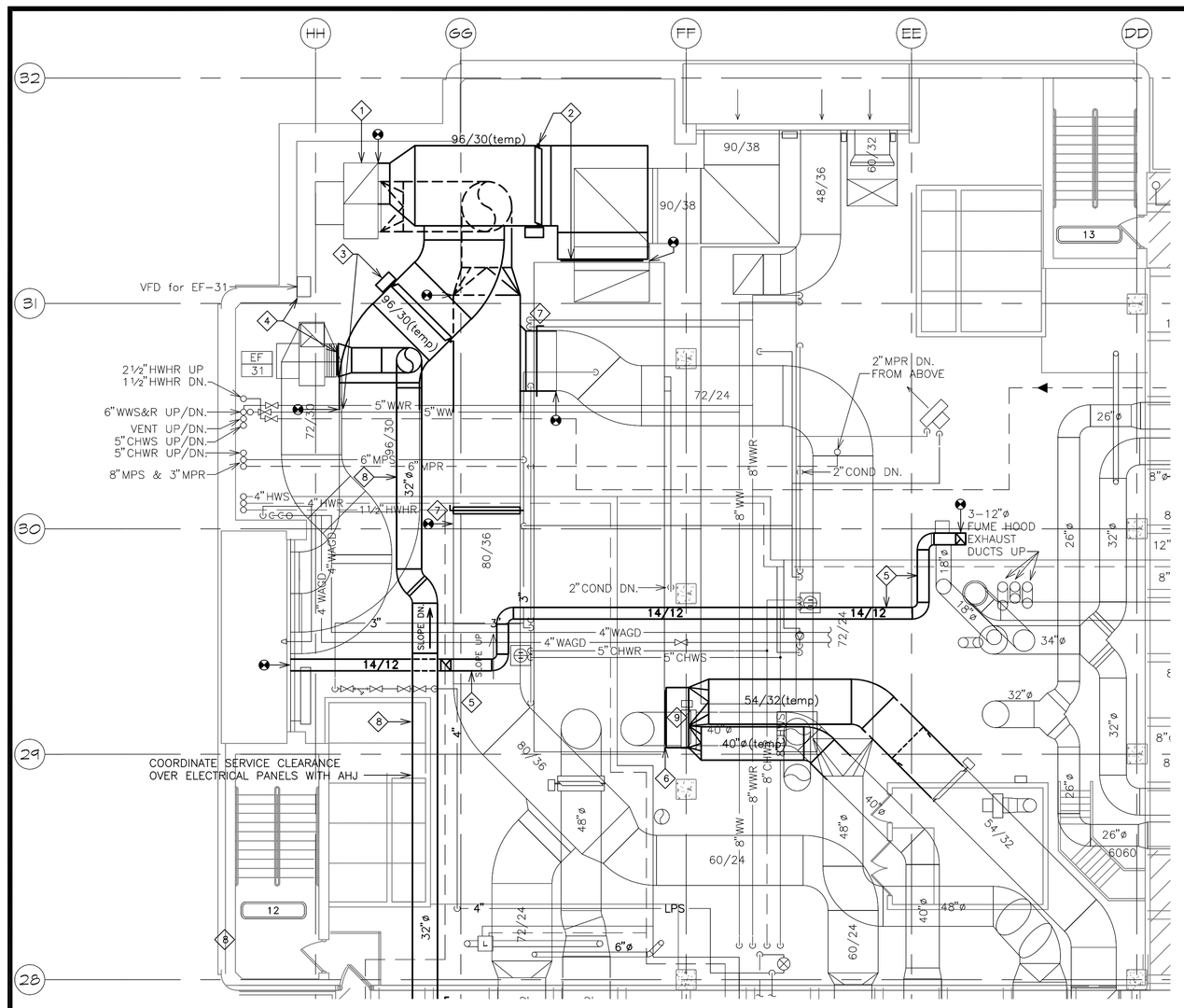
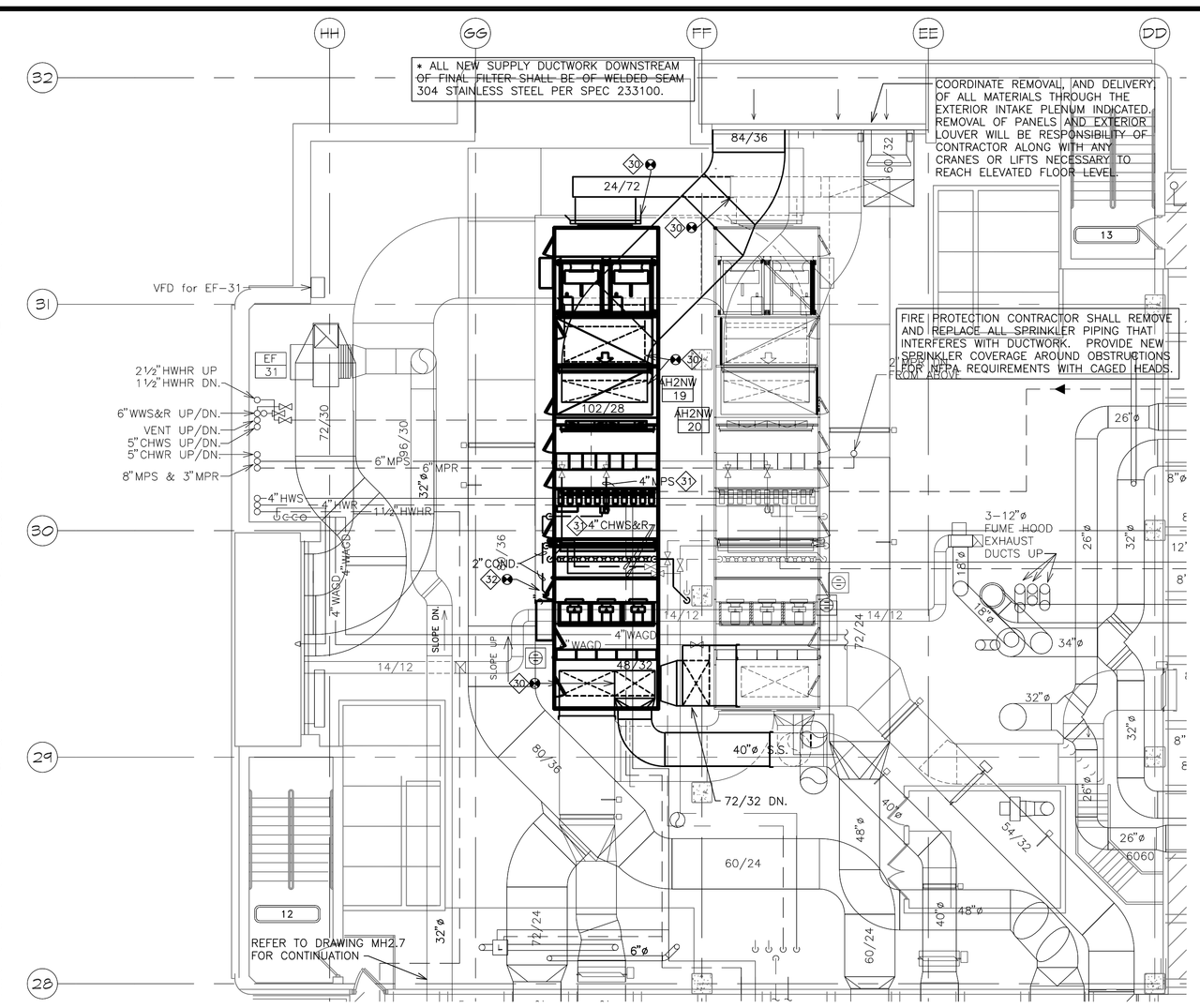


1 2ND FLOOR MECHANICAL ROOM NW PLAN – PHASE 1B
SCALE: 1/8"=1'-0"



3 2ND FLOOR MECHANICAL ROOM NW PLAN – PHASE 3B
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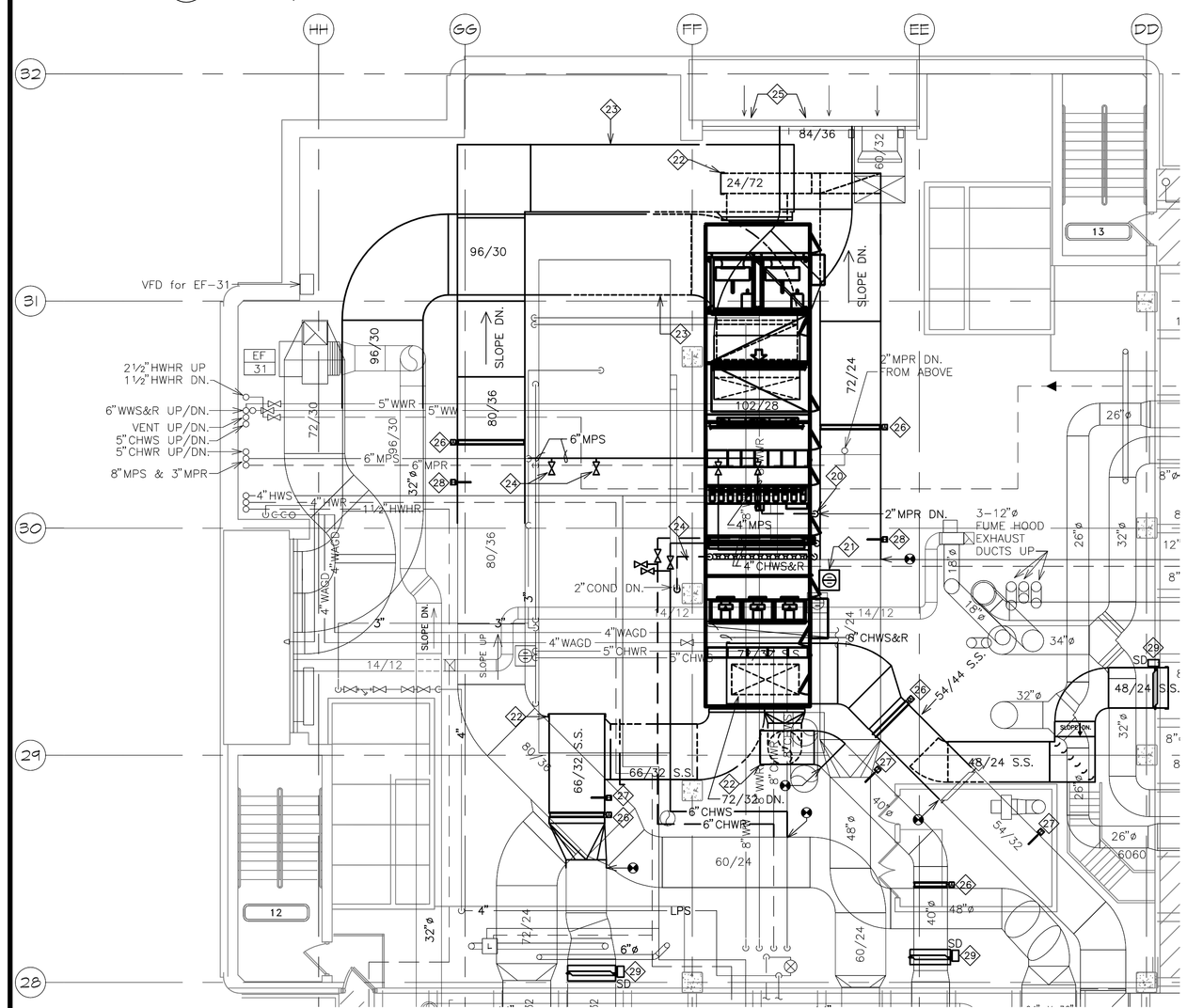
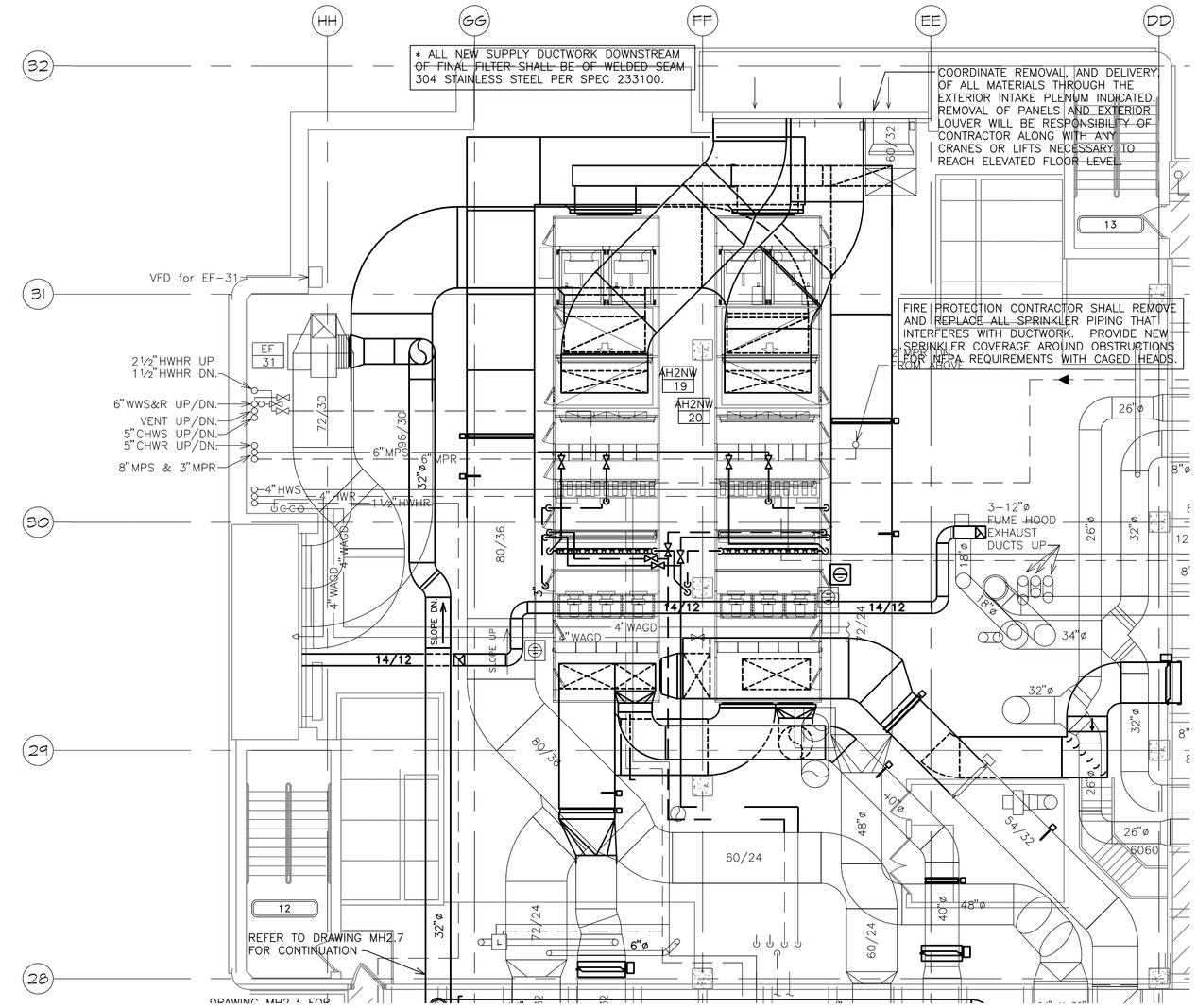


2 2ND FLOOR MECHANICAL ROOM NW PLAN – PHASE 2B
SCALE: 1/8"=1'-0"



4 2ND FLOOR MECHANICAL – OVERALL REFERENCE PLAN
SCALE: 1/8"=1'-0"

KEY NOTES:

PHASE 1B – CONVERSION OF AH2NW-19 TO RECIRCULATED AIR.

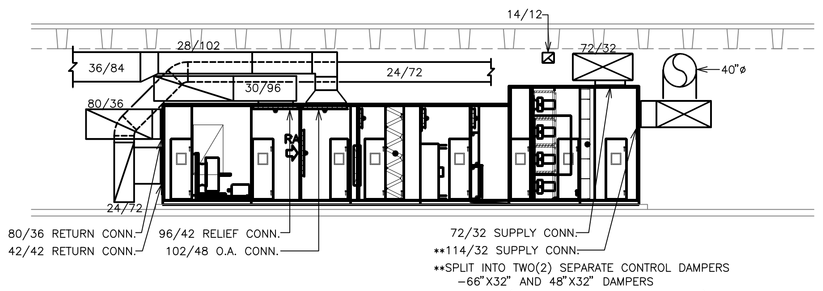
1. EXISTING EXHAUST FAN WILL BE TEMPORARILY CONNECTED AS SHOWN TO BE UTILIZED AS A TEMPORARY RETURN FAN FOR AH2NW-19 DURING DEMOLITION AND REINSTALLATION OF ADJACENT AH2NW-20 AIR HANDLING UNIT. REFER TO DRAWINGS FOR INSTALLATION OF ALL TEMPORARY RETURN DUCTWORK AND PHASED BALANCING OF ALL AFFECTED AREAS SERVED.
2. CONNECT TEMPORARY 96"X30" RETURN DUCT INTO BACK OF EXISTING AH2NW-19 BY MODIFYING EXISTING CASING AS REQUIRED TO CUT NEW OPENING. INCLUDE FULL SIZED MOTORIZED RETURN AIR DAMPER TO OPEN/CLOSE IN SEQUENCE WITH RELIEF DAMPER TO CONTROL A TEMPORARY AIRSIDE ECONOMIZER SEQUENCE OF OPERATION. INCLUDE ALL TEMPORARY CONTROL SENSORS AND PROGRAMMING AS REQUIRED.
3. CONNECT TEMPORARY 96"X30" RELIEF DUCT TO EXISTING EXHAUST DUCT DISCONNECTION POINT SHOWN. INCLUDE FULL SIZED MOTORIZED DAMPER TO OPEN/CLOSE IN SEQUENCE WITH RELIEF DAMPER TO CONTROL A TEMPORARY AIRSIDE ECONOMIZER SEQUENCE OF OPERATION. INCLUDE ALL TEMPORARY CONTROL SENSORS AND PROGRAMMING AS REQUIRED.
4. CONNECT TO EXISTING EXHAUST FAN THAT WILL BE PERMANENTLY CONVERTED INTO A GENERAL EXHAUST FAN FOR THE SURGICAL AREAS. REFER TO PHASED BALANCING PLANS FOR ADJUSTMENT OF ALL DIFFUSERS ONCE ALL DUCTWORK INSTALLATION IS COMPLETED. UTILIZE EXISTING VFD FOR FINAL BALANCING OF THIS FAN.
5. REINSTALL EXISTING EXHAUST DUCTWORK AS HIGH AS POSSIBLE. COORDINATE ROUTING TO AVOID NEW PIPING AND AIR HANDLING UNIT INSTALLATIONS IN FOLLOWING PHASES. FIELD COORDINATE WITH ALL DISCIPLINES.
6. PROVIDE TEMPORARY DUCT CONNECTION (WITH TOTAL 12 SQ FT CROSS SECTIONAL AREA) CUT INTO SIDE OF AH2NW-19 TO TEMPORARILY BACKFEED ALL AREAS SERVED BY AH2NW-20 PRIOR TO DEMOLITION OF THAT AHU. REFER TO BALANCING PLANS FOR PHASED ADJUSTMENT OF ALL VAV BOXES AND DIFFUSERS SERVED ONCE SYSTEMS ARE CONNECTED TOGETHER.
7. INSTALL TEMPORARY RETURN AIR OPPOSED BLADE DAMPERS TO AID IN BALANCING OF ALL RETURN AIR SYSTEMS THAT ARE TO BE TIED TOGETHER FOR TEMPORARY SERVICE. REFER TO BALANCING PLAN FOR PHASE 1.
8. REFER TO PHASING OUTLINE SHOWN ON DRAWING MH2.0 AND MH2.1. ALL EXHAUST DUCTWORK MUST BE INSTALLED AS SHOWN ON DRAWING MH2.7 PRIOR TO ANY OF PHASE 1A DEMOLITION, OR WORK SHOWN ON THIS DRAWING, FROM STARTING. ONCE EXHAUST MAINS ARE IN PLACE CONTRACTOR SHOULD HAVE AS MUCH TMEPORAY RETURN READY AS POSSIBLE FOR THE MAJOR VENTILATION OUTAGE TO SWAP ALL EXISTING RETURN GRILLES TO EXHAUST AND SIMULTANEOUSLY CONVERT AH2NW-19 INTO A RECIRCULATED UNIT TO BACKFEED BOTH AREAS. PROVIDE VA COR WITH A DETAILED OUTAGE PLAN SCHEDULE AT LEAST ONE MONTH IN ADVANCE AND PARTICIPATE IN UP TO SIX(6) COORDINATION MEETINGS TO ALIGN SURGICAL STAFF WITH OUTAGE SCHEDULE.
9. MODIFY PENETRATION INTO SIDE OF AH2NW-19 CASING FOR TEMPORARY SUPPLY AIR BACKFEED CONNECTION. TEMPORARILY REROUTE CHILLED WATER PIPING IF NECESSARY FOR CLEARANCE AND IS CURRENTLY IN SEASONAL USE. COORDINATE FINAL LAYOUT OF DUCT FITTINGS TO WITH ENGINEER OF RECORD PRIOR TO FABRICATION.

PHASE 2B – INSTALLATION OF NEW AH2NW-20

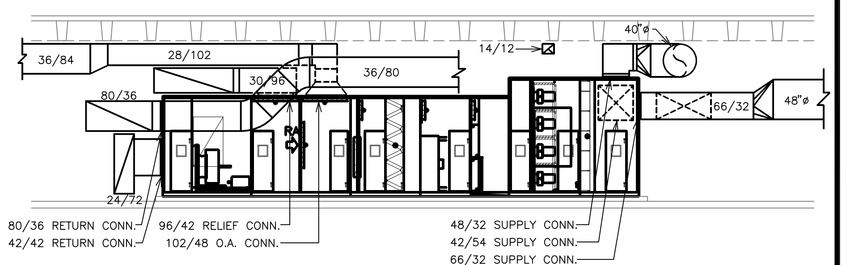
20. RELOCATE EXISTING 2" CONDENSATE PIPING DOWN THROUGH FLOOR AND OFFSET WITHIN FIRST FLOOR MECH ROOM BELOW AS REQUIRED TO EXTEND PAST OUTER EDGE OF NEW AIR HANDLING UNIT. FIELD VERIFY EXACT LOCATION WITH AIR HANDLING UNIT SHOP DRAWING SUBMITTALS. REFER TO PIPING DETAILS FOR STEAM TRAP INSTALLATION AND DRIP LEG HEIGHT REQUIREMENTS.
21. RELOCATE EXISTING FLOOR DRAIN TO EXTEND BEYOND OUTER EDGE OF AIR HANDLING UNIT. OFFSET ALL PIPING FROM BELOW AND FURNISH A NEW JOSAM MODEL 30004-9E, OR EQUAL, FLOOR DRAIN AT THE LOCATION COORDINATE WITH NEW AIR HANDLING UNIT SHOP DRAWINGS.
22. PROVIDE TEMPORARY DUCT CAP FOR CONNECTION INTO NEW AH2NW-19 DURING NEXT PHASE OF CONSTRUCTION. FIELD COORDINATE EXACT ELEVATION AND LOCATION OF DUCT TO EXACTLY ALIGN WITH NEW AIR HANDLER CONNECTION POINT.
23. INSTALLATION OF RELIEF AND RETURN DUCT CONNECTIONS TO OCCUR SIMULTANEOUSLY WITH REMOVAL OF TEMPORARY RETURN DUCT AND DAMPERS UTILIZED IN PREVIOUS PHASE. CONTRACTOR TO PERFORM ALL THIS WORK ON OVERTIME USING CONTINUAL SHIFT CHANGES AROUND THE CLOCK UNTIL DUCT SWITCHOVER IS COMPLETED. PLAN ON COORDINATING FULL OUTAGE DETAILS WITH VA COR THROUGH MULTIPLE OUTAGE COORDINATION MEETINGS TO ALLOW ADEQUATE TIME FOR SURGICAL DEPARTMENT DISTURBANCE PLANNING.
24. INSTALL ALL SERVICE VALVES FOR PHASE 3 CONNECTION INTO AH2NW-19 DURING THE NEXT PROJECT PHASE. COORDINATE EXACT POSITION OF VALVES WITH ALL OTHER TRADES TO CONFIRM A VIABLE PIPING ROUTE.
25. MODIFY EXISTING LOUVER PLENUM PANELS AS REQUIRED FOR BOTH NEW OUTSIDE AIR DUCT CONNECTIONS BEING PERFORMED IN PHASE 2 AND 3. PROVIDE TEMPORARY PATCH TO COVER NEW OPENINGS UNTIL TIME FOR FINAL CONNECTION TO NEW DUCTWORK.
26. PROVIDE DUCT MOUNTED AIRFLOW MONITORING ON SUPPLY, OR RETURN, DUCT MAIN INDICATED. AIRFLOW SENSORS SHALL BE EBTRON '-P' GOLD SERIES PROBES AND INCLUDE ALL REQUIRED MOUNTING BRACKETS, TRANSDUCERS TO INTERFACE TO BAC, AND REMOTE DISPLAY PANEL MOUNTED ON EXTERIOR OF AHU. BALANCING CONTRACTOR TO ASSIST IN CALIBRATING ALL SENSORS ON COMPLETION. NOTE THAT AH2NW-19 HAS TWO SEPARATE SUPPLY DUCT AIRFLOW SENSORS, CONTROL CONTRACTOR SHALL SUM BOTH AIRFLOW SENSORS TOGETHER (or all 3 if in backfeed mode of operation).
27. PROVIDE HIGH LIMIT HUMIDITY SENSOR ON SUPPLY DUCT. NOTE THAT AH2NW-19 WITH TWO SEPARATE SENSORS SHALL AVERAGE THEIR READINGS ON A PERCENTAGE BASIS OF TOTAL AIRFLOW.
28. PROVIDE NEW RETURN AIR HUMIDITY SENSOR. COORDINATE EXACT PLACEMENT AND MOUNTING.
29. PROVIDE NEW SMOKE DAMPER NEAR MECHANICAL ROOM WALL PENETRATION. WIRE SMOKE DAMPER INTO EXISTING SMOKE PURGE SYSTEM TO SHUT WHENEVER CORRESPONDING SMOKE ZONE GOES INTO ALARM. PROVIDE PNEUMATIC/ELECTRIC RELAYS AS REQUIRED TO INTEGRATE INTO EXISTING SYSTEM.

PHASE 3B – INSTALLATION OF NEW AH2NW-19

30. REMOVE TEMPORARY DUCT CAP, OR SIDE DUCT PATCH, AND PERFORM FINAL SUPPLY, RETURN, OUTDOOR AIR, AND RELIEF AIR CONNECTIONS TO NEW AH2NW-20.
31. INSTALL NEW CHILLED WATER, OR STEAM, PIPING FROM ISOLATION VALVES PROVIDED DURING PREVIOUS PHASE.
32. RECONNECT 2" STEAM CONDENSATE TO EXISTING PIPING PENETRATION THROUGH FLOOR. REFER TO PIPING DIAGRAMS FOR STEAM TRAP INSTALLATION DETAILS AND MINIMUM PIPING ELEVATION REQUIREMENTS.



5 SECTION OF AH2NW-20 (looking east)
NO SCALE



6 SECTION OF AH2NW-19 (looking east)
NO SCALE

CD ISSUE

FULLY SPRINKLERED

GENERAL NOTES:

GENERAL CONTRACTOR AND/OR ALL SUBCONTRACTORS SHALL FIELD VERIFY ALL DIMENSIONS SHOWN ON THESE PLANS AND SHALL BE RESPONSIBLE FOR VARIATIONS BETWEEN PLAN DIMENSIONS AND ACTUAL FIELD DIMENSIONS. WHERE VARIATIONS ARE FOUND TO OCCUR, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING PRIOR TO PROCEEDING WITH CONSTRUCTION; NO ADJUSTMENT TO THE WORK WILL BE MADE WITHOUT THE PRIOR APPROVAL OF THE PROJECT ENGINEER.

GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR GENERAL DEMOLITION INCLUDING REMOVAL OF WALLS, PARTITIONS, DOORS & CEILING & FLOORS. ANY AND ALL CUTTING OF CONCRETE FLOORS, WALLS OR STRUCTURE SHALL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY. CORE DRILLING THROUGH CONCRETE WALLS, FLOORS OR STRUCTURE FOR PIPING OR CONDUIT SHALL BE THE RESPONSIBILITY OF THE SUBCONTRACTOR BY TRADE; FIRESTOPPING OF THESE OPENINGS SHALL BE DONE BY THE RESPECTIVE SUBCONTRACTOR. REMOVAL OF DEBRIS RESULTING FROM DEMOLITION, CUTTING, AND/OR DRILLING IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. PATCHING AND REPAIR OF CONCRETE WALLS, FLOOR, OR STRUCTURE SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR; THIS WILL BE ACCOMPLISHED UPON COMPLETION OF THE INSTALLATION OF ANY AND ALL UTILITIES INSTALLED BY THE VARIOUS SUBCONTRACTORS.

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TRUE NORTH

PLAN NORTH

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

JASON GOTTWALT, PE
Date 08/08/2014 Reg. No. 41360

Drawing Title
2ND FLOOR MECHANICAL ROOM NORTHWEST MECHANICAL PLAN

Project Title
UPGRADE AHU'S PHASE 2

Project No. 618-13-130

Building Number 70

Drawing Scale: AS NOTED

Plot Scale: 12" = 1'-0"

Approved: Catherine Joyce, Chief, Projects Section

Approved: Steven Challeen, Director, Engineering

Location: V.A. MEDICAL CENTER, ONE VETERANS DRIVE, MINNEAPOLIS, MN 55417

Date: 08/08/2014 | Checked: JRG | Drawn: JG/RF

DRAWING NO. 1293-70-MH2.3

Dwg. 12 of 30

Office of Facilities Management

Department of Veterans Affairs