

# HOUSING AUTHORITY OF PADUCAH

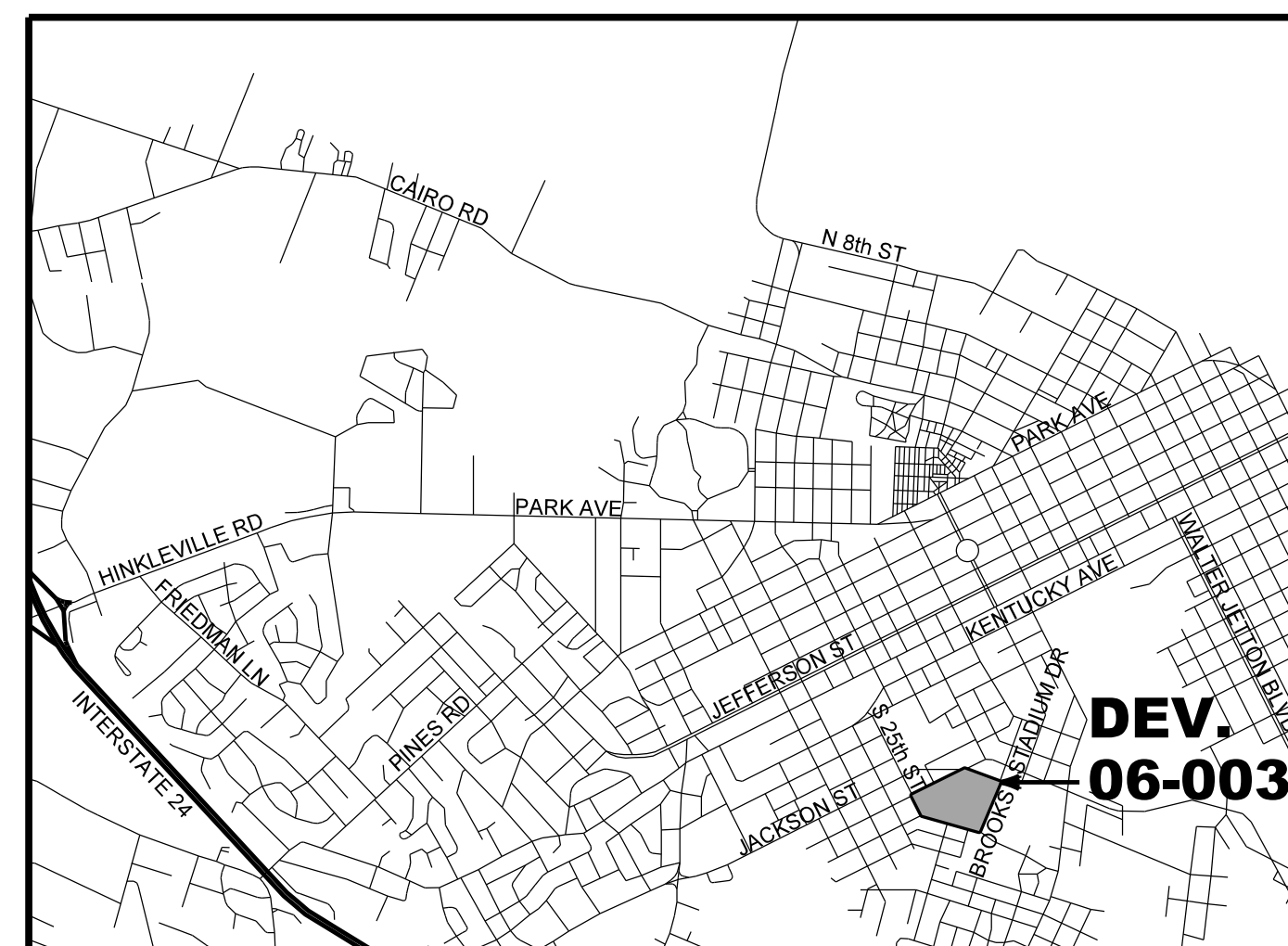
## 2021 CAPITAL FUND PROGRAM

### PROGRAM KY37P00650121

# HVAC REPLACEMENT AT DEVELOPMENT 06-003 PHASE 2

## PADUCAH, KENTUCKY

### VICINITY MAP



### BOARD OF COMMISSIONERS

EXECUTIVE DIRECTOR TOMMY HOLLIMON  
BOARD CHAIR JOHN SHADLE  
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COMMISSIONER ALBERT PARKER  
COMMISSIONER MELANIE NUNN

MAYOR GEORGE P. BRAY

### SCOPE OF WORK

REPLACE EXISTING HVAC SYSTEMS IN SELECTED APARTMENTS, CONSTRUCT NEW CONCRETE PADS FOR NEW CONDENSING UNIT LOCATIONS, PROVIDE CHAIN LINK FENCING AT NEW CONDENSING UNIT PADS, AND REPLACE EXISTING CONTROL WIRING AT ALL APARTMENTS INCLUDED IN PHASE 1.

### PROJECT TEAM

OWNER:  
HOUSING AUTHORITY OF PADUCAH  
TARA ELDER, PROCUREMENT SPECIALIST  
2330 OHIO STREET  
PADUCAH, KENTUCKY 42003

ARCHITECT:  
TROY WILLIAMS, RA, CSI  
CAUTHEN & ASSOCIATES, LLC  
2908 ELM HILL PIKE  
NASHVILLE, TENNESSEE 37214

MECHANICAL ENGINEER:  
LOGAN OVERTURF, PE  
MARCUM ENGINEERING, LLC  
403 NORTH COURT STREET  
MARION, ILLINOIS 62959

ELECTRICAL ENGINEER:  
DAVID URY  
MARCUM ENGINEERING, LLC  
403 NORTH COURT STREET  
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# Cauthen & ASSOCIATES LLC

## Architects

## |

## Planners

### PHASING / BID LEGEND

HVAC:	11 BUILDINGS TOTAL REQUIRING RENOVATION OF HVAC / ELECTRICAL / CONTROL WIRING / PAD / FENCE INCLUDED IN BASE BID SCOPE OF WORK.
DEDUCTIVE ALTERNATES:	14 BUILDINGS TOTAL REQUIRING ONLY CONTROL WIRING / CONDUIT ALTERATIONS TO BE INCLUDED IN BASE BID SCOPE OF WORK AND SHALL BE BROKEN OUT IN DEDUCTIVE ALTERNATE BIDS AS DEFINED.
NIC:	NOT IN CONTRACT.
	NOT IN CONTRACT
	HVAC / ELECTRICAL / CONTROL WIRING / PAD / FENCE
	CONTROL WIRING / CONDUIT - DEDUCTIVE ALTERNATE BIDS

### BASE BID NOTE:

BASE BID SHALL INCLUDE ALL HVAC UNITS REPLACEMENT / ELECTRICAL WORK / CONTROL WIRING WORK / CONCRETE PAD AND FENCES AS DESCRIBED IN THESE DOCUMENTS FOR THE ELEVEN (11) BUILDINGS WITH THE 'HVAC' TAG NOTE.

BASE BID SHALL ALSO INCLUDE ALL WORK ASSOCIATED WITH CONDUIT / CONTROL WIRING ALTERATIONS FOR THE FOURTEEN (14) BUILDINGS WHICH RECEIVED HVAC UNIT REPLACEMENTS IN THE PREVIOUS RENOVATION WITH THE 'DEDUCTIVE BID #X' TAG NOTE.

### DEDUCTIVE ALTERNATE BIDS NOTE:

BUILDINGS SHOWN WITH 'DEDUCTIVE ALT. #X' TAG NOTE SHALL BE INCLUDED IN THE BASE BID AND BROKEN OUT AS FOLLOWS:

DEDUCTIVE ALTERNATE #1 SHALL DEDUCT ALL WORK ASSOCIATED WITH CONDUIT / CONTROL WIRING FOR THE FOLLOWING THREE (3) BUILDINGS:

- 2333 SOUTH 25TH STREET (BUILDING TYPE B)
- 2319 SOUTH 25TH STREET (BUILDING TYPE A)
- 2401 SOUTH 25TH STREET (BUILDING TYPE A)

DEDUCTIVE ALTERNATE #2 SHALL DEDUCT ALL WORK ASSOCIATED WITH CONDUIT / CONTROL WIRING FOR THE FOLLOWING THREE (3) BUILDINGS:

- 2325 SOUTH 25TH STREET (BUILDING TYPE B)
- 2315 SOUTH 25TH STREET (BUILDING TYPE B)
- 719 SOUTH 22ND STREET (BUILDING TYPE A)

DEDUCTIVE ALTERNATE #3 SHALL DEDUCT ALL WORK ASSOCIATED WITH CONDUIT / CONTROL WIRING FOR THE FOLLOWING THREE (3) BUILDINGS:

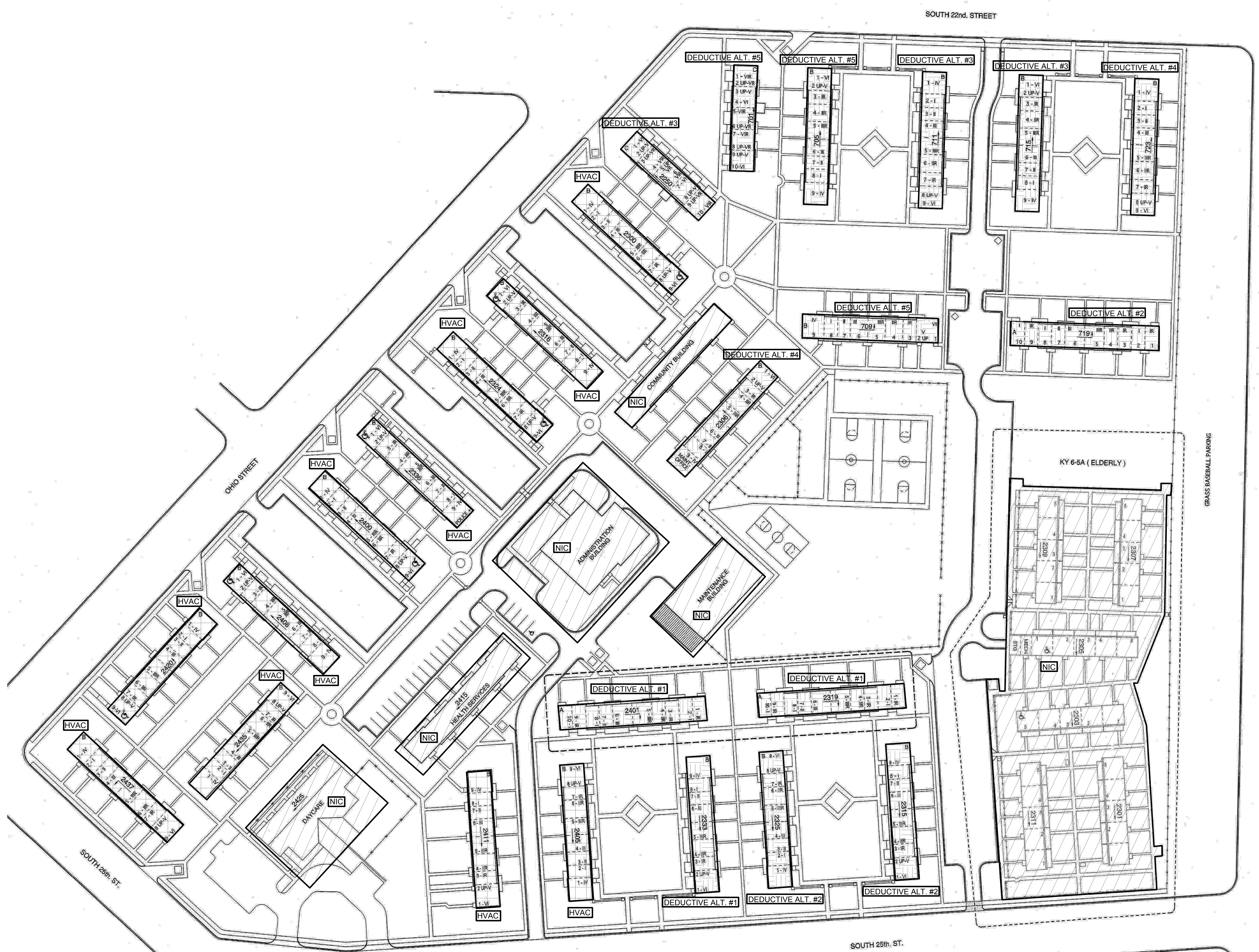
- 715 SOUTH 22ND STREET (BUILDING TYPE B)
- 2250 OHIO STREET (BUILDING TYPE C)
- 711 SOUTH 22ND STREET (BUILDING TYPE B)

DEDUCTIVE ALTERNATE #4 SHALL DEDUCT ALL WORK ASSOCIATED WITH CONDUIT / CONTROL WIRING FOR THE FOLLOWING TWO (2) BUILDINGS:

- 723 SOUTH 22ND STREET (BUILDING TYPE B)
- 2306 OHIO STREET (BUILDING TYPE B)

DEDUCTIVE ALTERNATE #5 SHALL DEDUCT ALL WORK ASSOCIATED WITH CONDUIT / CONTROL WIRING FOR THE FOLLOWING THREE (3) BUILDINGS:

- 701 SOUTH 22ND STREET (BUILDING TYPE C)
- 705 SOUTH 22ND STREET (BUILDING TYPE B)
- 7-9 SOUTH 22ND STREET (BUILDING TYPE B)



PROJECT NORTH  
**KY 6-3 ELMWOOD SITE PHASING AND BID PLAN**  
 SCALE: NO SCALE

**MARCUM ENGINEERING, LLC**  
 500 SOUTH 17TH STREET,  
 PADUCAH, KENTUCKY 42002  
 PHONE - 270.444.5274  
 WWW.MARCUMENGINEERING.NET  
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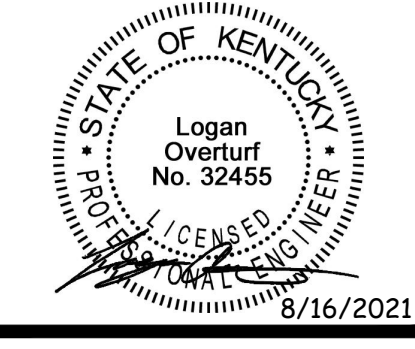
2908 ELM HILL PIKE  
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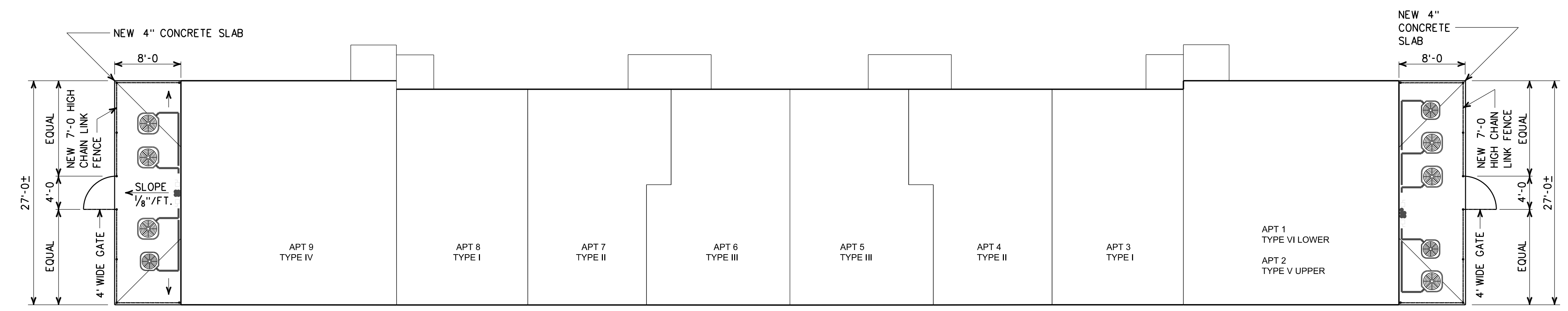
Architects | Planners  
**Cauthen & ASSOCIATES**



**SITE PHASING AND BID PLAN - KY 6-3**  
**HOUSING AUTHORITY OF PADUCAH**  
**HVAC REPLACEMENT - PHASE 2**  
 2021 CAPITAL FUND PROGRAM  
 PADUCAH, KENTUCKY  
 DEVELOPMENT KY06-003

NO.	DATE	DESCRIPTION
1	07/15/2021	OWNER'S REVIEW
2	08/16/2021	ISSUED FOR BIDS



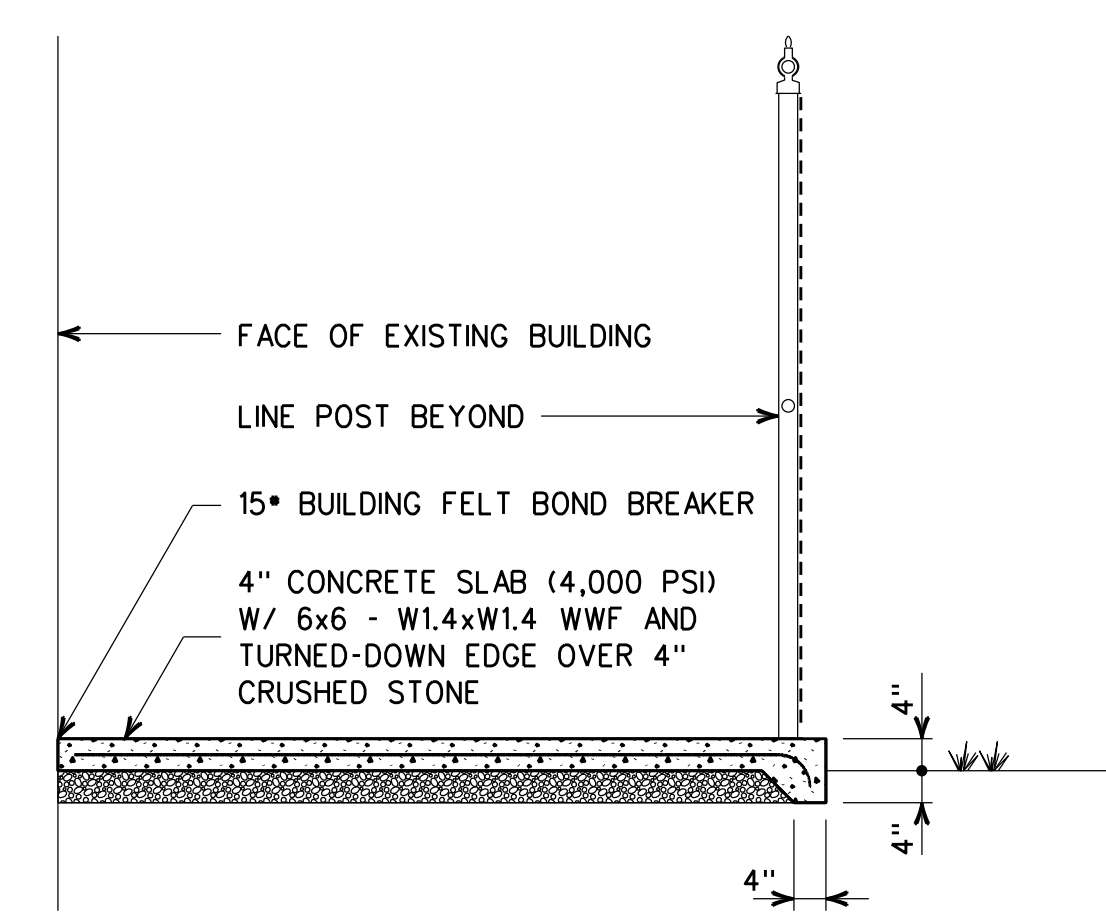


**BUILDING TYPE 'B' PLAN**

SCALE: 1/8" = 1'-0"  
 AS SHOWN OR MIRROR IMAGE

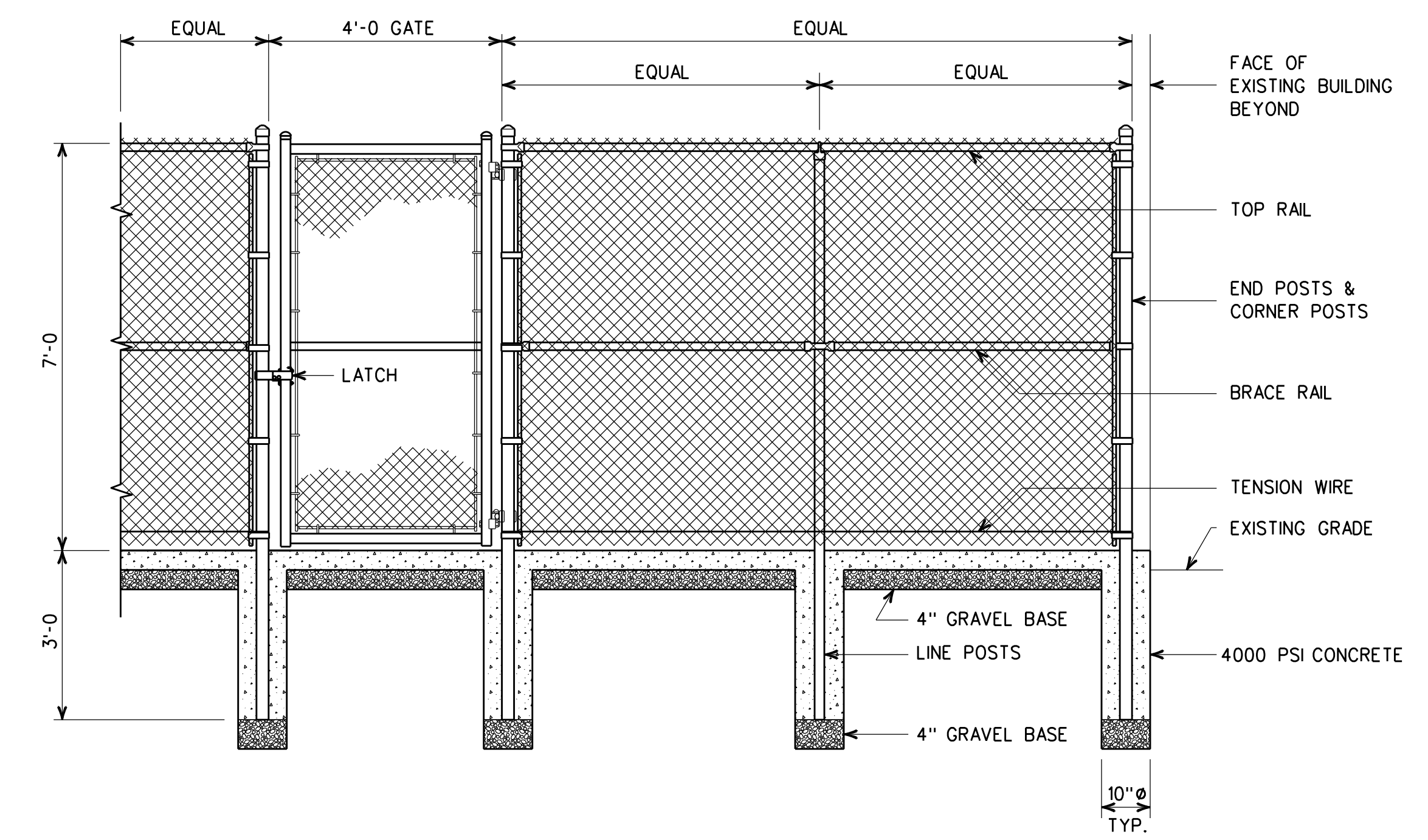
**GENERAL NOTES:**

1. REMOVE ALL EXISTING CONDENSING UNITS AND SUPPORTS FROM THE REAR PORCH ROOFS. REPAIR ALL ROOFS AS REQUIRED TO ENSURE WATERTIGHTNESS.
2. REMOVE ALL REFRIGERANT PIPING, ELECTRICAL CONDUIT AND METAL SUPPORT BRACKETS. PAINT EXISTING BRICK TO MATCH ADJACENT SURFACES.
3. REPAIR ALL EXISTING ALUMINUM SOFFIT MATERIAL AS REQUIRED TO MATCH EXISTING. NEW PATCHES ARE TO EXTEND THE FULL DEPTH OF THE EXISTING SOFFIT (6"±).
4. SEAL ALL OPENINGS - TOP AND BOTTOM - OF NEW EXTERIOR REFRIGERANT PIPING AND CONDUIT CHASES WITH MATERIALS SUITABLE TO PREVENT ALL PEST/RODENT INFESTATION.



**CONDENSING UNIT PAD DETAIL**

SCALE: 1/2" = 1'-0"



**CHAIN LINK FENCE DETAIL**

SCALE: 1/2" = 1'-0"

**TYPICAL BUILDING PLAN**  
 HOUSING AUTHORITY OF PADUCAH  
 HVAC REPLACEMENT - PHASE 2  
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 PADUCAH, KENTUCKY  
 DEVELOPMENT KY06-003

NO.	DATE	DESCRIPTION
1	08/04/21	OWNER'S REVIEW
2	08/18/21	ISSUE FOR BIDS

DESIGNED BY:  
 WILLIAMS  
 DRAWN BY:  
 WILLIAMS

**A1.1**  
 FILE NO. 2898-01-03

### HVAC LEGEND

SYMBOL	DESCRIPTION
	NEW RECT. SHEETMETAL DUCTWORK: FIRST FIG. WIDTH, SECOND FIG. DEPTH
	SUPPLY-AIR DUCT (UP/DN)
	RETURN-AIR DUCT (UP/DN)
	EXHAUST-AIR DUCT (UP/DN)
	OUTSIDE-AIR DUCT (UP/DN)
	SIDEWALL SUPPLY AIR DIFFUSER
	SIDEWALL RETURN AIR GRILLE
	SIDE TAKE-OFF FITTING
SA	SHEETMETAL SUPPLY-AIR DUCTWORK
RA	SHEETMETAL RETURN-AIR DUCTWORK
OA	SHEETMETAL OUTSIDE-AIR DUCTWORK
	CONDENSATE DRAIN PIPING
REF	REFRIGERATION PIPING
	THERMOSTAT
	GAS FURNACE UNIT (SEE SCHEDULE)
	CONDENSING UNIT (SEE SCHEDULE)

## GENERAL ELECTRICAL NOTES

1. ALL NEW ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, I.U.D. REQUIREMENTS AND ALL OTHER LOCAL, STATE AND NATIONAL CODES WHICH APPLY AS INTERRUPTED BY THE ENGINEER AND AHJ (AUTHORITY HAVING JURISDICTION). ALL PERMITS REQUIRED FOR THE ELECTRICAL WORK AND INSPECTIONS SHALL BE INCLUDE IN CONTRACTORS BID.
2. ALL WORK IS TO BE COORDINATED WITH ALL OTHER TRADES ON THIS PROJECT AND ELECTRICAL WORK INSTALLED IN A NEAT AND ORDERLY FASHION. THE ELECTRICAL CONTRACTOR (E.C.) SHALL FURNISH AND INSTALL ALL ELECTRICAL EQUIPMENT AS SHOWN ON THESE CONTRACT DRAWINGS AND AS REQUIRED TO PLACE ALL EQUIPMENT OF THIS PROJECT FOR IN OPERATION PER THE RESPECTIVE MANUFACTURERS REQUIREMENTS.
3. THE ELECTRICAL DRAWING ARE SCHEMATIC AND SHOW THE GENERAL ARRANGEMENT OF EQUIPMENT. THE DRAWINGS SHALL NOT BE SCALE TO DETERMINE EQUIPMENT CONNECTION OR ROUGH-IN. REFER TO EQUIPMENT CUT-SHEETS AND RESPONSIBLE TRADES. REFER TO OTHER TRADES FOR COORDINATION WITH WORK BY OTHERS FOR REQUIRED ROUGH-IN.
4. SPECIAL ATTENTION SHALL BE GIVEN TO N.E.C. ART. 110, REQUIREMENTS FOR EQUIPMENT MOUNTING. COORDINATE WITH ALL TRADES TO ALLOW FOR EQUIPMENT ACCESS AND SERVICE.
5. ALL CONDUCTORS OF THE ELECTRICAL SYSTEM SHALL BE COPPER, 600V, THW/THWN AS SPECIFIED. ALL INTERIOR WIRING WILL BE TYPE M.C. (STEEL ARMOR ONLY) WHEN SPECIFICALLY INDICATED OR EMT.
6. WHEN SPECIFIED FOR USE FOR ALL SERVICE CONDUCTORS, EXPOSED WIRING AND LOW VOLTAGE WIRING IN WALLS, NON-ACCESSIBLE SPACES, ETC., CONDUIT SHALL BE MINIMUM 1/2" TRADE SIZE, EMT AND FMC WHEN INSTALLED INDORS IN DRY LOCATIONS, RMC WHEN INSTALLED OUTDOOR OR INDORS IN DAMP/WET LOCATIONS, RMC, LFMC WHEN EXPOSED OUTDOORS. FINAL CONNECTIONS TO ALL EQUIPMENT, WHICH PRODUCE VIBRATION, SHALL BE WITH FLEXIBLE METAL CONDUIT SUITABLE FOR THE SURROUNDING ENVIRONMENT. RACEWAY FILL, WHEN RACEWAY SIZE IS NOT SPECIFICALLY INDICATED, IT SHALL BE BASED ON APPLICABLE ARTICLES OF THE NEC. ALL DEVICE BOXES SHALL BE FLUSH MOUNTED AND BE GALVANIZED METAL.
7. SPECIAL ATTENTION SHALL BE GIVEN TO THE REQUIREMENTS OF N.E.C. Art. 300.4 AS IT RELATES TO THE INSTALLATION OF CONDUITS AND NON-METALIC SHEATHED CABLES. UPON COMPLETION OF THE INSTALLATION AND PRIOR TO CONCEALMENT, E.C. SHALL SCHEDULE AN INSPECTION OF ALL CONCEALED WIRING METHODS AND RECEIVE WRITTEN APPROVAL BY THE ENGINEER AND A.H.J. IF REQUIRED BEFORE ANY WORK CONTINUES.
8. LABELING OF ALL INSTALLED EQUIPMENT SHALL INCLUDE PLASTIC LAMINATE TAGS INDICATING SERVING PANEL AND CIRCUIT.
9. ELECTRICAL DATA OF ALL INSTALLED EQUIPMENT SHALL BE COORDINATED WITH ALL TRADES PRIOR TO ROUGH IN. WHEN DISCREPANCIES BETWEEN THE PLANS AND THE ACTUAL EQUIPMENT EXIST ACTUAL EQUIPMENT REQUIREMENTS SHALL TAKE PRECEDENCE. IN ALL CASES FURNISH AND INSTALL ALL ELECTRICAL EQUIPMENT REQUIRED MANUFACTURERS LISTED DATA.
10. ALL CIRCUITS SHALL BE INSTALLED CONCEALED IN SPACES OF NEW CONSTRUCTION, UNLESS INDICATED OTHERWISE. E.C. SHALL COORDINATE THE LOCATION OF ALL EQUIPMENT TO MAINTAIN ACCESS REQUIRED BY THE N.E.C. AND EQUIPMENT MANUFACTURERS.
11. SERVICE VOLTAGE AND ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT SHALL BE VERIFIED BY THE E.C. PRIOR TO ELECTRICAL ROUGH-IN; DISCREPANCIES BETWEEN THE ELECTRICAL DRAWINGS AND EQUIPMENT REQUIREMENTS SHALL BE REPORTED TO THE ENGINEER BEFORE ANY ASSOCIATED WORK IS INSTALLED. ALL CIRCUIT BREAKERS SERVING CONDENSING UNITS SHALL BE "HACR" TYPE.
12. COORDINATE WITH THE ARCHITECTURAL DRAWINGS FOR ALL FIRE AND SMOKE RATED BARRIERS. E.C. SHALL FURNISH AND INSTALL APPROPRIATE AND LISTED EQUIPMENT FOR ALL PENETRATIONS MADE IN THESE BARRIERS AS REQUIRED FOR THE INSTALLATION OF THE ELECTRICAL SYSTEMS.
13. INDEXES OF ELECTRICAL PANELS SHALL BE TYPE WRITTEN AND COMPLETED FOR EACH CIRCUIT.
14. PROVIDE SHIELDS PLATES (NAIL/SCREW GUARDS) FOR THE PROTECTION OF CONDUITS AND WIRING LOCATED IN WOOD FRAMING.
15. ELECTRICAL DEMOLITION WORK SHALL INCLUDE ALL ELECTRICAL EQUIPMENT LEFT ABANDONED BY ALL TRADES OF THIS PROJECT AND SYSTEM EQUIPMENT NOT SUITABLE TO SERVE THE EQUIPMENT BEING REPLACED. CONTRACTOR SHALL PATCH ALL SURFACES FELT AFFECTED BY THE DEMOLITION AS REQUIRED TO MATCH ADJACENT SURFACES.

## GENERAL HVAC NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE STATE BUILDING CODE, INTERNATIONAL MECHANICAL CODE, NFPA 54 NATIONAL FUEL GAS CODE, AND OTHER LOCAL/STATE/ NATIONAL CODES OR STANDARDS THAT APPLY.
2. THE CONTRACTOR SHALL ACQUIRE HVAC PERMIT(S), COORDINATE ALL INSPECTIONS, AND PAY ALL ASSOCIATED FEES.
3. EACH CONTRACTOR MUST VISIT THE SITE PRIOR TO BIDDING IN ORDER TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS. ANY DISCREPANCIES OR QUESTIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER SEVEN (7) DAYS PRIOR TO THE BID DATE.
4. THESE PLANS ARE SCHEMATIC IN NATURE AND INDICATE THE APPROXIMATE AND GENERAL LOCATION OF DUCTWORK, EQUIPMENT, AND/OR PIPING. COORDINATE INSTALLATION OF WORK WITH OTHER DRAWINGS AND TRADES.
5. VERIFY ALL DIMENSIONS BEFORE FABRICATION AND/OR INSTALLATION. COORDINATE ROUTING WITHIN ATTICS, ETC WITH EXISTING CONDITIONS.
6. PROTECT ALL EQUIPMENT AND/OR SYSTEMS (WHICH ARE TO REMAIN) FROM DAMAGE.
7. FLASH AND SEAL ALL ROOF, FLOOR, AND WALL PENETRATIONS.
8. FIRE STOP ALL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES. FIRE STOPPING METHOD AND MATERIALS SHALL BE UL LISTED. FIRE COLLARS WILL BE REQUIRED IF PIPING IS COMBUSTIBLE.
9. PATCH ALL WALLS, FLOORS, CEILINGS, ETC. THAT ARE ALTERED BECAUSE OF WORK REQUIRED.
10. CONTRACTOR SHALL PROVIDE AND INSTALL CONCRETE PADS/FENCE FOR CONDENSING UNIT ENCLOSURES. REFER TO DETAILS AND SPECIFICATIONS FOR OUTDOOR PADS/FENCE INSTALLATIONS.
11. DUCTWORK SHALL BE GALVANIZED STEEL (UNLESS SPECIFIED OTHERWISE) AND SHALL BE FABRICATED/INSTALLED IN ACCORDANCE WITH THE APPLICABLE MANUAL OR HANDBOOK OF THE SHEETMETAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC. (SMACNA) LATEST ISSUE.
12. PROVIDE 4" FLEXIBLE CONNECTIONS BETWEEN ALL HVAC UNITS AND RIGID SHEETMETAL DUCTWORK TO STOP VIBRATION TRANSMISSION.
13. CONTINUOUSLY SEAL ALL DUCT JOINTS WITH MONECO, DUCTMATE, HARDCAST, OR APPROVED EQUAL DUCT SEALER. ASSURE THAT DUCT SEALER IS A WATER-BASED, LOW VOC COMPOUND.
14. INSTALL A CONDENSATE TRAP AND DRAIN LINE FOR ALL EQUIPMENT REQUIRING A DRAIN. THE DRAIN SIZE (AT A MINIMUM) SHALL BE EQUAL TO THE UNIT'S CONNECTION SIZE BUT IN NO CASE SHALL BE LESS THAN 1" DIAMETER. FABRICATE TRAP TO MAINTAIN TOTAL FAN STATIC PRESSURE PLUS 1 IN W.G.
15. EXTERNALLY INSULATE ALL SHEETMETAL DUCTWORK, TRANSITIONS, TAKE-OFFS, DUCT MOUNTED COILS, VOLUME DAMPERS, FIRE DAMPERS, ETC. WITH 2" THICK FIBERGLASS INSULATION AND FSK BARRIER. SEAL ALL VAPOR BARRIER JOINTS.
16. PROVIDE REFRIGERATION LINE SETS WITH MANUFACTURERS' INSULATION. SIZE LINE SETS PER MANUFACTURER RECOMMENDATIONS. PROVIDE ADDITIONAL INSULATION AND UV PROTECTION JACKET ON REFRIGERANT SUGION LINE AS SPECIFIED FROM CONDENSING UNIT TO SHROUD / LINE HIDE SYSTEM.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE AND PROPER INSTALLATION OF THERMOSTATS. ALL CONTROL WIRING SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE CONTROL AND/OR ELECTRICAL SPECIFICATIONS AND THE LATEST NEC (NATIONAL ELECTRICAL CODE) EDITION.
18. CONTRACTOR SHALL PROVIDE OWNER WITH SCHEDULE OF WHICH APARTMENT UNITS ARE TO BE RENOVATED EACH WEEK, AND SCHEDULE SHALL BE UPDATED WEEKLY IN ORDER FOR THE OWNER TO PREPARE SITE CONDITIONS FOR RENOVATIONS AS NECESSARY. IF THE CONTRACTOR FAILS TO PROVIDE SCHEDULE, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO MOVE INTERFERING OBJECTS AND REPLACE THEM AFTER WORK IS COMPLETE AT NO ADDITIONAL COST TO THE OWNER / A/E FIRM.

## GENERAL DEMOLITION NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE KENTUCKY BUILDING CODE, KENTUCKY PLUMBING CODE, INTERNATIONAL MECHANICAL CODE AND ALL OTHER LOCAL, STATE AND NATIONAL CODES THAT APPLY.
2. THESE PLANS ARE SCHEMATIC IN NATURE AND INDICATE THE APPROXIMATE AND GENERAL LOCATION OF EQUIPMENT, UTILITY SERVICES AND ASSOCIATED APPURTENANCES TO BE REMOVED WITHIN THIS SCOPE OF WORK. WHILE EVERY EFFORT HAS BEEN MADE TO IDENTIFY ALL MAJOR EQUIPMENT, UTILITY SERVICES AND ASSOCIATED APPURTENANCES, IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE, DE-ENERGIZE AND/OR PROPERLY TERMINATE EQUIPMENT, UTILITY SERVICES AND ASSOCIATED APPURTENANCES WITHIN THE SCOPE OF WORK WHETHER SPECIFICALLY INDICATED OR NOT. IT IS THE INTENT OF THIS SCOPE OF WORK TO PROVIDE A COMPLETE AND THOROUGH REMOVAL OF ALL EQUIPMENT, UTILITY SERVICES AND ASSOCIATED APPURTENANCES THAT ARE RENDERED UNUSED OR OBSOLETE BY NEW WORK.
3. ALL REMOVED MATERIALS SHOULD BE DISPOSED OF PROPERLY AND LEGALLY ACCORDING TO STATE AND FEDERAL REGULATIONS.
4. ADDITIONAL SELECTIVE DEMOLITION MAY ALSO BE REQUIRED FOR EXISTING EQUIPMENT, UTILITY SERVICES AND ASSOCIATED APPURTENANCES WHICH IMPEDE OR OTHERWISE CONFLICT WITH NEW WORK THAT IS NOT SPECIFICALLY INDICATED. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE, DE-ENERGIZE AND/OR PROPERLY TERMINATE EQUIPMENT, UTILITY SERVICES AND ASSOCIATED APPURTENANCES WITHIN THIS SCOPE OF WORK WHETHER SPECIFICALLY INDICATED OR NOT.

## GAS FURNACE SPLIT SYSTEM SCHEDULE

MARK	MFG.	MODEL SERIES	GAS FURNACE UNIT							CONDENSING UNIT							REMARKS AND ACCESSORIES				
			EFF. (%)	OUTPUT (MBH)	DRIVE	COOLING AIRFLOW (CFM)	STATIC PRESS. (IN H2O)	ELECT.	MCA	MOCF	MARK	MFG.	MODEL	APPROX. UNIT WEIGHT (LBS.)	REFRIG.	COOLING DATA		ELECT. CHAR.	MCA	MOCF	
F-A	BRYANT	810SA36045	80	35.0	DIRECT	600	0.6	115V / 1Ø	7.6	15	CU-A	BRYANT	126C	200	R-410A	18.0	16.0	230V / 1Ø	11.7	20	ALL
F-B	BRYANT	810SA36070	80	53.0	DIRECT	800	0.6	115V / 1Ø	5.6	15	CU-B	BRYANT	126C	225	R-410A	24.0	16.0	230V / 1Ø	14.1	25	ALL
F-C	BRYANT	810SA36070	80	53.0	DIRECT	1000	0.6	115V / 1Ø	5.6	15	CU-C	BRYANT	126C	260	R-410A	30.0	16.0	230V / 1Ø	14.4	25	ALL
NOT USED							NOT USED														
F-E	BRYANT	810SA42090	80	71.0	DIRECT	1200	0.6	115V / 1Ø	8.3	15	CU-E	BRYANT	126C	275	R-410A	36.0	16.0	230V / 1Ø	17.9	30	ALL

### REMARKS AND ACCESSORIES:

1. FURNISH UNIT WITH A TEN (10) YEAR LIMITED HEAT EXCHANGER WARRANTY, AND ONE (1) YEAR PARTS AND LABOR WARRANTY.
2. COMPRESSORS SHALL HAVE 5 YR. EXTENDED WARRANTIES. INCLUDE ALL WARRANTY INFORMATION AS A SEPARATE LINE ITEM IN BID WITH COST BREAKDOWN.
3. CONDENSING UNIT SHALL BE FURNISHED BY THE FURNACE MANUFACTURER.
4. PROVIDE WITH MATCHING CASED DX COOLING COIL BY FURNACE MANUFACTURER.
5. COOLING CAPACITIES ARE BASED ON 80 F db AND 67 F wb E.A.T. AND 95 F AMBIENT.
6. SCHEDULED SEER AND SEER PERFORMANCE IS AT ARI CONDITIONS.
7. PROVIDE CONDENSING UNIT WITH HAIL GUARD.
8. PROVIDE UNIT WITH THERMAL OVERLOAD PROTECTION.
9. MAINTAIN MINIMUM MANUFACTURERS RECOMMENDED CLEARANCES.
10. PROVIDE CONDENSING UNIT WITH CRANKCASE HEATER.
11. PROVIDE UNIT WITH A FIXED SPEED, CONSTANT TORQUE ECM BLOWER MOTOR. CONTRACTOR SHALL VERIFY FAN SPEED AIRFLOW IS SET TO SCHEDULED VALUES. CONTRACTOR SHALL MODIFY FAN SPEED SETTINGS TO PROVIDE SCHEDULED CFM IF NEEDED.
12. FURNISH AND INSTALL REFRIGERANT LINES SIZED AND ROUTED PER THE MANUFACTURER'S RECOMMENDATIONS.
13. PROVIDE UNIT WITH FLUE CONNECTION AND FULL SIZE EXHAUST FLUE TO EXISTING STACK WITHIN MECHANICAL ROOM.
14. PROVIDE A DIGITAL READOUT THERMOSTAT COMPATIBLE WITH GAS HEAT AND COOLING OPERATION. HONEYWELL MODEL NO. TH1110D1003 OR APPROVED EQUAL COMPATIBLE WITH UNIT MANUFACTURER.
15. PROVIDE WITH NOISE REDUCTION SYSTEM FOR QUIET OPERATION (CARRIER QUITECH OR EQUAL).
16. CONTRACTOR SHALL INCLUDE IN BID A FOLLOW UP TRIP TO CHECK REFRIGERANT CHARGE FOR ALL UNITS JUST BEFORE / DURING COOLING SEASON AND TO CHARGE / FILL SYSTEMS TO MANUFACTURER'S REQUIREMENTS.
17. FOR ALL UNITS INSTALLED IN PREVIOUS PHASE, CONTRACTOR SHALL REPLACE CONTROL WIRING AND ENSURE PROPER UNIT FUNCTIONALITY BEFORE AND AFTER WIRING REPLACEMENT. NEW WIRING SHALL BE ROUTED AND PROTECTED AS DEFINED ON DRAWINGS. DEDUCTIVE ALTERNATE BIDS SHALL DEDUCT THIS CONTROL WIRING WORK FOR PREVIOUSLY INSTALLED UNITS. SEE DRAWINGS AND DEDUCTIVE ALTERNATE BID DESCRIPTION FOR ADDITIONAL INFORMATION.

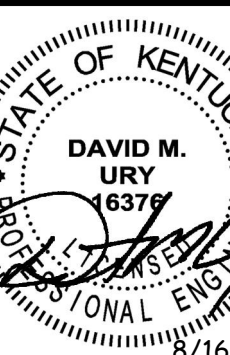
BRYANT, CARRIER, YORK, DAIKIN OR APPROVED EQUAL

### OCCUPANCY NOTE:

ALL APARTMENTS SHALL BE OCCUPIED DURING CONSTRUCTION. WORK SHALL BE ORGANIZED AND PHASED IN A MANNER TO REDUCE OCCUPANT DISTURBANCE AND LIMIT TIME OCCUPANT MUST BE WITHOUT HVAC. CONTRACTOR SHALL PERFORM WORK SUCH THAT EACH OCCUPANT IS ONLY WITHOUT HVAC FOR ONE DAY.  
ALL WORK SHALL BE DEFINED AND SCHEDULED AT LEAST ONE WEEK (5 BUSINESS DAYS) IN ADVANCE. THE OWNER MUST INFORM OCCUPANTS OF WORK TO BE DONE IN THEIR APARTMENT AT LEAST 4 DAYS IN ADVANCE.

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**Cauthen & Associates**



MECH-ELEC LEAD SHEET - KY 6-3

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HVAC REPLACEMENT - PHASE 2  
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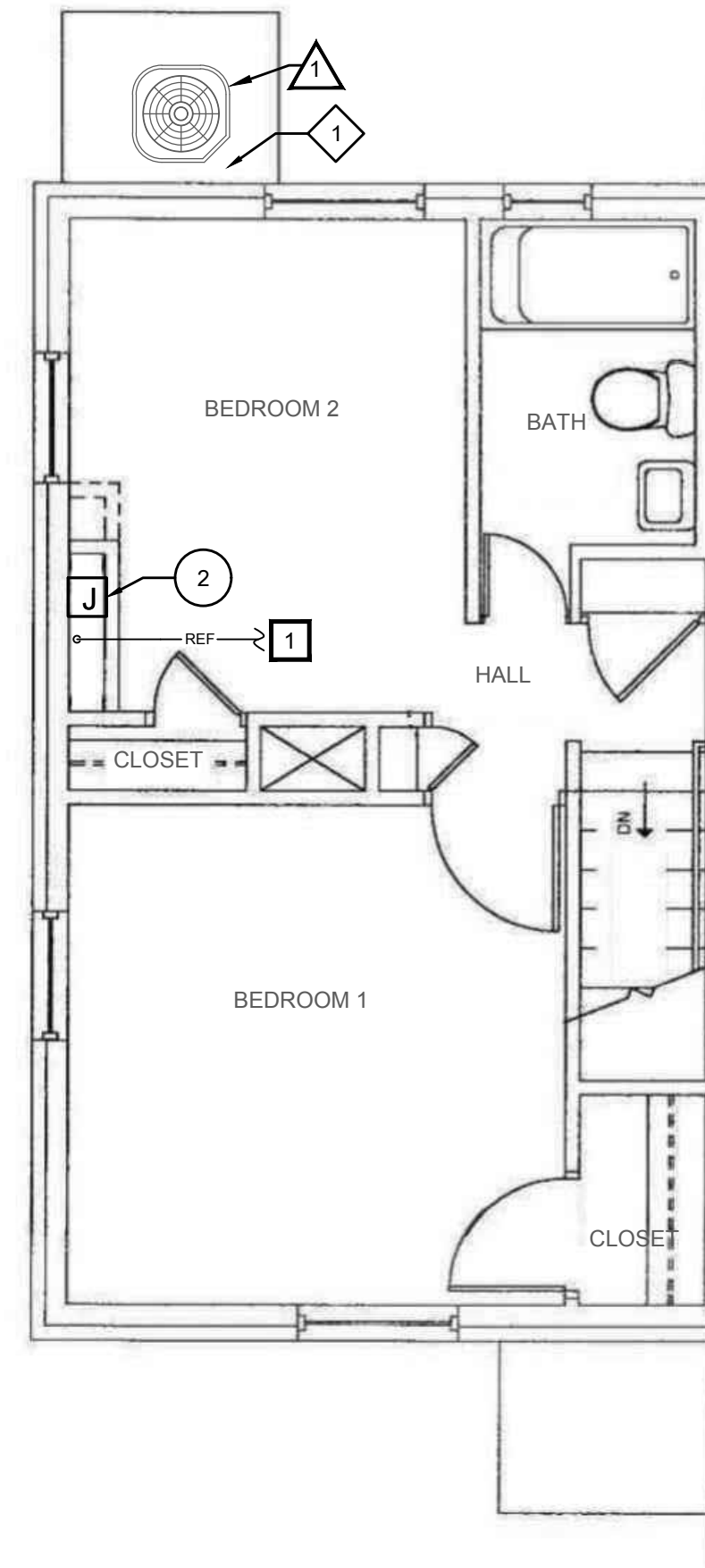
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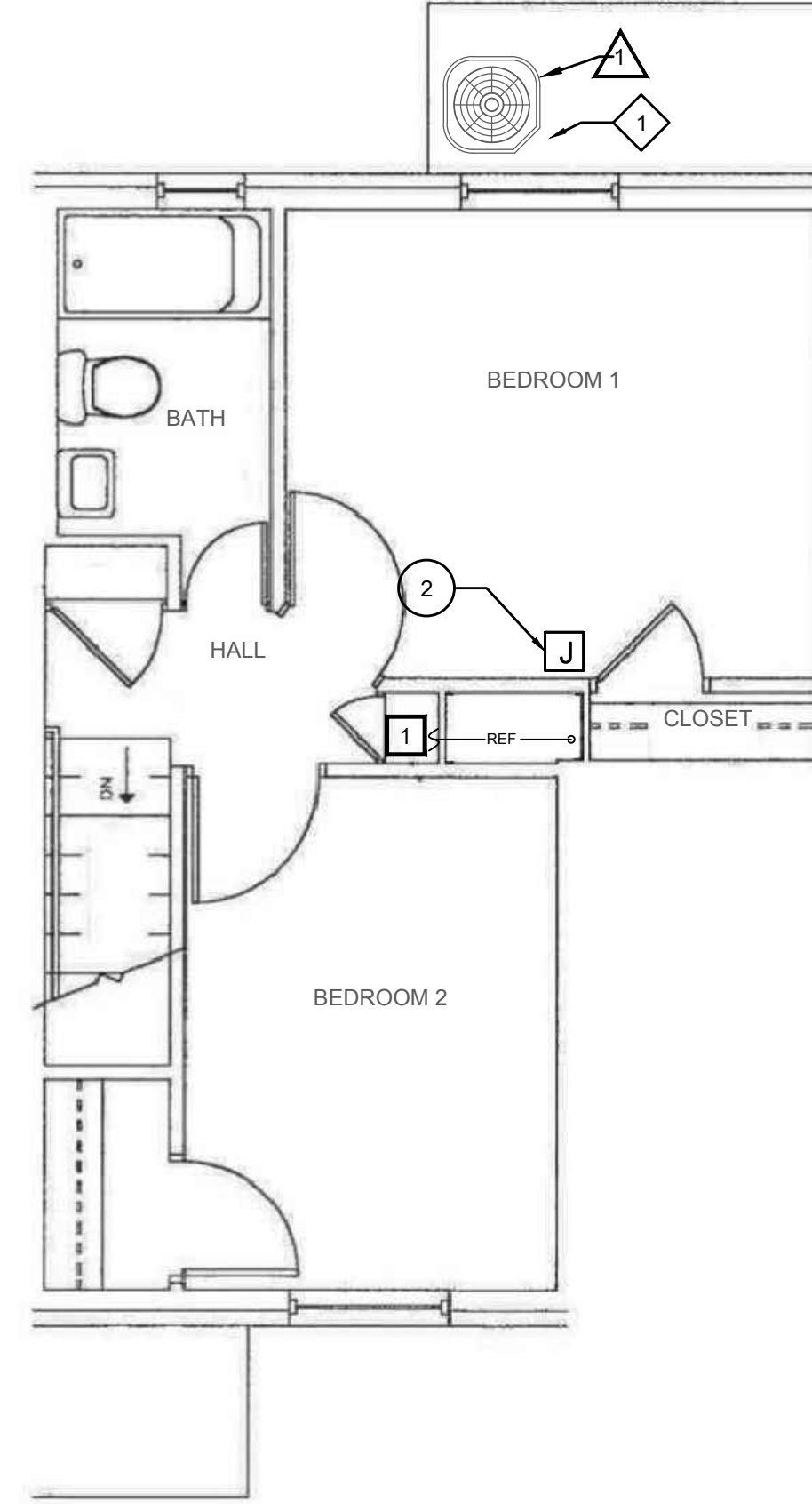
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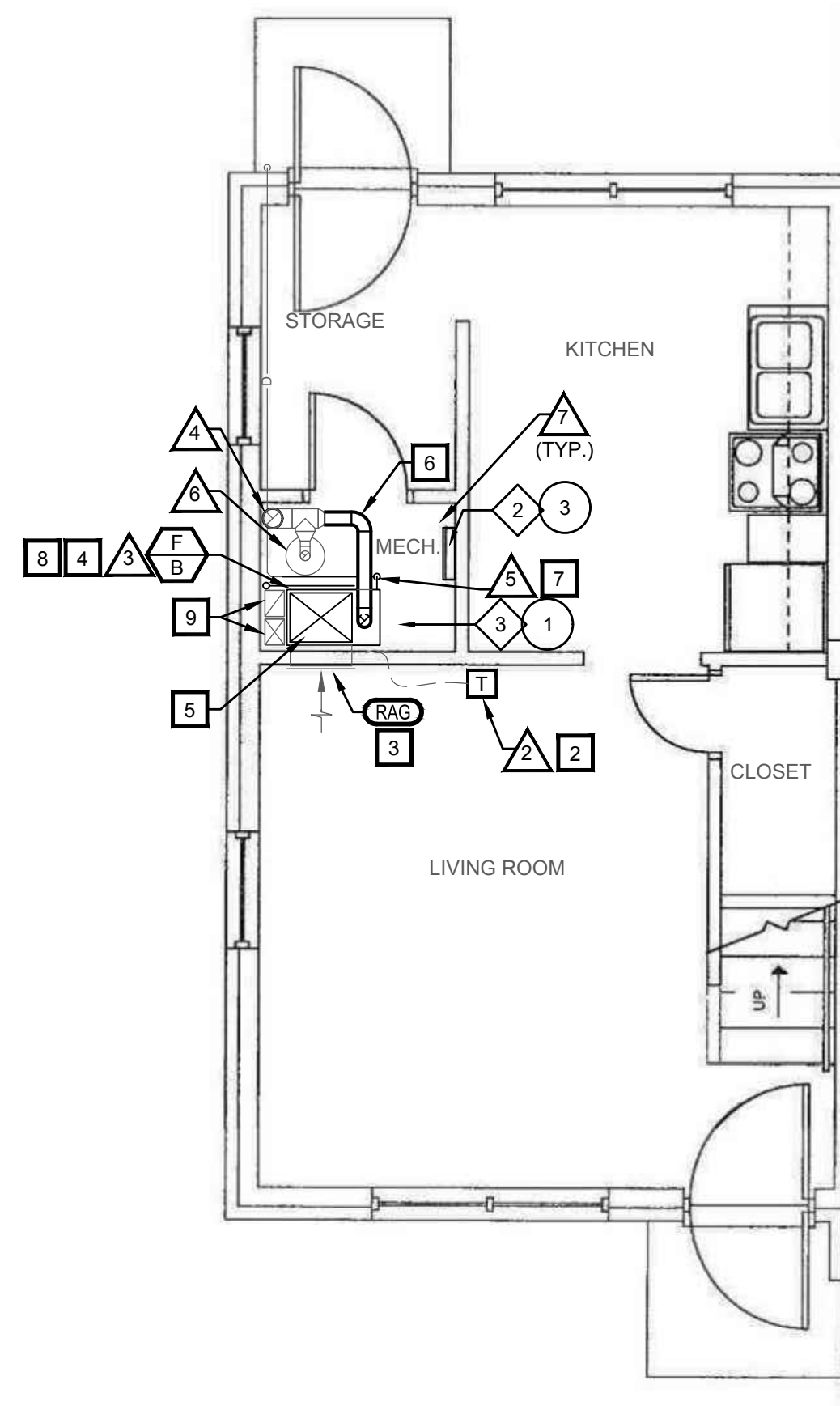




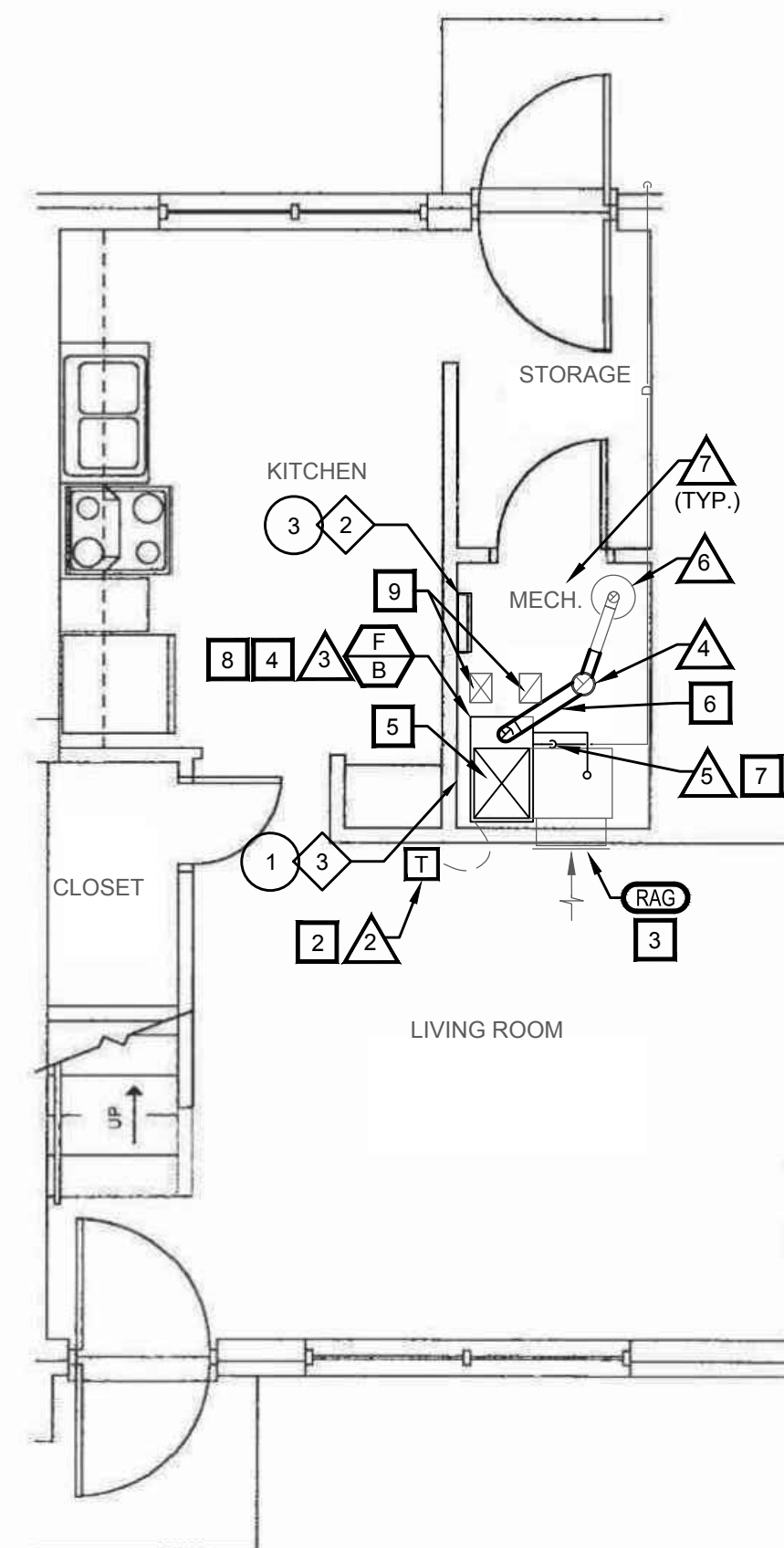
**FLOOR PLAN (6-3 TYPE I UPPER)**  
SCALE: 1/4"=1'-0" \*PLAN MAY BE MIRROR



**FLOOR PLAN (6-3 TYPE II UPPER)**  
SCALE: 1/4"=1'-0" \*PLAN MAY BE MIRROR



**FLOOR PLAN (6-3 TYPE I LOWER)**  
SCALE: 1/4"=1'-0" \*PLAN MAY BE MIRROR



**FLOOR PLAN (6-3 TYPE II LOWER)**  
SCALE: 1/4"=1'-0" \*PLAN MAY BE MIRROR

**ELECTRICAL DEMOLITION TAG NOTES**

- (APPLIES TO THIS DRAWING ONLY)
- E.C. SHALL DISCONNECT CONDENSING UNITS. REMOVE ALL BRANCH CIRCUIT RACEWAY AND CONDUCTORS BACK TO THE POINT THAT THE BRANCH CIRCUIT RISES FROM THE DWELLING UNIT IN THE ATTIC (SEE DRAWINGS ME1.4, 1.5 & 1.6). TERMINATE SUITABLE FOR PREPARATION OF INSTALLATION OF A JUNCTION BOX. REMOVE DISCONNECT SWITCH, DUPLEX RECEPTACLE FOR UNIT SERVICE AND ALL ABANDONED HARDWARE ASSOCIATE WITH THE REMOVE BRANCH CIRCUIT. WALL/SURFACE PENETRATIONS SHALL BE PATCHED AND PAINTED TO MATCH ADJACENT SURFACES.
  - IDENTIFY THE EXISTING CIRCUIT BREAKERS CURRENTLY SERVING THE EXISTING FURNACE AND CONDENSING UNIT AND REMOVE THEM AS REQUIRED FOR REPLACEMENT. PROTECT BRANCH CIRCUIT CONDUCTORS FOR RE-USE. RETURN BREAKER TO OWNER
  - E.C. SHALL DISCONNECT FURNACE. REMOVE BRANCH CIRCUIT FMC AND CONDUCTORS FROM UNIT TO THE DISCONNECT MEANS, THE DISCONNECT SHALL BE PROTECTED FOR RE-USE. THE BRANCH CIRCUIT EXTEND FROM THE DISCONNECT TO THE PANEL SHALL BE PROTECTED FOR RE-USE.

**ELECTRICAL CONSTRUCTION TAG NOTES**

- (APPLIES TO THIS DRAWING ONLY)
- COORDINATE WITH EXISTING CONDITIONS AND ACCESS REQUIREMENTS OF NEW FURNACE INSTALLED. EXTEND EXISTING FMC FINAL CONNECTION AS REQUIRED FROM DISCONNECT SWITCH TO NEW UNIT AND MAKE CONNECTION AS REQUIRED. PROPERLY SUPPORT RACEWAY AND ROUTE TO ALLOW REQUIRED SERVICE ACCESS OF UNIT.
  - INTERCEPT EXISTING CONDENSING UNIT BRANCH CIRCUIT AND SERVICE RECEPTACLE CIRCUIT AS APPLICABLE. AS IT EMERGES INTO ATTIC, INSTALL A NEW JUNCTION BOX. FURNISH AND INSTALL BLOCKING AND SUPPORT AS REQUIRED FOR THE JUNCTION BOX TO BE MOUNTED ABOVE ALL INSULATION. SEE DRAWINGS ME1.4, 1.5 & 1.6 FOR EXTENSION OF BRANCH CIRCUIT SIZE AND ROUTING TO NEW CONDENSING UNIT. PROVIDE FIRE STOPPING AT ALL FIREWALL PENETRATIONS.
  - COORDINATE WITH EXISTING CONDITIONS, FURNISH AND INSTALL A SUITABLE NEW 1P15A BRANCH BREAKER TO SERVE THE NEW FURNACE AND A 2P25A BRANCH BREAKER TO SERVE NEW CONDENSING UNIT IN THE EXISTING PANEL. UPDATE PANEL INDEX AS REQUIRED.

**MECHANICAL DEMOLITION TAG NOTES**

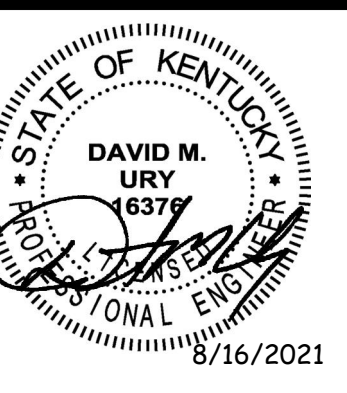
- (APPLIES TO THIS DRAWING ONLY)
- DISCONNECT AND REMOVE EXISTING CONDENSING UNIT, REFRIGERANT PIPING, SUPPORTS, CONTROLS, ETC. IN THEIR ENTIRETY. PATCH AND REPAIR ANY REMAINING PENETRATIONS WEATHER TIGHT WITH SHEET METAL FLASHING, PAINTED TO MATCH EXISTING FLASHING. WHERE POSSIBLE CAPTURE AND RECLAIM ALL REFRIGERANT AND RETURN TO OWNER.
  - DISCONNECT AND REMOVE EXISTING THERMOSTAT. REPLACE WIRING, FROM WALL TO FURNACE, ONLY IF NECESSARY.
  - DISCONNECT AND REMOVE EXISTING FURNACE AND COIL. REFRIGERANT PIPING, CONTROLS, FLEXIBLE GAS PIPING, ETC. IN ITS ENTIRETY. REMOVE PORTION OF CONDENSATE PIPING, PORTION OF FLUE VENTING AND PORTION OF SUPPLY / RETURN DUCT AS REQUIRED FOR NEW WORK.
  - EXISTING FLUE THROUGH ROOF SHALL REMAIN. DISCONNECT UNIT FROM FLUE AS REQUIRED FOR REMOVAL. CONTRACTOR SHALL CONFIRM EXISTING FLUE IS PROPERLY INSTALLED, CLEAR AND FREE OF BLOCKAGES.
  - EXISTING CONDENSATE PIPING SHALL REMAIN. CONTRACTOR SHALL, AT A MINIMUM, DISCONNECT AND REMOVE TRAP AND PIPING AS REQUIRED FOR UNIT REMOVAL.
  - EXISTING GAS FIRED WATER HEATER SHALL REMAIN.
  - REMOVE ALL EXISTING DUCT WRAP AND LINER INSULATION ON SUPPLY AND RETURN DUCT WITHIN MECHANICAL ROOM.

**MECHANICAL CONSTRUCTION TAG NOTES**

- (APPLIES TO THIS DRAWING ONLY)
- ROUTE NEW REFRIGERANT PIPING AND CONTROL WIRING, IN ATTIC SPACE, TO NEW CONDENSING UNIT LOCATION. SEE OVERALL BUILDING PLANS FOR NEW LOCATION. CONTRACTOR SHALL FIELD VERIFY FINAL REFRIGERANT PIPING LENGTHS AND ROUTING PRIOR TO INSTALLATION. PROVIDE FIRE STOPPING AT ALL FIREWALL PENETRATIONS. CONTROL WIRING SHALL BE PROTECTED AS DEFINED IN DETAIL, OR AS DESCRIBED IN ELECTRICAL NOTES.
  - INSTALL NEW THERMOSTAT AT EXISTING BACK BOX.
  - CONNECT EXISTING RETURN AIR DUCTWORK TO FURNACE WITH NEW FLEX CONNECTION. MODIFY AND EXTEND EXISTING DUCTWORK AS REQUIRED. CLEAN AND REPAIR EXISTING RETURN AIR FILTER GRILLE AS REQUIRED. REPLACE FILTER (FIELD VERIFY SIZE). LINE DUCT FROM GRILLE TO FURNACE WITH ANTI-MICROBIAL DUCT LINER AS SPECIFIED.
  - CLEAN CLOSET AND INSTALL NEW FURNACE AND DX COOLING COIL. ROUTE REFRIGERANT PIPING DOWN FROM ATTIC SPACE AND CONNECT TO COIL. INSULATE REFRIGERANT LIQUID AND SUCTION LINES.
  - CONNECT EXISTING SUPPLY AIR DUCTWORK TO COOLING COIL WITH NEW FLEX CONNECTION. MODIFY AND EXTEND EXISTING DUCTWORK AS REQUIRED. INSULATE ALL SUPPLY DUCT WITHIN MECHANICAL ROOM AS SPECIFIED. CONTRACTOR SHALL VERIFY NEW INSULATION IS FULLY ADHERED TO EXISTING DUCT WITH NO THERMAL BREAKS.
  - ROUTE NEW FURNACE FLUE AND CONNECT TO EXISTING FLUE STACK PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL COORDINATE CONNECTION POINT WITH EXISTING WATER HEATER FLUE VENT CONNECTION POINT.
  - INSTALL NEW CONDENSATE PIPING AND P-TRAP AND CONNECT TO EXISTING CONDENSATE DRAIN PIPING. CONTRACTOR SHALL VERIFY EXISTING CONDENSATE PIPING IS CLEAR OF DEBRIS, NOT DAMAGED AND REPLACE IF NECESSARY.
  - ROUTE NATURAL GAS PIPING FROM EXISTING VALVE TO FURNACE CONNECTION (FIELD VERIFY SIZE). MODIFY GAS PIPING AS REQUIRED TO CONNECT TO NEW UNIT.
  - CLEAN ALL EXISTING COMBUSTION AIR INTAKE AND RELIEF DUCT OPENINGS. FIELD VERIFY LOCATION OF DUCTS.

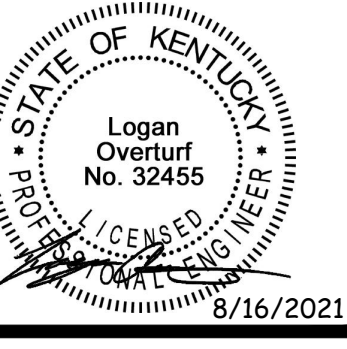
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**MECH-ELEC FLOOR PLANS - KY 6-3**  
**HOUSING AUTHORITY OF PADUCAH**  
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2021 CAPITAL FUND PROGRAM  
PADUCAH, KENTUCKY  
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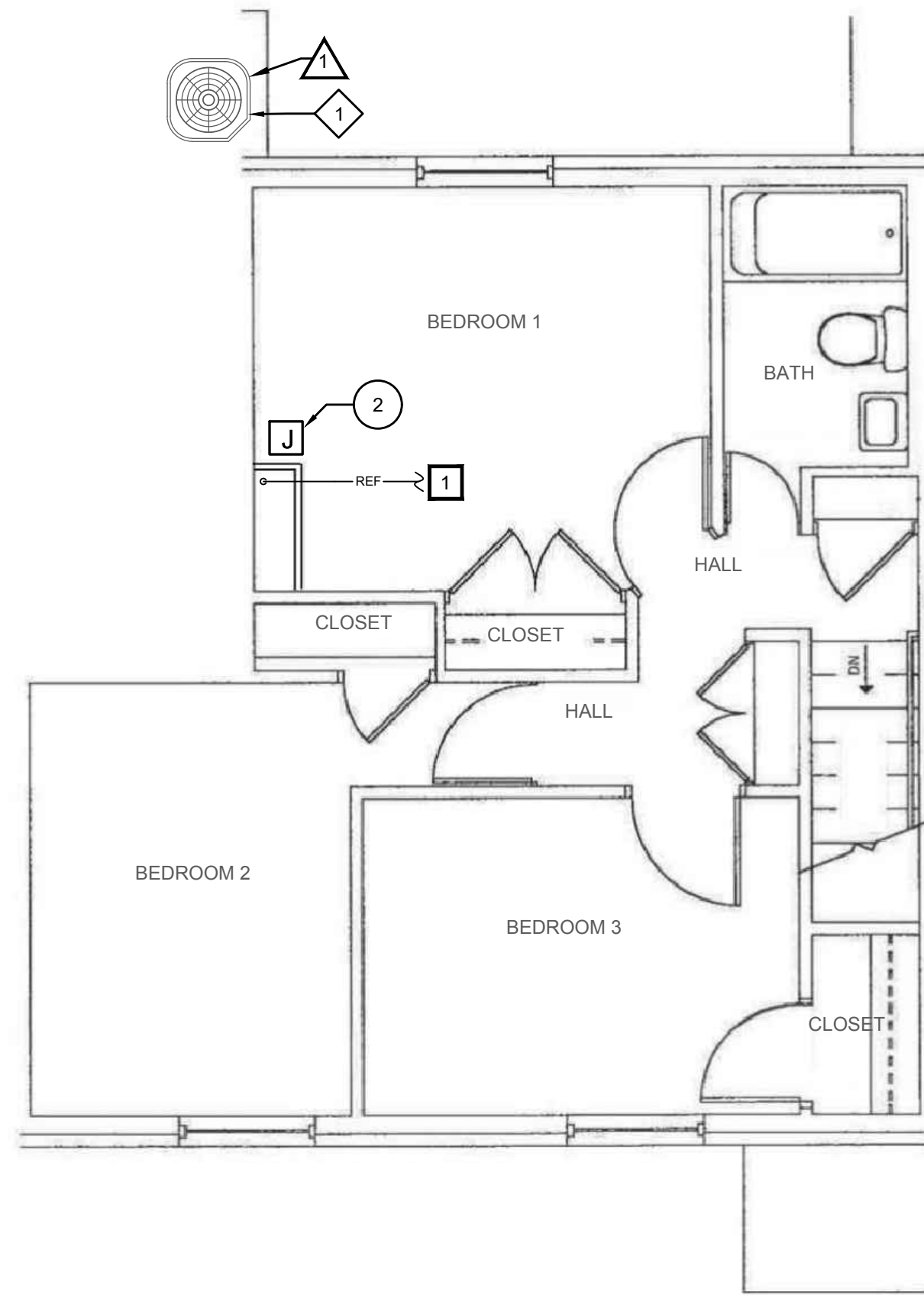
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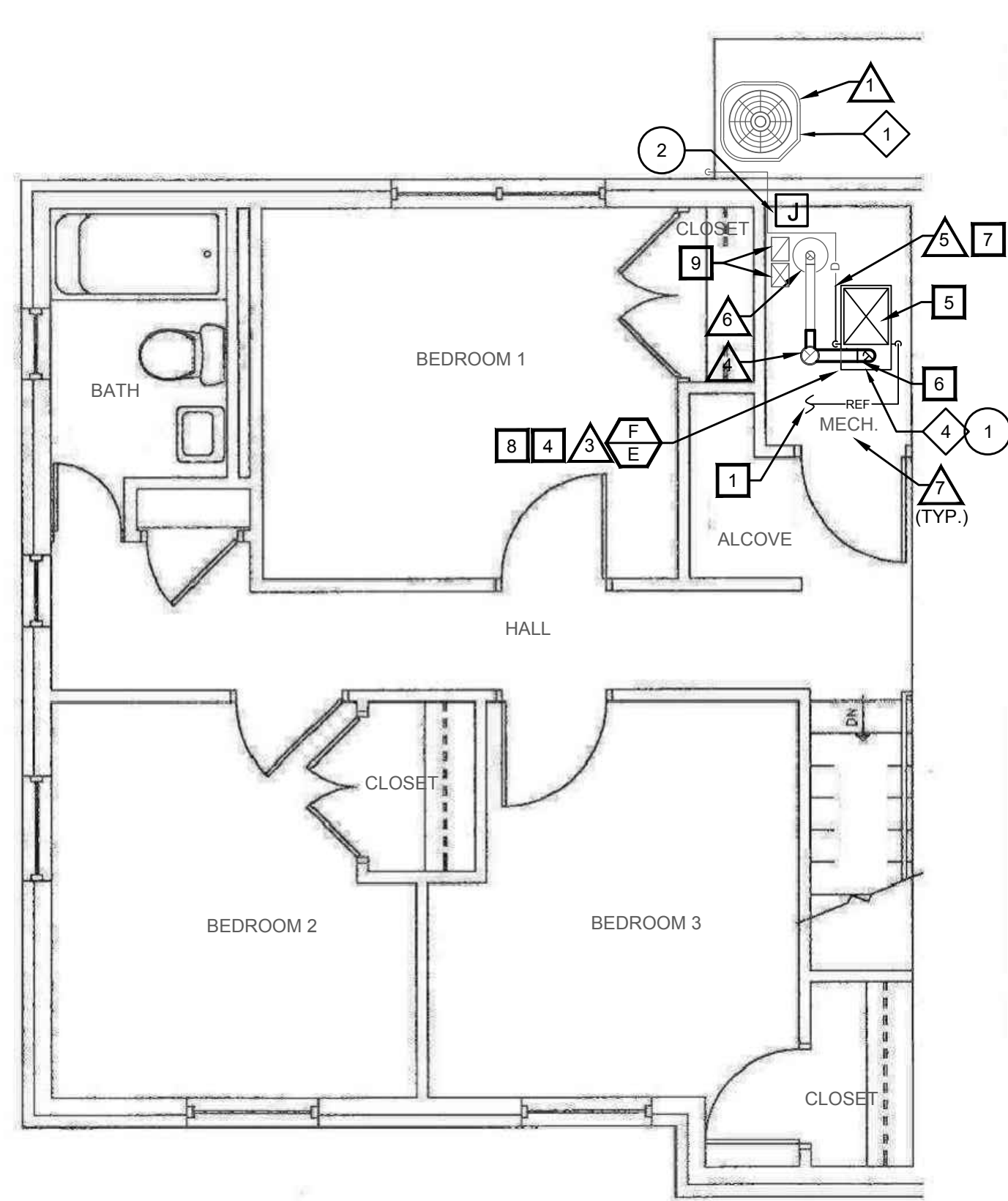
**MARCUM ENGINEERING, LLC**  
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**ME1.1**

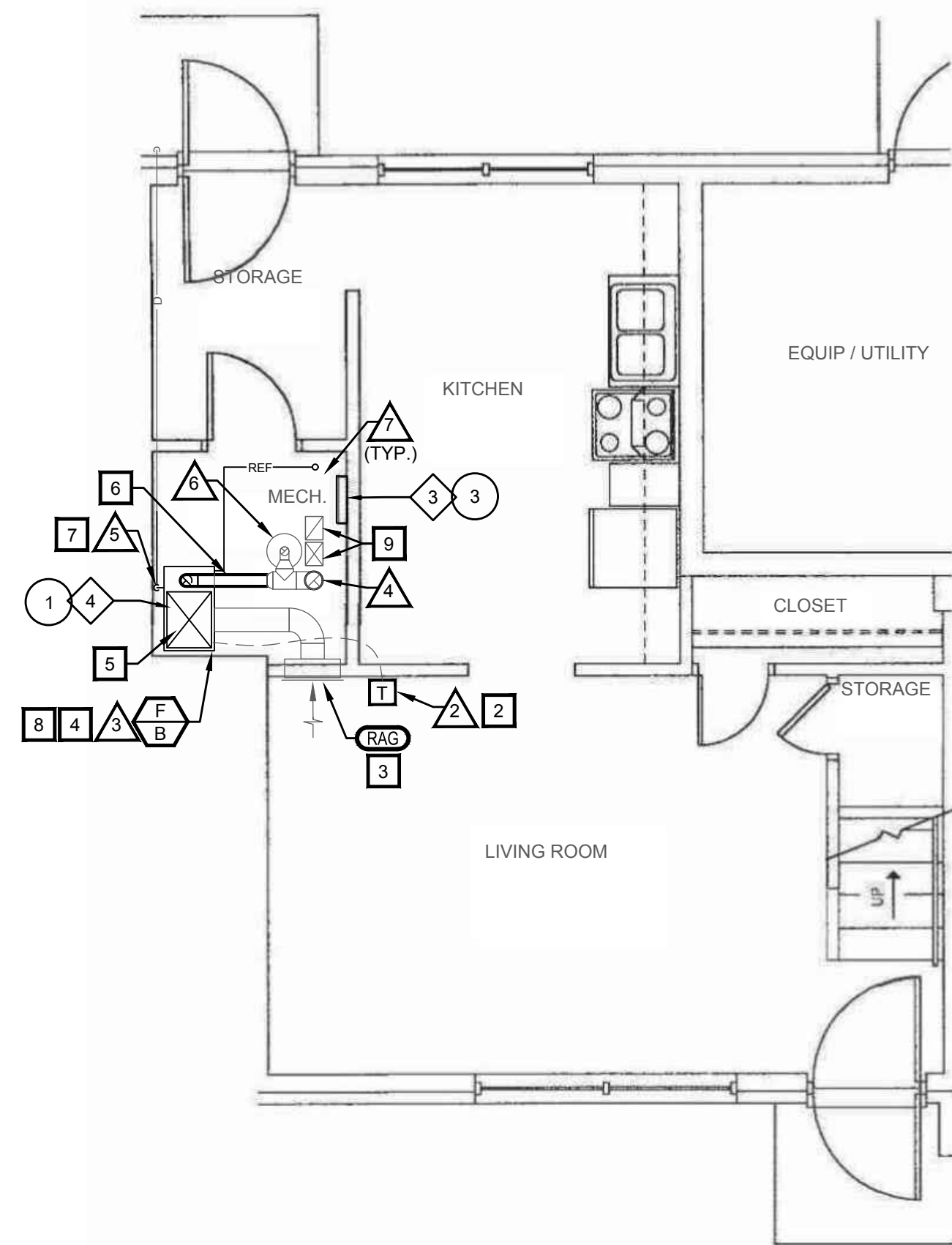
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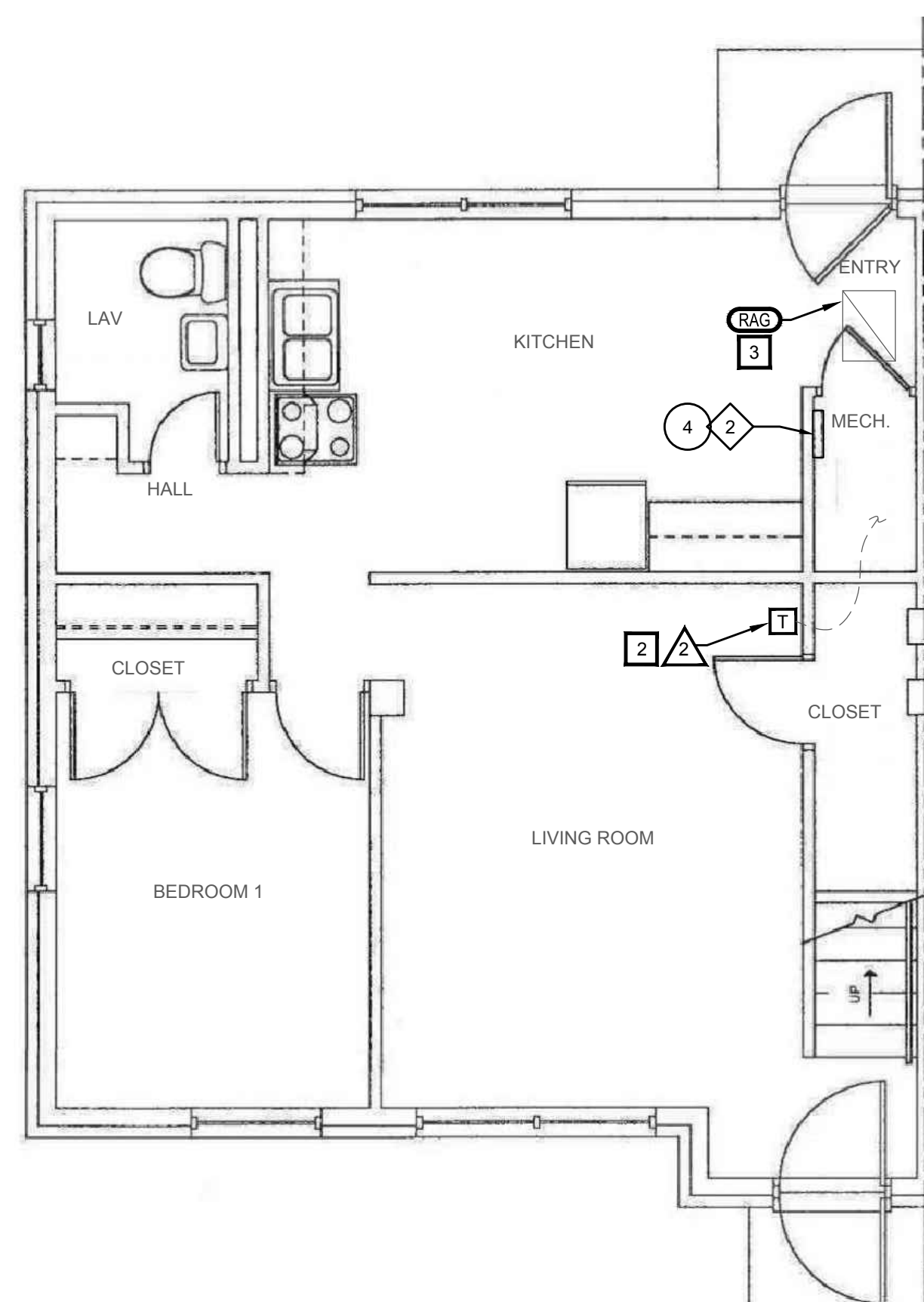
**FLOOR PLAN (6-3 TYPE III UPPER)**  
SCALE: 1/4"=1'-0" \*PLAN MAY BE MIRROR



**FLOOR PLAN (6-3 TYPE IV UPPER)**  
SCALE: 1/4"=1'-0" \*PLAN MAY BE MIRROR



**FLOOR PLAN (6-3 TYPE III LOWER)**  
SCALE: 1/4"=1'-0" \*PLAN MAY BE MIRROR



**FLOOR PLAN (6-3 TYPE IV LOWER)**  
SCALE: 1/4"=1'-0" \*PLAN MAY BE MIRROR

**ELECTRICAL DEMOLITION TAG NOTES**

- (APPLIES TO THIS DRAWING ONLY)
- E.C. SHALL DISCONNECT CONDENSING UNITS. REMOVE ALL BRANCH CIRCUIT RACEWAY AND CONDUCTORS BACK TO THE POINT THAT THE BRANCH CIRCUIT RISES FROM THE DWELLING UNIT IN THE ATTIC (SEE DRAWINGS ME1.4, 1.5 & 1.6). TERMINATE SUITABLE FOR PREPARATION OF INSTALLATION OF A JUNCTION BOX. REMOVE DISCONNECT SWITCH, DUPLEX RECEPTACLE FOR UNIT SERVICE AND ALL ABANDONED HARDWARE ASSOCIATE WITH THE REMOVE BRANCH CIRCUIT. WALL/SURFACE PENETRATIONS SHALL BE PATCHED AND PAINTED TO MATCH ADJACENT SURFACES.
  - IDENTIFY THE EXISTING CIRCUIT BREAKERS CURRENTLY SERVING THE EXISTING FURNACE AND REMOVE IT AS REQUIRED FOR REPLACEMENT. PROTECT BRANCH CIRCUIT CONDUCTORS FOR RE-USE. RETURN BREAKER TO OWNER. BREAKER SERVING CONDENSING UNIT SHALL REMAIN.
  - IDENTIFY THE EXISTING CIRCUIT BREAKERS CURRENTLY SERVING THE EXISTING FURNACE AND CONDENSING UNIT AND REMOVE THEM AS REQUIRED FOR REPLACEMENT. PROTECT BRANCH CIRCUIT CONDUCTORS FOR RE-USE. RETURN BREAKER TO OWNER.
  - E.C. SHALL DISCONNECT FURNACE. REMOVE BRANCH CIRCUIT FMC AND CONDUCTORS FROM UNIT TO THE DISCONNECT MEANS. THE DISCONNECT SHALL BE PROTECTED FOR RE-USE. THE BRANCH CIRCUIT EXTEND FROM THE DISCONNECT TO THE PANEL SHALL BE PROTECTED FOR RE-USE.

**ELECTRICAL CONSTRUCTION TAG NOTES**

- (APPLIES TO THIS DRAWING ONLY)
- COORDINATE WITH EXISTING CONDITIONS AND ACCESS REQUIREMENTS OF NEW FURNACE INSTALLED. EXTEND EXISTING FMC FINAL CONNECTION AS REQUIRED FROM DISCONNECT SWITCH TO NEW UNIT AND MAKE CONNECTION AS REQUIRED. PROPERLY SUPPORT RACEWAY AND ROUTE TO ALLOW REQUIRED SERVICE ACCESS OF UNIT.
  - INTERCEPT EXISTING CONDENSING UNIT BRANCH CIRCUIT AND SERVICE RECEPTACLE CIRCUIT AS APPLICABLE. AS IT EMERGES INTO ATTIC, INSTALL A NEW JUNCTION BOX. FURNISH AND INSTALL BLOCKING AND SUPPORT AS REQUIRED FOR THE JUNCTION BOX TO BE MOUNTED ABOVE ALL INSULATION. SEE DRAWINGS ME1.4, 1.5 & 1.6 FOR EXTENSION OF BRANCH CIRCUIT SIZE AND ROUTING TO NEW CONDENSING UNIT. PROVIDE FIRE STOPPING AT ALL FIREWALL PENETRATIONS.
  - COORDINATE WITH EXISTING CONDITIONS, FURNISH AND INSTALL A SUITABLE NEW 1P15A BRANCH BREAKER TO SERVE THE NEW FURNACE AND A 2P25A BRANCH BREAKER TO SERVE NEW CONDENSING UNIT IN THE EXISTING PANEL. UPDATE PANEL INDEX AS REQUIRED.
  - COORDINATE WITH EXISTING CONDITIONS, FURNISH AND INSTALL A SUITABLE NEW 1P15A BRANCH BREAKER TO SERVE THE NEW FURNACE. THE EXISTING 2P30A BRANCH BREAKER SERVING THE NEW CONDENSING UNIT SHALL REMAIN IN THE EXISTING PANEL. UPDATE PANEL INDEX AS REQUIRED.

**MECHANICAL DEMOLITION TAG NOTES**

- (APPLIES TO THIS DRAWING ONLY)
- DISCONNECT AND REMOVE EXISTING CONDENSING UNIT, REFRIGERANT PIPING, SUPPORTS, CONTROLS, ETC. IN THEIR ENTIRETY. PATCH AND REPAIR ANY REMAINING PENETRATIONS WEATHER TIGHT WITH SHEET METAL FLASHING, PAINTED TO MATCH EXISTING FLASHING. WHERE POSSIBLE CAPTURE AND RECLAIM ALL REFRIGERANT AND RETURN TO OWNER.
  - DISCONNECT AND REMOVE EXISTING THERMOSTAT. REPLACE WIRING, FROM WALL TO FURNACE, ONLY IF NECESSARY.
  - DISCONNECT AND REMOVE EXISTING FURNACE AND COIL. REFRIGERANT PIPING, CONTROLS, FLEXIBLE GAS PIPING, ETC. IN ITS ENTIRETY. REMOVE PORTION OF CONDENSATE PIPING, PORTION OF FLUE VENTING AND PORTION OF SUPPLY / RETURN DUCT AS REQUIRED FOR NEW WORK.
  - EXISTING FLUE THROUGH ROOF SHALL REMAIN. DISCONNECT UNIT FROM FLUE AS REQUIRED FOR REMOVAL. CONTRACTOR SHALL CONFIRM EXISTING FLUE IS PROPERLY INSTALLED, CLEAR AND FREE OF BLOCKAGES.
  - EXISTING CONDENSATE PIPING SHALL REMAIN. CONTRACTOR SHALL, AT A MINIMUM, DISCONNECT AND REMOVE TRAP AND PIPING BACK TO UNIT. CONTRACTOR SHALL FIELD VERIFY AND REMOVE PIPING AS REQUIRED FOR UNIT REMOVAL.
  - EXISTING GAS FIRED WATER HEATER SHALL REMAIN.
  - REMOVE ALL EXISTING DUCT WRAP AND LINER INSULATION ON SUPPLY AND RETURN DUCT WITHIN MECHANICAL ROOM.

**MECHANICAL CONSTRUCTION TAG NOTES**

- (APPLIES TO THIS DRAWING ONLY)
- ROUTE NEW REFRIGERANT PIPING AND CONTROL WIRING, IN ATTIC SPACE, TO NEW CONDENSING UNIT LOCATION. SEE OVERALL BUILDING PLANS FOR NEW LOCATION. CONTRACTOR SHALL FIELD VERIFY FINAL REFRIGERANT PIPING LENGTHS AND ROUTING PRIOR TO INSTALLATION. PROVIDE FIRE STOPPING AT ALL FIREWALL PENETRATIONS.
  - INSTALL NEW THERMOSTAT AT EXISTING BACK BOX.
  - CONNECT EXISTING RETURN AIR DUCTWORK TO FURNACE WITH NEW FLEX CONNECTION. MODIFY AND EXTEND EXISTING DUCTWORK AS REQUIRED. CLEAN AND REPAIR EXISTING RETURN AIR FILTER GRILLE AS REQUIRED. REPLACE FILTER (FIELD VERIFY SIZE). LINE DUCT FROM GRILLE TO FURNACE WITH ANTI-MICROBIAL DUCT LINER AS SPECIFIED.
  - CLEAN CLOSET AND INSTALL NEW FURNACE AND DX COOLING COIL. ROUTE REFRIGERANT PIPING DOWN FROM ATTIC SPACE AND CONNECT TO COIL. INSULATE REFRIGERANT LIQUID AND SUCTION LINES.
  - CONNECT EXISTING SUPPLY AIR DUCTWORK TO COOLING COIL WITH NEW FLEX CONNECTION. MODIFY AND EXTEND EXISTING DUCTWORK AS REQUIRED. INSULATE ALL SUPPLY DUCT WITHIN MECHANICAL ROOM AS SPECIFIED.
  - ROUTE NEW FURNACE FLUE AND CONNECT TO EXISTING FLUE STACK PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL COORDINATE CONNECTION POINT WITH EXISTING WATER HEATER FLUE VENT CONNECTION POINT.
  - INSTALL NEW CONDENSATE PIPING AND P-TRAP AND CONNECT TO EXISTING CONDENSATE DRAIN PIPING. CONTRACTOR SHALL VERIFY EXISTING CONDENSATE PIPING IS CLEAR OF DEBRIS, NOT DAMAGED AND REPLACE IF NECESSARY.
  - ROUTE NATURAL GAS PIPING FROM EXISTING VALVE TO FURNACE CONNECTION (FIELD VERIFY SIZE). MODIFY GAS PIPING AS REQUIRED TO CONNECT TO NEW UNIT.
  - CLEAN ALL EXISTING COMBUSTION AIR INTAKE AND RELIEF DUCT OPENINGS. FIELD VERIFY LOCATION OF DUCTS.
  - INSTALL CONDENSATE OVERFLOW SWITCH IN SECONDARY DRAIN OPENINGS FOR ALL UNITS LOCATED ON SECOND FLOOR (UPPER LEVEL). WIRE SWITCH TO UNIT TO SHUTDOWN UNIT UPON SENSING WATER IN THE SECONDARY DRAIN.

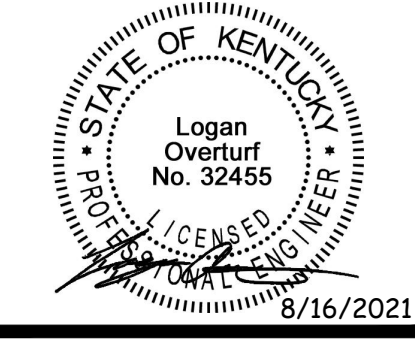
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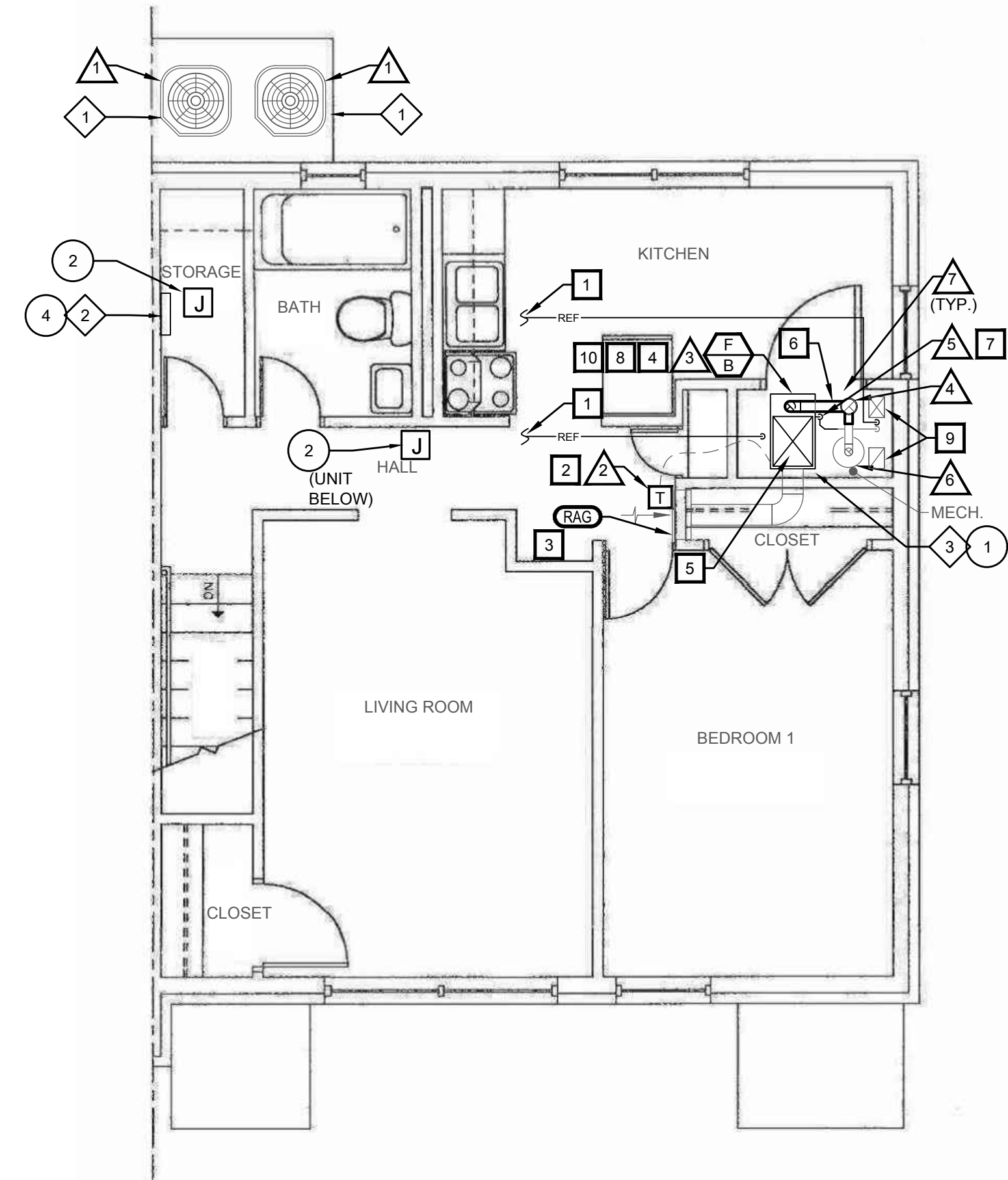
**MECH-ELEC FLOOR PLANS - KY 6-3**  
**HOUSING AUTHORITY OF PADUCAH**  
**HVAC REPLACEMENT - PHASE 2**  
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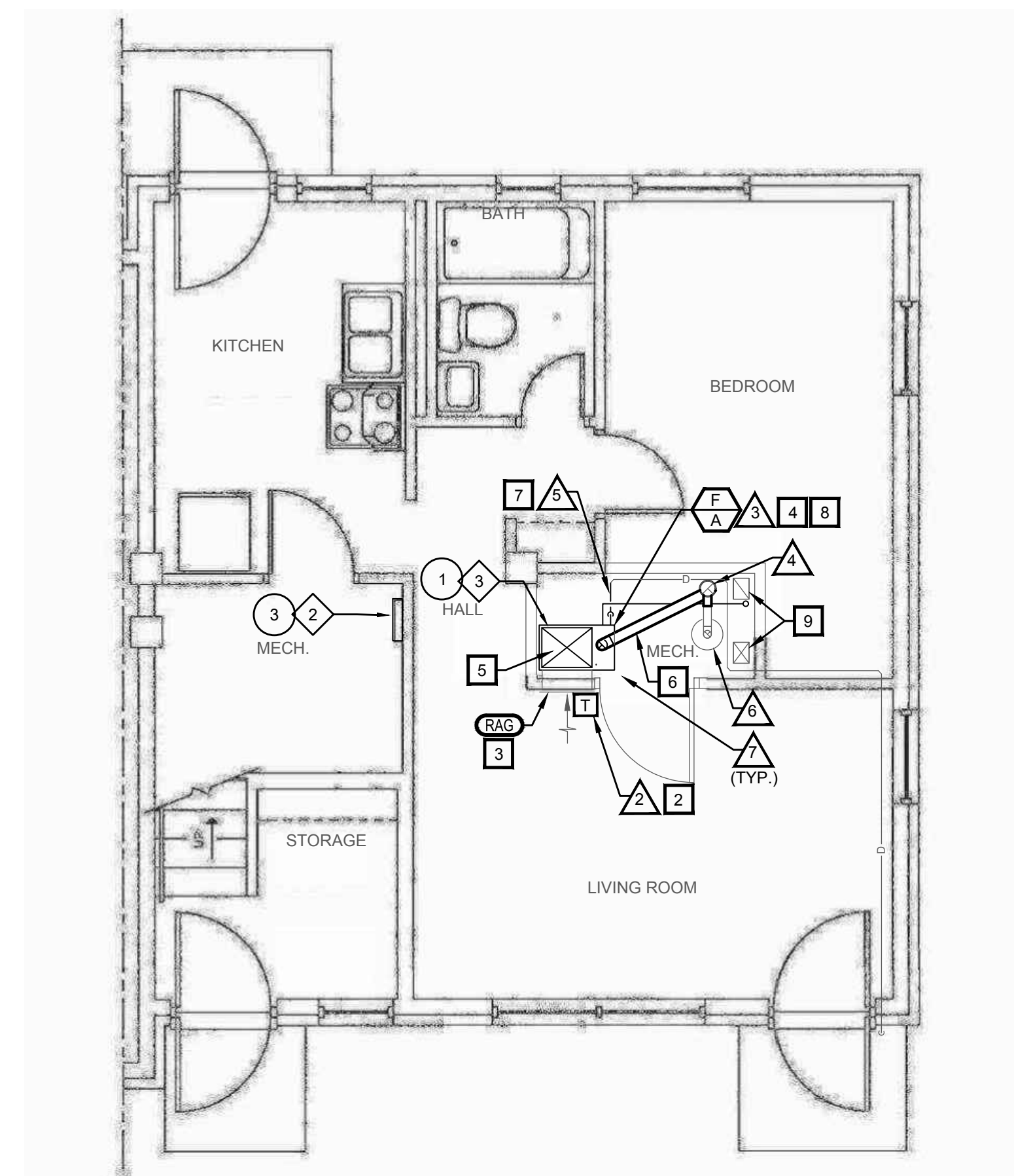
**ME1.2**



FLOOR PLAN (6-3 TYPE V - ALL UPPER)

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

\*PLAN MAY BE MIRROR



FLOOR PLAN (6-3 TYPE VI - ALL LOWER)

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

\*PLAN MAY BE MIRROR

**ELECTRICAL DEMOLITION TAG NOTES**

(APPLIES TO THIS DRAWING ONLY)

#	E.C. SHALL DISCONNECT CONDENSING UNITS. REMOVE ALL BRANCH CIRCUIT RACEWAY AND CONDUCTORS BACK TO THE POINT THAT THE BRANCH CIRCUIT RISES FROM THE DWELLING UNIT IN THE ATTIC (SEE DRAWINGS ME1.4, 1.5 & 1.6). TERMINATE SUITABLE FOR PREPARATION OF INSTALLATION OF A JUNCTION BOX. REMOVE DISCONNECT SWITCH, DUPLEX RECEPTACLE FOR UNIT SERVICE AND ALL ABANDONED HARDWARE ASSOCIATE WITH THE REMOVE BRANCH CIRCUIT. WALL/SURFACE PENETRATIONS SHALL BE PATCHED AND PAINTED TO MATCH ADJACENT SURFACES.
1	
2	IDENTIFY THE EXISTING CIRCUIT BREAKERS CURRENTLY SERVING THE EXISTING FURNACE AND CONDENSING UNIT AND REMOVE THEM AS REQUIRED FOR REPLACEMENT. PROTECT BRANCH CIRCUIT CONDUCTORS FOR RE-USE. RETURN BREAKER TO OWNER
3	E.C. SHALL DISCONNECT FURNACE. REMOVE BRANCH CIRCUIT FMC AND CONDUCTORS FROM UNIT TO THE DISCONNECT MEANS, THE DISCONNECT SHALL BE PROTECTED FOR RE-USE. THE BRANCH CIRCUIT EXTEND FROM THE DISCONNECT TO THE PANEL SHALL BE PROTECTED FOR RE-USE.

**ELECTRICAL CONSTRUCTION TAG NOTES**

(APPLIES TO THIS DRAWING ONLY)

#	COORDINATE WITH EXISTING CONDITIONS AND ACCESS REQUIREMENTS OF NEW FURNACE INSTALLED. EXTEND EXISTING FMC FINAL CONNECTION AS REQUIRED FROM DISCONNECT SWITCH TO NEW UNIT AND MAKE CONNECTION AS REQUIRED. PROPERLY SUPPORT RACEWAY AND ROUTE TO ALLOW REQUIRED SERVICE ACCESS OF UNIT.
1	
2	INTERCEPT EXISTING CONDENSING UNIT BRANCH CIRCUIT AND SERVICE RECEPTACLE CIRCUIT AS APPLICABLE. AS IT EMERGES INTO ATTIC, INSTALL A NEW JUNCTION BOX. FURNISH AND INSTALL BLOCKING AND SUPPORT AS REQUIRED FOR THE JUNCTION BOX TO BE MOUNTED ABOVE ALL INSULATION. SEE DRAWINGS ME1.4, 1.5 & 1.6 FOR EXTENSION OF BRANCH CIRCUIT SIZE AND ROUTING TO NEW CONDENSING UNIT. PROVIDE FIRE STOPPING AT ALL FIREWALL PENETRATIONS.
3	COORDINATE WITH EXISTING CONDITIONS, FURNISH AND INSTALL A SUITABLE NEW 1P15A BRANCH BREAKER TO SERVE THE NEW FURNACE AND A 2P25A BRANCH BREAKER TO SERVE NEW CONDENSING UNIT IN THE EXISTING PANEL. UPDATE PANEL INDEX AS REQUIRED.
4	COORDINATE WITH EXISTING CONDITIONS, FURNISH AND INSTALL A SUITABLE NEW 1P15A BRANCH BREAKER TO SERVE THE NEW FURNACE AND A 2P20A BRANCH BREAKER TO SERVE NEW CONDENSING UNIT IN THE EXISTING PANEL. UPDATE PANEL INDEX AS REQUIRED.

**MECHANICAL DEMOLITION TAG NOTES**

(APPLIES TO THIS DRAWING ONLY)

#	DISCONNECT AND REMOVE EXISTING CONDENSING UNIT, REFRIGERANT PIPING, SUPPORTS, CONTROLS, ETC. IN THEIR ENTIRETY. PATCH AND REPAIR ANY REMAINING PENETRATIONS WEATHER TIGHT WITH SHEET METAL FLASHING, PAINTED TO MATCH EXISTING FLASHING. WHERE POSSIBLE CAPTURE AND RECLAIM ALL REFRIGERANT AND RETURN TO OWNER.
1	
2	DISCONNECT AND REMOVE EXISTING THERMOSTAT. REPLACE WIRING, FROM WALL TO FURNACE, ONLY IF NECESSARY.
3	DISCONNECT AND REMOVE EXISTING FURNACE AND COIL. REFRIGERANT PIPING, CONTROLS, FLEXIBLE GAS PIPING, ETC. IN ITS ENTIRETY. REMOVE PORTION OF CONDENSATE PIPING, PORTION OF FLUE VENTING AND PORTION OF SUPPLY / RETURN DUCT AS REQUIRED FOR NEW WORK.
4	EXISTING FLUE THROUGH ROOF SHALL REMAIN. DISCONNECT UNIT FROM FLUE AS REQUIRED FOR REMOVAL. CONTRACTOR SHALL CONFIRM EXISTING FLUE IS PROPERLY INSTALLED, CLEAR AND FREE OF BLOCKAGES.
5	EXISTING CONDENSATE PIPING SHALL REMAIN. CONTRACTOR SHALL, AT A MINIMUM, DISCONNECT AND REMOVE TRAP AND PIPING AS REQUIRED FOR UNIT REMOVAL.
6	EXISTING GAS FIRED WATER HEATER SHALL REMAIN.
7	REMOVE ALL EXISTING DUCT WRAP AND LINER INSULATION ON SUPPLY AND RETURN DUCT WITHIN MECHANICAL ROOM.

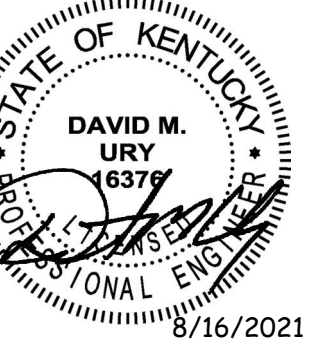
**MECHANICAL CONSTRUCTION TAG NOTES**

(APPLIES TO THIS DRAWING ONLY)

#	ROUTE NEW REFRIGERANT PIPING AND CONTROL WIRING, IN ATTIC SPACE, TO NEW CONDENSING UNIT LOCATION. SEE OVERALL BUILDING PLANS FOR NEW LOCATION. CONTRACTOR SHALL FIELD VERIFY FINAL REFRIGERANT PIPING LENGTHS AND ROUTING PRIOR TO INSTALLATION. PROVIDE FIRE STOPPING AT ALL FIREWALL PENETRATIONS.
1	
2	INSTALL NEW THERMOSTAT AT EXISTING BACK BOX.
3	CONNECT EXISTING RETURN AIR DUCTWORK TO FURNACE WITH NEW FLEX CONNECTION. MODIFY AND EXTEND EXISTING DUCTWORK AS REQUIRED. CLEAN AND REPAIR EXISTING RETURN AIR FILTER GRILLE AS REQUIRED. REPLACE FILTER (FIELD VERIFY SIZE). LINE DUCT FROM GRILLE TO FURNACE WITH ANTI-MICROBIAL DUCT LINER AS SPECIFIED.
4	CLEAN CLOSET AND INSTALL NEW FURNACE AND DX COOLING COIL. ROUTE REFRIGERANT PIPING DOWN FROM ATTIC SPACE AND CONNECT TO COIL. INSULATE REFRIGERANT LIQUID AND SUCTION LINES.
5	CONNECT EXISTING SUPPLY AIR DUCTWORK TO COOLING COIL WITH NEW FLEX CONNECTION. MODIFY AND EXTEND EXISTING DUCTWORK AS REQUIRED. INSULATE ALL SUPPLY DUCT WITHIN MECHANICAL ROOM AS SPECIFIED.
6	ROUTE NEW FURNACE FLUE AND CONNECT TO EXISTING FLUE STACK PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL COORDINATE CONNECTION POINT WITH EXISTING WATER HEATER FLUE VENT CONNECTION POINT.
7	INSTALL NEW CONDENSATE PIPING AND P-TRAP AND CONNECT TO EXISTING CONDENSATE DRAIN PIPING. CONTRACTOR SHALL VERIFY EXISTING CONDENSATE PIPING IS CLEAR OF DEBRIS, NOT DAMAGED AND REPLACE IF NECESSARY.
8	ROUTE NATURAL GAS PIPING FROM EXISTING VALVE TO FURNACE CONNECTION (FIELD VERIFY SIZE). MODIFY GAS PIPING AS REQUIRED TO CONNECT TO NEW UNIT.
9	CLEAN ALL EXISTING COMBUSTION AIR INTAKE AND RELIEF DUCT OPENINGS. FIELD VERIFY LOCATION OF DUCTS.
10	INSTALL CONDENSATE OVERFLOW SWITCH IN SECONDARY DRAIN OPENINGS FOR ALL UNITS LOCATED ON SECOND FLOOR (UPPER LEVEL). WIRE SWITCH TO UNIT TO SHUTDOWN UNIT UPON SENSING WATER IN THE SECONDARY DRAIN

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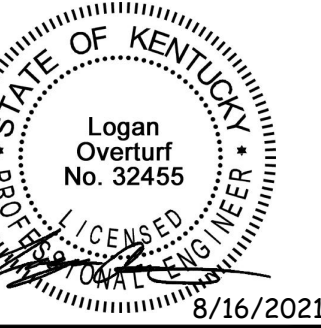


MECH-ELEC FLOOR PLANS - KY 6-3

HOUSING AUTHORITY OF PADUCAH  
HVAC REPLACEMENT - PHASE 2  
2021 CAPITAL FUND PROGRAM

PADUCAH, KENTUCKY  
DEVELOPMENT KY06-003

NO.	DATE	DESCRIPTION
1	07/15/2021	OWNER'S REVIEW
2	08/16/2021	ISSUED FOR BIDS



ME1.3

FILE NO. 2898-01-03 / 21584



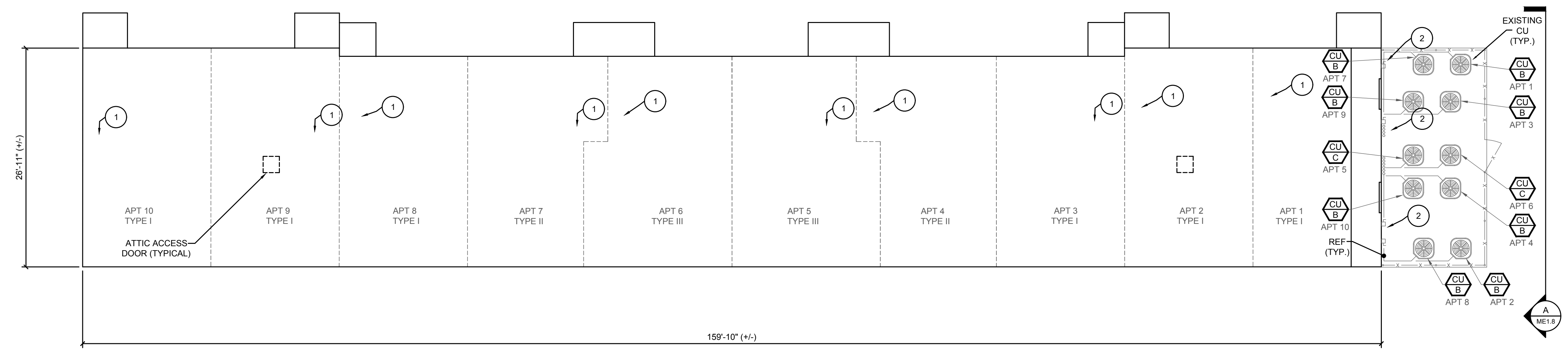


# ELECTRICAL CONSTRUCTION TAG NOTES

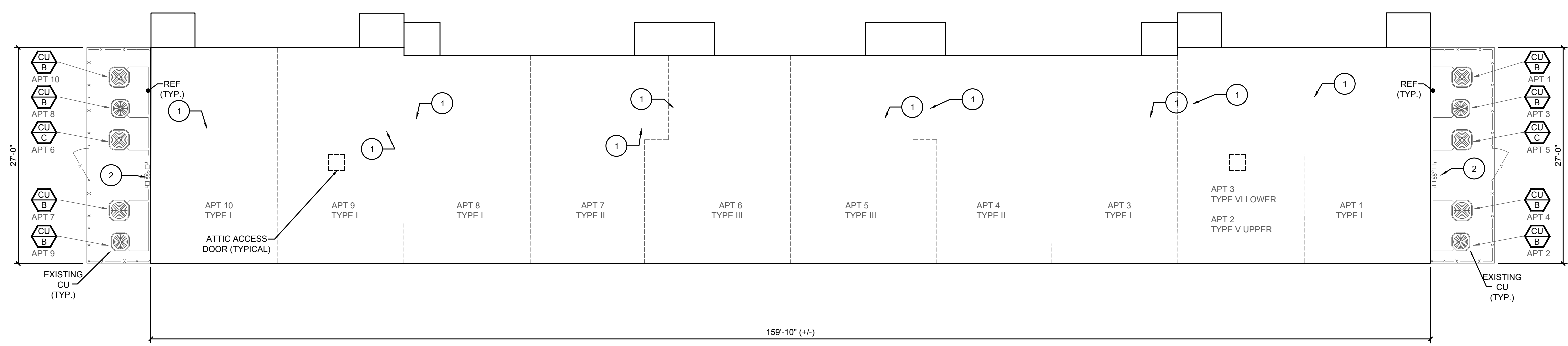
- (APPLIES TO THIS DRAWING ONLY)
- APPROXIMATE LOCATION OF CHASE TO RESPECTIVE DWELLING UNIT. RACEWAY FOR THERMOSTAT WIRING TO EXTEND 2' DOWN INTO CHASE AND END WITH BUSHING.
  - REFER TO DRAWING ME1.8 FOR DETAIL AND GENERAL REQUIREMENTS OF RACEWAY DROPPING AND EXTENDING TO CONDENSING UNITS.

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**DEDUCTIVE ALTERNATE BID: FLOOR PLAN - 6-3 OVERALL BUILDING "A" (719 SOUTH 22 STREET)**  
SCALE: 1/8"=1'-0"



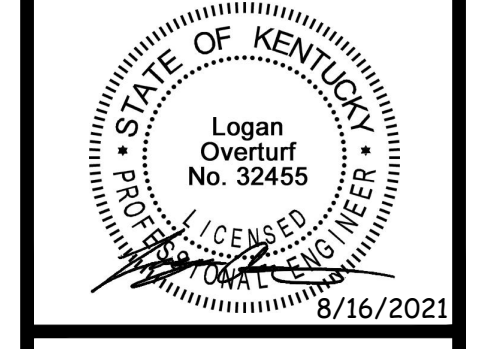
**DEDUCTIVE ALTERNATE BID: FLOOR PLAN - 6-3 OVERALL BUILDING "A" (TYPICAL BUILDING)**  
SCALE: 1/8"=1'-0"

**ATTIC ACCESS NOTE:**

- CONTRACTOR SHALL FIELD LOCATE ATTIC ACCESS DOORS FROM WITHIN UPPER LEVEL APARTMENTS. COORDINATE ALL NEW WORK ROUTING TO CLEAR ACCESS AREA AND REDUCE OCCUPANT DISTURBANCE.
- CONTRACTOR MAY USE BUILDING DORM LOUVERS FOR ATTIC ACCESS IF FEASIBLE. FIELD VERIFY LOCATION, SIZE AND QTY. DURING CONSTRUCTION. CONTRACTOR SHALL COVER OPENING AFTER EACH WORK DAY TO PREVENT WATER INFILTRATION INTO ATTIC. AFTER WORK IS COMPLETED, CONTRACTOR SHALL REINSTALL OR REPLACE LOUVER AND SEAL WEATHER TIGHT.

**OVERALL BUILDING A FLOOR PLAN - KY 6-3**  
**HOUSING AUTHORITY OF PADUCAH**  
**HVAC REPLACEMENT - PHASE 2**  
2021 CAPITAL FUND PROGRAM  
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### MECHANICAL CONSTRUCTION TAG NOTES

- (APPLIES TO THIS DRAWING ONLY)
- INSTALL HVAC UNITS ON CONCRETE PAD. MAINTAIN ALL OPERATING AND SERVICE CLEARANCES. FASTEN CONDENSING UNIT TO PAD WITH LAG BOLTS.
  - INSTALL NEW CONCRETE PAD FOR CONDENSING UNITS. REFER TO ARCHITECTURAL DRAWINGS.
  - NEW FENCE AND GATE. REFER TO ARCHITECTURAL DRAWINGS.
  - ROUTE REFRIGERANT LINES FROM CONDENSING UNIT TO CORRESPONDING FURNACE IN SHORTEST PATH. REFRIGERANT PIPING SHALL BE SUPPORTED BY UNISTRUT, FASTENED TO CONCRETE PAD AND HELD TIGHT TO WALL FOR A CLEAN INSTALLATION WHICH DOES NOT INTERFERE WITH MAINTENANCE CLEARANCE REQUIREMENTS. INSTALL REFRIGERATION PIPING AND REFRIGERATION SPECIALTIES PER MANUFACTURERS RECOMMENDATIONS.
  - ROUTE REFRIGERATION PIPING ON WALL AND SUPPORT AS REQUIRED. SEE HVAC DETAILS. COORDINATE LOCATION WITH ELECTRICAL CONTRACTOR.
  - REFRIGERATION PIPING UP TO ATTIC SPACE. CORE DRILL OR SAW CUT OPENINGS FOR REFRIGERATION PIPING. COORDINATE OPENINGS WITH ELECTRICAL CONTRACTOR. COVER REFRIGERATION PIPING AND CONDUIT WITH SHEET METAL COVER PAINTED TO MATCH THE BUILDING COLOR. PATCH OPENINGS WITH SHEET METAL FLASHING.
  - SEE TYPICAL MECHANICAL / ELECTRICAL DETAIL ON SHEET ME1.5.
  - LABEL REFRIGERANT LINES, CONTROL WIRE AND POWER CONDUIT FOR CORRESPONDING CU/FURNACE WHERE THEY ENTER ATTIC AND WHERE THEY DROP TO EACH MECHANICAL ROOM.

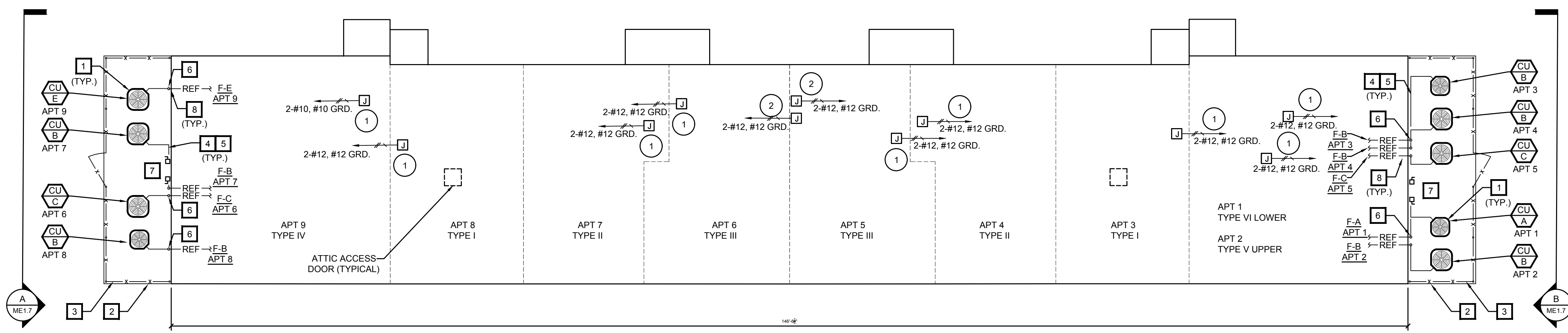
### ELECTRICAL CONSTRUCTION TAG NOTES

- (APPLIES TO THIS DRAWING ONLY)
- COORDINATE WITH EXISTING CONDITIONS. FURNISH AND INSTALL A JUNCTION BOX AS REQUIRED TO INTERCEPT THE EXISTING CONDENSING UNIT BRANCH CIRCUIT AND EXTEND NEW BRANCH CIRCUIT IN EMT, SIZE INDICATED, TO THE NEW CONDENSING UNIT SERVICE DISCONNECT SWITCH. LOCATION OF JUNCTION BOX SHALL BE ABOVE BUILDING INSULATION.
  - FIELD LOCATE AN EXISTING HOUSE PANEL BRANCH CIRCUIT WHICH FED THE EXISTING CONDENSING UNIT SERVICE RECEPTACLE AND EXTEND AS REQUIRED TO SUPPLY NEW RECEPTACLE AT CONDENSING UNITS.
  - APPROXIMATE LOCATION OF CHASE TO RESPECTIVE DWELLING UNIT. RACEWAY FOR THERMOSTAT WIRING TO EXTEND 2' DOWN INTO CHASE AND END WITH BUSHING.
  - REFER TO DRAWING ME1.8 FOR DETAIL AND GENERAL REQUIREMENTS OF RACEWAY DROPPING AND EXTENDING TO CONDENSING UNITS.

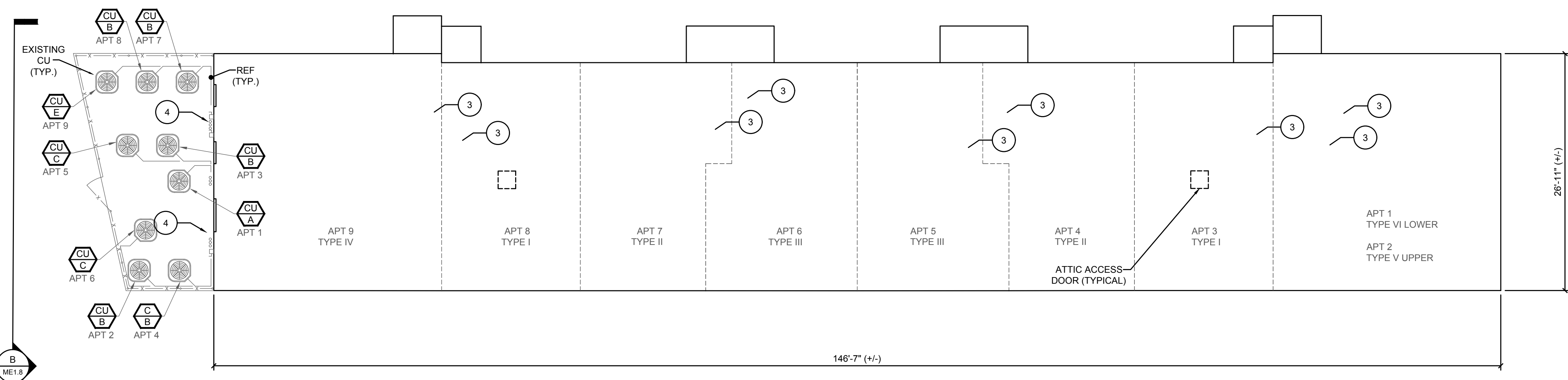
### ATTIC ACCESS NOTE:

- CONTRACTOR SHALL FIELD LOCATE ATTIC ACCESS DOORS FROM WITHIN UPPER LEVEL APARTMENTS. COORDINATE ALL NEW WORK ROUTING TO CLEAR ACCESS AREA AND REDUCE OCCUPANT DISTURBANCE.
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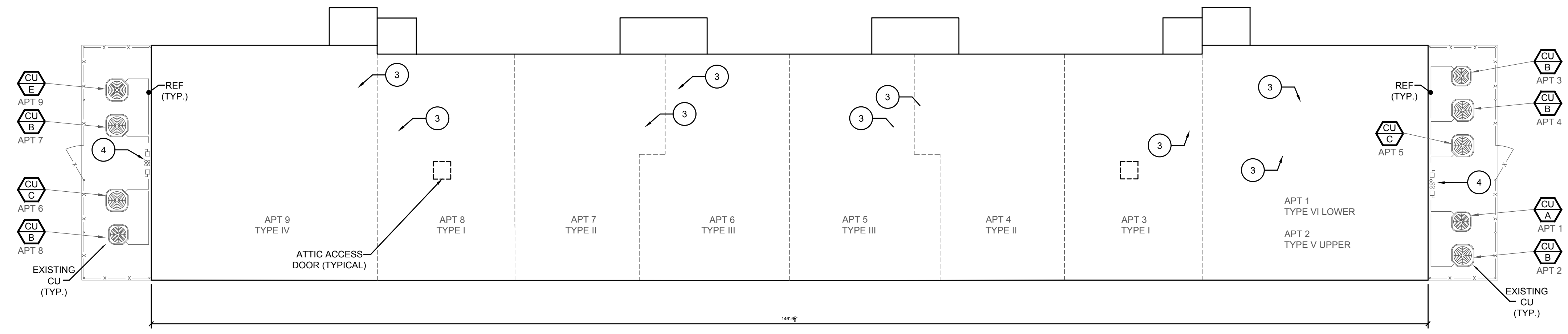
**MARCUM ENGINEERING, LLC**  
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HVAC/ELEC/CONTOL WIRING: FLOOR PLAN - 6-3 OVERALL BUILDING "B" (TYPICAL BUILDING)  
SCALE: 1/8"=1'-0" \*PLAN MAY BE MIRROR



DEDUCTIVE ALTERNATE BID: FLOOR PLAN - 6-3 OVERALL BUILDING "B" (709 SOUTH 22 STREET)  
SCALE: 1/8"=1'-0"



DEDUCTIVE ALTERNATE BID: FLOOR PLAN - 6-3 OVERALL BUILDING "B" (TYPICAL BUILDING)  
SCALE: 1/8"=1'-0" \*PLAN MAY BE MIRROR

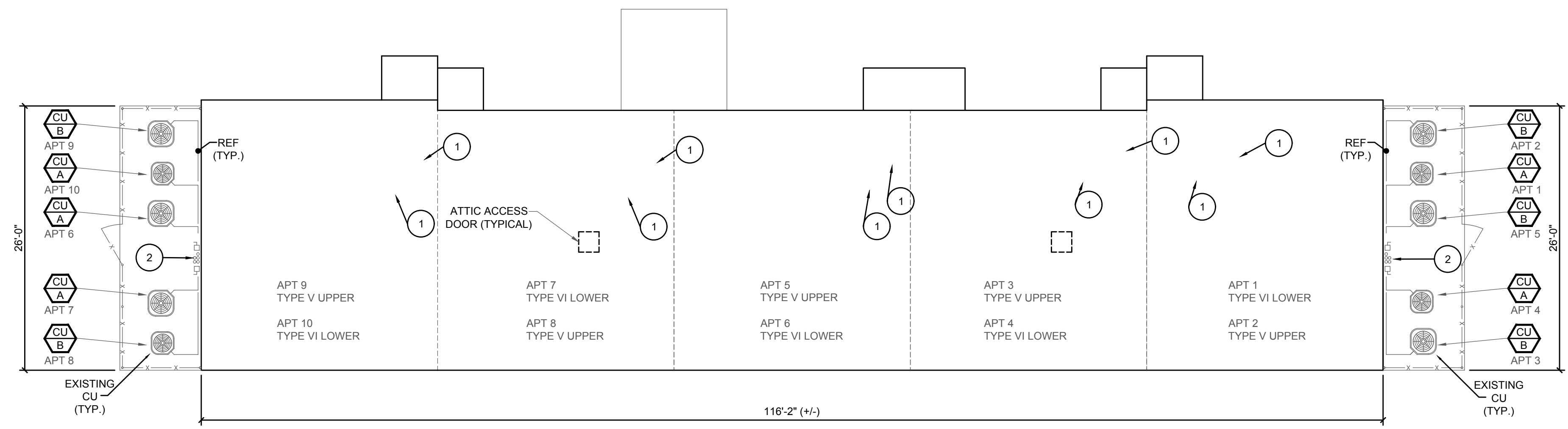
# ELECTRICAL CONSTRUCTION TAG NOTES

(APPLIES TO THIS DRAWING ONLY)

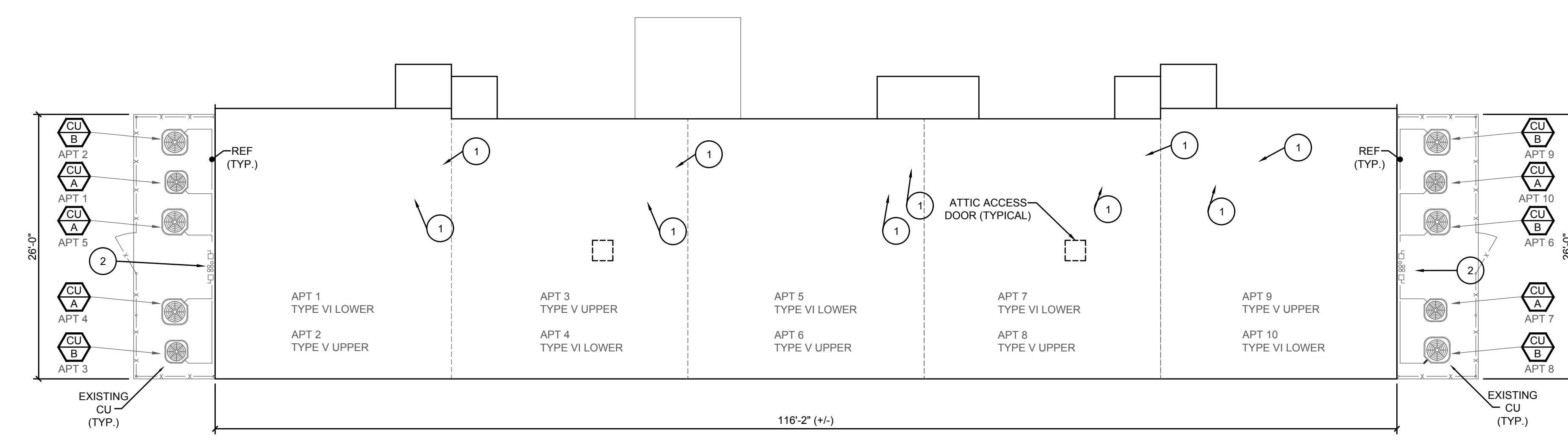
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2	REFER TO DRAWING ME1.8 FOR DETAIL AND GENERAL REQUIREMENTS OF RACEWAY DROPPING AND EXTENDING TO CONDENSING UNITS.

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**DEDUCTIVE ALTERNATE BID: FLOOR PLAN - 6-3 OVERALL BUILDING "C" (2250 OHIO STREET)**  
SCALE: 1/8"-1'-0"



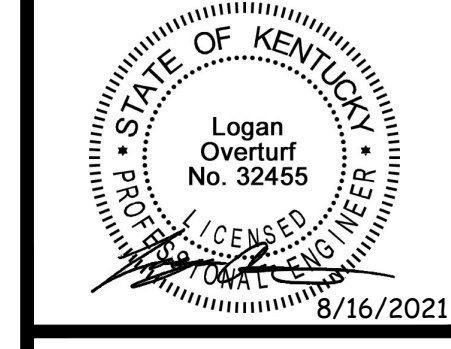
**DEDUCTIVE ALTERNATE BID: FLOOR PLAN - 6-3 OVERALL BUILDING "C" (701 SOUTH 22 STREET)**  
SCALE: 1/8"-1'-0"

**ATTIC ACCESS NOTE:**

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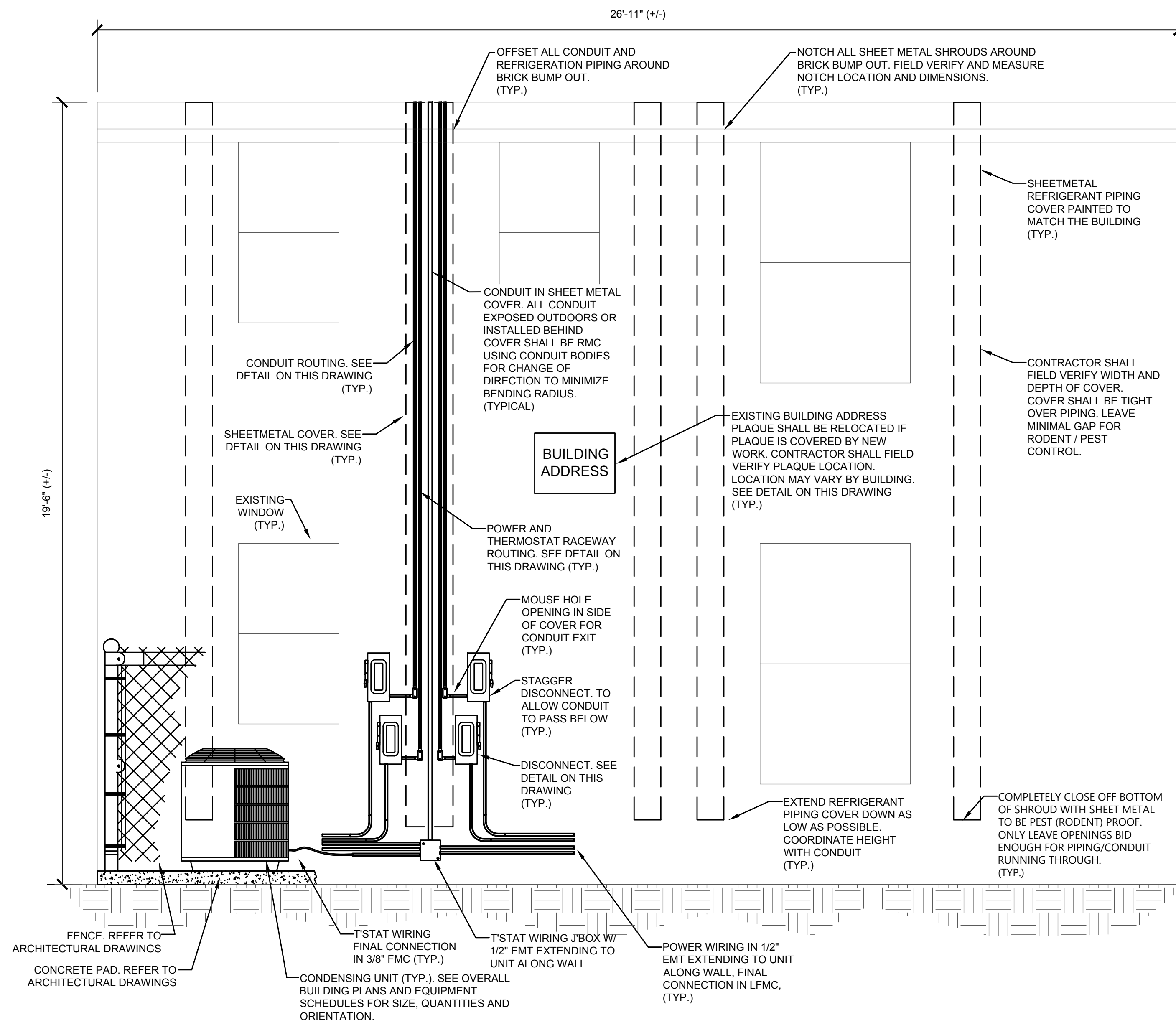
**OVERALL BUILDING C FLOOR PLAN - KY 6-3**  
**HOUSING AUTHORITY OF PADUCAH**  
**HVAC REPLACEMENT - PHASE 2**  
2021 CAPITAL FUND PROGRAM  
PADUCAH, KENTUCKY  
DEVELOPMENT KY06-003

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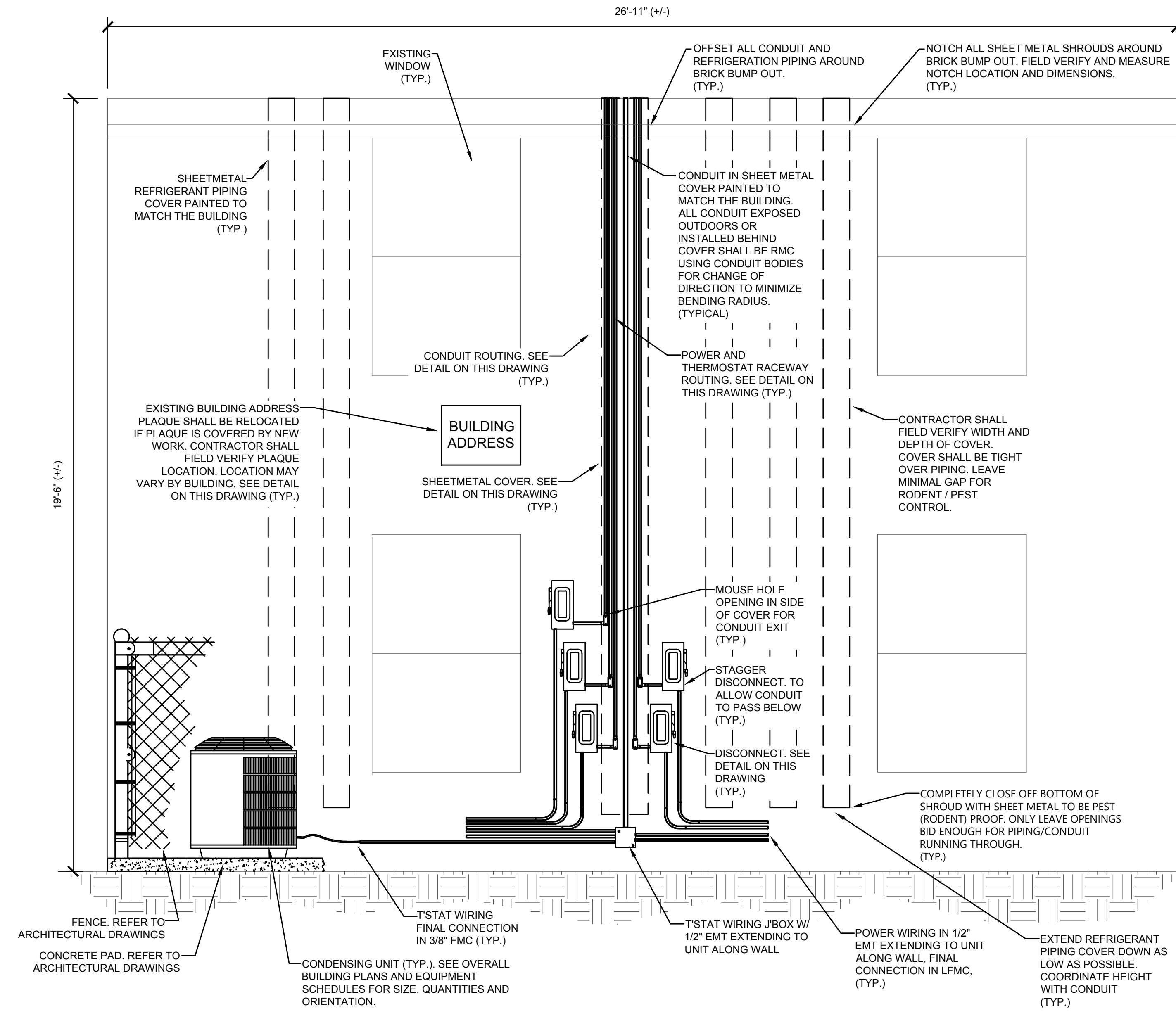
**ME1.6**  
FILE NO. 2898-01-03 / 21584



**ELEVATION A - BUILDING "B" (TYPICAL 11 BUILDINGS)**

SCALE: 1/2"=1'-0"

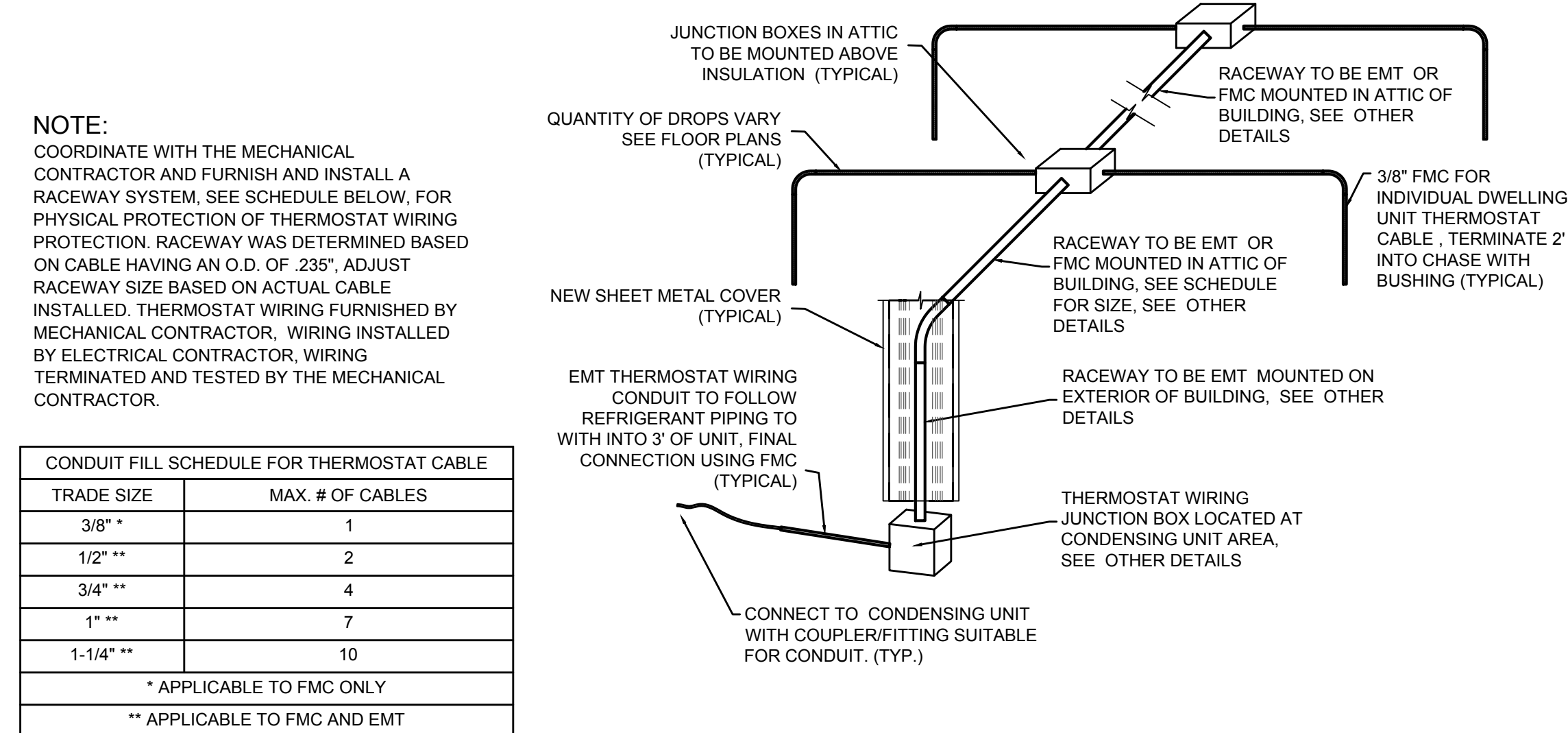
HVAC/ELEC/CONTROL WIRING



**ELEVATION B - BUILDING "B" (TYPICAL 11 BUILDINGS)**

SCALE: 1/2"=1'-0"

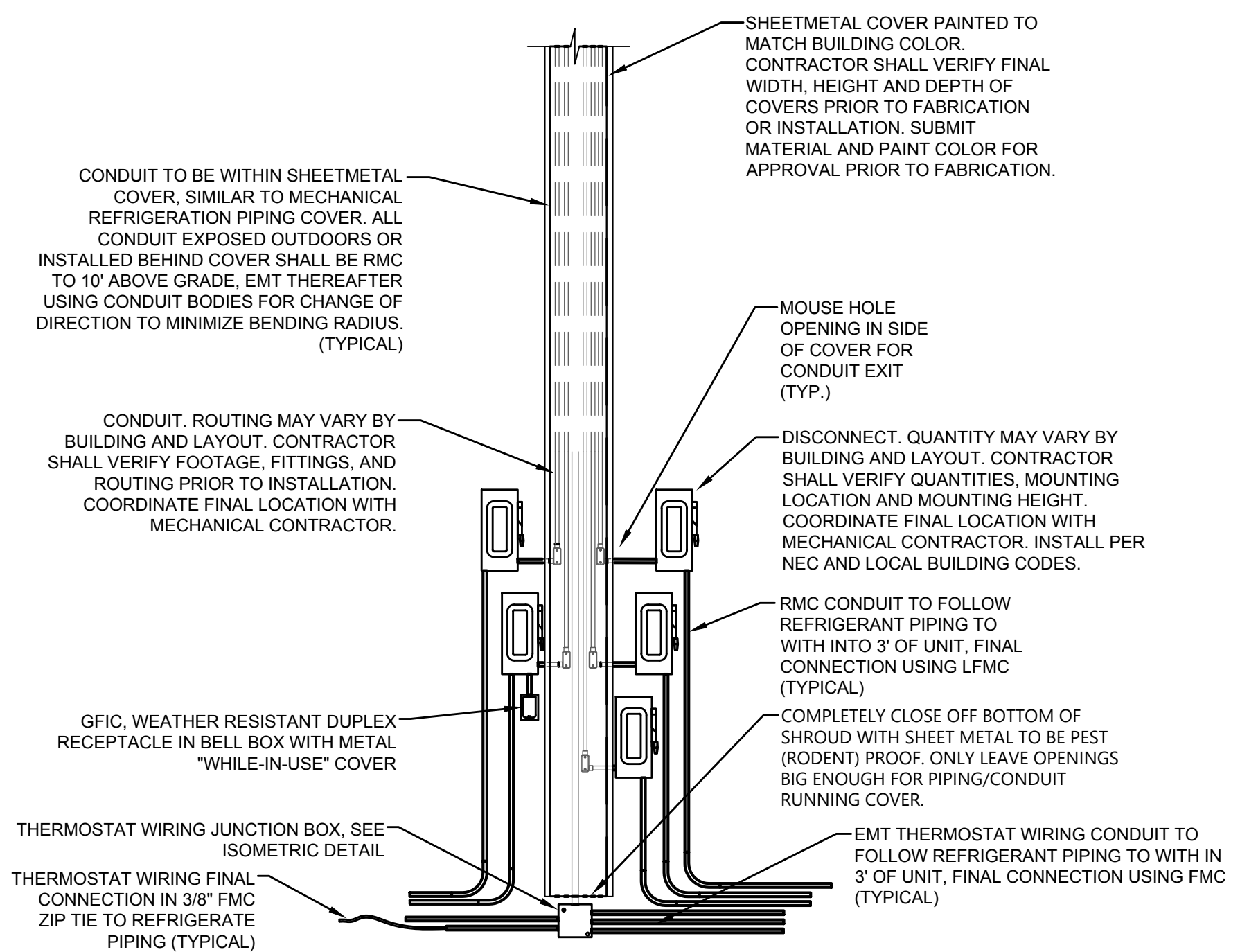
HVAC/ELEC/CONTROL WIRING



**TYPICAL ISOMETRIC OF THERMOSTAT WIRING RACEWAY SYSTEM**

SCALE: NONE

HVAC/ELEC/CONTROL WIRING



**TYPICAL BUILDING MECHANICAL / ELECTRICAL ELEVATION DETAIL**

SCALE: NONE

HVAC/ELEC/CONTROL WIRING



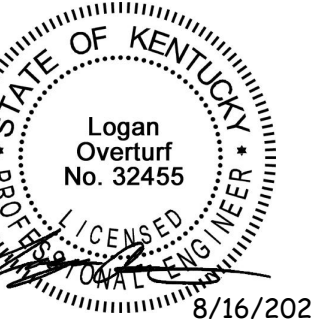
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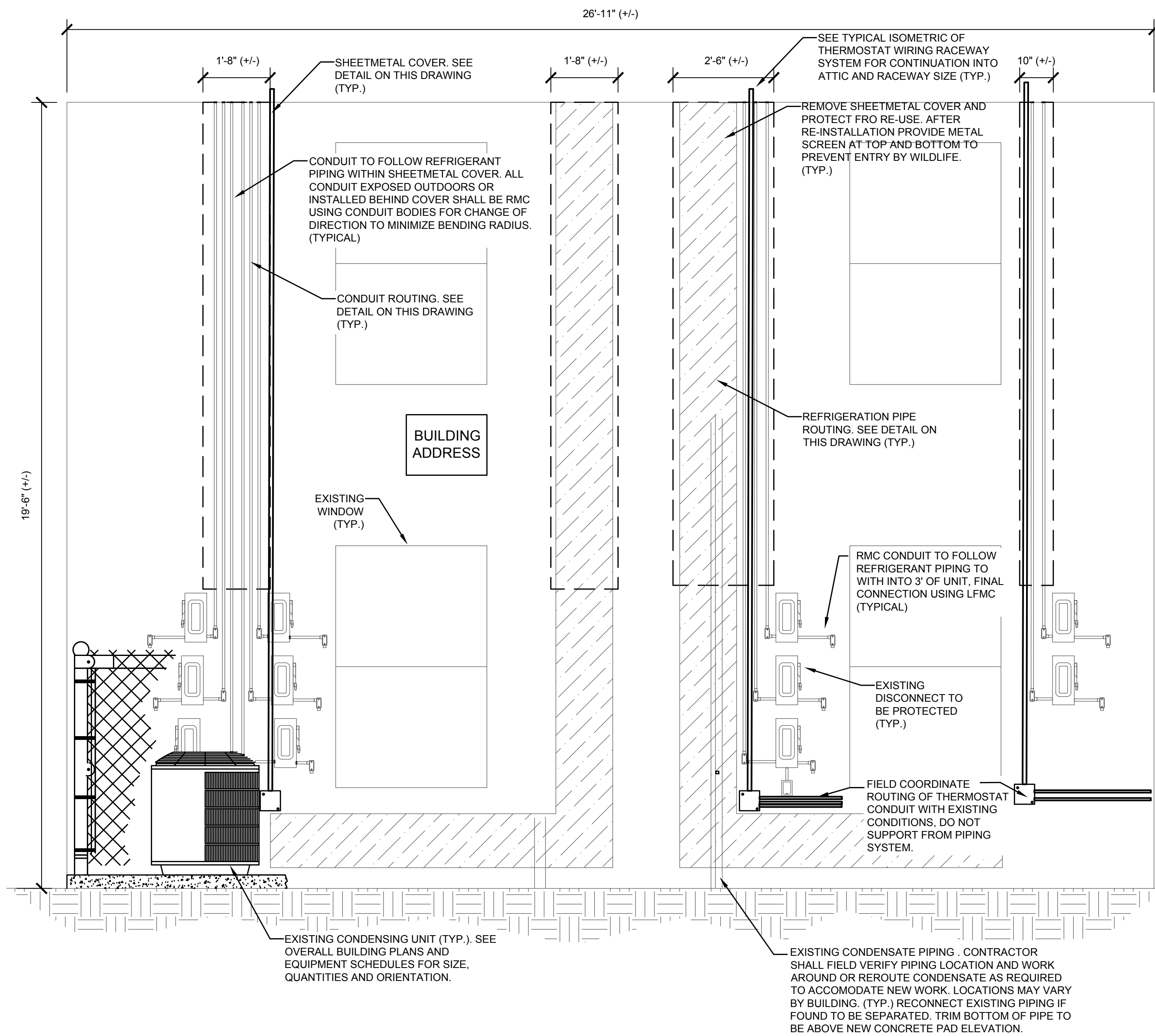
**BUILDING ELEVATIONS AND DETAILS - KY 6-3**  
**HOUSING AUTHORITY OF PADUCAH**  
**HVAC REPLACEMENT - PHASE 2**  
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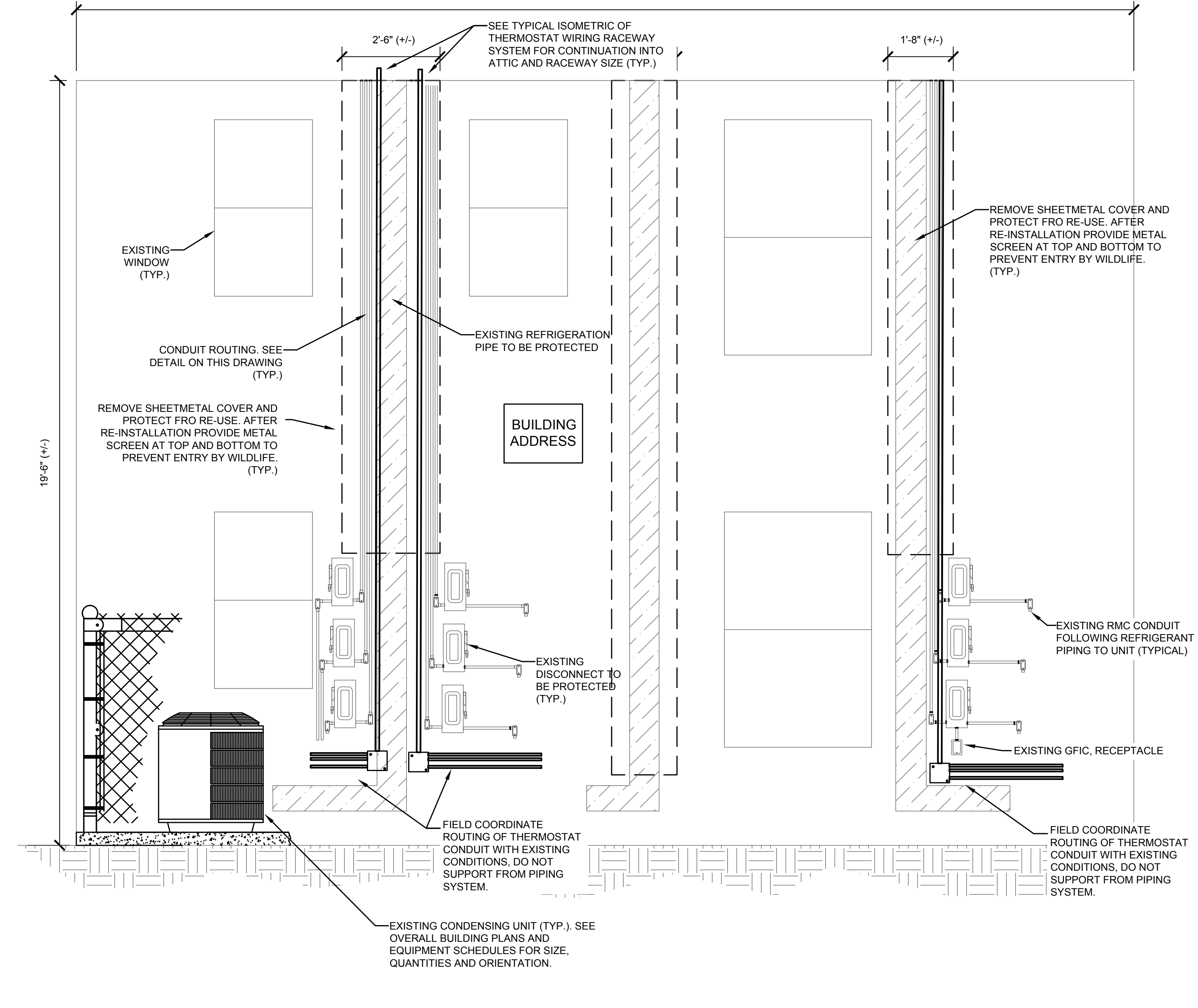
**ME1.7**

FILE NO. 2898-01-03 / 21584



DEDUCTIVE ALTERNATE BID: ELEVATION A - BUILDING "A" (719 SOUTH 22 STREET)

SCALE: 1/2"=1'-0"



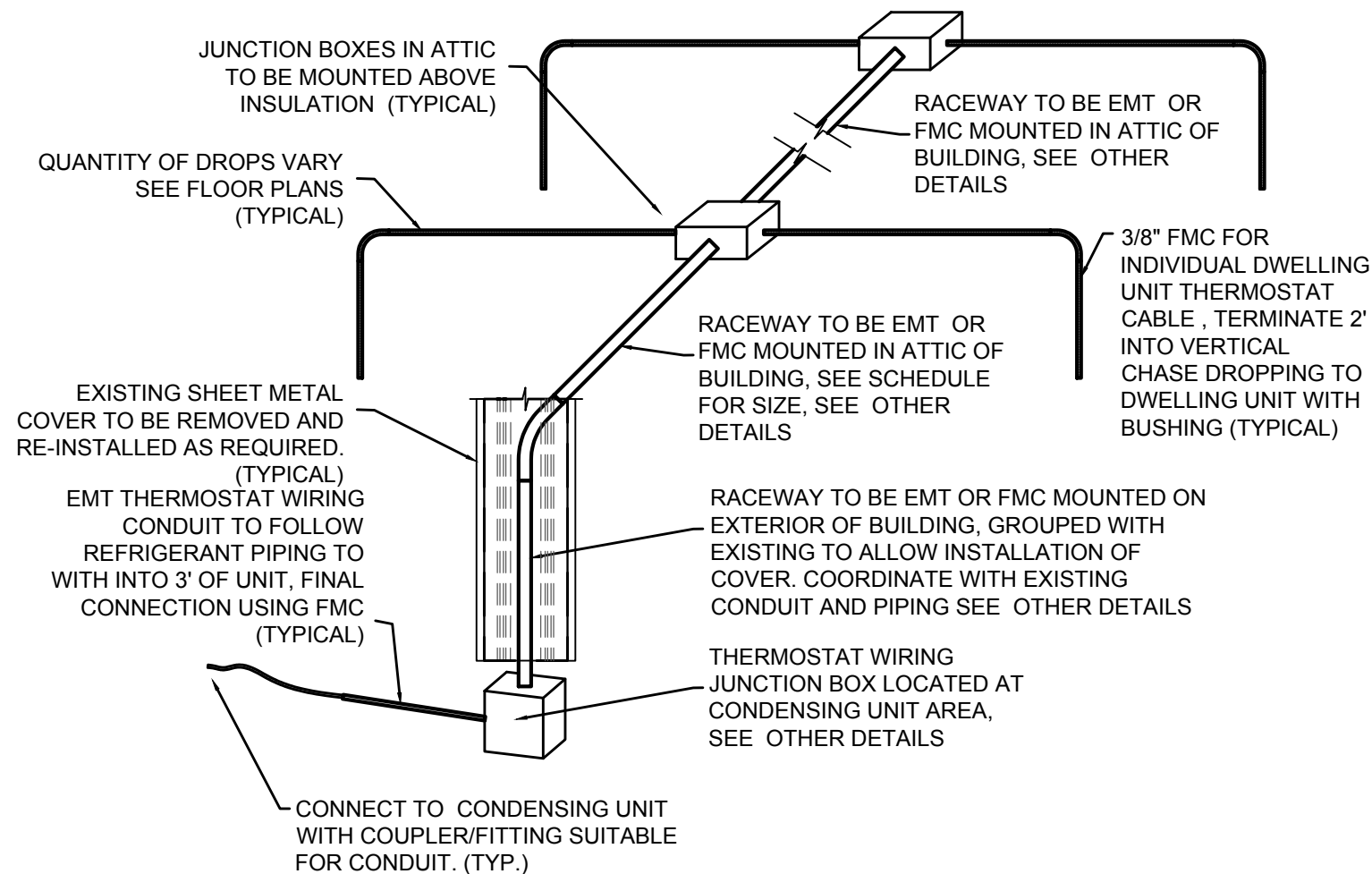
DEDUCTIVE ALTERNATE BID: ELEVATION B - BUILDING "B" (709 SOUTH 22 STREET)

SCALE: 1/2"=1'-0"

**NOTE:**  
COORDINATE WITH THE MECHANICAL CONTRACTOR EXISTING THERMOSTAT WIRING SHALL BE REMOVED AND NEW WIRING INSTALLED IN NEW RACEWAY SYSTEM. FURNISH AND INSTALL A RACEWAY SYSTEM. SEE SCHEDULE BELOW, FOR PHYSICAL PROTECTION OF THERMOSTAT WIRING PROTECTION. RACEWAY WAS DETERMINED BASED ON CABLE HAVING AN O.D. OF .235". ADJUST RACEWAY SIZE BASED ON ACTUAL CABLE INSTALLED. THERMOSTAT WIRING FURNISHED BY MECHANICAL CONTRACTOR, WIRING INSTALLED BY ELECTRICAL CONTRACTOR, WIRING TERMINATED AND TESTED BY THE MECHANICAL CONTRACTOR.

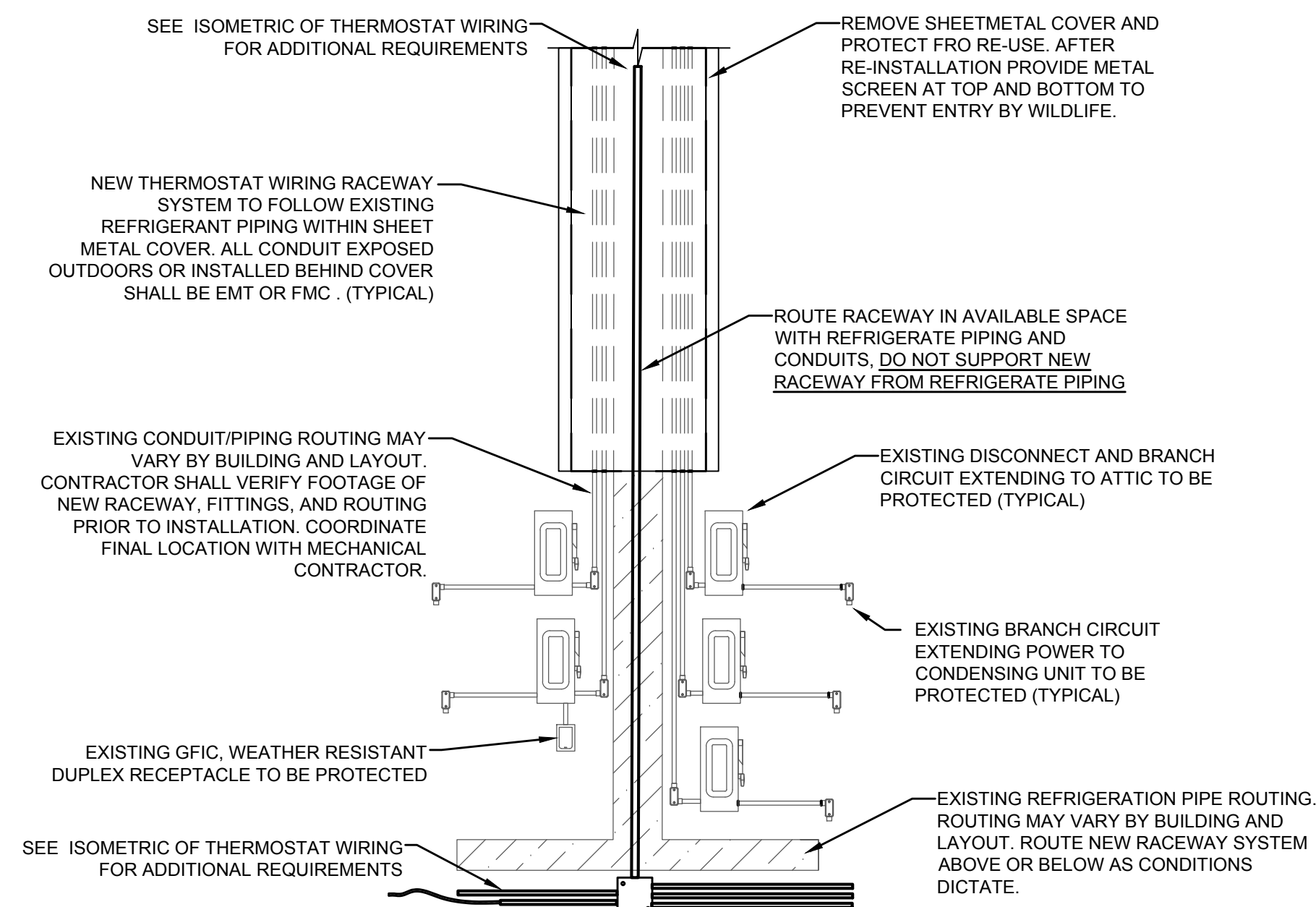
CONDUIT FILL SCHEDULE FOR THERMOSTAT CABLE	
TRADE SIZE	MAX. # OF CABLES
3/8"	1
1/2"	2
3/4"	4
1"	7
1-1/4"	10

\* APPLICABLE TO FMC ONLY  
\*\* APPLICABLE TO FMC AND EMT



DEDUCTIVE ALTERNATE BID: (C) TYPICAL ISOMETRIC OF THERMOSTAT WIRING RACEWAY SYSTEM

SCALE: NONE



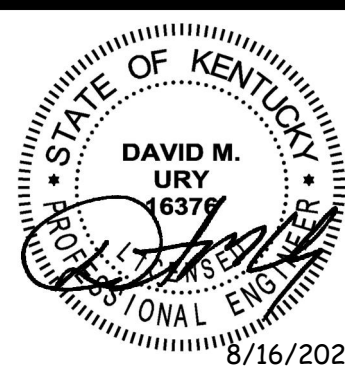
DEDUCTIVE ALTERNATE BID: (D) TYPICAL BUILDING MECHANICAL / ELECTRICAL ELEVATION DETAIL

SCALE: NONE

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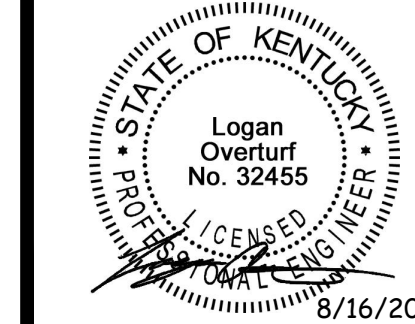
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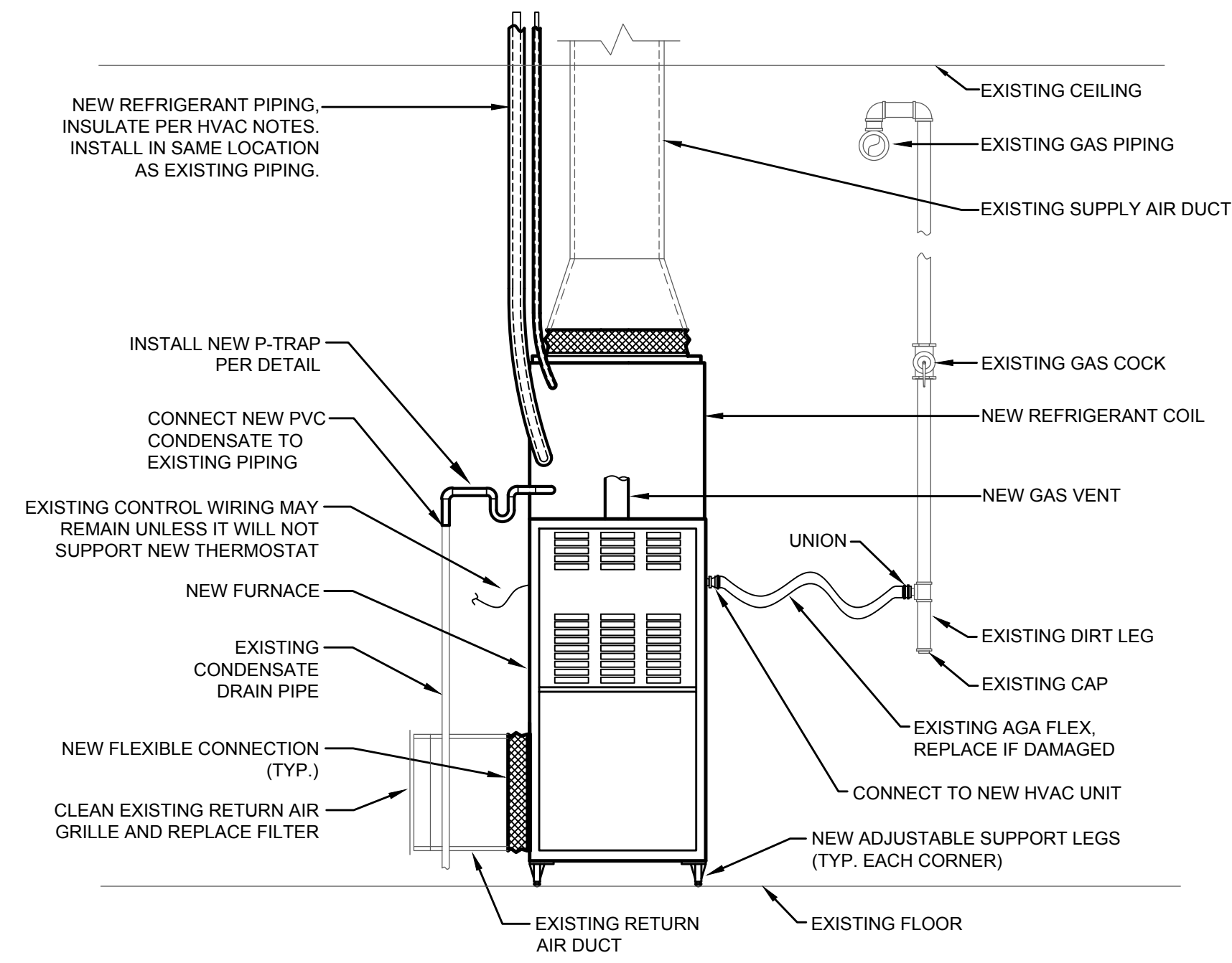
BUILDING ELEVATIONS AND DETAILS - KY 6-3  
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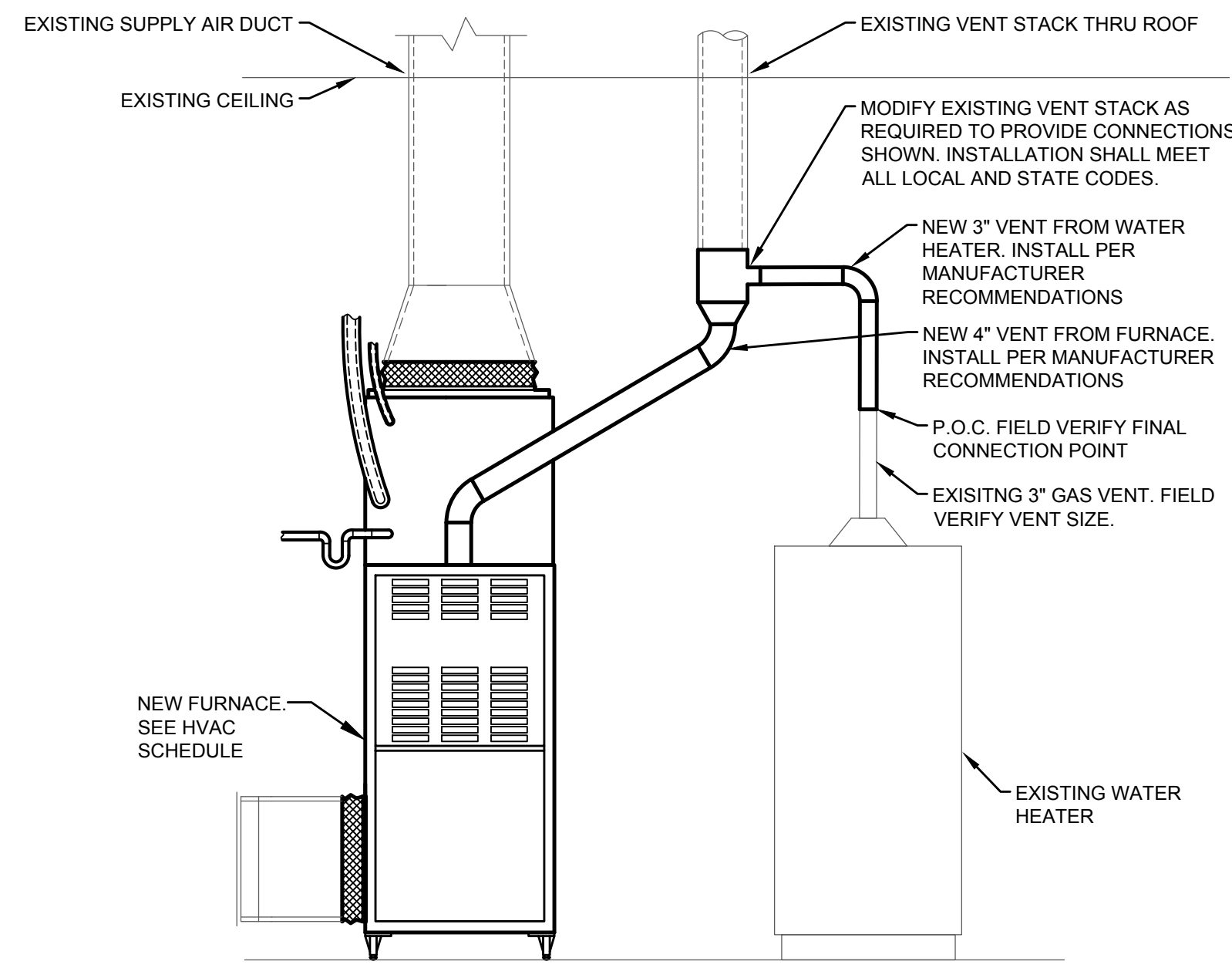


**ME1.8**

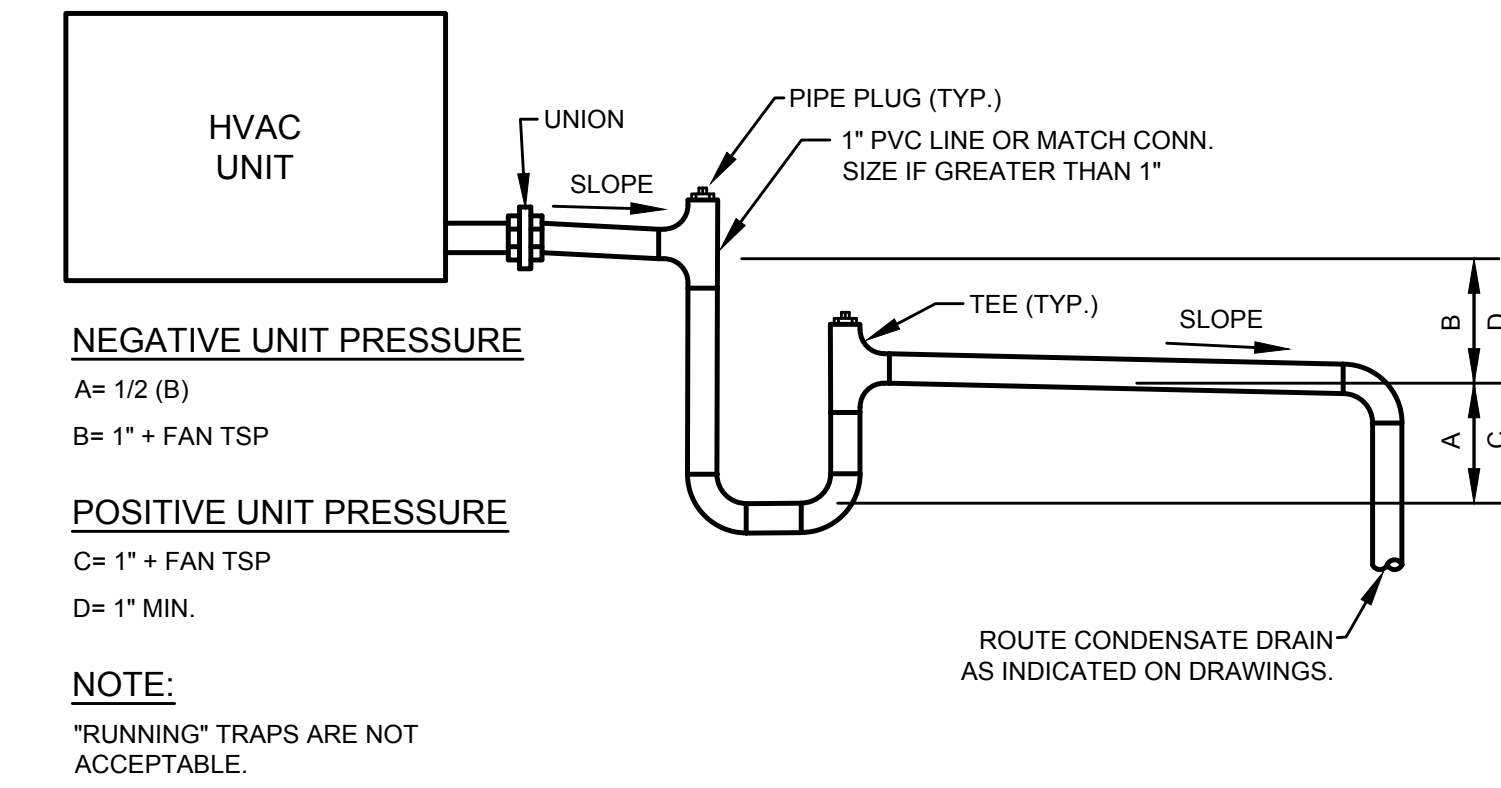
FILE NO. 2898-01-03 / 21584



**FURNACE INSTALLTION DETAIL**  
NO SCALE



**GAS FLUE VENT CONNECTION DETAIL**  
NO SCALE

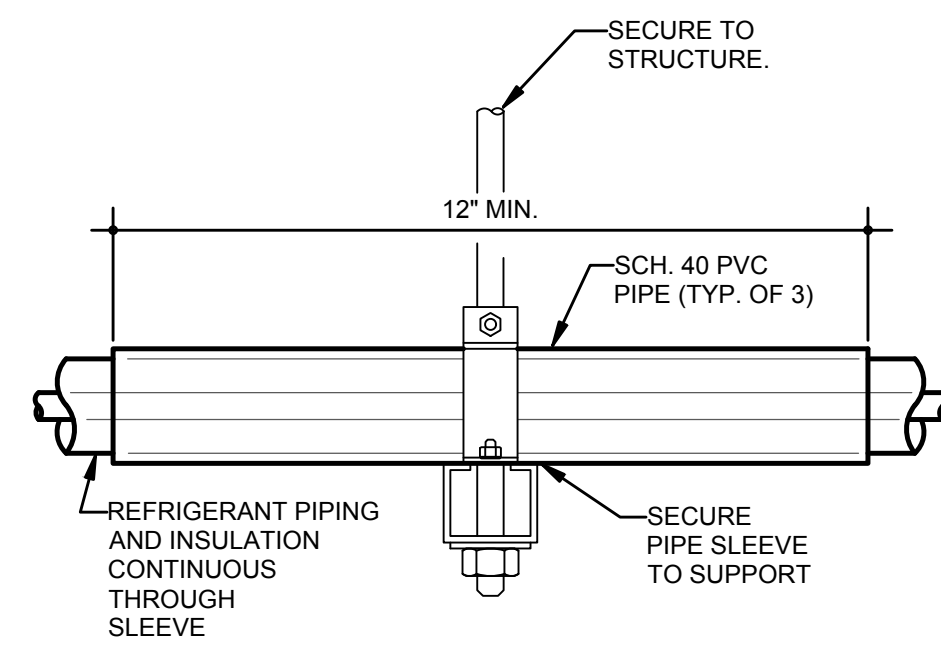


**NEGATIVE UNIT PRESSURE**  
A = 1/2 (B)  
B = 1" + FAN TSP

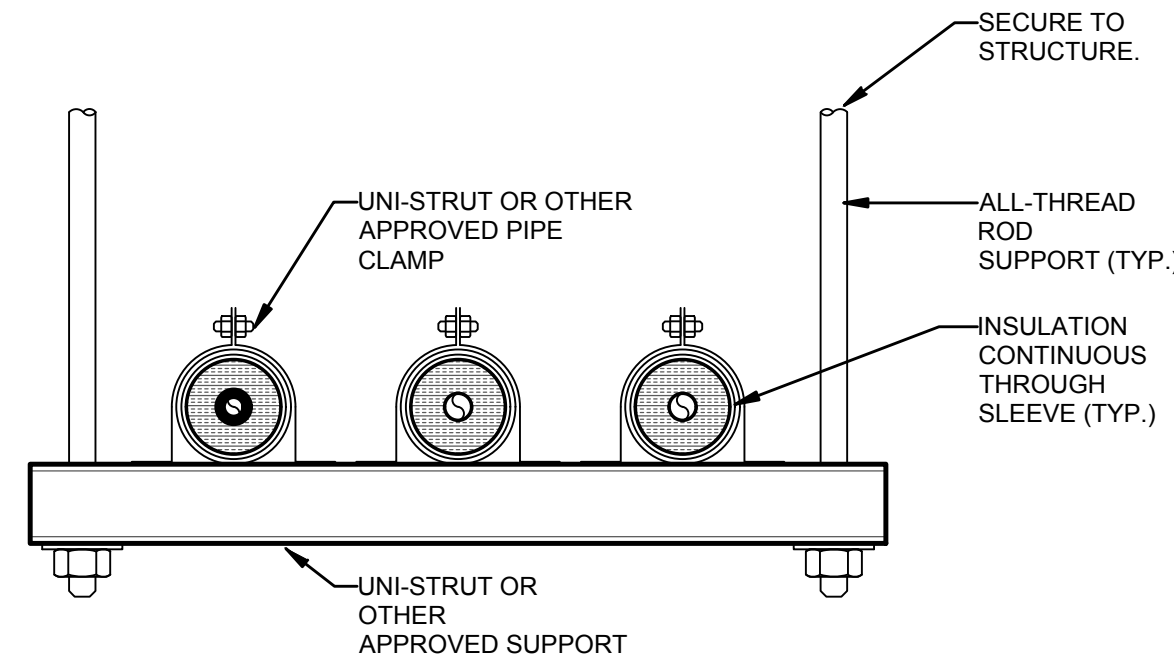
**POSITIVE UNIT PRESSURE**  
C = 1" + FAN TSP  
D = 1" MIN.

**NOTE:**  
"RUNNING" TRAPS ARE NOT ACCEPTABLE.

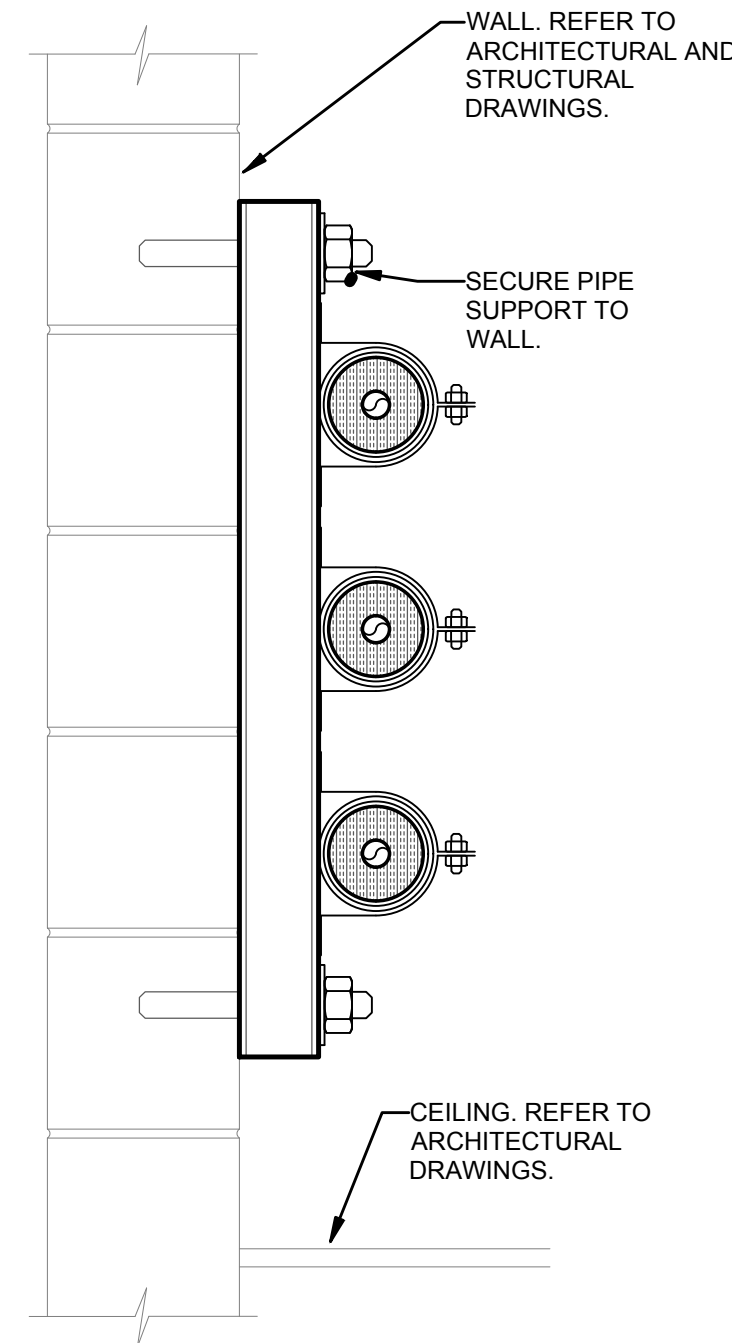
**CONDENSATE DRAIN TRAP DETAIL**  
NO SCALE



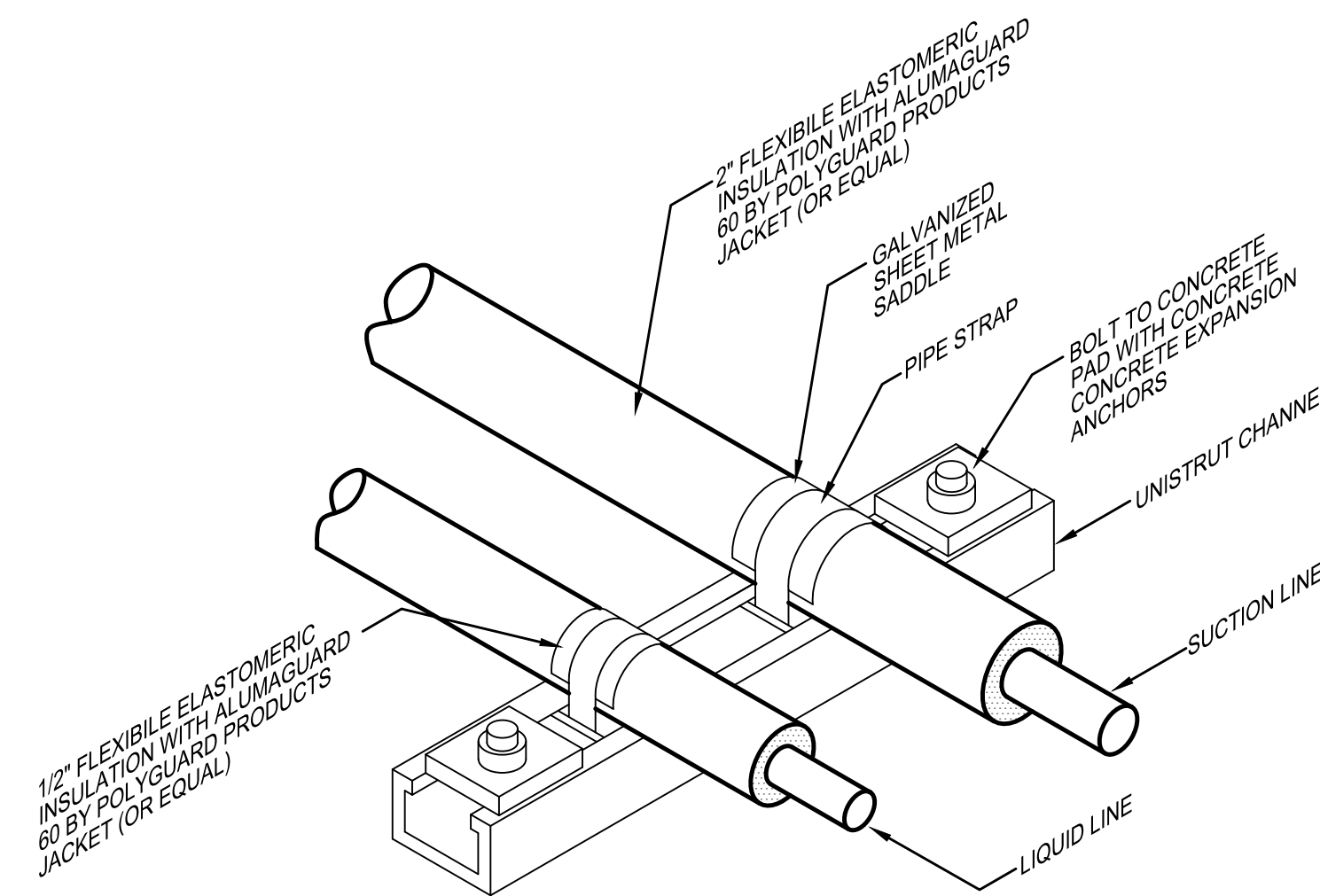
**SIDE VIEW**



**HORIZONTAL INSTALLATION**



**VERTICAL INSTALLATION**



**REFRIGERANT PIPE SUPPORT DETAIL**  
NO SCALE

**REFRIGERANT PIPE SUPPORT DETAIL**  
NO SCALE

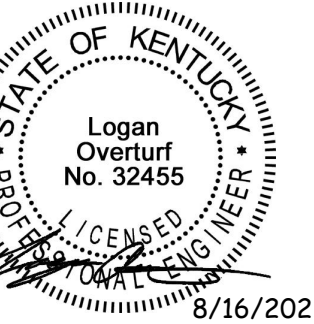
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**MECH-ELEC DETAILS - KY 6-3**  
**HOUSING AUTHORITY OF PADUCAH**  
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**ME4.1**

