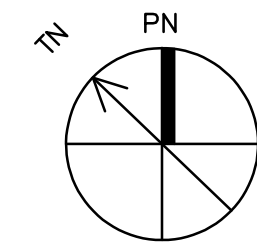


BASEMENT HVAC PLAN
SCALE: 1/8"=1'-0"



- KEY NOTES FOR SHEET M2
- 1 VERTICAL DOAS AIR HANDLING UNIT MOUNTED ON 4" THICK CONCRETE PAD. SEE DETAIL 1/M6.
 - 2 OUTDOOR VRF HEAT RECOVERY UNIT MOUNTED AT GRADE.
 - 3 NEW WALL MOUNTED OUTDOOR AIR INTAKE LOUVER. INSTALL IN EXISTING WALL OPENING WHERE EXISTING ACCESS DOOR IS LOCATED. LOUVER SHALL BE 30" X 18" APPROXIMATELY (MIN. ONE (1) SQUARE FOOT FREE AREA) AND FIT IN EXISTING OPENING IN MASONRY WALL. LOUVER SHALL BE EQUAL TO CARNES MODEL PKDC, COLOR SELECTED BY ARCHITECT. INTAKE SHALL BE 10'-0" MIN. FROM ANY EXHAUST DISCHARGE OR PLUMBING VENT.
 - 4 RUN DUCTWORK IN EXISTING BOILER ROOM OVERHEAD AS HIGH AS POSSIBLE.
 - 5 RUN DUCTWORK IN CRAWL SPACE.
 - 6 CUT OPENING IN EXISTING FOUNDATION WALL AS REQUIRED FOR NEW DUCT PENETRATION. GENERAL CONTRACTOR SHALL PROVIDE LINTEL TO SUPPORT BRICK FOUNDATION WALL AT NEW OPENINGS.
 - 7 12" X 10" RETURN AIR DUCT UP TO RETURN AIR GRILLE ON FIRST FLOOR. SEE 1/M3 FOR CONTINUATION.
 - 8 VRF SYSTEM BRANCH CONTROLLER BOX IN CRAWL SPACE. CONTRACTOR SHALL VERIFY REQUIRED LOCATION WITH VRF SYSTEM MANUFACTURER. REFRIGERANT PIPING SERVING FIRST FLOOR FAN-COIL UNITS SHALL CONNECT TO BRANCH CONTROLLER BOXES IN CRAWL SPACE.
 - 9 RUN REFRIGERANT PIPING IN CRAWL SPACE.
 - 10 6" X 6" SUPPLY AIR DUCT UP TO TOILETS ON FIRST FLOOR. SEE 1/M3 FOR CONTINUATION.
 - 11 8" DIA. SUPPLY AIR DUCT UP TO NEW FLOOR MOUNTED SUPPLY AIR REGISTER ON FIRST FLOOR. SEE 1/M3 FOR FLOOR REGISTER LOCATIONS.
 - 12 REFRIGERANT PIPING THAT SERVES SECOND FLOOR UP. SEE 1/M3 FOR CONTINUATION.
 - 13 DEHUMIDIFIER ON FLOOR OF CRAWL SPACE OR BASEMENT. PROVIDE CONDENSATE PUMP. RUN CONDENSATE LINE TO CONDENSATE HEADER.
 - 14 VRF SYSTEM MAIN CONTROLLER MOUNTED ON WALL. VERIFY FINAL LOCATION WITH OWNER.
 - 15 CONDENSATE MANIFOLD FOR FIRST FLOOR FAN-COIL UNITS. RUN AS HIGH AS POSSIBLE IN CRAWL SPACE AND BASEMENT.
 - 16 RUN CONDENSATE TO EXISTING FLOOR DRAIN IN BASEMENT BOILER AREA. PROVIDE AIR GAP WHERE CONDENSATE PIPE DRAINS INTO FLOOR DRAIN. VERIFY LOCATION OF FLOOR DRAIN.
 - 17 LOCATION OF WALL MOUNTED FAN-COIL UNIT ON FIRST FLOOR ABOVE. RUN CONDENSATE PIPING FROM EACH UNIT DOWN CONCEALED IN WALL TO CRAWL SPACE, AND CONNECT TO CONDENSATE HEADER IN CRAWL SPACE. RUN REFRIGERANT PIPING FROM EACH FAN-COIL UNIT CONCEALED IN WALL TO CRAWL SPACE, AND CONNECT TO VRF SYSTEM BRANCH CONTROLLER BOX (TYPICAL).
 - 18 2" CONDENSATE PIPE UP TO FIRST FLOOR. SEE 1/M3 FOR CONTINUATION.
 - 19 RUN CONDENSATE TO GRADE. PROVIDE CRUSHED STONE AREA FOR CONDENSATE.

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BASEMENT HVAC PLAN

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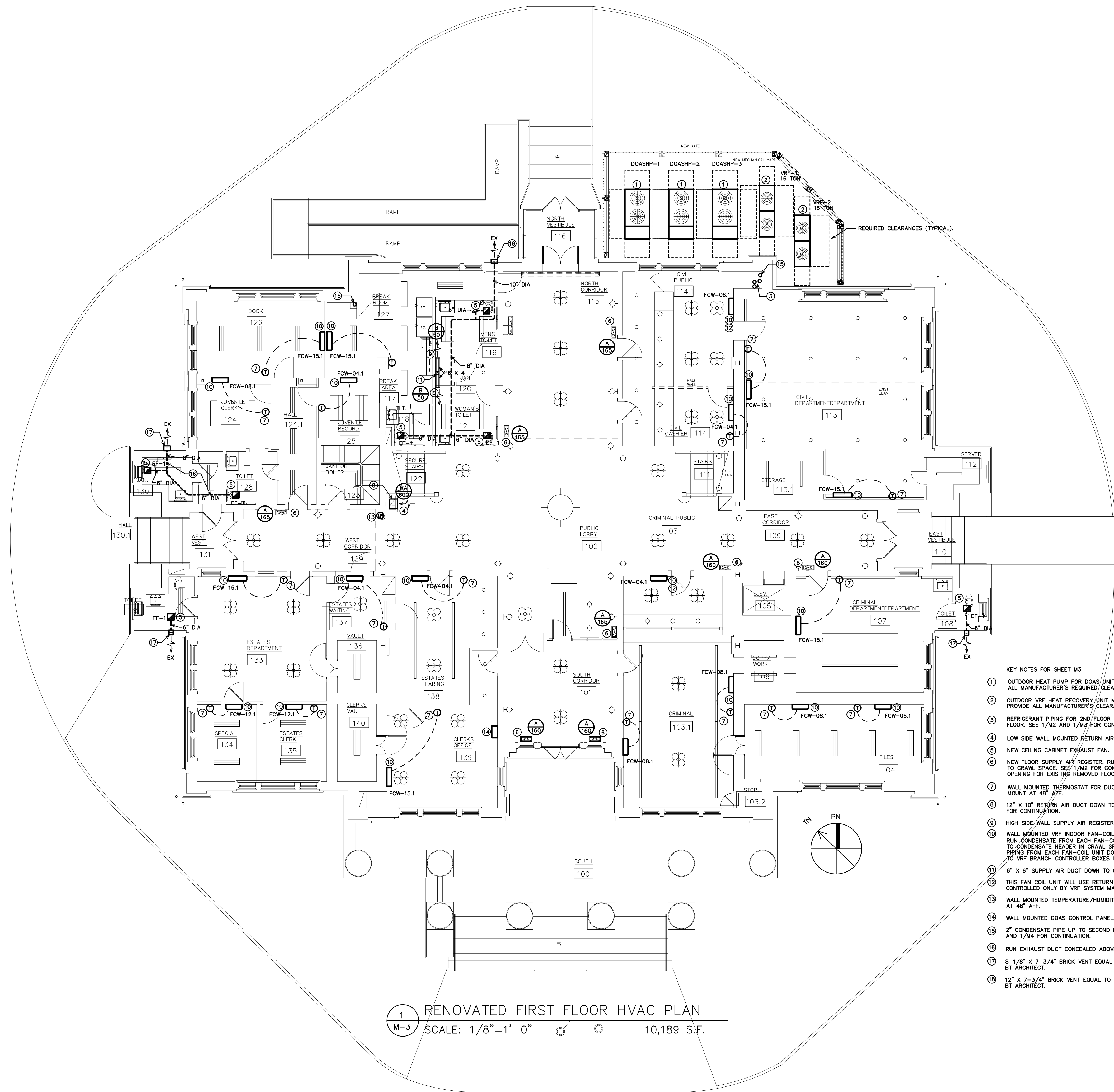
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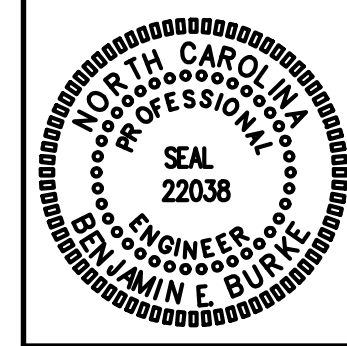
REVISIONS

SHEET NO.
M-2



1 RENOVATED FIRST FLOOR HVAC PLAN
M-3 SCALE: 1/8"=1'-0" 10,189 S.F.

- KEY NOTES FOR SHEET M3
- 1 OUTDOOR HEAT PUMP FOR DOAS/UNIT MOUNTED ON 4" THICK CONCRETE PAD. PROVIDE ALL MANUFACTURER'S REQUIRED/CLEARANCES AROUND UNIT.
 - 2 OUTDOOR VRF HEAT RECOVERY UNIT MOUNTED AT GRADE ON 4" THICK CONCRETE PAD. PROVIDE ALL MANUFACTURER'S CLEARANCES AROUND UNIT.
 - 3 REFRIGERANT PIPING FOR 2ND FLOOR VRF SYSTEM DOWN TO CRAWL SPACE AND UP TO SECOND FLOOR. SEE 1/M2 AND 1/M3 FOR CONTINUATION. RUN PIPING IN FURRED OUT WALL SPACE.
 - 4 LOW SIDE WALL MOUNTED RETURN AIR GRILLE.
 - 5 NEW CEILING CABINET EXHAUST FAN.
 - 6 NEW FLOOR SUPPLY AIR REGISTER. RUN 8" DIA. ROUND DUCT FROM REGISTER DOWN TO CRAWL SPACE. SEE 1/M2 FOR CONTINUATION. INSTALL NEW REGISTER IN FLOOR OPENING FOR EXISTING REMOVED FLOOR REGISTER.
 - 7 WALL MOUNTED THERMOSTAT FOR DUCTLESS SPLIT SYSTEM HEAT PUMP UNIT. MOUNT AT 48" AFF.
 - 8 12" X 10" RETURN AIR DUCT DOWN TO CRAWL SPACE. SEE BASEMENT PLAN 1/M2 FOR CONTINUATION.
 - 9 HIGH SIDE WALL SUPPLY AIR REGISTER.
 - 10 WALL MOUNTED VRF INDOOR FAN-COIL UNIT. MOUNT WITH BOTTOM AT 7'-0" AFF. RUN CONDENSATE FROM EACH FAN-COIL UNIT DOWN CONCEALED IN WALL TO CONDENSATE HEADER IN CRAWL SPACE. RUN REFRIGERANT PIPING FROM EACH FAN-COIL UNIT DOWN CONCEALED IN WALLS TO VRF BRANCH CONTROLLER BOXES IN CRAWL SPACE.
 - 11 6" X 6" SUPPLY AIR DUCT DOWN TO CRAWLSPACE. SEE 1/M2 FOR CONTINUATION.
 - 12 THIS FAN COIL UNIT WILL USE RETURN AIR SENSOR IN THE FAN COIL UNIT AND BE CONTROLLED ONLY BY VRF SYSTEM MAIN CONTROLLER.
 - 13 WALL MOUNTED TEMPERATURE/HUMIDITY SENSOR FOR FIRST FLOOR DOAS UNIT. MOUNT AT 48" AFF.
 - 14 WALL MOUNTED DOAS CONTROL PANEL.
 - 15 2" CONDENSATE PIPE UP TO SECOND FLOOR AND DOWN TO CRAWL SPACE. SEE 1/M2 AND 1/M4 FOR CONTINUATION.
 - 16 RUN EXHAUST DUCT CONCEALED ABOVE CEILING. ALL EXHAUST DUCTS SHALL BE INSULATED.
 - 17 8-1/8" X 7-3/4" BRICK VENT EQUAL TO CARNES MODEL VXCXB12051S. COLOR SELECTED BY ARCHITECT.
 - 18 12" X 7-3/4" BRICK VENT EQUAL TO CARNES MODEL VXCXB1501S. COLOR SELECTED BY ARCHITECT.



RENOVATED FIRST FLOOR
HVAC PLAN

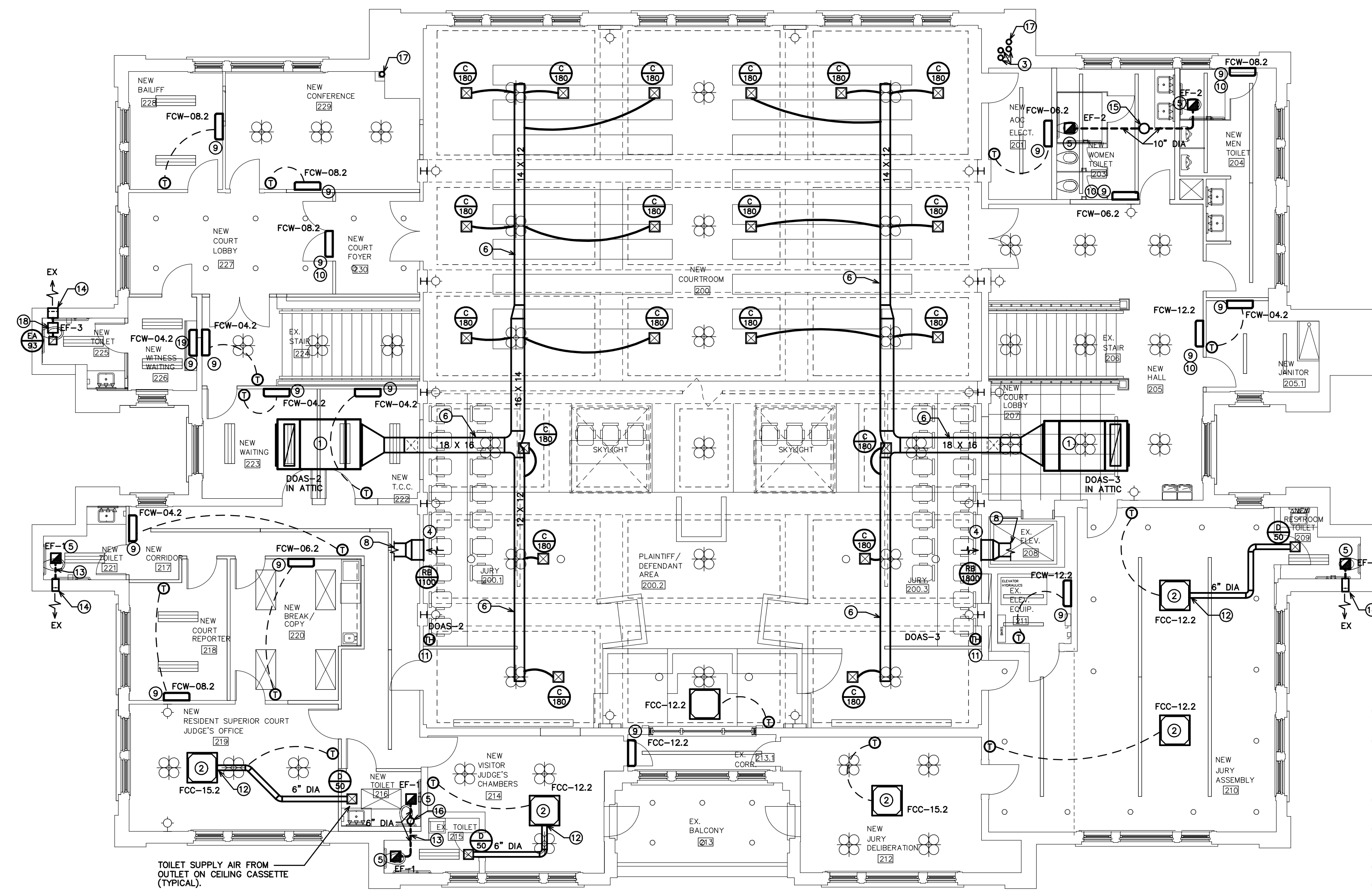
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REVISIONS

SHEET NO.
M-3

COLUMBUS COUNTY COURTHOUSE
113 COURTHOUSE SQ.
WHITEVILLE, NORTH CAROLINA



1 RENOVATED SECOND FLOOR HVAC PLAN
M-4 SCALE: " = 1'-0" 9,843 S.F.

- KEY NOTES FOR SHEET M4
- 1 NEW DOAS AIR HANDLING UNIT IN ATTIC SPACE. SEE 1/M5 NEW ATTIC HVAC PLAN AND DETAIL 2/M6.
 - 2 NEW CEILING CASSETTE VRF INDOOR FAN-COIL UNIT. MOUNT WITH BOTTOM AT 7'-0" AFF. RUN PUMPED CONDENSATE FROM EACH FAN-COIL UNIT UP CONCEALED IN WALL AND ABOVE CEILING TO CONDENSATE HEADER IN ATTIC SPACE. RUN REFRIGERANT PIPING FROM EACH FAN-COIL UNIT UP CONCEALED IN WALLS AND ABOVE CEILING TO VRF BRANCH CONTROLLER BOXES IN ATTIC SPACE.
 - 3 REFRIGERANT PIPING DOWN TO FIRST FLOOR AND UP TO ATTIC SPACE. SEE 1/M3 AND 1/M5 FOR CONTINUATION. RUN PIPING IN FURRED OUT WALL SPACE.
 - 4 HIGH SIDE WALL MOUNTED RETURN AIR GRILLE. INSTALL IN EXISTING WALL OPENING.
 - 5 NEW CEILING CABINET EXHAUST FAN.
 - 6 NEW SUPPLY AIR DUCTWORK IN ATTIC SPACE. SEE 1/M5 NEW ATTIC HVAC PLAN.
 - 7 WALL MOUNTED THERMOSTAT FOR DUCTLESS SPLIT SYSTEM HEAT PUMP UNIT. MOUNT AT 48" AFF.
 - 8 NEW RETURN AIR DUCT IN ATTIC SPACE. SEE 1/M5 NEW ATTIC HVAC PLAN FOR CONTINUATION.
 - 9 NEW WALL MOUNTED VRF INDOOR FAN-COIL UNIT. MOUNT WITH BOTTOM AT 7'-0" AFF. RUN PUMPED CONDENSATE FROM EACH FAN-COIL UNIT UP CONCEALED IN WALL AND ABOVE CEILING TO CONDENSATE HEADER IN ATTIC SPACE. RUN REFRIGERANT PIPING FROM EACH FAN-COIL UNIT UP CONCEALED IN WALLS AND ABOVE CEILING TO VRF BRANCH CONTROLLER BOXES IN ATTIC SPACE.
 - 10 THIS FAN COIL UNIT WILL USE RETURN AIR SENSOR IN THE FAN COIL UNIT AND BE CONTROLLED ONLY BY VRF SYSTEM MAIN CONTROLLER.
 - 11 WALL MOUNTED TEMPERATURE/HUMIDITY SENSOR FOR COURTROOM DOAS UNIT. MOUNT AT 48" AFF.
 - 12 CONNECT 6" DIA RIGID SUPPLY AIR DUCT TO SUPPLY AIR TAP ON CEILING CASSETTE FAN COIL UNIT. RUN DUCT IN ATTIC SPACE.
 - 13 RUN EXHAUST DUCT CONCEALED ABOVE CEILING. ALL EXHAUST DUCTS SHALL BE INSULATED.
 - 14 8-1/8" X 7-3/4" BRICK VENT EQUAL TO CARNES MODEL VXC0812051S. COLOR SELECTED BY ARCHITECT.
 - 15 12" DIA EXHAUST DUCT UP TO NEW ROOF MOUNTED CAP. EXHAUST DISCHARGE SHALL BE 10'-0" MIN. FROM ANY OUTSIDE AIR INTAKE.
 - 16 8" DIA EXHAUST DUCT UP TO NEW ROOF MOUNTED CAP. EXHAUST DISCHARGE SHALL BE 10'-0" MIN. FROM ANY OUTSIDE AIR INTAKE.
 - 17 2" CONDENSATE PIPE UP TO ATTIC AND DOWN TO SECOND FLOOR. SEE 1/M2 AND 1/M5 FOR CONTINUATION.
 - 18 IN-LINE EXHAUST FAN IN ATTIC SPACE.
 - 19 PROVIDE SECURITY CAGE ON WALL MOUNTED FAN-COIL UNIT. CAGE BY GENERAL CONTRACTOR.



RENOVATED SECOND
FLOOR HVAC PLAN

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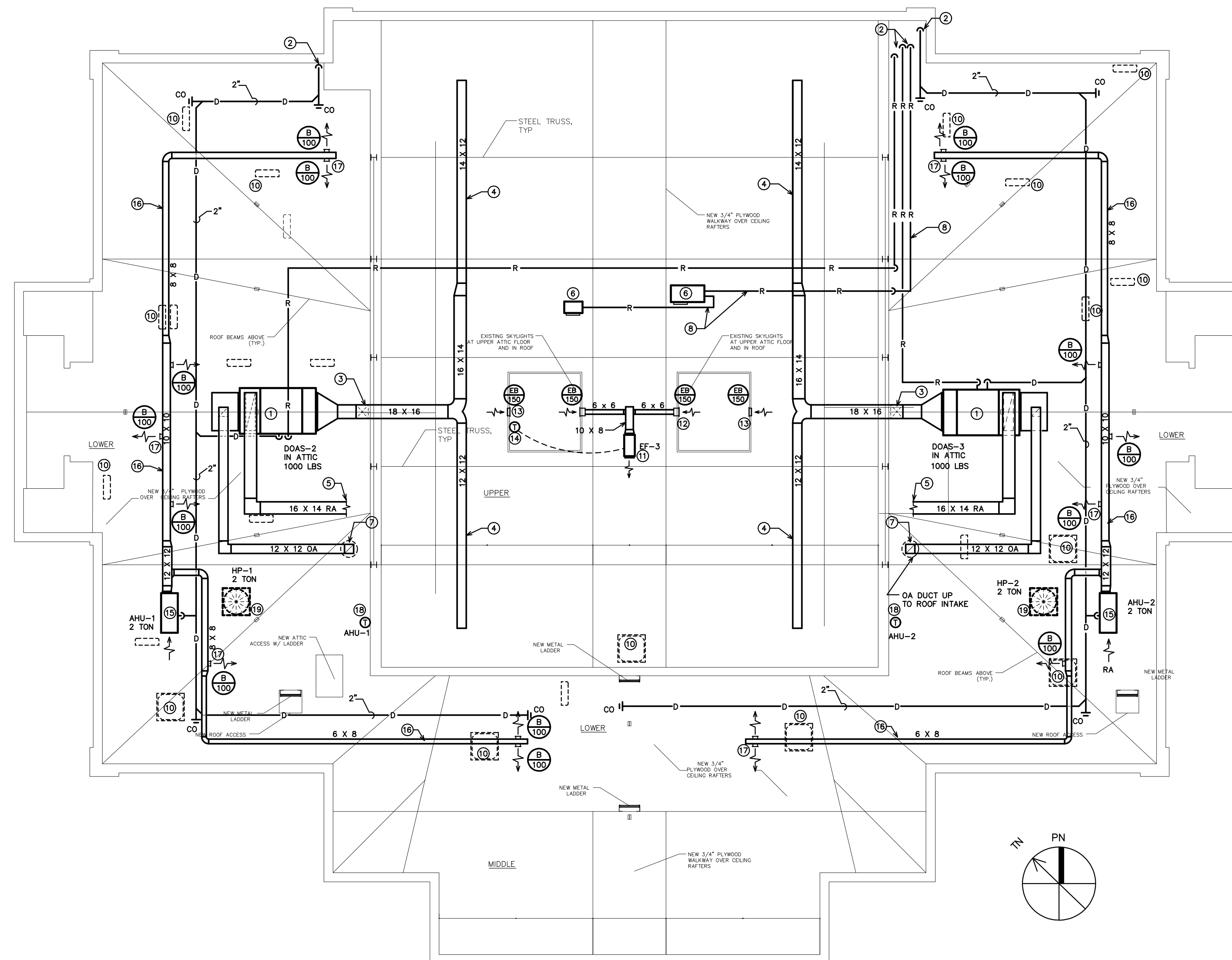
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SHEET NO.
M-4



1 NEW ATTIC HVAC PLAN
M-5 SCALE: 1/8"=1'-0"

- KEY NOTES FOR SHEET M5
- 1 NEW DOAS AIR HANDLING UNIT IN ATTIC SPACE. SEE 1/M5 NEW ATTIC HVAC PLAN AND DETAIL 2/M6.
 - 2 REFRIGERANT PIPING FOR 2ND FLOOR VRF AND DOAS SYSTEMS DOWN TO SECOND FLOOR SPACE. SEE 1/M4 FOR CONTINUATION.
 - 3 SUPPLY AIR DUCT SHALL RISE AT THIS LOCATION TO RUN OVER HIGHER ATTIC SECTION OVER COURTROOM.
 - 4 NEW SUPPLY AIR DUCTWORK IN ATTIC SPACE. SEE 1/M4 RENOVATED SECOND FLOOR HVAC PLAN FOR SUPPLY DIFFUSER CONNECTIONS.
 - 5 NEW RETURN AIR DUCT IN ATTIC SPACE. SEE 1/M4 NEW ATTIC HVAC PLAN FOR CONTINUATION.
 - 6 VRF SYSTEM BRANCH CONTROLLER BOX IN ATTIC SPACE. CONTRACTOR SHALL VERIFY REQUIRED LOCATION WITH VRF SYSTEM MANUFACTURER. REFRIGERANT PIPING FOR SECOND FLOOR INDOOR FAN-COIL UNITS SHALL CONNECT TO THIS BRANCH CONTROLLER BOX. PROVIDE FULL LENGTH DRAIN PAN UNDER UNIT WITH DRAIN PIPE TO EXTERIOR.
 - 7 RUN 12" X 12" OUTSIDE AIR DUCT UP TO AND CONNECT TO NEW ROOF MOUNTED OUTSIDE AIR INTAKE HOOD. HOOD SHALL BE EQUAL TO CARNE'S MODEL, GSA, SIZE 12 INTAKE SHALL BE 10'-0" MIN. FROM ANY EXHAUST DISCHARGE OR PLUMBING VENT.
 - 8 RUN REFRIGERANT PIPING IN ATTIC SPACE.
 - 9 2" CONDENSATE PIPE DOWN TO SECOND. SEE 1/M4 FOR CONTINUATION.
 - 10 LOCATION OF FAN-COIL UNIT ON SECOND FLOOR BELOW. RUN CONDENSATE PIPING UP INTO ATTIC SPACE FROM EACH UNIT CONCEALED IN WALL, AND CONNECT TO CONDENSATE HEADER IN ATTIC SPACE. RUN REFRIGERANT PIPING FROM EACH FAN-COIL UNIT UP CONCEALED IN WALL AND CONNECT TO VRF BRANCH CONTROLLER BOX IN ATTIC SPACE. (TYPICAL).
 - 11 IN-LINE EXHAUST FAN LOCATED IN ATTIC SPACE. FAN SHALL DISCHARGE INTO ATTIC SPACE. FAN IS FOR HEAT REMOVAL FROM SKYLIGHT WELL.
 - 12 SIDE WALL EXHAUST INTAKE GRILLE MOUNTED NEAR THE TOP OF THE SKYLIGHT WELL.
 - 13 SIDE WALL EXHAUST INTAKE GRILLE MOUNTED NEAR BOTTOM OF SKYLIGHT WELL. THIS GRILLE WILL DRAW AIR FROM THE CONDITIONED ATTIC SPACE.
 - 14 MOUNT THERMOSTAT TO CONTROL EXHAUST FAN ON WALL INSIDE SKYLIGHT WELL. PROVIDE 24" X 24" ACCESS DOOR ON SIDE OF SKYLIGHT WELL TO ACCESS THERMOSTAT.
 - 15 NEW HORIZONTAL AIR HANDLING UNIT MOUNTED ON ATTIC SPACE FLOOR. SEE DETAIL 3/M6.
 - 16 RUN SUPPLY DUCTWORK IN ATTIC SPACE.
 - 17 DUCT MOUNTED SUPPLY AIR DIFFUSER (TYPICAL).
 - 18 MOUNT THERMOSTAT ON VERTICAL WALL.
 - 19 OUTDOOR HEAT PUMP UNIT MOUNTED ON ROOF. SEE DETAIL 3/M-6.



NEW ATTIC HVAC PLAN

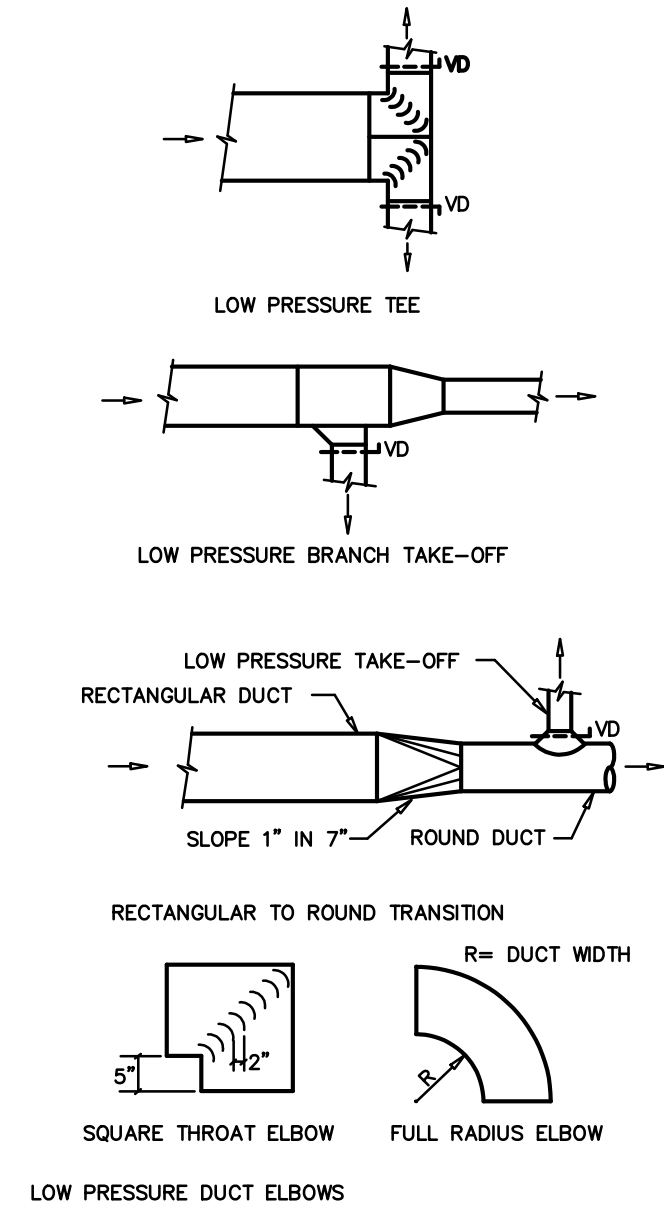
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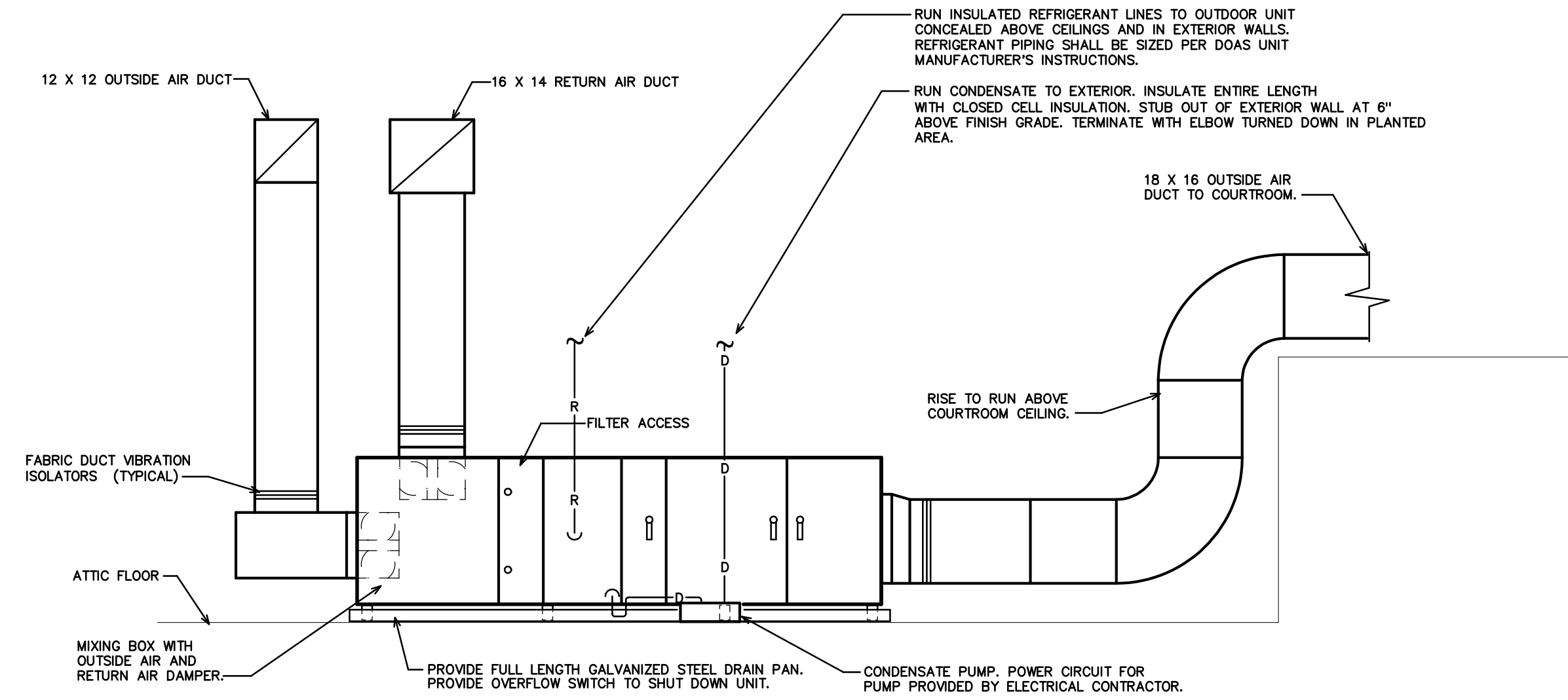
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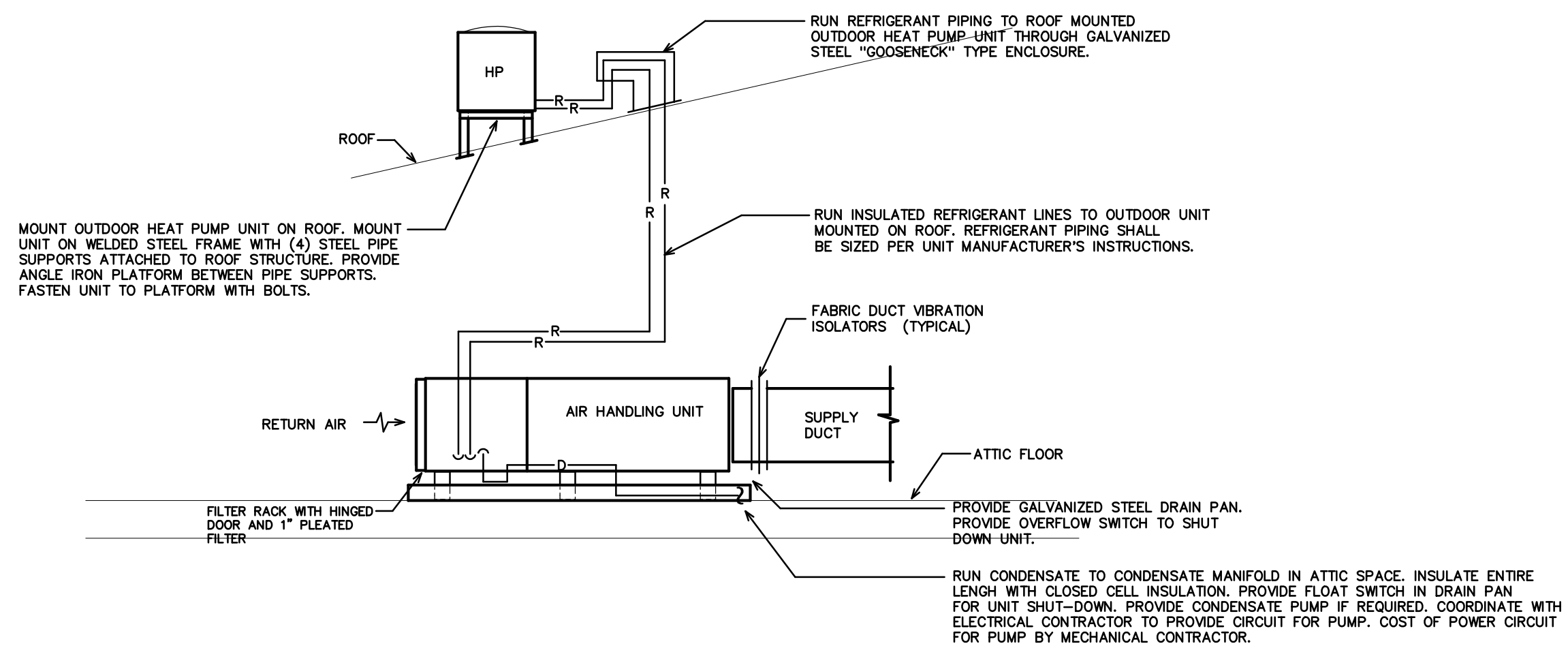
SHEET NO.
M-5



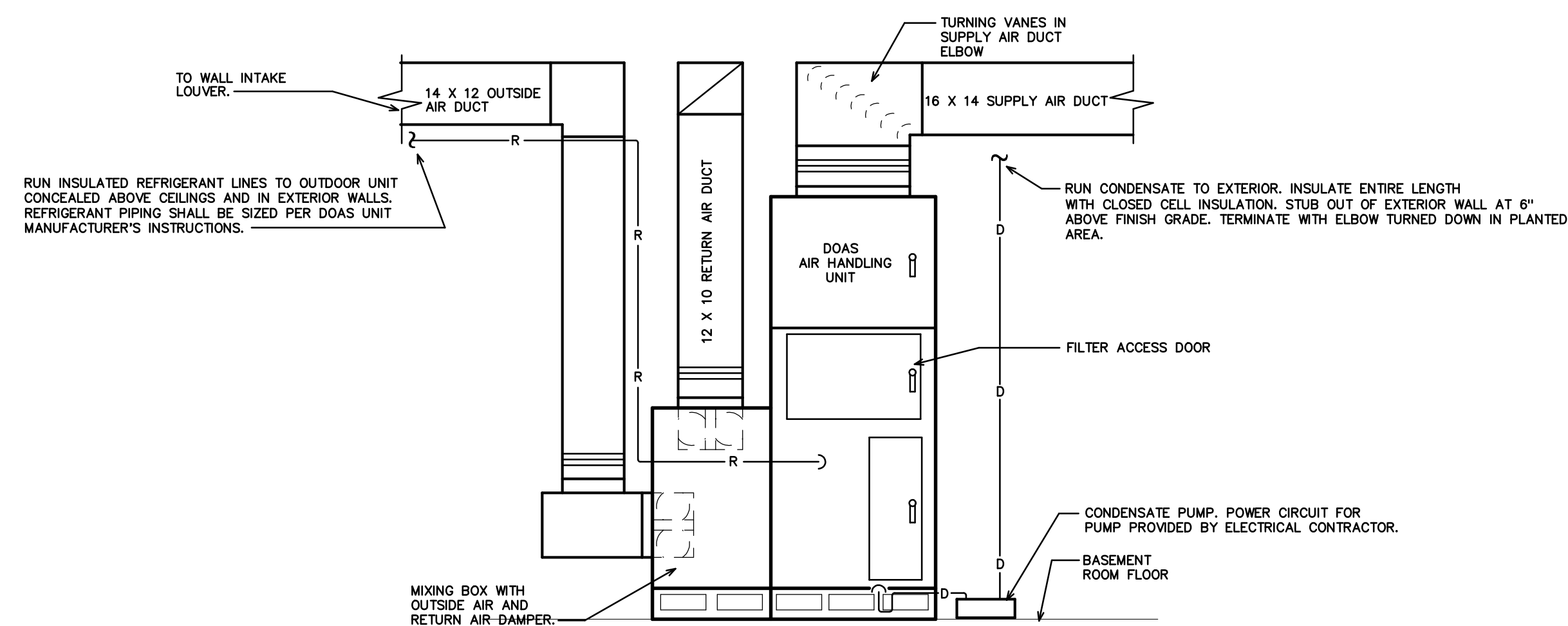
4 DUCT CONSTRUCTION DETAILS
M-6 SCALE: NOT TO SCALE



2 HORIZONTAL DOAS AIR HANDLING UNIT DETAIL
M-6 SCALE: NOT TO SCALE



3 AIR HANDLING UNIT DETAIL
M-6 SCALE: NOT TO SCALE



1 VERTICAL DOAS AIR HANDLING UNIT DETAIL
M-6 SCALE: NOT TO SCALE