COMMONWEALTH OF KENTUCKY
DEPARTMENT FOR FACILITIES AND SUPPORT SERVICES
DIVISION OF ENGINEERING AND CONTRACT ADMINISTRATION

INVITATION TO BID NO: RFB-129-25 **DATE:** December 3, 2024
FOR: HVAC Replacement
FFA Leadership Center Recreation Hall
Kentucky Department of Education
Hardinsburg, Kentucky RFB-785-2500000269

ADDENDUM NO. One (1)

BIDDER SHALL CONFORM TO THE FOLLOWING CHANGES AS SAME SHALL BECOME BINDING UPON THE CONTRACT TO BE ISSUED IN RESPONSE TO THIS INVITATION TO BID.

Item 1: Refer to addendum to be distributed by Lynn Imaging for all additions, deletions, and/or changes to specifications and/or drawings.

END OF ADDENDUM

Invitation to Bid No. RFB-129-25
For: HVAC Replacement
FFA Leadership Center Recreation Hall
Kentucky Department of Education
Hardinsburg, Kentucky

Susan Ward, Statewide Procurement Analyst II
Division of Engineering and Contract Administration

ADDENDUM NO.1

TO: All Plan Holders

FROM: Studio Kremer Architects

PROJECT: Future Farmers of America Leadership Camp
RECREATION BUILDING
ska# 2023-33.7

This Addendum **No. 1** supersedes and supplements all portions of the Construction Documents with which it conflicts. Acknowledgement of this Addendum shall be noted on the Form of Proposal.

Addendum **No. 1** makes the following modifications and clarifications to the Construction Drawings and Specifications:

Item No. 1:

Where demolition documents indicate that plumbing or equipment is removed at floor area, cut any connections to below finished floor and fill voids with grout, troweled smooth.

Leave unfinished at exposed concrete floor areas.

If finished floor material is present, prep and install new flooring to match adjacent.

Item No 2: **Reference** **Section 04 20 00 – Unit Masonry (new)**
Section 09 90 00 – Painting

Where through-wall units are scheduled for removal, remove all elements of unit complete, including sleeves, flashing, conduit, and wiremold. Clean opening, prepare, and install new CMU infill, aligned with coursing of existing.

Note that existing block has horizontal center score at midpoint. It is not necessary to match this.

When CMU work is complete, install masonry block filler and paint, using both Exterior and Interior systems described for CMU in Section 09 90 00 – Painting, to match adjacent conditions.

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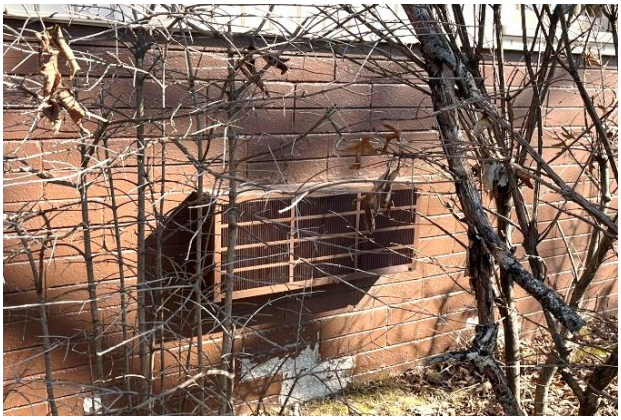
1231 S Shelby St, Louisville, KY 40203
TEL 502.499.1100 FAX 502.499.1101



Item No 3: **Reference** **Section 06 20 00 – Finish Carpentry**

Section 07 20 00 – Building Insulation (new)

Where openings have been left in deck, either from equipment removed in the current job or in previous work, these should be closed and finished. For the openings shown below, pack void with mineral fiber insulation (see new spec section), cover opening complete with 1x wood material, and paint to match adjacent conditions.

Item No 4: **Reference** **Section 09 90 00 – Painting**

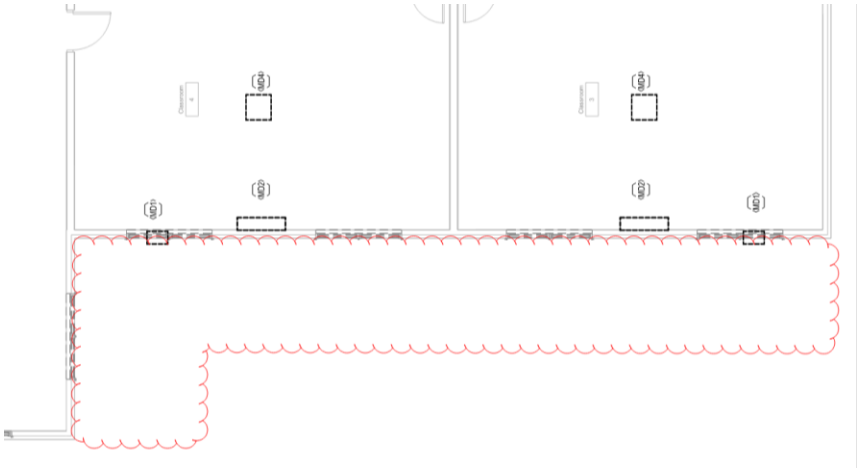
1. Where fan(s) or other equipment is indicated to be removed, fill holes with wood filler, prep/sand, and paint exposed area.

2. Where lighting removed / replaced, fill any exposed holes with wood filler, prep/sand area, and paint any areas not covered by new fixtures.

Item No. 5:

Along the south side of the building (as indicated by cloud in sketch below) where new equipment will be installed, all plantings within 10' of exterior walls to be removed complete. Roots to be removed in entirety.

For appropriate finished condition, remove and store existing topsoil to the side, remove plantings complete, and fill holes up to 4" below finished grade with new soil. Then spread stockpiled topsoil back in place to bring up to finished grade. After installation of equipment, clean out any debris from topsoil around pads, and seed and straw remaining soil areas.



Item No. 6:

The attached documents and drawing revisions provided by CMTA describe all changes, corrections, clarifications and updates to the Mechanical, Electrical, Plumbing, and Systems scopes of work and become part of this Addendum.

END OF ADDENDUM NO. 1
(referenced attachments follow)

ENCL:

1. Section 04 20 00 – Unit Masonry (new)
2. Section 07 20 00 – Building Insulation (new)
3. CMTA Addendum Text

SECTION 04 20 00 – UNIT MASONRY ASSEMBLIES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. Refer to the Drawings for locations of work to be performed.

1.02 SUMMARY

A. This Section includes unit masonry assemblies consisting of the following:

1. Concrete masonry units (CMUs), standard.
4. Mortar and grout.
3. Reinforcing steel.
4. Masonry joint reinforcement.

1.04 SUBMITTALS

A. Product Data: For each type of product indicated.
B. Shop Drawings: For the following:
1. Masonry Units: Show sizes, profiles, coursing, and locations of special shapes.

C. Samples: For each type and color of the following:

1. Accessories embedded in masonry.

D. Material Certificates: Include statements of material properties indicating compliance with requirements including compliance with standards and type designations within standards. Provide for each type and size of the following:

1. Masonry units: Include material test reports substantiating compliance with requirements.
2. Cementitious materials. Include brand, type, and name of manufacturer.
3. Pre-blended, dry mortar mixes. Include description of type and proportions of ingredients.
4. Joint reinforcement.
5. Mix Designs: For each type of mortar and grout. Include description of type and proportions of ingredients.
6. Statement of Compressive Strength of Masonry: For each combination of masonry unit type and mortar type, provide statement of average net-area compressive strength of masonry units, mortar type, and resulting net-area compressive strength of masonry determined according to Tables 1 and 2 in ACI 530.1 / ASCE 6/TMS 602.

1.05 QUALITY ASSURANCE

A. Source Limitations for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, through one source from a single manufacturer for each product required.

B. Source Limitations for Mortar Materials: Obtain mortar ingredients of uniform quality from a single manufacturer for each cementitious component and from one source or producer for each aggregate.
C. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Meetings."

1.06 DELIVERY, STORAGE, AND HANDLING

A. Store masonry units on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied. If units become wet, do not install until they are dry.

B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.

C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.

D. Deliver pre-blended, dry mortar mix in moisture-resistant containers designed for lifting and emptying into dispensing silo. Store pre-blended, dry mortar mix in delivery containers on elevated platforms, under cover, and in a dry location or in a metal dispensing silo with weatherproof cover.

E. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.07 PROJECT CONDITIONS

A. Do not apply uniform floor, roof or concentrated loads until mortar and grout have reached its design strength. Coordinate with material testing consultant.

A. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.

1. Protect base of walls mortar splatter by spreading coverings on ground and over wall surface.
2. Protect sills, ledges, and projections from mortar droppings.
3. Protect surfaces of windows and door frames, as well as similar products with painted and integral finishes, from mortar droppings.

C. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1 / ASCE 6/TMS 602.

1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40-degrees F and above and will remain so until masonry has dried, but not less than 7-days after completing cleaning.

D. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1 / ASCE 6/TMS 602.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include products specified.
2. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include manufacturers specified.

2.02 MASONRY UNITS, GENERAL

A. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to exceed tolerances and to contain chips, cracks, or other defects exceeding limits stated in the standard. Do not use units where such defects, including dimensions that vary from specified dimensions by more than stated tolerances, will be exposed in the completed Work or will impair the quality of completed masonry.

2.03 CONCRETE MASONRY UNITS (CMU)

A. Shapes: Provide shapes indicated and as follows:

1. Provide special shapes for lintels, corners, jambs, sashes, sills at openings, movement joints, headers, bonding, and other special conditions.
2. Provide bullnose units for outside corners.

B. Concrete Masonry Units: ASTM C 90.

1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 2,000 psi.
2. Weight Classification: Lightweight, unless otherwise indicated.
3. Actual Size: Manufactured to dimensions 3/8 inch less than nominal dimensions.
4. Exposed Faces: Provide color and texture matching the range represented by Architect's sample.

a. Size: 8-inches by 16-inches, unless otherwise noted. Refer to Wall Type Legend.

2.04 MORTAR AND GROUT MATERIALS

A. Mortar For Concrete Masonry: Type S

1. Portland Cement: ASTM C 150, Type I or II, except Type III may be used for cold-weather construction.
2. Hydrated Lime: ASTM C 207, Type S.
3. Portland Cement-Lime Mix: Packaged blend of portland cement complying with ASTM C 150, Type I or Type III, and hydrated lime complying with ASTM C 270, Type S.

B. Aggregate for Mortar: ASTM C 144.

1. For mortar that is exposed to view, use washed aggregate consisting of natural sand.

C. Aggregate for Grout: ASTM C 404.

D. Water: Potable.

E. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated.

1. Do not use calcium chloride in mortar or grout.

F. Pre-blended, Dry Mortar Mix: Furnish dry mortar ingredients in form of a pre-blended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.

G. Mortar for Unit Masonry: Comply with ASTM C 270, Proportion Specification. Provide the following types of mortar for applications stated unless another type is indicated.

1. For masonry below grade or in contact with earth, use Type S, (CMU).
2. For above-grade, non-load-bearing walls and parapet walls; and for other applications where another type is not indicated, use Type N.

H. Grout for Unit Masonry: Comply with ASTM C 476.

1. Compressive Strength of 2,500 psi
2. Use grout of type indicated or, if not otherwise indicated, of type (fine or course) that will comply with Table 1.15.1 in ACI 530.1 / ASCE 6/TMS 602 for dimensions of grout spaces and pour height.
3. Provide grout with a slump of 8 to 11-inches as measured according to ASTM C 143 / C 143M.

2.05 REINFORCEMENT

A. Masonry Joint Reinforcement for Single-Wythe Masonry: Truss type with single pair of side rods.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.
1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of work.

B. Before installation, examine rough-in and built-in construction for piping systems to verify actual locations of piping connections.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION, GENERAL

A. Thickness: Build composite walls and other masonry construction to full thickness shown. Build single-wythe walls to actual widths of masonry units, using units of widths indicated.

B. Leave openings for equipment to be installed before completing masonry. After installing equipment, complete masonry to match the construction immediately adjacent to opening.

C. Where cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

D. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures.

1. Mix units from several pallets or cubes as they are placed.

E. Comply with construction tolerances in ACI 530.1 / ASCE 6/TMS 602 and with the following:

1. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10-feet, 1/4-inch in 20-feet, or 1/2-inch maximum.
2. For vertical alignment of exposed head joints, do not vary from plumb by more than 1/4-inch in 10-feet, or 1/2-inch maximum.
3. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8-inch in 10-feet, 1/4-inch in-20 feet, or 1/2-inch-maximum.

4. For exposed bed joints, do not vary from thickness indicated by more than plus or minus 1/8-inch, with a maximum thickness limited to 1/2-inch. Do not vary from bed-joint thickness of adjacent courses by more than 1/8-inch.
5. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8-inch. Do not vary from adjacent bed-joint and head-joint thicknesses by more than 1/8-inch.
6. For faces of adjacent exposed masonry units, do not vary from flush alignment by more than 1/16-inch except due to warpage of masonry units within tolerances specified for warpage of units.
7. For exposed bed joints and head joints of stacked bond, do not vary from a straight line by more than 1/16-inch from one masonry unit to the next.

3.03 LAYING MASONRY WALLS

A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.

B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in running bond; do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs.

C. Lay concealed masonry with all units in a wythe in running bond. Bond and interlock each course of each wythe at corners. Do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs.

D. Stopping and Resuming Work: Stop work by racking back units in each course from those in course below; do not tooth. When resuming work, clean masonry surfaces that are to receive mortar, and remove loose masonry units and mortar before laying fresh masonry.

E. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.

F. Bed hollow metal frame anchors in mortar joints and fill head and jambs of frame solid with mortar.

G. Fill first vertical cell of masonry units adjacent to framed openings full with specified grout fill.

H. When building in electric outlet boxes, pipe sleeves and other similar items, make cuts so face texture will not be damaged beyond face of the cover place or escutcheon; exposed patching will not be accepted.

I. Fill space between hollow metal frames and masonry solidly with mortar, unless otherwise indicated.

J. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath, wire mesh, or plastic mesh in the joint below and rod mortar or grout into core.

3.04 MORTAR BEDDING AND JOINTING

A. Lay hollow concrete masonry units as follows:

1. With face shells fully bedded in mortar and with full head joints of depth equal to bed joints.
2. With webs fully bedded in mortar in all courses of piers, columns, and pilasters.
3. With webs fully bedded in mortar in grouted masonry, including starting course on footings. Fill / grout cores solid in starting course.

B. Make uniform, nominal 3/8” wide joints, unless otherwise shown. Tool joints smooth and dense with round, non-staining type jointed to provide slightly concave joints. Tool joints behind lockers, casework, markerboards, tackboards and other equipment.

C. Lay solid masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.

3.05 MASONRY JOINT REINFORCEMENT

A. General: Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8-inch on exterior side of walls, 1/2-inch elsewhere. Lap reinforcement a minimum of 6-inches.

1. Space reinforcement not more than 16-inches o.c. vertically.
2. Provide reinforcement not more than 8-inches above and below wall openings and extending 12-inches beyond openings.

a. Reinforcement above is in addition to continuous reinforcement.

B. Interrupt joint reinforcement at control and expansion joints, unless otherwise indicated.

C. Provide continuity at wall intersections by using prefabricated T-shaped units.

D. Provide continuity at corners by using prefabricated L-shaped units.

3.06 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections indicated below and prepare test reports:

1. Allow inspectors access to scaffolding and work areas, as needed to perform inspections.
2. Place grout only after inspectors have verified compliance of grout spaces and grades, sizes, and locations of reinforcement.
3. Payment for these services will be made by the Owner.
4. Retesting of materials failing to comply with specified requirements shall be done at Contractor's expense.

B. Grout Test (Compressive Strength): For each mix provided, per ASTM C 1019.

3.07 REPAIRING, POINTING, AND CLEANING

A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Install new units to match adjoining units; install in fresh mortar, pointed to eliminate evidence of replacement.

B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for sealant application, where indicated.

C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.

D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:

1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of masonry.
3. Clean concrete masonry by cleaning method indicated in NCMA TEK 8-2A applicable to type of stain on exposed surfaces. Do not use acid.

E. Masonry Cleaning Materials see individual section for related cleaning instructions.

1. Commercial product manufactured for masonry cleaning.
2. “Sure Klean 600” by Prosoco, Inc. or “Thoro-Clean” by Standard Dry Wall Products, Inc.
3. Verify compatibility with selected masonry units.

3.11 SALVAGEABLE MATERIALS

A. Unless otherwise indicated, excess masonry materials are Contractor's property. At completion of unit masonry work, remove from Project site.

END OF SECTION 04 20 00

SECTION 07 20 00 – BUILDING INSULATION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 DESCRIPTION OF WORK

A. Extent of building insulation work is shown on the Drawings and indicated by the provisions of this Section.

B. Applications of building insulation specified in this Section include the following:

1. Mineral wool for filling of larger voids.
2. Spray foam insulation, for small voids.

C. Low expansion spray foam around windows and doors is specified in their respective Specification Sections.

1.03 QUALITY ASSURANCE

A. Thermal Conductivity: Thicknesses indicated are for thermal conductivity (k-value at 75-degrees F) specified for each material. Provide adjusted thickness as directed for equivalent use of material having a different thermal conductivity. Where insulation is identified by "R" value, provide thickness required to achieve indicated value.

B. Fire and Insurance Ratings: Comply with fire-resistance flammability and insurance ratings indicated and comply with regulations as interpreted by governing authorities.

1.04 SUBMITTALS

A. Product Data: Submit manufacturer's product specifications and installation instructions for each type of insulating and vapor barrier material required.

1.05 PRODUCT HANDLING

A. General Protection: Protect insulations for physical damage and from becoming wet, soiled, or covered with ice or snow.

PART 2 PRODUCTS

2.01 MATERIALS

A. Spray foam insulation for filling small voids / holes:

1. Manufacturers:

a. Handi-Form Spray Foam as manufactured by Fomo Products.
b. Great Stuff Pro by Dow Chemical or equivalent by Hilti
c. Froth Pak Foam Insulation by Dow Chemical or equivalent by Hilti

2. Flame Spread: 25 max per ASTM E84
3. Smoke Development: 350 max per ASTM E84

B. Mineral wool / mineral fiber:

1. Equal to Thermafiber SAFB, Standard Fiber.

C. Miscellaneous Materials:

1. Mechanical Anchors: Type and size shown or, if not shown, as recommended by insulation manufacturer for type of application and condition of substrate.
2. Provide UL rated sealant system over insulation at top of fire-rated walls.

PART 3 EXECUTION

3.01 INSPECTION AND PREPARATION

A. Installer must examine substrates and conditions under which insulation work is to be performed and must notify Contractor in writing of unsatisfactory conditions. Do not proceed with insulation work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.

3.02 INSTALLATION

A. General:

1. Comply with manufacturer's instruction for particular conditions of installation in each case. If printed instructions are not available or do not apply to the Project conditions, consult with the manufacturer's technical representative for specific recommendations before proceeding with work.
2. Cut and fit insulation tightly around obstructions and fill all voids with insulation. Remove projections which interfere with placement.

B. Spray Foam Insulation:

1. Filling of small voids and holes around structural bearing areas.

3.03 PROTECTION

A. General: Protect installed insulation from harmful weather exposures and from possible physical abuses, where possible by non-delayed installation of concealing work or, where that is not possible, by temporary covering or enclosure. Installed shall advise Contractor of exposure hazards, including possible sources of deterioration and fire hazards.

END OF SECTION 07 20 00

Future Farmers of America – Recreation Hall

Renovation Project Number 540CBANFF2500

ITEMS PROVIDED BY CMTA

Addendum #1

December 03, 2024

CHANGES TO DRAWINGS:

Mechanical

Sheet #	Sheet Title	Noted Update
M200	Recreation Hall Mechanical Demolition	1. Window AC units have already been removed; no longer in demolition scope. 2. Radiator units go through wall and keynote added for concrete infill in open spaces 3. Circulating fan to be removed in recreation hall 4. Water line to be cut and capped 5 ft away from building. 5. Added keynote to cap existing roof vents/holes.
M201	Recreation Hall Mechanical New Work	1. Modified condensing unit layout to keep existing tree 2. Denoted condensate pipe sizes 3. Updated condensate pipe keynote for spilling on grade
M300	Mechanical Sections	1. Modified condensing unit layout for coordination around existing tree.

Future Farmers of America – Recreation Hall

Renovation Project Number 540CBANFF2500

Addendum #1

December 03, 2024

M400	Mechanical Details	1. Updated wall mounted unit detail pipe routing

Electrical

Sheet #	Sheet Title	Noted Update
E200	First Floor Plans - Electrical	Updated lighting design Updated power distribution to condensing units
E300	Electrical Details	Updated electrical keynotes
E301	Electrical Details	Updated power keynotes

CHANGES TO SPECIFICATIONS:

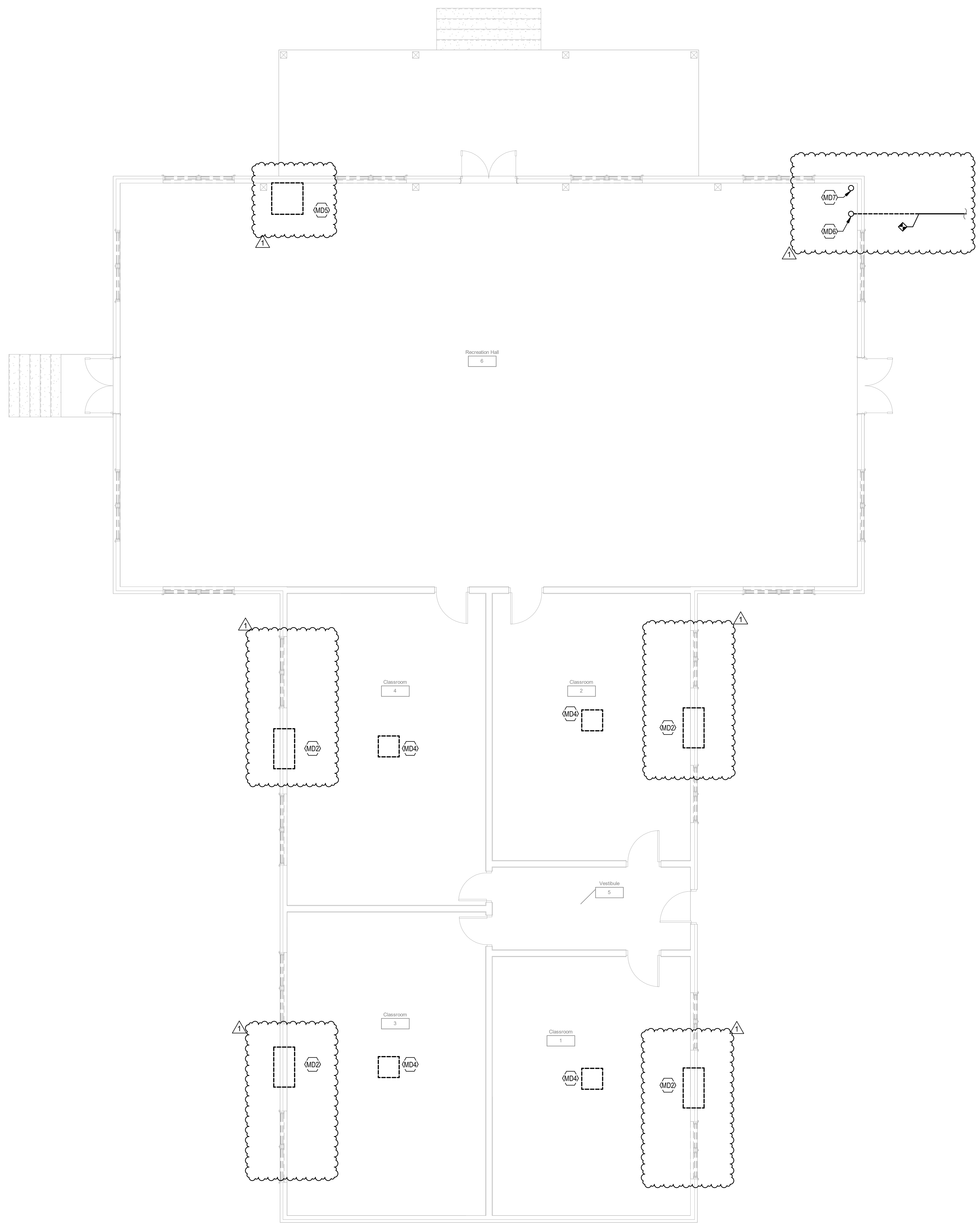
N/A

ATTACHMENT(S):

- Mechanical Drawings as listed above
- Electrical Drawings as listed above
- Pre-Bid Electrical Responses

END OF ADDENDUM #1

ITEMS PROVIDED BY CMTA



FIRST FLOOR PLAN - MECHANICAL DEMOLITION

1

SCALE: 3/16" = 1'-0"

KEYNOTES

MD2 REMOVE BASEBOARD FINNED-TUBBED RADIATOR. REMOVE ALL ELECTRICAL CONNECTIONS; REFER TO ELECTRICAL DRAWINGS FOR DEMOLITION SCOPE.

MD4 REMOVE EXISTING FAN ABOVE ACCESS PANEL IN CLASSROOM. REMOVE ALL ASSOCIATED CONNECTIONS.

MD5 REMOVE EXISTING SURFACE-MOUNTED CIRCULATING FAN. REMOVE ALL ASSOCIATED CONNECTIONS.

MD6 EXISTING WATER SERVICE TO BE TAKEN BACK 5 FEET FROM BUILDING AND CAPPED.

MD7 REMOVE DRAINAGE PIPING AND CAP.

ACCT# 540CBANFF2500

STATE OF KENTUCKY · Paul M. Graves · 36074 · LICENSED · PROFESSIONAL ENGINEER

DRAWING INFORMATION	
A & E FILE NO.	VKYS23
DRAWING DATE	10.09.2024
DRAWN BY	AKP
CHECKED BY	PMG
PHASE	RTA
RTA DATE	

FUTURE FARMERS OF AMERICA - RECREATION HALL

111 FFA Camp Road, Hardinsburg, KY 40143

RECREATION HALL MECHANICAL DEMOLITION

DRAWING NO. M-200

ENGR. FILE NO. # **540CBANFF2500**

COMMONWEALTH OF KENTUCKY
FINANCE AND ADMINISTRATION CABINET
DEPARTMENT FOR FACILITIES AND SUPPORT SERVICES
DIVISION OF ENGINEERING AND CONTRACT ADMINISTRATION
FRANKFORT, KENTUCKY

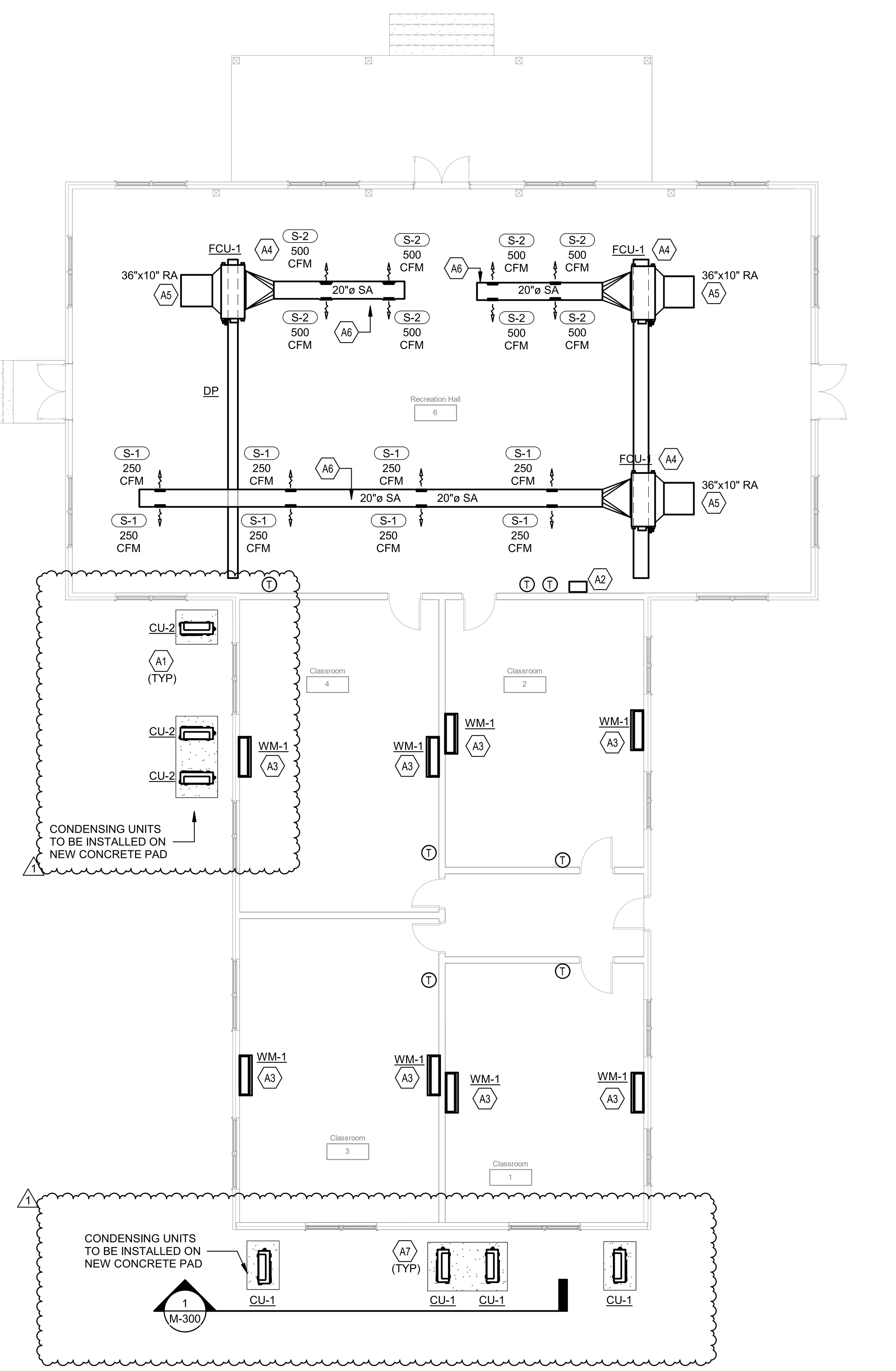
AS BUILT DATE

CMTA A LEGENCE Company
10411 Meeting Street
Prospect, KY 40059
T: 502 326.3085 F: 502 326.2691

DECA LOG #

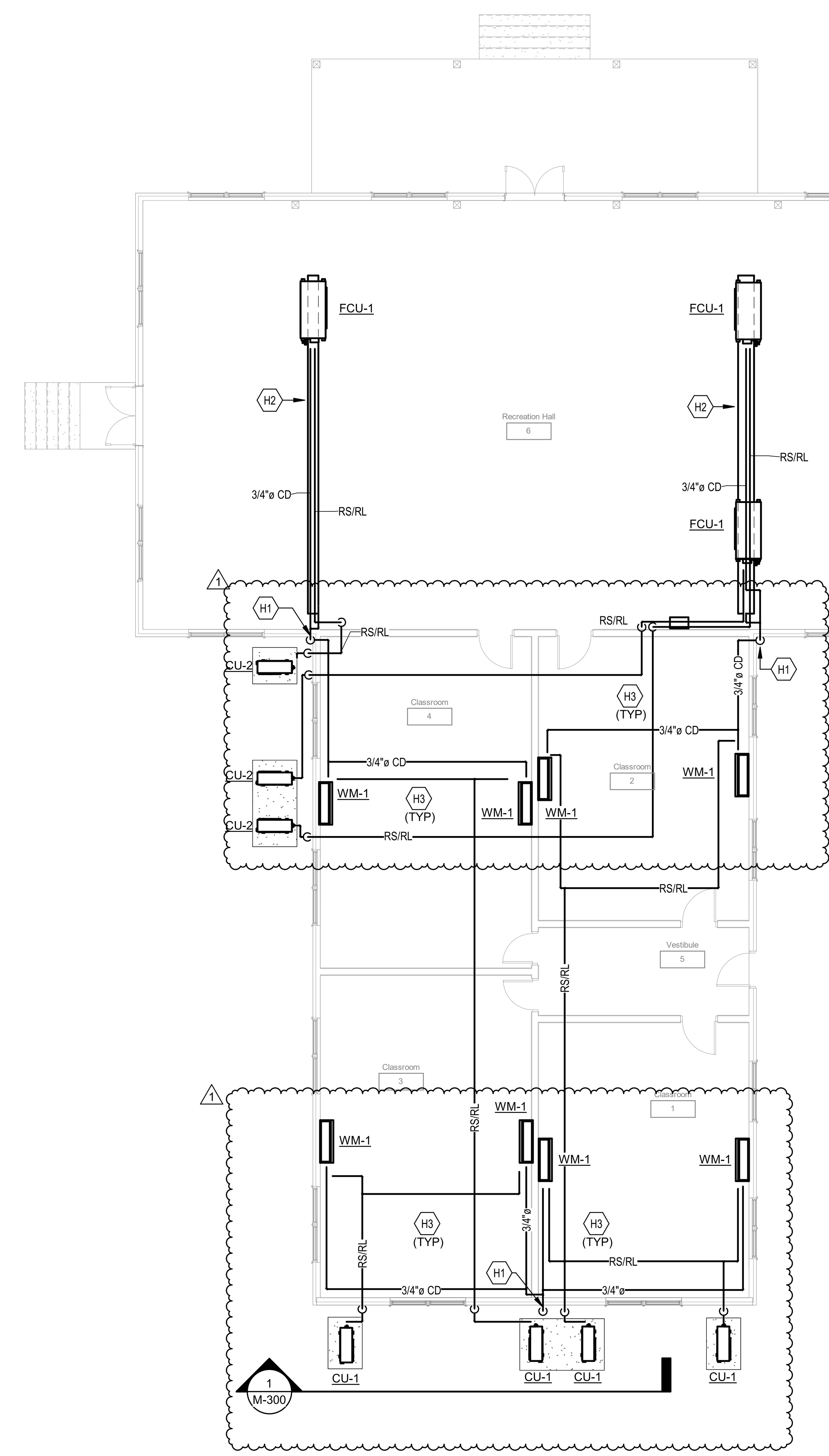
REVISION HISTORY OF THIS DRAWING

	DESCRIPTION OF REVISIONS	DATE		DESCRIPTION OF REVISIONS	DATE
1	ADDENDUM 1	12/03/24	5		
2			6		
3			7		
4			8		



1 RECREATION HALL FIRST FLOOR PLAN - AIR DISTRIBUTION

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



2 FIRST FLOOR PLAN - HYDRONICS

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

VRF INDOOR UNITS

TAG	MANUFACTURER	MODEL #	SERVICE	DIMENSIONS (IN.) LENGTH	WIDTH	HEIGHT	WEIGHT (LBS)	AIRFLOW (CFM)	FAN TYPE / DRIVE	TOTAL COOLING CAPACITY (MBH)	SENSIBLE COOLING CAPACITY (MBH)	LATENT COOLING CAPACITY (MBH)	LAT (COOLING)	HEATING CAPACITY (MBH)	LAT (HEATING)	ELECTRICAL MCA	MOCP	VOLTAGE	PHASE	REMARKS
FCU-1	LG	ARNU765B8A4	RECREATION HALL	68.25	27.100	18.125	192.00 lbf	2260 CFM	SIROCCO / DIRECT	76.4	53.5	22.9	59.3	86.0	103.3	6.5 A	15	240 V	1	ALL
WM-1	LG	ARNU243SKS4	CLASSROOM	39.28	8.280	13.590	28.70 lbf	537 CFM	CROSS FLOW / DIRECT	24.1	16.7	7.4	52.9 °F	24.3	112.2 °F	0.7 A	15	240 V	1	ALL

REMARKS:
1. PROVIDE WITH CONDENSATE PUMP.
2. ALL VRF SYSTEM WIRING IS TO BE PROVIDED BY MANUFACTURER.
3. PROVIDE WITH FACTORY START-UP UTILIZING MANUFACTURER'S STANDARD FORMS. PROVIDE TRAINING BY A VENDOR CERTIFIED TECHNICIAN.
4. REFRIGERANT PIPING TO BE INSTALLED WITH FACTORY PIPING AND FITTINGS.
5. PROVIDE A 10 YEAR WARRANTY ON COMPRESSOR AND ALL PARTS.
6. PROVIDE ALL UNITS WITH PROGRAMMABLE THERMOSTAT CONTROLLER.

VRF OUTDOOR UNIT

TAG	MANUFACTURER	MODEL #	DIMENSIONS (LxWxH)	WEIGHT	FAN TYPE / DRIVE	COOLING CACPACITY (MBH)	HEATING CACPACITY (MBH)	EER	COP	Noise Criteria (dBA)	MCA (A)	MOP (A)	ELECTRICAL VOLTAGE	PHASE	REMARKS
CU-1	LG	ARUM048GSS5	37.41"x13"x54.34"	263	AXIAL FLOW FAN / DIRECT	48.0	54.0	13.1	9.0	54	24	40	208 V	1	ALL
CU-2	LG	ARUB060GSS4	37.41"x13"x54.34"	260	AXIAL FLOW FAN / DIRECT	60.0	64.0	10.2	9.2	57	25.4	40	208 V	1	ALL

REMARKS:
1. PROVIDE WITH AUTO CHANGEOVER FUNCTIONS.
2. ALL VRF SYSTEM CONTROL WIRING IS TO BE PROVIDED BY MANUFACTURER.
3. PROVIDE WITH FACTORY START-UP UTILIZING MANUFACTURER'S STANDARD FORMS. PROVIDE TRAINING BY A VENDOR CERTIFIED TECHNICIAN.
4. REFRIGERANT PIPING TO BE INSTALLED WITH FACTORY PIPING AND FITTINGS.
5. PROVIDE SYSTEM WITH "I TOUCH" SYSTEM CONTROLLER.
6. PROVIDE A 10 YEAR WARRANTY ON COMPRESSOR AND ALL PARTS.
7. SUBMITTED PERFORMANCE DATA MUST BE FULLY DE-RATED FOR ALL COMPONENTS AND ACCESSORIES, INCLUDING BUT NOT LIMITED TO, LINE LENGTH, VERTICAL SEPARATION, CONNECTION RATIO, DESIGN CONDITIONS, CONDENSER COIL COATING.
8. SUBSTITUTE MANUFACTURERS SHALL BE RESPONSIBLE FOR ADDITIONAL PIPING AND REFRIGERANT.
9. CONTRACTOR TO VERIFY PIPING DIMENSIONS.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DIRECT COSTS ASSOCIATED WITH ANY DEVIATIONS RESULTING FROM CHANGES IN DESIGN.
11. INCLUDE BACNET CONTROLLER AND FACTORY PROGRAMMING TO OBTAIN SEQUENCES. PROVIDE WITH FIELD-MOUNTED, WIRED, PROGRAMMED CONTROLLER FOR INTERFACE WITH BUILDING AUTOMATION SYSTEM.

REGISTERS, GRILLES, DIFFUSERS SCHEDULE

MARK	MANUFACTURER	MODEL	TYPE	CFM	GRILLE SIZE	REMARKS
S-1	TITUS	S300 FL	SPIRAL DUCT MOUNTED ALUMINUM DOUBLE DEFLECTION SUPPLY GRILLE, 3/4" BLADE SPACING	0-325	12x12"	ALL
S-2	TITUS	S300 FL	SPIRAL DUCT MOUNTED ALUMINUM DOUBLE DEFLECTION SUPPLY GRILLE, 3/4" BLADE SPACING	326-550	18x12"	ALL

REMARKS:
1. SIDEWALL OR DUCT MOUNTED.
2. COLOR SHALL BE SELECTED BY ARCHITECT. PROVIDE SAMPLES TO ARCHITECT.
3. PROVIDE WITH BLADE ADJUSTMENT AT GRILLE.
4. ACCEPTABLE MANUFACTURERS: TITUS, PRICE, ANEMOSTAT.

KEYNOTES

A1 INSTALL OUTDOOR CONDENSING UNIT ON CONCRETE PAD. CONNECT ALL PIPING AND ELECTRICAL CONNECTIONS TO UNITS. MAINTAIN ALL MANUFACTURER'S SERVICE CLEARENCES.

A2 INSTALL REFRIGERANT MONITOR.

A3 INSTALL WALL MOUNTED INDOOR UNITS 7'-9" AFF. MAINTAIN ALL MANUFACTURER'S SERVICE CLEARENCES.

A4 INSTALL FAN COIL UNIT. COORDINATE DUCTWORK RUNOUT WITH EXISTING STRUCTURE. MAINTAIN ALL MANUFACTURER'S SERVICE CLEARENCES.

A5 TERMINATE RETURN AIR DUCT OPEN-ENDED WITH BIRD SCREEN.

A6 SPIRAL DUCT. REFER TO ARCHITECT FOR COLOR.

1

KEYNOTES

A7 INSTALL OUTDOOR CONDENSING UNIT ON CONCRETE PAD. CONTRACTOR TO COORDINATE THE INSTALLATION OF CONDENSING UNITS WITH EXISTING TREE. CONNECT ALL PIPING AND ELECTRICAL CONNECTIONS TO UNITS. MAINTAIN ALL MANUFACTURER'S SERVICE CLEARENCES.

H1 SPILL CONDENSATE ON GRADE. REFER TO DETAIL 3 ON SHEET M-400 FOR CONDENSATE EXTERIOR SPILL DETAIL.

H2 INSTALL DRAIN PAN UNDERNEATH REFRIGERANT AND CONDENSATE PIPING. DRAIN PAN TO RUN UNDER INDOOR FAN COIL UNITS. COORDINATE INSTALLATION WITH EXISITNG STRCUTURE.

H3 CONTRACTOR TO ROUTE ALL NEW PIPING TIGHT TO BEAM. INDICATE IN SHOP DRAWINGS FOR DESIGN TEAM TO REVIEW.

ACCT# 540CBANFF2500

STATE OF KENTUCKY
Paul M. Graves
36074
LICENSED
PROFESSIONAL ENGINEER

DRAWING INFORMATION	
A & E FILE NO.	VKYS23
DRAWING DATE	10.09.2024
DRAWN BY	AKP
CHECKED BY	PMG
PHASE	RTA
RTA DATE	

FUTURE FARMERS OF AMERICA - RECREATION HALL

111 FFA Camp Road, Hardinsburg, KY 40143

RECREATION HALL MECHANICAL NEW WORK

ENGR. FILE NO.
\# 540CBANFF2500

COMMONWEALTH OF KENTUCKY
FINANCE AND ADMINISTRATION CABINET
DEPARTMENT FOR FACILITIES AND SUPPORT SERVICES
DIVISION OF ENGINEERING AND CONTRACT ADMINISTRATION
FRANKFORT, KENTUCKY

DRAWING NO.
M-201

AS BUILT DATE

CMTA
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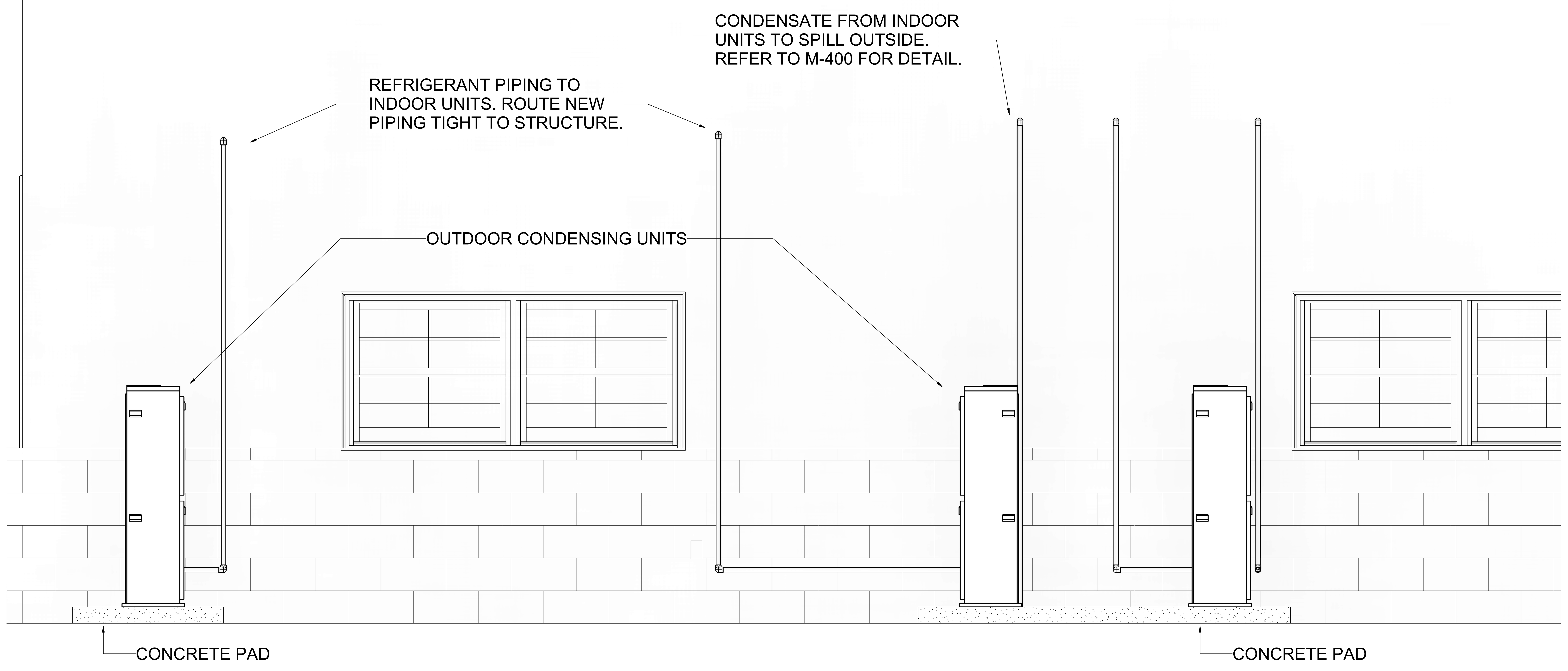
DECA LOG #

REVISION HISTORY OF THIS DRAWING

	DESCRIPTION OF REVISIONS	DATE		DESCRIPTION OF REVISIONS	DATE
1	ADDENDUM 1	12/03/24	5		
2			6		
3			7		
4			8		



1 RECREATION HALL CONDENSING UNIT SECTION VIEW

SCALE: 1" = 1'-0"

ACCT# 540CBANFF2500

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STATE OF KENTUCKY Paul M. Graves 36074 LICENSED PROFESSIONAL ENGINEER

FUTURE FARMERS OF AMERICA - RECREATION HALL

111 FFA Camp Road, Hardinsburg, KY 40143

MECHANICAL SECTIONS

DRAWING NO. M-300

ENGR. FILE NO.
540CBANFF2500

COMMONWEALTH OF KENTUCKY
FINANCE AND ADMINISTRATION CABINET
DEPARTMENT FOR FACILITIES AND SUPPORT SERVICES
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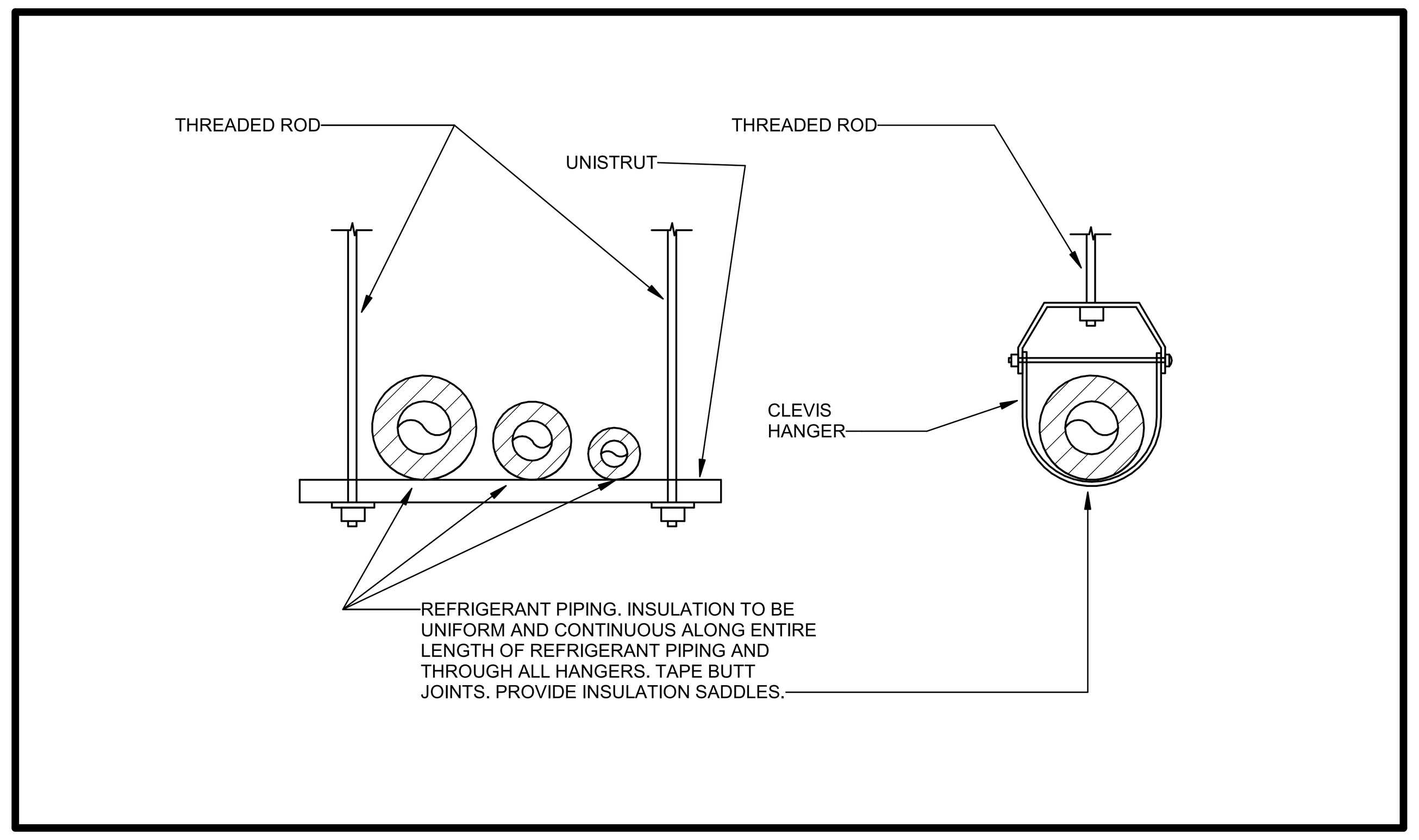
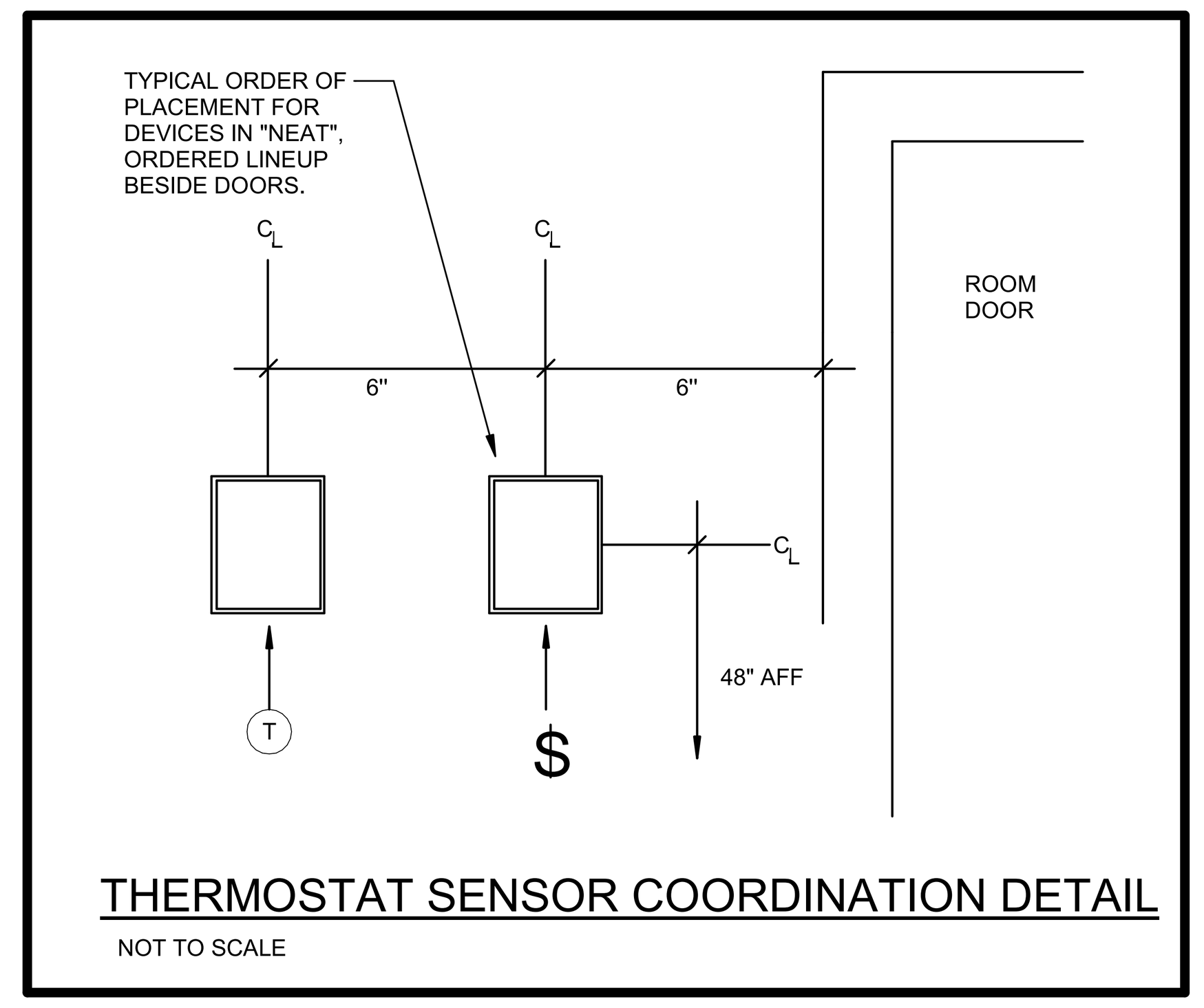


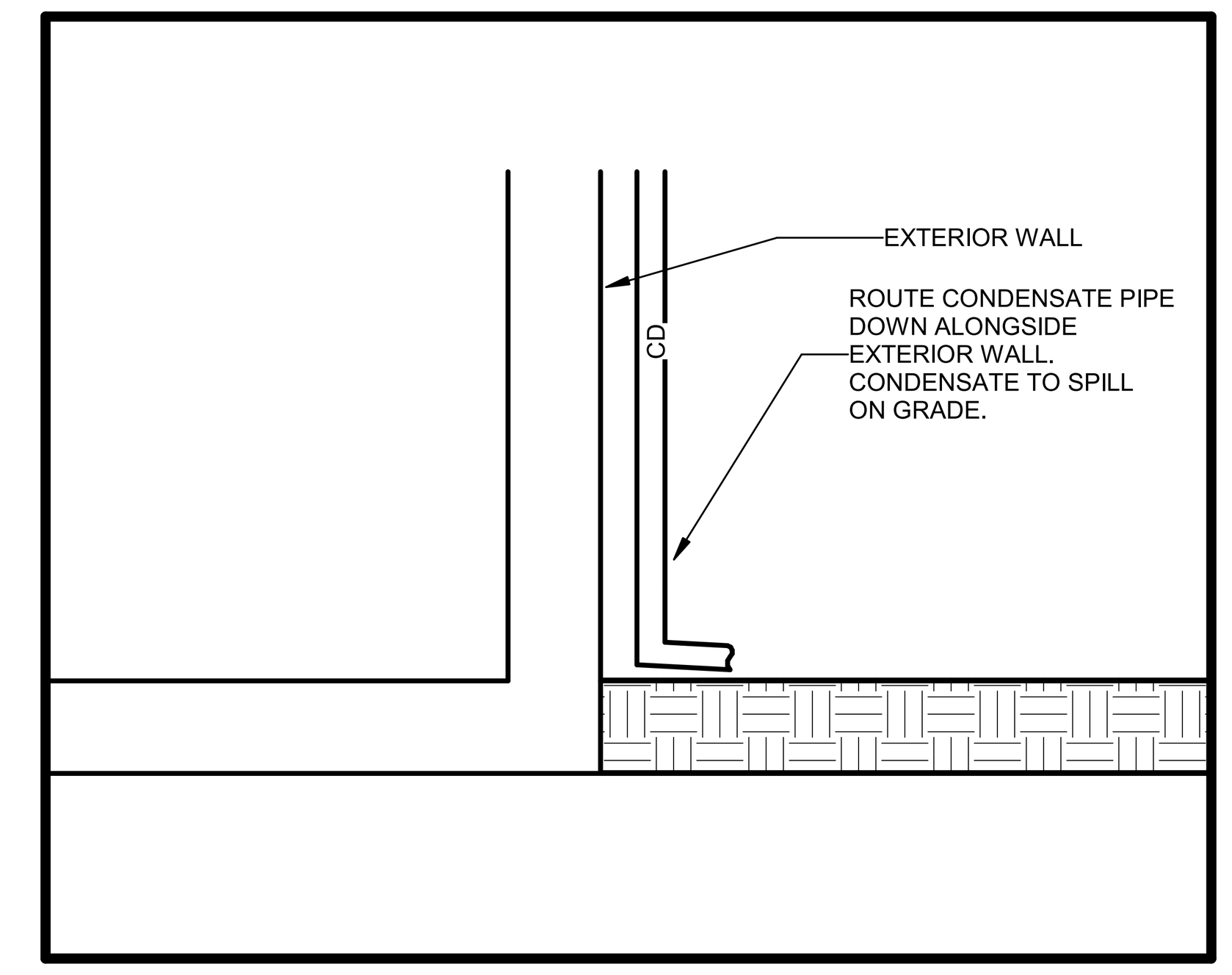
1 REFRIGERANT PIPING INSULATION DETAIL

NO SCALE



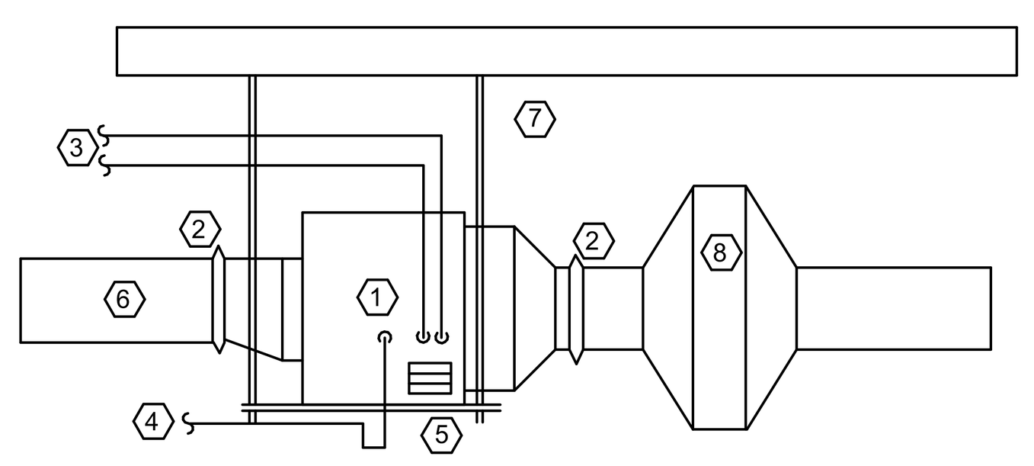
2 THERMOSTAT SENSOR COORDINATION DETAIL

NO SCALE



3 CONDENSATE EXTERIOR SPILL DETAIL

NO SCALE

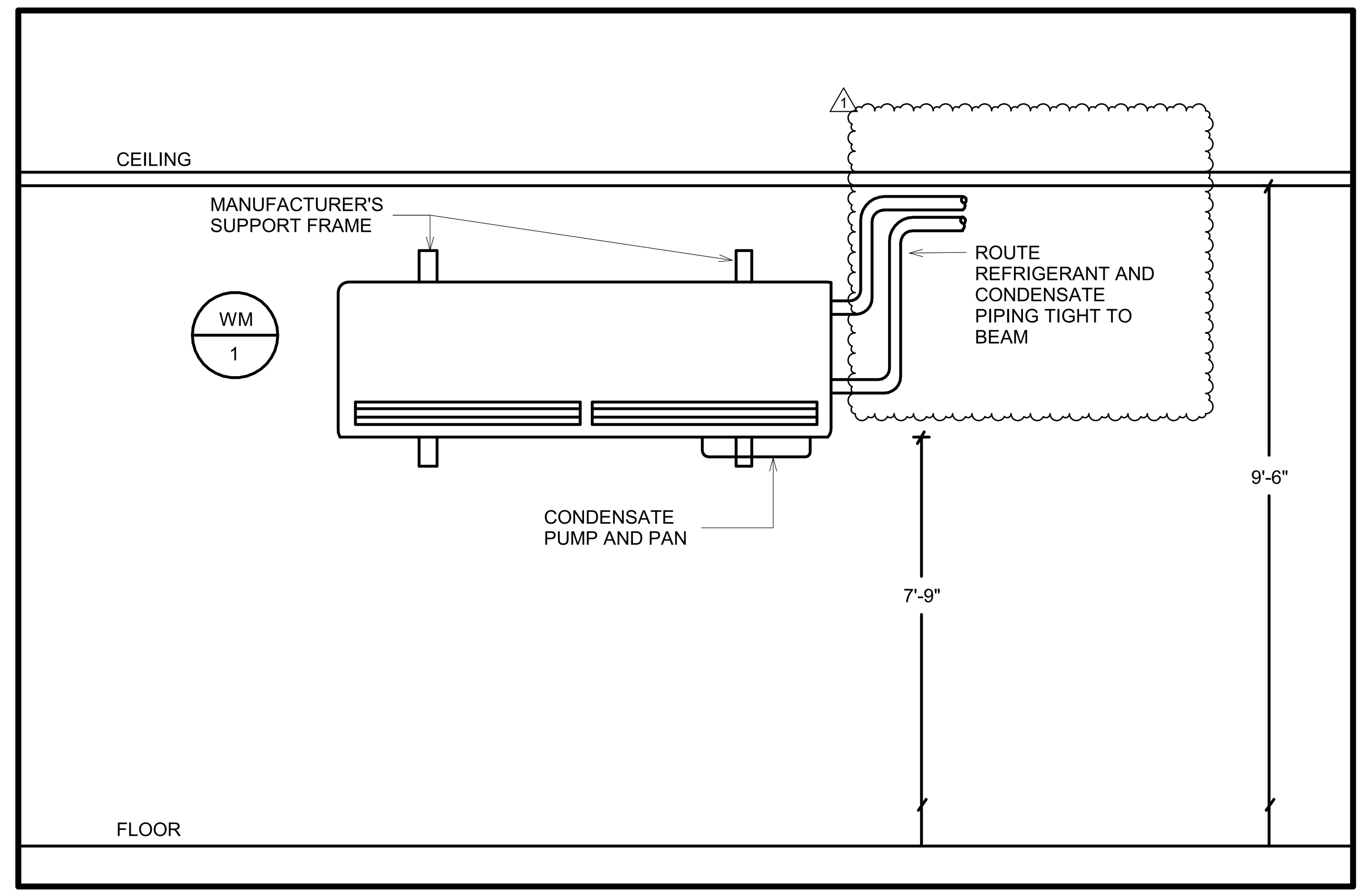


HORIZONTAL DETAIL NOTES (X)

1. HORIZONTAL VRF UNIT. DO NOT BLOCK ACCESS PANEL FOR UNIT WITH ANY PIPING, CONDUIT, ETC.
2. PROVIDE FLEXIBLE CANVAS CONNECTIONS AT UNIT CONNECTION. TRANSITION DUCTWORK TO UNIT OPENING AS NEEDED
3. INSTALL REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATION.
4. INSTALL CONDENSATE PIPING PER MANUFACTURER'S RECOMMENDATION. GRAVITY DRAINAGE TO CONDENSATE COLLECTION.
5. IDENTIFICATION PLACARD; THE PLACARD SHALL INCLUDE THE ELECTRIC PANEL NAME, CIRCUIT NUMBER, FEEDING THE EQUIPMENT, AND AREA SERVED.
6. SUPPLY AIR DUCTWORK. REFER TO DRAWINGS FOR DUCT SIZE.
7. REFER TO STRUCTURAL DRAWINGS FOR HANGING SUPPORTS IN VAULTED CEILING.
8. PROVIDE SIDE ACCESS FILTER SECTION SIZED FOR STANDARD 24" X 24" X 2" FILTER. PROVIDE MAGNEHELIC GAUGE TAPS FOR DIFFERENTIAL PRESSURE MONITORING VIA A MANUAL/PORTABLE GAUGE.

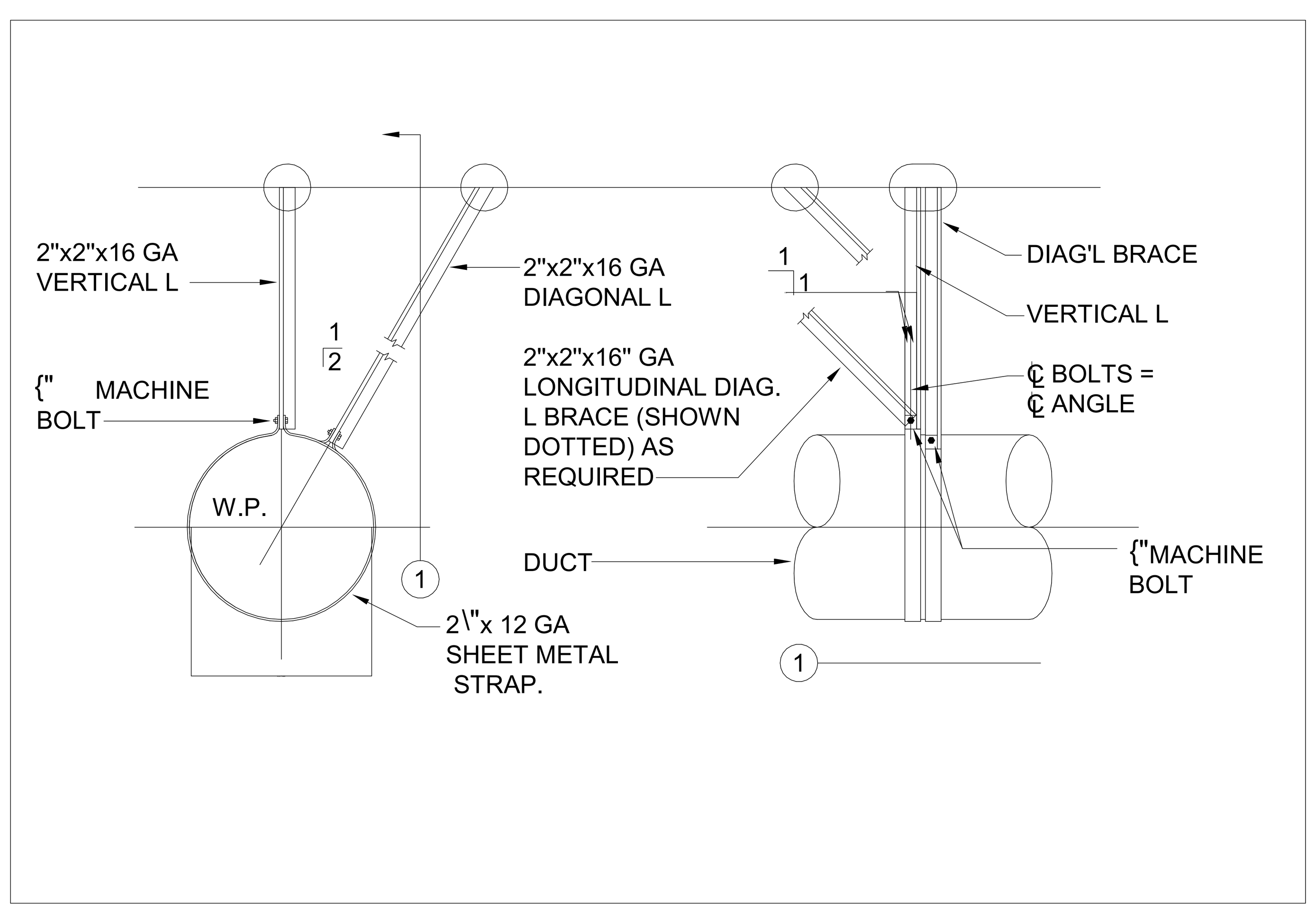
4 FAN COIL UNIT DETAIL

NO SCALE



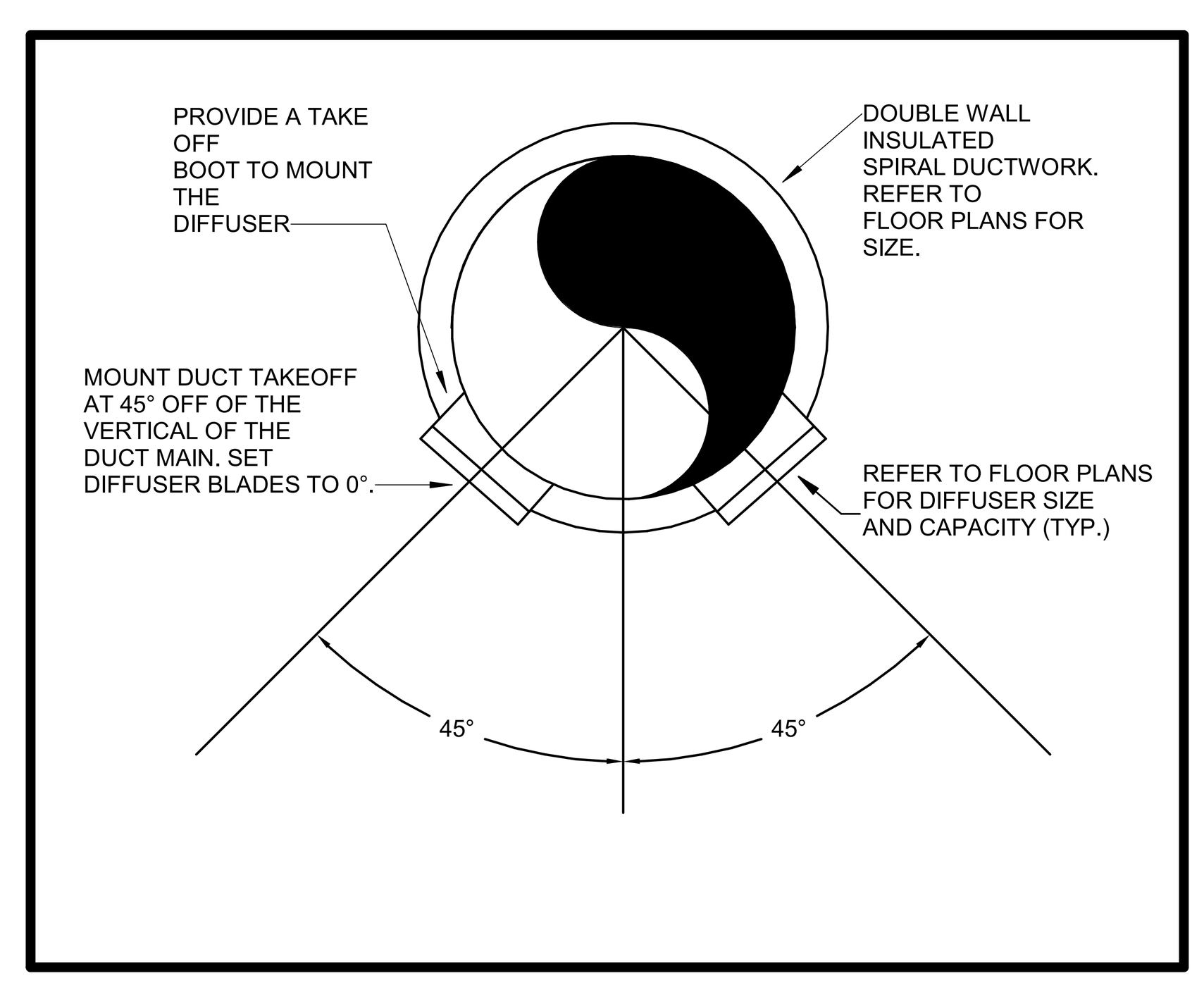
5 WALL MOUNTED UNIT DETAIL

NO SCALE



6 DUCT SUPPORT DETAIL

NO SCALE



7 SIDEWALL DIFFUSER TAKEOFF DETAIL

NO SCALE

ACCT# 540CBANFF2500

STATE OF KENTUCKY — Paul M. Graves 36074 — LICENSED PROFESSIONAL ENGINEER

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MECHANICAL DETAILS

ENGR. FILE NO. # **540CBANFF2500**

COMMONWEALTH OF KENTUCKY
FINANCE AND ADMINISTRATION CABINET
DEPARTMENT FOR FACILITIES AND SUPPORT SERVICES
DIVISION OF ENGINEERING AND CONTRACT ADMINISTRATION
FRANKFORT, KENTUCKY

DRAWING NO. M-400

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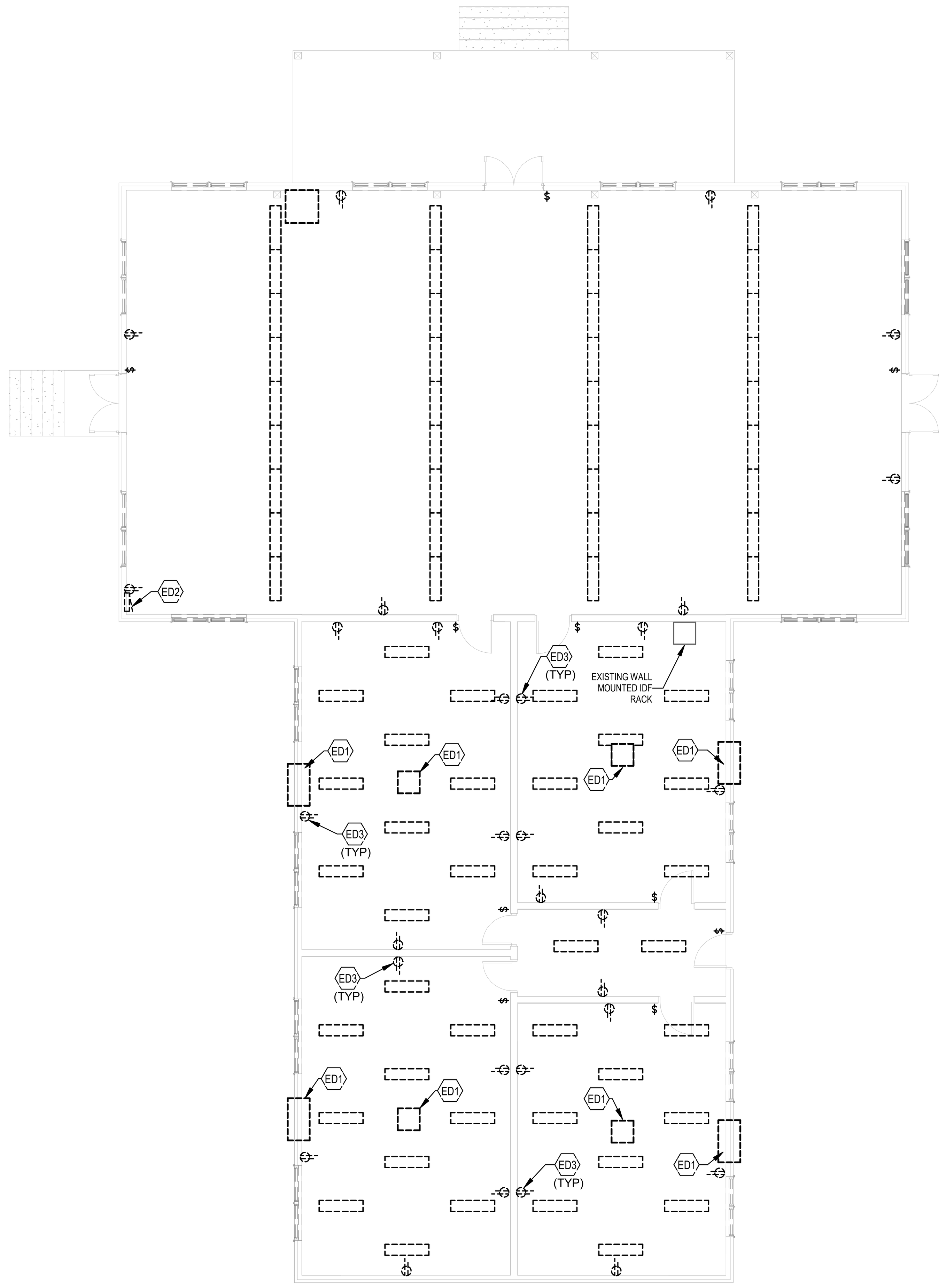
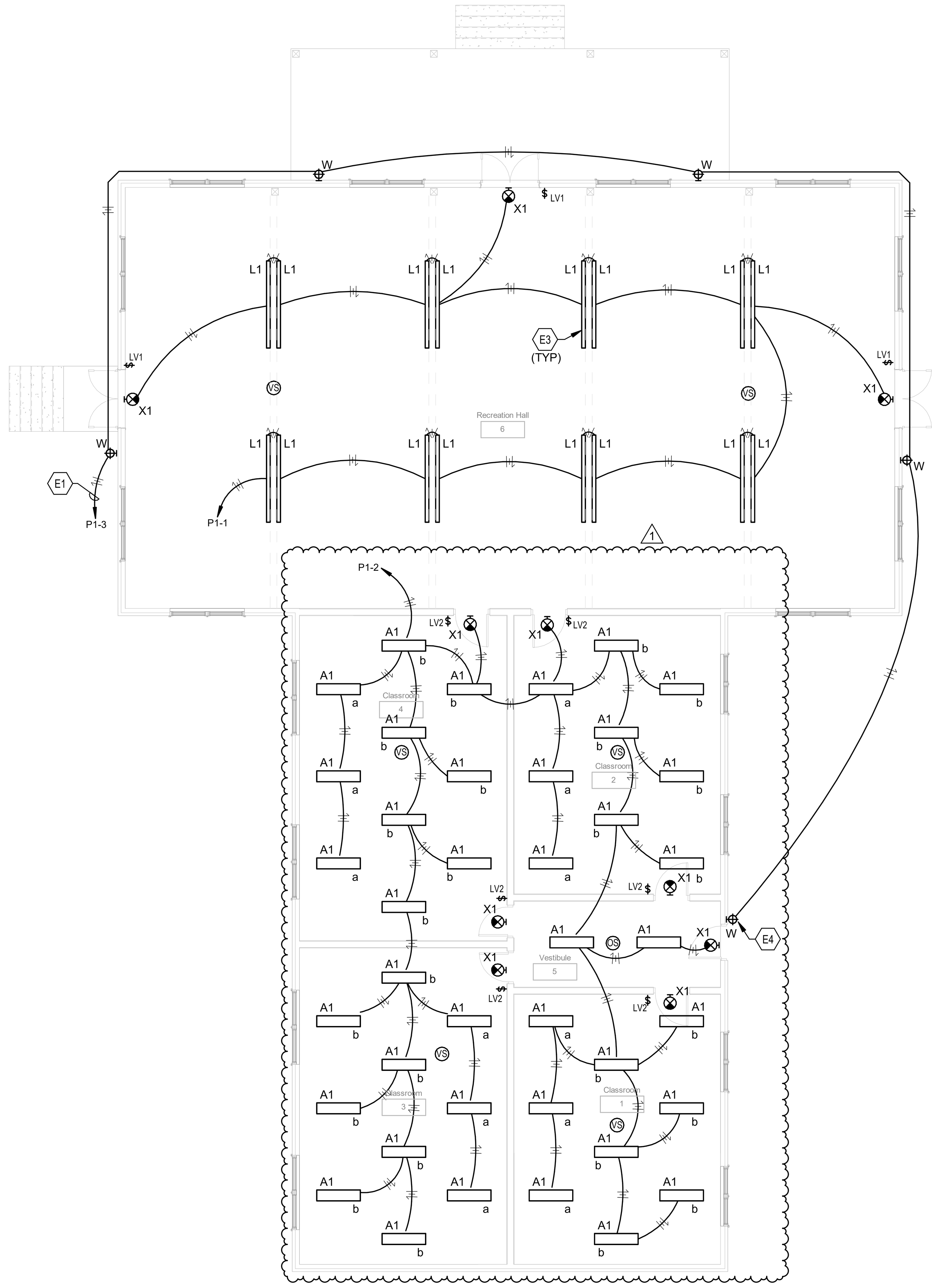


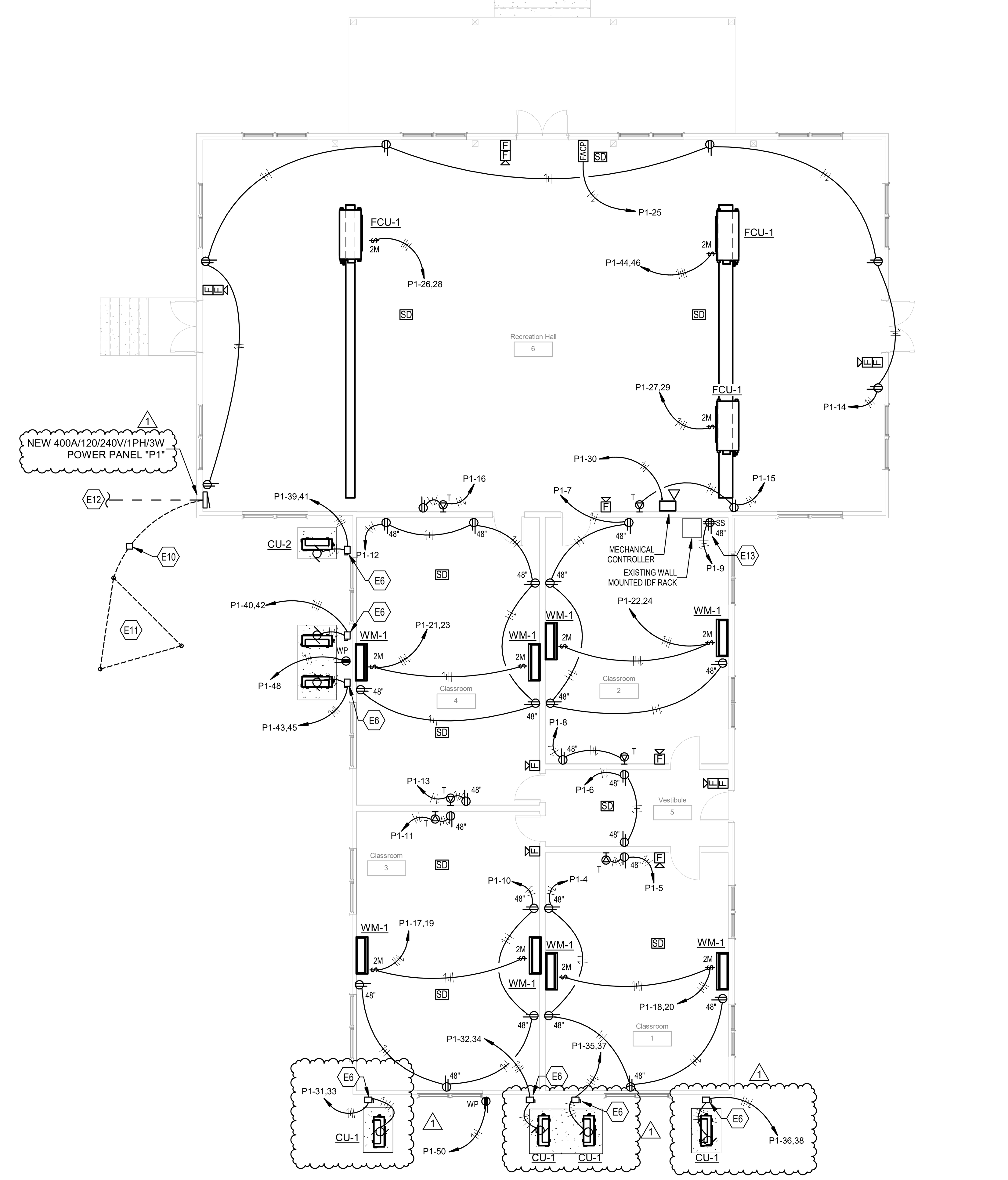
1 FIRST FLOOR PLAN - ELECTRICAL DEMOLITION

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



2 FIRST FLOOR PLAN - LIGHTING

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



3 FIRST FLOOR PLAN - POWER/SYSTEMS

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

KEYNOTES

E1 PROVIDE CIRCUIT(S) INDICATED THROUGH OUTDOOR LIGHTING CONTROL CONTACTOR LOCATED AT PANEL INDICATED. REFER TO OUTDOOR LIGHTING CONTROL SCHEMATIC FOR FURTHER REQUIREMENTS. CIRCUITS SHALL NOT BE ROUTED SURFACE MOUNTED ON EXTERIOR OF BUILDING.

E3 LIGHT FIXTURE INDICATE SHALL BE MOUNTED TO SIDE OF JOIST. COORDINATE EXACT LOCATION WITH EXISTING CONDITIONS PRIOR TO CONSTRUCTION.

E4 EXTERIOR WALL PACKS SHALL BE MOUNTED ABOVE INTERIOR CEILING LEVEL. ALL RACEWAYS SHALL BE CONCEALED ABOVE ACCESSIBLE CEILING. COORDINATE EXACT PENETRATIONS OF CONDUITS THROUGH EXTERIOR WALLS WITH ARCHITECT AND STRUCTURAL ENGINEER.

E6 PROVIDE 60A/250V/2P FUSIBLE DISCONNECT IN NEMA-3R ENCLOSURE FUSED AT EQUIPMENT NAMEPLATE RATING. PROVIDE UNISTRUT AS REQUIRED FOR MOUNTING. COORDINATE EXACT MOUNTING LOCATION WITH ALL TRADES TO ENSURE 36" MINIMUM CLEARANCE.

E10 PROVIDE IN GRADE PULL BOX PER DETAIL FOR GROUND TEST WELL WITH THE EXCEPTION OF PROVIDING PVC CONDUIT ELLS INTO BOX TO AVOID BONDING REQUIREMENTS. PROVIDE BURNDY TERMINAL BLOCKS FOR MECHANICAL CONNECTION POINT IN GROUNDING SYSTEM. LABEL BOX “GROUND TEST WELL”.

E11 ROUTE ONE (1) #250 KCMIL GROUND FROM NEW GROUND BAR AT NEW PANELBOARD "P1" TO THREE NEW 5/8"X10'-0" COPPERWELD GROUND RODS AT LEAST 20' AWAY FROM EACH OTHER AT 12" BELOW GRADE. ROUTE WIRING IN 1-1/2" CONCRETE ENCASED SCHEDULE #40 PVC CONDUIT. NO METAL RACEWAYS, ELLS OR FITTINGS SHALL BE INSTALLED. CONTRACTOR SHALL TEST GROUND SYSTEM IMPEDANCE LEVEL AND IF NOT 5-OHM, CONTRACTOR SHALL ADD GROUND RODS AS NECESSARY TO MEET THIS REQUIREMENT. GROUNDS SHALL ALSO BE CONNECTED TO BUILDING STEEL AND COLD-WATER PIPING AS REQUIRED. FIELD VERIFY BEST GROUNDING LOCATION IN UNPAVED LOCATION. PATCH AND REPAIR ALL DISTURBED SURFACES TO MATCH EXISTING. CONTRACTOR SHALL COORDINATE GROUND FIELD WITH EXISTING SANITARY PIPING. LOCATE IN GRASS FIELD VERIFY.

E12 TO EXISTING "P7" DIST. PANELBOARD. COORDINATE EXACT LOCATION PRIOR TO BID.

E13 COORDINATE MOUNTING LOCATION OF DEDICATED POWER FOR EXISTING IDF RACK WITH EXISTING LOCATIONS.

ED1 REMOVE EXISTING ELECTRICAL CONNECTIONS TO MECHANICAL EQUIPMENTS BEING REMOVED. ALL WIRING SHALL BE REMOVED BACK TO ELECTRICAL PANEL COMPLETELY. COORDINATE REMOVAL AND EXACT EQUIPMENT LOCATIONS WITH MECHANICAL WORK (TYPICAL).

ED2 EXISTING PANEL AND FEEDER SHALL BE COMPLETELY REPLACED. CONTRACTOR SHALL REWORK EXISTING RECEPTACLE CIRCUITS REMAINING AFTER DEMOLITION TO NEW REPLACEMENT PANEL. CONTRACTOR SHALL PATCH AND REPAIR ALL SURFACES AS REQUIRED TO MATCH EXISTING. WHERE EXISTING CIRCUIT IS FED UNDERGROUND AND CONTRACTOR IS UNABLE TO PULL NEW CIRCUIT THROUGH, CONTRACTOR SHALL PROVIDE WIRE MOLD BOX EXTENSION AND FEED ALL DEVICES DOWNSTREAM WITH NEW WIRING. PROVIDE METAL SURFACE MOUNTED WIRE MOLD RACEWAYS AS REQUIRED. CONTRACTOR SHALL RE-WORK EXISTING NON-LIGHTING CIRCUITS INCLUDING RECEPTACLE CIRCUITS SCHEDULED TO REMAIN TO NEW REPLACEMENT PANEL. FIELD VERIFY EXACT REQUIREMENTS. INTERCEPT AND EXTEND CABLING AS REQUIRED.

ED3 ELECTRICAL CONTRACTOR SHALL LEAVE EXISTING PATHWAY IN WOOD SLATE WALL FOR ROUTING TO NEW ELECTRICAL DEVICES. COORDINATE EXACT REQUIREMENTS WITH EXISTING CONDITIONS PRIOR TO CONSTRUCTION.

GENERAL NOTES (DEMOLITION):

A. DOTTED LINES INDICATE ITEMS FOR REMOVAL (UON) AND GRAY SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

B. DEVICES INDICATED WITH AN "R" SHALL BE RELOCATED. REMOVE, PROTECT, AND REINSTALL IN NEW LOCATION INDICATED ON NEW WORK PLANS. INTERCEPT AND EXTEND ALL EXISTING CABLING TO NEW LOCATION. CLEAN AND RE-LAMP RELOCATED LUMINAIRES.

C. THE CONTRACTOR SHALL MAINTAIN THE CONTINUITY OF EXISTING CIRCUITS THAT CONTAIN DEVICES OR EQUIPMENT THAT ARE TO REMAIN. WHEN DEMOLITION OF AN ELECTRICAL DEVICE (OR CIRCUIT) IS INDICATED ON THE DRAWINGS: THE CONTRACTOR SHALL ENSURE THAT OTHER DEVICES OR EQUIPMENT "UPSTREAM" OR "DOWNSTREAM" ON THE CIRCUITS SHALL REMAIN IN "PRE- DEMOLITION" WORKING ORDER. "LEFT-OVER" CIRCUIT BREAKERS SHALL REMAIN, BE SWITCHED TO OFF POSITION, AND BE LABELED AS SPARES IN THEIR PANELS. PROVIDE NEW TYPEWRITTEN DIRECTORIES FOR ALL PANELS AFFECTED.

D. LOCATIONS OF DEVICES, CONNECTIONS, ETC., INDICATED ON THIS DRAWING WERE TAKEN FROM VARIOUS SOURCES. THEY ARE DIAGRAMMATIC ONLY AND ARE SUBJECT TO VARIATION FROM EXISTING CONDITIONS. CERTAIN EXISTING ELEMENTS MAY NOT BE INDICATED AT ALL. THE CONTRACTOR PROPOSING TO DO ANY PART OF THE WORK INDICATED HEREON SHALL VISIT THIS SITE AND DETERMINE TO HIS SATISFACTION THAT THEY MAY COMPLETE ALL WORK REQUIRED FOR THE BID WHICH HE PROPOSES.

E. REMOVE ALL ASSOCIATED BACKBOXES, CONDUIT AND CONDUCTORS FOR DEVICES / FIXTURES / ETC. BEING REMOVED (BACK TO SOURCE), WHETHER INDICATED OR NOT (UON). CONTRACTOR SHALL PATCH AND REPAIR ANY EXISTING WALLS, FLOORS OR CEILINGS WHERE DEVICES ARE SHOWN TO BE REMOVED (PATCH AND REPAIR TO RECEIVE NEW FINISHES - SEE ARCHITECTURAL PLANS).

F. COORDINATE DISPOSAL OF ALL FIXTURES, DEVICES, ETC. (INDICATED FOR DEMOLITION) WITH OWNER. TURN OVER ITEMS REMOVED TO OWNER AT THEIR OPTION.

G. COORDINATE WITH OTHER TRADES FOR THE REMOVAL AND/OR RELOCATION OF ELECTRICAL DEVICES AND CONNECTIONS ASSOCIATED WITH THEIR EQUIPMENT.

H. PROVIDE TEMPORARY EMERGENCY EXIT LIGHTS AT CONSTRUCTION BARRIERS AS REQUIRED.

I. CONTRACTOR SHALL PATCH AND REPAIR ALL EXISTING WALLS / CEILINGS AS REQUIRED WHERE DEVICES ARE BEING REMOVED OR INSTALLED.

J. UNUSED/ABANDONED CONDUCTORS DISCOVERED ABOVE ACCESSIBLE CEILINGS SHALL BE REMOVED IN ACCORDANCE WITH NEC REQUIREMENTS.

K. EXISTING ELECTRICAL SYSTEMS IN CONFLICT WITH CONSTRUCTION SHALL BE RELOCATED TO PERMIT INSTALLATION OF DEVICES AND EQUIPMENT SHOWN ON PLANS.

L. CONTRACTOR SHALL SEAL ALL EXISTING AND NEW PENETRATIONS OF BUILDING ENVELOPE (EXTERIOR WALLS, ROOF, ETC.) WATER-TIGHT AND AS APPROVED BY ARCHITECT AND ENGINEER. ROOFING SHALL BE RESTORED BY A LICENSED ROOFING CONTRACTOR BASED ON WRITTEN INSTRUCTIONS AND DETAILS FROM ROOFING MANUFACTURER AS REQUIRED TO MAINTAIN ROOF WARRANTY. REFER TO ARCHITECTURAL AND ENGINEERING PLANS AND SPECIFICATIONS FOR FURTHER REQUIREMENTS.

M. ALL EXISTING PANELS AFFECTED BY THIS CONTRACTOR'S WORK SHALL BE PROVIDED WITH NEW TYPE-WRITTEN PANEL DIRECTORIES AND INSERT SLEEVES. PANEL DIRECTORIES SHALL NOT USE ROOM NAMES OR NUMBERS FROM THESE DRAWINGS. DIRECTORIES SHALL BE DETAILED AND COORDINATED WITH OWNER'S SUITE NUMBERS, FINAL ROOM NUMBERS, IT RACK NAMES, WORKSTATION DESIGNATIONS, ETC. UNUSED BREAKERS SHALL BE IN OFF POSITION.

N. DEMOLISH ALL LIGHTING CONTROLS.

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.

C. IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES, SWITCHES, ETC. IN AREA OF CONSTRUCTION. PROVIDE CLEAR ADHESIVE LABELS WITH BLACK LETTERING. IN HEALTHCARE FACILITIES, ENGRAVE EMERGENCY DEVICE COVERPLATES IN PATIENT CARE AREAS. ALSO, MARK INSIDES OF ALL DEVICE BOXES WITH PANEL AND CIRCUIT NUMBER.

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.

H. RECESSED LUMINAIRES SHALL BE SECURED SUCH THAT THE FORCE REQUIRED INSERTING LAMPS, TRIMS, LENSES, LOUVERS, OR DOOR FRAMES DOES NOT SHIFT HOUSING. ALL TRIMS SHALL BE COMPLETELY FLUSH WITH FINISHED CEILINGS AT COMPLETION OF CONSTRUCTION.

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

GENERAL NOTES (POWER/SYSTEMS):

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. IN HEALTHCARE FACILITIES, ENGRAVE EMERGENCY DEVICE COVERPLATES IN PATIENT CARE AREAS. 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.

F. REFER TO "SYSTEM INSTALLATION MATRIX" (ON SYSTEMS LEGEND SHEET) AND SPECIFICATIONS FOR CONTRACTOR REQUIREMENTS OF EACH SYSTEM.

G. THE CONTRACTOR SHALL ROUTE ALL "SYSTEM CONDUIT STUB-UPS" TO THE NEAREST CORRIDOR CABLING PATH (SEE "STUB-UP" DETAILS). REFER TO CABLING PATH INSTALLATION DETAIL FOR ADDITIONAL REQUIREMENTS.

H. CONTRACTOR SHALL PAINT ALL SYSTEMS CONDUIT STUB-UPS LIGHT BLUE FOR SYSTEMS CABLING INTO THE CORRIDOR CABLING PATH. PROVIDE PULL STRINGS IN ALL NEW CONDUIT RUNS FOR SYSTEM CABLING INSTALLATION.

I. ELECTRICAL CONTRACTOR SHALL UTILIZE EXISTING PATHWAYS IN EXISTING WOOD WALLS TO MINIMIZE REPAIRING WALL. COORDINATE EXACT REQUIREMENTS WITH EXISTING CONDITIONS PRIOR CONSTRUCTION.

ACCT# 540CBANFF2500

STATE OF KENTUCKY – BRIAN K. BAUMGARTLE – 23119 – LICENSED PROFESSIONAL ENGINEER

DRAWING INFORMATION	
A & E FILE NO.	VKYS23
DRAWING DATE	10.03.2024
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PHASE	RTA
RTA DATE	

FUTURE FARMERS OF AMERICA - RECREATION HALL

111 FFA Camp Road, Hardinsburg, KY 40143

FIRST FLOOR PLANS - ELECTRICAL

DRAWING NO. E-200

ENGR. FILE NO. # **540CBANFF2500**

COMMONWEALTH OF KENTUCKY
FINANCE AND ADMINISTRATION CABINET
DEPARTMENT FOR FACILITIES AND SUPPORT SERVICES
DIVISION OF ENGINEERING AND CONTRACT ADMINISTRATION
FRANKFORT, KENTUCKY

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REVISION HISTORY OF THIS DRAWING

	DESCRIPTION OF REVISIONS	DATE		DESCRIPTION OF REVISIONS	DATE
1	ADDENDUM 1	12/03/24	5		
2			6		
3			7		
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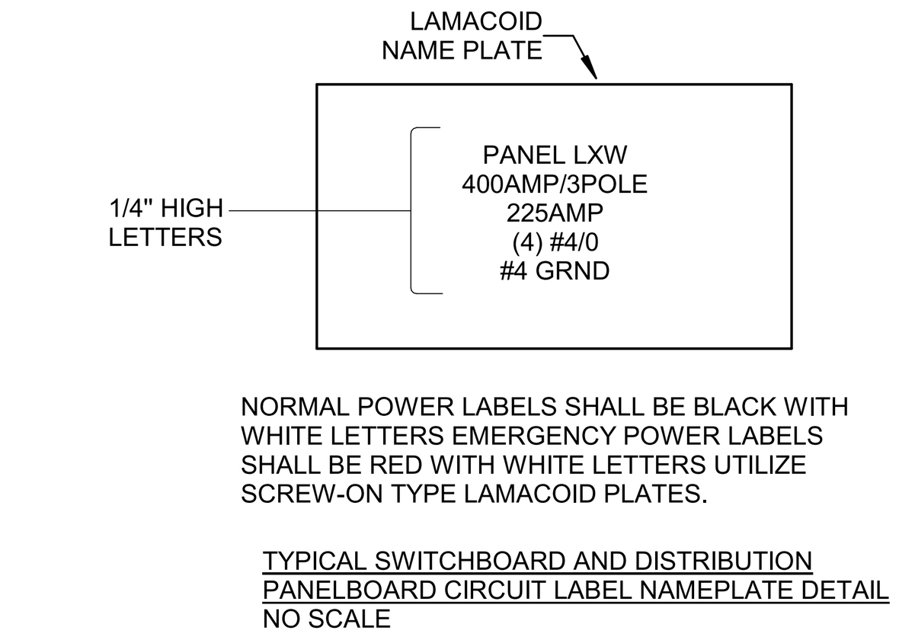
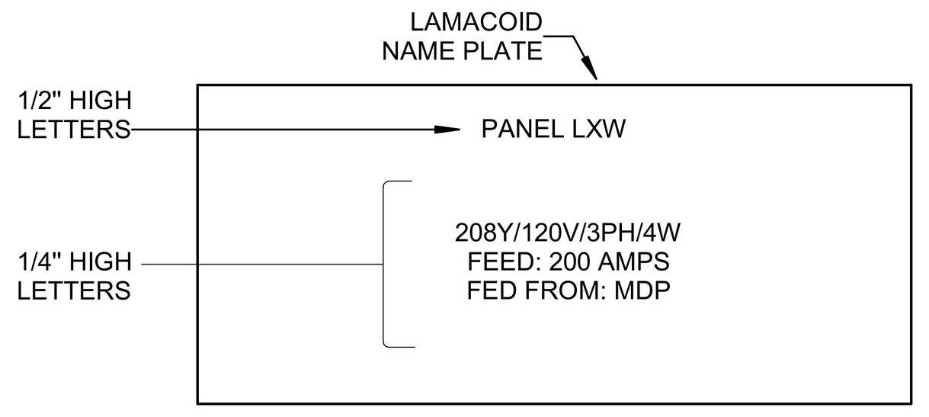


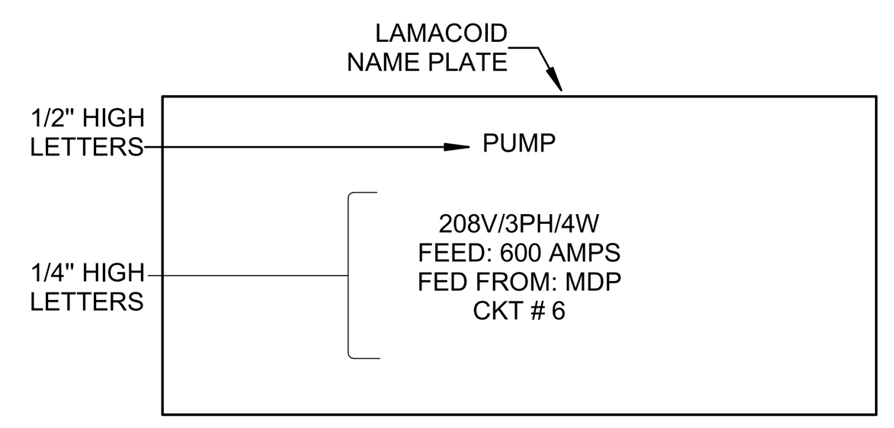
NORMAL POWER LABELS SHALL BE BLACK WITH WHITE LETTERS EMERGENCY POWER LABELS SHALL BE RED WITH WHITE LETTERS UTILIZE SCREW-ON TYPE LAMACOID PLATES.

TYPICAL SWITCHBOARD AND DISTRIBUTION PANELBOARD CIRCUIT LABEL NAMEPLATE DETAIL
NO SCALE



NORMAL POWER LABELS SHALL BE BLACK WITH WHITE LETTERS EMERGENCY POWER LABELS SHALL BE RED WITH WHITE LETTERS UTILIZE SCREW-ON TYPE LAMACOID PLATES.

TYPICAL POWER PANEL NAMEPLATE DETAIL
NO SCALE



NORMAL POWER LABELS SHALL BE BLACK WITH WHITE LETTERS EMERGENCY POWER LABELS SHALL BE RED WITH WHITE LETTERS UTILIZE SCREW-ON TYPE LAMACOID PLATES.

TYPICAL DISCONNECT AND COMBINATION STARTER/DISCONNECT NAMEPLATE DETAIL
NO SCALE

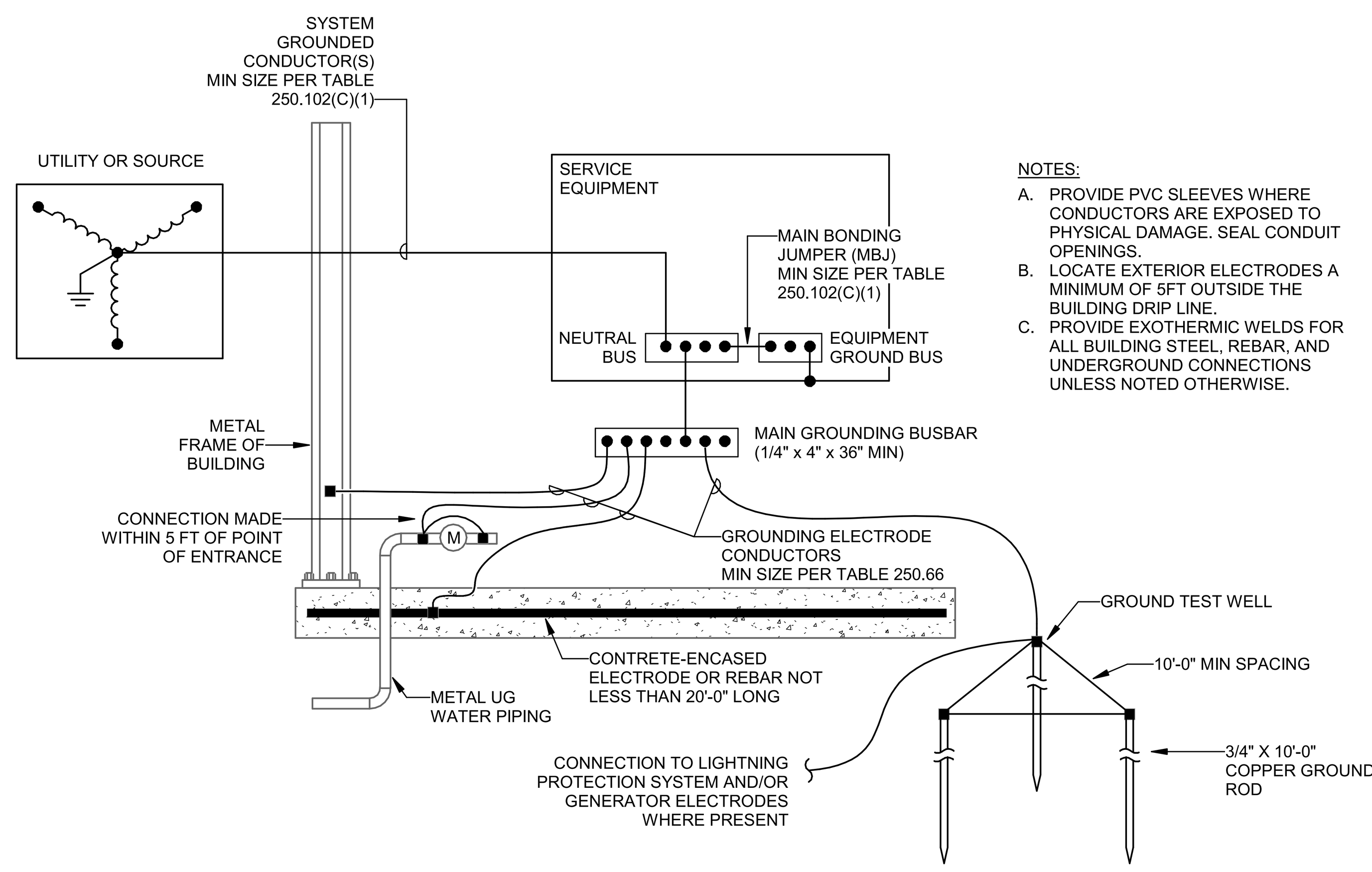
PANELBOARD AND WIRING SCHEDULE

PANEL: P1 — **MAINS TYPE:** — **SCCR (kA):**
VOLTAGE: 120/240V,1P,3W — **SPD:** — **AVAIL FAULT CURRENT (kA):**
AMPERES: 300 A — **MOUNTING:** SURFACE — **SUPPLY FROM:**

CIRCUIT DESCRIPTION	WIRE	GND	C	OCP	P	CKT	A		B		CKT	P	OCP	C	GND	WIRE	CIRCUIT DESCRIPTION
LTNG - RECREATION HALL 6				20	1	1	0.9	2.4			2	1	20				LTNG - CLASSRM 1,2,3,4
LTNG - EXTERIOR				20	1	3			0.2	0.7	4	1	20				REC - CLASSROOM 1
REC - CLASSROOM 1				20	1	5	0.4	0.4			6	1	20				REC - VESTIBULE 5
REC - CLASSROOM 2				20	1	7			0.7	0.4	8	1	20				REC - CLASSROOM 2
REC - CLASSROOM 2				20	1	9	0.2	0.7			10	1	20				REC - CLASSROOM 3
REC - CLASSROOM 3				20	1	11			0.4	0.9	12	1	20				REC - CLASSROOM 4
REC - CLASSROOM 4				20	1	13	0.4	1.1			14	1	20				REC - RECREATION HALL 6
REC - RECREATION HALL 6				20	1	15			0.4	0.4	16	1	20				REC - RECREATION HALL 6
HVAC EQUIP. - CLASSROOM 3				20	2	17	0.4	0.5			18	2	20				HVAC EQUIP. - CLASSROOM 1
						19			0.4	0.5	20						
HVAC EQUIP. - CLASSROOM 4				20	2	21	0.5	0.5			22	2	20				EQUIP
						23			0.5	0.5	24						
FACP				20	1	25	0.5	0.8			26	2	15				FCU-1
FCU-1				15	2	27			0.8	0.8	28						
						29	0.8	0.5			30	1	20				HVAC CONTROLLER
CU-1	8	10		40	2	31			2.6	2.6	32	2	40		10	8	CU-1
						33	2.6	2.6			34						
CU-1	8	10		40	2	35			2.6	2.6	36	2	40		10	8	CU-1
						37	2.6	2.6			38						
CU-2	8	10		40	2	39			2.6	2.6	40	2	40		10	8	CU-2
						41	2.6	2.6			42						
CU-2	8	10		40	2	43			2.6	0.8	44	2	20				FCU-1
						45	2.6	0.8			46						
SPARE	--	--	--	20	1	47			0.0	0.2	48	1	20				REC - EXTERIOR
SPARE	--	--	--	20	1	49	0.0	0.2			50	1	20				REC - EXTERIOR
SPARE	--	--	--	20	1	51			0.0	0.0	52	1	20	--	--	--	SPARE
SPARE	--	--	--	20	1	53	0.0	0.0			54	1	20	--	--	--	SPARE
TOTAL LOAD (kVA):							30.1 kVA		26.7 kVA								
TOTAL CURRENT (A):							251 A		223 A								

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIP	47200 VA	100.00%	47200 VA	TOTAL CONNECTED LOAD:	57 kVA
LTNG	3489 VA	100.00%	3489 VA	TOTAL ESTIMATED DEMAND:	57 kVA
REC	6120 VA	100.00%	6120 VA	TOTAL CONNECTED CURRENT:	237 A
				TOTAL ESTIMATED DEMAND CURRENT:	237 A

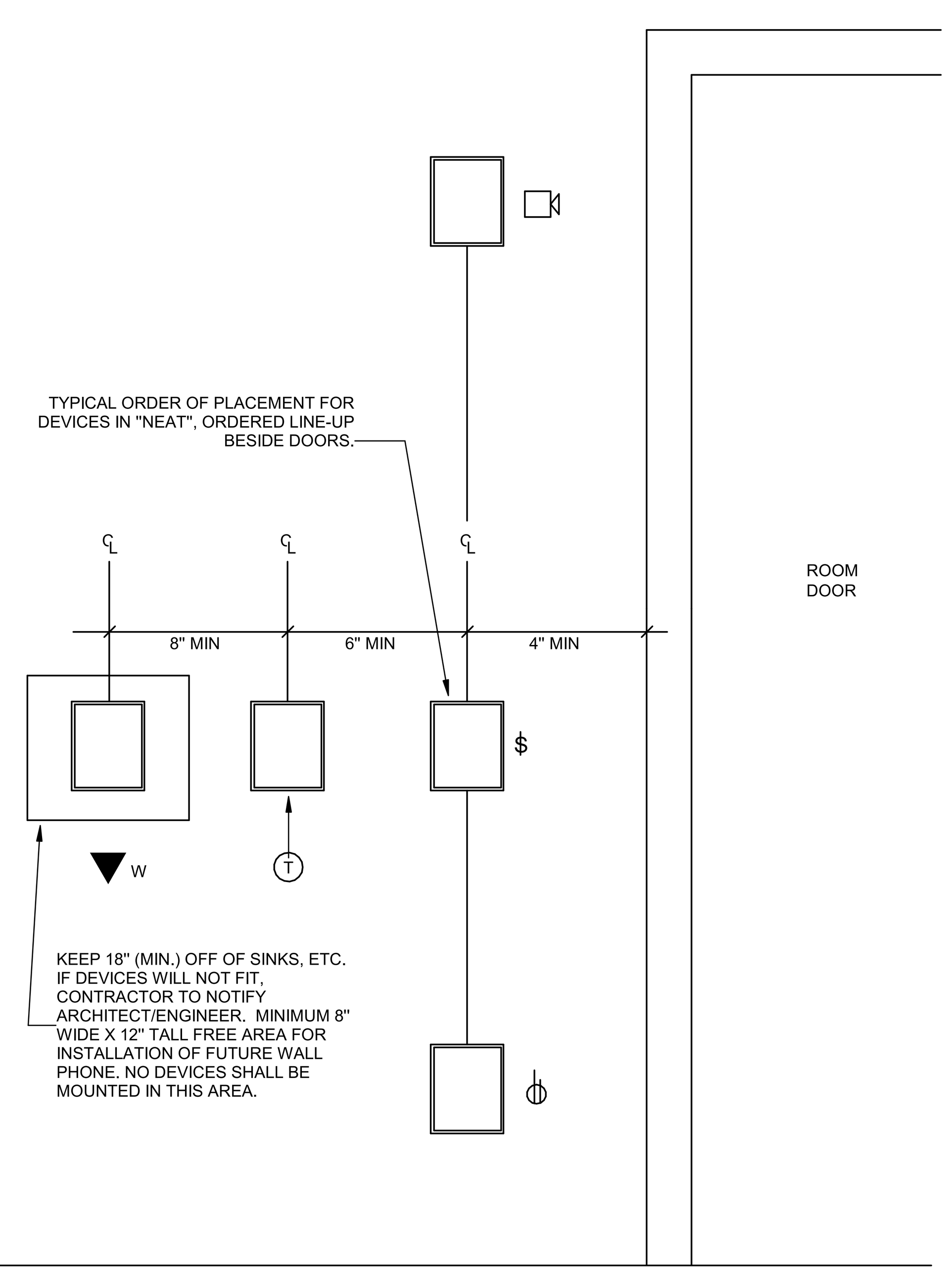
NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.



NOTES:

A. PROVIDE PVC SLEEVES WHERE CONDUCTORS ARE EXPOSED TO PHYSICAL DAMAGE. SEAL CONDUIT OPENINGS.
B. LOCATE EXTERIOR ELECTRODES A MINIMUM OF 5FT OUTSIDE THE BUILDING DRIP LINE.
C. PROVIDE EXOTHERMIC WELDS FOR ALL BUILDING STEEL, REBAR, AND UNDERGROUND CONNECTIONS UNLESS NOTED OTHERWISE.

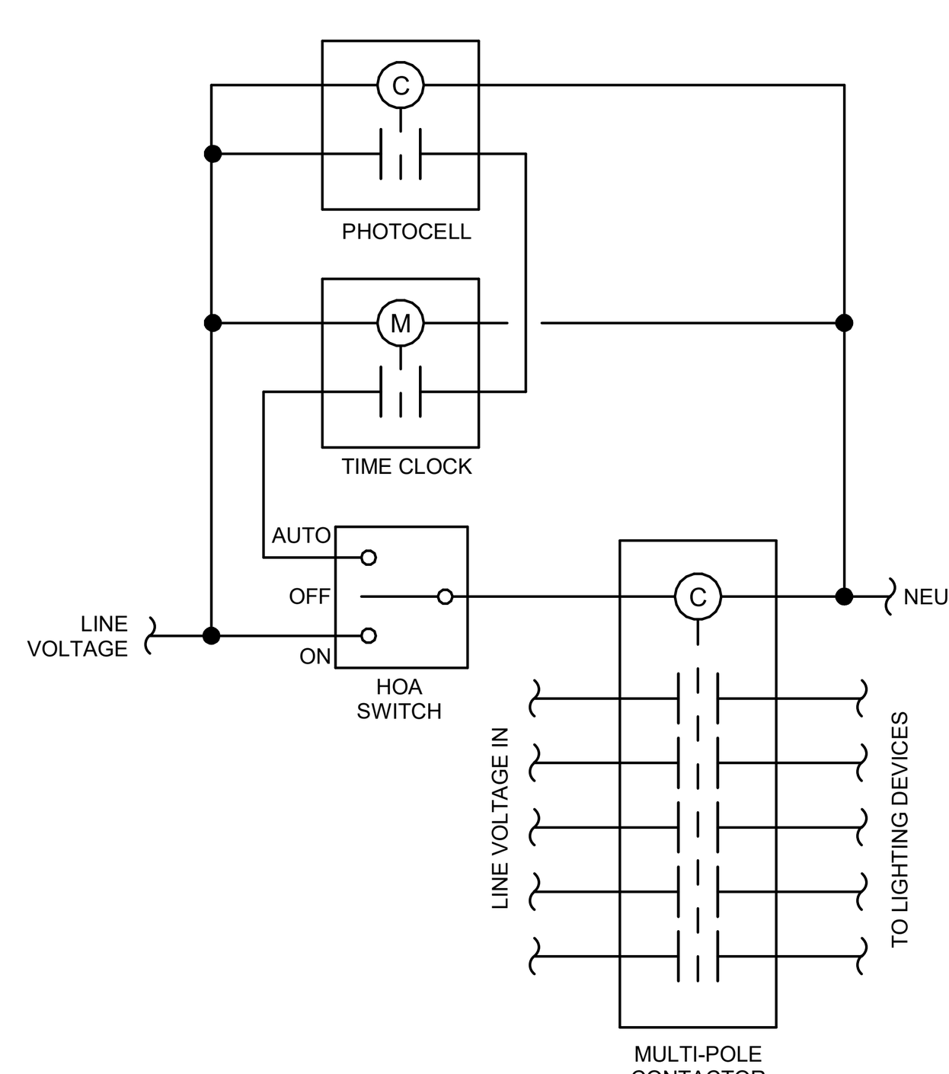
4 GROUNDING ELECTRODE SYSTEM DETAIL
NO SCALE



NOTES:

A. THE INTENT OF THIS DETAIL IS TO ENSURE THAT DEVICES ARE INSTALLED IN A NEAT AND ORGANIZED MANNER AND THAT DEVICE LOCATIONS SHOULD BE COORDINATED AMONGST ALL TRADES PRIOR TO INSTALLATION. WHERE DEVICES ARE INSTALLED ADJACENT TO EACH OTHER, THERE SHOULD BE EVEN SPACING BETWEEN DEVICES AND AN ALIGNMENT OF DEVICE HEIGHT, AS REQUIRED FOR A NEAT APPEARANCE AND COMPLIANCE WITH CONSTRUCTION DOCUMENTS. IF DISCREPANCIES ARISE, NOTIFY THE ENGINEER PRIOR TO INSTALLATION FOR DIRECTION.
B. ALL DEVICE HEIGHTS AND LOCATIONS TO MEET ADA REQUIREMENTS. WHERE ASPECTS OF CONSTRUCTION RESULT IN CONFLICTS OF DEVICE HEIGHTS AND ADA REQUIREMENTS, NOTIFY ENGINEER PRIOR TO INSTALLATION FOR DIRECTION.
C. WHERE A DEVICE IS ADJUSTED TO ALIGN WITH THE EDGE OF CMU BLOCK, ALL ADJACENT DEVICES (REGARDLESS OF TRADE) SHALL BE SIMILARLY ADJUSTED TO MAINTAIN ALIGNMENT.

5 DEVICE ALIGNMENT AND COORDINATION
NO SCALE



NOTES:

A. PROVIDE QUANTITY OF CONTATORS AS REQUIRED.
B. INSTALL TIME CLOCK AND CONTACTOR(S) IN HINGED ENCLOSURE RATED FOR ENVIRONMENT INSTALLED.
C. HOA TO BE OPERABLE WITHOUT OPENING ENCLOSURE.
D. INSTALL PHOTOCELL ON ROOF FACING NORTH UNLESS OTHERWISE NOTED ON PLANS.

7 EXTERIOR LIGHTING CONTROL WIRING
NO SCALE

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	BASIS OF DESIGN	EQUAL MANUFACTURERS	MOUNTING	VOLTAGE	REMARKS
A1	SURFACE MOUNTED 4' LINEAR	AXIS #TB6SLED 1000 80 35 BW 4' XX UNV DP 1 SC	COOPER, PHILIPS	SURFACE	120	
L1	8' LINEAR DIRECT/INDRECT FIXTURES	AXIS #TB4WDILED 400 1200 80 35 SO ASO 8 XX UNV DP 1	COOPER, PHILIPS	SUSPENDED	120	
W	DECORATIVE WALL SCONCE	LITHONIA #WDGE3-P3-50K-80CRI-R3-MVOLT-SPD10KV/PIR	COOPER, PHILIPS	WALL	120	
X1	SINGLE FACE EXIT SIGN	LITHONIA #LE-S-W-1-R	COOPER, PHILIPS	UNIVERSAL	120	

GENERAL NOTES (LUMINAIRE SCHEDULE):

A. ALL LUMINAIRES AND COMPONENTS SHALL BE UL LISTED.

B. WHERE LUMINAIRES ARE SHOWN SPLIT-WIRED (HALF EMERGENCY POWER/ HALF NORMAL POWER) ON FLOOR PLANS, LUMINAIRES SHALL BE PROVIDED WITH MULTIPLE ELECTRONIC BALLASTS FOR MULTIPLE POWER CIRCUITS AS INDICATED ON FLOOR PLANS.

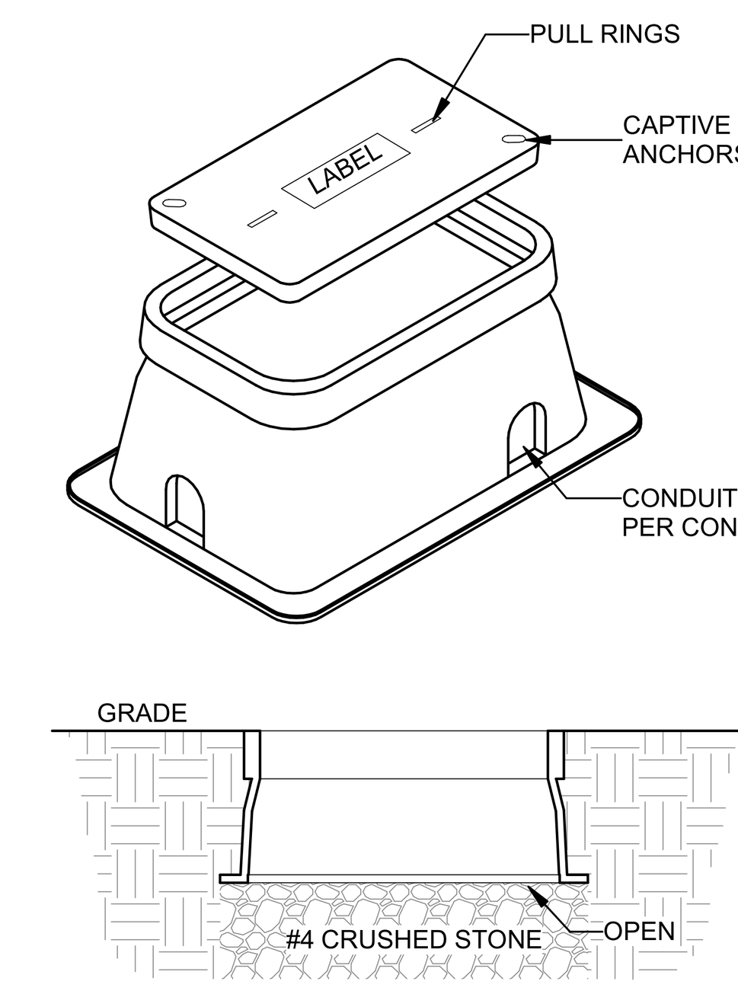
C. PROVIDE BALLASTS FOR FIXTURE LAMP SWITCHING AS INDICATED ON LIGHTING FLOOR PLANS. WHERE A SINGLE FIXTURE IS POWERED FROM NORMAL AND EMERGENCY POWER, HALF OF THE LAMPS WITH A MINIMUM OF TWO LAMPS SHALL BE ON EMERGENCY POWER.

D. CONTRACTOR SHALL FOCUS, AIM AND ADJUST LUMINAIRES UNDER THE SUPERVISION AND DIRECTION OF THE ENGINEER AND ARCHITECT. ALLOW LABOR FOR FINAL FOCUS AND ADJUSTMENTS AFTER DARK. LIFTS AND SCAFFOLDING SHALL BE AVAILABLE.

E. ALL LAY-IN FIXTURES SHALL BE PROVIDED WITH SCREW ON HOLD DOWN CLIPS AND MAXIMUM 6'-0" LONG FLEXIBLE CONDUIT WHIPS.

F. EXIT SIGNS AND FIXTURES THAT ARE HATCHED OR WHERE THE FIXTURE TYPE CONTAINS THE SUFFIX "E" FOR EMERGENCY OPERATION SHALL HAVE AN INTEGRAL 90 MINUTE BATTERY INVERTER IF NOT POWERED FROM AN EMERGENCY GENERATOR.

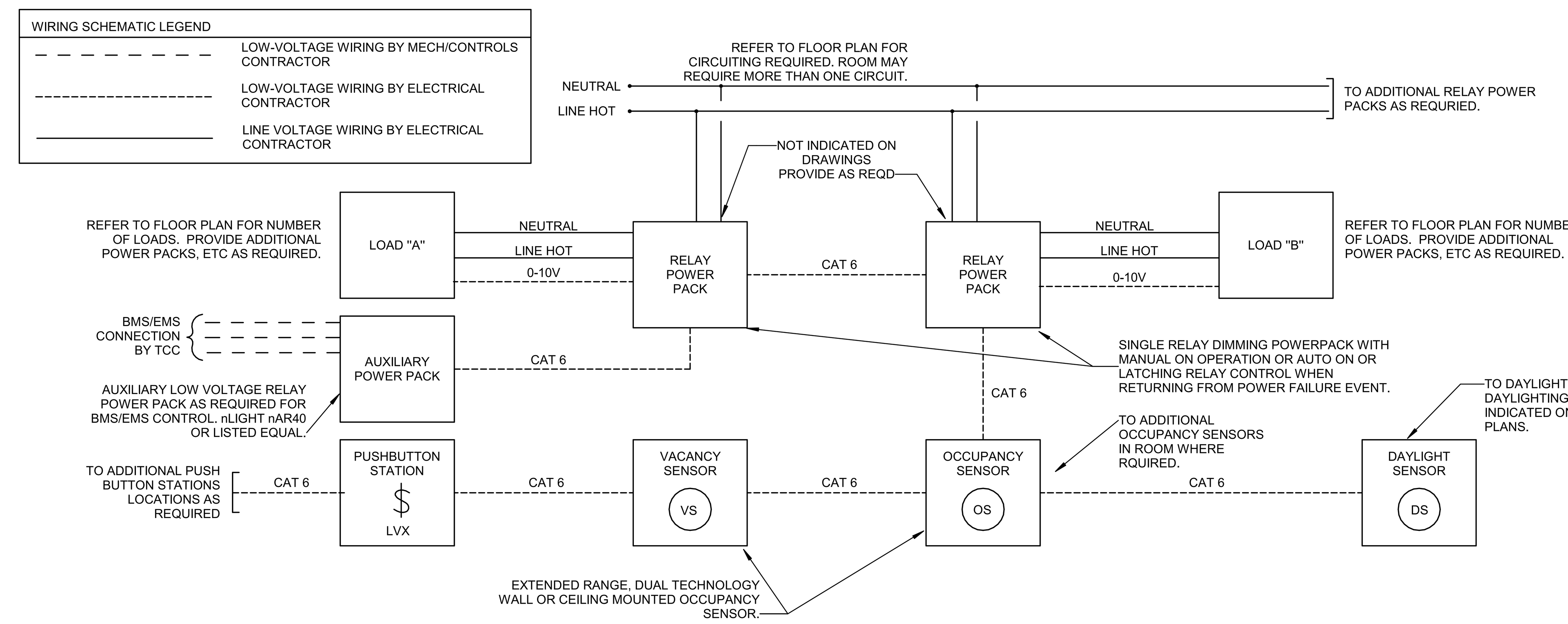
G. ALL BATTERY POWERED FIXTURES SHALL HAVE TEST SWITCHES FACTORY INSTALLED INTEGRAL TO THE REFLECTOR, REMOTE TEST SWITCHES WILL NOT BE ACCEPTED.

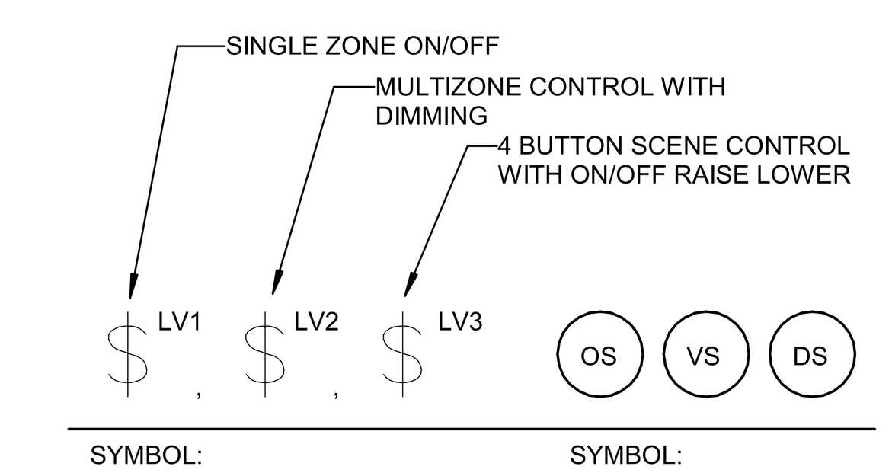


NOTES:

A. BOXES TO BE SIZED PER NEC 314.28 BASED UPON FIELD CONFIGURATION OF CONDUIT ENTRIES. PROVIDE EXTENSIONS WHERE REQUIRED.
B. BOX AND LID TO BE CONSTRUCTED OF POLYMER CONCRETE. LID TIER RATING PER INSTALLED LOCATION.
C. REFER TO SPECIFICATIONS FOR RELATED INFORMATION.

6 PULL BOX DETAIL
NO SCALE

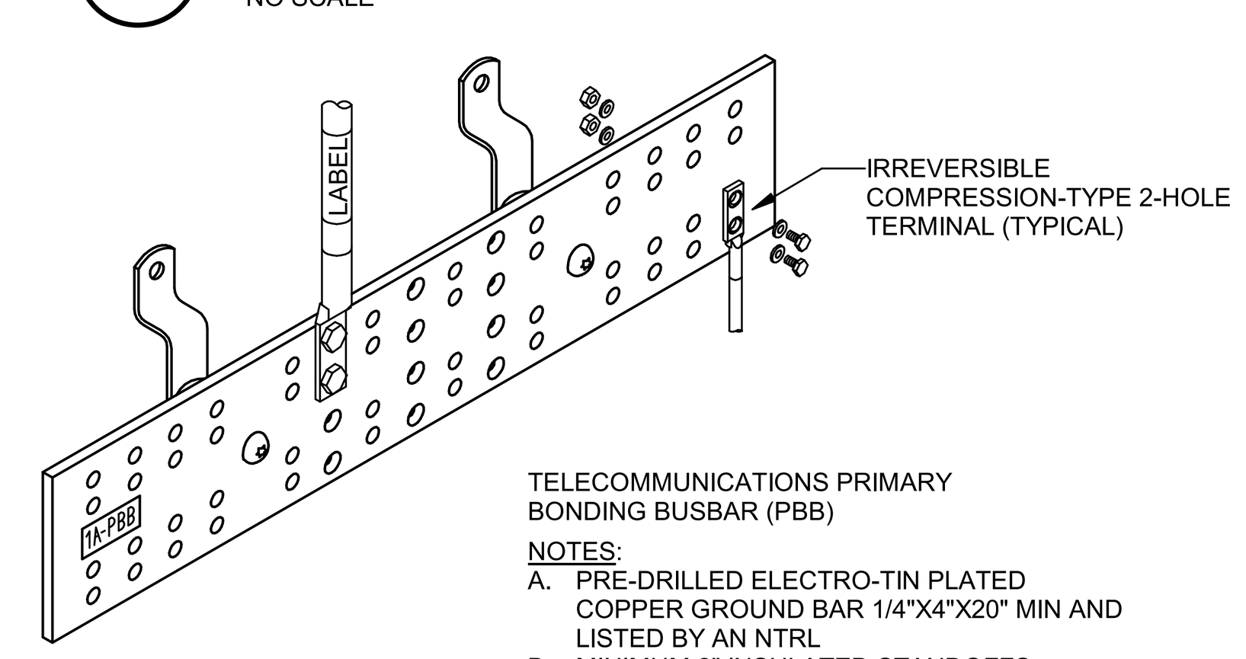




OCCUPANCY/VACANCY/DAYLIGHT SENSOR GENERAL NOTES :

A. VERIFY ALL WIRING REQUIREMENTS WITH MANUFACTURER OF OCCUPANCY SENSOR PRIOR TO ROUGH-IN. THIS DIAGRAM IS MEANT TO BE ILLUSTRATIVE ONLY.
B. ALL POWER PACKS TO BE LOCATED IN CONCEALED LOCATIONS ABOVE ACCESSIBLE CEILINGS.
C. ALL UNITS TO BE DUAL TECHNOLOGY SENSORS WITH POWER PACKS.
D. PROVIDE J-HOOKS ON 4' CENTERS ABOVE CEILING FOR ALL CONTROL CABLING INDICATED BETWEEN RELAYS.
E. CONTRACTOR SHALL PROVIDE AN EXTRA 10' OF CONTROL WIRING COILED UP ABOVE CEILING AT OCCUPANCY SENSOR.
F. WHERE MULTIPLE CIRCUITS SERVE ONE AREA, CONTRACTOR SHALL PROVIDE ADDITIONAL RELAY PACKS AS REQUIRED TO CONTROL ALL CIRCUITS IN ROOM TOGETHER. REFER TO MANUFACTURER'S WIRING DIAGRAMS FOR WIRING REQUIREMENTS.
G. WHERE MULTIPLE SENSORS AND MULTIPLE POWER PACKS ARE REQUIRED IN ONE ROOM, CONTRACTOR SHALL CONNECT SENSORS AND POWER PACKS SUCH THAT MOTION DETECTION BY ANY SENSOR IN THE ROOM SHALL ALLOW ALL CIRCUITS IN THE ROOM TO OPERATE. PROVIDE ALL ACCESSORIES AND WIRE DEVICES PER MANUFACTURER'S REQUIREMENTS FOR OPERATION AS DESCRIBED.
H. SYSTEM SHALL BE SENSOR SWITCH nLIGHT OR WATTSTOPPER DLM EQUAL. SYSTEM SHALL BE PROVIDED, WIRED AND CONTROLLED AS A COMPLETE AND OPERABLE SYSTEM.
I. OCC SENSORS SHALL BE DUAL TECHNOLOGY (PIR AND ULTRASONIC) CEILING OR WALL TYPE. WHERE INDICATED AS WALL TYPE, PROVIDE WITH WITH RECESS BACKBOX, STUB-OUT AND GROMMETED COVERPLATE FOR CABLING. PROVIDE WITH ADDITIONAL EMS RELAY FOR BUILDING MANAGEMENT.
J. DAYLIGHT SENSOR OPERATION: DEVICE SHALL BE SET TO MAINTAIN 50FC. LOW DIMMING RANGE SHALL BE SET LOWER THAN 30% OF FIXTURES OUTPUT LEVEL. TRANSITION OFF TIME SHALL BE SET AT 10 MINUTES. TRANSITION ON TIME SHALL BE 45 SEC. SYSTEM SHALL BE "BURNT" IN FOR 100 HOURS. SYSTEM SHALL BE CONFIGURED AND TESTED PRIOR TO END OF PROJECT.

1 OCCUPANCY/VACANCY/DAYLIGHT SENSOR LIGHTING CONTROL WIRING DIAGRAM
NO SCALE



TELECOMMUNICATIONS PRIMARY BONDING BUSBAR (PBB)

NOTES:

A. PRE-DRILLED ELECTRO-TIN PLATED COPPER GROUND BAR 1/4"X4"X20" MIN AND LISTED BY AN NTRL
B. MINIMUM 2" INSULATED STANDOFFS
C. BICSI/TIA-607 STYLE HOLE PATTERN
D. CLEAN SURFACE AND APPLY ANTI-OXIDANT PRIOR TO FASTENING OF CONDUCTORS.
E. PROVIDE IDENTIFICATION FOR GROUND BAR AND GROUNDING CONDUCTORS IN ACCORDANCE WITH TIA/EIA-606-B.

3 TELECOMM BUSBAR - PBB
NO SCALE

ACCT# 540CBANFF2500

STATE OF KENTUCKY — BRIAN K. BAUMGARTLE — 23119 — LICENSED — PROFESSIONAL ENGINEER

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FUTURE FARMERS OF AMERICA - RECREATION HALL
111 FFA Camp Road, Hardinsburg, KY 40143

ELECTRICAL DETAILS

ENGR. FILE NO. # **540CBANFF2500**

COMMONWEALTH OF KENTUCKY
FINANCE AND ADMINISTRATION CABINET
DEPARTMENT FOR FACILITIES AND SUPPORT SERVICES
DIVISION OF ENGINEERING AND CONTRACT ADMINISTRATION
FRANKFORT, KENTUCKY

DRAWING NO. E-300

AS BUILT DATE

DECA LOG #

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REVISION HISTORY OF THIS DRAWING

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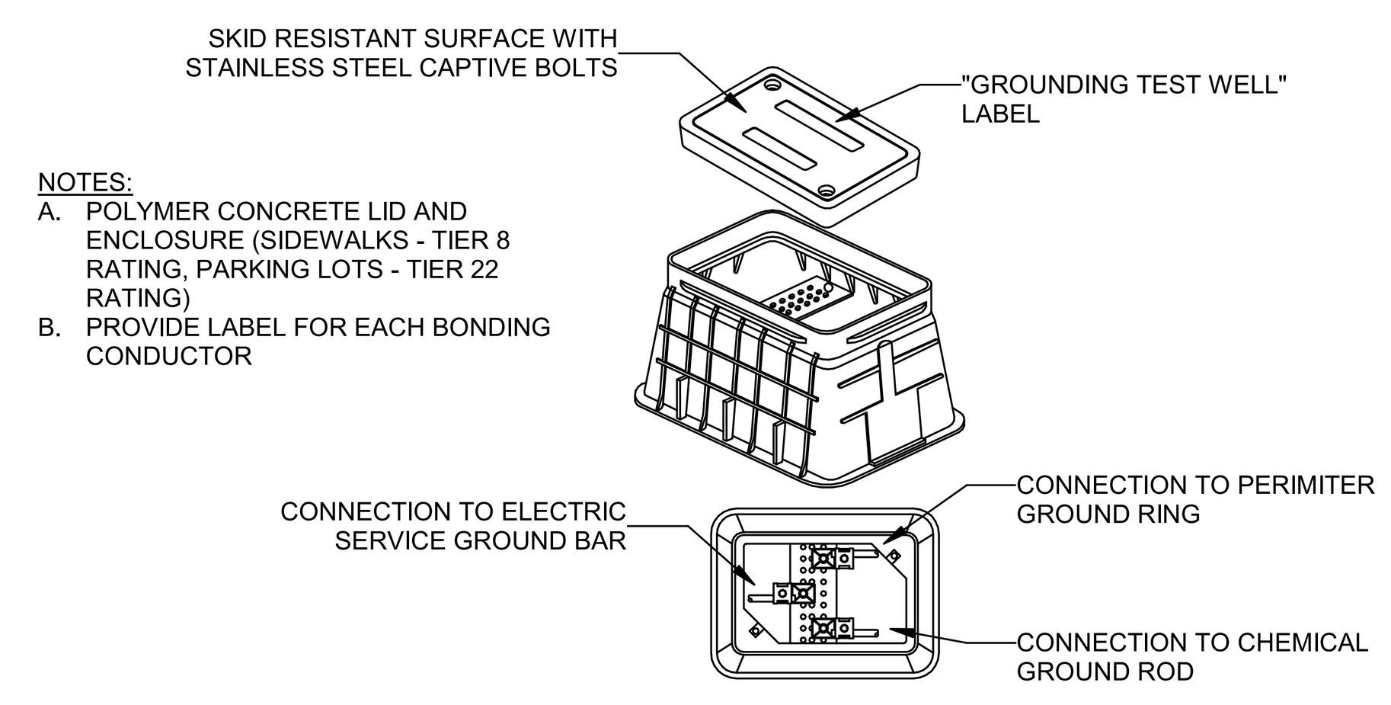


NOTES:
A. POLYMER CONCRETE LID AND ENCLOSURE (SIDEWALKS - TIER 8 RATING, PARKING LOTS - TIER 22 RATING)
B. PROVIDE LABEL FOR EACH BONDING CONDUCTOR

5 GROUND INSPECTION WELL

NO SCALE

POWER RISER GENERAL NOTES:

A. ALL NEW CONDUCTORS SHALL BE COPPER (SEE SPECIFICATIONS FOR TYPE).

B. PROVIDE ENGRAVED LAMACOID LABELS FOR ALL POWER DISTRIBUTION EQUIPMENT FURNISHED OR MODIFIED IN THE PROJECT, LABELS PER DETAILS AND SPECIFICATIONS.

C. SERVICE EQUIPMENT SHALL BE MARKED WITH THE MAXIMUM AVAILABLE FAULT-CURRENT AT THE EQUIPMENT AND THE DATE THE CALCULATION WAS PERFORMED. APPLY A TYPE-WRITTEN ADHESIVE LABEL WITH THE BACKGROUND, 1/2" HIGH BLACK LETTERING.

D. ALL SPARE BREAKERS SHALL BE SO LABELED IN CIRCUIT DIRECTORIES AND SHALL BE LEFT IN THE OFF POSITION.

E. MINIMUM PANEL MOUNTING SPACE IS NOTED ON DRAWINGS AND SCHEDULES. ALL MOUNTING SPACE SHALL BE PREPARED TO ACCEPT FUTURE BREAKERS.

F. SEE SPECIFICATIONS FOR POWER STUDY REQUIREMENTS.

POWER RISER TAGGED NOTES :

1. PROVIDE A PARALLEL CONNECTED TRANSIENT VOLTAGE SURGE SUPPRESSOR (SPD), CATERGORY #B. UNIT SHALL BE CURRENT TECHNOLOGY #EGPE2 80, 120/240V, 2-PH, 3W OR APPROVED EQUAL. PROVIDE WITH EVENT COUNTER. MOUNT BELOW PANEL BEING PROTECTED AS RECOMMENDED BY EQUIPMENT MANUFACTURER. ALIGN COVERS AND INSTALL WITHOUT GAP BETWEEN TVSS AND PANELBOARD.

2. SERVICE RATED MAIN CIRCUIT BREAKER.

3. PROVIDE ONE (1) #2AWG CONDUCTOR COPPER GROUNDING ELECTRODE FROM NEW GROUND BAR AT PANELBOARD "P1" TO THREE NEW 5/8"x10'-0" COPPERWELD GROUND RODS AS REQUIRED. CONTRACTOR SHALL TEST GROUNDING SYSTEM IMPEDANCE LEVEL AND IF NOT 5 OHMS, CONTRACTOR SHALL ADD GROUND RODS AS NECESSARY TO MEET THIS REQUIREMENT. GROUND RODS SHALL ALSO BE CONNECTED TO BUILDING STEEL AND COLD WATER PIPING PER NEC.

1

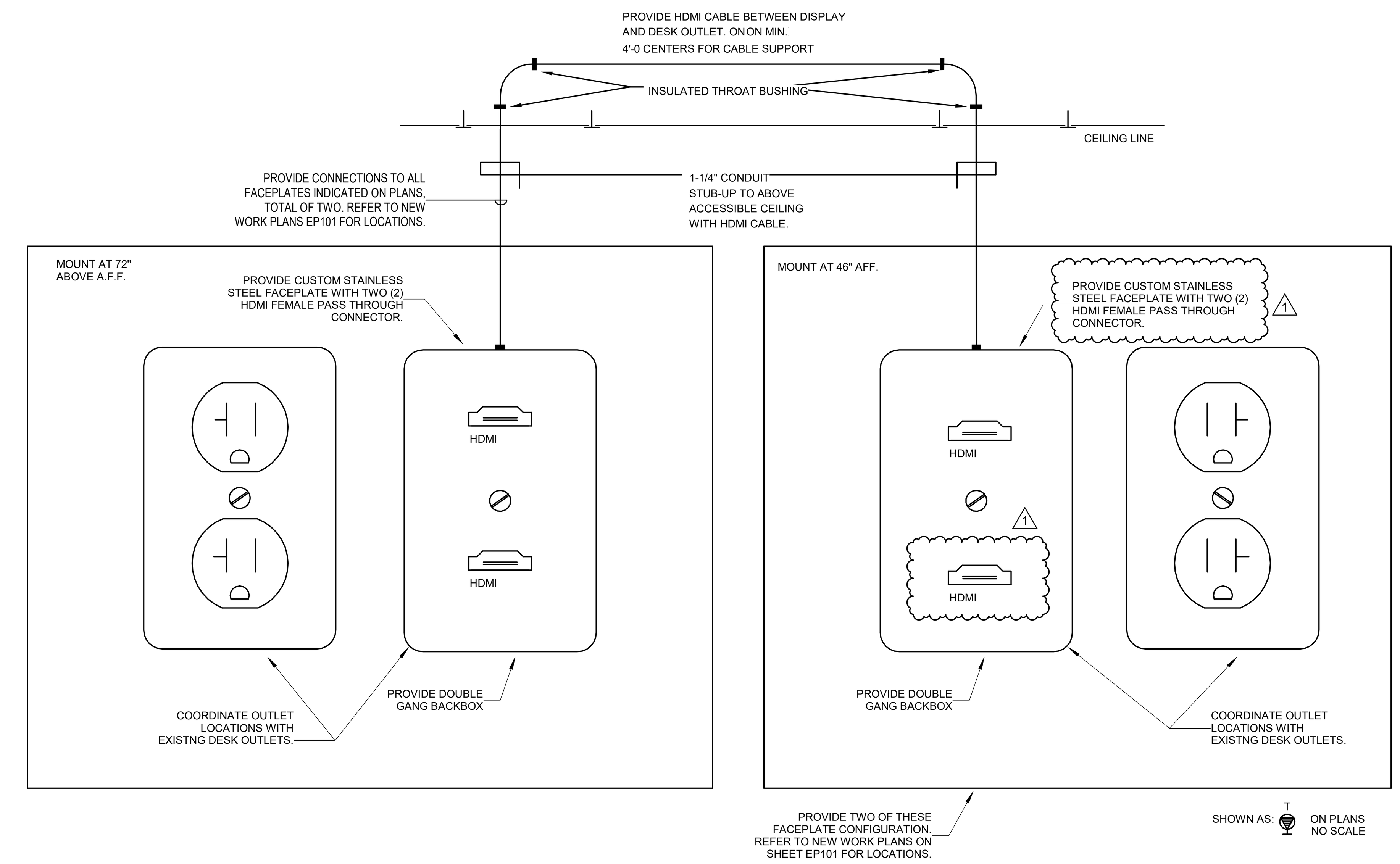
4. PROVIDE THREE (3) #4/0 CONDUCTORS AND (1) #4 AWG GROUND IN 2-1/2" SCHEDULE 80 PVC WITH MINIMUM BURY AT 42"

5. (1) #2AWG, BARE COPPER GROUND (ROUTE IN 1-1/4" CONDUIT WHERE EXPOSED).

6. (1) #2AWG, BARE COPPER GROUND (ROUTE IN 1" CONDUIT WHERE EXPOSED).

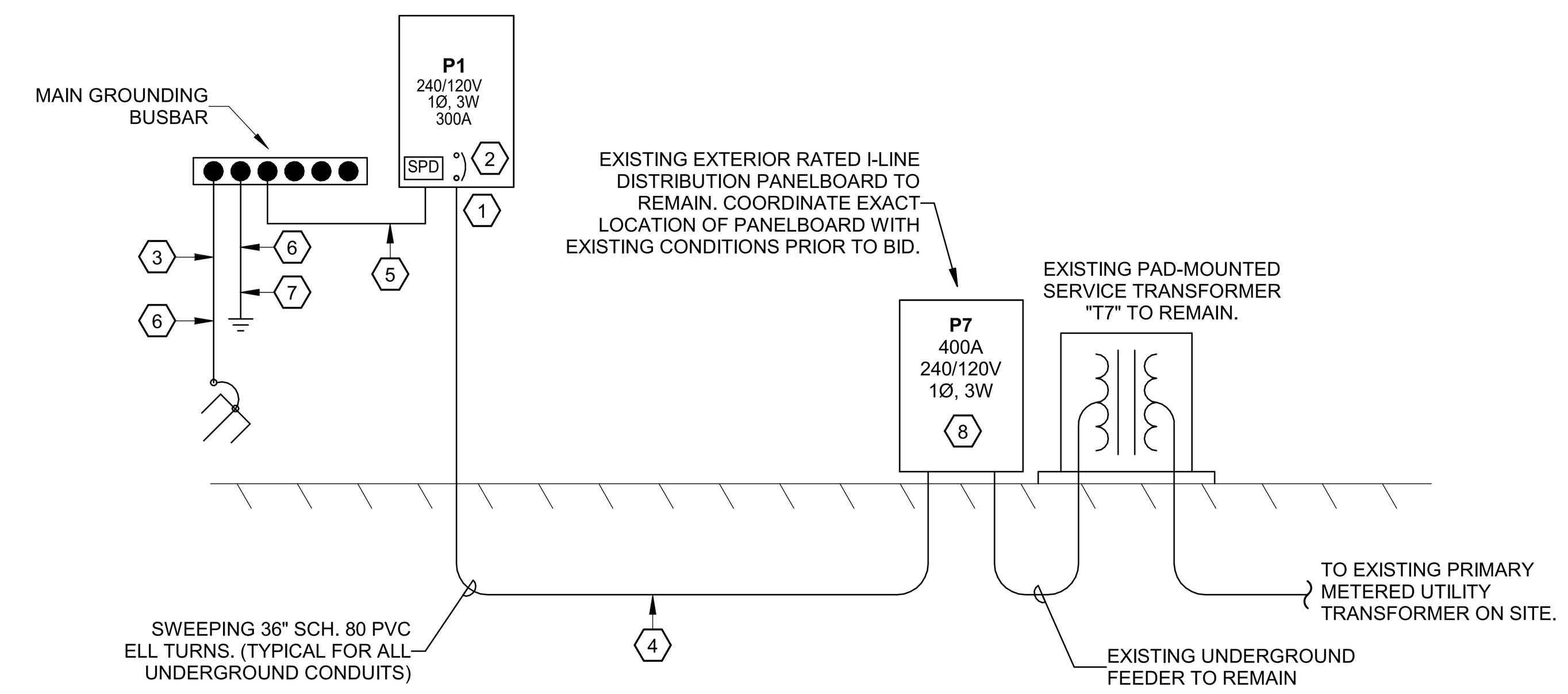
7. COPPER GROUNDING ELECTRODE CONDUCTOR BONDED TO UNDERGROUND METAL COLD WATER SERVICE AND CADWELD TO BUILDING STEEL.

8. PROVIDE NEW 300A/2P CIRCUIT BREAKER IN I-LINE PANELBOARD INDICATED. ELECTRICAL CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS WITH EXISTING CONDITIONS PRIOR TO BID.



3 MONITOR INSTALLATION DETAIL

NO SCALE



4 POWER DISTRIBUTION RISER DIAGRAM

NO SCALE

GENERAL NOTES (FIRE ALARM RISER):

A. THIS RISER IS PARTIAL. ALL THE DEVICES CONNECTED TO THE "FACP" UNITS ARE NOT SHOWN. THE CONTRACTOR SHALL REFER TO THE ELECTRICAL FLOOR PLANS FOR THE COMPLETE FIRE ALARM SYSTEM.

B. THE EXTENT OF ALL FIRE ALARM SYSTEM WORK IS INDICATED OR IMPLIED ON THE CONTRACT DRAWINGS.

C. FIELD VERIFY THE EXACT NUMBER AND LOCATIONS OF ALL MECHANICALLY RELATED ITEMS (SPRINKLER CONNECTIONS, EXTINGUISHING SYSTEMS, SMOKE DAMPERS, RANGE HOOD SUPPRESSION SYSTEMS, ETC.) AND MAKE CONNECTIONS AS REQUIRED/INDICATED.

D. PROVIDE CONNECTIONS TO ALL FIRE PROTECTION TAMPER AND FLOW SWITCHES VIA ZONE ADDRESSABLE MODULES AS REQUIRED. CONTRACTOR SHALL VERIFY ALL LOCATIONS WITH FIRE PROTECTION SYSTEM SHOP DRAWINGS. CONTRACTOR SHALL PROVIDE A UNIT PRICE FOR COMPLETE INSTALLATION OF A CONNECTION TO EXISTING FIRE PROTECTION SWITCHES.

E. ALL FIRE ALARM STROBE LIGHTS SHALL BE SYNCHRONIZED TO ACCOMMODATE BUILDING STANDARDS AS REQUIRED.

F. TAP SPEAKERS TO PROVIDE SUFFICIENT AUDIBILITY FOR AREA SERVED.

G. SMOKE DETECTORS SHALL NOT BE LOCATED CLOSER THAN 36" TO SUPPLY, RETURN OR EXHAUST AIR OPENINGS NOR CLOSER THAN 12" TO WALL/ CEILING INTERSECTIONS.

H. ADDITIONAL DUCT DETECTORS MAY BE SHOWN ON MECHANICAL DRAWINGS. PROVIDE AND CONFIGURE DUCT DETECTOR(S) FOR EITHER SHUTDOWN OF EQUIPMENT OR CLOSURE OF SMOKE DAMPER(S) AS REQUIRED BY CODE.

I. AIR HANDLING UNITS SHALL ONLY SHUT DOWN WHEN SMOKE IS DETECTED AT THAT PARTICULAR AIR HANDLING UNIT (UON). SMOKE DAMPERS SHALL CLOSE ONLY WHEN SMOKE IS DETECTED AT THAT PARTICULAR SMOKE DAMPER BY ACTIVATION OF THE CONTROLLING SMOKE DETECTOR. REFER TO THE SPECIFICATIONS FOR FURTHER REQUIREMENTS.

J. PROVIDE DUCT SMOKE DETECTORS WITH REMOTE TEST SWITCH/INDICATOR LIGHT AT 7'-6" AFF ON WALL IN AREA BELOW DETECTOR.

K. RISER DIAGRAM IS FOR BID PURPOSES ONLY. SYSTEM SHALL BE INSTALLED AND CONNECTED IN ACCORDANCE WITH WIRING DIAGRAMS OBTAINED FROM MANUFACTURER, THAT HAVE BEEN APPROVED BY THE STATE FIRE MARSHAL'S OFFICE OR AUTHORITY HAVING JURISDICTION.

L. PROVIDE FIRE ALARM MANUFACTURER WITH LOCATION DESCRIPTIONS FOR ALL FIRE ALARM DEVICES AS SOON AS POSSIBLE AFTER AWARD OF CONTRACT FOR PRE-PROGRAMMING OF FIRE ALARM SYSTEM. COORDINATE DESCRIPTIONS WITH BUILDING OWNER. UTILIZE FINAL ROOM NAMES AND NUMBERS, NOT NAMES AND NUMBERS FROM FLOOR PLANS.

M. EACH FIRE ALARM DEVICE SHALL BE LABELED WITH SELF ADHESIVE POLYESTER COATED PRINTED LABELS INDICATING DEVICE ADDRESS AND CIRCUIT PER FIRE ALARM SHOP DRAWINGS.

N. MODIFY AND/OR EXPAND EXISTING CONTROL PANEL(S) AND ANNUNCIATOR(S) TO ACCOMMODATE AS REQUIRED TO SUPPORT ADDITIONAL DEVICES SHOWN. FURNISH AND INSTALL ANY MODULES OR EQUIPMENT NECESSARY TO EXPAND SYSTEM. EXISTING ANNUNCIATOR(S) AND CONTROL PANEL(S) SHALL BE UPDATED TO DISPLAY TROUBLES AND ALARM LOCATIONS FOR ALL NEW ZONES.

O. PROVIDE CONNECTIONS TO NEW ACCESS CONTROL DOORS TO ALLOW POSITIVE LATCHING AND FREE EGRESS UNDER ALARM CONDITIONS. COORDINATE EXACT REQUIREMENTS WITH SUCCESSFUL DOOR HARDWARE MANUFACTURER PRIOR TO CONSTRUCTION.

P. PROVIDE ACCESS PANELS AS REQUIRED FOR MAINTENANCE AND TESTING FOR SMOKE DETECTORS LOCATED ABOVE INACCESSIBLE CEILINGS. COORDINATE SIZE AND LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.

Q. PROVIDE APPROVED TESTING AND REQUIRED CERTIFICATION OF SYSTEM COMPONENTS AND PROVE OPERATION OF SYSTEM FOR THE AREA OF WORK WHEN COMPLETE.

R. WIRING TO ALL FIRE ALARM DEVICES SHALL BE PER NEC AND MANUFACTURER'S RECOMMENDATIONS. VERIFY ALL WIRING REQUIREMENTS WITH THE OWNER AND FIRE ALARM VENDOR.

S. ALL NEW DEVICES INDICATED, SUCH AS SMOKE DETECTORS, NOTIFICATION APPLIANCES, ETC., SHALL MATCH AND BE COMPATIBLE WITH EXISTING BUILDING SYSTEM.

T. ALL 120V POWER FOR NEW FIRE ALARM SYSTEM COMPONENTS SHALL BE CONNECTED TO EMERGENCY LIFE-SAFETY BRANCH PANELS AS APPLICABLE. PROVIDE ALL NEW POWER CONNECTIONS AS REQUIRED FOR SYSTEM OPERATION.

U. PROVIDE A DEDICATED POWER CIRCUIT TO EACH FIRE ALARM EQUIPMENT PANEL OR POWER SUPPLY.

V. FIRE ALARM OCP DEVICES SHALL HAVE NON-REMOVABLE LOCKABLE HANDLE PAINTED RED.

W. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL BUILDING PERMITS, ELECTRICAL APPROVALS, AND APPROVALS FROM THE STATE OFFICE OF FIRE SAFETY OR AUTHORITY HAVING JURISDICTION (AHJ). THIS INCLUDES PREPARING DRAWINGS, CUTSHEETS, AND OTHER DOCUMENTATION REQUIRED BY THE AHJ OR FIRE ALARM EQUIPMENT MANUFACTURER. A COPY OF THESE REQUIREMENTS SHALL BE OBTAINED FROM AHJ. THE DRAWINGS SHALL BE PREPARED AS A FINAL SUBMITTAL AS OUTLINED IN THE SUBMITTAL REQUIREMENTS. ELECTRONIC COPIES OF THESE PLANS REQUIRED FOR THIS PURPOSE MAY BE OBTAINED FROM THE ENGINEER. DRAWINGS THAT ARE REQUIRED FOR APPROVAL SHALL BE FINISHED WITHIN 7 WORKING DAYS OF AWARD OF CONTRACT.

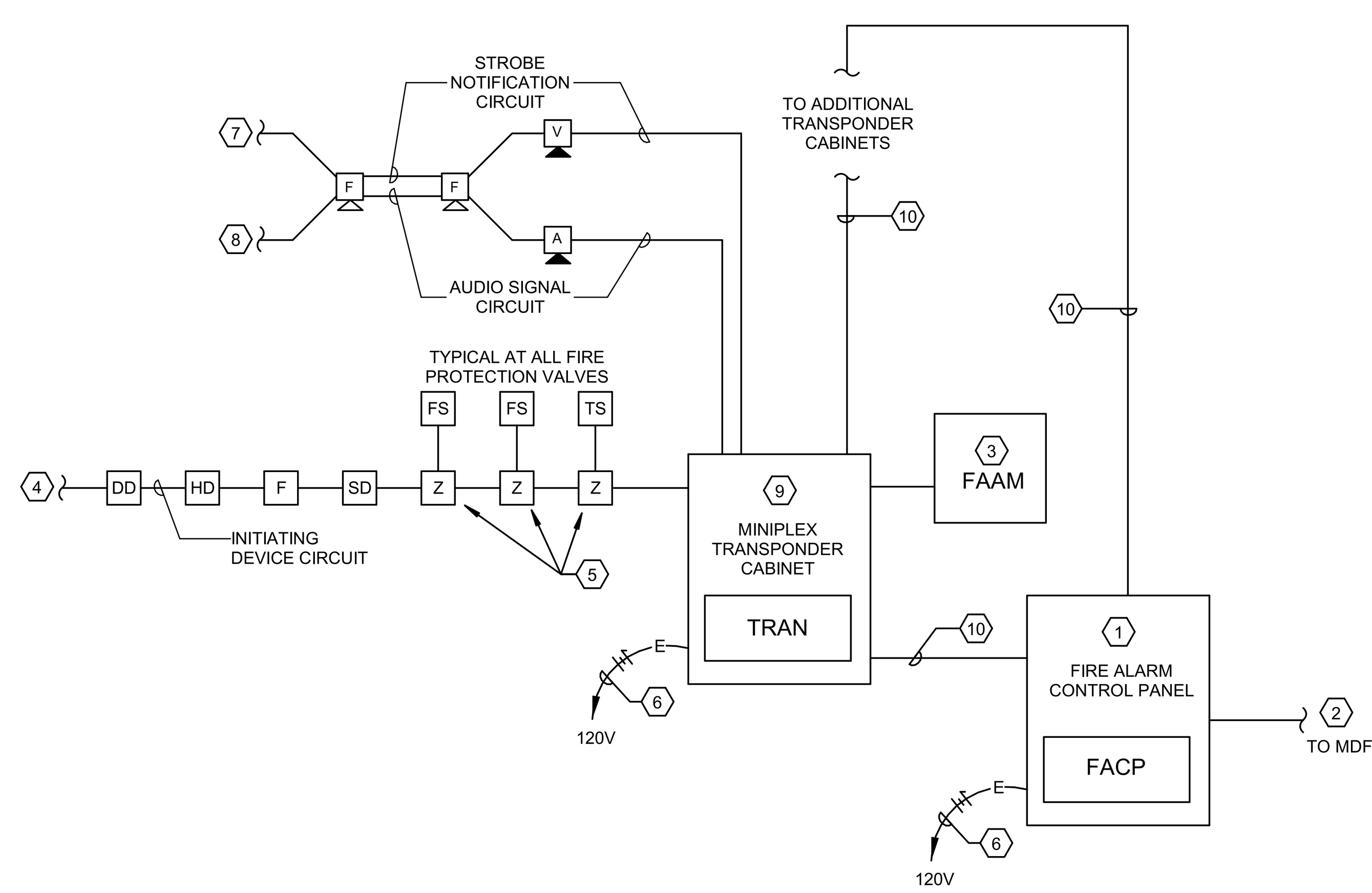
X. WRITTEN CERTIFICATION OF ENTIRE FIRE ALARM SYSTEM SHALL BE SUBMITTED TO OWNER & ENGINEER AT CLOSE OF PROJECT.

Y. A TECHNICAL REPRESENTATIVE OF FIRE ALARM MANUFACTURER SHALL BE PRESENT AT ALL TIMES DURING FIRE ALARM CERTIFICATION.

Z. CONTRACTOR SHALL MONITOR TROUBLES ON EXISTING PANEL EQUIPMENT ON A DAILY BASIS. WHERE A TROUBLE IS INDICATED, IT SHALL BE REPORTED TO THE OWNER AND CONSTRUCTION SHALL STOP UNTIL TROUBLE IS RESOLVED UNLESS OTHERWISE INDICATED BY OWNER.

AA. INITIATING DEVICE CIRCUITS AND NOTIFICATION APPLIANCE CIRCUITS SHALL BE IN SEPARATE RACEWAYS. FIRE ALARM SYSTEM JUNCTION BOXES, BACK BOXES, AND PULL BOXES SHALL BE PAINTED RED.

BB. PROVIDE QUANTITY OF POWER SUPPLIES AND NAC PANELS BASED UPON FINAL SYSTEM DESIGN AND REQUIRED SPARE CAPACITY. LOCATE ADDITIONAL PANELS ADJACENT TO THOSE SHOWN ON PLANS. DO NOT INSTALL ADDITIONAL EQUIPMENT IN OTHER AREAS OF THE PROJECT WITHOUT WRITTEN CONSENT BY THE ENGINEER.

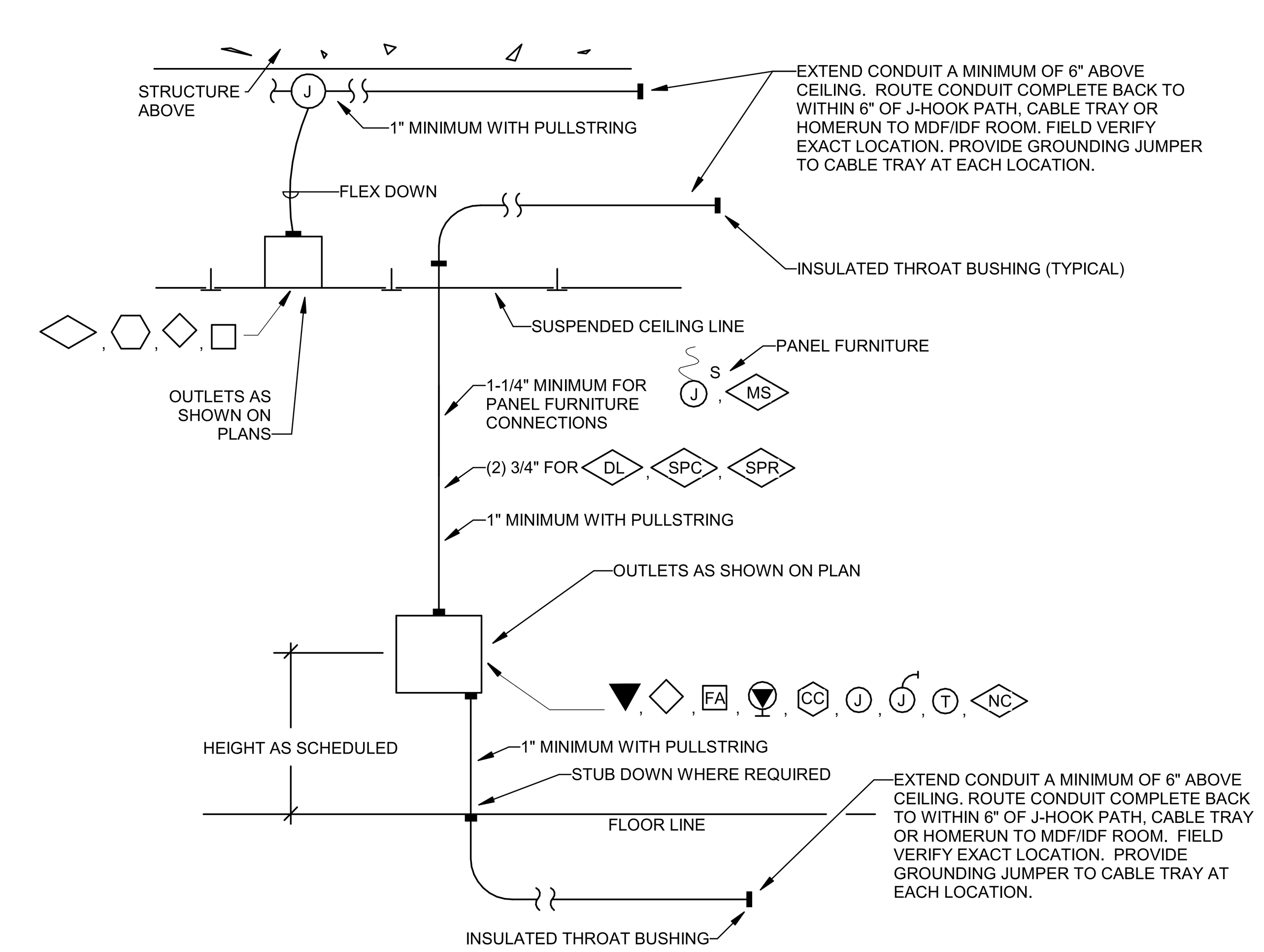


TAGGED NOTES :

1. FIRE ALARM CONTROL PANEL WITH INTEGRAL MICROPHONE. PROVIDE NEMA ENCLOSURE WITH LOCKABLE COVER.
2. COMMUNICATIONS LINE TO MDF.
3. REMOTE ANNUNCIATOR PANEL WITH INTEGRAL MICROPHONE.
4. TO ADDITIONAL INITIATION DEVICES, REFER TO FLOOR PLANS FOR ALL DEVICE LOCATIONS.
5. PROVIDE A MONITOR "IAM" (INDIVIDUAL ADDRESSABLE MODULE) FOR ADDRESSABLE SUPERVISION OF FIRE PROTECTION VALVES AND FIXED TEMPERATURE HEAT DETECTORS. MONITOR "IAM" SHALL BE SURFACE MOUNTED, IN NEMA-1 ENCLOSURE, ABOVE SUSPENDEND CEILING OR ON WALL AS REQUIRED.
6. DEDICATED 120V POWER CIRCUITS FOR FIRE ALARM SYSTEM COMPONENTS AS INDICATED. REFER TO FLOOR PLANS FOR CIRCUIT NUMBERS. PAINT BREAKER SERVING EQUIPMENT RED.
7. TO ADDITIONAL VISUAL NOTIFICATION DEVICES, REFER TO FLOOR PLANS FOR ALL DEVICE LOCATIONS.
8. TO ADDITIONAL AUDIBLE NOTIFICATION DEVICES, REFER TO FLOOR PLANS FOR ALL DEVICE LOCATIONS.
9. PROVIDE MINIPLEX TRANSPONDER CABINET WITH LOCAL MODE CONTROLLER COMPATIBLE WITH FIRE ALARM CONTROL PANEL. REFER TO FLOOR PLANS FOR LOCATIONS. PROVIDE QUANTITY AS REQUIRED TO SERVE ALL INITIATING AND NOTIFICATIONS DEVICES WITH 20% SPARE CAPACITY FOR SYSTEM GROWTH.
10. AUDIO RISER WIRING AND DIGITAL COMMUNICATION WIRING, CONDUCTORS PER MANUFACTURER IN 1"C.

1 FIRE ALARM RISER DIAGRAM

NO SCALE



NOTES:

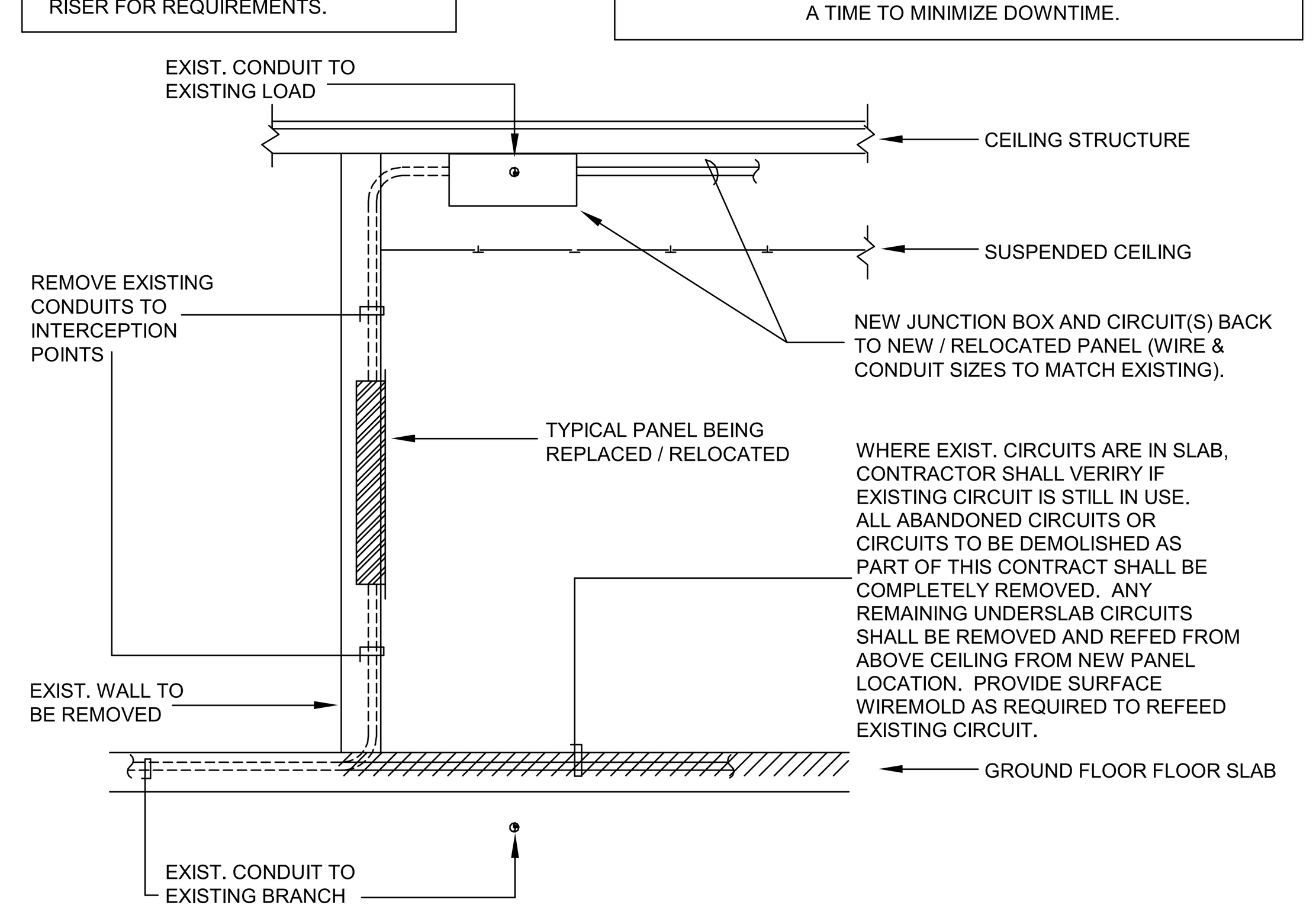
A. EXTEND CONDUIT TO NEAREST WIRING PATH UNLESS CABLING TERMINATES AT ANOTHER OUTLET IN THE SAME ROOM (IN WHICH CASE, STUB CONDUIT OUT ABOVE THE ROOM'S SUSPENDED CEILING). REFER TO GENERAL NOTES LOCATED ON ALL SYSTEM'S DRAWINGS. ACCESS CONTROL CONDUITS SHALL STUB ABOVE ACCESSIBLE CEILING FOR VENDOR FURNISHED ACCESS CONTROL CABLING, ETC.
B. WHERE OPEN CABLING IS INSTALLED WITHIN ENVIRONMENT AIR PLENUMS, SUCH CABLING SHALL MEET NEC REQUIREMENTS FOR SUCH INSTALLATIONS.
C. LABEL BACK OF OUTLET BOXES AND ENDS OF CONDUIT WITH UNIQUE NUMBER TO IDENTIFY EACH STUB-UP. USE PERMANENT MARKER PEN, 3/4" HIGH LETTERS. MATCH NUMBER ON OUTLET BOX TO END OF CONDUIT
D. INSTALL TELECOMMUNICATION AND CABLE TV OUTLETS WITHIN 6" OF POWER RECEPTACLE WHERE POWER RECEPTACLE IS SHOWN ON POWER PLANS IN SAME GENERAL LOCATION.

2 ROUGHING-IN DETAIL FOR STUB-OUTS

NO SCALE

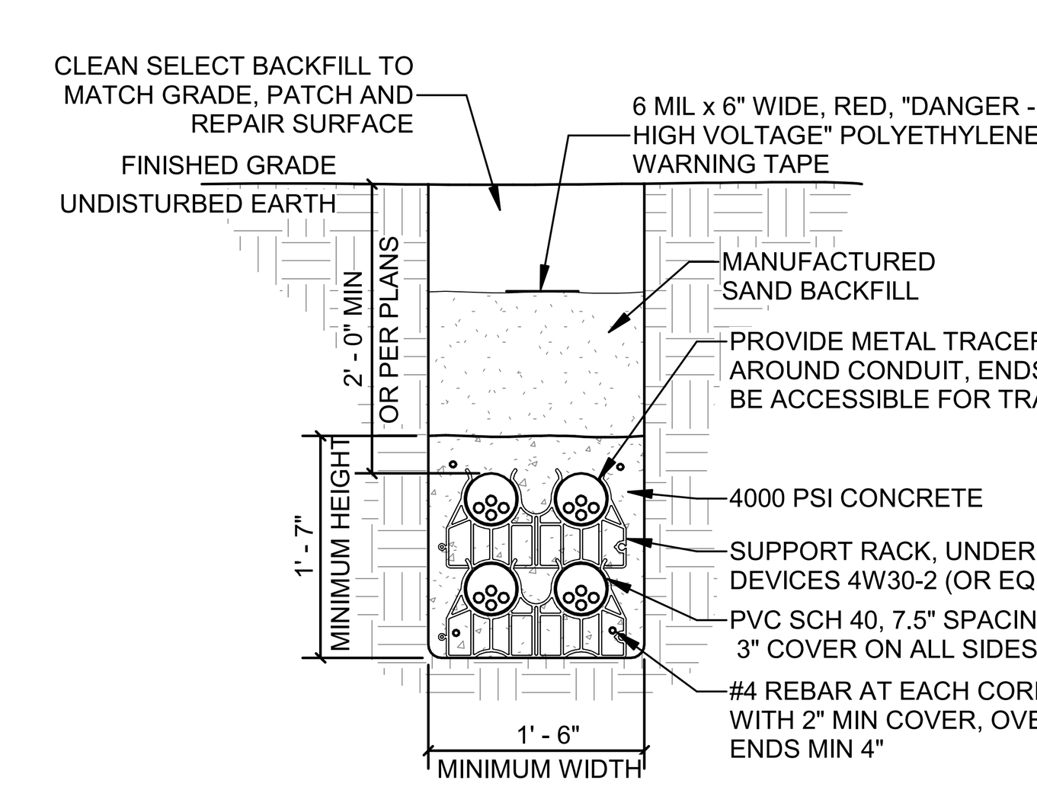
EXISTING PANEL FEEDER TO BE COMPLETELY REPLACED. REFER TO RISER FOR REQUIREMENTS.

NOTE : INSTALL ALL NEW CIRCUITS AND THEN INTERCEPT EXISTING CIRCUITS ONE AT A TIME TO MINIMIZE DOWNTIME.



7 PANEL REPLACEMENT / RELOCATION DETAIL

NO SCALE



DUCT BANK NOTES:
A. USE RIGID STEEL SWEEPING ELBOWS AT ALL TURNS, WHERE RISING ON UTILITY POWER POLE, TURNING UP INTO PAD MOUNTED UTILITY TRANSFORMER AND TURNING UP INTO BUILDING.
B. REFER TO POWER RISER, FLOOR PLANS AND PLAN NOTES FOR EXACT QUANTITY AND SIZE OF CONDUITS.
C. COMMUNICATIONS/FIBER RACEWAYS SHALL BE ROUTED IN DUCT BANK ENCASED CONSTRUCTION, CONSTRUCTED SAME AS SHOWN, EXCEPT FOR NUMBER AND SIZE OF CONDUIT.
D. POUR CONCRETE AGAINST UNDISTURBED EARTH.
E. REFER TO SPECIFICATIONS FOR EXCAVATION, TRENCHING, BACKFILLING AND GRADING REQUIREMENTS. REFER TO EARTHWORK SPECIFICATIONS FOR GENERAL ROCK REMOVAL AND EARTHWORK REQUIREMENTS.

6 DUCT BANK 4C

NO SCALE

ACCT# 540CBANFF2500

STATE OF KENTUCKY
BRIAN K. BAUMGARTLE
23119
LICENSED
PROFESSIONAL ENGINEER

DRAWING INFORMATION	
A & E FILE NO.	VKYS23
DRAWING DATE	10.03.2024
DRAWN BY	ALG
CHECKED BY	ALG
PHASE	RTA
RTA DATE	

FUTURE FARMERS OF AMERICA - RECREATION HALL

111 FFA Camp Road, Hardinsburg, KY 40143

ELECTRICAL DETAILS

ENGR. FILE NO. # **540CBANFF2500**

COMMONWEALTH OF KENTUCKY
FINANCE AND ADMINISTRATION CABINET
DEPARTMENT FOR FACILITIES AND SUPPORT SERVICES
DIVISION OF ENGINEERING AND CONTRACT ADMINISTRATION
FRANKFORT, KENTUCKY

DRAWING NO.
E-301

AS BUILT DATE

CMTA A LEGENCE Company
10411 Meeting Street
Prospect, KY 40059
T: 502 326.3085 F: 502 326.2691

DECA LOG #

REVISION HISTORY OF THIS DRAWING

	DESCRIPTION OF REVISIONS	DATE		DESCRIPTION OF REVISIONS	DATE
1	ADDENDUM 1	12/03/24	5		
2			6		
3			7		
4			8		

Electrical Questions:
Sheet E-200
First Floor Plan – Electrical Demo
*Does all the existing Romex wiring get demoed Recreation Hall and Classrooms?
CMTA Response: All existing romex shall be demoed complete.

First Floor Plan – Lighting & Power/Systems
*Recreation Hall, Does the new electrical lighting, power, and fire alarm wiring required to be in conduit?
CMTA Response: Lighting, power, and fire alarm cabling/conductors shall be in conduit.
*Recreation Hall, Does new electrical panel P1 go in the same location as existing electrical panel?
CMTA Response: Yes, the new panelboard shall be located in similar location.
*Classrooms and Corridor, Is MC Cable acceptable for lighting and power above hard wood ceilings?
CMTA Response: MC cable is acceptable above hard wood ceiling only. New mechanical branch circuits shall remain in EMT conduit above hard wood ceiling.
*Classrooms and corridor, Is plenum-rated cable acceptable for fire alarm system above hard wood ceilings?
CMTA Response: MC cable rated for fire alarm use is acceptable above ceiling.
*Classrooms and corridor, Is exposed conduit and boxes acceptable on walls for new electrical and fire alarm devices?
CMTA Response: Fire alarm devices are acceptable to be surface mounted. New electrical devices shall utilize existing pathway where possible, any location where this is not possible surface mounted conduit is acceptable with approvable of the owner or engineer.

Sheet E-301
Power Distribution Riser Diagram
*What is the minimum depth for the new underground electrical service from existing panel P7 to new panel P1?
CMTA Response: 42".
*Is the new underground electrical service to be schedule 40 or schedule 80 PVC conduit?
CMTA Response: underground conduit shall be schedule 80.
*Is schedule 80 PVC conduit or rigid conduit required to be turned up at building exterior wall and at existing panel P7?
CMTA Response: Conduit on the exterior of the building shall be Rigid Conduit. Panel P7 is located on the surface sch 80 pvc can be utilized when turning into panel p7.
*Power Riser General Notes – 8, States to install new 300 AMP, 2 pole breaker in existing panel P7. Will this breaker fit in this panel?
CMTA Response: Yes the breaker will fit.

Duct Bank 4C
*Is this duct bank information required for the new underground electrical service?
CMTA Response: Yes concrete encase conduits is not required.