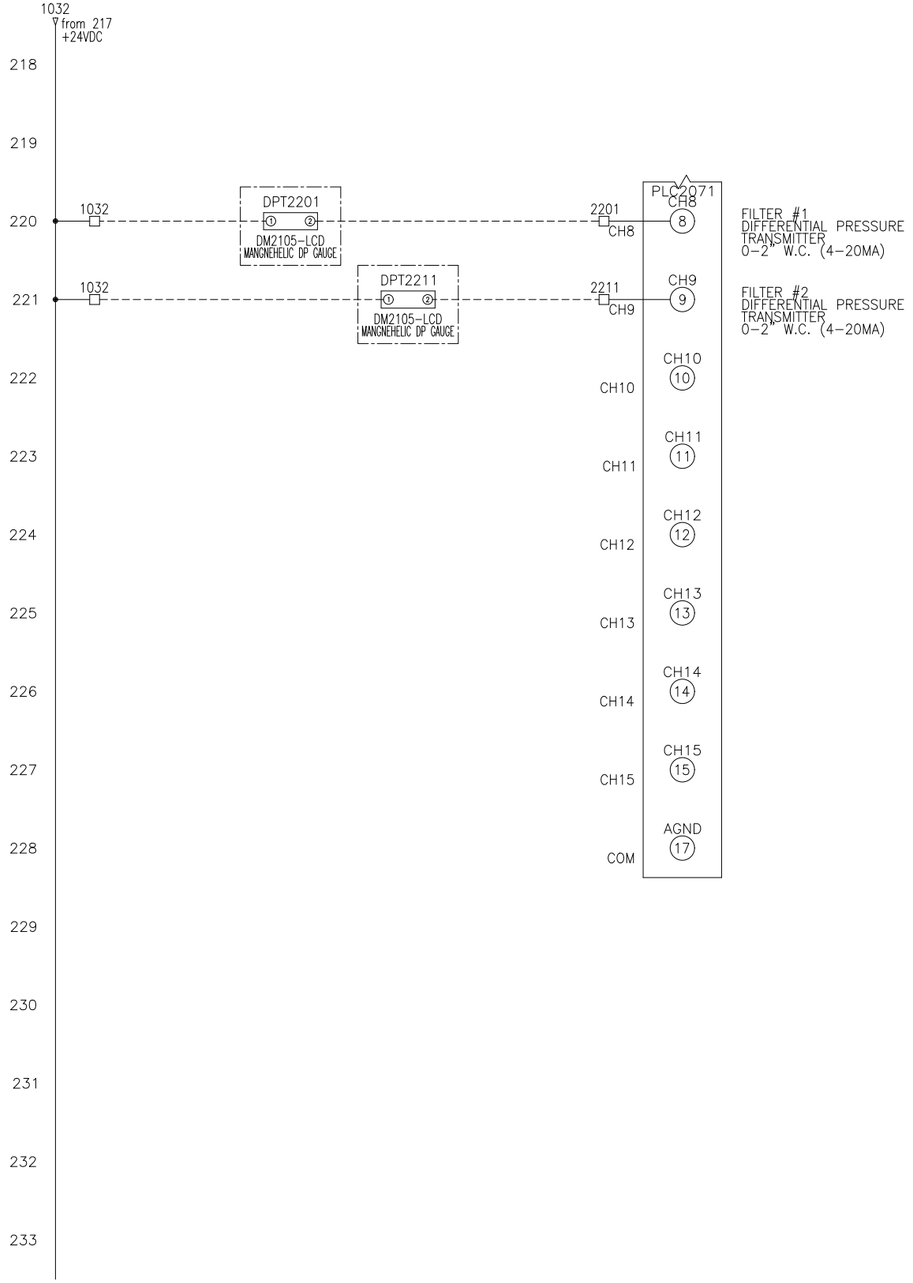

JP MOTORS

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7870 S. SPRINKLE ROAD, PORTAGE, MICHIGAN 49002
PHONE (269) 321−0070 FAX (269) 321−0072

DATE 11/19/2024	JOB NO. AF−UK−CAFE−CFM−OA	DRAWN CB	
SCALE N/A		BOM = 1	DWG = 1

TITLE

24VDC WIRING DIAGRAM

NEMA 4/12 − FAN CFM PANEL

CUST. AIR FLOW EQUIPMENT

SHEET 2 OF 5	DWG. NO. AF−UK−CAFE−CFM−OA	REV. .

REV	DESCRIPTION	DATE	BY
.	.	.	.

ITEM	QTY	PART #	MANUFACTURE	DESCRIPTION	DESCRIPTOR
1	1	SCE-20168ELJ	SCE	20"x16"x8" NEMA 4/12 ENCLOSURE	.
2	1	SCE-20P16JGALV	SCE	GALVANIZED SUB PANEL	.
3	1	1489-M1C060	AB	1P 6A UL489 CIRCUIT BREAKER, C-CURVE	CB1011
4	1	MDR-60-24	MEANWELL	60W 24VDC POWER SUPPLY, 100-240V INPUT	PS1011
5	1	3212166	PHOENIX	8.2mm PUSH IN TERMINAL, MINI CB	CB1031
6	1	0712233	PHOENIX	3A UL1077 SUPPLEMENTARY PROTECTOR, PLUG IN	CB1031
7	1	US7-B10-B1	UNITRONICS	UNISTREAM 7" HMI+PLC	PLC1051
8	1	UAC-CX-01RS4	UNITRONICS	RS485 MODULE	PLC1131
9	1	MIRIUS	ICC	SERIAL GATEWAY	GW1181
10	1	1085039	PHOENIX	5 PORT UNMANAGED ETHERNET SWITCH	ES1281
11	1	C5EMBS-7-BLU	FIRE	7' SHIELDED CAT5E ETHERNET CABLE	ENET-1081
12	1	C5EMBS-1-BLU	FIRE	1' SHIELDED CAT5E ETHERNET CABLE	ENET-1331
13	1	URB-TCP2	UNITRONICS	UNISTREAM REMOTE IO ETHERNET ADAPTER, 6 MODULES	PLC2021
14	1	URA-1600T-8	UNITRONICS	UNISTREAM REMOTE IO 16 ANALOG CURRENT INPUT MODULE 16BIT	PLC2071
15	6	616KD-05	DWYER	(0-15" W.C.) 4-20mA DIFFERENTIAL PRESSURE TRANSMITTER (BY OTHERS)	DPT2071-2121
16	16	3209578	PHOENIX	5.2mm 4-WIRE PUSH IN TERMINAL	.
17	3	3209594	PHOENIX	5.2mm 4-WIRE PUSH IN GROUND TERMINAL	.
18	1	3030514	PHOENIX	END PLATE FOR 5.2mm 4-WIRE PUSH IN TERMINAL	.
19	3	0800886	PHOENIX	SCREW ON END STOP	.
20	6.5'	F1X2LG6	PANDUIT	1"x2" WIREWAY	.
21	6.5'	C1LG6	PANDUIT	1" WIREWAY COVER	.
22	3'	0801733	PHOENIX	35mm DIN RAIL	.
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ITEM	QTY	PART #	MANUFACTURE	DESCRIPTION	DESCRIPTOR
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JP MOTORS
JP MOTORS & DRIVES
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DATE	11/19/2024	JOB NO.	AF-UK-CAFE-CFM-OA	DRAWN	CB
SCALE	N/A			BOM = 1	DWG = 1

TITLE

BILL OF MATERIALS

NEMA 4/12 - FAN CFM PANEL

CUST. AIR FLOW EQUIPMENT

SHEET	OF	DWG. NO.	REV.
5	5	AF-UK-CAFE-CFM-OA	.

BALDOR • RELIANCE

Customer information packet

EM2394T-G

OA Units Supply Fan Motors

15HP, 3525RPM, 3PH, 60HZ, 254T, TEFC, F1

11/22/2024 2:14:51 PM

Part detail

Revision	F
Type	AC
Mech. spec.	
Base	
Status	PRD/A
Elec. spec.	M-09WG-Z602
Layout	09LYJ359
Eff. date	04-16-2024
CD Diagram	CD0180
Poles	02
Leads	9#12 NA NA,0#0 NA NA,0#0 NA NA,0#NA NA NA
Proprietary	False
Created date	05-09-2022

Nameplate

NP3441L											
CAT.NO.	EM2394T-G										
SPEC.	09-0000-3899										
HP	15										
VOLTS	230/460										
AMP	35/17.5										
RPM	3520										
FRAME	254T	**HZ**	60	**PH**	3						
SER.F.	1.15	**CODE**	G	**DES**	B	**CL**	H				
NEMA-NOM-EFF	91	**PF**	87								
RATING	40C AMB-CONT										
CC	010A										
DE	6309	**ODE**	6208								
ENCL	TEFC	**SN**									
VPWM INVERTER READY											
CT6-60H(10:1)VT3-60H(20:1											
	SFA 39.7/19.9										

AC Induction Motor Performance Data
Record # 31412
Typical performance - not guaranteed values

Winding: 09WGZ602-R001	**Type:** 0930M	**Enclosure:** TEFC

Nameplate Data			**460 V, 60 Hz: High Voltage Connection**	
Rated Output (HP)		15	**Full Load Torque**	22.1 LB-FT
Volts		230/460	**Start Configuration**	direct on line
Full Load Amps		35/17.5	**Breakdown Torque**	105 LB-FT
R.P.M.		3525	**Pull-up Torque**	26.2 LB-FT
Hz	60 **Phase**	3	**Locked-rotor Torque**	36.3 LB-FT
NEMA Design Code	B **KVA Code**	G	**Starting Current**	110 A
Service Factor (S.F.)		1.15	**No-load Current**	5.58 A
NEMA Nom. Eff.	91 **Power Factor**	87	**Line-line Res. @ 25ºC**	0.68654 Ω
Rating - Duty		40C AMB-CONT	**Temp. Rise @ Rated Load**	63°C
S.F. Amps			**Temp. Rise @ S.F. Load**	78°C
			Locked-rotor Power Factor	30
			Rotor inertia	0.766 lb-ft²

Load Characteristics 460 V, 60 Hz, 15 HP

% of Rated Load	**25**	**50**	**75**	**100**	**125**	**150**	**S.F.**
Power Factor	55	77	85	87	89	89	88
Efficiency	86.4	91	91.6	91	90	88.6	90.4
Speed	3582.7	3563.6	3542.7	3520.9	3495.8	3468.3	3506
Line amperes	6.93	9.78	13.5	17.5	21.6	26.4	20

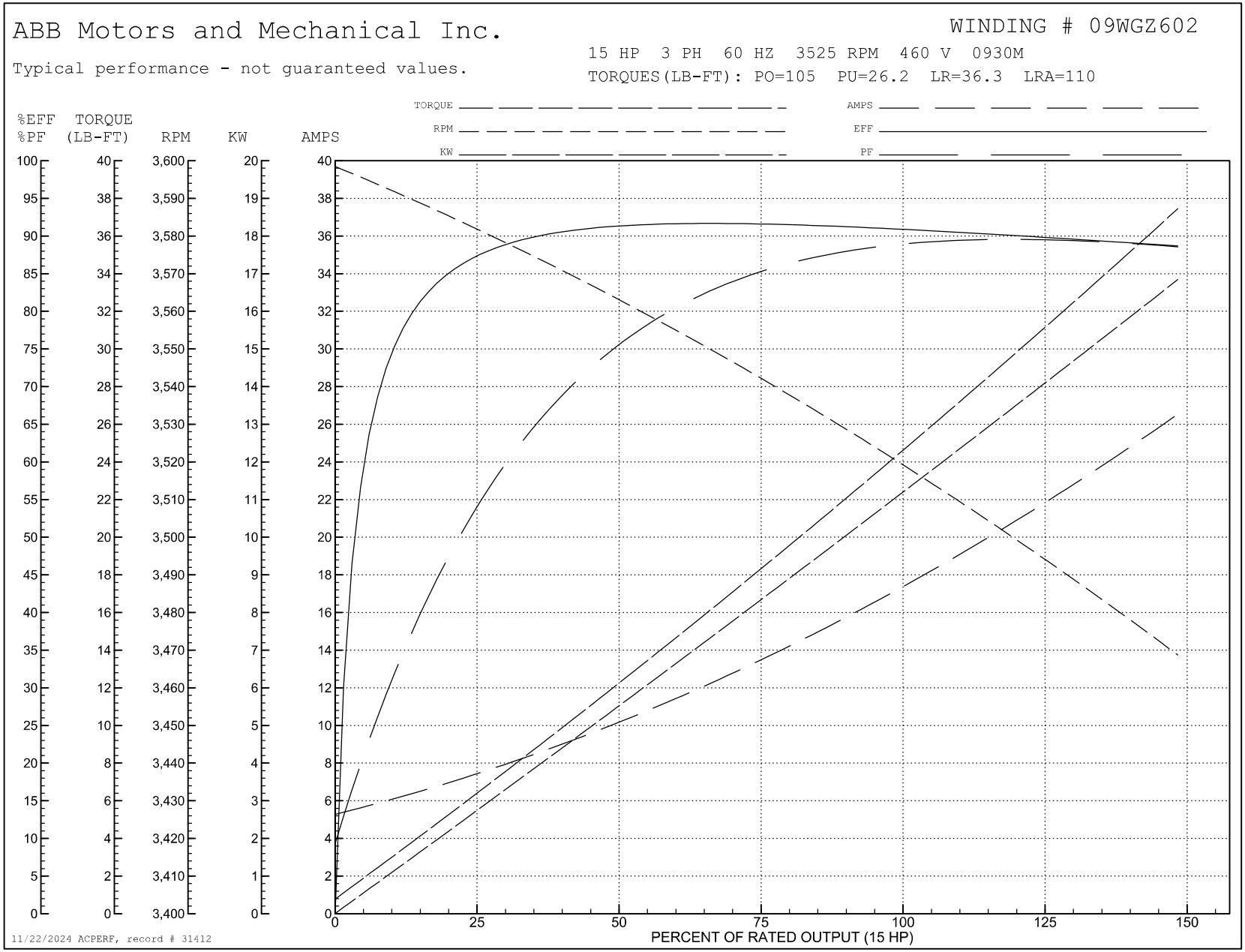
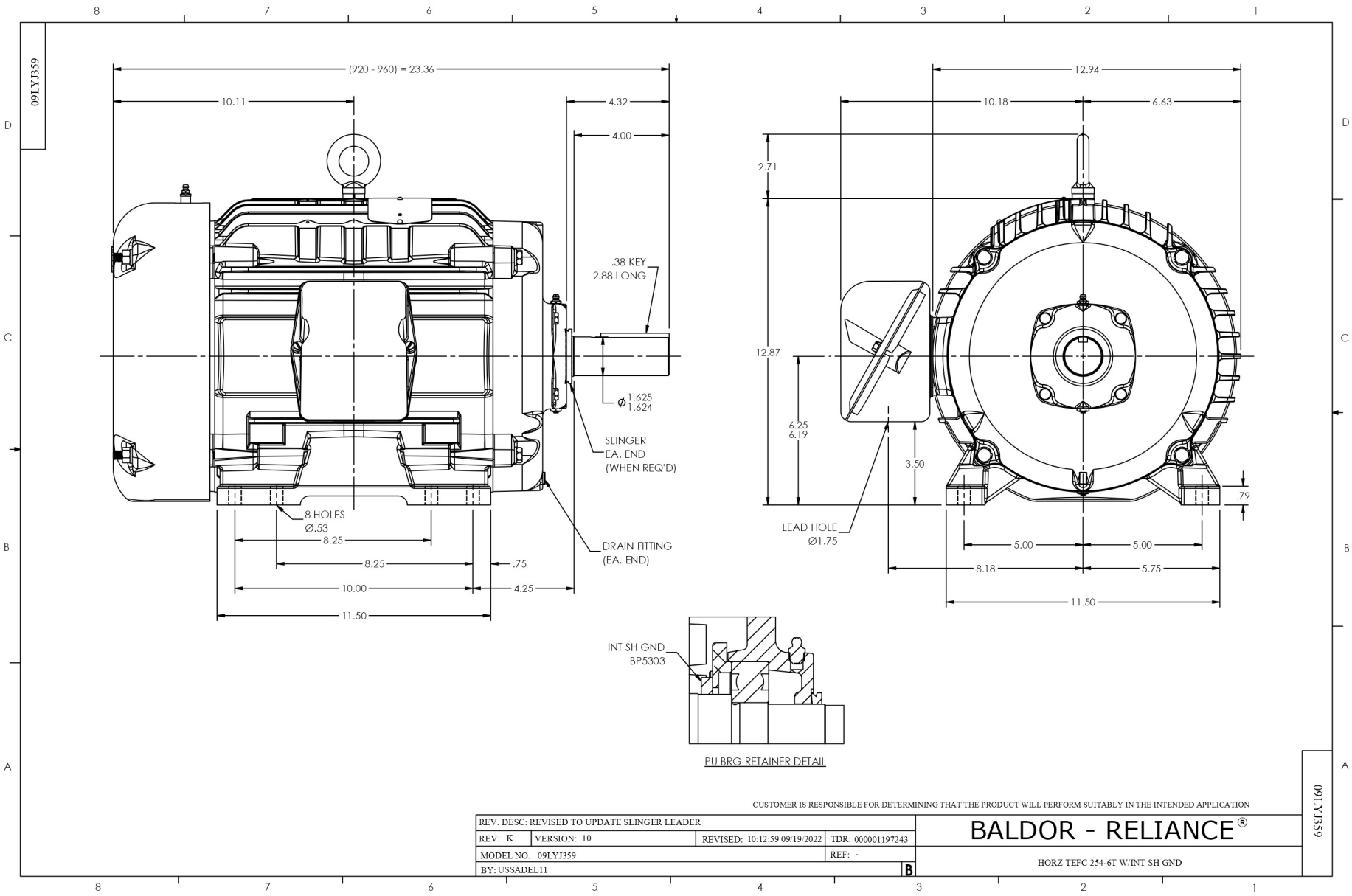
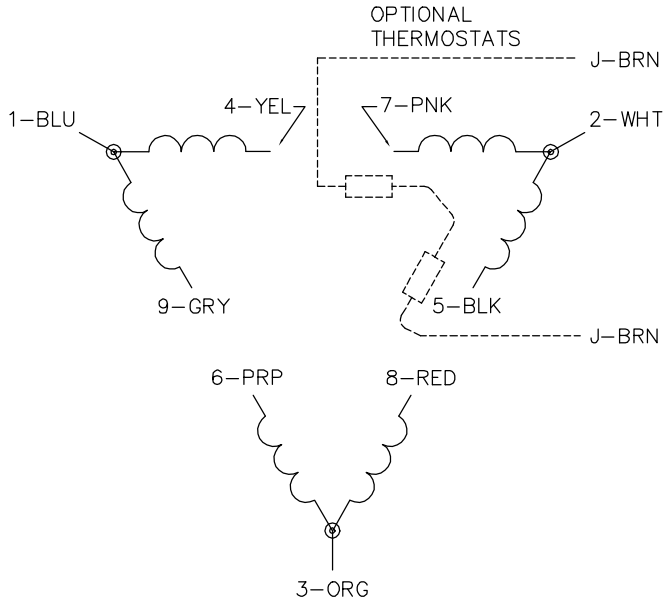
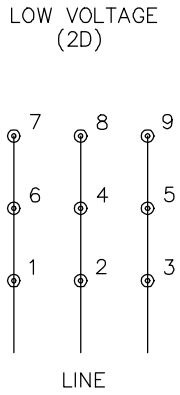


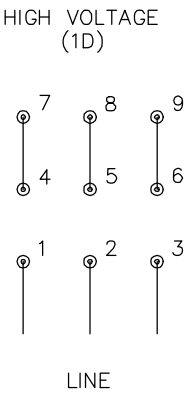
ABB Motors and Mechanical Inc.
WINDING # 09WGZ602
Typical performance - not guaranteed values.
15 HP 3 PH 60 HZ 3525 RPM 460 V 0930M
TORQUES(LB-FT): PO=105 PU=26.2 LR=36.3 LRA=110
TORQUE
RPM
KW
AMPS
EFF
PF
%EFF
%PF
TORQUE (LB-FT)
RPM
KW
AMPS
PERCENT OF RATED OUTPUT (15 HP)
11/22/2024 ACPERF, record # 31412


09LYJ359
(920 - 960) = 23.36
10.11
4.32
4.00
.38 KEY
2.88 LONG
Ø 1.625
1.624
SLINGER
EA. END
(WHEN REQ'D)
8 HOLES
Ø.53
8.25
8.25
.75
10.00
4.25
11.50
DRAIN FITTING
(EA. END)
12.94
10.18
6.63
2.71
12.87
6.25
6.19
3.50
.79
LEAD HOLE
Ø1.75
5.00
5.00
8.18
5.75
11.50
INT SH GND
BP5303
PU BRG RETAINER DETAIL
CUSTOMER IS RESPONSIBLE FOR DETERMINING THAT THE PRODUCT WILL PERFORM SUITABLY IN THE INTENDED APPLICATION
REV. DESC: REVISED TO UPDATE SLINGER LEADER
REV: K
VERSION: 10
REVISED: 10:12:59 09/19/2022
TDR: 000001197243
MODEL NO. 09LYJ359
REF: -
BY: USSADEL11
B
BALDOR - RELIANCE®
HORZ TEFC 254-6T W/INT SH GND
09LYJ359

CD0180







NOTES:

1. INTERCHANGE ANY TWO LINE LEADS TO REVERSE ROTATION.
2. OPTIONAL THERMOSTATS ARE PROVIDED WHEN SPECIFIED.
3. ACTUAL NUMBER OF INTERNAL PARALLEL CIRCUITS MAY BE A MULTIPLE OF THOSE SHOWN ABOVE.
4. LEAD COLORS ARE OPTIONAL. LEADS MUST ALWAYS BE NUMBERED AS SHOWN.

CD0180

REV. DESC: ADD CLASS CONN00000007		
REV. LTR: D	VERSION: 01	TDR: 000001099922
FILE: \AAA\00005\148	REVISED: 10:25:29 02/19/2019	BY: ENBRIR0
MTL: –		

BALDOR - RELIANCE®

3PH, DV, 9 LEADS, DELTA CONNECTION

SH 1 of 1

VX100DG

JOB NAME: _____

DATE: _____

TYPE: _____

DESCRIPTION

Box mount, die cast aluminum with built-in junction box and sturdy mounting lugs. Medium base socket, 1/2" or 3/4" NPS hub size and a variety of globes. Incandescent lamp A21 for 100 Series, PS25 for 200 Series. Lamp not supplied. CFL: 13 & 22 watt lamp supplied.

SPECIFICATIONS

Globes:
Supplied with clear thermal shock resistant soda lime glass unless otherwise stated. Colored and white glass globes available. Unbreakable Permaglobes available in clear and in color.

UL Listing:
Suitable for wet locations. Suitable for use in dwellings. Suitable for use with 90° C supply wiring. Complies with UL Standard 1598. For non-hazardous locations where the lamp, socket and wiring require protection from rain, corrosive fumes, non-combustible dusts, moisture, non-explosive vapors and gases. For lamp base up installation only when outdoors.

Colored Globe Maximum Watts:
100 watts

Die Cast Guard:
Supplied with one piece die cast guard with set screw

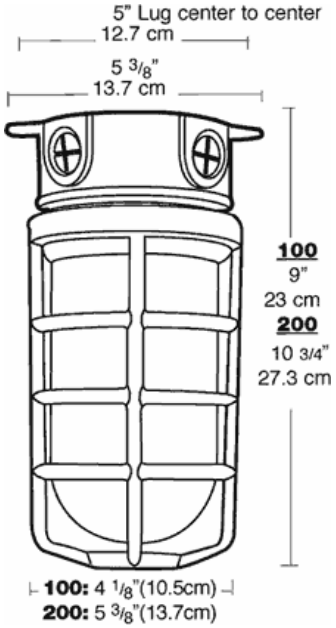
Maximum Watts:
150 watts

Patents:
RAB sensor and fixture designs are protected under U.S. and International Intellectual Property laws.

Color:
Natural

Weight:
2.83

DIMENSIONS



ORDERING INFORMATION

Total Watts	Lamp Type	Lamp Base	Ballast	Starting Amps/ Operating Amps 120V	208V	240V	277V	Input Watts	LAMP ANSI	Initial Lumens	Lamp Hours
150	A19	Medium	0	0	0	0	0	0	0	0	0

Factory Installed Options
Add suffix to Catalog Number

Note: Specifications may change without notice

RAB Lighting, Inc. • 170 Ludlow Ave• Northvale, NJ 07647 • Tel: 888 RAB-1000 • Fax: 888 RAB-1232 • www.rabweb.com

ULTRA 3-Way A19 LED Lamps

Omnidirectional

Key Features & Benefits

- Long life: up to 25,000 hours (L_{70})
- UV and IR free
- Mercury and lead free
- RoHS compliant
- Available in 2700K color temperatures
- Reduces energy consumption up to 85%
- Lasts up to 12.5 times longer than incandescent lamps
- No warm-up time, instant-on with full light output and stable color

Not intended for use with dimmer.

Rated up to 25,000 hours at 70% lumen maintenance, ULTRA 3-Way A19 LED lamps offer years of service and reduce energy and maintenance costs. ULTRA 3-Way A19 LED lamps are environmentally preferred products and allow you to control energy use and light output. They are RoHS compliant and contain no mercury, lead or other hazardous materials. They emit no UV or IR radiation. A CRI of 80 ensures good color definition. The ULTRA 3-Way A19 lamp is available in warm 2700K color temperature.

Product Offering

Ordering Abbreviation	Color Temperature	Typical Lumens
4W/8W/13W A19 LED	2700K	400/800/1100

Application Information

Applications

- Table lamps

Market Segments

- Residential

Application Notes

1. Operating temperature range between -20°C and +45°C (-4°F and +113°F)
2. Not for use with emergency light fixtures or exit lights
3. Use in open fixture
4. Suitable for indoor/outoor use

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. For FCC Part 15 user information, please see www.sylvania.com/fcc15b.

SYLVANIA

Specification Data

Catalog #	Type
Project	
Comments	
Prepared by	

Ordering Information

Item Number	Ordering Abbreviation	Wattage (W)	Base Type	Replaces	Input Voltage (V)	Average Rated Life (hrs.)[1]	CCT[2]	Typical Lumens (lm)[3]	CRI[4]	Power Factor	Bulb Finish	ENERGY STAR®
75164	LED13A19/3WAY/O/827/BL	4, 8, 13	Medium	40W/60W/75W	120	25,000	2700K	400/800/1100	80	.90	Frosted	Yes

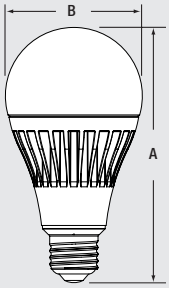
1. Hours lifetime with 70% (L70) lumen maintenance 2. Thermally stable typical CCT (±10%) 3. Thermally stable typical lumens (±10%) 4. CRI – Color Rendering Index

Ordering Guide

LED	13	A19	/	3WAY	/	0	/	8	27	/	BL
LED Lamps	Wattage: 13	Lamp Type: A19		3 Way		O=Omnidirectional		CRI 8=80+	CCT 27=2700K		Blister Pack

Lamp Dimensions

	(A) MOL inches (mm)	(B) Diameter inches (mm)
LED13A19	4.4 (112)	2.36 (60)



Energy Savings

Basic Product Description	LED Life (hrs.)	LED Lumens	Similar Incandescent	Incandescent Lumens	Incandescent Life (hrs.)	Watts Saved	LED Life vs. Incandescent
LED13A19	25,000	400/800/1100	40W/60W/75W	350/770/1035	2000	36/53/62	12.5x

*Energy savings over life of lamp calculated at $0.11/kWh

OSRAM

Americas Headquarters

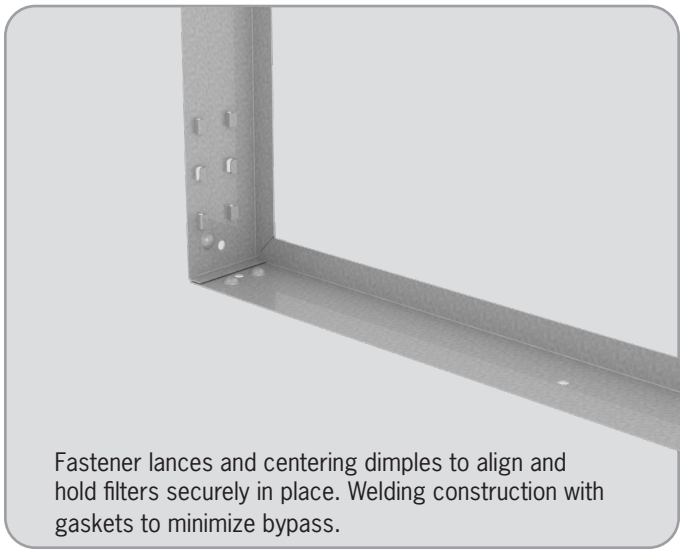
OSRAM SYLVANIA Inc.
100 Endicott Street
Danvers, MA 01923 USA
Phone 1-800-LIGHTBULB (1-800-544-4828)
www.sylvania.com

6

CONSTRUCTION DETAILS

Type 8 Frame

Filter Holding Frame for Built-Up Banks



Fastener lances and centering dimples to align and hold filters securely in place. Welding construction with gaskets to minimize bypass.

The Camfil Type 8 filter holding frame, with a variety of fasteners, will allow the installation of various combinations of ASHRAE pre and final filters. The installation may include a single filter or combinations of the following filters:

- Any 1", 2", or 4" deep panel or pleated filter.
- Any 6" or 12" deep rigid filter.
- Any headered style rigid or pocket filter.

The Camfil Type 8 holding frame includes:

- 16-gauge welded galvanized steel construction (stainless and aluminum options available).
- A ¾" filter sealing flange to ensure proper filter seating and sealing.
- Polyurethane gasketing on the frame to filter sealing surface to ensure leak-free performance in the most demanding of applications.
- Pre-drilled holes for riveting or bolt-together installation of built-up banks.
- Multiple lances for the application of various fasteners to install a wide variety of standard size air filters.

The Type 8 holding frame:

- May be assembled in banks up to six units high and any number of units wide (flat stock vertical stiffener bars are required for banks 4 to 6 units high alternating every other filter frame).
- May be applied in applications to remove water or oil mist.
- May be assembled in a V-bank configuration to reduce filter face velocity.

Type 8 Frame

Filter Holding Frame for Built-Up Banks

Performance Data

Part Number	Actual Depth (inches)	Actual Dimensions (inches)		Weight (lbs)
		Height	Width	
Standard Built-up Bank Application				
079473-004	2.69	24	12	4.3
079473-006		20	16	4.4
079473-005		25	16	5.0
079473-002		20	20	4.9
079473-003		25	20	5.5
079473-007		24	20	5.4
079473-001		24	24	6.0

DATA NOTES:
[1.] Flat-stock stiffener bars are required for every other vertical row on filter banks 4 to 6 units high. Stiffener bars, screws, nuts, and rivets are not supplied by Camfil.
[2.] For available fasteners, V-bank assembly and mist removal installation, contact factory for additional literature.

Available options:

Available with or without gasket (standard units include gasket).

Also available in aluminum, 20-gauge stainless steel, 304/L or 316/L.

Specifications

1.0 General
1.1 - Air filter holding frames shall be 16-gauge galvanized steel (or optional material as selected) with filter sealing flange, centering dimples, sealing gasket and lances for appropriate air filter fasteners.
1.2 - Sizes shall be noted on drawings or other supporting materials.
2.0 Construction
2.1 - Filter holding frame shall be constructed of 16-gauge galvanized steel (or optional material as selected). The frame shall be assembled from two corner sections and welded to assure a rigid and durable frame assembly.
2.2 - The frame shall include a variety of pre-punched lances for filter fastener attachment. Fastener shall be capable of being installed without the use of tools, nuts or bolts. Lance penetrations shall be upstream of filter flange to assure leak-free integrity.
2.3 - The frame shall include filter centering dimples on each frame wall to facilitate ease of filter installation and assure filter centering against filter sealing flange.
2.4 - A 3/4" filter sealing flange shall be an integral component of the holding frame. All corners shall be flush mitered and a permanently mounted polyurethane foam gasket shall be mounted on the sealing flange to assure filter to frame sealing integrity.
3.0 Performance
3.1 - Manufacturer shall provide evidence of facility certification to ISO 9001:2015.

Frame shall be Camfil Type 8 or equal.

camfil ISO 9001:2015 Certified Quality System

For detailed specifications and exact height, width and depth of each size, consult your local Camfil Distributor. Camfil has a policy of uninterrupted research, development and product improvement. We reserve the right to change designs and specifications without notice.

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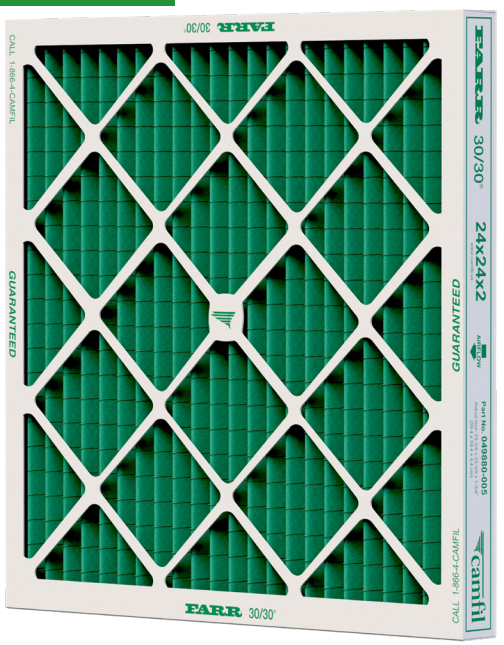
Camfil | 1 North Corporate Drive, Riverdale, NJ 07457 | Tel: (973) 616-7300

Farr 30/30®

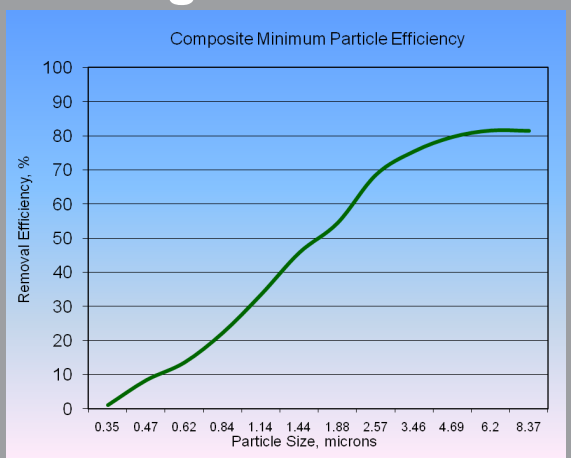
High-Capacity MERV 8/8A and ePM$_{10}$-50 Pleated Panel Filter

Pre Filters

ENERGY COST INDEX ★★★★★



The best performing pleated panel filter — guaranteed!



Composite minimum efficiency values of the 30/30 when evaluated per ASHRAE Standard 52.2. The 30/30 has a MERV of 8 and MERV-A of 8 when tested per Appendix J. It has an ISO efficiency of ePM$_{10}$-50

The Camfil Farr 30/30 has set the industry standard for pleated panel filters since 1963. With over 50 design enhancements, it continues to provide the industry's best value for medium efficiency filtration.

Setting the standard by which other pleated filters are judged, modern media manufacturing techniques and proprietary technological advancements ensure that the 30/30 is:

- Guaranteed to perform at the rated efficiency, or better, throughout the life of the filter.
- Guaranteed to last longer than any other pleated panel filter available.

PRODUCT PERFORMANCE GUARANTEED
Farr 30/30®
LASTS LONGER LIFETIME EFFICIENCY

Performing at MERV 8/8A and ePM$_{10}$-50 under ASHRAE and ISO filter testing standards respectively, using a mechanical particle capture principle, the 30/30 will not drop in efficiency while in service as will other pleated panel filters that incorporate an electret charge to obtain an initial MERV 8 value.

Its radial pleat design provides the longest life and lowest average pressure drop reducing the number of filter changes so your facility will use less fan power to move air through the filter.

The high wet-strength beverage frame and welded wire media backing provide structural integrity in any type of HVAC application virtually eliminating the additional costs associated with filter bypass or filter failure.

Available in 1", 2" or 4" deep configurations, the 30/30 is ideal for commercial, industrial, institutional or any other application where the ultimate level of protection of equipment and indoor air quality is a concern.

The 30/30 has an Energy Cost Index (ECI) of five stars, the highest performance rating available.

[1] A 5-Star rating indicates that this filter performs in the top 20% of all products of similar construction in the HVAC industry. Factors of consideration include maintained efficiency, energy usage and resistance to air flow. Detailed evaluation information is available from your Camfil sales outlet or on the web at www.camfilfarr.com.

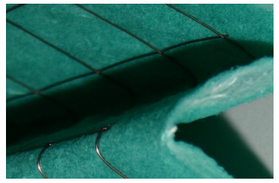
The highest media weight, more than any other pleated panel filter, and uniform lofting for high dust holding capacity, ensure that the 30/30 will last longer in any HVAC application.

Exclusive MERV 8 Performance from Camfil Media

The 30/30 media is manufactured from a proprietary blend of fibers that incorporate a mechanical principle of particle capture. The filter does not require an electret charge which would dissipate and reduce filter's efficiency after minimal hours of operation in a system. The media is lofted to a uniform depth to enhance the depth-loading characteristic and ensure the longest life of any pleated filter available. The high-loft also offers a lower resistance to airflow so fan horsepower required to move air through the filter is minimized. Camfil evaluates the quality of all incoming raw materials to maintain product integrity as part of a rigorous quality control program.

Welded Wire Grid Maintains Radial Pleat Design

The media is formed into a radial pleat for uniform dust loading and full use of the media area. V-style pleats blind while loading preventing full utilization of the media area and increasing the filters pressure drop resulting in increased energy usage. A welded wire grid, spot welded on one-inch centers maintains each radial pleat and maintains media stability through varying airflows.



Rounded radial pleats, instead of v-shape pleats, allow full usage of media area.

Diagonal support members, glued to each pleat at its apex, helps maintain pleat stability and filter rigidity.

High Wet-Strength Beverage Board Frame

The high wet-strength beverage board frame, the thickest board in the industry, creates a stable and non-yielding media pack. Filter bypass is virtually eliminated because the filter fits securely in the filter holding mechanism. The media is bonded to the frame ensuring that all of the air seen by the filter will be treated by the filter. Diagonal support members are bonded to each pleat to maintain pleat spacing and add stability to the pack through bridge-style engineering. The 30/30 is guaranteed to 2.0" w.g. of pressure filter without failure. Costly filter blowouts and compromising of HVAC system cleanliness is eliminated.

FARR 30/30® MERV 8, MERV-A 8-A ISO ePM_{10} 50% (ISO 16890) AIRFLOW CR9012CS CLASSIFIED UL US Air Filter Unit as to Flammability only 243A camfil

ISO 9001:2015 Certified Quality Control

Every 30/30 filter is identified on the frame with a unique manufacturing code that allows us to analyze every component of construction from raw materials to the point where the product is boxed for shipping. Filters are inspected for structural integrity so they are capable of operating in the harshest HVAC system conditions. The adhesiveness of diagonal support members to pleat apexes is inspected so pleat spacing is uniform to provide longer filter life. Each media lot is laboratory tested to confirm consistent performance and individual filters are submitted from each manufacturing facility on a strict schedule for ASHRAE 52.2 testing in our world-class testing facility.

The standard of the industry, by Camfil.

Used in many systems as a prefilter, the 30/30 extends the life of final filters by capturing larger contaminant and thereby allowing the final filters to concentrate on removing smaller particles such as those that are respirable and can cause lung damage. The 30/30 is also an excellent choice when applied as the only filter in a system to keep coils clean and maintain efficiency, and protect building occupants from contaminants of annoyance such as pollen, plant spores, atmospheric dusts and other indoor air irritants.

Unprecedented Industry Guarantee

If our filters don't outlast and outperform your current filters, we'll replace them, FREE.
For guarantee details and a distributor list, visit www.camfil.com.

PERFORMANCE DATA 2" Deep Filter (actual filter depth 1.75")

Part Number	Nominal Depth (inches)	Nominal Size (inches)	Actual Size (inches)			Initial Resistance (inches w.g.)	Airflow Capacity (cfm)	Total Media Area (sq. ft.)	Pleats per Linear Foot
			Depth	Height	Width				
402314001	2	12x12	1.75	11.62	11.62	0.31	500	4	15 pleats per linear foot
049880019		16x16		15.5	15.5		880	8	
049880022		16x25		15.5	24.5		1380	12	
049880024		18x18		17.5	17.5		1120	10	
049880008		20x10		19.5	9.5		690	6	
049880007		20x12		19.5	11.88		830	7	
049880009		20x14		19.5	13.5		970	8	
049880011		20x15		19.5	14.5		1040	9	
049880001		20x16		19.5	15.5		1110	10	
049880013		20x18		19.5	17.5		1250	11	
049880002		20x20		19.5	19.5		1380	12	
049880023		20x24		19.5	23.5		1660	15	
049880021		20x25		19.5	24.5		1730	15	
402271007		20x30		19.5	29.5		2080	18	
049880006		24x12		23.38	11.38		1000	8	
049880016		24x16		23.5	15.5		1330	12	
049880015		24x18		23.5	17.5		1500	13	
049880012		24x20		23.5	19.5		1660	15	
049880005		24x24		23.38	23.38		2000	17	
049880010		25x14		24.5	13.5		1210	11	
049880020		25x15		24.5	14.5		1300	11	
049880004		25x16		24.5	15.5		1380	12	
049880014		25x18		24.5	17.5		1560	14	
049880003		25x20		24.5	19.5		1730	15	
049880018		25x25		24.5	24.5		2170	19	

PERFORMANCE DATA 1" Deep Filter (actual filter depth 0.88")

Part Number	Nominal Depth (inches)	Nominal Size (inches)	Actual Size (inches)			Initial Resistance (inches w.g.)	Airflow Capacity (cfm)	Total Media Area (sq. ft.)	Pleats per Linear Foot
			Depth	Height	Width				
054862025	1	12x12	0.88	11.5	11.5	0.27	350	2	16 pleats per linear foot
054862012		16x16		15.5	15.5		620	4	
054862016		20x10		19.5	9.5		480	3	
054862019		20x12		19.5	11.5		580	4	
054862006		20x14		19.5	13.5		680	5	
054862001		20x16		19.5	15.5		770	5	
054862008		20x15		19.5	14.5		720	5	
054862002		20x20		19.5	19.5		970	7	
054862020		20x18		19.5	17.5		870	6	
054862029		20x30		19.5	29.5		1450	10	
054862021		22x22		21.5	21.5		1170	8	
054862022		24x10		23.5	9.5		580	4	
054862010		24x12		23.5	11.5		700	5	
054862026		24x14		23.5	13.5		810	6	
054862015		24x16		23.5	15.5		930	7	
054862028		24x18		23.5	17.5		1050	7	
054862011		24x20		23.5	19.5		1160	8	
054862005		24x24		23.5	23.5		1400	10	
054862023		25x10		24.5	9.5		600	4	
054862024		25x12		24.5	11.5		720	5	
054862004		25x16		24.5	15.5		970	7	
054862007		25x14		24.5	13.5		850	6	
054862013		25x15		24.5	14.5		910	6	
054862017		25x18		24.5	17.5		1090	8	
054862003		25x20		24.5	19.5		1210	9	
054862014		25x25		24.5	24.5		1510	11	

Farr 30/30®

High-Capacity MERV 8/8A and ePM$_{10}$ Pleated Panel Filter

PERFORMANCE DATA (continued) **4" Deep Filter (actual filter depth 3.75")**

Part Number	Nominal Depth (inches)	Nominal Size (inches)	Actual Size (inches)			Initial Resistance (inches w.g.)	Airflow Capacity (cfm)	Total Media Area (sq. ft.)	Pleats per Linear Foot
			Depth	Height	Width				
059413022	4	16x25	3.75	15.38	24.38	0.27	1380	19	11 pleats per linear foot
059413004		20x16		19.38	15.38		1110	15	
059413003		20x20		19.38	19.38		1380	19	
059413023		20x24		19.38	23.38		1660	23	
059413021		20x25		19.38	24.38		1730	24	
059413002		24x12		23.38	11.38		1000	14	
059413011		24x16		23.38	15.38		1330	18	
059413009		24x18		23.38	17.38		1500	21	
059413008		24x20		23.38	19.38		1660	23	
059413001		24x24		23.38	23.38		2000	28	
059413005		25x16		24.38	15.38		1380	19	
059413006		25x20		24.38	19.38		1730	24	
059413010		25x25		24.38	24.38		2170	30	
059413007		25x29		24.38	28.38		2510	35	

Data Notes:
1.0" w.g. recommended final resistance for all depths. System design may dictate an alternative changeout point. Contact factory for guidance.
The 30/30 has been listed by Underwriters Laboratories as UL 900.
Maximum operating temperature 200° F (93° C).
2" and 4" deep filters rated at 250 feet per minute (fpm) medium and 500 fpm high. 1" deep filter's rated at 175 fpm medium and 350 fpm high.
For product specification in RTF format please go to www.camfil.com.

4" deep 30/30 is available with a header for side-access housing installation.

Specification

1.0 General

1.1 - Air filters shall be medium efficiency ASHRAE pleated panels consisting of polyester media, welded wire media support grid, and beverage board enclosing frame.

1.2 - Sizes shall be noted on drawings or other supporting materials.

2.0 Construction

2.1 - Filter media shall be a synthetic blend, lofted to a uniform depth of 0.15", and formed into a uniform radial pleat.

2.2 - A welded wire grid, spot-welded on one-inch centers and treated for corrosion resistance shall be bonded to the downstream side of the media to maintain radial pleats and prevent media oscillation.

2.3 - An enclosing frame of no less than 28-point high wet-strength beverage board shall provide a rigid and durable enclosure. The frame shall be bonded to the media on all sides to prevent air bypass. Integral diagonal support members on the air entering and air exiting side shall be bonded to the apex of each pleat to maintain uniform pleat spacing in varying airflows.

3.0 Performance

3.1 - (The filter shall have a Minimum Efficiency Reporting Value of MERV 8 when evaluated under the guidelines of ASHRAE Standard 52.2. It shall also have a MERV-A of 8 when tested per Appendix J of the same standard, The filter shall have an eMP$_{10}$-50 value when tested under ISO Standard 16890). The media shall maintain or increase in efficiency over the life of the filter.

3.2 - Initial resistance to airflow shall not exceed 0.23", 0.31" or 0.27" w.g. at an airflow of 350, 500 or 500 fpm on 1", 2" or 4" deep models respectively.

3.3 - The filter shall have an Energy Cost Index (ECI) value of five stars.

3.4 - Filter shall be listed UL 900 by Underwriters Laboratories.

3.5 - Manufacturer shall provide evidence of facility certification to ISO 9001:2015.

3.6 - Manufacturer shall guarantee the integrity of the filter pack to 2.0" w.g.

Supporting Data - Provide product test report including all details as prescribed in ASHRAE Standards 52.2, including Appendix J.

Air filters shall be Camfil Farr 30/30 or equal.

(Items in parenthesis ( ) require selection.)

camfil ISO 9001:2015 Certified Quality System

ENERGY COST INDEX

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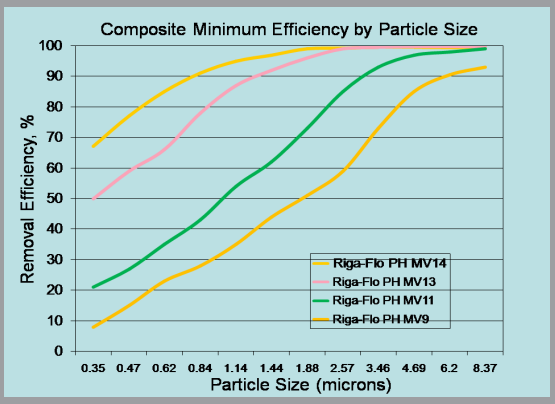
Riga-Flo® PH

High-Lofted Supported Media Air Filter For Side-Access Applications

Final Filters

Full utilization of media area for longer life and performance that is not affected by varying system airflow.



Values are Minimum Efficiency Reporting Values (MERV) when evaluated per ASHRAE Standard 52.2.

The Camfil Riga-Flo® PH provides high efficiency ASHRAE air filtration performance in a compact, supported media design. The materials of construction preclude contaminant amplification as all components are inert with respect to supporting the growth of captured bacteria or other viable contaminants. The Riga-Flo:

- Is available in four standard efficiencies — MERV 9, MERV 11, MERV 13 and MERV 14 per ASHRAE Standard 52.2. The Riga-Flo has a MERV-A value of 9, 11, 13 or 14 when tested using the conditioning step as specified in Appendix J of the same Standard.
- Includes high-lofted, depth-loading, micro fine glass media for longer service life and uniform low resistance to airflow. Filtration efficiency is maintained throughout the life of the filter.
- Has unique media backing to maintain fiber blanket uniformity and preclude media migration The backing is bonded to the media to support and maintain tapered radial pleats and prevent media oscillation during varying system airflows.
- Includes a continuous adhesive bond around the media pack to eliminate air bypass and ensure integrity to 10" w.g.
- Includes an enclosing frame with integral peripheral header for side-access or front-loading applications.
- Includes all-metal diagonal support braces to assure filter rigidity and media pack protection
- Includes unique bridge style plastic contour stabilizers, mechanically fastened to the diagonal support braces, on the air entering and air exiting sides, to ensure pleat support through turbulent or varying airflows.
- Has an ECI[1] value of four stars.

The Riga-Flo PH with its supported media is excellent for VAV systems or today's energy and disposal conscious HVAC applications.

[1] A 5-Star rating indicates that this filter performs in the top 20% of all products of similar construction in the HVAC industry. Factors of consideration include maintained efficiency, energy usage and resistance to air flow. Detailed evaluation information is available from your Camfil sales outlet or on the web at www.camfil.com.

Riga-Flo® PH

High-Lofted Supported Media Air Filter For Side-Access Applications

Performance Data

Filter Model & Efficiency[1]	Part Number (A style header, nominal 1" track)	Part Number (B style header, nominal 1.5" track)	Nominal Size (inches) (H X W X D)	Header Dimensions & Box Depth (inches) (H X W X D)	Media Area (sq. ft.)	Airflow Capacity (cfm)	Initial Resistance (inches w.g.)
Riga-Flo MV 14 PH MERV 14 MERV- A 14	402995-003	402996-003	24 X 24 X 12	23.38 X 23.38 X 11.50	45.5	2000	0.70
	402995-006	402996-006	24 X 12 X 12	23.38 X 11.38 X 11.50	21.2	1000	
	402995-009	402996-009	24 X 20 X 12	23.38 X 19.38 X 11.50	36.4	1660	
	402995-012	402996-012	20 X 20 X 12	19.38 X 19.38 X 11.50	29.7	1400	
Riga-Flo MV 13 PH MERV 13 MERV- A 13	402995-002	402996-002	24 X 24 X 12	23.38 X 23.38 X 11.50	45.5	2000	0.60
	402995-005	402996-005	24 X 12 X 12	23.38 X 11.38 X 11.50	21.2	1000	
	402995-008	402996-008	24 X 20 X 12	23.38 X 19.38 X 11.50	36.4	1660	
	402995-011	402996-011	20 X 20 X 12	19.38 X 19.38 X 11.50	29.7	1400	
Riga-Flo MV 11 PH MERV 11 MERV- A 11	402995-001	402996-001	24 X 24 X 12	23.38 X 23.38 X 11.50	45.5	2000	0.45
	402995-004	402996-004	24 X 12 X 12	23.38 X 11.38 X 11.50	21.2	1000	
	402995-007	402996-007	24 X 20 X 12	23.38 X 19.38 X 11.50	36.4	1660	
	402995-010	402996-010	20 X 20 X 12	19.38 X 19.38 X 11.50	29.7	1400	
Riga-Flo MERV 9, as noted below, includes a wire backing on the media.							
Riga-Flo MV 9 PH MERV 9 MERV- A 9	096966-001	096967-001	24 X 24 X 12	23.38 X 23.38 X 11.50	45.5	2000	0.34
	096966-005	096967-005	24 X 12 X 12	23.38 X 11.38 X 11.50	21.2	1000	
	096966-009	096967-009	24 X 20 X 12	23.38 X 19.38 X 11.50	36.4	1660	
	096966-013	096967-013	20 X 20 X 12	19.38 X 19.38 X 11.50	29.7	1400	

DATA NOTES:
** Recommended final resistance is 1.5" w.g. System design may dictate a lower change-out point.
[1] Respective listed efficiencies are MERV per ASHRAE 52.2.
Most common header is style 'A', 0.81" actual. B style is 1.125" actual for old Cambridge housings.
Maximum continuous operating temperature is 200° F (93° C), intermittent 220° F (104° C).
For resistance versus airflow charts please contact Camfil R&D at (973) 616-7300.

Options:
Available in full box style (Product Sheet 1303), see photo to right.

Specification

Air Filters—1.0 General

1.1 · Air filters shall be high-efficiency ASHRAE high lofted supported media disposable type assembled in a compact and secure enclosing frame.

1.2 · Sizes shall be as noted on drawings or other supporting materials.

2.0 Construction

2.1 · Filter media shall be of micro fine glass laminated to a reinforced backing to form a uniform lofted media blanket.

2.2 · The media blanket shall be formed into uniform tapered radial pleats and bonded to a stiffened backing that is bonded to the downstream side of the media to preclude media oscillation. (MERV 9 models shall have a welded wire grid backing).

2.3 · The media shall be mechanically and chemically bonded within the frame to prevent air bypass.

2.4 · The enclosing frame shall be constructed of corrosion resistant galvanized steel. The media pleats shall be maintained by bridge style plastic contour stabilizers, There shall be a minimum of four contour stabilizers on the air entering side and four on the air exiting side. All-metal diagonal support members shall enhance filter pack rigidity and a durable filter enclosure.

2.5 · The filter shall include an integral header for installation in a standard (1", 1.5) nominal filter track.

3.0 Performance

3.1 · The filter shall have a Minimum Efficiency Reporting Value of MERV (9, 11, 13, 14)* when evaluated under the guidelines of ASHRAE Standard 52.2. It shall also have a MERV-A rating of (9, 11, 13, 14) when evaluated under ASHRAE Standard 52.2-2007 Appendix J.

3.2 · Initial resistance to airflow shall not exceed (0.34", 0.45", 0.60", 0.70")* w.g. at an airflow of 500 fpm.

3.3 · The filter shall be capable of withstanding 10" w.g. without failure of the media pack.

3.4 · Manufacturer shall provide evidence of facility certification to ISO 9001:2008.

3.5 · Filter shall be listed by Underwriters Laboratories as UL 900.

Supporting Data · Provide product test reports for each listed efficiency including all details as prescribed in ASHRAE Standard 52.2, including Appendix J.

camfil ISO 9001:2008 Certified Quality System

ENERGY COST INDEX ★★★★☆

U.S. GREEN BUILDING COUNCIL MEMBER

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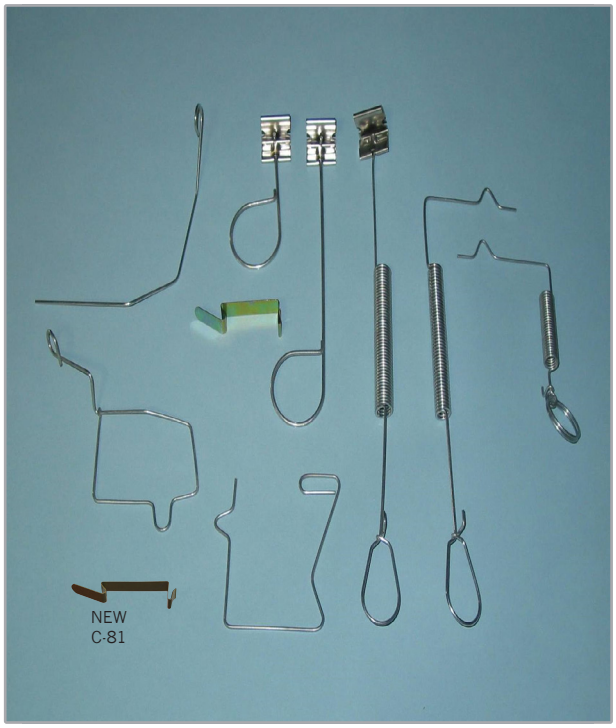
Fasteners

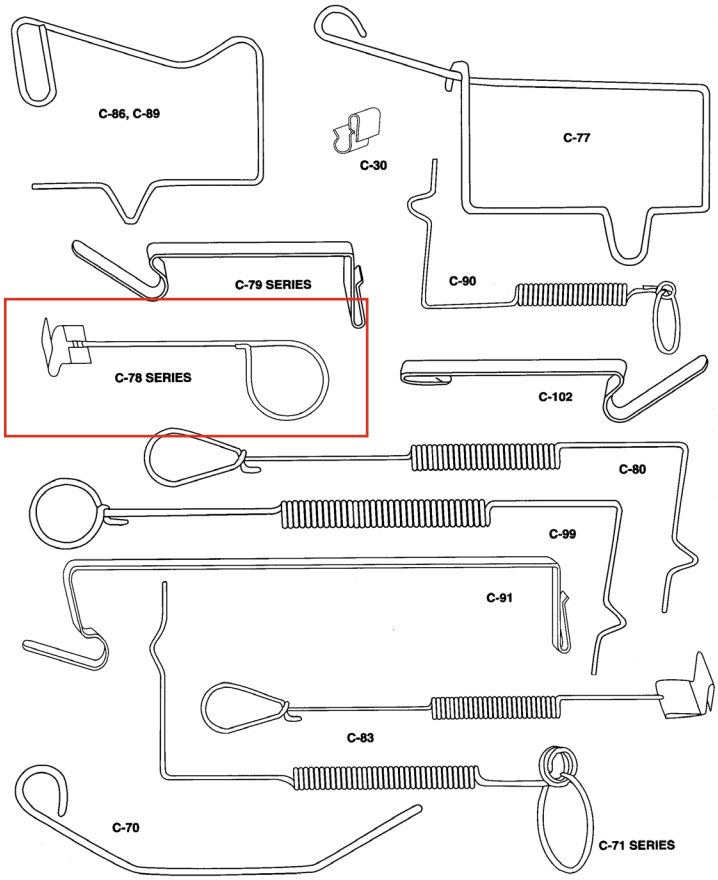
Fasteners and Clips for Securing Filters in Frames and Housings

C78-XX Clips as per the filter bank

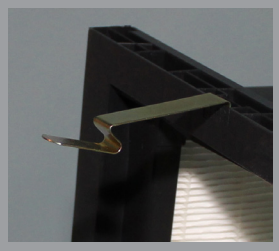


Fasteners are available for Camfil holding frames and housings, or for other manufacturers air filter mounting systems. Our fasteners are designed to ensure that your system air quality is equivalent to the highest level of your system's filter efficiency. Each fastener contributes to an air tight seal between the mounting mechanism and the air filter (requires the appropriate sealing gasket on the filter or the filter mounting mechanism).

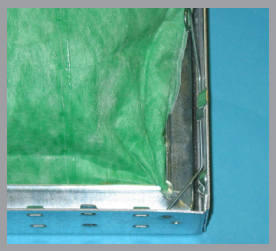
Constructed of high-tensile strength metals Camfil fasteners are unchallenged by the repeated rigors of filter change and maintenance. For challenging environments most fasteners can also be manufactured from alternate materials such as stainless steel, contact factory for more information.



Fasteners to ensure that the system efficiency will be equivalent to the filter efficiency



The C-81-2 or C-81-4 prefilter fastener inserts into a cavity integral to the Durafil ES² frame for face mounting a 2" or 4" prefilter.



C-70 fastener securing the header of a Camfil Hi-Flo, the same fastener may be applied to any 1" nominal size headered air filter.

Camfil Fasteners and Clips for Securing Filters in Frames and Housings

Applications (4 fasteners required per filter to maintain filter sealing integrity, see sales drawing 050202)		Access[6]	Model Number	Part Number
30/30, Aeropleat or Opti-Pac in Camfil Type 8 Holding Frame	1" or 2" deep filter	U or D	C-70	050025-000
	4" deep filter (use C-77 for Opti-Pac)	U	C-86	074437-000
		U or D	C-77[1]	059615-001
	2" deep filter as a prefilter to a Durafil ESB, Riga-Flo, or Aeropac (no header)	U	C-79-1	061179-001
	4" deep filter as a prefilter to a Durafil ESB, Riga-Flo, or Aeropac (no header)		C-79-2	061179-002
	2" deep filter as a prefilter face-mounted in the same frame with the Durafil ES[2]		C-81-2	406110-002
	4" deep filter as a prefilter face-mounted in the same frame with the Durafil ES[2]		C-81-4	406110-004
	4" deep Opti-Pac with 2" deep prefilter		C-79-5	061179-005
	4" deep Opti-Pac with 4" deep prefilter		C-79-6	061179-006
	2" deep filter as a prefilter to a Riga-Flo E-Series (no header)		C-102-1	124298-001
	4" deep filter as a prefilter to a Riga-Flo E-Series (no header)		C-102-2	124298-002
	1" deep filter as a prefilter in the same frame with Hi-Flo, Riga-Flo PH-A or Aeropac (single header)		C-70[4]	050025-000
	2" deep filter as prefilter in the same frame with Hi-Flo, Durafil ES,Riga-Flo PH-A or Aeropac (single header) (Two C-70 should be used to hold headered filter in place, and two C-86 fasteners (or C-77) should be used to hold prefilter in place. Fasteners would be on opposite corners).		C-86[4] or C-77[1] & C-70	074437-000 059615-001 050025-000
	4" deep filter as a prefilter in the same frame with Hi-Flo, Riga-Flo PH-A or Aeropac (single header)		C-89[4] & C-70	078865-000
	2" deep filter as a prefilter in the same frame with Aeropac (double header)		C-103-1	403229-001
	4" deep filter as a prefilter in the same frame with Aeropac (double header)		C-103-2	403229-002
30/30 Aeropleat Hi-Flo Hi-Flo ES Riga-Flo Opti-Pac in Competitive Holding Frame	1" deep filter	U or D	C-78-1	059920-001
	2" deep filter		C-78-2	059920-002
	4" deep filter		C-78-4	059920-003
	1" deep filter as a prefilter to a Hi-Flo or Riga-Flo PH-A	U	C-78-2[4]	059920-002
	2" deep filter as a prefilter to a Hi-Flo or Riga-Flo PH-A		C-78-3[4]	059920-004
	4" deep filter as a prefilter to a Hi-Flo or Riga-Flo PH-A		C-78-5[4]	059920-006
	2" deep filter as a prefilter to a Opti-Pac		C-78-7	059920-008
Riga-Flo in Camfil Type 8 Holding Frame	To secure 12" deep filter — 24" x 24"	U or D	C-80[5] or C-99	061180-000 114353-000
	To secure 12" deep filter — 24" x 12"		C-80[2] or C-99[2]	061180-000 114353-000
	To secure 6" deep filter — 24" x 24"		C-90	078948-000
	To secure 6" deep filter — 24" x 12"		C-90[2]	
	To secure 6" deep filter as a prefilter to a 12" deep filter—24" x 24"	U	C-91	079445-000
	To secure 6" deep filter as a prefilter to a 12" deep filter—24" x 12"		C-91[2]	
Riga-Flo in Competitive Holding Frame	To secure 12" deep filter — 24" x 24"	U or D	C-83	062529-000
	To secure 12" deep filter — 24" x 12"		C-83[2]	
	To secure 6" deep filter — 24" x 24"		C-83-6	079618-000
	To secure 6" deep filter — 24" x 12"		C-83-6[2]	
Aeropeac[7] Durafil[7] Riga-Flo PH Hi-Flo Hi-Flo ES In Camfil Type 8 Holding Frame	To secure 12" deep Aeropac (no header) — 24" x 24", 24" x 12"	U or D	C-80[3] or C-99[2]	061180-000
	To secure a single header pocket style filter (Hi-Flo)	U or D	C-70	050025-000
	To secure a 12" deep single header style filter (Riga-Flo PH, Durafil, Aeropac)	U or D5	C-70	050025-000
	To secure a 12" deep single header Aeropac style filter	D	C-100	114646-000
	To secure a 12" deep double header style filter	U	C-80 or C-100	061180-000
	To secure 6" deep single header style filter	U	C-70	050025-000
		U or D	C-90	078948-000
Notes	1 When using the Farr 30/30 Class 1 filter in this application, a C-77 fastener should be used.			
	2 Two fasteners can be used for upstream application, however it is not recommended.			
	3 C-99 is also available in place of the C-80 to allow for more clearance downstream.			
	4 Hi-Flo filters can be accessed from either upstream or downstream.			
	5 To secure a Riga-Flo PH or Durafil using upstream access only, use a C-70 fastener, part number 050025-000. For the Durafil only, the C-70 fastener may be used on the downstream as well.			
	6 The terms upstream (U) and front access are synonymous, as are downstream (D) and rear access.			
	7 For upstream access & downstream access (Durafil and Aeropac only) where the filter goes through frame opening a C-70 fastener should be used. When the filter does not go through the frame opening then a C-80 or a C-100 (Aeropac only).			

camfil ISO 9001:2008 Certified Quality System

U.S. GREEN BUILDING COUNCIL MEMBER

Camfil | 1 North Corporate Drive, Riverdale, NJ 07457 | Tel: (973) 616-7300

Diff Pressure Gauges for Fan CFM Readings

SERIES 616KD | DIFFERENTIAL PRESSURE TRANSMITTER ±0.25, ±1 OR 2% ACCURACY

Side mount zero

BENEFITS/FEATURES

- **Simple calibration push-button sets back zero and span, saving time installing and over the service life**
- **Cost effective and compact device suitable for OEM applications where space, simplicity, and value are key**
- **Ranges and accuracy selection cover a wide range of applications minimizing components and determining standardizing on design**
- **Optional 1/8˝ NPT process connection allows for use with metal barbed fittings or compression fittings for use with metal tubing**
- **Side mounted push button zero (-A and -B models only)**

APPLICATIONS

- Air handlers
- Duct pressure
- Variable air volume
- Filter monitoring

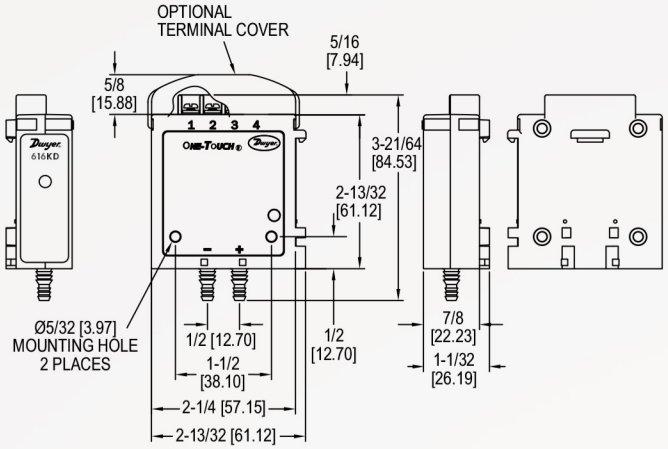
DESCRIPTION

The **Series 616KD Differential Pressure Transmitters ±0.25, ±1 or 2% Accuracy** are designed for simplicity, making them the ideal choice for installers and maintenance professionals. These instruments not only alleviate cumbersome turn pots typically found in most transmitters, but eliminate entirely the need to span the instruments during calibration. With single digital push button, both ZERO AND SPAN are calibrated properly, nothing else is required. No additional reference pressure sources or separate calibration devices are necessary.

SPECIFICATIONS

Service	Air and non-combustible, compatible gases.
Wetted Materials	Consult factory.
Accuracy	616KD-A: ±0.25% FS; 616KD-B: ±1% FS, 616KD: ±2% FS.
Stability	±1% FS/year.
Temperature Limits	0 to 140°F (-17.8 to 60°C).
Compensated Temperature Range	20 to 122°F (-6.67 to 50°C).
Pressure Limits	2 psig (ranges 5 in w.c. or lower); 5 psig (ranges 10 to 40 in w.c.).
Thermal Effect	616KD-A: ±0.02% FS/°F; 616KD-B: ±0.04% FS/°F; 616KD: ±0.06% FS/°F, includes zero and span.
Power Requirements	4-20 mA output: 10 - 35 VDC (2-wire) or 12-26 VAC (4-wire); 5V output: 10-35 VDC (3-wire) or 12-26 VAC (4-wire); 10 V output: 13-35 VDC (3-wire) or 12-26 VAC (4wire) for 616KD A and B. 16 to 36 VDC (2 or 3-wire): 20-28 VAC (3-wire) for 616KD.
Output Signal	4-20 mA or option with field selectable 0-10, 0-5, 2-10, 1-5 V.
Zero and Span Adjustments	Push button.
Loop Resistance	4-20 mA output (DC): 0 - 1250 Ω max. Rmax = 50 (VpsDC -10) Ω; 4-20 mA output (AC): 0 - 1200 Ω max. Rmax = 50 (1.4 VpsAC -12) Ω; Voltage output: 5K Ω minimum.
Current Consumption	24 mA max for 616KD A and B. 21 mA max for 616KD.
Electrical Connections	Screw-type terminal block.
Process Connections	Barbed, dual size to fit 1/8˝ and 3/16˝ (3 mm and 5 mm) ID rubber or vinyl tubing.
Enclosure Rating	NEMA 1 (IP20), tested to UL 2043 for plenum applications.
Mounting Orientation	Vertical with pressure connections pointing down.
Weight	1.8 oz (51 g).
Compliance	CE.

DIMENSIONS



HOW TO ORDER

Use the **bold** characters from the chart below to construct a product code.

616KD **-A** **-12** **-AT**

SERIES
616KD: Differential pressure transmitter

ACCURACY
-A: 0.25% FS accuracy
-B: 1.0% FS accuracy
: 2.0% FS accuracy

Note: 0.25% FS accuracy is not available in the following ranges 00, 01, 10,11.

OPTIONS
-AT: Aluminum tag
-FC: Factory calibration
-NIST: NIST certification
-TC: Terminal cover
-V: Voltage output 0-5, 1-5, 0-10, 2-10 VDC (field selectable)

RANGE
-00: 0 to 1 in w.c.
-01: 0 to 2 in w.c.
-02: 0 to 3 in w.c.
-03: 0 to 5 in w.c.
-04: 0 to 10 in w.c.
-05: 0 to 15 in w.c.
-06: 0 to 20 in w.c.
-07: 0 to 25 in w.c.
-08: 0 to 40 in w.c.
-10: 0 to 250 Pa
-11: 0 to 500 Pa
-12: 0 to 750 Pa
-13: 0 to 1250 Pa
-14: 0 to 2500 Pa
-15: 0 to 5000 Pa
-50: 0 to ±1 in w.c.
-51: 0 to ±2 in w.c.
-57: 0 to ±3 in w.c.
-52: 0 to ±5 in w.c.
-53: 0 to ±10 in w.c.
-54: 0 to ±250 Pa
-55: 0 to ±500 Pa
-56: 0 to ±750 Pa
-58: 0 to ±1250 Pa

ORDER ONLINE TODAY!
dwyer-inst.com/Product/Series616KD

DWYER INSTRUMENTS, LLC

Printed in U.S.A. 2/22

DS-616KD Rev. 6

Diff. Pressure Gauges for Filter Racks

SERIES DM-2000 | DIFFERENTIAL PRESSURE TRANSMITTER

BENEFITS/FEATURES

- **Zero and span controls provide easy calibration checks and shorter installation time to get device running and monitoring**
- **Tamper-proof button configuration prevents accidental setting changes**
- **Quick response to pressure changes means no delay in signaling and alerting to critical situations**
- **Easy to read LCD display provides immediate local alerts allowing corrective action to be taken quicker to eliminate the problem from becoming widespread**
- **Same size as Magnehelic® gage simplifies field upgrade to digital pressure gage by reducing installation steps**
- **4-20 mA output allows for integration into Building Automation Systems**

APPLICATIONS

- Differential pressure across filters
- Fan control
- Static pressures in ducts or buildings

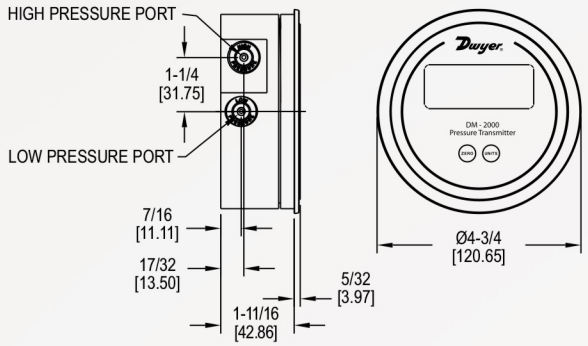
DESCRIPTION

The Dwyer **Series DM-2000 Differential Pressure Transmitter** senses the pressure of air and compatible gases and sends a standard 4-20 mA output signal. The DM-2000 housing is specifically designed to mount in the same diameter cutout as a standard Magnehelic® gage. A wide range of models are available factory calibrated to specific ranges. Pressure connections are inherent to the glass filled plastic molded housing making installation quick and easy. Digital push-button zero and span simplify calibration over typical turn-potentiometers. An optional 3.5 digit LCD shows process and engineering units. A single push button allows field selection of 4 to 6 engineering units depending on range.

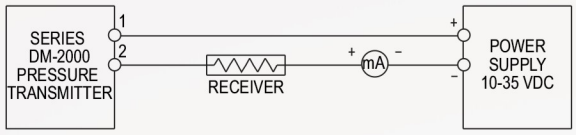
SPECIFICATIONS

Service	Air and non-combustible, compatible gases.
Wetted Materials	Consult factory.
Accuracy	±1% FS, ±30 Pa model ±4% FS at 70°F.
Stability	±1% FS/yr.
Temperature Limits	20 to 120°F (-6.67 to 48.9°C).
Pressure Limits	10 psig (0.69 bar).
Thermal Effect	±0.055% FS/°F (0.099% FS/°C), ±30 Pa model ±0.13% FS/°F (0.234% FS/°C).
Power Requirements	10-35 VDC (2-wire).
Output Signal	4-20 mA.
Zero and Span Adjustments	Digital push-button zero and span.
Loop Resistance	DC: 0 to 1250 Ω maximum.
Current Consumption	DC: 38 mA maximum.
Electrical Connections	Screw-type terminal block.
Display	3.5 digit LCD, 0.7˝ height.
Process Connections	1/8˝ I.D. tubing.
Mounting Orientation	Vertical.
Weight	4.8 oz (136 g).

DIMENSIONS



WIRING DIAGRAM



2-wire connections

HOW TO ORDER

Use the **bold** characters from the chart below to construct a product code.

DM **-20** **01** **AT**

SERIES
DM: Differential pressure transmitter

GAGE BACKGROUND COLOR
-20: Black
-21: Light grey

OPTIONS
AT: Aluminum tag
LCD: LCD display
FC: Factory calibration certificate
NIST: NIST traceable calibration certificate

RANGE
01: 0 to 0.1 in w.c.
02: 0 to 0.25 in w.c.
03: 0 to 0.5 in w.c.
04: 0 to 1 in w.c.
05: 0 to 2 in w.c.
06: 0 to 3 in w.c.
07: 0 to 5 in w.c.
12: 0.25 to 0 to 0.25 in w.c.
13: 0.5 to 0 to 0.5 in w.c.
19: 0.05 to 0 to 0.20 in w.c.
47: 30 to 0 to 30 Pa

ACCESSORIES

Model	Description
A-299	Surface mounting bracket
A-300	Flat flush mounting bracket
A-302F-A	303 SS static pressure tip with mounting flange; for 3/16″ ID rubber or plastic tubing; 4″ insertion depth; includes mounting screws
A-320-A	Instrument enclosure
A-320-B-SS	Instrument enclosure, 304 SS, brushed finish, compatible with 2000 Magnehelic® gage, DM-2000 differential pressure transmitter
A-320-BC	Weatherproof enclosure, ABS, compatible with 2000 Magnehelic® gage, DM-1000 DigiMag® digital differential pressure gage, DM-2000 differential pressure transmitter, Series 605 (with -SS option), instruments with backwards compatible bezel option
A-464	Flush mount kit for Magnehelic® gages
A-489	4″ straight static pressure tip with flange
SCD-PS	100-240 VAC/VDC to 24 VDC power supply

ORDER ONLINE TODAY!

dwyer-inst.com/Product/SeriesDM-2000

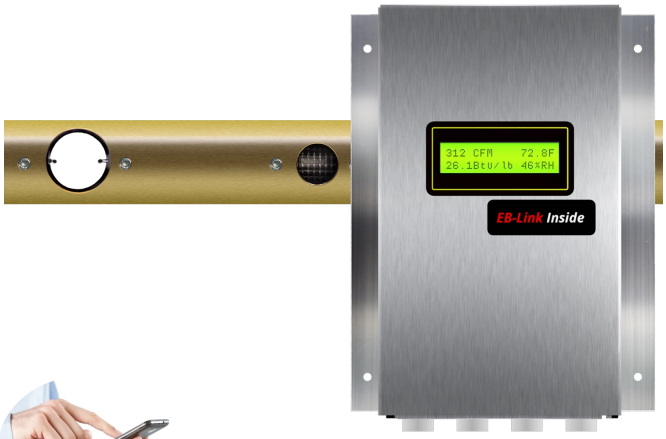
DWYER INSTRUMENTS, INC.

Printed in U.S.A. 6/21

DS-DM-2000 Rev. 3

HIGH SENSOR DENSITY MULTI-POINT AIRFLOW AND TEMPERATURE MONITORING DEVICE WITH ALARM AND OPTIONAL INTEGRAL HUMIDITY SENSOR

OA Air Flow Measuring



PRODUCT HIGHLIGHTS

- *"Plug and Play"* operation
- EBTRON exclusive bead-in-glass thermistor sensors
- Sensor nodes are individually calibrated at 16 airflow rates to NIST traceable standards
- 0 to 5,000 FPM calibrated range with percent-of-reading accuracy
- Actual (CFM) or mass (SCFM) airflow measurement
- Velocity-weighted temperature measurement between -20° F to 160° F
- Optional velocity-weighted humidity/enthalpy and dewpoint measurement
- Smart *Sensor Detection System* (*SDS*) continuously monitors for sensor and transmitter faults
- Independent test data demonstrates resistance to saltwater and chemical exposure
- Standard FEP plenum rated cable between sensor probes and transmitter
- No compromise construction uses gold plated interconnects and connector pins
- Unsurpassed connectivity options
- *EB-link* BLE interface to phone or tablet provides real-time monitoring and diagnostics
- Three-year warranty
- Toll-free customer support for the lifetime of the product

TYPICAL APPLICATIONS

- Outdoor airflow monitoring and control
- Advanced CO2-DCV airflow reset and limit control
- Population-based DCV control
- Air change verification and control
- Differential airflow tracking and pressure control
- System performance monitoring
- Economizer switchover and fault detection

EBTRON ADVANCED THERMAL DISPERSION TECHNOLOGY

EBTRON pioneered bead-in-glass thermistor based thermal dispersion over 40 years ago. EBTRON's thermal dispersion technology relates the power dissipated by a self-heated thermistor to the airflow rate at one or more sensor nodes in an airstream. All EBTRON airflow monitoring systems use this time-tested thermal dispersion technology.

MODEL DESCRIPTION

The GTx116e-P is EBTRON's top-of-the-line airflow monitoring system that also provides velocity-weighted temperature and optional velocity-weighted psychrometric measurements, thus providing a turn-key solution for today's high-performance buildings. Multiple sensor nodes provide accurate measurements of critical airstream parameters. Unsurpassed connectivity options and a "no-compromise" design makes this your best choice for today's high-performance buildings.

GTx116e-P TECHNICAL SPECIFICATIONS

General

Probe and Sensor Node Configurations (max.)
- **Type A Transmitter:** 2 probes x 8 sensor nodes/probe
- **Type B Transmitter:** 4 probes x 4 sensor nodes/probe

Installed Airflow Accuracy
- **Ducts/Plenums:** ±3% of reading
- **Non-ducted OA Intakes:** better than or equal to ±5% of reading

Sensor Node Averaging Method
- **Airflow:** Independent, arithmetic average
- **Temperature:** Independent, velocity weighted average

Patents
- **US Patent Nos.:** 12,066,199; 12,066,205
- **CA Patent Nos.:** 3,069,531; 3,169,641

Listings & Compliance
- **UL:** 60730-1; CAN/CSA-E60730-1
- **CE:** Yes
- **UKCA:** Yes
- **BACnet International:** BTL Listed (GTC116e and GTM116e transmitters)
- **FCC:** This device complies with Part 15 of the FCC rules
- **RoHS:** This device is RoHS2 compliant

Environmental Limits
- **Temperature:**
  - **Probes:** -20 to 160 ^{0}F [-28.9 to 71.1 ^{0}C]
  - **Transmitter:** -20 to 120 ^{0}F [-28.9 to 48.9 ^{0}C]
- **Humidity:** (non-condensing)
  - **Probes:** 0 to 100%
  - **Transmitter:** 5 to 95%

Individual Sensing Nodes

Sensing Node Sensors
- **Self-heated sensor:** Precision, hermetically sealed, bead-in-glass thermistor probe
- **Temperature sensor:** Precision, hermetically sealed, bead-in-glass thermistor probe

Sensing Node Housing
- **Material:** Glass-filled Polypropylene (Kynar® with /SS option)
- **Sensor Potting Materials:** Waterproof marine epoxy

Sensing Node Internal Wiring
- **Type:** Kynar® coated copper

Airflow Measurement
- **Accuracy:** ±2% of reading to NIST-traceable airflow standards (includes transmitter uncertainty)
- **Calibrated Range:** 0 to 5,000 fpm [25.4 m/s]
- **Calibration Points:** 16

Temperature Measurement
- **Type:** Velocity-weighted average
- **Accuracy:** ±0.15^{0}F [0.08 ^{0}C] to NIST-traceable temperature standards (includes transmitter uncertainty)
- **Calibrated Range:** -20 to 160 ^{0}F [-28.9 to 71.1 ^{0}C]

Optional Relative Humidity Sensor (/H Option)

Type: Ruggedized capacitive polymer RH sensor

Accuracy @ 77 ^{0}F [25 ^{0}C]
- **20 to 80 %RH:** ±2% RH
- **0 to 20 and 80 to 100 %RH:** ±3.5% RH

Temperature Coefficient: 0.07%/^{0}F [0.13%/^{0}C]

Long Term Drift: 0.5% RH/year

Calculated Measurements: Velocity weighted relative humidity, velocity-weighted enthalpy and dew point using measured RH, velocity-weighted temperature and on-board barometric pressure sensor.

Sensor Probe Assembly

Tube
- **Material:** Gold anodized 6063 aluminum (316 stainless steel with /SS option)

Mounting Brackets
- **Material:** 304 stainless steel

Mounting Options & Size Limits
- **Insertion:** 6 to 191in. [152.4 to 4851 mm]
- **Stand-off:** 6 to 190 in. [152.4 to 4826 mm]
- **Internal:** 10 to 194 in. [254.0 to 4928 mm]

Note: The /H option is only available on probes >18 in.[457.2 mm]

Probe to Transmitter Cables
- **Type:** FEP jacket, plenum rated CMP/FT6/CL2P, UL/cUL listed, -67 to 302 ^{0}F [-55 to 150 ^{0}C], UV tolerant
- **Standard Lengths:** 10, 15, 20, 25, 30, 40 and 50 ft. [3.1, 4.6, 6.1, 7.6, 9.1, 12.2, and 15.2 m]
- **Connecting Plug:** 13/16" [20.63 mm] nominal diameter with gold-plated connector pins

Transmitter

Power Requirement: 24 VAC (22.8 to 26.4 under load) @20V-A max.

Connector Receptacle Pins and PCB Connections: Gold-plated receptacle pins, PCB interconnects, PCB edge fingers, and test points

User Interface: 2 line x16-character backlit LCD display and 4 button interface

B.A.S. Connectivity Options
- **All Transmitters:** Three field selectable (0-5/0-10 VDC or 4-20mA), scalable and isolated analog output signals (AO1=airflow, AO2=temperature or alarm, AO3=%RH, enthalpy or dew point when /H option is provided).
- **GTA116e Transmitter:** No additional connectivity to B.A.S.
- **GTC116e Transmitter:** One additional field selectable (BACnet MS/TP or Modbus RTU) and isolated RS-485 network connection - Individual sensor node airflow rates and temperatures are available via the network
- **GTM116e Transmitter:** One additional isolated Ethernet (simultaneously supported BACnet Ethernet or BACnet IP, Modbus TCP and TCP/IP) network connection - Individual sensor node airflow rates and temperatures are available via the network
- **GTF116e Transmitter:** One additional isolated Lonworks Free Topology network connection
- **GTU116e Transmitter:** One additional USB connection for thumb drive data-logging of sensor node airflow rates and temperatures

Airflow Alarm
- **Type:** Low and/or high user defined setpoint alarm
- **Tolerance:** User defined % of setpoint
- **Delay:** User defined
- **Zero Disable:** Alarm can be disabled when the airflow rate falls below the low limit cutoff value (unoccupied periods)
- **Reset Method:** Manual or automatic
- **Visual Indication:** Yes, LCD display
- **Analog Signal Indication:** Yes, on AO2 assignment

System Status Alarm
- **Type:** Sensor diagnostic system trouble indication
- **Visual Indication:** Yes, LCD display
- **Analog Signal Indication:** Yes, on AO2 assignment

***EB-Link* Bluetooth® low energy Interface for Android® and iPhone®:** Display real-time airflow, velocity-weighted temperature, humidity, enthalpy, dew point, individual sensor node airflow/temperature data, settings and diagnostics.

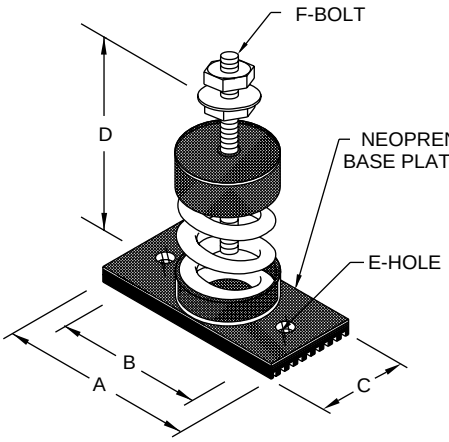
SENSOR DENSITY

Sensor density refers to the number of sensor nodes located in the sensing plane where the probes are mounted. Typical HVAC applications have limited straight run between up and downstream disturbances. Those disturbances can create a significant velocity profile. As a result, the installed accuracy is based not only on the sensor node accuracy, but the ability sensor nodes to average the velocity profile sufficiently. Most instrumentation manufacturers dismiss the effect of sampling error and only publish laboratory sensor accuracy.

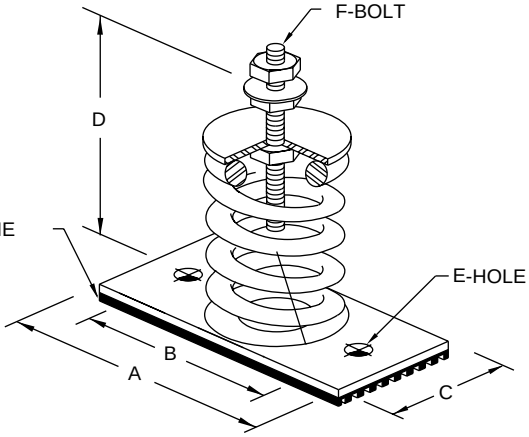
The number of sensor nodes provided depends on the sensor density suffix C or + that follows the probe type description of “P” in the model code. A custom sensor density, Z, is also available for applications that do not fall into standard installation tables. The transmitter provides the average velocity of the sensor nodes for the true volumetric or mass airflow of the airstream. When installed in accordance with EBTRON placement guidelines, the GTx116e-PC provides a measurement accuracy of better than or equal to ±3% of reading (±5% of reading on close-coupled outdoor air intakes) without field adjustment. The GTx116e-P can be configured for up to sixteen independent sensor nodes for unsurpassed measurement accuracy.

EBTRON placement guidelines are based on tests conducted on C sensor density (i.e., GTx116e-PC) probes. Although EBTRON recommends its C sensor density for most applications, it can provide alternate sensor density when less probes are desired for the same sensor density (+). Refer to the sensor density tables below for the specific information on the number of probes and sensors per probe for a given sensor density designation.

FREE STANDING SPRING ISOLATORS FOR FLOOR MOUNTING



OST2R (Fig. 51)

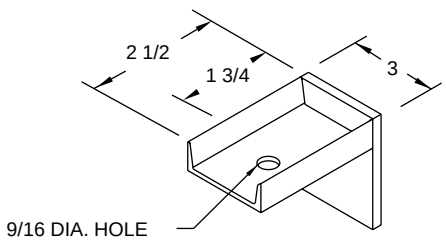


OST1, OST3 (Fig. 52)

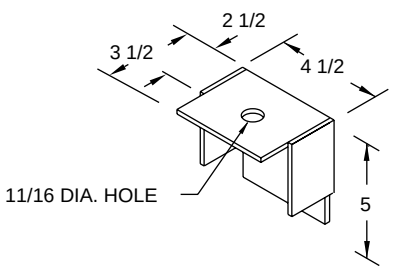
F21 to F27 springs: Color coding is identified by color of spring.
All others: Color coding is identified by colored label.

Fig. No.	MODEL NUMBER	COLOR CODE	RATED LOAD	RATED DEFL.	"A"	"B"	"C"	"D"	"E"	"F"	SHIP. WGT.
52	OST1 1	SILVER	100 #	1.00"	5	4	2 1/2	5 1/4	9/16	5/8	3.5 #
	OST1 2	YELLOW	200 #	1.00"							
	OST1 3	RED	295 #	.80"							
	OST1 4	WHITE	380 #	.80"							
	OST1 5	GREEN	530 #	.80"							
	OST1 6	BLUE	750 #	.75"							
	OST1 7	ORANGE	1125 #	.75"							
	OST1 8	GOLD	1500 #	.75"							
51	OST2R F21	YELLOW	40 #		4	3	2 1/8	4 3/4	7/16	1/2	1.2 #
	OST2R F22	RED	100 #								
	OST2R F23	WHITE	150 #								
	OST2R F24	GREEN	210 #	1.00"							
	OST2R F25	BLUE	300 #								
	OST2R F26	ORANGE	400 #								
	OST2R F27	BROWN	500 #								
52	OST3 F30	SILVER	155 #	1.85"	6	5	3	6	9/16	5/8	5.0 #
	OST3 F31	YELLOW	220 #	1.70"							
	OST3 F32	RED	310 #	1.55"							
	OST3 F33	WHITE	420 #	1.40"							
	OST3 F34	GREEN	540 #	1.25"							
	OST3 F35	BLUE	710 #	1.15"							
	OST3 F36	ORANGE	900 #	1.05"							
	OST3 F37	GOLD	1030 #	1.00"							
	OST3 F38	RED/SILVER	1275 #	1.00"							
	OST3 F39	RED/YELLOW	1630 #	1.00"							
	OST3 F40	RED/WHITE	2100 #	1.00"							
	OST3 F41	RED/GREEN	3000 #	1.00"							

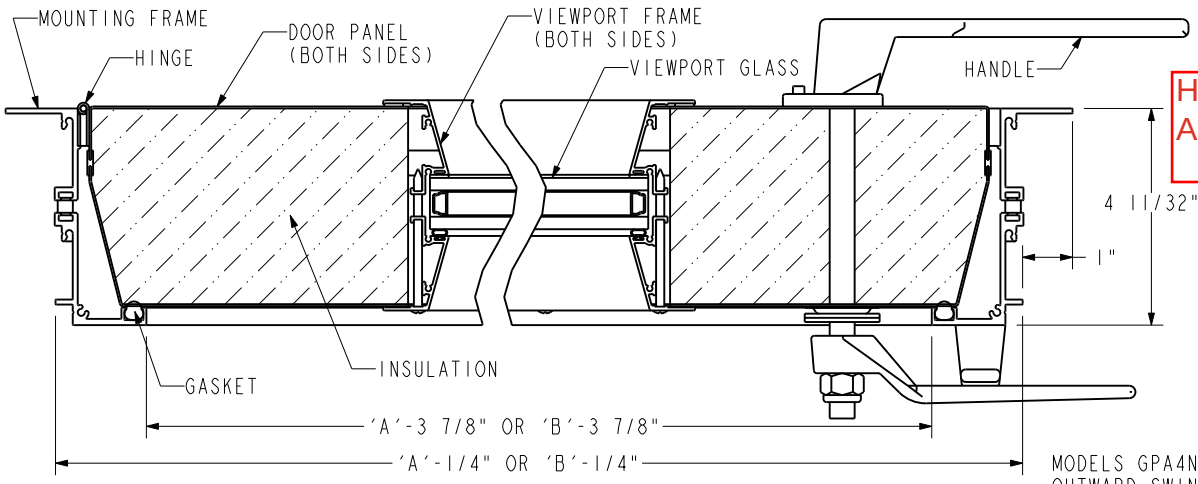
All springs are free standing and laterally stable. (Meeting a minimum of 0.8 ratio of spring diameter to compressed height.)
All springs are designed to provide additional travel of 50% of rated load.
All hardware zinc-electroplated.



BRACKET FOR OST2R (Fig. 53)



BRACKET FOR 0ST1, OST3 (Fig. 54)

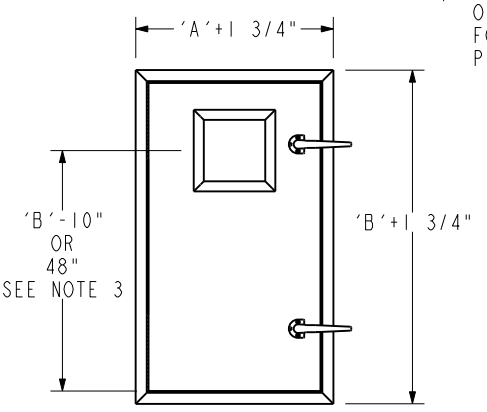


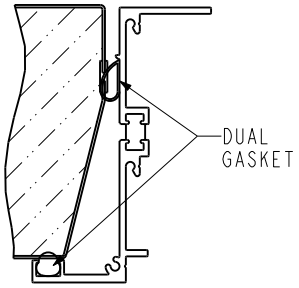
Handle to be Allegis K2

MODELS GPA4NTB AND GPA4VNTB ARE OUTWARD SWING DOORS DESIGNED FOR "DRAW THROUGH", NEGATIVE PRESSURE APPLICATIONS

ALL MODEL DOORS ARE IN COMPLIANCE WITH UL 1995, 2nd EDITION, STANDARD FOR SAFETY HEATING AND COOLING EQUIPMENT, AND NFPA 90.

MODEL GPA4VNTB (L/H) SHOWN





MODEL GPA4(V)NTBS

SCHEDULE

ITEM	QTY	MODEL						OPENING SIZE		IDENTIFICATION
		GPA4	V L/H	V R/H	NTB	S	C	*'A' WIDTH	*'B' HEIGHT	
		GPA4			NTB					
		GPA4			NTB					
		GPA4			NTB					
		GPA4			NTB					

NOTES

*1. UNLESS OTHERWISE SPECIFIED, DOOR WILL BE FABRICATED 1/4" UNDER LISTED WALL OPENING SIZE, ±1/16".
2. MIN. DOOR SIZE 12" WIDE X 12" HIGH, MAX. DOOR SIZE 48" WIDE X 96" HIGH. (WIDTH CANNOT EXCEED 3 X HEIGHT)
3. VIEWPORT LOCATION, AS DIM. ABOVE, IS 'B'-10" (±1") ON DOORS UP TO 60" HIGH, AND 48" (±1") ON DOORS OVER 60" HIGH.
4. (V) DESIGNATES MODEL DOOR WITH VIEWPORT, SPECIFY (L/H) LEFT HAND OR (R/H) RIGHT HAND, HINGE LOCATION WHEN VIEWING EXTERIOR SIDE OF DOOR.
5. HINGE ALWAYS FURNISHED ALONG 'B' DIMENSION, HEIGHT OF DOOR.
6. VIEWPORT IS NOT AVAILABLE ON DOORS UNDER 15" WIDE x 31" HIGH.
7. OPTIONAL MATERIALS AVAILABLE:
   DOOR PANELS-16 GA. GALVANNEALED, STAINLESS AND GALVANIZED STEEL
   -20 GA. GALVANNEALED AND STAINLESS STEEL
   -.063 SMOOTH ALUMINUM AND .050 EMBOSSED ALUMINUM
   VIEWPORT GLASS- THERMAL PANE, 1/4" WIRE/TEMPERED
   HINGE - (C) DESIGNATES MODEL DOOR WITH CONTINUOUS PIANO TYPE
   HANDLE-CHROME PLATED
8. REFER TO INSTALLATION INSTRUCTION FOR MOUNTING OF HANDLES AND DOOR.

SPECIFICATIONS

MOUNTING FRAME
.100 6063-T5 EXTRUDED ALUMINUM NON-THROUGH METAL THERMAL BREAK

DOOR PANELS
20 GA. GALVANIZED STEEL SHEET

HINGE
.050 STAINLESS STEEL 10" PIANO TYPE

INSULATION
2-1/4# DENSITY, R28.6 POLYURETHANE FOAM

HANDLES
~~DUAL ACCESS ZINC DIE CAST~~

GASKET
ONE PIECE SANTOPRENE

VIEWPORT FRAME
.062 6063-T5 EXTRUDED ALUMINUM

VIEWPORT GLASS (THERMAL PANE)
1/4" LAMINATED/TEMPERED (8"x12" STANDARD VIEWING AREA OPTIONAL 8"x8" OR 12"x12")

FINISH
MILL

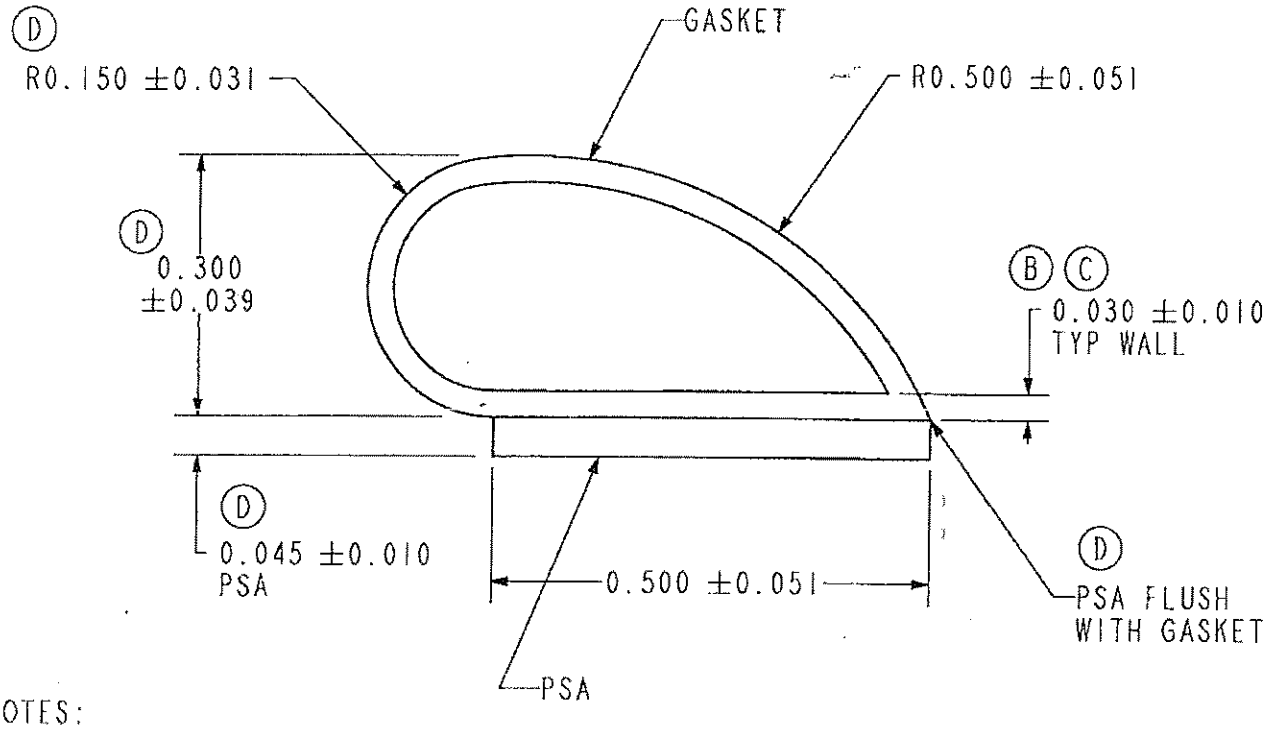
Innovative Technology Marketing 4...
P.O. Box 5 1713 Southgate Drive, Buffalo, MN 55313
Phone (763) 497-0842 Fax (866) 630-2998

PROJECT/LOCATION	ARCHITECT/ENGINEER
CONTRACTOR	SALES ENGINEER

GENESIS 4" HVAC PLENUM ACCESS DOORS THERMAL BREAK MODEL GPA4(V)NTB(S)

DRAWN BY	DATE	DRAWING NO.
CJF	1-28-11	40640412

REV	DESCRIPTION	ECO NO.	REV BY	DATE
A	REVISED NOTE 2, ADDED RMA TOL.		RCN	4-8-02
B	0.045 ±0.010 WAS 0.030 ±0.010 SEE NOTE 3		RCN	6-27-02
C	0.030 ±0.010 WAS 0.045 ±0.010,			
	DELETED NOTE 3.		RCN	10-9-02
D	0.300 WAS 0.350, R0.150 WAS R0.175			
	ADDED PSA TO VIEW SHOWN ON DWG.		RCN	2-6-03



NOTES:

1. PRESSURE SENSATIVE HEAT BOND TAPE REQUIRED ALONG 0.500 SURFACE AS SHOWN.
(A) 2. RMA 3 COMMERCIAL TOLERANCES APPLY, EXCEPT ON GASKET WALL THICKNESS RMA 2 PRECISION APPLIES.

GASKET MATERIAL: BLACK SANTOPRENE, 64A DUROMETER.

SCALE 1.000

ITM4 Innovative Technology Marketing 4...
P.O. Box 5 1713 Southgate Drive, Buffalo, MN 55313
Phone/Fax (763) 497-0842

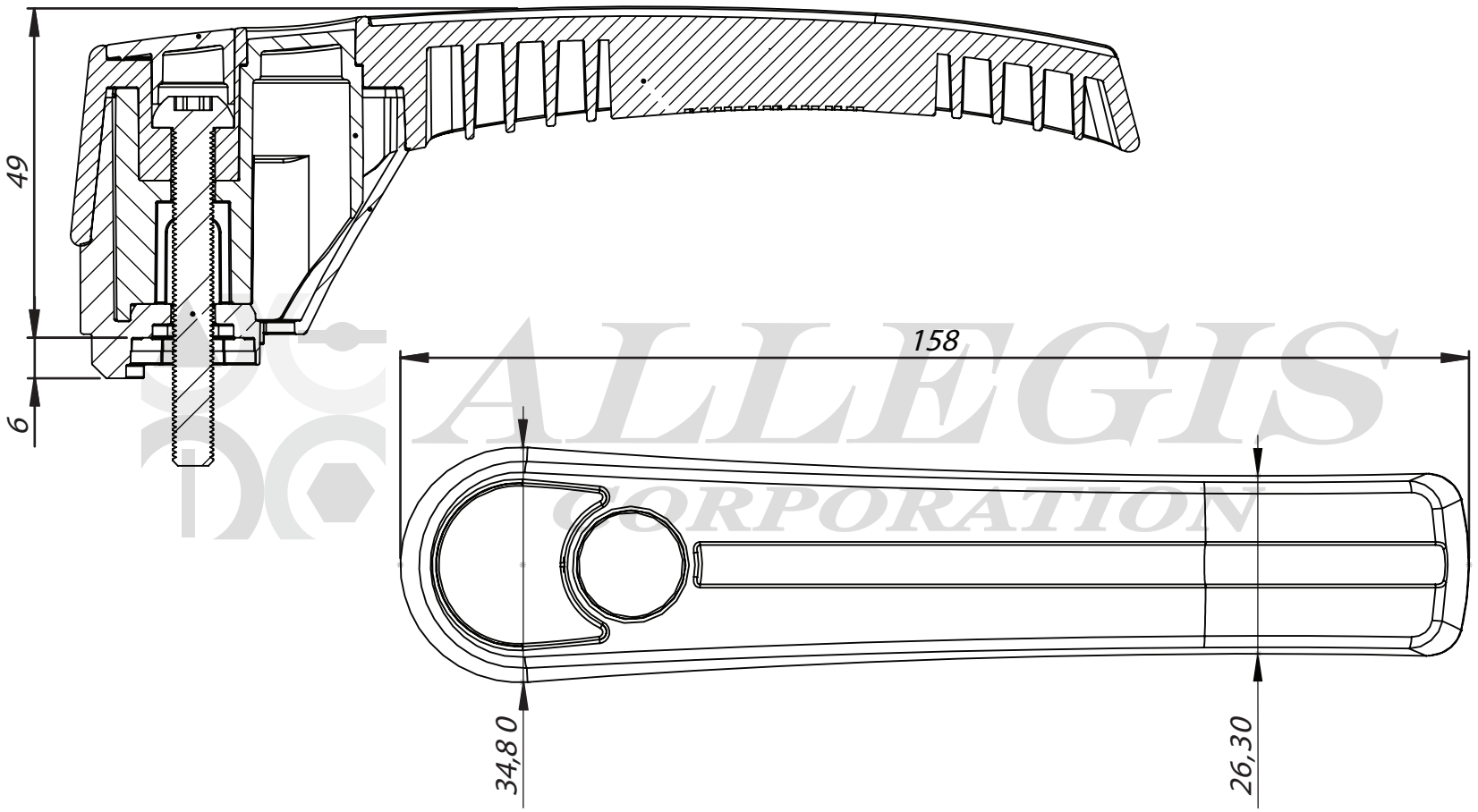
ITEM	QTY	DESCRIPTION	PART NO.

DESCRIPTION

AUXILARY DOOR GASKET

PRODUCT	MODEL		DRAWN BY	DATE	REV	DRAWING NO.
ACCESS DOOR	PA2TBS & PA4TBS	ALL TOLERANCES ± NOTE 2 ANGLES ± NOTE 2 UNLESS OTHERWISE SPECIFIED	RCN	2-11-02	D	V24 [redacted]

SCALE 5.000 | SIZE A | SHEET 1 OF 1



* NON-LOCKING

www.ALLEGISCORP.com ***1-866-378-7550***		MATERIAL / FINISH : Glass reinforced nylon (PA6-GF30)	
REV. : 1 : 1	DATE : 1-10-2013	DESCRIPTION : Outswing K2 Handle	DRAWING NO. : 2651-205400

Innovative Technology Marketing 4

P.O. Box 5, 1713 Southgate Drive, Buffalo, MN 55313
Phone: 763-497-0894 Fax: 866-630-2998

MODELS GPA4NTB AND GPA4VNTB

PERFORMANCE CHARACTERISTICS

All model doors are in compliance with UL 1995,
2nd Edition Standard for Safety Heating and Cooling Equipment.

STATIC PRESSURE (IN. WG)	MODEL GPA2N AIR LEAKAGE PERFORMANCE		
	TOTAL SCFM	SCFM/PERIM. FT.	SCFM/SQ. FT.
1	<0.01	<0.01	<0.01
2	<0.01	<0.01	<0.01
3	<0.01	<0.01	<0.01
4	<0.01	<0.01	<0.01
5	<0.01	<0.01	<0.01
6	<0.01	<0.01	<0.01
7	0.01	<0.01	<0.01
8	<0.01	<0.01	<0.01
9	<0.01	<0.01	<0.01
10	<0.01	<0.01	<0.01
11	0.01	<0.01	<0.01
12	<0.01	<0.01	<0.01
13	<0.01	<0.01	<0.01
14	<0.01	<0.01	<0.01
15	<0.01	<0.01	<0.01

Air Leakage table is based upon independent air leakage tests conducted by Architectural Testing Inc. The GPA2N model of a 24" x 60" was tested. Testing was in accordance with ASTM E 283-91 "Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen". Values less than 0.01 are below the detectable limits of the ASTM standard. ITM4 recommends using the GPA4NTB and GPA4VNTB models for "draw through", negative pressure applications. Air leakage for Models GPA4NTB and GPA4VNTB will be comparable to Model GPA2N.

Water Leakage Performance

Water Leakage results are based upon testing per ASTM E 331-93 "Water Penetration of Exterior Windows, Curtain Walls, and Doors by a Uniform Static Air Pressure Difference". The tests consisted of mounting doors under a pressure difference of 2" WG and subjecting them to a uniform water spray for 15 minutes. The spray was equivalent to a torrential rainfall rate of 8 inches/hour. Over the 15 minute period Models PA2N and PA2VN (24" X 60") doors allowed approximately 0.8 ounces of water penetration. Water leakage for Models GPA4NTB and GPA4VNTB will be comparable to Models PA2N and PA2VN.

REFERENCE
R20209779

QUOTE DATE: **10/01/2024**
REVISION DATE: **11/26/2024**

SUBMITTAL

Project: UK CAFE

Engineer:

Submitted by: AIRFLOW EQUIPMENT INC
2676 S. 26TH STREET

KALAMAZOO, MI, USA
49048

Contact:
Project: UK CAFE
Engineer:

Structural supports for multiple-section damper assemblies are to be supplied and installed by the installing contractor.

TONY PALMATIER - TONY@AIRFLOWEQUIPMENT.COM
269-381-9070

TAMCO

REFERENCE
R20209779

QUOTE DATE: 10/01/2024
REVISION DATE: 11/26/2024

Item	Qty	Opening Dimension Width(A)	x	Height(B)	Series	Option	Profile	Blade Type	Install Type	Cfg
1	1	96.000	x	48.000	1500		SP	OPPOSED	FLANGED TO	2F
	1 JUMPER(S)									
	OA N1-N3									
2	6	26.000	x	26.000	7600 CWA		SP	HORIZONTAL	EXT REAR FLANGE	1EF
	N1-N3 ISO									
3	6	24.000	x	24.000	7600 CWA		SP	HORIZONTAL	EXT REAR FLANGE	1EF
	S1-S4 ISO									
4	1	96.000	x	36.000	1500		SP	OPPOSED	FLANGED TO	2F
	1 JUMPER(S)									
	OA S1-S4									

Structural supports for multiple-section damper assemblies are to be supplied and installed by the installing contractor.

TONY PALMATIER - TONY@AIRFLOWEQUIPMENT.COM
269-381-9070

TAMCO

REFERENCE
R20209779

QUOTE DATE: 10/01/2024
REVISION DATE: 11/26/2024

Contact:
Project: UK CAFE
Engineer:

A
1 JUMPER(S)

B

Item	**1**		
Qty:	1		
Opening Dimensions:			
Width (A) x Height (B)	96.000	x	48.000
Finished Outside Dimensions:			
Width (A) x Height (B)	98.000	x	50.000
Series:	1500		
Option:			
Profile:	STANDARD		
Blade Type:	OPPOSED		
Install Type:	FLANGED TO		
ConfigNo:	2F		

OA N1-N3

A

B

Item	**2**		
Qty:	6		
Opening Dimensions:			
Width (A) x Height (B)	26.000	x	26.000
Finished Outside Dimensions:			
Width (A) x Height (B)	30.000	x	30.000
Series:	7600 CWA		
Option:			
Profile:	STANDARD		
Airflow direction:	HORIZONTAL		
Install Type:	EXT REAR FLANGE		
ConfigNo:	1EF		

N1-N3 ISO

A

B

Item	**3**		
Qty:	6		
Opening Dimensions:			
Width (A) x Height (B)	24.000	x	24.000
Finished Outside Dimensions:			
Width (A) x Height (B)	28.000	x	28.000
Series:	7600 CWA		
Option:			
Profile:	STANDARD		
Airflow direction:	HORIZONTAL		
Install Type:	EXT REAR FLANGE		
ConfigNo:	1EF		

S1-S4 ISO

Structural supports for multiple-section damper assemblies are to be supplied and installed by the installing contractor.

Questions? Contact TONY PALMATIER - TONY@AIRFLOWEQUIPMENT.COM
269-381-9070

REFERENCE
R20209779

QUOTE DATE: 10/01/2024
REVISION DATE: 11/26/2024

Contact:
Project: UK CAFE
Engineer:

B

A
1 JUMPER(S)

Item	**4**		
Qty:	1		
Opening Dimensions:			
Width (A) x Height (B)	96.000	x	36.000
Finished Outside Dimensions:			
Width (A) x Height (B)	98.000	x	38.000
Series:	1500		
Option:			
Profile:	STANDARD		
Blade Type:	OPPOSED		
Install Type:	FLANGED TO		
ConfigNo:	2F		
OA S1-S4			

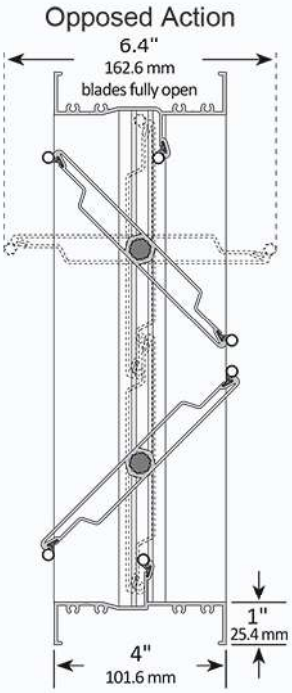
Structural supports for multiple-section damper assemblies are to be supplied and installed by the installing contractor.

Questions? Contact TONY PALMATIER - TONY@AIRFLOWEQUIPMENT.COM
269-381-9070

SUBMITTAL DATA | Series 1500
ENHANCED AIR-FOIL CONTROL DAMPER

REFERENCE
R20209779
Item 1

STANDARD PROFILE



- Extruded aluminum (6063-T5) damper frame is not less than 0.080" (2.03 mm) in thickness. Damper frame is 4" (101.6 mm) deep x 1" (25.4 mm), with mounting flanges on both sides of frame.
- Blades are maximum 6" (152.4 mm) deep extruded aluminum (6063-T5) air-foil profiles. All blades are symmetrically pivoted. Aluminum end caps are press fitted to blade ends in order to seal hollow interior and reduce air leakage rates.
- Blade and frame seals are extruded silicone, secured in an integral slot within the aluminum extrusions. Seals are mechanically fastened to prevent shrinkage and movement over the life of the damper.
- Bearings are composed of a Celcon inner bearing - fixed around a 7/16" (11.11 mm) aluminum hexagon blade pivot pin - rotating within a polycarbonate outer bearing inserted in the frame. This eliminates action between metal-to-metal or metal-to-plastic riding surfaces.
- Adjustable 7/16" (11.11 mm) hexagonal drive rod, U-bolt fastener, and hexagonal retaining nuts are zinc-plated steel. These provide a positive connection to blades and linkage.
- Aluminum and corrosion-resistant zinc-plated steel linkage hardware is installed in the frame side, complete with cup-point trunnion screws for a slip-proof grip.
- Dampers are designed for operation in temperatures ranging from -40°F (-40°C) to 212°F (100°C).
- Leakage Class 1A at 1 in w.g. (0.25 kPa) static pressure differential. Standard air leakage data is certified under the AMCA Certified Ratings Program.
- Dampers are custom made to required size, without blanking off free area. The blade stop is set at a fixed height and is a continuous and integral part of the top and bottom frames.
- Dampers selected with blade action as shown to the left.
- Dampers selected with install type as shown below.
- Installation of dampers must be in accordance with TAMCO's current on-line installation guidelines. (Printed installation guidelines are provided with each damper shipment, however all technical information available on TAMCO's web site at www.tamcodampers.com supersedes information contained within printed versions.)
- Intermediate structural support is required to resist applied pressure loads for dampers that consist of two or more sections in both height and width. (See TAMCO Aluminum Damper Installation Guidelines.)

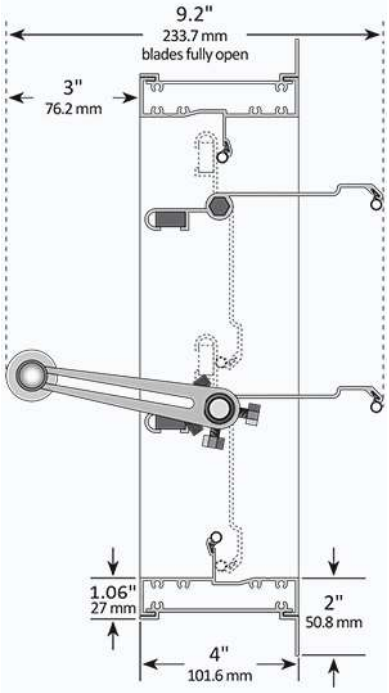
FLANGED TO DUCT TYPE

- For SP Profile, finished damper O.D. is 2" *(50.8 mm)* greater than opening width and height dimensions.
- For WP Profile, finished damper O.D. is 3.25" *(82.6 mm)* greater than opening width and height dimensions.

MINIMUM SECTION SIZE:	
4½"w x 4¼"h	*(115 mm x 108 mm)*
MAXIMUM SECTION SIZE:	
25 ft²	*(2.3 m²)*
60"w x 60"h or	*(1524 mm x 1524 mm) or*
48"w x 75"h	*(1220 mm x 1905 mm)*

SUBMITTAL DATA | Series 7600 CWA
ADJUSTABLE COUNTERWEIGHTED HD BACKDRAFT DAMPER

REFERENCE
R20209779
Item 2



- Extruded aluminum (6063-T5) heavy-duty backdraft damper frame is not less than 0.080" (2.03 mm) in thickness. Damper frame is 4" (101.6 mm) deep. Mounting flange on front side of damper is 1.06" (27.0 mm). Mounting flange on rear side of damper is 2" (50.8 mm), providing a larger fastening surface.
- Blades are extruded aluminum (6063-T5) profiles not less than 0.090" (2.28 mm) in thickness, and are designed with a rounded head to reduce pressure loss.
- Blade and frame seals are extruded silicone, secured in an integral slot within the aluminum extrusions. Seals are mechanically fastened to prevent shrinkage and movement over the life of the damper.
- Bearings are composed of a Celcon inner bearing - fixed around a 7/16" (11.11 mm) aluminum hexagon blade pivot pin - rotating within a polycarbonate outer bearing inserted in the frame. This eliminates action between metal-to-metal or metal-to-plastic riding surfaces.
- Hexagonal 7/16" (11.11 mm) extruded aluminum axles are mechanically fastened to the blade in order to prevent movement and slippage.
- Aluminum and corrosion-resistant zinc-plated steel linkage hardware is installed in the frame side, complete with cup-point trunnion screws for a slip-proof grip.
- Heavy-duty backdraft dampers are designed for operation in temperatures ranging from -40°F (-40°C) to 212°F (100°C).
- Heavy-duty backdraft dampers are custom manufactured to required size, without blanking off free area. The blade stop is set at a fixed height and is a continuous and integral part of the top and bottom frames.
- Heavy-duty backdraft dampers selected with airflow direction as shown below.
- Heavy-duty backdraft dampers selected with install type as shown below.
- Installation of heavy-duty backdraft dampers must be in accordance with TAMCO's current on-line installation guidelines. (Printed installation guidelines are provided with each damper shipment, however all technical information available on TAMCO's web site at www.tamcodampers.com supersedes information contained within printed versions.)
- Intermediate structural support is required to resist applied pressure loads for heavy-duty backdraft dampers that consist of two or more sections in both height and width. (See TAMCO Heavy-Duty Backdraft Damper Installation Guidelines.)

EXTENDED REAR FLANGE TYPE

- Finished damper O.D. is 4" *(101.6 mm)* greater than opening width and height dimensions.
- Blades open towards extended flange.

MINIMUM SECTION SIZE:	
4½"w x 4¾"h	*(115 mm x 121 mm)*
MAXIMUM SECTION SIZE:	
25 ft²	*(2.3 m²)*
48"w x 75"h	*(1220 mm x 1905 mm)*

- Extended Rear Flange install type dampers are not designed so that the front of the damper may be inserted into an opening, as the side frame members extend to the full height of extended flange.

AIRFLOW DIRECTION

Questions? Contact TONY PALMATIER - TONY@AIRFLOWEQUIPMENT.COM
269-381-9070

PREMIUM SPRAY PRODUCTS™

FOAMSULATE™ 210 TECHNICAL DATA

Spray Polyurethane Foam
2.0lb Density
ICC ESR - 3081

Panel and Base Foam

EQUIPMENT AND APPLICATION PARAMETERS:

Preheat Temperature "A" & "B" Side	125°F
Hose Temperature "A" & "B" Side	125°F
Mixing Ratio	1 to 1 By Volume Of "A" to "B"
Application Pressures	1,000 - 1,200 PSI
Ambient & Substrate Temperature - STANDARD APPLICATION	50°F - 120°F
Ambient & Substrate Temperature - COLD TEMPERATURE APPLICATION	Consult with PSP Technical Services for Cold Temperature (Winter) Application Guidelines.
Thickness Per Pass	2" Maximum

SURFACE BURNING CHARACTERISTICS

Flammability	ASTM E 84 Class I At 4 Inches
Flame Spread < 20 Smoke Development < 450	

PRODUCT REACTIVITY

Product Designation	Temperature Range
Fast (20)	20°-50°F
Mid (50)	40°-65°F
Reg (80)	55°-80°F
Slow (100)	80°-100°F

CREDENTIALS CHART

ICC ES Report Report # ESR-3081
ICC ES AC377, Appendix A1.2.2 and Appendix X
ASTM Method E84
NFPA 286
Maximum Thickness Tested : (Tested Only - Not a Limit on application)
Wall Cavities = 8 Inches Ceiling Cavities in Attics and Crawlspaces = 12 Inches

PRODUCT TYPE: Premium Spray Products, Inc. Foamsulate™ 210 is a two-component, medium density, one to one by volume spray applied polyurethane foam. To produce Foamsulate™ 210 requires the use of an "A" component (ISO) and a blended "B" component (RESIN) which contains ZERO Ozone Depleting blowing agents, catalysts, polyols and fire retarding materials.

GENERAL PROPERTIES: Foamsulate™ 210 is a 2.0 LB density closed cell insulating material. Foamsulate™ 210 is designed for use where insulation systems require superior air barrier characteristics along with the ability to minimize moisture infiltration. Foamsulate™ 210 has a 6.7 per inch R-value rating while providing structural enhancement due to its rigid nature when cured. When properly installed by a trained contractor Foamsulate™ 210 quickly expands to fill the cracks, crevices, gaps and voids that exist in every structure. In addition Foamsulate™ 210 will conform to the curves, irregular surfaces and spaces to form a superior thermal envelope around your entire structure.

RECOMMENDED USES: Foamsulate™ 210 is an insulation system designed for use in residential, commercial and industrial applications. Use in lieu of more traditional forms of insulating materials such as fiberglass, cellulose or other loose fill products. Typical area's where spray polyurethane foam is applied are; exterior walls, vented and un-vented attic assemblies, between floors, etc. Additional uses of this closed cell product are foundations, crawlspaces, HVAC ducts, fluid tanks, cold storage units, etc.

THERMAL BARRIER: Current International Residential Code (IRC) and International Building Code (IBC) require that spray polyurethane foam be separated from the building interior by an approved 15-minute thermal barrier or a code approved alternative. Gypsum board at a minimum thickness of ½" is an approved 15-minute thermal barrier. The following intumescent coatings when installed per manufacturer specifications are approved as thermal barrier alternatives for Foamsulate 210: DC315™ manufactured by Fireproof Technology, Inc. and Flame Seal-TB™ manufactured by Flame Seal Products, Inc.

IGNITION BARRIER: Foamsulate™ 210 meets the requirements of ICC-ES AC377 and Appendix X for use in attics and crawlspaces without the use of an ignition barrier. Explanation of these requirements is available at www.iccsafe.org.

EQUIPMENT AND APPLICATION PARAMETERS: The values represented in the Equipment and Application Properties Chart provides initial optimum settings. Actual operating ranges will vary as ambient air; humidity, moisture and substratetemperatures vary. Extreme conditions will affect the yield, adhesion and cured physical properties of the foam. Applicator must make adjustments as conditions vary.

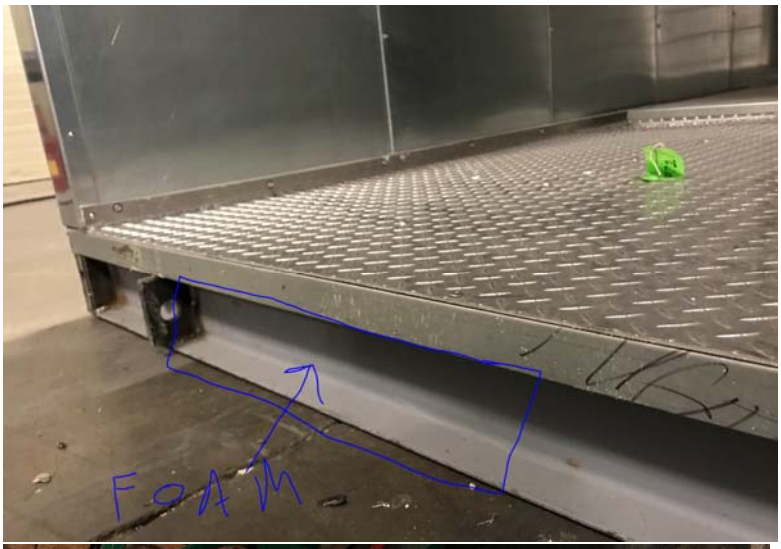
STORAGE: Shelf life is six (6) months from date of manufacture when stored in original unopened containers between the temperatures of 65°F to 85°F.

PHYSICAL PROPERTIES

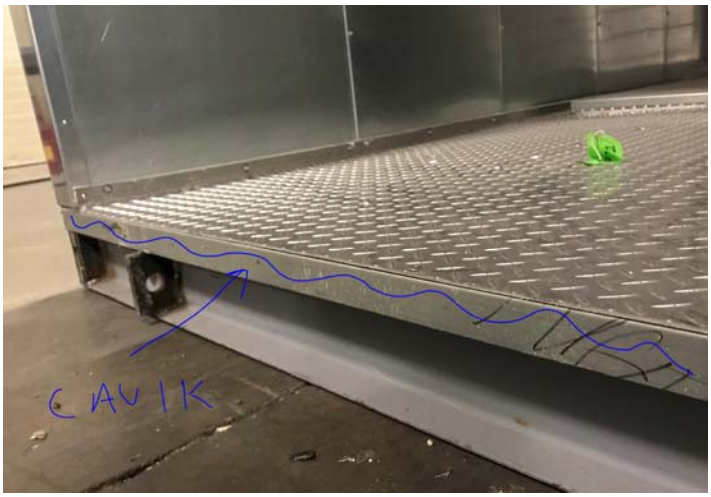
R-VALUE (Aged)	6.7 / Inch	ASTM C 518
Core Density	2.0 PSCF	ASTM D 1622
Closed Cell Content	> 96%	ASTM D 1940
Sound Transmission Coefficient	38	ASTM E 413
Water Vapor Transmission - Permeance	1.49 Perms @ 1" .92 Perms @ 1.5"; .77 Perms @ 2"	ASTM E 96
Air Leakage Rate	<0.003L/sM^2	ASTM E 283
Noise Reduction Coefficient	0.10	ASTM C 423
Tensile Strength (PSI)	51	ASTM D 1623
Dimensional Stability	< .27	ASTM D 2126
Compressive Strength (PSI)	41	ASTM D 1621

AFE Assembly Instructions

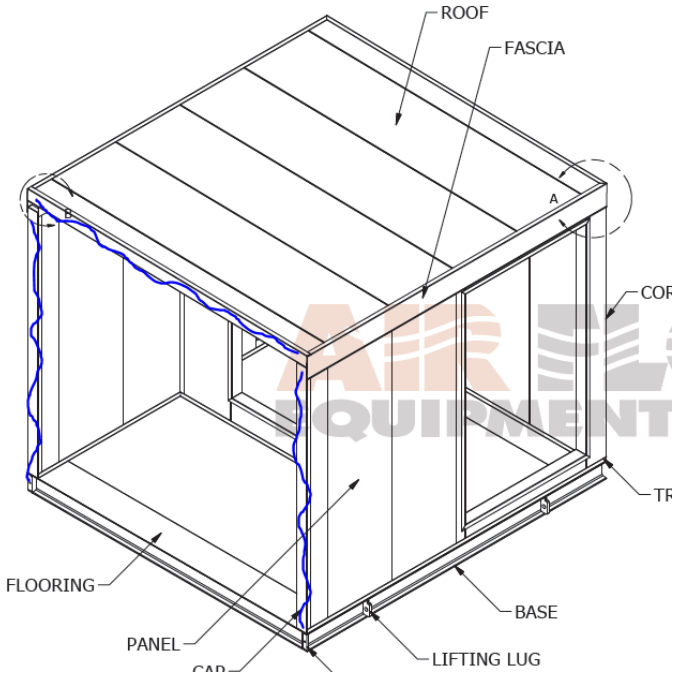
Step 1. Insert the pink foam board into the structural C channel where the ship split sections come together.



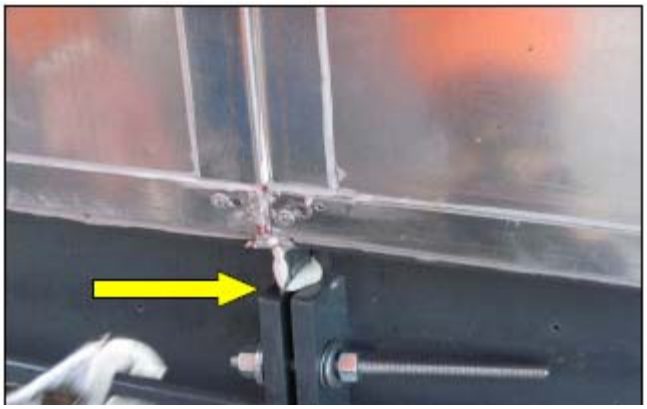
Step 2. Clean and then caulk the sealer plate.



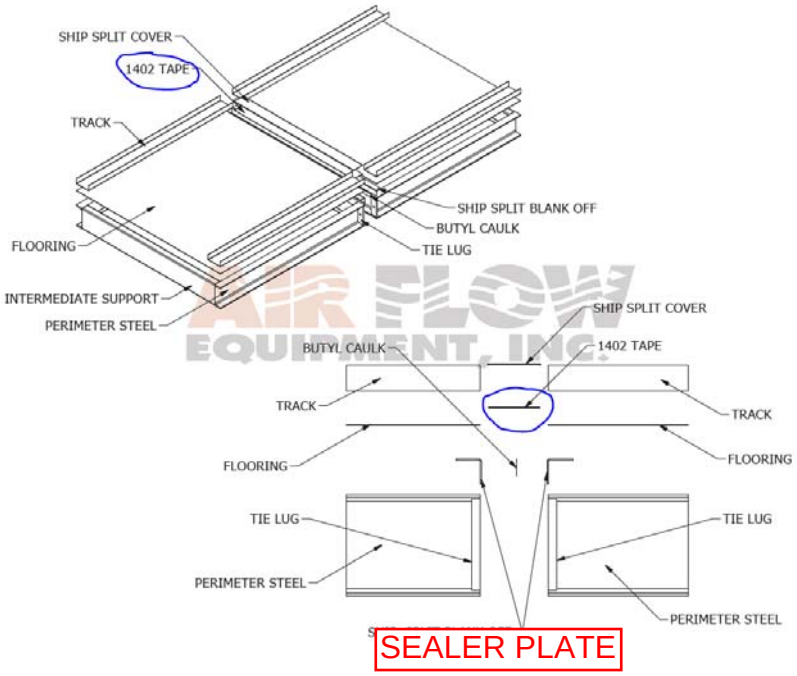
Step 3. Clean and caulk the “capped” panels on the ship split walls/roof.



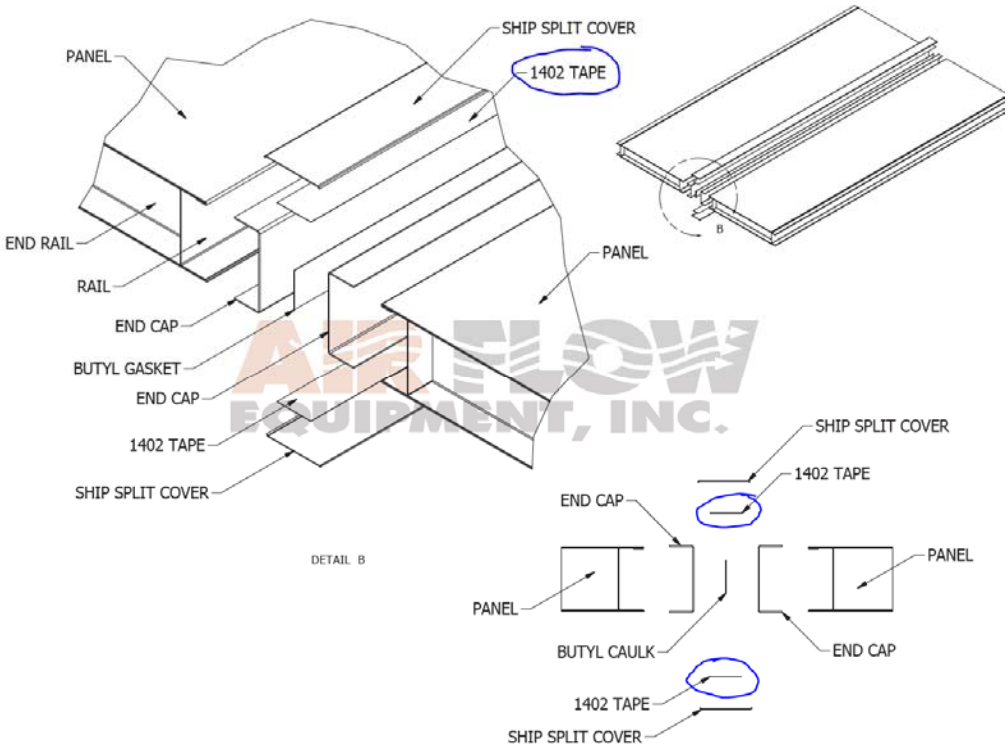
Step 4. Pull sections together. Caulk should be visible squeezing out.



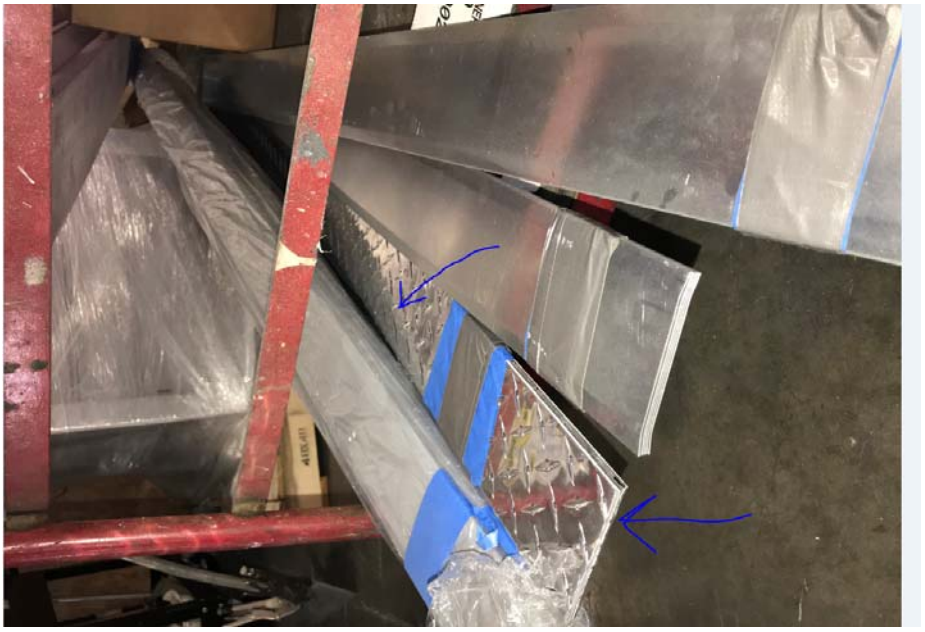
Step 5. Tape the floor seams using the 1402 tape at the ship split (which were just caulked).



Step 6. Do the same with the walls/roof seams using the 1402 tape. These require tape on **BOTH** the interior and exterior.



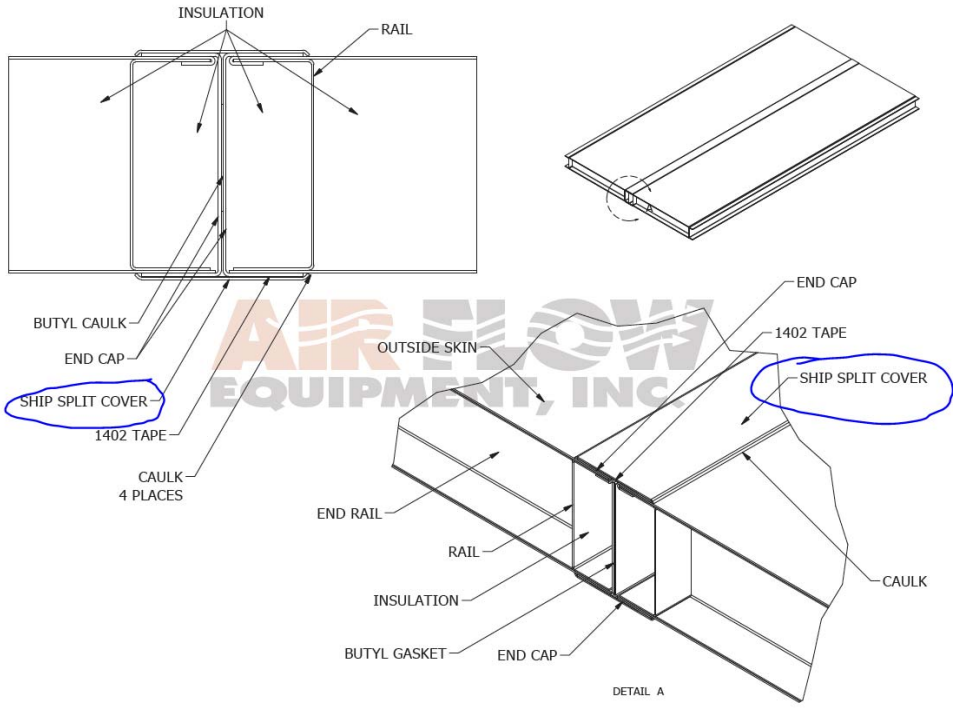
Step 7. Install the ship split covers. Begin with the floor seam. The floor covers will be made from aluminum tread plate. **Caulk the underside of the cover strips before applying.** Try to align the caulk with the penetrations that will take place in order to fasten the covers.



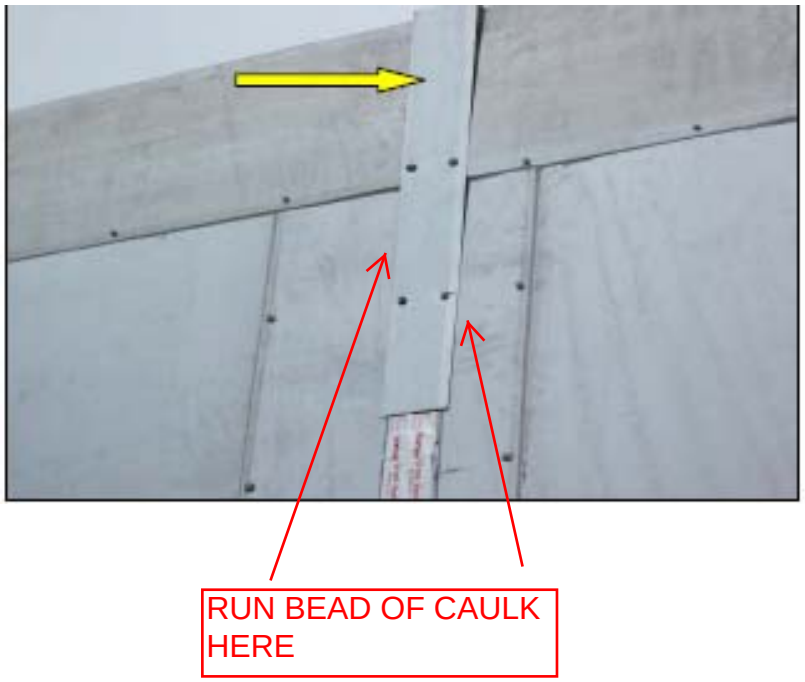
Step 8. Fasten the cover strip with screws to the floor on 12” centers.

Step 9. Once installed, run another bead of caulk along the seam on each side where the cover meets the floor.

Step 10. Next, install the ship split covers on the exterior and interior of the wall/roof panels. **Caulk the underside of the cover strips before applying** as previously done on the floor.

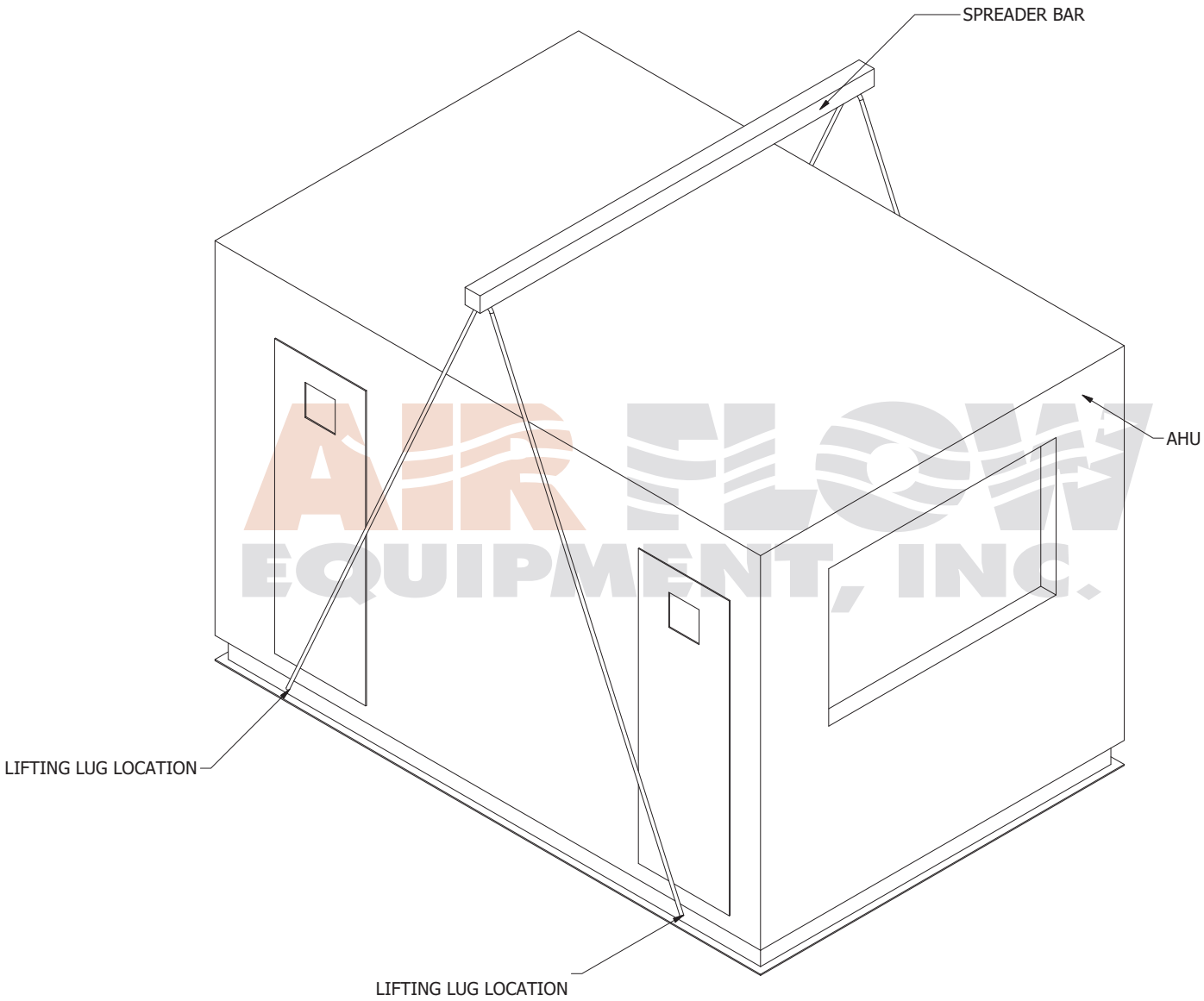


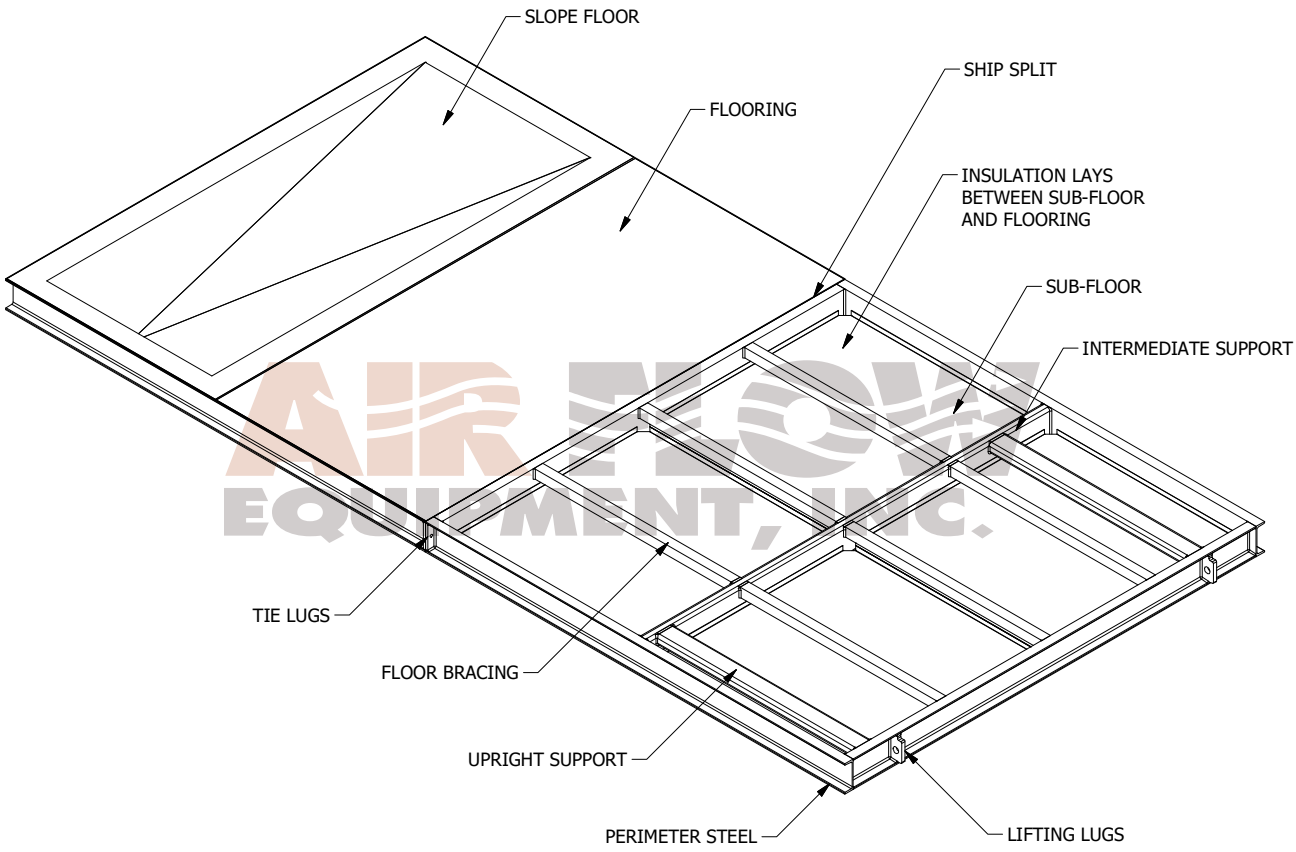
Step 11. Again, fasten the cover strips with screws on 12” centers and then caulk the seam on each side where the cover meets the panel.

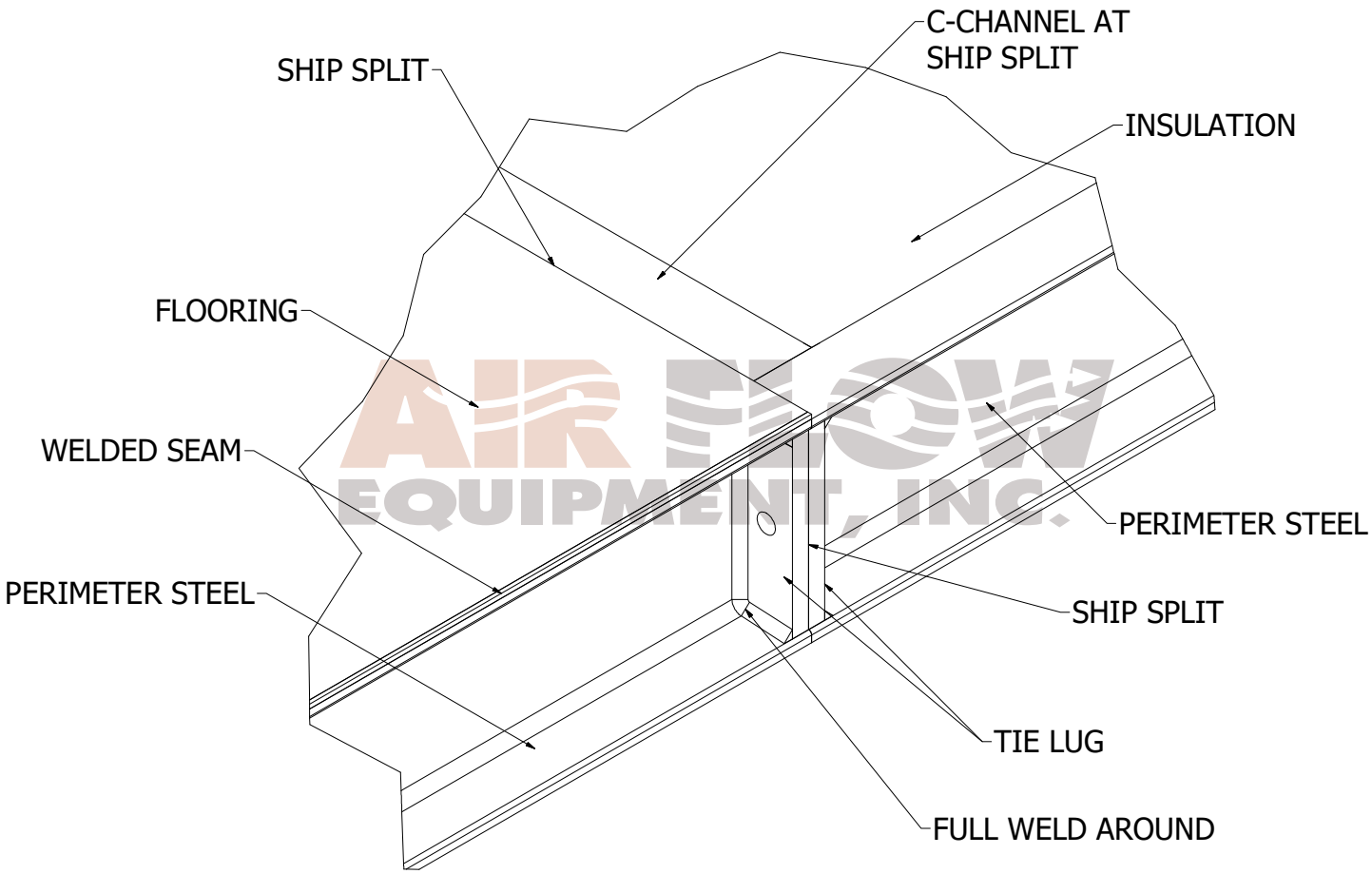


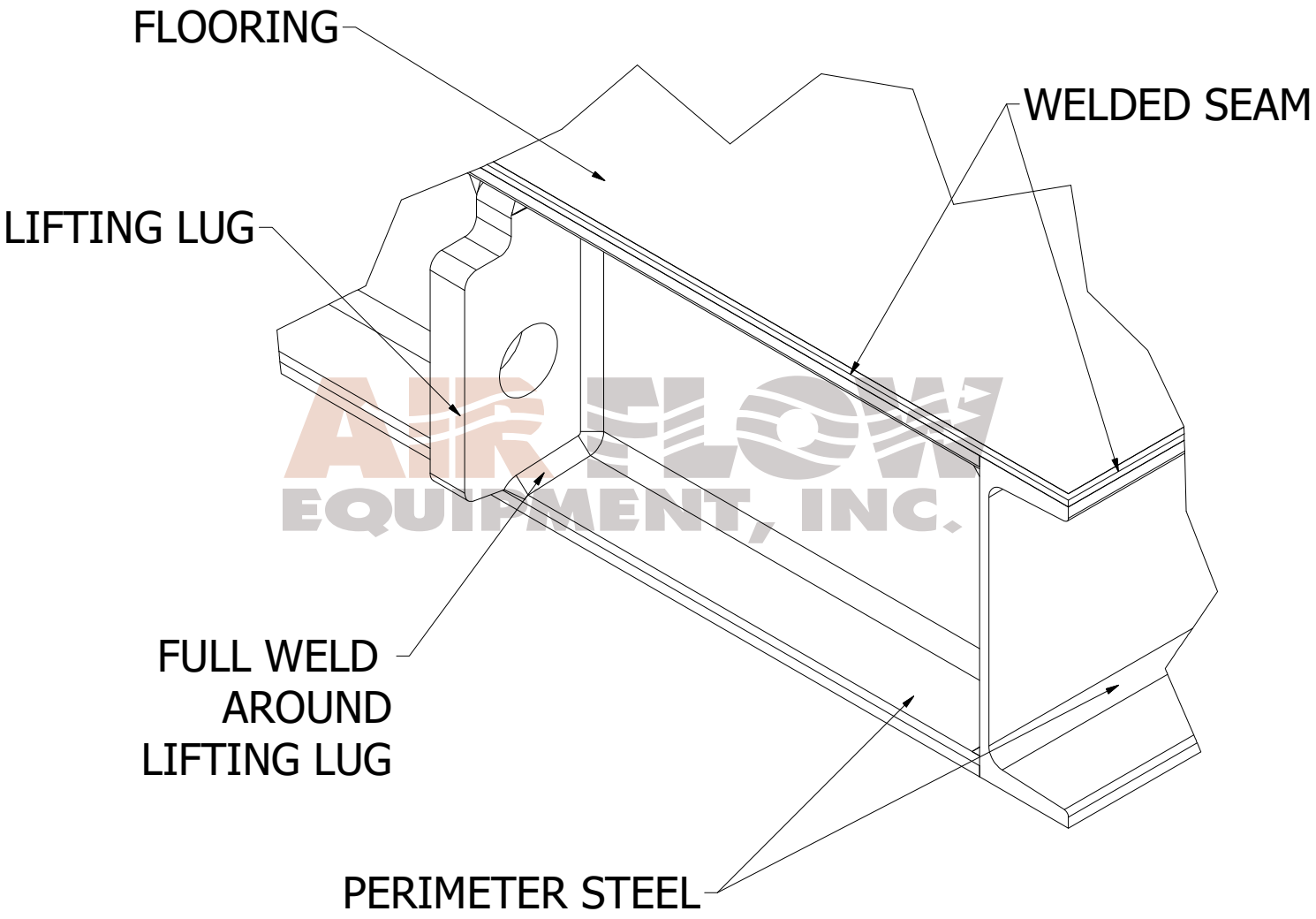
Step 12. The ship split covers will be slightly different on the **fan intake section**, because the ship split is directly on the fan wall. In this case, the covers are formed angle strips instead of flat strips. Make sure to tape/caulk first, then apply the angle strips along the floor, walls and roof (4 pieces).

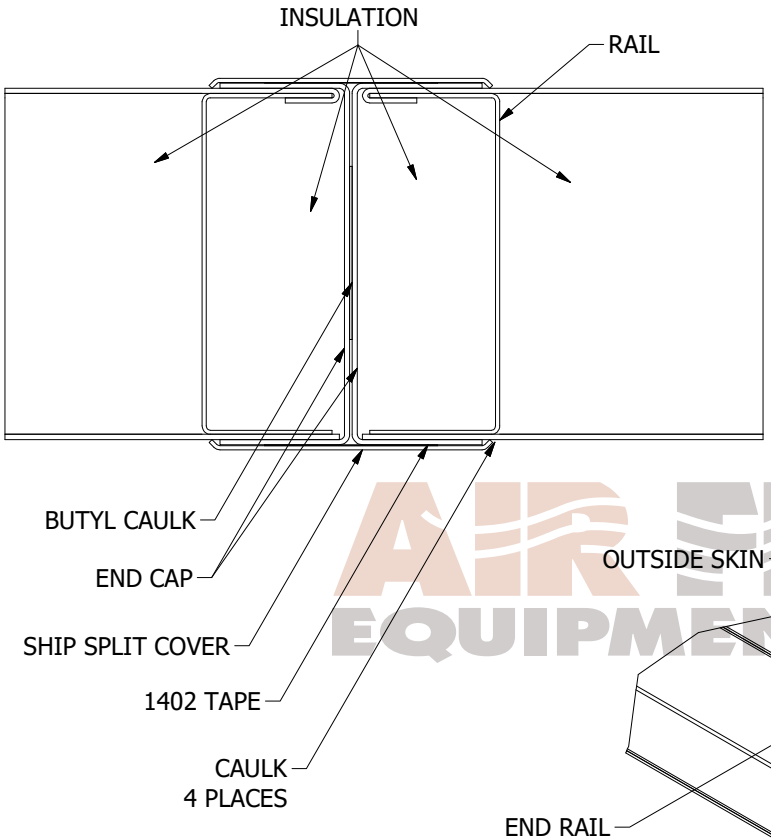
Again, fasten the angle strips on 12” centers and then run a bead of caulk along the seams.

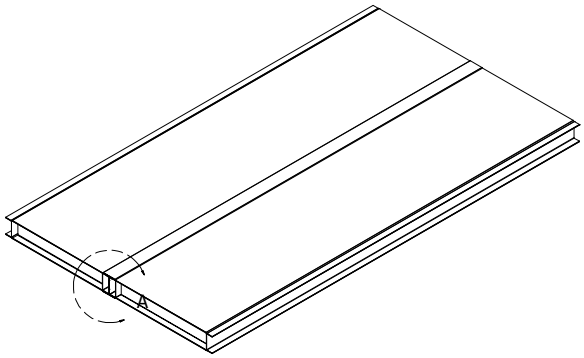


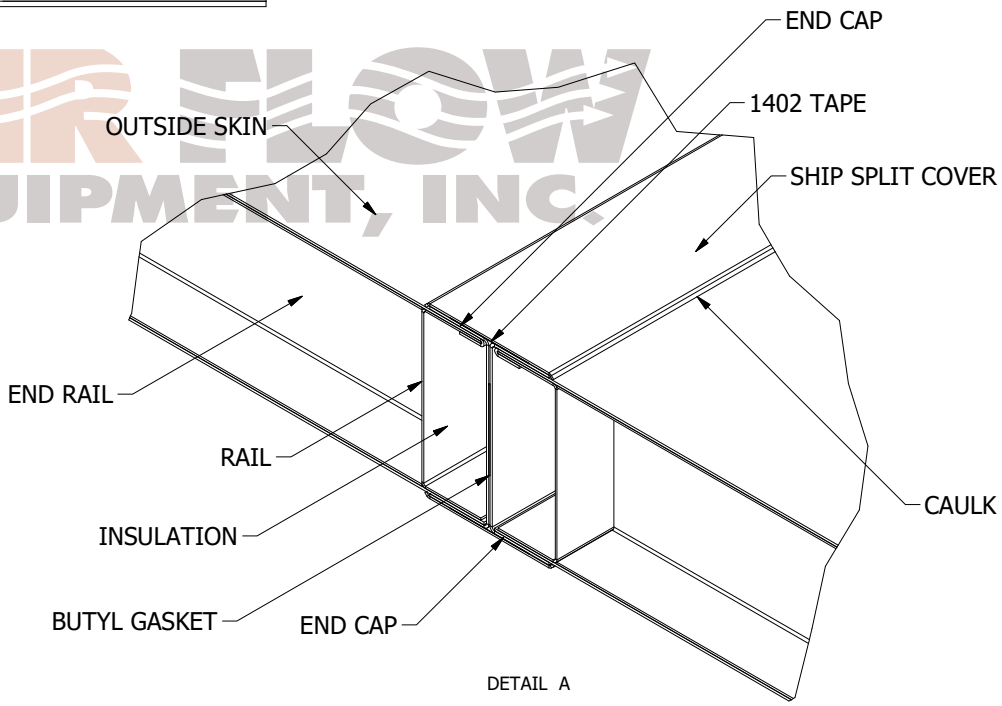




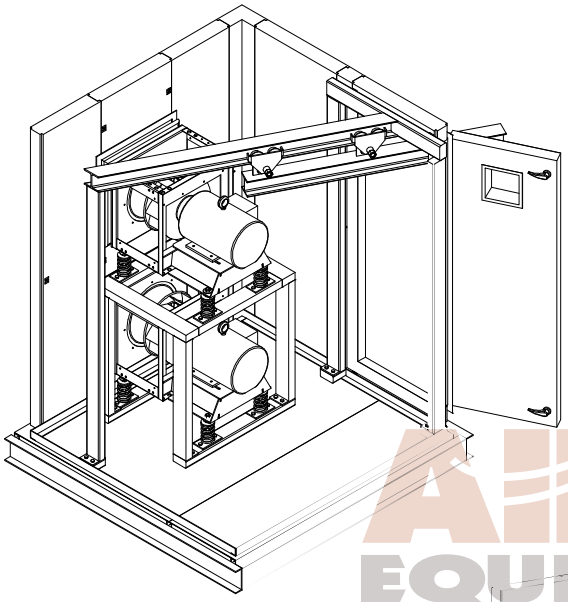




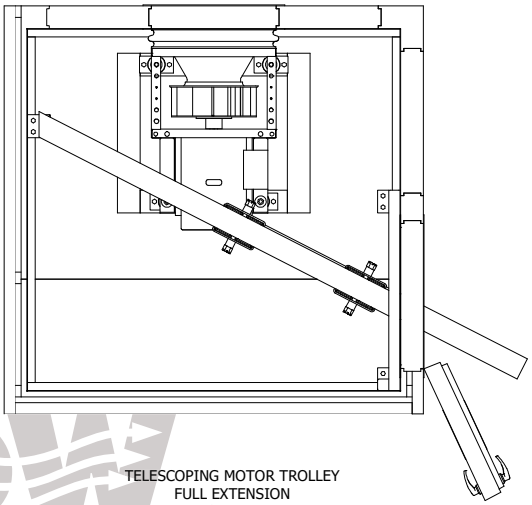




DETAIL A

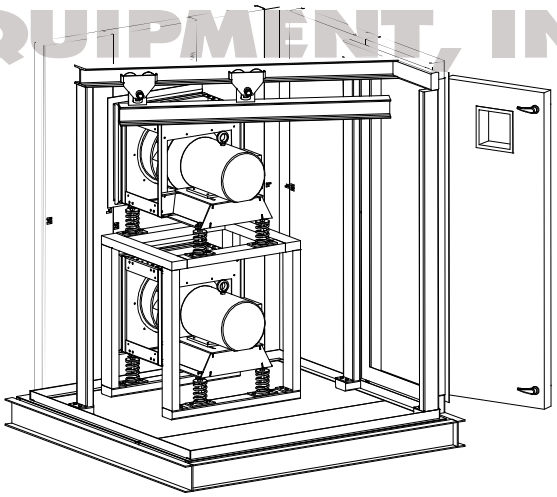


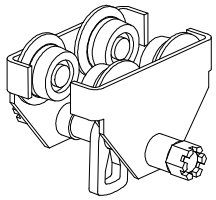
TELESCOPING MOTOR TROLLEY
FULL EXTENSION



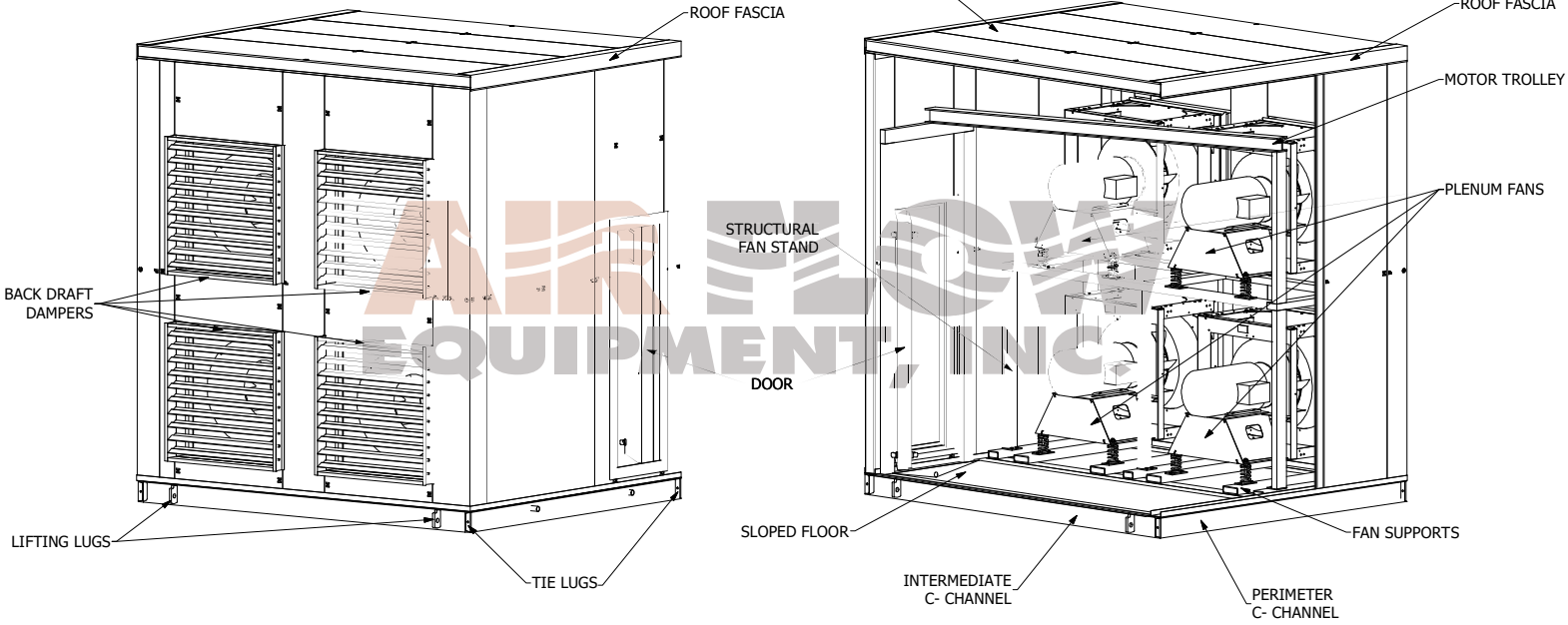
TELESCOPING MOTOR TROLLEY
FULL EXTENSION
TOP VIEW

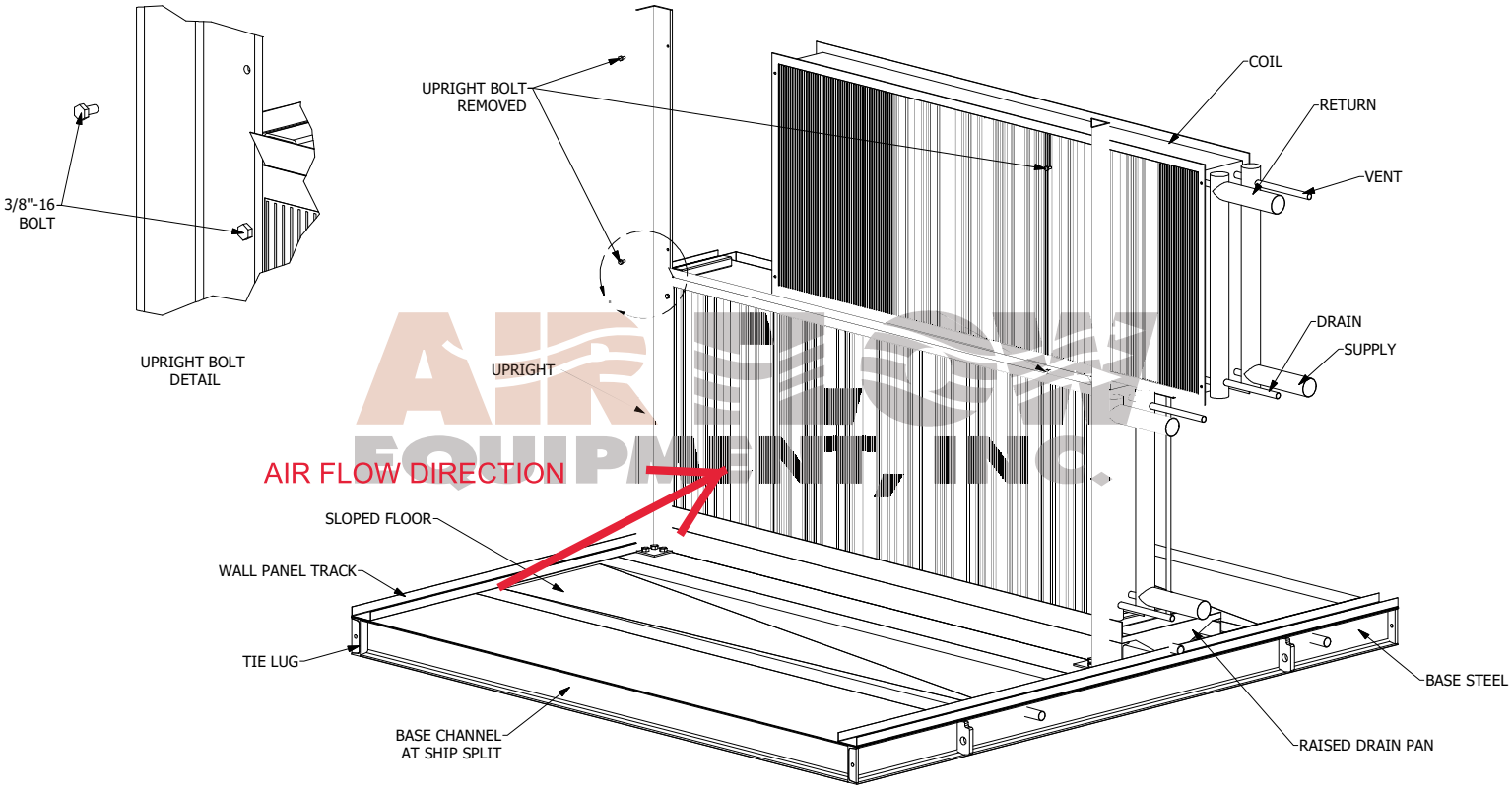
TELESCOPING MOTOR TROLLEY
FULLY RETRACTED

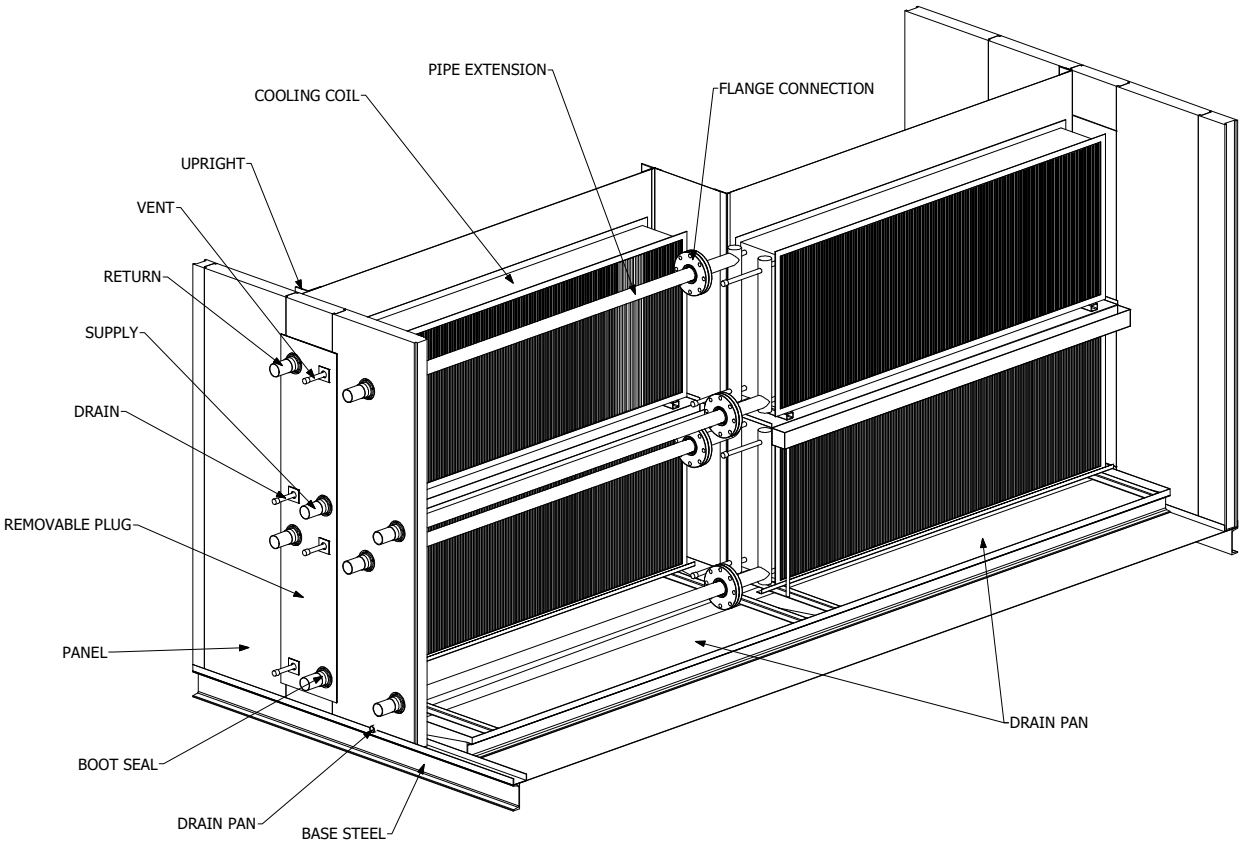




TELESCOPING MOTOR TROLLEY
TRUCK x2






PIPE EXTENSION
COOLING COIL
FLANGE CONNECTION
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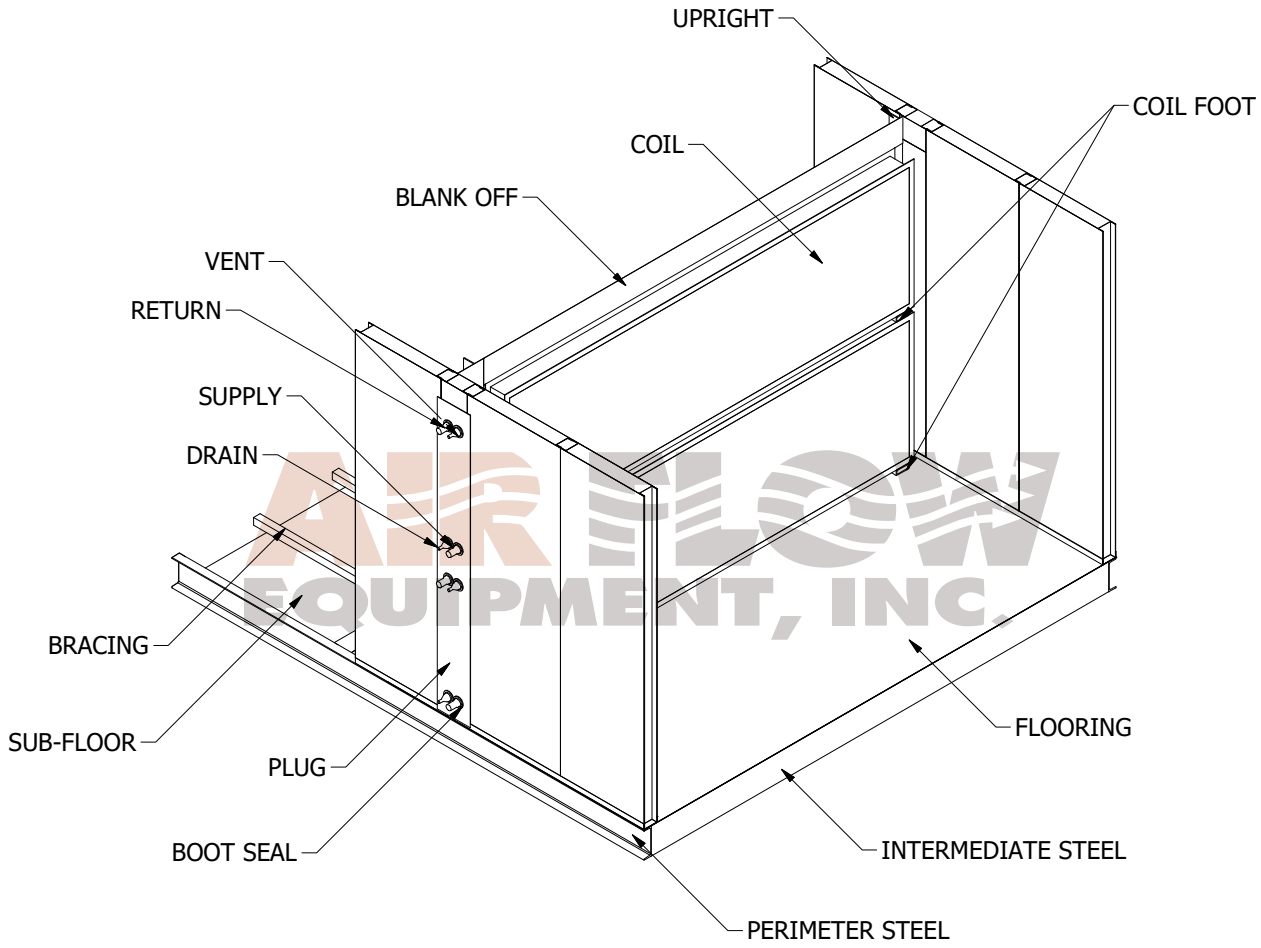
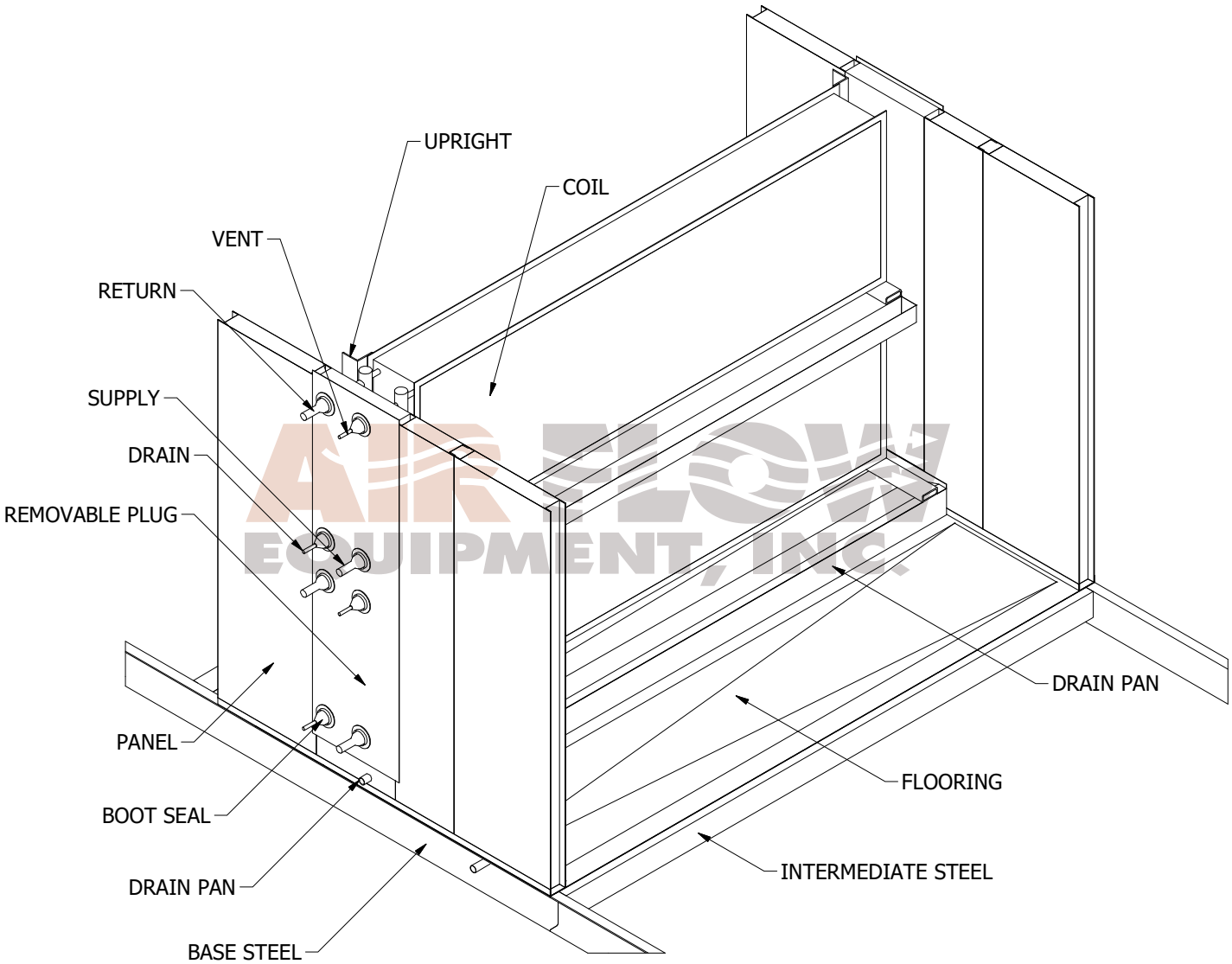
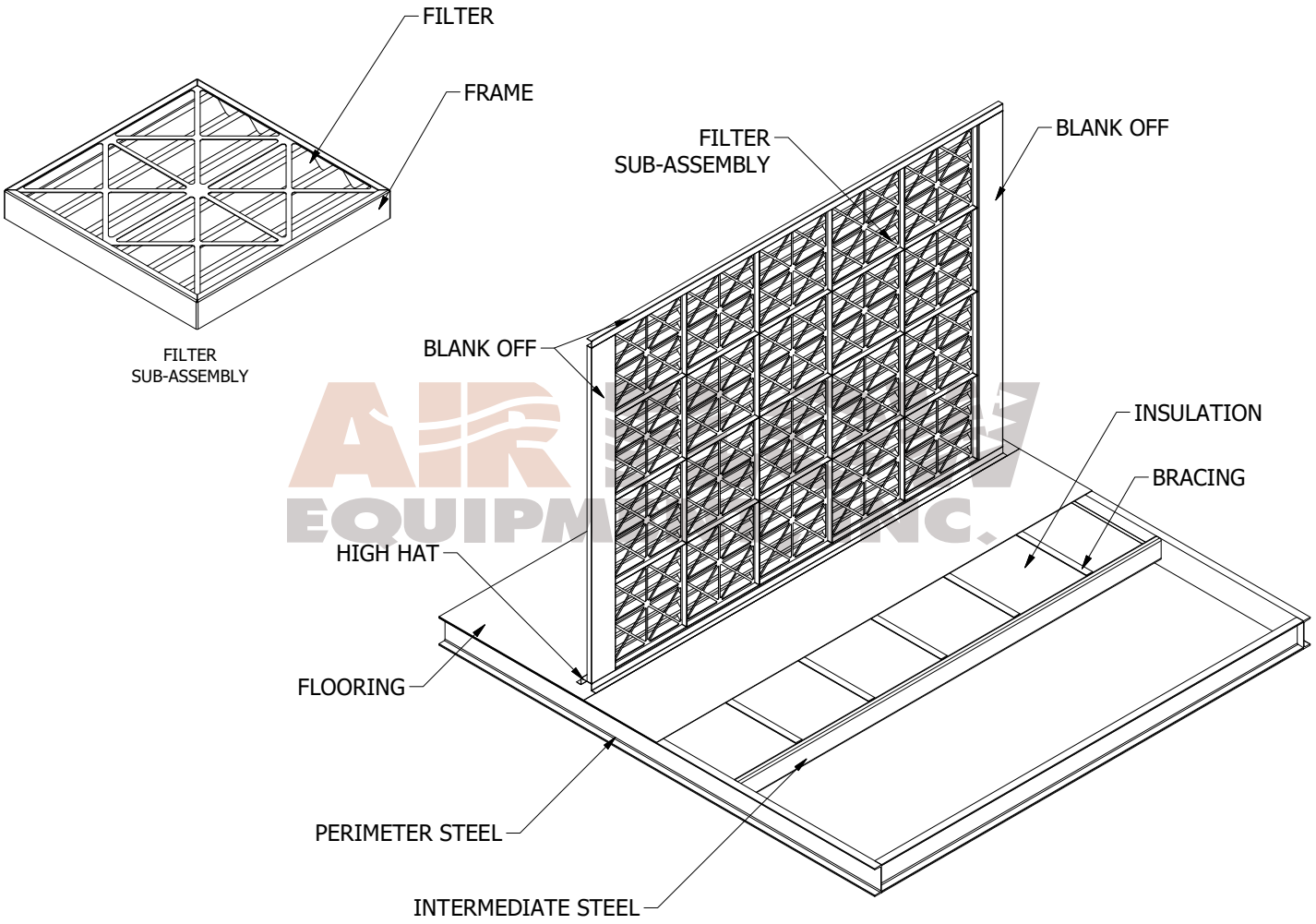
SUPPLY
DRAIN
REMOVABLE PLUG
PANEL
BOOT SEAL
DRAIN PAN
BASE STEEL
DRAIN PAN



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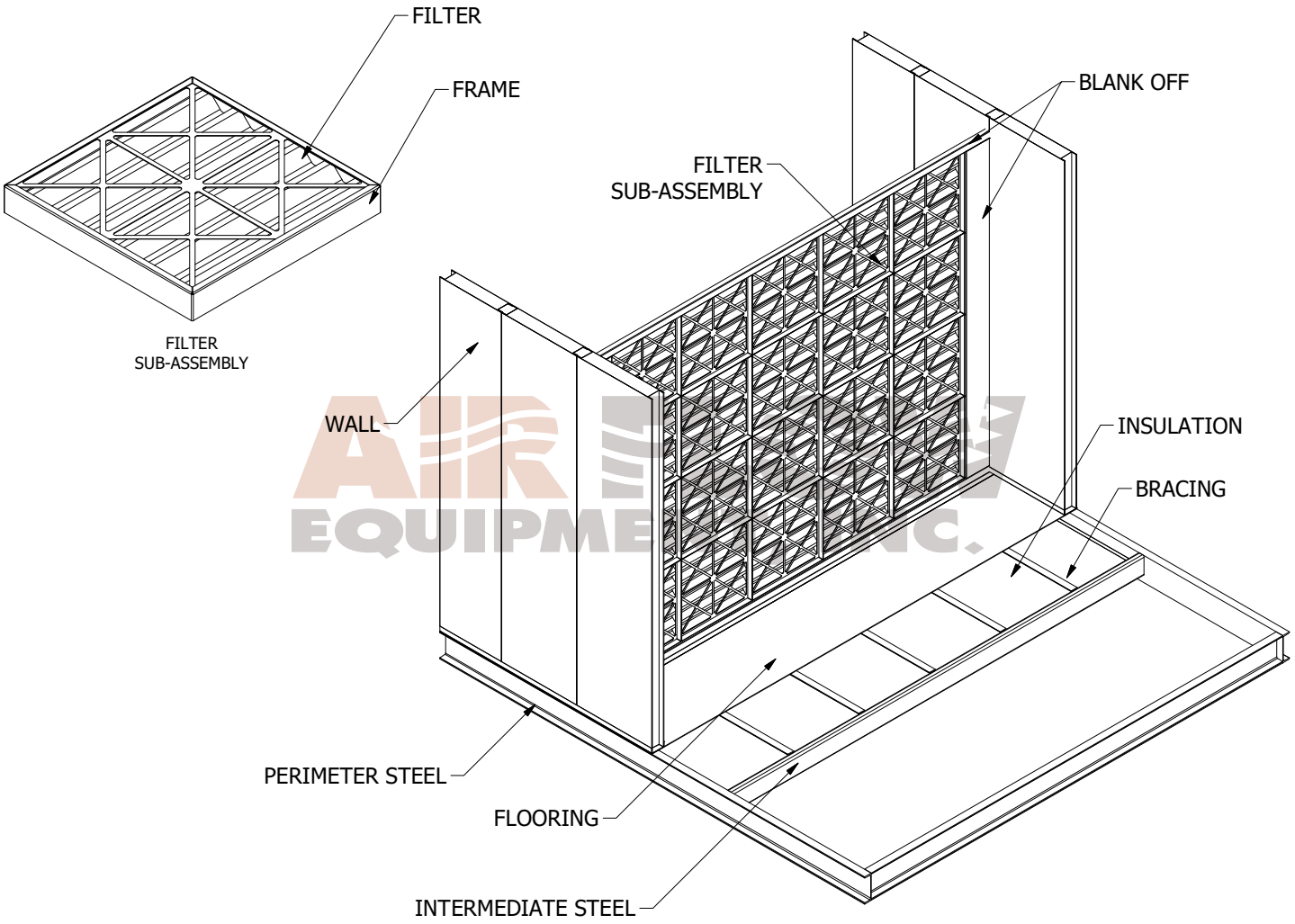
INTERMEDIATE STEEL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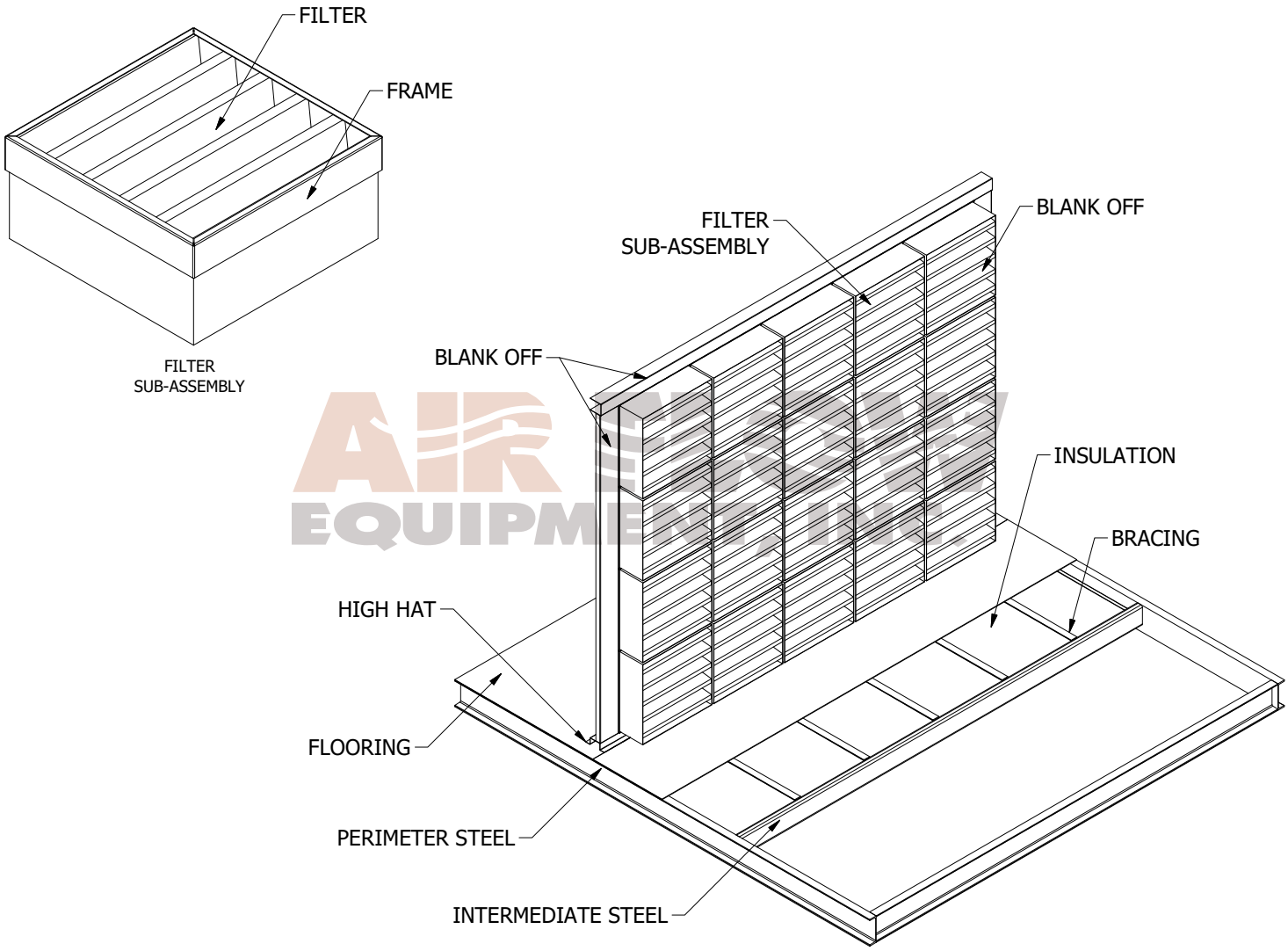
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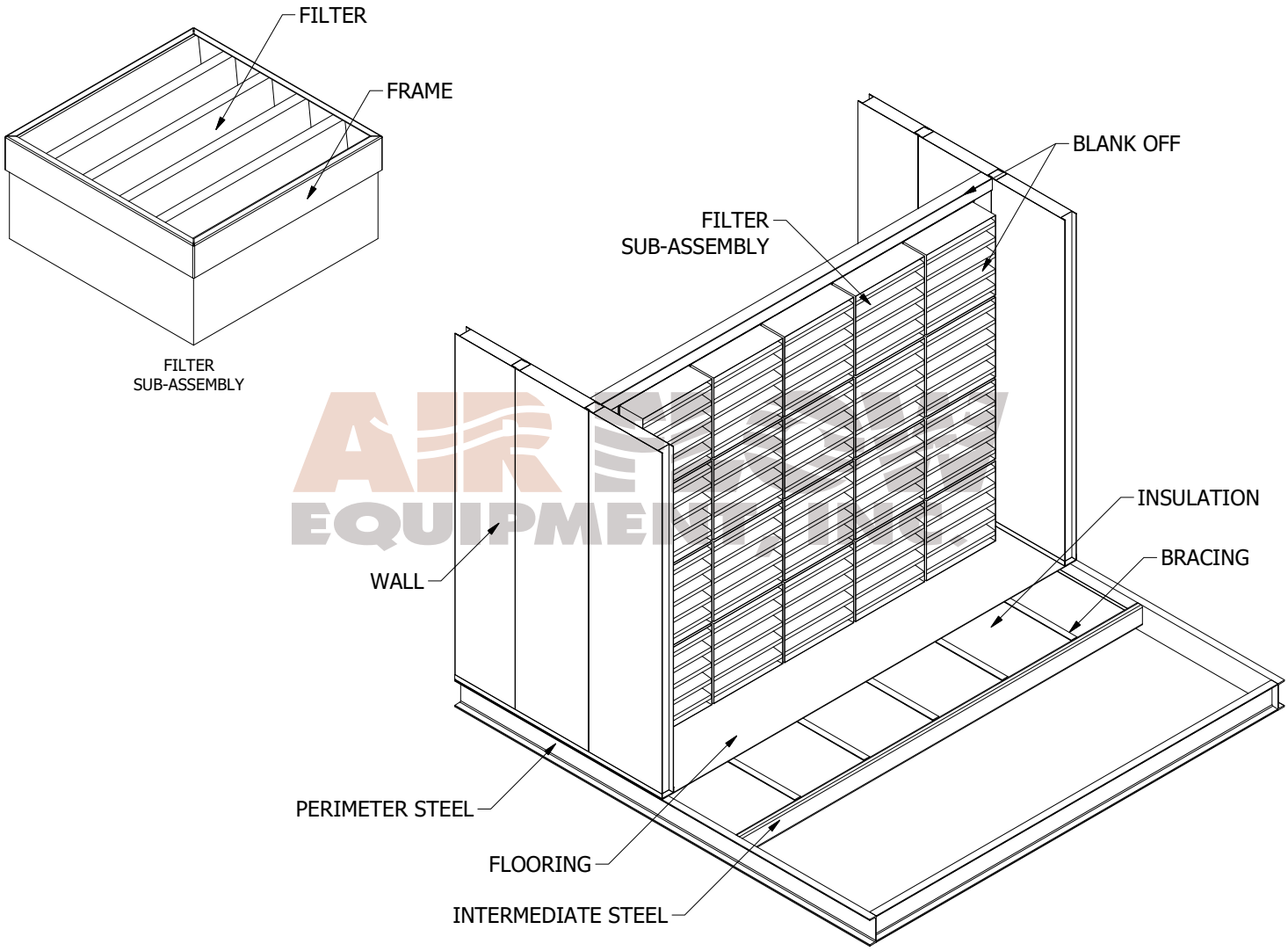
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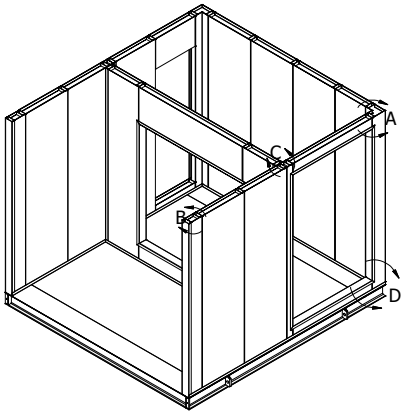
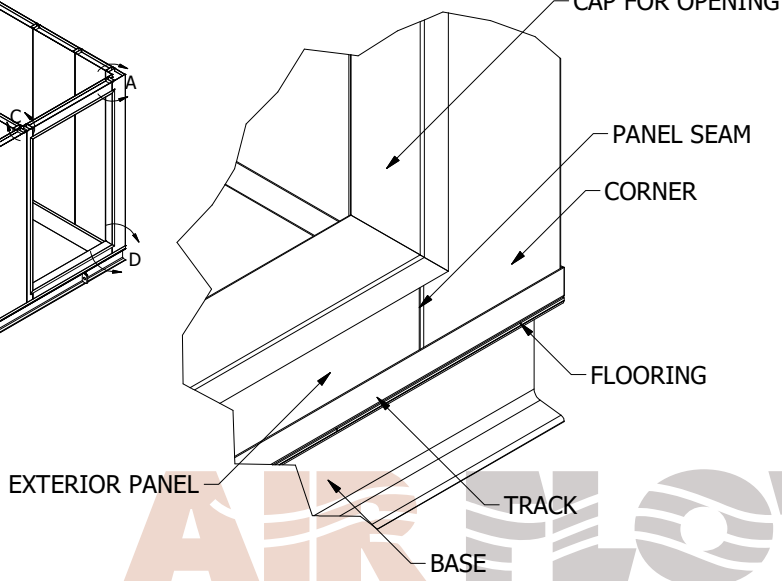
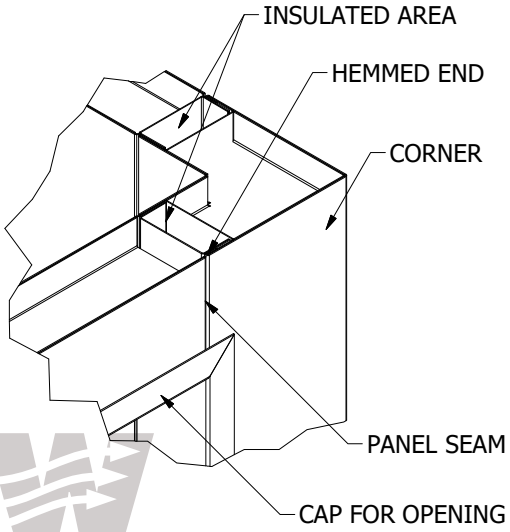
INTERMEDIATE STEEL

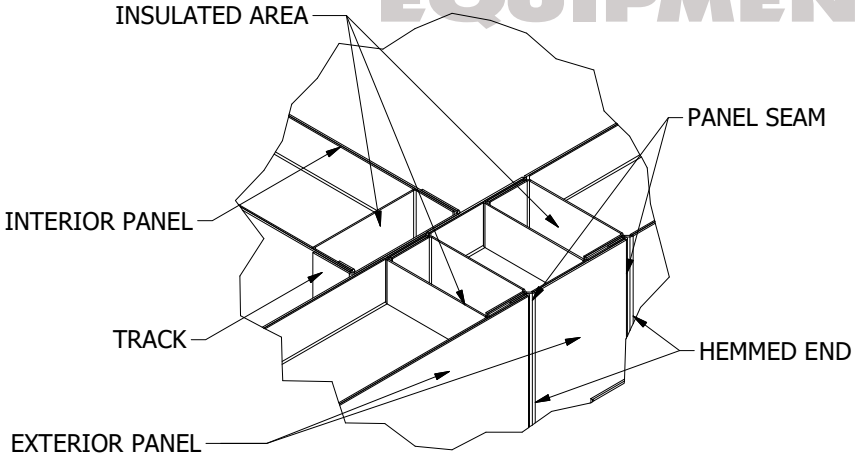


DETAIL D
WALL TO TRACK DETAIL

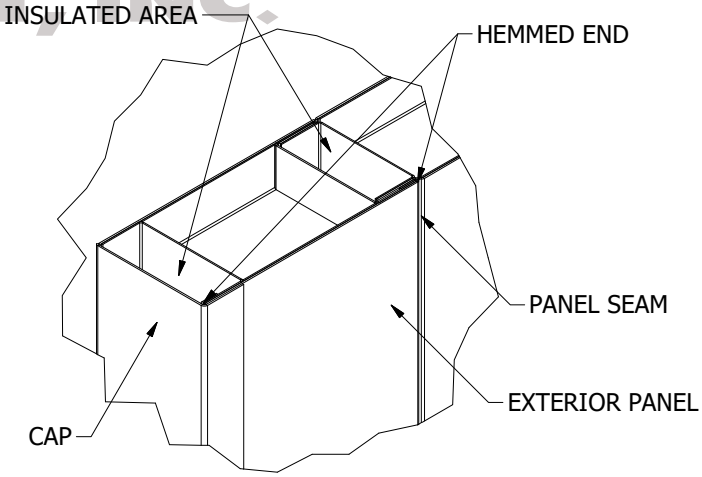


DETAIL A
CORNER DETAIL

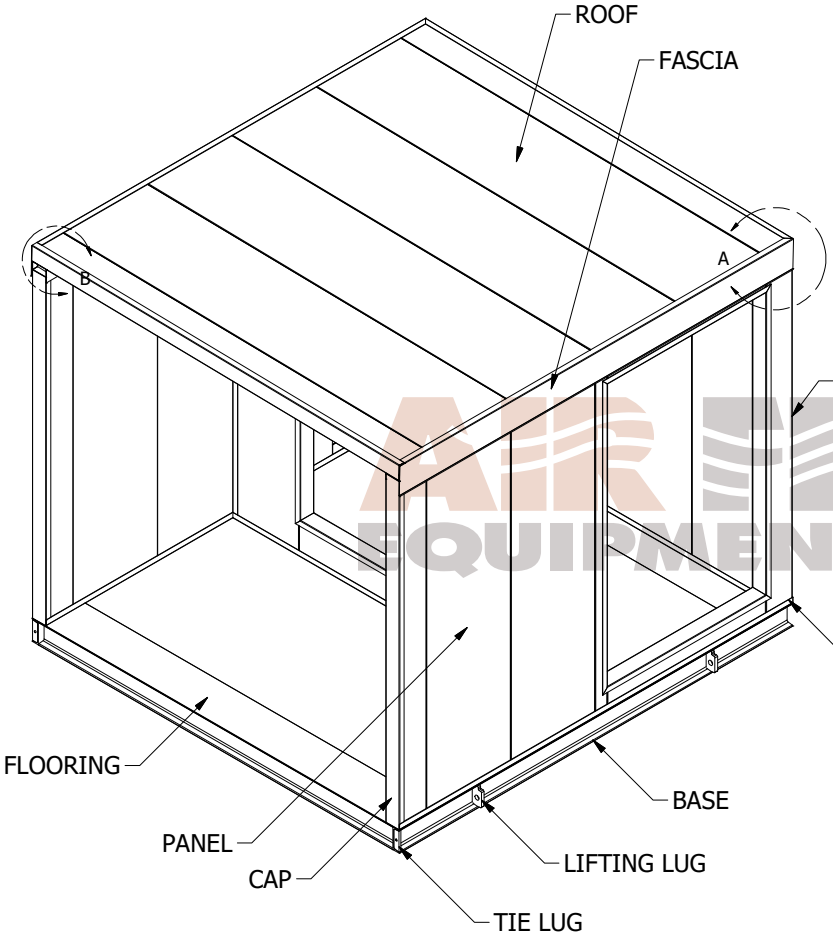




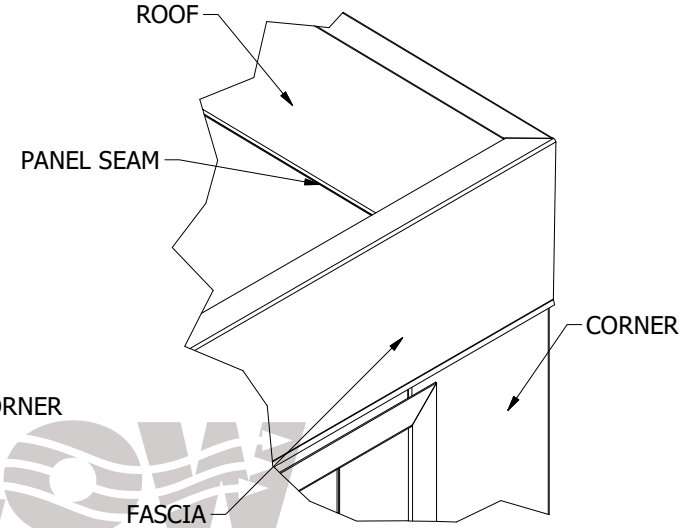
DETAIL C
EXTERIOR TO INTERIOR WALL DETAIL

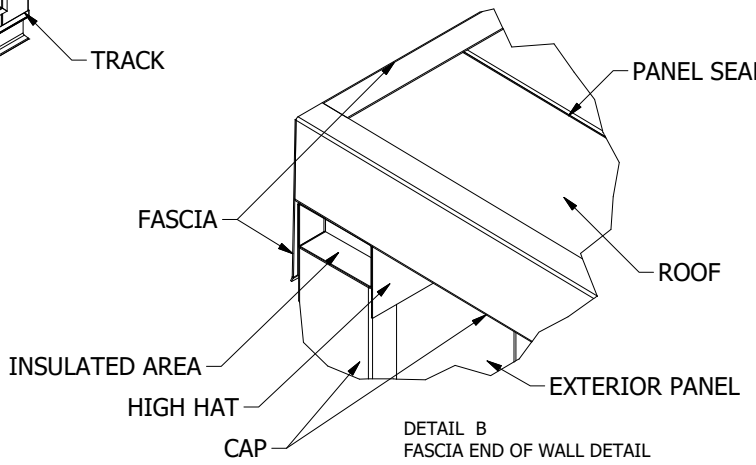


DETAIL B
EXTERIOR END WALL DETAIL

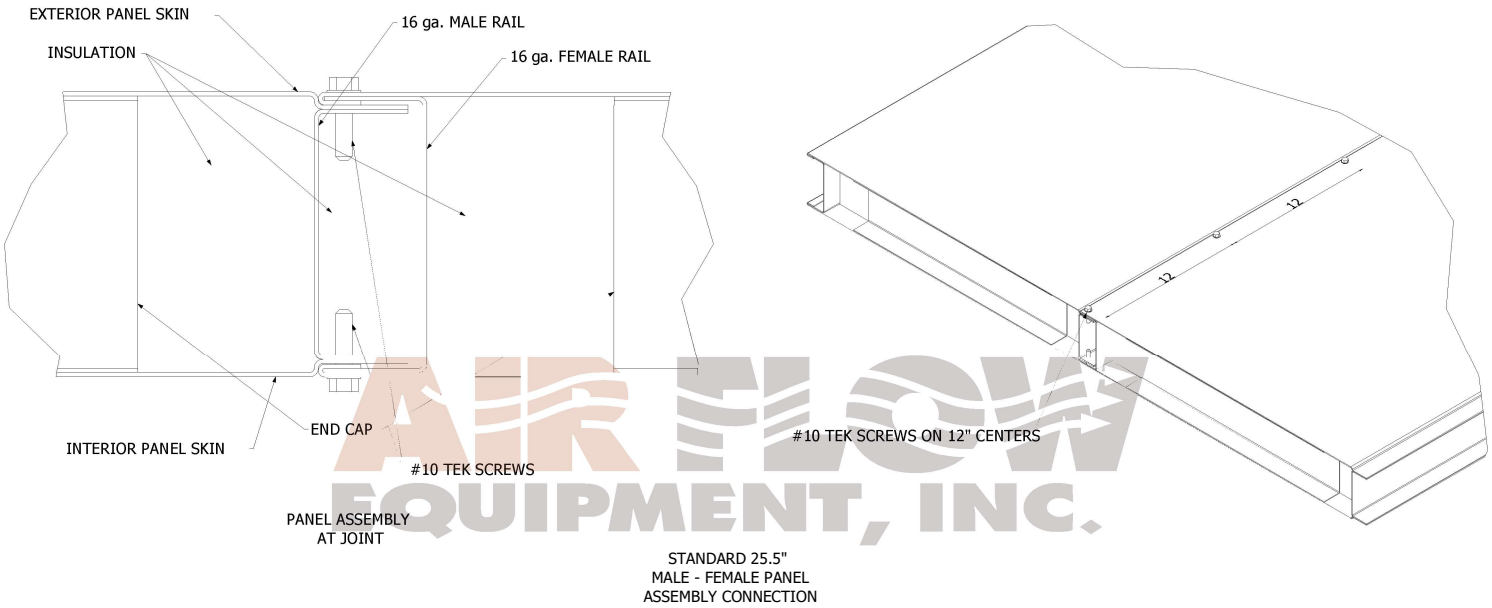


DETAIL A
FASCIA DETAIL

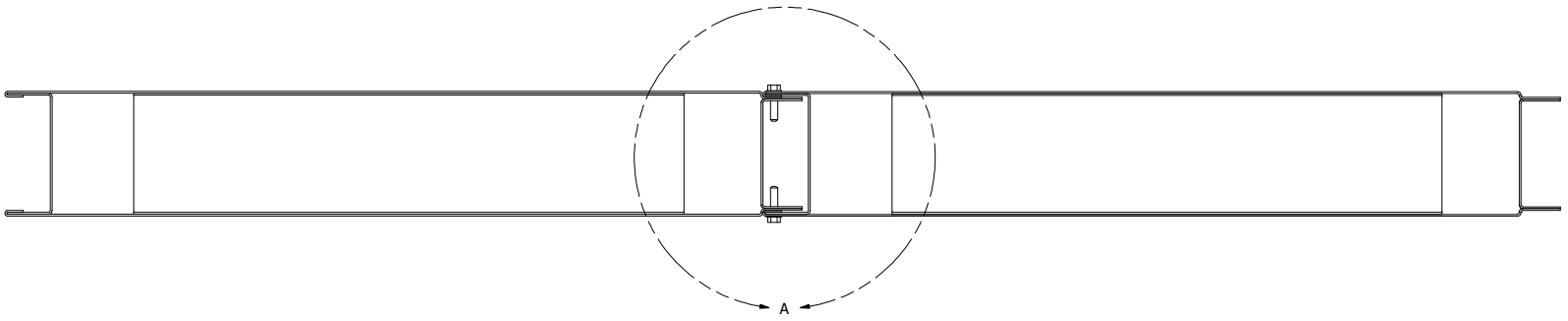


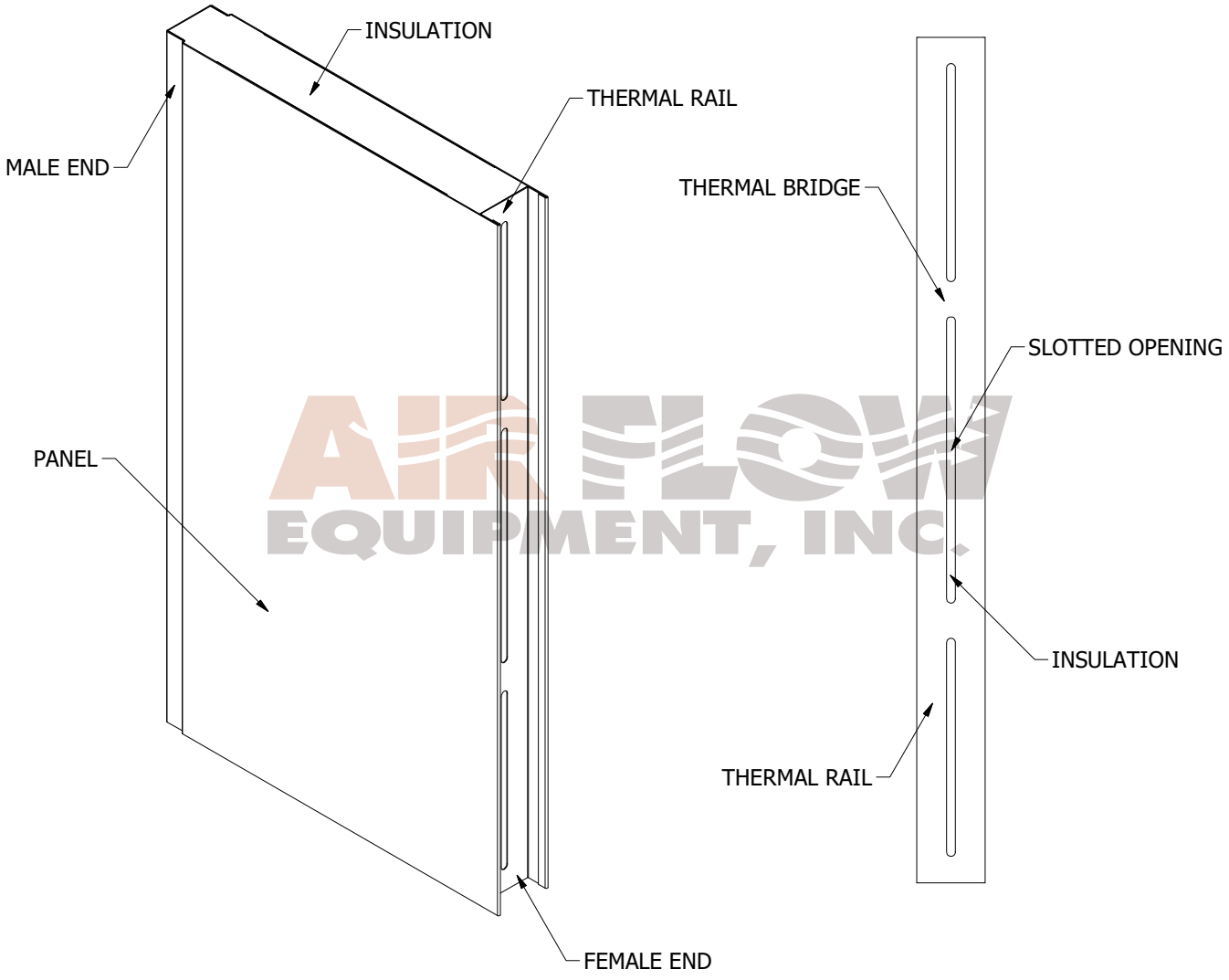


DETAIL B
FASCIA END OF WALL DETAIL



STANDARD 25.5"
MALE - FEMALE PANEL
ASSEMBLY CONNECTION





CCK-2617.0-11-25					
Ag Research Facility 1 - BP06 Fitout Group 1					
Question and Response Log					
Question Deadline 1:00pm EST 01/08/2025					
#	Date	From	Question	Response	
1	12/19/2024	Lucas Anderson, Johnson Controls	In Tuner's safety manual it reads that a Trade Partner is to have a full-time safety manager if their value is over $5M and/or will have 25 employees or more on site. With the controls contractor being bid under the Mechanical Contractor (TC-033) would the controls contractor have to provide their own safety manager if their bid is over $5M or would the controls contractor fall under the mechanical contractor's safety manager?	Controls would fall under the mechanical contractor and would not require their own safety manager.	
2	1/2/2025	Kyle Lemmink, TJ Dyer	TMV(s) do not appear to be scheduled or mentioned in the specs. Can you please provide a basis of design for TMVs to the plumbing schedules?	All TMV BOD model numbers are show in the Mixing Valve Schedule on sheet P001.	
3	1/2/2025	Kyle Lemmink, TJ Dyer	I am unable to find a spec regarding acceptable materials for the animal drinking water service. Can you please provide a spec for this service?	Refer to specification included in Addendum #3.	
4	1/2/2025	Kyle Lemmink, TJ Dyer	There are numerous locations where lab sinks are not being vented. Is the intent to utilize air admittance valves for these locations? Please clarify the intent in these locations.	Air admittance valves are illegal in KY. The lab sinks are part of a combination waste and vent system allowed by Ky Plumbing Code for lab waste systems.	
5	1/2/2025	Ralph Conte, American Decorative Ceilings	I am reaching out to discuss the specification & basis of design for CM1A, CM1B, CM2 & CM3. We have a couple similar options available that we feel could be better suited for the project, particularly in regards to accessibility, safety, and cost. Are you open to a conversation regarding these ceilings?	Substitution request not accepted. We do not have experience or familiarity with this manufacturer or product to verify quality requirements.	
6	1/2/2025	Jason Ferrell, Churchill McGee	N/A	N/A	
7	1/2/2025	Jason Ferrell, Churchill McGee	Is there a budget for TC-030 for bonding purposes	UK does not publish estimates for individual packages.	
8	1/2/2025	Jason Ferrell, Churchill McGee	Is there an updated schedule	Updated schedule (attachment G) provided in Addendum 4	
9	1/2/2025	Jason Ferrell, Churchill McGee	Is there site concrete	Site concrete is in a future bid package with final sitework	
10	1/2/2025	Dan Zornes, Glenwood Electric	Can additional 10 days to the deadline for RFIs?	No extensions are being provided.	
11	1/2/2025	Dan Zornes, Glenwood Electric	Reference drawing E211.A note #30. Confirm if all receptacles are to be GFI or as indicated on the floor plan	Note 30 is directed towards the feeds to the raceway. Only receptacles that are shown with GFCI symbology or noted to be GFCI breaker are to be GFCI.	
12	1/2/2025	Dan Zornes, Glenwood Electric	Reference TC-034 Attachment "B" (Electrical Scope of Work) Item #25 BIM to include all ¾" Conduits & Larger to be shown. Is this just the Homerun & Feeder Conduits or everyone?	model all 3/4" and larger.	
13	1/2/2025	Dan Zornes, Glenwood Electric	Confirm Allowances as noted on TC-034 Attachment "B" (Electrical Scope of Work) that are not listed on the Bid Breakout are to be included in base bid.	There are allowances in the bid breakout as well as in the scope specific items. Include both	
14	1/2/2025	Dan Zornes, Glenwood Electric	Please confirm TC-035 Technology is to include all raceways, boxes, cable trays, cable etc. for their own scope. TC-034 has no work for the Technology trade, which includes AV, Security, Voice/DATA & BIM.	Confirmed	
15	1/2/2025	Dan Zornes, Glenwood Electric	Due to the size & details of this project, can bid date extended an additional 10 days?	No extensions are being provided.	
16	1/2/2025	Dan Zornes, Glenwood Electric	Please provide Lightning Protection Specs or layout.	Lightning protection scope was provided under the Core & Shell Package.	

17	1/2/2025	Dan Zornes, Glenwood Electric	Will the owner provide all Generator Fueling? Including Testing?	The generator fueling and testing is captured in the specification section 263213 Emergency Generator. This specification section has been provided both in the Early Equipment Package and in the Fitout Package. The testing and fueling captured in this specification section is to be provided for in the Fitout Package as part of the installation of this equipment.	
18	1/2/2025	Dan Zornes, Glenwood Electric	Reference TC-034 Electrical SOW. Item #33. Are these additional hours to be added? Or just the premium portion of base bid hours?	This should be the premium portion of base bid hours. These are to be used at the direction of the CM.	
19	1/2/2025	Dan Zornes, Glenwood Electric	Please confirm TC-034 Electrical will be responsible for installing the complete fire alarm system including rough in, raceways, cabling and devices. JCI/Simplex is only providing “Smarts and Parts.”	Correct	
20	1/2/2025	Dan Zornes, Glenwood Electric	Please confirm the Fire Alarm System is a Class B. All End of Line Resisters to be located in the field, not at the FA Panel. Conduits to house in & out cables & cables that are “T” taped. No series wiring required.	The FA system is a Class B.	
21	1/2/2025	Dan Zornes, Glenwood Electric	Line item 67 states no single person crews are allowed, there must be at least two person crews. Please elaborate on this, is this just while working in lifts? Will one person be allowed to rough-in walls or install conduit alone?	This is just for lifts. Yes, one person will be allowed to rough in walls.	
22	1/7/2025	Kyle Lemmink, TJ Dyer	Drawing P001 Plumbing fixture under fixture description shows lab sinks “Bowl and Trim by others”. Are items listed as such to be furnished and installed by others or are those items furnished by others installed by the plumbing contractor?	CMTA response: Furnished by others and installed by the contractor.	
23	1/7/2025	Kyle Lemmink, TJ Dyer	I am unable to find a spec listing the acceptable materials for both the natural gas and the fuel oil system. Please provide a specification calling out what is required for these two services.	Refer to updated specifications issued in Addendum #3.	
24	1/7/2025	Shelby VanEps, Schiller	Signage is not included in the Scopes of Work. Please verify if this material is to be provided at this time or if sheet A860 and Section 10 1423 were provided for reference only.	Reference only. Signage will bid at a later date.	
25	1/7/2025	Jeni Kucharo, DH Pace	Will a clarification letter or proposal be accepted along with the bid? Will any markups to the scope be accepted	no and no	
26	1/3/2025	Ralph Conte, American Decorative Ceilings	Is the substitution request for acoustical metal pan ceilings by American Decorative Ceilings acceptable?	Substitution request not accepted. We do not have experience or familiarity with this manufacturer or product to verify quality requirements.	
27	1/2/2025	Brent Looney, Air Energy	We are the OEM for our lab vacuum and air compressor systems and are an exact match / equivalent to the Amico & Powerex units on the drawings. Is there a form for us to fill out? What is a good next step for us to support?	Global Vac and Air has been added to specification documents issued in Addendum #3.	
28	1/8/2025	Shelli Lane, Norwood	Do you happen to know where I can find the Scope of Work for Division 8 (Doors/Frames & HDWE)? I did print out the specs just didn’t see Scope of Work	Attachment B TC-037	
29	1/8/2025	Randy Greene, Lagco	TC-032 Plumbing Attachment B Unit Prices FP-6, the unit prices listed do not have enough information (per size, material type, etc.) in order for us to provide accurate unit pricing. Can you provide a more detailed list of the unit prices you want?	Provide unit prices if feasible. Leave blank otherwise.	
30	1/8/2025	Randy Greene, Lagco	TC-032 Attachment B Bid Breakout FP-9, Since we will be getting quotes right up to the bid time, it will be difficult to provide an accurate breakdown. Can this form be completed after the bid opening? Please advise.	Bid Breakout should be included with your bid submission.	
31	1/8/2025	Randy Greene, Lagco	Trap primer lines are excessively long and may not drain properly. Can individual trap primers as detailed on P be used?	Contractor to price system as shown on drawings.	
32	1/8/2025	Randy Greene, Lagco	Provide a spec for the solids interceptor called out on fixture schedule for the P5 series of sinks.	Refer to Specification 220200 Plumbing Fixtures issued in Addendum #1	

33	1/8/2025	Randy Greene, Lagco	Clarify how animal water piping is fed?	The animal water system is comprised of copper and stainless steel piping separated by a pressure reducing station. Copper pipe feed water is provided at building pressure. Stainless steel piping from the pressure reducing station to terminal locations including all fittings, valves and related equipment.	
34	1/8/2025	Randy Greene, Lagco	Are the spray master pressure washers powered by electric? Who provides these?	Power has been provided for pressure washer connections. Refer to symbols tagged with "WR1" and see Legend for more information.	
35	1/8/2025	Randy Greene, Lagco	Do valves for the CA, VAC, CO2, require brazed extensions as used for medical gas? Is any medical gas certifications required?	No, extensions are not necessary. No medical gas certifications are required.	
36	1/8/2025	Randy Greene, Lagco	Who provides the manifolds for the CO2, O2?	Refer to P002 for manifold details and basis of design.	
37	1/8/2025	Randy Greene, Lagco	Do the TM mixing valves require shut off valves? None are shown.	Refer to updated drawing. Shut-off valves are required.	
38	1/8/2025	Randy Greene, Lagco	TC-032 Hourly Rates Form Proposal page PF-7, the hourly rate sheets list engineering. Does TC-032 need any engineering for our scope of work?	hourly rate sheets are genaric. Fill in applicable lines for your scope	
39	1/8/2025	Randy Greene, Lagco	I can't seem to locate two prints/sketches mentioned in Addenda #1 Print A550.1 and Sketch SK-006. Can you please provide copies?	SK-006 provided in addendum 04	
40	1/8/2025	Randy Greene, Lagco	Please provide a specification for the animal water piping and accessories.	Refer to updated specifications issued in addendum #3.	
41	1/8/2025	Randy Greene, Lagco	Where is the main station, high pressure SS tubing, and wiring depicted for the spray master system?	There is not a Central system for the spray boxes. These are standalone connection points for a mobile pressure washer to connect to. Mobile pressure washer furnished by others. Contractor shall provide all fittings, connectors, valves and accessories for high pressure quick connection from pressure washer to spray master box for both inlet and outlet.	
42	1/8/2025	Brad Ruwan, TJ Dyer	Please confirm that ALL mechanical site work shown on drawing MU-100/101/200/201 & MUD-1 is included in the Early Make Ready Site package and not par of this scope of work.	Reference drawings for earlier packages were provided for reference. Work shown on drawings included for reference is included in previous scopes.	
43	1/8/2025	Brad Ruwan, TJ Dyer	Sheet Metal Specs: On the Double wall exposed duct what is the inner wall material and insulation requirements?	Refer to updated specifications issued in addendum #3	
44	1/8/2025	Brad Ruwan, TJ Dyer	Kitchen exhaust duct: It states that the mechanical contractor to make the final connections but there are no specifications for the duct from the hood to the fan. Will these be grease duct? And any grease traps needed? Please advise.	Refer to updated specifications issued in addendum #3	
45	1/8/2025	Rick Napier, H&R Mechanical	Drawing M302 shows LF-1 and LF-2, please provide spec and schedule	Refer to M502 piping schematic for model number	

46	1/8/2025	Rick Napier, H&R Mechanical	Drawing M302, note A24, located at 23 and A, what does this mean? Please advise.	All pipe and duct vertical penetrations through the floor shall have a raised concrete curb. Refer to referenced Structural drawing for detail.	
47	1/8/2025	Rick Napier, H&R Mechanical	Please provide a list of OFCI equipment including submittals with dimensions, weights, number of pieces, and install information, referenced in TC-025	TC-025 is providing the Air Handlers, Heat Recovery Chiller, and Lab Exhaust Fans: AHU-1, OA-N1, OA-N2, OA-N3, OA-S1, OA-S2, OA-S3, OA-S4, HRC-1, LEF-N, LEF-S. Submittals for AHUs and Chiller have been provided as an attachment in Addendum 04. Lab Exhaust Fan submittals have not been received yet. Reference BP-04 Core and Shell Mechanical Drawings for Schedules and additional details related to this equipment	
48	1/8/2025	Rick Napier, H&R Mechanical	Drawing M212, @13 & D there is a symbol assuming a HHP with no designation, please advise.	HHP-12/ B0112	
49	1/8/2025	Rick Napier, H&R Mechanical	Drawing M222, there is an RC 6, CO 233 with no piping please provide layout	Refer to drawings in addendum #3.	
50	1/8/2025	Rick Napier, H&R Mechanical	Drawing M222, Room CO 233A1, shows steam and condensate to room, please provide termination or hookup detail	Refer to drawings in addendum #3.	
51	1/8/2025	Rick Napier, H&R Mechanical	Drawing M233, note 25, 26 & 27, please provide detail for autoclave hookup	Refer to drawings in addendum #3.	
52	1/8/2025	Rick Napier, H&R Mechanical	Spec Section 20 13 00-7.L, list Hydronic piping, 2" and down Type L copper, 95/5 solder, 2 1/2" and up Sch 40 black welded or grooved, is this correct? Not per UK standards, please advise.	Refer to specifications in addendum #3.	
53	1/8/2025	Rick Napier, H&R Mechanical	Drawing M211 shows 1" piping down to Underfloor Heaters, Drawing M603 Detail *shows 3/4" piping down to Underfloor Heaters, please advise correct size.	Piping shall be 1".	
54	1/9/2025	Jeni Kucharo, DH Pace	Item #13 in scope of work TC-037 Doors & Hardware, item C, calls for Masonite door protection on lower half of the doors. Masonite does not provide any type of door protection such as this. There are types of door protection that protect the entire door prior to installation, but not once the door has been hung. Please clarify what is needed in this scope item.	Provide door protection kits similiar to "Pro Tect Door Protection Series 200 for all wood doors being provided	
55	1/9/2025	Jeni Kucharo, DH Pace	Item #17 in scope of work TC-037 Doors & Hardware, item A, calls for a hardware consultant to attend & run meetings at the jobsite in KY. Please update this scope item to allow virtual/Teams meetings.	Virtual/Teams meetings are acceptable	
56	1/9/2025	Jeni Kucharo, DH Pace	Item #17 in scope of work TC-037 Doors & Hardware, item C, needs to be removed as this is a material only scope of work.	This contractor is providing electrified hardware and keying and is expected to participate in meetings to coordinate this hardware with other trades	
57	1/9/2025	Jeni Kucharo, DH Pace	Item #20 in scope of work TC-037 Doors & Hardware wants all hollow metal & wood doors to be factory glazed. DH Pace recommends the furnish & installation of glass in hollow metal to be completed by the glazier as this has a less margin of error. Please update this item to call for glazing in the wood doors only, with glass in hollow meatl by others.	Provide factory glazing per scope item	

58	1/9/2025	Jeni Kucharo, DH Pace	Specification 08 71 00 for hardware calls for SFIC to match existing system. Please provide the manufacturer of the existing key system.	From the UK Standards for Key Cylinder Requirements: Best Cormax, seven pin; furnished by the Hardware Supplier; factory keyed and with keyway as directed by the UK Keyshop Supervisor, with three permanent keys per core factory cut as directed by the UK Keyshop Supervisor, permanent cores and permanent keys shipped directly from the factory to the UK Keyshop Supervisor. The locking devices that are to have cylinder override will be specified to have SFIC 7-pin cylinder housings, warranted to be compatible with those cores, installed into the locking devices by the Contractor. Contract is to include keyed brass construction cores for key cylinders with six construction keys, two of which are to be turned over to the UK Keyshop Supervisor.	
59	1/9/2025	Jeni Kucharo, DH Pace	Specification 08 14 16 for wood doors, calls for regional material requirement of doors manufactured within 500 miles of the facility. All the approved manufacturers fall outside this range. Please remove requirement from specification.	Remove requirement for doors manufactured within 500 miles of the facility from the specs.	
60	1/8/2025	Rick Napier, H&R Mechanical	Are there wye fittings in the storm piping installed in previous to receive the AC Condensate, all floors, note H24?	Fitout contractor shall include the cost of wye fitting material and labor to install in the storm riser. The fitout contractor and core and shell contractor shall coordinate at the time of BIM coordination and installation to ensure fitting is installed in the most efficient process possible. Consultant team beleives fitout contractor will be under contract prior to the core and shell installation.	
61	1/8/2025	Rick Napier, H&R Mechanical	Please provide pipe routing and details for the refrigeration equipment runout schedule, Drawing M211, Note 33 and all similar occurrences.	Refer to Detail 3 on M602 for CER room piping requirements.	
62	1/8/2025	Rick Napier, H&R Mechanical	Drawing M211, Note 43, indicate detail on drawing M201.3, please provide drawing.	Refer to Detail 10 on M602	
63	1/9/2025	Rick Napier, H&R Mechanical	Drawing M212, Rm B011A, has to HCS/R lines going to it, what equipment is it serving and what size? Please advise.	HCS/R lines serving CER 4C. See revised drawing in ADD 3.	
64	1/9/2025	Rick Napier, H&R Mechanical	Drawing M213, Rm D0114, note 27, please provide hookup detail.	Refer to Detail 9 on M601 added as a part of ADD 3.	
65	1/8/2025	Joe Molinaro, Glenwood Electric	Reference drawing E702 General Note P. All Emergency Feeders are to be MI Cable. What about the 2500 Amp Busway feeding D0401ESWBD1?	As long as it is running in a space with open ceiling (electrical & mechanical rooms) MI cable is not required. Per code.	

66	1/8/2025	Joe Molinaro, Glenwood Electric	Reference drawing E702 Electrical Feeder Schedule. Conduits Sizes are noted for Emergency Feeders. Please confirm we are to use MI Cable.	Yes, it is to be MI cable.	
67	1/8/2025	Joe Molinaro, Glenwood Electric	Reference drawing E704. Emergency Feeder to the Fire Pump Controller, calls for (2) sets of 4#500 MCM Copper conductors routed through existing under-slab conduits. Thus, no need for MI Cable, correct?	Correct.	
68	1/8/2025	Joe Molinaro, Glenwood Electric	Reference drawing E704. Emergency Feeders from C0129ESBWD1 to ATS-ESB4, looks like the (7) sets of 4" PVC is to be install under slab in the Core & Shell Package, correct?	Correct. The conduit pathways are provided in the Core & Shell Package.	
69	1/8/2025	Joe Molinaro, Glenwood Electric	Reference drawing E704. Normal Feeders from C0110NSWBD1 to ATS-ESB4, looks like the (7) sets of 4" PVC is to be install under slab in the Core & Shell Package, correct?	Correct. The conduit pathways are provided in the Core & Shell Package.	
70	1/8/2025	Joe Molinaro, Glenwood Electric	Please confirm the question date & bid date will be extended.	no extensions will be provided	
71	1/7/2025	Shelby VanEps, Schiller	Sheet A860 shows multiple designs for Sign Types A, D, and F. Please clarify if each location is to receive (1) of each design or which design is required at each location.	Signage is being bid in a separate bid set. BHDP will review and can update in a future addendum if required.	
72	1/10/2025	Domenic Lowe, Rolling Plains Construction	Can you please confirm that spray applied fireproofing is a part of this bid package? I don't see the fireproofing in the specifications here in the bid forms	Spray applied fireproofing was bid previously in BP-04 core and shell	
73	1/9/2025	Guy Fulkerson, Blue Sky Electric	Bid categories under TC-035 Technology it states "This package includes but not limited to raceways and boxes, cable trays, communications, audio/visual system, security/access control, voice/data equipment." On Page T100 under System Responsibility General Notes Note 34 it says "ALL RACEWAY SYSTEMS INCLUDING CONDUITS, PULL STRING AND BACK BOXES, TO SUPPORT THE INSTALLATION OF DIVISION 27 AND 28 EQUIPMENT SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. CONTRACTOR TO PROVIDE COORDINATION FOR THE INSTALLATION OF THIS RACEWAY SYSTEM WITH THE ELECTRICAL CONTRACTOR." Is the TC-035 bid package responsible for pathways or TC-034? Does that also include cable tray installation?	TC-035 is responsible for all pathways and cable tray.	
74	1/9/2025	Phil Hocher, Darwin Chambers	Our scope of work would be SECTION 13 2129.13 CONTROLLED ENVIRONMENT ROOM - COLD STORAGE ROOMS that starts on p.561 of 1761 of the specifications package, was this scope already bid?	CER rooms will be bid by seperate RFP at a later date.	
75	1/10/2025	Tom Davies, Stoermer-Anderson, Inc.	We just received addendum #2 for the Fit-out portion as agent for RECO USA we are requesting approval for quoting their Semi-Instantaneous (steam fired) water heaters as approved equal on the fit out quote. Per the spec requirements attache is the following: RECO substitution request form, RECO product data. Please review and if you have any questions or comments please advise.	Refer to Addendum #4.	
76	1/11/2025	Jo Beth French Anderson, H&R Mechanical Contractors	Please see below question regarding missing information on plumbing system specification for Ag Fitout Package: Drawings indicate a few plumbing systems that are not covered in the technical specs Piping section 201300. Please provide a material/fitting/(and valve where applicable) spec for the following systems: - Lab water (LCW, LHW, LHWR) - Tempered water? (TW on Greenhouse sheets) - Natural Gas NG - RO water	See responses below: - Lab water (LCW, LHW, LHWR): Same as domestic water - Tempered water: Same as domestic water - Natural Gas NG: Refer to specification issued in Addendum #3. - RO water: RO is covered under DI water. Refer to specification 201300.	
