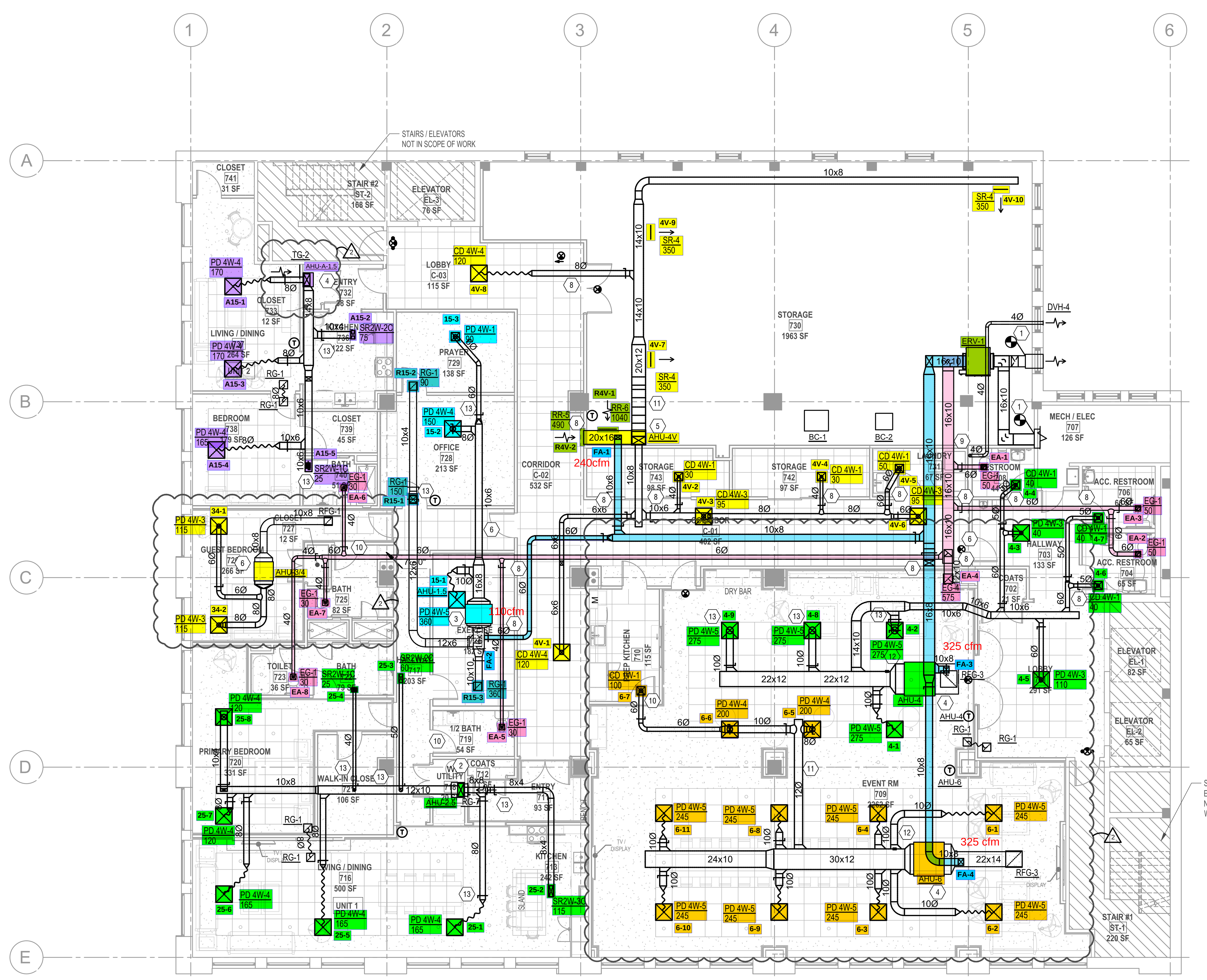
DIFFUSER, GRILLE, AND REGISTER SCHEDULE

CALLOUT	DESCRIPTION	FACE SIZE (IN)	INLET SIZE (IN)	MODEL	NOTES
CD 1W-1	1-WAY THREE CONE DIFFUSER	12x12	6Ø	TITUS PAS	ADJUSTABLE DISCHARGE PATTERN
CD 4W-1	4-WAY THREE CONE DIFFUSER	12x12	6Ø	TITUS TMS	REMOVABLE CORE FROM FACE OF DIFFUSER. INSULATE BACK OF DIFFUSER.
CD 4W-3	4-WAY THREE CONE DIFFUSER	24x24	6Ø	TITUS TMS	REMOVABLE CORE FROM FACE OF DIFFUSER. INSULATE BACK OF DIFFUSER.
CD 4W-4	4-WAY THREE CONE DIFFUSER	24x24	8Ø	TITUS TMS	REMOVABLE CORE FROM FACE OF DIFFUSER. INSULATE BACK OF DIFFUSER.
DVH-4	28 GAUGE GALVANIZED STEEL. PRE-PAINTED DRYER VENT.	6x7	4Ø	FAMCO DWVP	BACKDRAFT DAMPER/ANGLED HOOD.
EG-1	ALUMINUM RETURN GRILLE, 35 DEGREE DEFLECTION, 3/4" BLADE SPACING	8x8	6x6	TITUS 350FS	STANDARD FINISH: #26 WHITE
EG-4	ALUMINUM RETURN GRILLE, 35 DEGREE DEFLECTION, 3/4" BLADE SPACING	14x14	12x12	TITUS 350FS	STANDARD FINISH: #26 WHITE
PD 4W-1	4-WAY STEEL PLAQUE FACE DIFFUSER	12x12	6Ø	TITUS OMNI	REMOVABLE CORE FROM FACE OF DIFFUSER. INSULATE BACK OF DIFFUSER.
PD 4W-3	4-WAY STEEL PLAQUE FACE DIFFUSER	24x24	6Ø	TITUS OMNI	REMOVABLE CORE FROM FACE OF DIFFUSER. INSULATE BACK OF DIFFUSER.
PD 4W-4	4-WAY STEEL PLAQUE FACE DIFFUSER	24x24	8Ø	TITUS OMNI	REMOVABLE CORE FROM FACE OF DIFFUSER. INSULATE BACK OF DIFFUSER.
PD 4W-5	4-WAY STEEL PLAQUE FACE DIFFUSER	24x24	10Ø	TITUS OMNI	REMOVABLE CORE FROM FACE OF DIFFUSER. INSULATE BACK OF DIFFUSER.
RFG-3	LOUVERED FILTER GRILLE	24x24	22x22	TITUS 350FLF1	35 DEGREE DEFLECTION
RG-1	EGGCRATE RETURN GRILLE	12x12	10x10	TITUS 50F	#26 WHITE FINISH.
RG-7	STEEL RETURN GRILLE, 3/4" BLADE SPACING, 35 DEGREE DEFLECTION, BLADES PARALLEL TO LONG DIMENSION	20x20	18x18	TITUS 350RL	STEEL OPPOSED-BLADE DAMPER OPERABLE FROM THE FACE OF THE GRILLE.
RR-5	STEEL RETURN GRILLE, 3/4" BLADE SPACING, 35 DEGREE DEFLECTION, BLADES PARALLEL TO LONG DIMENSION	20x12	18x10	TITUS 350RL	STEEL OPPOSED-BLADE DAMPER OPERABLE FROM THE FACE OF THE GRILLE.
RR-6	STEEL RETURN GRILLE, 3/4" BLADE SPACING, 35 DEGREE DEFLECTION, BLADES PARALLEL TO LONG DIMENSION	26x12	24x10	TITUS 350RL	STEEL OPPOSED-BLADE DAMPER OPERABLE FROM THE FACE OF THE GRILLE.
SR2W-1C	STEEL 2-WAY REGISTER, MS DAMPER, 1/3" FIN SPACING	8x6	6x4	HART AND COOLEY/ 661	ADJUSTABLE DAMPER IN FACE, BRIGHT WHITE FINISH
SR2W-2C	STEEL 2-WAY REGISTER, MS DAMPER, 1/3" FIN SPACING	12x6	10x4	HART AND COOLEY/ 661	ADJUSTABLE DAMPER IN FACE, BRIGHT WHITE FINISH
SR2W-3C	STEEL 2-WAY REGISTER, MS DAMPER, 1/3" FIN SPACING	16x6	14x4	HART AND COOLEY/ 661	ADJUSTABLE DAMPER IN FACE, BRIGHT WHITE FINISH
SR-4	STEEL DOUBLE DEFLECTION, 3/4" BLADE SPACING, FRONT BLADES PARALLEL TO LONG DIMENSION.	20x8	18x6	TITUS 300RL	STEEL OPPOSED-BLADE DAMPER OPERABLE FROM THE FACE OF THE GRILLE.
TG-2	STEEL RETURN GRILLE, 3/4" BLADE SPACING, 35 DEGREE DEFLECTION, BLADES PARALLEL TO LONG DIMENSION	20x12	18x10	TITUS 350RL	STEEL OPPOSED-BLADE DAMPER OPERABLE FROM THE FACE OF THE GRILLE.

NOTES FOR ALL AIR DEVICES:
1. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR MOUNTING TYPE
2. DUCT RUN-OUT SAME SIZE AS NECK UNLESS NOTED OTHERWISE
3. PLASTER FRAME WHERE LOCATED IN GYPSUM CEILING
4. PAINT DUCTWORK THAT IS VISIBLE BEHIND AIR DEVICES MATTE BLACK
5. AIR DEVICES SHALL BE ALUMINUM IN HIGH MOISTURE AREAS. (RESTROOMS)
6. DO NOT CONNECT AIR DEVICE DIRECTLY TO DUCT. PROVIDE FULL SIZE TAKE-OFF WITH BALANCING DAMPER AND 45 DEGREE FLARED OUT CONNECTION TO MAIN OR BRANCH DUCT.
7. WHERE AIR DEVICES ARE LOCATED IN A FIRE RATED ASSEMBLY, PROVIDE CEILING RADIATION DAMPERS, FIRE DAMPER, FIRE RATED INSULATION, AS REQUIRED PER CODE.
8. WHERE DAMPER IN DUCTWORK IS NOT ACCESSIBLE, PROVIDE METROPOLITAN AIR TRANSFER (MAT) MODEL RT-150 SERIES CABLE ACTUATED DAMPER DRIVE SYSTEM, OR APPROVED EQUAL.
9. PROVIDE SAMPLE AIR DEVICES STYLE AND COLOR, FOR OWNER'S REPRESENTATIVE APPROVAL, BEFORE ORDERING FINAL AIR DEVICES.
10. ADD INSULATION TO THE BACK OF ALL AIR DEVICES WHERE DUCTWORK ALSO REQUIRES INSULATION.

SYMBOLS LEGEND – HVAC

SYMBOL	DESCRIPTION
Ⓣ	THERMOSTAT
	CEILING DIFFUSER
	SIDE WALL GRILL
	RETURN WALL GRILL
	AIR FLOW DIRECTION
14x10	DUCTWORK
14x10	LINED DUCTWORK
	TYPICAL SUPPLY DUCT DN
	TYPICAL RETURN DUCT DN
	TYPICAL EXHAUST DUCT
	TURNING VANES
	FLEXIBLE DUCT, 8'-0" LONG MAX.
	TYPICAL ROUND DUCT DN
	ROUND DUCT UP
	MVD MANUAL VOLUME DAMPER
	DROPPED CEILING/SOFFIT
	DUCT CONTINUATION
	CONNECTION POINT



1 M1.10 MECHANICAL SEVENTH FLOOR PLAN
SCALE: 1/8" = 1'-0"

MECHANICAL SCOPE OF WORK

PROVIDE SPLIT SYSTEMS AND ERV FOR 7TH FLOOR RESIDENTIAL AND COMMERCIAL RENOVATION.

CODES & STANDARDS REFERENCED

- 2024 OHIO MECHANICAL CODE
- 2024 OHIO BUILDING CODE
- ASHRAE 90.1-2019

HVAC DESIGN CONDITIONS

COMMERCIAL		RESIDENTIAL	
COOLING	HEATING	COOLING	HEATING
OUTDOOR: 93 DB / 75 WB	OUTDOOR: 0 DB	OUTDOOR: 93 DB / 75 WB	OUTDOOR: 0 DB
INDOOR: 74	INDOOR: 72	INDOOR: 75	INDOOR: 70

CODE EXCEPTIONS

1. 2024 OMC SECTION 607.5.2 FIRE BARRIERS EXCEPTION 2:
   1.1. SUCH WALLS ARE PENETRATED BY FULLY DUCTED HVAC SYSTEMS, HAVE A REQUIRED FIRE-RESISTANCE RATING OF 1 HOUR OR LESS, ARE IN AREAS OF OTHER THAN GROUP H AND ARE IN BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903.3.1.2 OF THE INTERNATIONAL BUILDING CODE. FOR THE PURPOSES OF THIS EXCEPTION, A FULLY DUCTED HVAC SYSTEM SHALL BE A DUCT SYSTEM FOR THE STRUCTURE'S HVAC SYSTEM. SUCH A DUCT SYSTEM SHALL BE CONSTRUCTED OF SHEET STEEL NOT LESS THAN 26 GAGE [0.0217 INCH (0.55 MM)] THICKNESS AND SHALL BE CONTINUOUS FROM THE AIR-HANDLING APPLIANCE OR EQUIPMENT TO THE AIR OUTLET AND INLET TERMINALS.

GENERAL NOTES

A. FOR FULL SCHEDULES, SPECIFICATIONS, AND COMPLETE LISTING SEE DETAIL SHEETS.

B. COORDINATE ROUTING OF ALL WORK WITH OTHER TRADES.

C. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER CONNECTIONS TO ALL MECHANICAL EQUIPMENT.

D. INSTALL ALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES FOR ACCESS AND MAINTENANCE.

E. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS, AND FINAL CEILING DIFFUSER LOCATIONS.

F. PROVIDE AN AUXILIARY DRAIN PAN WITH OVERFLOW SWITCH UNDERNEATH HORIZONTAL UNITS, WHICH WILL SHUTOFF THE UNIT ON HIGH WATER LEVEL.

G. ROUTE ALL AIR CONDITIONER CONDENSATE TO NEARBY FLOOR DRAIN. PROVIDE MINIMUM SLOPE OF 1/8 " PER FOOT. SIZE CONDENSATE PER SECTION 307.2.2 OF THE OHIO MECHANICAL CODE.

H. PROVIDE AN APPROVED THROUGH PENETRATION FIRESTOP FOR ALL PIPING INSTALLED AS TESTED IN ACCORDANCE WITH ASTM E814 OR UL 1479. FIRESTOP SHALL HAVE A MINIMUM POSITIVE PRESSURE DIFFERENTIAL OF 0.01 INCHES OF WATER AND SHALL HAVE AN F RATING OF NOT LESS THAN THE REQUIRED FIRE-RESISTANCE RATING OF THE WALL OR FLOOR PENETRATED.

I. ANY EQUIPMENT THAT IS SUBSTITUTED SHALL FIT IN THE SPACE PROVIDED WITH ADEQUATE ROOM FOR SERVICING, INCLUDING SUBSTITUTE EQUIPMENT NAMED IN THE SPECIFICATIONS. SUBMIT A 1/4" SCALE DRAWING OF ALL EQUIPMENT SUBSTITUTED FOR APPROVAL PRIOR TO INSTALLATION, INCLUDING, BUT NOT LIMITED TO, STRUCTURAL AND ARCHITECTURAL IMPACT, CLEARANCE REQUIREMENTS AND UTILITY REQUIREMENTS. IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO COORDINATE ALL NEW ELECTRICAL AND PLUMBING REQUIREMENTS WITH THE ELECTRICAL AND PLUMBING CONTRACTORS.

J. THE FOLLOWING GUIDELINES MUST BE FOLLOWED FOR THE DOMESTIC DRYER EXHAUST SYSTEMS.
- J.A. EXHAUST DUCTS SHALL HAVE A SMOOTH INTERIOR FINISH AND BE CONSTRUCTED OF METAL A MINIMUM OF 28 GAGE.
- J.B. DUCT SIZE SHALL BE 4 INCHES NOMINAL DIAMETER.
- J.C. DUCTS SHALL BE SUPPORTED AT 4-FOOT INTERVALS AND SECURED IN PLACE. THE INSERT END OF THE DUCT SHALL EXTEND INTO THE ADJOINING DUCT OR FITTING IN THE DIRECTION OF AIRFLOW.
- J.D. DUCTS SHALL NOT BE JOINED WITH SCREWS OF SIMILAR FASTENERS THAT PROTRUDE MORE THAN $\frac{1}{8}$ INCH INTO THE INSIDE OF THE DUCT.
- J.E. PROTECTIVE SHIELD PLATES SHALL BE PLACED WHERE NAILS OR SCREWS FROM FINISH OR OTHER WORK ARE LIKELY TO PENETRATE THE CLOTHES DRYER EXHAUST DUCT.SHIELD PLATES SHALL BE PLACED ON THE FINISHED FACE OF ALL FRAMING MEMBERS WHERE THERE IS LESS THAN 1-1/4 INCHES BETWEEN THE DUCT AND THE FINISHED FACE OF THE FRAMING MEMBER. SHIELD PLATES SHALL BE CONSTRUCTED OF STEEL, HAVE A THICKNESS OF 0.062 INCHES, AND EXTEND NOT LESS THAN 2 INCHES ABOVE SOLE PLATES AND BELOW TOP PLATES.
- J.F. TRANSITION DUCTS USED TO CONNECT THE DRYER TO THE EXHAUST DUCT SYSTEM SHALL BE A SINGLE LENGTH THAT IS LISTED AND LABELED IN ACCORDANCE WITH UL 2158A. TRANSITION DUCTS SHALL BE NOT GREATER THAN 8 FEET IN LENGTH AND SHALL NOT BE CONCEALED WITHIN CONSTRUCTION.
- J.G. PROVIDE DRYER WALL BOX EQUAL TO DUNDAS JAFINE MODEL DRB4XZW NEAR DRYER.
- J.H. PROVIDE A PERMANENT LABEL OR TAG (EQUAL TO DRYERPLACARD) INDICATING ACTUAL EQUIVALENT LENGTH OF EXHAUST DUCT. LENGTH SHALL INCLUDE 5' FOR 90 . LABEL/TAG MUST BE WITHIN 6' OF DRYER EXHAUST CONNECTION. DRYER EXHAUST DUCT FITTING EQUIVALENT LENGTH SHALL BE 2'-6" FOR A RADIUS MITERED 45-DEGREE ELBOW AND 5 FEET FOR A RADIUS MITERED 90-DEGREE ELBOW.

K. DEMO ALL EXISTING UNIT AND DUCTWORK IN THE SPACE EXCEPT FOR THE OA AND EA SHOWN ON THE DRAWINGS.

KEYED SHEET NOTES

1. CONNECT OA ERV INTO EXISTING DUCTWORK RISERS THAT GO UP INTO THE ROOF. CONNECT EA FOR ERV TO EXISTING EXHAUST LOUVER.
2. ROUTE 3/4" CONDENSATE DRAIN LINE TO UTILITY ROOM FLOOR DRAIN. SLOPE PIPE A MINIMUM OF 1/8 " PER FOOT AWAY FROM UNIT.
3. ROUTE 3/4" CONDENSATE DRAIN LINE TO TAILPIECE OF RESTROOM LAVATORY. PLUMBING CONTRACTOR SHALL PROVIDE PIPE CONNECTION TO LAVATORY TAILPIECE AND ROUTE PIPE IN WALL AND TERMINATE ABOVE CEILING. MECHANICAL CONTRACTOR SHALL ROUTE CONDENSATE FROM UNIT TO LINE RIGHT ABOVE THE CEILING AND TERMINATE WITH A HARD PIPE CONNECTION. COORDINATE CONNECTION LOCATION WITH PLUMBING CONTRACTOR. SLOPE PIPE A MINIMUM OF 1/8" PER FOOT AWAY FROM THE UNIT. PROVIDE CONDENSATE PUMP AS NEEDED.
4. ROUTE 3/4" CONDENSATE DRAIN LINE TO TAILPIECE OF KITCHEN SINK. PLUMBING CONTRACTOR SHALL PROVIDE PIPE CONNECTION TO LAVATORY TAILPIECE AND ROUTE PIPE IN WALL AND TERMINATE ABOVE CEILING. MECHANICAL CONTRACTOR SHALL ROUTE CONDENSATE FROM UNIT TO LINE RIGHT ABOVE THE CEILING AND TERMINATE WITH A HARD PIPE CONNECTION. COORDINATE CONNECTION LOCATION WITH PLUMBING CONTRACTOR. SLOPE PIPE A MINIMUM OF 1/8" PER FOOT AWAY FROM THE UNIT. PROVIDE CONDENSATE PUMP AS NEEDED.
5. ROUTE 3/4" CONDENSATE DRAIN LINE TO LAUNDRY ROOM UTILITY SINK. SLOPE PIPE A MINIMUM OF 1/8 " PER FOOT AWAY FROM UNIT. PROVIDE CONDENSATE PUMP.
6. EXISTING RADIANT HEATER PIPES TO BE THAT ARE RUNNING EAST TO WEST ACROSS THE SPACE TO BE RELOCATED TO THE C-01 CORRIDOR.
7. ROUTE LINE SET FROM OUTDOOR UNIT TO INDOOR AIR HANDLER. ALL PIPING SHALL BE CONCEALED IN FINISHED AREA. SIZE PER MANUFACTURES RECOMMENDATIONS. ROUTE LINE SETS DOWN EXISTING PLUMBING CHASE IN MECHANICAL/ELECTRICAL ROOMS.
8. REFER TO CODE EXCEPTIONS ABOVE FOR ALL FIRE BARRIER PENETRATIONS.
9. ROUTE DRYER DUCT TO EXTERIOR WALL THROUGH EXISTING WINDOW.
10. UNDERCUT DOOR 1" ABOVE FINISHED FLOOR FOR BATHROOM MUA.
11. ROUTE SUPPLY DUCT DOWN AND BACK UP THE EXISTING BEAM IN THE SPACE.
12. PROVIDE BIPOLAR IONIZATION TO THE SUPPLY TRUNK OF THE WSHP EQUAL TO AIR+ DM-6000. INSTALL PER MANUFACTURER INSTRUCTIONS. REFER TO IAQ CALCULATOR FOR VENTILATION REQUIREMENTS.
13. PROVIDE MANUAL VOLUME DAMPER WITH CABLE ADJUSTMENT EQUAL TO MAT RT SERIES. MOUNT DAMPER ADJUSTMENT IN THE FACE OF THE DIFFUSER OR IN THE CEILING.
14. FIELD COORDINATE NEW VRF HEAP PUMP LOCATIONS ON THE ROOF WITH RESPECT TO EXISTING ROOFTOP EQUIPMENT.

TRUE

ARCX STUDIO

ARCHITECT & INTERIOR DESIGN
ARCX STUDIO
FIRM.18314012
1616 VINE STREET, CINCINNATI, OH 45202
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MEP ENGINEER
ENGINEERED BUILDING SYSTEMS INC.
ENGINEERED BUILDING SYSTEMS, INC.
515 MONMOUTH ST, NEWPORT KY 41071

STATE OF OHIO SCOTT SEVERT STILKEY E-77755 REGISTERED PROFESSIONAL ENGINEER

7TH FLR ALTERATION

100 E 8TH ST, 7TH FLR
CINCINNATI, OH 45202

ARCX STUDIO PROJECT NUMBER
2508

OWNER
ARCHBISHOP OF CINCINNATI
100 E 8TH ST CINCINNATI, OH 45202

CONTRACTOR
RJ. BEISCHEL BUILDING COMPANY

REVISION

△	DESCRIPTION	DATE
1	BULLETIN #1	7/2/2025
2	BULLETIN #4	8/21/2025

ISSUED FOR
PERMIT
06-25-2025

SHEET NAME
MECHANICAL SEVENTH FLOOR PLAN

M1.10

THIS SHEET WHEN PLOTTED AT FULL SIZE MEASURES 30" X 42"

DRAWN BY:
CHECKED BY:

Z:\~Project Directories\11400 – 11499\11434 – Archbishop Apartment – 7th Floor – Cincinnati OH\~Construction Documents\11434-M1.10-MECHANICAL-SEVENTH-FLOOR-PLAN.dwg-EBS. Plot Date/Time: Aug 22, 2025-3:06pm – By: r.twehues
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