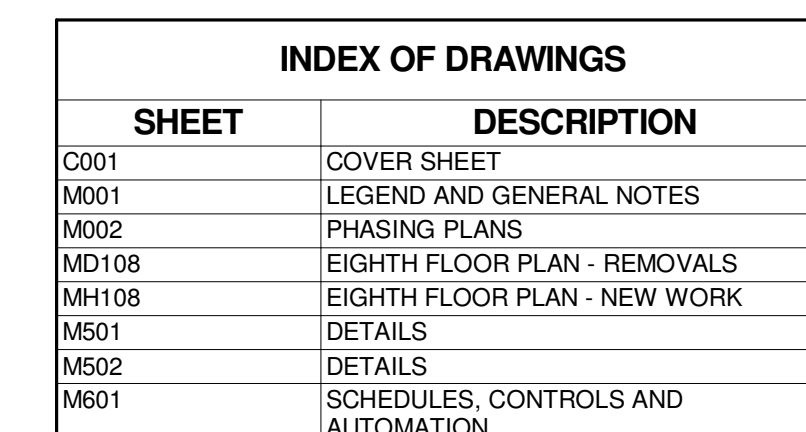


VA Project No: 539-15-203
Firm License: 01528



INDEX OF DRAWINGS	
SHEET	DESCRIPTION
C001	COVER SHEET
M001	LEGEND AND GENERAL NOTES
M002	PHASING PLANS
MD108	EIGHTH FLOOR PLAN - REMOVALS
MH108	EIGHTH FLOOR PLAN - NEW WORK
M501	DETAILS
M502	DETAILS
M601	SCHEDULES, CONTROLS AND AUTOMATION

[illegible]

A three inches = one foot

B one and one-half inches = one foot

C one inch = one foot

D three-quarters inch = one foot

E one-half inch = one foot

F three-eighths inch = one foot

one-quarter inch = one foot

one-eighth inch = one foot

A

B

C

D

E

F

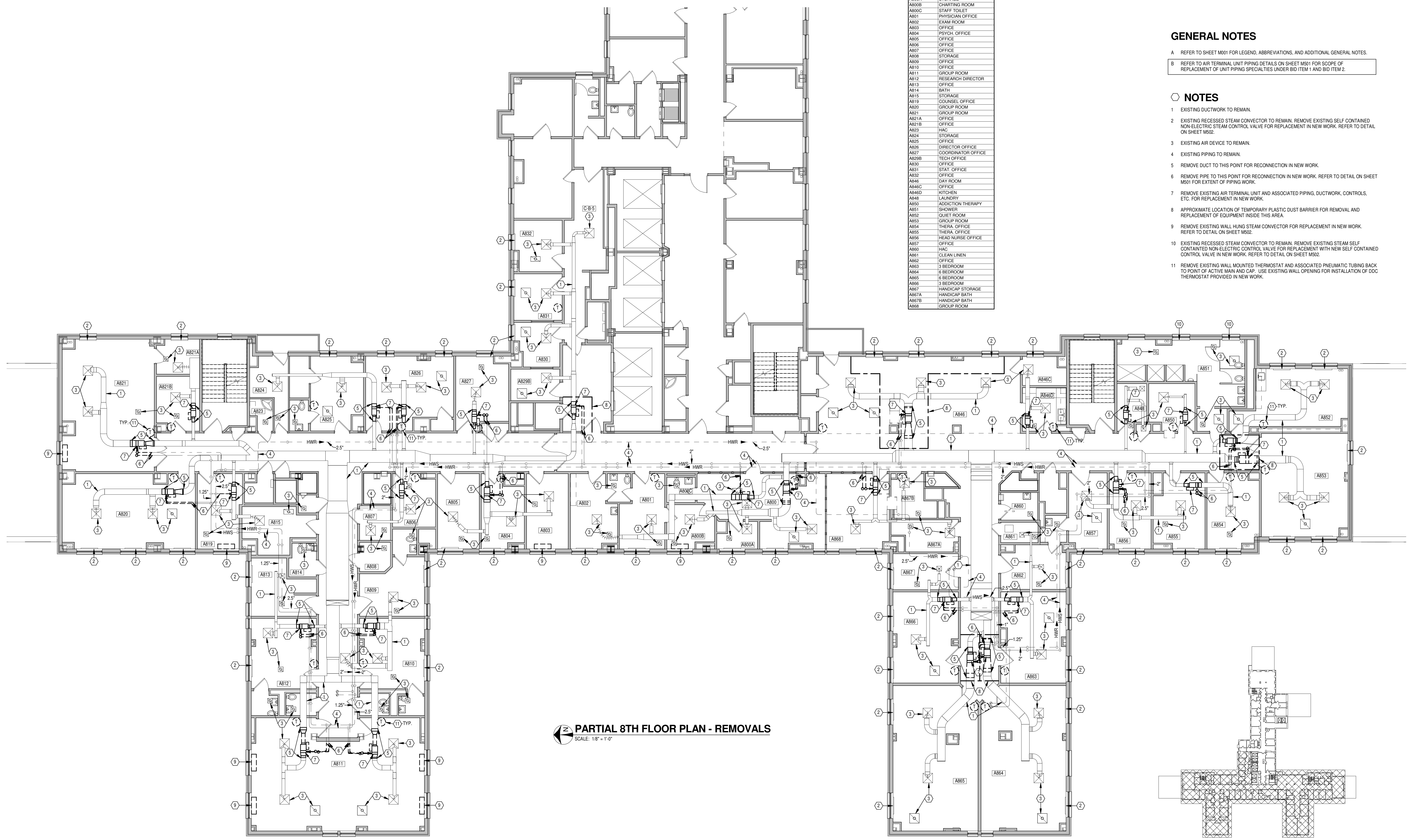
ROOM NAMES AND NUMBERS	
Number	Name
A800	NURSES STATION
A800A	STORAGE
A800B	CHARTING ROOM
A800C	STAFF TOILET
A801	PHYSICIAN OFFICE
A802	EXAM ROOM
A803	OFFICE
A804	PSYCH. OFFICE
A805	OFFICE
A806	OFFICE
A807	OFFICE
A808	STORAGE
A809	OFFICE
A810	OFFICE
A811	GROUP ROOM
A812	RESEARCH DIRECTOR
A813	OFFICE
A814	BATH
A815	STORAGE
A819	COUNSEL OFFICE
A820	GROUP ROOM
A821	GROUP ROOM
A821A	OFFICE
A821B	OFFICE
A823	HAC
A824	STORAGE
A825	OFFICE
A826	DIRECTOR OFFICE
A827	COORDINATOR OFFICE
A828B	TECH OFFICE
A830	OFFICE
A831	STAT. OFFICE
A832	OFFICE
A846	DAY ROOM
A846C	OFFICE
A846D	KITCHEN
A848	LAUNDRY
A850	ADDICTION THERAPY
A851	SHOWER
A852	QUIET ROOM
A853	GROUP ROOM
A854	THERA. OFFICE
A855	THERA. OFFICE
A856	HEAD NURSE OFFICE
A857	OFFICE
A862	OFFICE
A863	3 BEDROOM
A864	6 BEDROOM
A865	6 BEDROOM
A866	3 BEDROOM
A867	HANDICAP STORAGE
A867A	HANDICAP BATH
A867B	HANDICAP BATH
A868	GROUP ROOM

GENERAL NOTES

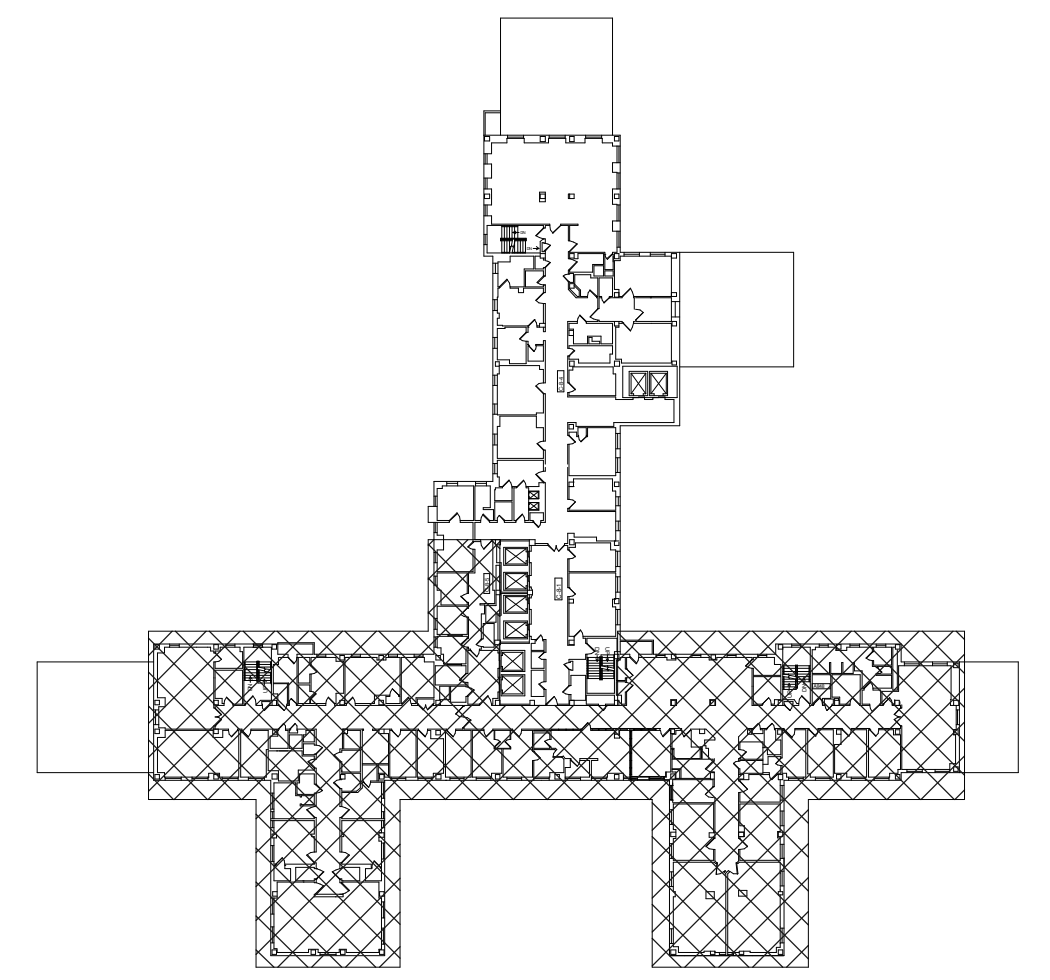
- A REFER TO SHEET M001 FOR LEGEND, ABBREVIATIONS, AND ADDITIONAL GENERAL NOTES.
- B REFER TO AIR TERMINAL UNIT PIPING DETAILS ON SHEET M501 FOR SCOPE OF REPLACEMENT OF UNIT PIPING SPECIALTIES UNDER BID ITEM 1 AND BID ITEM 2.

NOTES

- 1 EXISTING DUCTWORK TO REMAIN.
- 2 EXISTING RECESSED STEAM CONVECTOR TO REMAIN. REMOVE EXISTING SELF CONTAINED NON-ELECTRIC STEAM CONTROL VALVE FOR REPLACEMENT IN NEW WORK. REFER TO DETAIL ON SHEET M502.
- 3 EXISTING AIR DEVICE TO REMAIN.
- 4 EXISTING PIPING TO REMAIN.
- 5 REMOVE DUCT TO THIS POINT FOR RECONNECTION IN NEW WORK.
- 6 REMOVE PIPE TO THIS POINT FOR RECONNECTION IN NEW WORK. REFER TO DETAIL ON SHEET M501 FOR EXTENT OF PIPING WORK.
- 7 REMOVE EXISTING AIR TERMINAL UNIT AND ASSOCIATED PIPING, DUCTWORK, CONTROLS, ETC. FOR REPLACEMENT IN NEW WORK.
- 8 APPROXIMATE LOCATION OF TEMPORARY PLASTIC DUST BARRIER FOR REMOVAL AND REPLACEMENT OF EQUIPMENT INSIDE THIS AREA.
- 9 REMOVE EXISTING WALL HUNG STEAM CONVECTOR FOR REPLACEMENT IN NEW WORK. REFER TO DETAIL ON SHEET M502.
- 10 EXISTING RECESSED STEAM CONVECTOR TO REMAIN. REMOVE EXISTING STEAM SELF CONTAINED NON-ELECTRIC CONTROL VALVE FOR REPLACEMENT WITH NEW SELF CONTAINED CONTROL VALVE IN NEW WORK. REFER TO DETAIL ON SHEET M502.
- 11 REMOVE EXISTING WALL MOUNTED THERMOSTAT AND ASSOCIATED PNEUMATIC TUBING BACK TO POINT OF ACTIVE MAIN AND CAP. USE EXISTING WALL OPENING FOR INSTALLATION OF DDC THERMOSTAT PROVIDED IN NEW WORK.



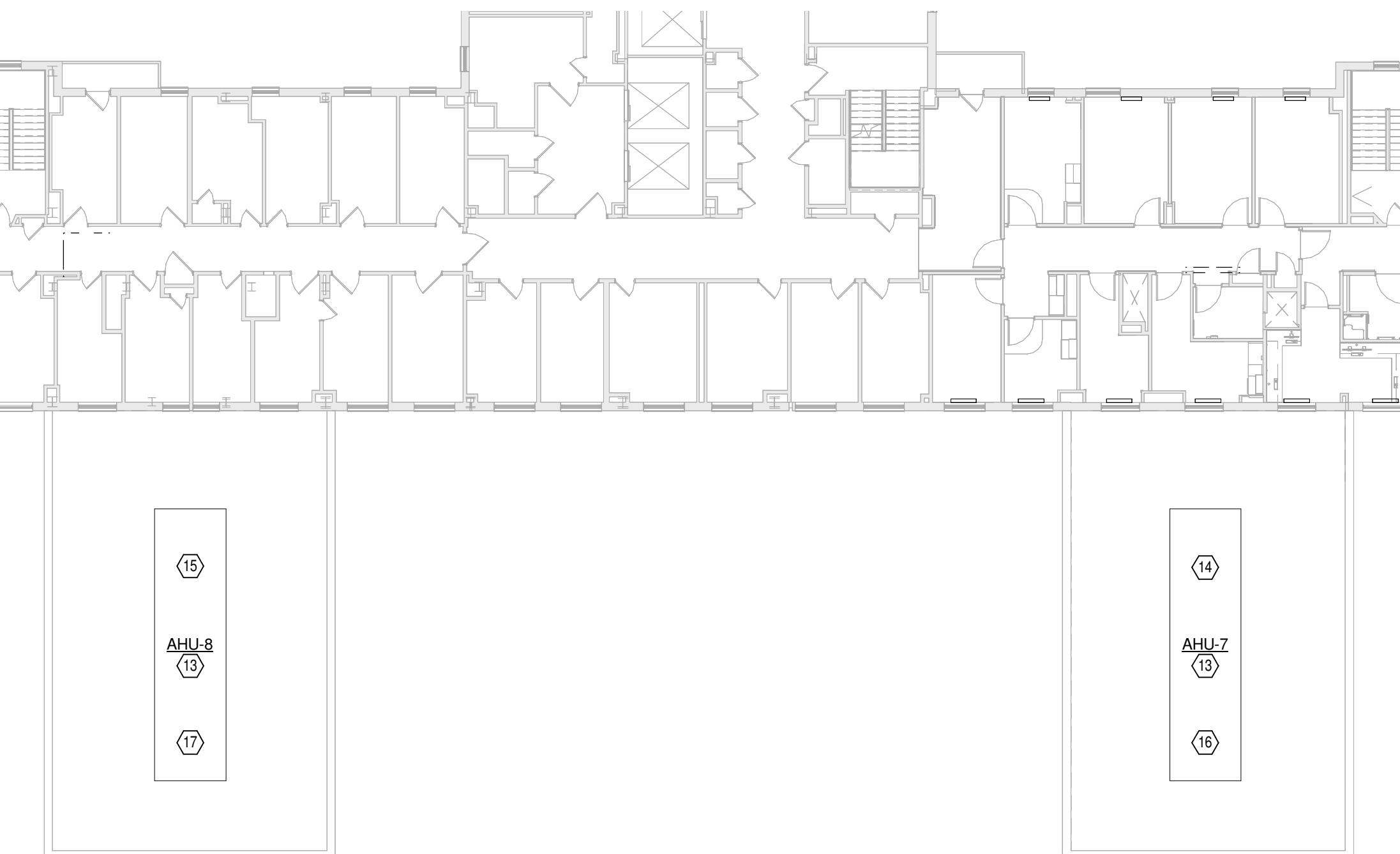
PARTIAL 8TH FLOOR PLAN - REMOVALS
SCALE: 1/8" = 1'-0"



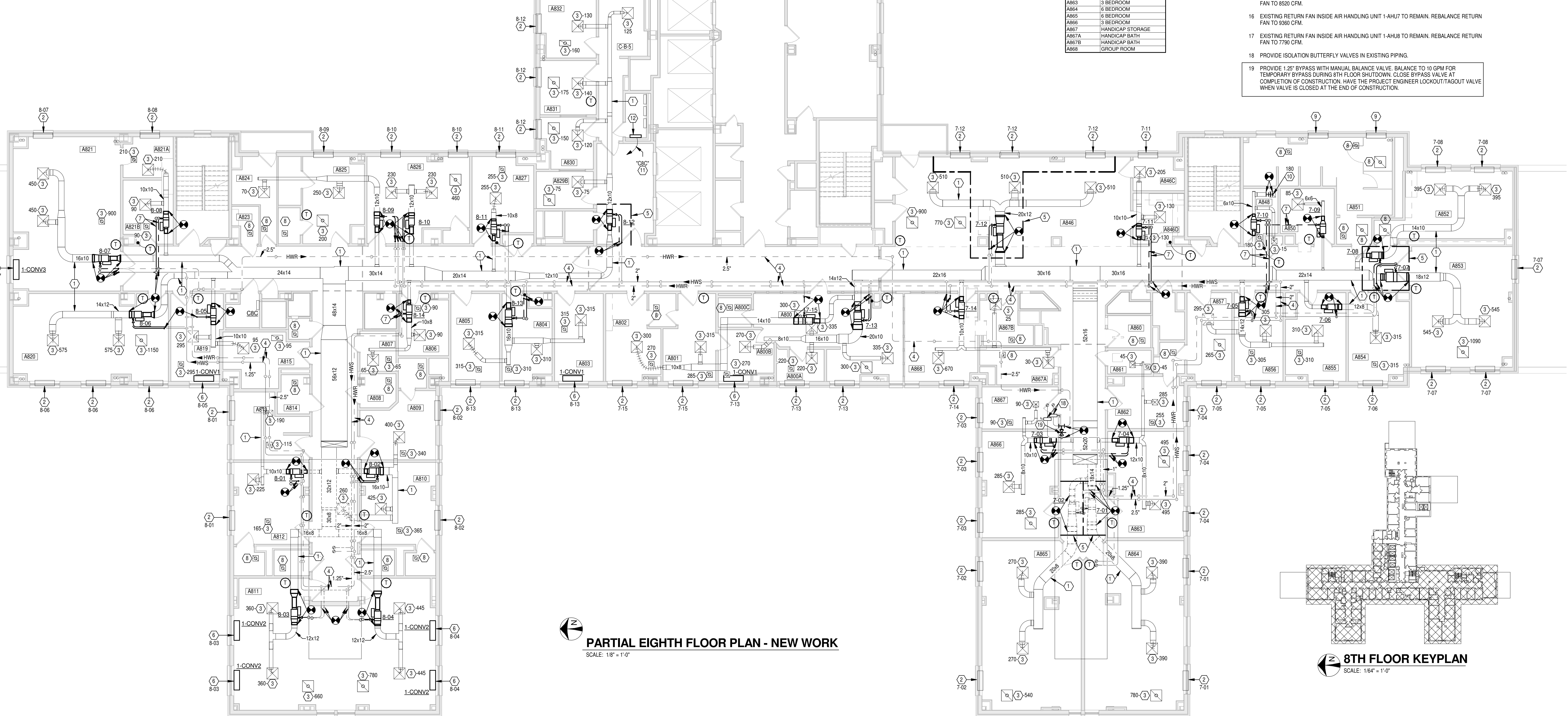
8TH FLOOR KEYPLAN - DEMO
SCALE: 1/64" = 1'-0"

<div>Revisions</div> <div>Date</div>	CONSULTANTS:	<div>STATE OF OHIO GARY S. EDDICE E-52755 REGISTERED PROFESSIONAL ENGINEER</div>	ARCHITECT/ENGINEERS: <div>Heapy Engineering MEP Design Technology Planning Commissioning Energy Nationally Recognized Leader in Sustainability 1400 W Dorothy Lane, Dayton, OH 45409-1310 Ph 937-224-0861 Fax 937-224-5777 www.heapy.com HEAPY PROJECT No.: 2013-04025 FIRM LICENSE No.: 01528</div>	Drawing Title EIGHTH FLOOR PLAN - REMOVALS Approved: Project Director	Project Title REPLACE PNEUMATIC BOXES ON 8TH FLOOR Location Cincinnati, Ohio Date 05/22/2014 Checked JAC Drawn DRV	Project No. VA Project No. 539-15-203 Building Number 1 Drawing Number MD108 Dwg. 4 of 8	Office of Construction and Facilities Management Department of Veterans Affairs	

three inches = one foot
one and one-half inches = one foot
one inch = one foot
three-quarters inch = one foot
one-half inch = one foot
three-eighths inch = one foot
one-quarter inch = one foot
one-eighth inch = one foot



PARTIAL ROOF PLAN - EXISTING
SCALE: 1/16" = 1'-0"



PARTIAL EIGHTH FLOOR PLAN - NEW WORK
SCALE: 1/8" = 1'-0"

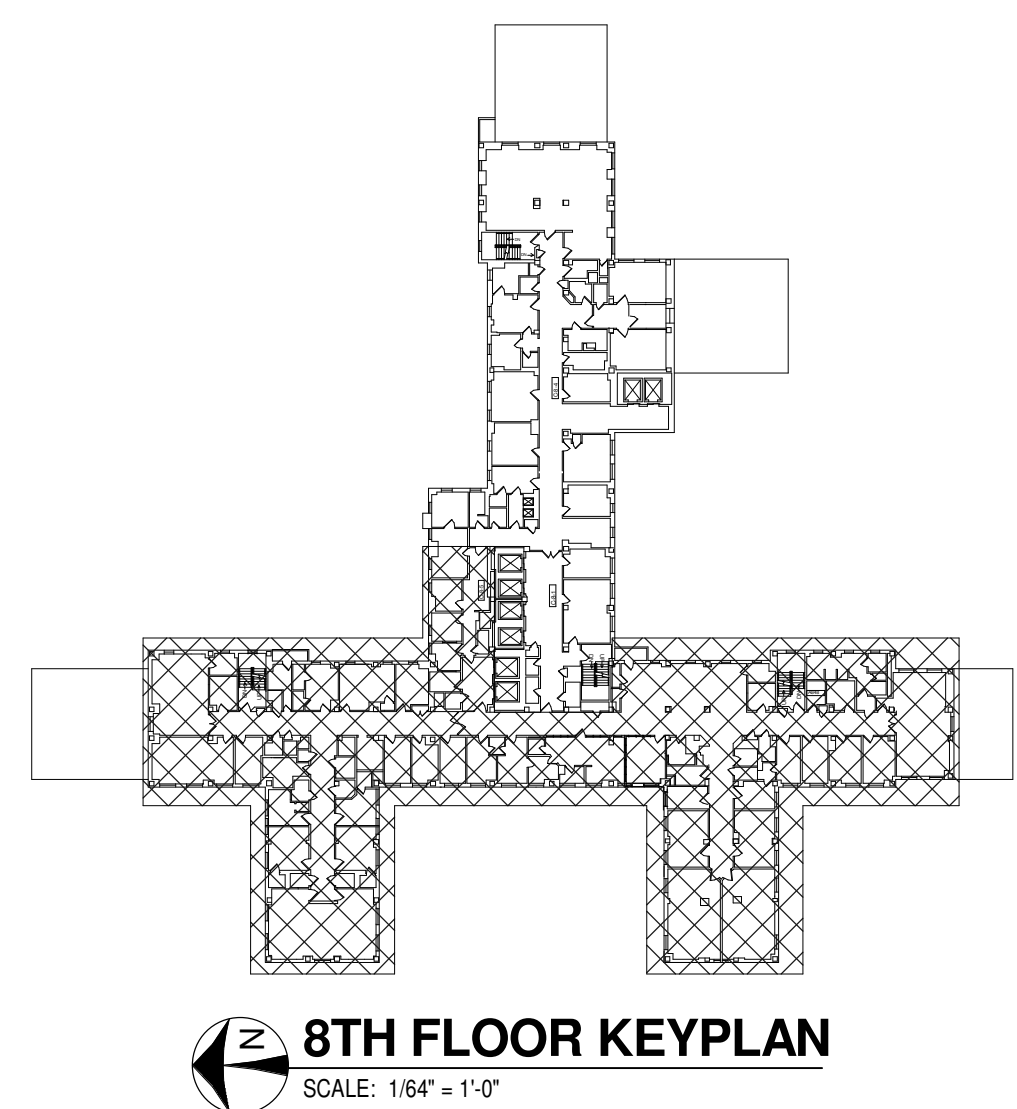
ROOM NAMES AND NUMBERS	
Number	Name
A800	NURSES STATION
A800A	STORAGE
A800B	CHARTING ROOM
A800C	STAFF TOILET
A801	PHYSICIAN OFFICE
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A856	HEAD NURSE OFFICE
A857	OFFICE
A859	HAC
A861	CLEAN LINEN
A862	OFFICE
A863	3 BEDROOM
A864	6 BEDROOM
A865	6 BEDROOM
A866	3 BEDROOM
A867	HANDICAP STORAGE
A867A	HANDICAP BATH
A867B	HANDICAP BATH
A868	GROUP ROOM

GENERAL NOTES

- A REFER TO SHEET M001 FOR LEGEND, ABBREVIATIONS, AND ADDITIONAL GENERAL NOTES.
- B ALL HEATING HOT WATER SUPPLY AND RETURN RUNOUTS TO VAV BOXES SHALL BE 0.75" DIA. UNLESS NOTED OTHERWISE.
- C REFER TO AIR TERMINAL UNIT PIPING DETAILS ON SHEET M501 FOR SCOPE OF REPLACEMENT OF UNIT PIPING SPECIALTIES UNDER BID ITEM 1 AND BID ITEM 2.
- D BALANCING OF AIR DEVICES AND AIR HANDLER FANS SHALL BE DELETED FROM THIS PROJECT UNDER BID ITEM 3. TAB OF VAV BOXES SHALL REMAIN IN THE PROJECT EVEN IF BID ITEM 3 IS TAKEN.

NOTES

- 1 EXISTING DUCTWORK TO REMAIN.
- 2 EXISTING RECESSED STEAM CONVECTOR TO REMAIN. RAISE EXISTING STEAM HEATING ELEMENT INSIDE CONVECTOR CABINET AND REPLACE SELF CONTAINED STEAM CONTROL VALVE WITH NEW DDC CONTROL VALVE. REFER TO DETAIL ON SHEET M602. STEAM CONTROL VALVE SHALL BE CONTROLLED BY INDICATED VAV BOX DDC CONTROLLER.
- 3 EXISTING AIR DEVICE TO REMAIN. BALANCE TO INDICATED CFM.
- 4 EXISTING PIPING TO REMAIN.
- 5 APPROXIMATE LOCATION OF TEMPORARY PLASTIC DUST BARRIER FOR REMOVAL AND REPLACEMENT OF EQUIPMENT INSIDE THIS AREA.
- 6 PROVIDE NEW WALL HUNG STEAM CONVECTOR. REFER TO SCHEDULE ON SHEET M001 AND DETAIL ON SHEET M602. STEAM CONTROL VALVE SHALL BE CONTROLLED BY INDICATED VAV BOX DDC CONTROLLER.
- 7 NEW PIPING RUNOUTS TO AIR TERMINAL UNIT AND ASSOCIATED SPECIALTIES SHALL REMAIN IN PROJECT EVEN IF BID ITEM 2 IS TAKEN.
- 8 EXISTING EXHAUST AIR DEVICE TO REMAIN.
- 9 EXISTING RECESSED STEAM CONVECTOR TO REMAIN. PROVIDE NEW SELF CONTAINED NON-ELECTRIC STEAM CONTROL VALVE WITH REMOTE SENSING ELEMENT MOUNTED BELOW EXISTING STEAM HEATING ELEMENT TO REPLACE CONTROL VALVE. REFER TO DETAIL ON SHEET M602.
- 10 SUPPLY DIFFUSER IN PLENUM ABOVE CEILING TO REMAIN. CLEAN DEVICE AND INSTALL EXISTING CEILING. SUPPORTED FROM EXISTING CEILING GRID. BALANCE DEVICE TO INDICATED CFM.
- 11 UTILIZE EXISTING SPARE 120V-20A/1P BREAKER IN EXISTING PANEL "C8C" FOR NEW WORK.
- 12 PROVIDE DDC NETWORK AREA CONTROLLER. FULLY INTEGRATE ALL NEW DDC TERMINAL UNIT CONTROLLERS TO EXISTING HEAD-END THROUGH THIS PANEL. PROVIDE GRAPHICS AS SPECIFIED.
- 13 EXISTING VARIABLE AIR VOLUME AIR HANDLING UNIT TO REMAIN.
- 14 EXISTING SUPPLY FAN INSIDE AIR HANDLING UNIT 1-AHJ7 TO REMAIN. REBALANCE SUPPLY FAN TO 10260 CFM.
- 15 EXISTING SUPPLY FAN INSIDE AIR HANDLING UNIT 1-AHJ8 TO REMAIN. REBALANCE SUPPLY FAN TO 8520 CFM.
- 16 EXISTING RETURN FAN INSIDE AIR HANDLING UNIT 1-AHJ7 TO REMAIN. REBALANCE RETURN FAN TO 5980 CFM.
- 17 EXISTING RETURN FAN INSIDE AIR HANDLING UNIT 1-AHJ8 TO REMAIN. REBALANCE RETURN FAN TO 7790 CFM.
- 18 PROVIDE ISOLATION BUTTERFLY VALVES IN EXISTING PIPING.
- 19 PROVIDE 1.25" BYPASS WITH MANUAL BALANCE VALVE. BALANCE TO 10 GPM FOR TEMPORARY BYPASS DURING 8TH FLOOR SHUTDOWN. CLOSE BYPASS VALVE AT COMPLETION OF CONSTRUCTION. HAVE THE PROJECT ENGINEER LOOKOUT/TAGOUT VALVE WHEN VALVE IS CLOSED AT THE END OF CONSTRUCTION.



8TH FLOOR KEYPLAN
SCALE: 1/64" = 1'-0"

Revisions

Date

5/22/2014 1:01:19 PM

CONSULTANTS:

STATE OF OHIO
GARY S. EODICE
E-52755
REGISTERED PROFESSIONAL ENGINEER

ARCHITECT/ENGINEERS:

Heapy Engineering
MEP Design Technology Planning Commissioning Energy
Nationally Recognized Leader in Sustainability
1400 W Dorothy Lane, Dayton, OH 45409-1310
Ph 937-224-0861 Fax 937-224-5777 www.heapy.com
HEAPY PROJECT No.: 2013-04025 FIRM LICENSE No.: 01528

Drawing Title

EIGHTH FLOOR PLAN - NEW WORK

Approved: Project Director

Project Title

REPLACE PNEUMATIC BOXES ON 8TH FLOOR

Location Cincinnati, Ohio

Date 05/22/2014

Checked JAC

Drawn DRV

Project No.

VA Project No. 539-15-203

Building Number 1

Drawing Number MH108

Dwg. 5 of 8

Office of Construction and Facilities Management

Department of Veterans Affairs

A
three inches = one foot

B
one and one-half inches = one foot

C
one inch = one foot

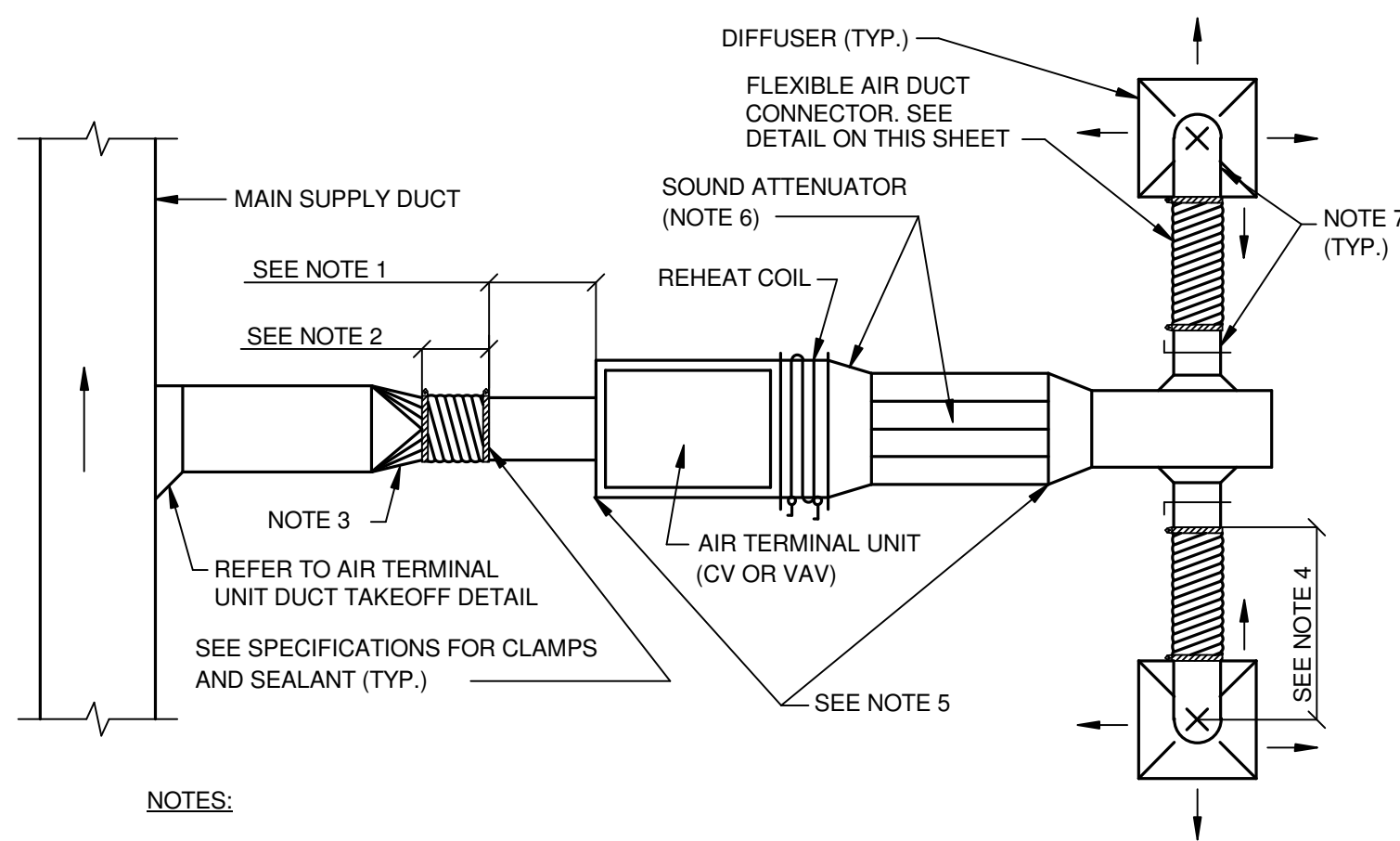
D
three-quarters inch = one foot

one-half inch = one foot

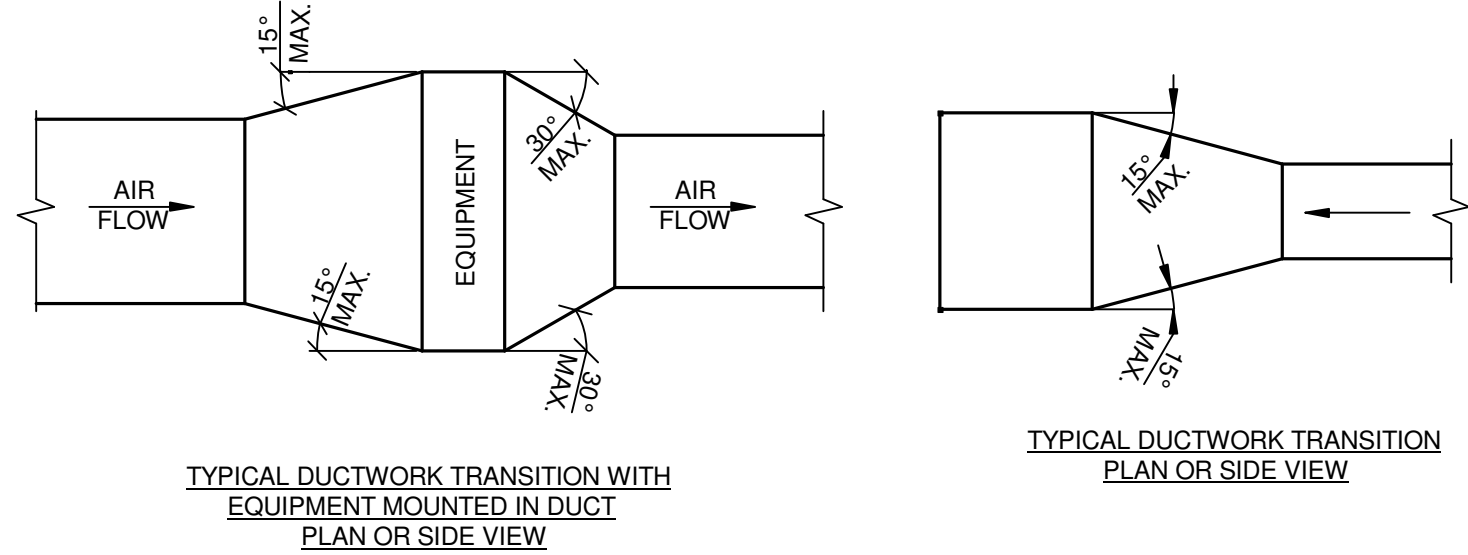
three-eighths inch = one foot

— one-quarter inch = one foot

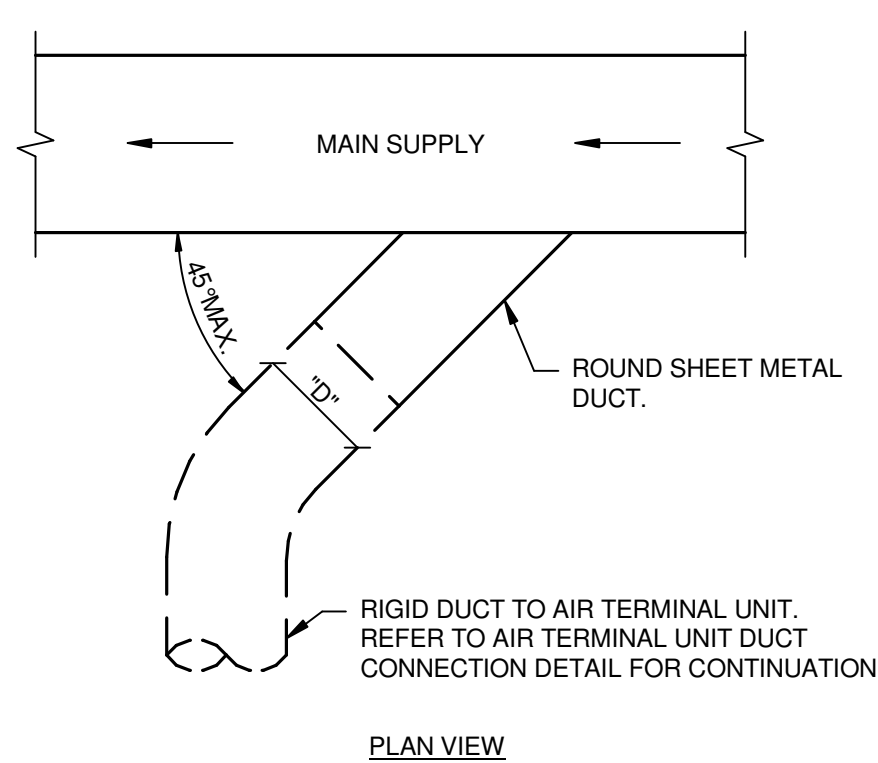
one-eighth inch = one foot



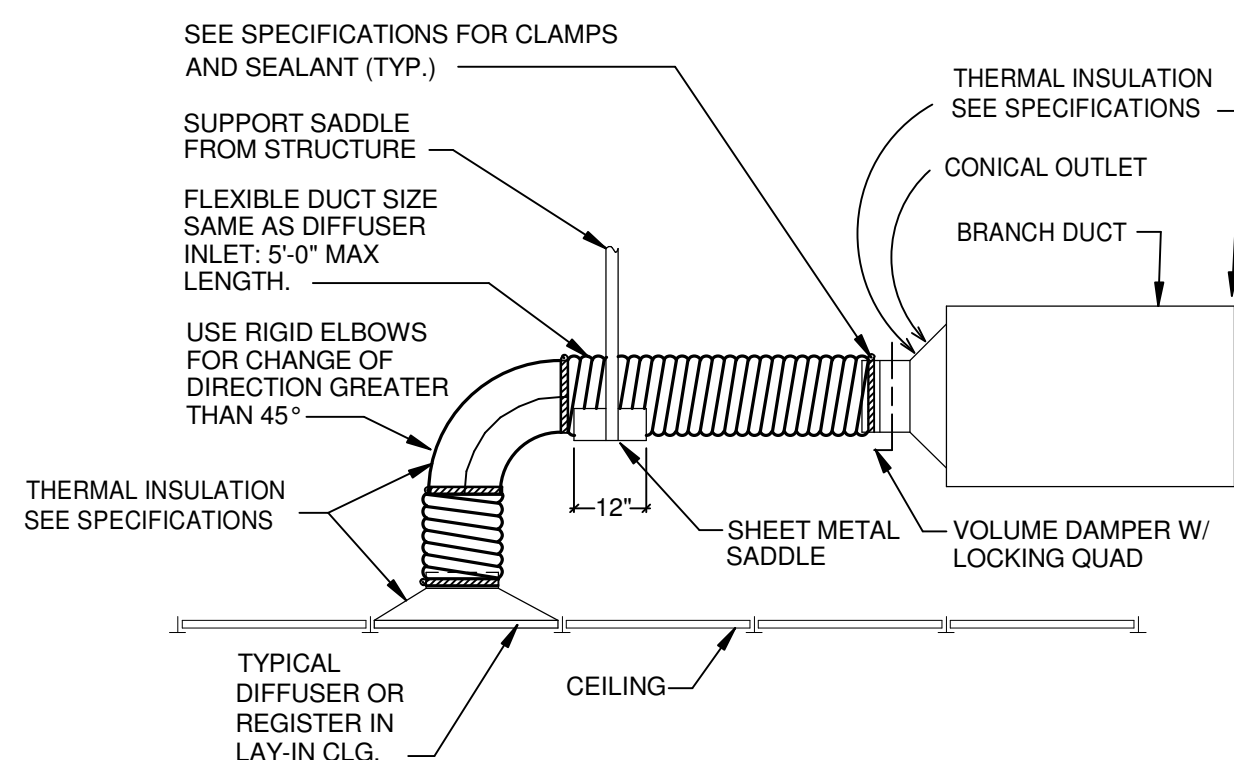
DUCT CONNECTIONS-AIR TERMINAL UNITS



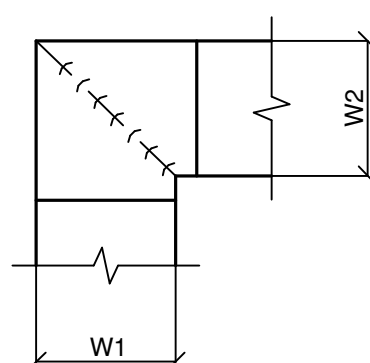
DUCTWORK TRANSITIONS



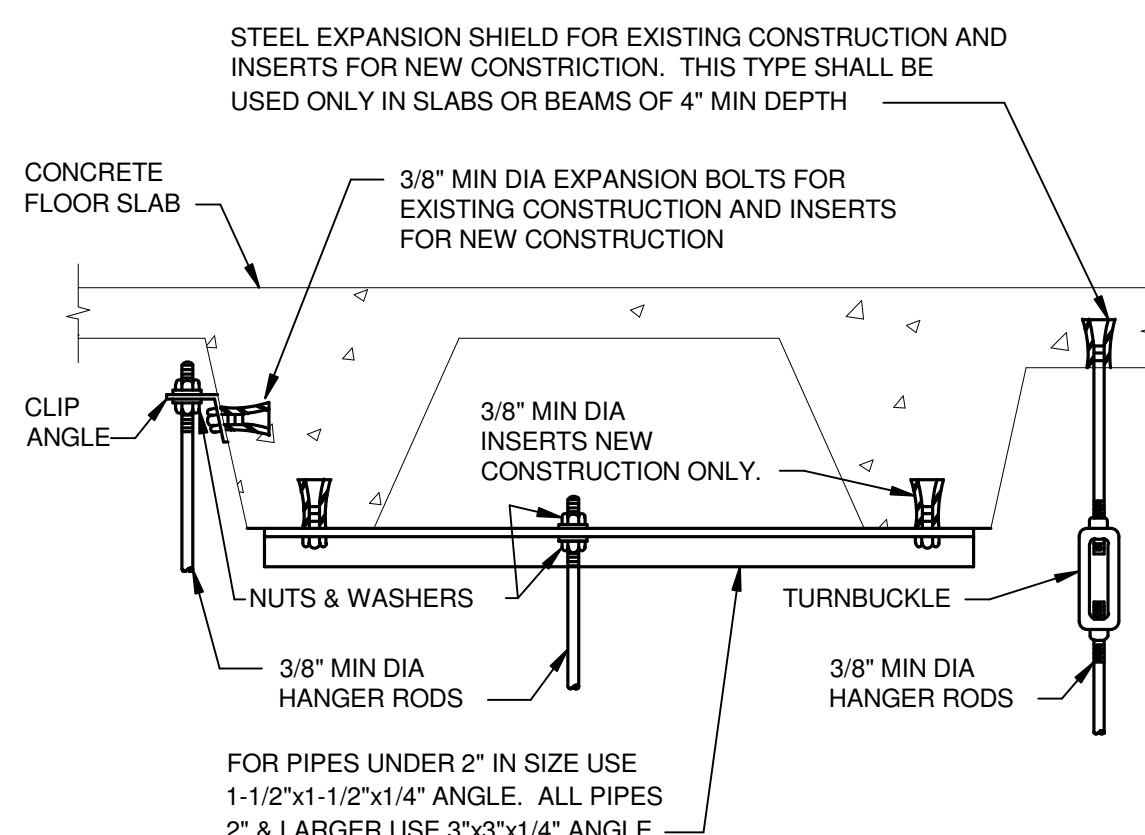
SUPPLY DUCT TAKEOFF - AIR
TERMINAL UNITS



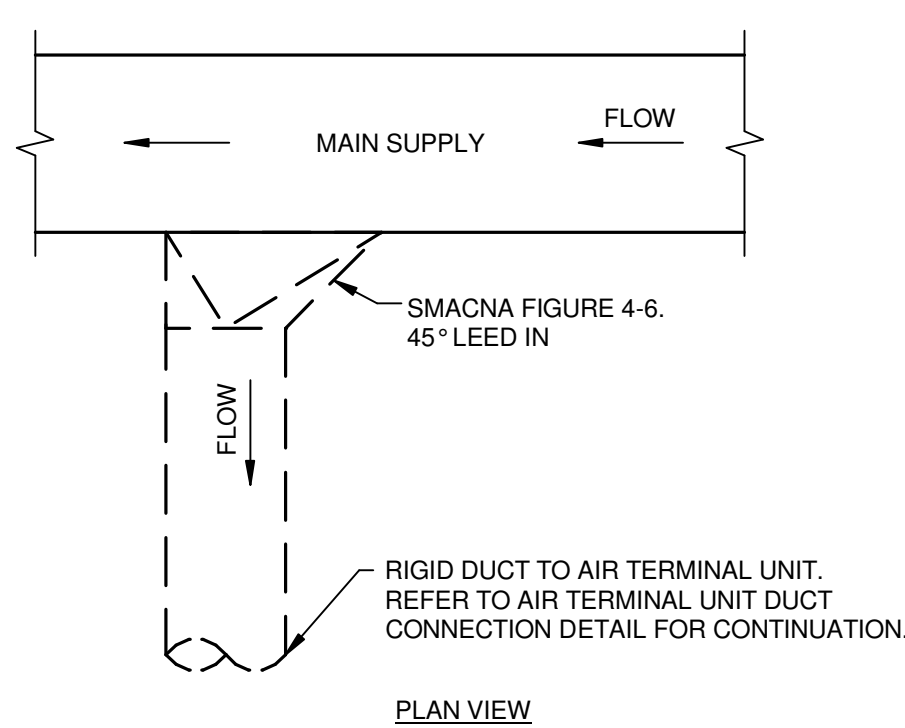
FLEXIBLE AIR DUCT CONNECTOR



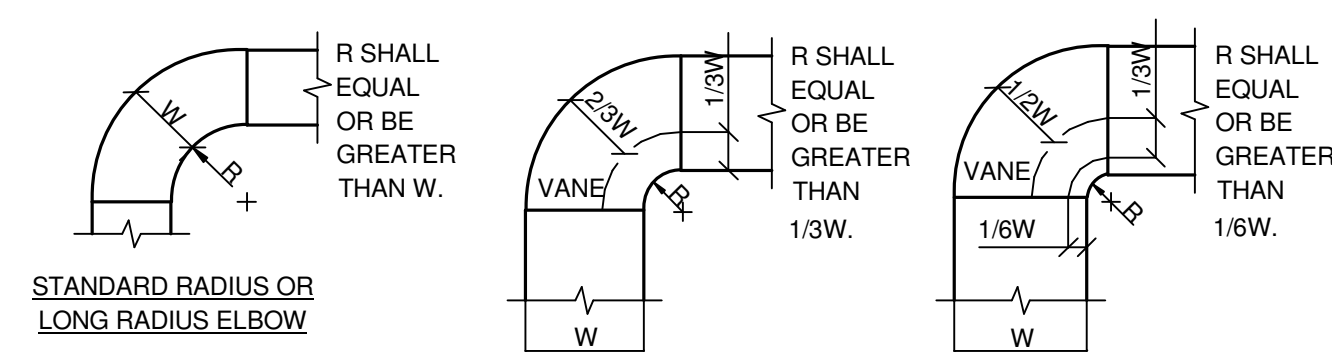
DUCTWORK SQUARE VANE ELBOWS



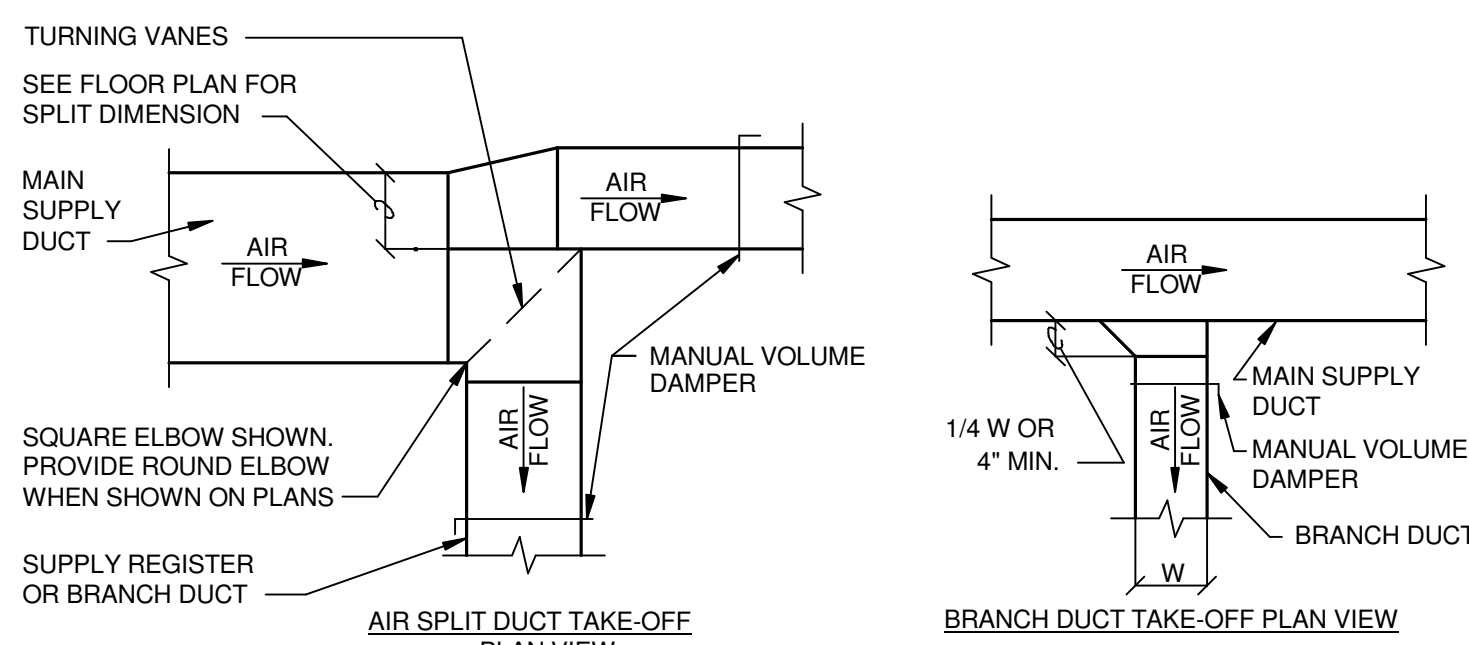
SECURING HANGER RODS IN CONCRETE



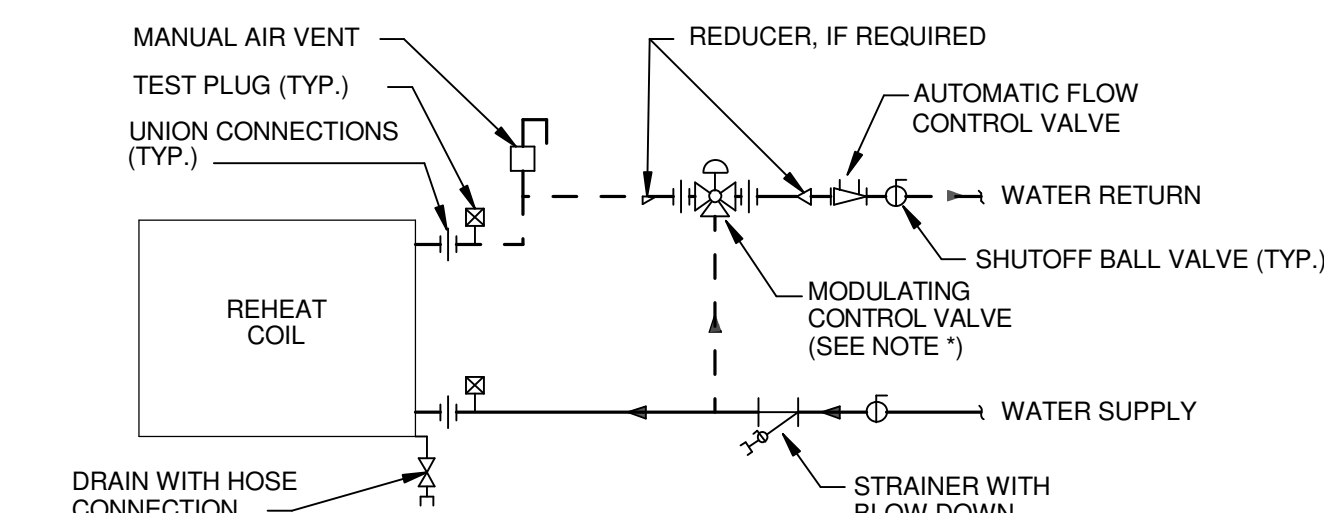
ALTERNATE SUPPLY DUCT
TAKEOFF - AIR TERMINAL UNITS



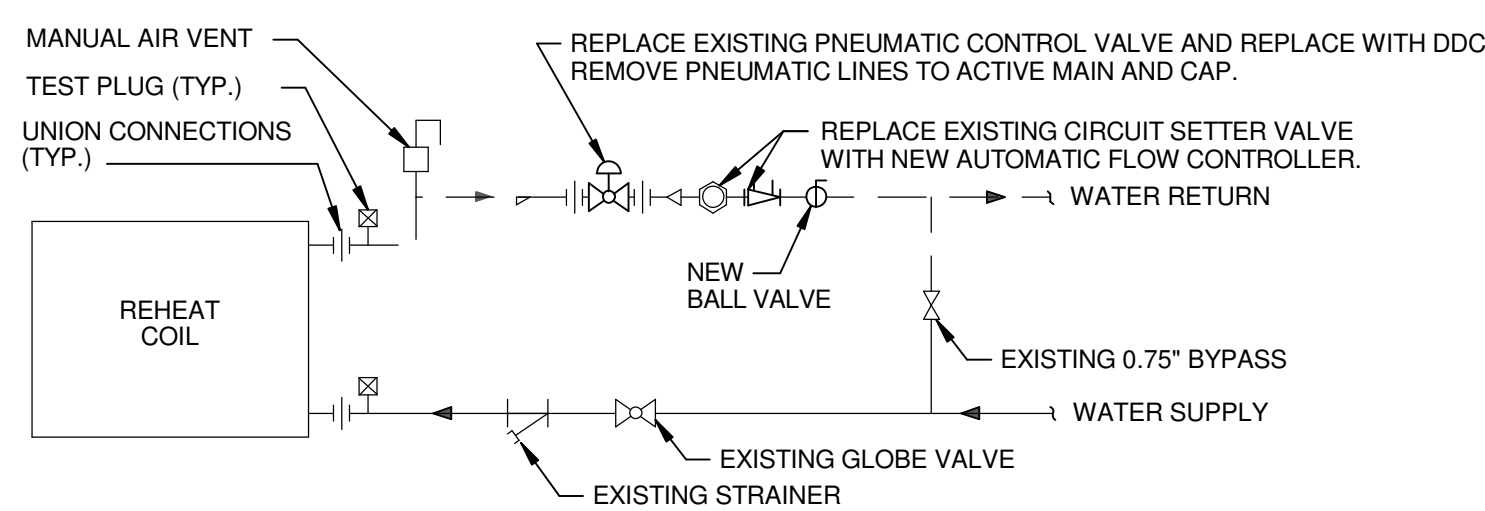
DUCTWORK RADIUS ELBOWS



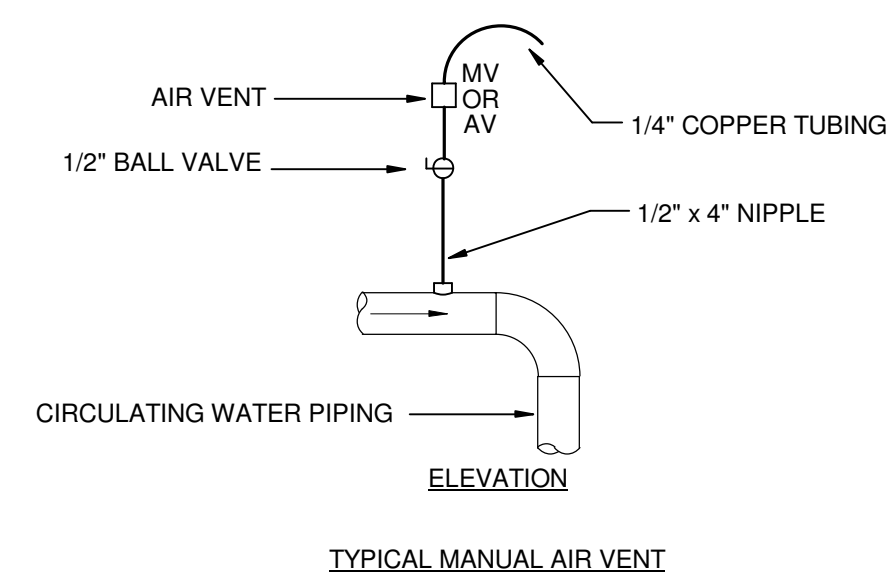
SUPPLY DUCTWORK TAKE-OFFS



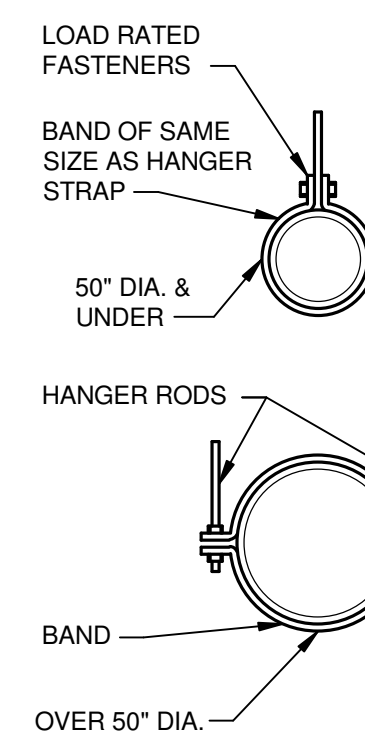
TERMINAL UNIT WATER COILS -
PIPING CONNECTIONS
(BID ITEM 1)



TERMINAL UNIT WATER COILS -
PIPING CONNECTIONS
(BID ITEM 2)

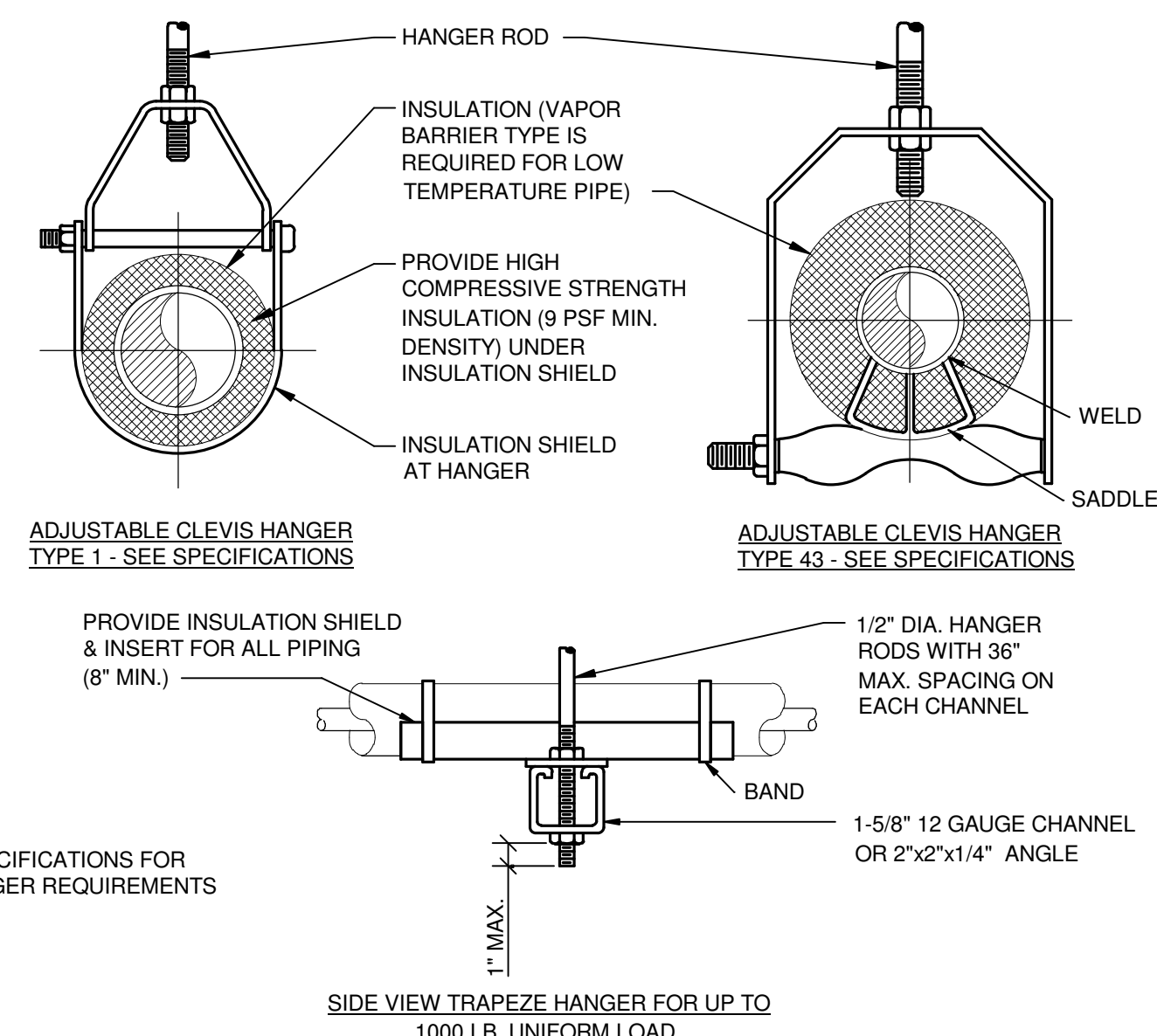


DRAIN VALVE AND AIR VENT CONNECTIONS (HYDRONIC SYSTEMS)



HANGER STRAPS OR RODS			
MAX. DUCT DIA. - IN.	QUANTITY/SIZE IN.	MAX. LOAD LBS.	MAX. SPACING IN.
26	ONE 1 x 22 GA. STRAP	260	144
36	ONE 1 x 18 GA. STRAP	420	144
50	ONE 1 x 16 GA. STRAP	700	144
60	TWO 3/8 DIA. RODS	1320	144
84	TWO 1/2 DIA. RODS	2500	144

ROUND DUCT HANGERS



MAXIMUM PIPE/TUBING SUPPORT SPACING																			
NOM. SIZE	IN.	THRU 3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24
PIPE	FT.	7	7	7	9	10	11	12	14	16	17	19	22	23	25	27	28	30	32
TUBING	FT.	5 FT	6	7	8	8	9	10	12	13	14	16	-	-	-	-	-	-	-

NOTE: FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.

PIPE HANGERS

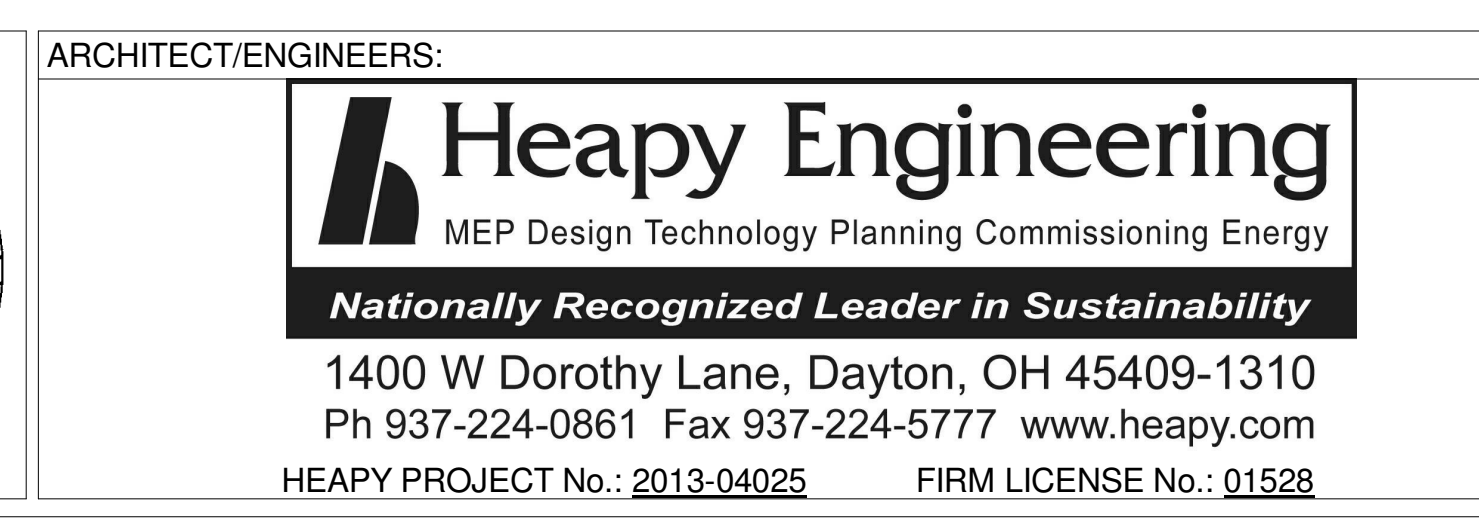
[illegible]



FISH WIRE UP EXISTING WALL/
PIPE CHASE TO ABOVE 8TH
FLOOR COIL. REFER TO CONTROL
DIAGRAM ON SHEET M601.



PROVIDE NEW SELF-CONTAINED NON-ELECTRIC
STEAM CONTROL VALVE WITH REMOTE SENSING
ELEMENT LOCATE BELOW EXISTING STEAM
HEATING ELEMENT

[illegible]

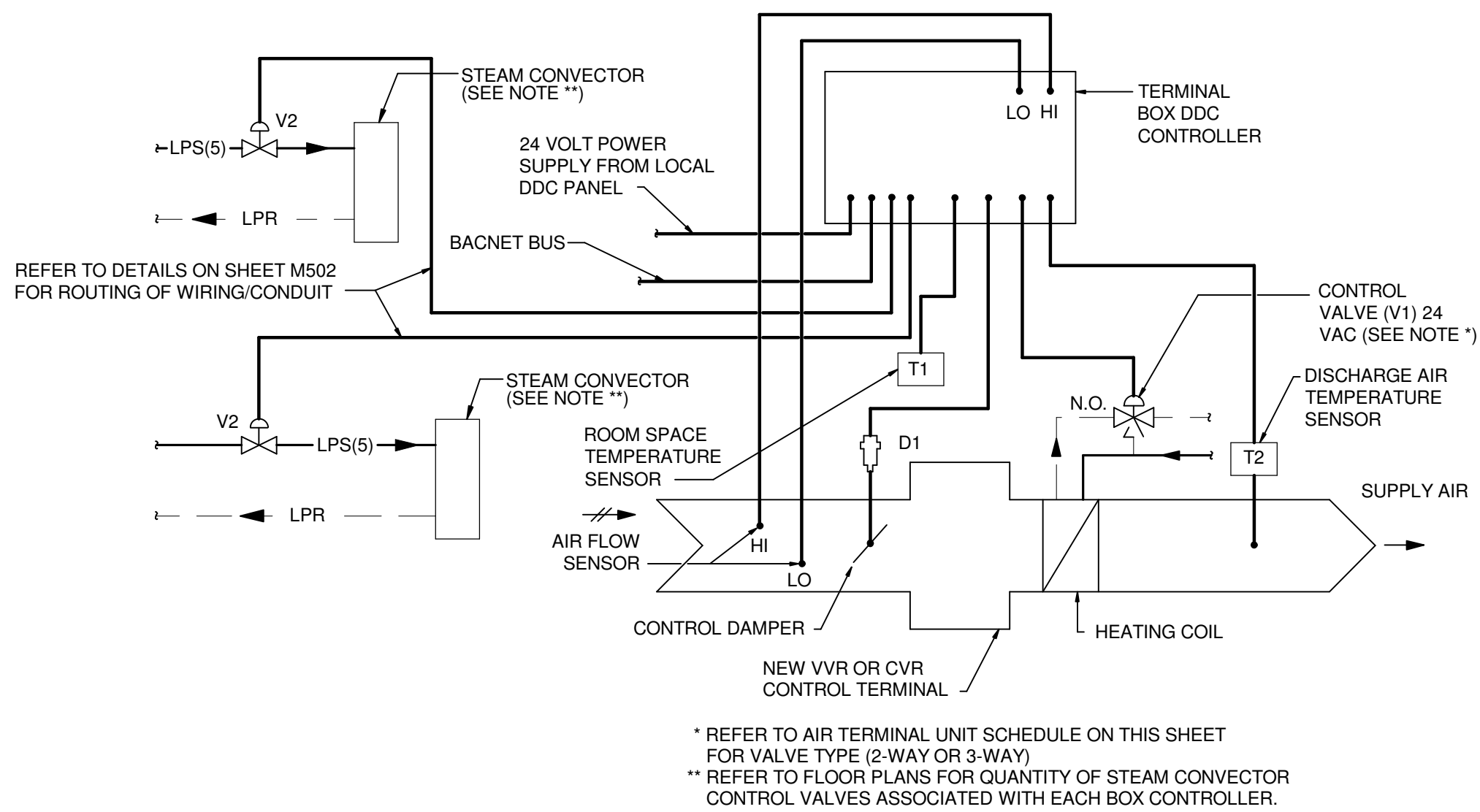
Project Title	Project No.		539-15-2023
REPLACE PNEUMATIC BOXES ON 8TH FLOOR	VA Project No.		
Location	Building Number		
	1		
Cincinnati, Ohio	Drawing Number		
	M502		
Date	Checked	Drawn	
05/22/2014	JAC	DRV	
		Dwg. 7	of 8

 Department of
Veterans Affairs

DUCT PRESSURE CLASS & LEAKAGE TABLE						
SYSTEM	DUCT INVOLVED	POSITIVE (P) OR NEGATIVE (N) PRESSURE	SMACNA CONST. CLASS W.G.	SMACNA SEAL CLASS	SMACNA LEAKAGE CLASS	
ALL SYSTEMS	ALL DUCTWORK EXCEPT AS LISTED BELOW.	P/N	± 2"	A	6	3
	SUPPLY AIR DUCTS FROM OUTLET OF AH-UNIT TO INLET OF AIR TERMINAL UNITS.	P	4"	A	6	3
	SUPPLY AIR DUCTS FROM OUTLET OF AIR TERMINAL UNITS TO SUPPLY AIR DEVICES	P	1"	A	6	3

HVAC DESIGN DATA				
OUTDOOR DESIGN TEMPERATURES:		83 DEG. F D6 SUMMER 74 DEG. F W6 SUMMER 5 DEG. F D6 WINTER	DESIGN ALTITUDE: 482 FT.	
INDOOR AREA DESIGN CONDITIONS	SUMMER		WINTER	
	DB (° F)	% HUMIDITY	DB (° F)	% HUMIDITY
OFFICES	72	50	72	30
PATIENT BEDROOMS	72	50	72	30
ALL OTHER AREAS	72	50	72	30
UNOCCUPIED MODE	78	50	60	30

NOTES:



ROOM TEMPERATURE CONTROLS

* REFER TO AIR TERMINAL UNIT SCHEDULE ON THIS SHEET FOR VALVE TYPE (2-WAY OR 3-WAY)
** REFER TO FLOOR PLANS FOR QUANTITY OF STEAM CONVECTOR CONTROL VALVES ASSOCIATED WITH EACH BOX CONTROLLER.

CVR & VVR CONTROL SEQUENCES

- CONSTANT VOLUME REHEAT TERMINAL CONTROL
- WHEN ROOM TEMPERATURE AT T1 IS BELOW SETPOINT, HOT WATER VALVE V1 SHALL MODULATE OPEN TO COIL TO MAINTAIN TEMPERATURE SETPOINT, AND STEAM CONVECTOR VALVE V2 SHALL REMAIN CLOSED. WHEN ROOM TEMPERATURE AT T1 IS BELOW SETPOINT AND HOT WATER VALVE V1 IS COMPLETELY OPEN, ALL STEAM CONVECTOR CONTROL VALVES ASSOCIATED WITH BOX SHALL MODULATE OPEN TO MAINTAIN ROOM TEMPERATURE SETPOINT BOX DAMPER D1 SHALL REMAIN AT CONSTANT MAXIMUM CFM.
- EACH TERMINAL UNIT SHALL INCLUDE AN AIRFLOW SENSOR FOR CALCULATING CFM, AND A DISCHARGE AIR TEMPERATURE SENSOR.
- EXTEND 24 VOLT POWER TO THE TERMINAL BOX CONTROLLER FROM NEW DDC CONTROL PANEL PROVIDED UNDER THIS CONTRACT.
- ROOM SPACE TEMPERATURE SET POINT SHALL BE ADJUSTABLE FROM THE FRONT END COMPUTER INTERFACE.
- COORDINATE AND ADJUST OCCUPANCY SCHEDULES AND TEMPERATURE RANGE WITH VA PROJECT ENGINEER.
- UNOCCUPIED CONTROL: OCCUPANCY SHALL BE DETERMINED BY TIME SCHEDULE THROUGH DDC SYSTEM AND WITH A PUSH BUTTON 1-HOUR OVERRIDE LOCATED AT THE THERMOSTAT.
- DURING THE UNOCCUPIED MODE OF OPERATION, THE CONTROL DAMPER ACTUATOR D1 SHALL POSITION TO THE UNOCCUPIED AIRFLOW SETTING (REFER TO AIR TERMINAL UNIT SCHEDULE ON THIS SHEET).
- DURING THE UNOCCUPIED MODE OF OPERATION, WHEN THE ROOM TEMPERATURE AT T1 IS BELOW THE UNOCCUPIED HEATING SETPOINT (REFER TO HVAC DESIGN DATA SCHEDULE ON THIS SHEET), THE CONTROL SHALL INDEX TO THE OCCUPIED HEATING MODE OF OPERATION. THE CONTROL SHALL REVERT TO UNOCCUPIED OPERATION WHEN ROOM TEMPERATURE T1 RISES 2 DEGREES (ADJUSTABLE) ABOVE THE UNOCCUPIED HEATING SETPOINT.
- DURING THE UNOCCUPIED MODE OF OPERATION, WHEN THE ROOM TEMPERATURE AT T1 IS ABOVE THE UNOCCUPIED COOLING SETPOINT (REFER TO HVAC DESIGN DATA SCHEDULE ON THIS SHEET), THE CONTROL SHALL INDEX TO THE OCCUPIED COOLING MODE OF OPERATION. THE CONTROL SHALL REVERT TO UNOCCUPIED OPERATION WHEN ROOM TEMPERATURE T1 REDUCES 2 DEGREES (ADJUSTABLE) BELOW THE UNOCCUPIED COOLING SETPOINT.
- STEAM CONVECTOR VALVE(S) SHALL REMAIN CLOSED IF OUTSIDE AIR TEMPERATURE IS ABOVE 55 DEG. F.
- VARIABLE VOLUME REHEAT TERMINAL CONTROL
- WHEN ROOM TEMPERATURE AT T1 IS BELOW SETPOINT, THE CONTROL DAMPER ACTUATOR D1 SHALL MODULATE THE DAMPER TO REDUCE AIRFLOW TO THE SUMMER MINIMUM SETTING. ON A FURTHER DROP IN ROOM TEMPERATURE AT T1, THE CONTROL DAMPER SHALL BE MODULATED UPWARD TO THE WINTER MINIMUM AIRFLOW AND THE HOT WATER VALVE V1 SHALL MODULATE OPEN TO COIL TO MAINTAIN TEMPERATURE SETPOINT. WHEN ROOM TEMPERATURE AT T1 IS BELOW SETPOINT AND HOT WATER VALVE V1 IS COMPLETELY OPEN, ALL STEAM CONVECTOR CONTROL VALVES ASSOCIATED WITH BOX SHALL MODULATE OPEN TO COIL TO MAINTAIN TEMPERATURE SETPOINT.
- AS ROOM TEMPERATURE RISES ABOVE SETPOINT, HOT WATER VALVE V1 SHALL CLOSE. IF THE ROOM TEMPERATURE CONTINUES TO RISE ABOVE SETPOINT, DAMPER D1 SHALL MODULATE FROM SUMMER (COOLING) MINIMUM AIRFLOW TO MAXIMUM AIRFLOW TO MAINTAIN ROOM TEMPERATURE.
- EACH TERMINAL UNIT SHALL INCLUDE AN AIRFLOW SENSOR FOR CALCULATING CFM, AND A DISCHARGE AIR TEMPERATURE SENSOR.
- EXTEND 24 VOLT POWER TO THE TERMINAL BOX CONTROLLER FROM THE NEW DDC CONTROL PANEL PROVIDED UNDER THIS CONTRACT.
- ROOM SPACE TEMPERATURE SET POINT SHALL BE ADJUSTABLE FROM THE FRONT END COMPUTER INTERFACE.
- UNOCCUPIED CONTROL: OCCUPANCY SHALL BE DETERMINED BY TIME SCHEDULE THROUGH DDC SYSTEM AND WITH A PUSH BUTTON 1-HOUR OVERRIDE LOCATED AT THE THERMOSTAT.
- COORDINATE AND ADJUST OCCUPANCY SCHEDULES AND TEMPERATURE RANGE WITH VA PROJECT ENGINEER.
- DURING THE UNOCCUPIED MODE OF OPERATION, THE CONTROL DAMPER ACTUATOR D1 SHALL POSITION TO THE UNOCCUPIED AIRFLOW SETTING (REFER TO AIR TERMINAL UNIT SCHEDULE ON THIS SHEET).
- DURING THE UNOCCUPIED MODE OF OPERATION, WHEN THE ROOM TEMPERATURE AT T1 IS BELOW THE UNOCCUPIED HEATING SETPOINT (REFER TO HVAC DESIGN DATA SCHEDULE ON THIS SHEET), THE CONTROL SHALL INDEX TO THE OCCUPIED HEATING MODE OF OPERATION. THE CONTROL SHALL REVERT TO UNOCCUPIED OPERATION WHEN ROOM TEMPERATURE T1 RISES 2 DEGREES (ADJUSTABLE) ABOVE THE UNOCCUPIED HEATING SETPOINT.
- DURING THE UNOCCUPIED MODE OF OPERATION, WHEN THE ROOM TEMPERATURE AT T1 IS ABOVE THE UNOCCUPIED COOLING SETPOINT (REFER TO HVAC DESIGN DATA SCHEDULE ON THIS SHEET), THE CONTROL SHALL INDEX TO THE OCCUPIED COOLING MODE OF OPERATION. THE CONTROL SHALL REVERT TO UNOCCUPIED OPERATION WHEN ROOM TEMPERATURE T1 REDUCES 2 DEGREES (ADJUSTABLE) BELOW THE UNOCCUPIED COOLING SETPOINT.
- STEAM CONVECTOR VALVE(S) SHALL REMAIN CLOSED IF OUTSIDE AIR TEMPERATURE IS ABOVE 55 DEG. F.

1-AHU7 AIR TERMINAL UNIT SCHEDULE

UNIT NO.	CFM				APPROX. INLET SIZE (IN.)	DUCT RUNOUT SIZE TO UNIT (IN.) (1)	UNIT MAX. SP AT MAX. CFM (2)	SOUND REQUIREMENTS (4)		HOT WATER HEATING COIL								CONTROL TYPE (6)
	MAX.	WINTER MIN.	SUMMER MIN.	UNOCCUPIED MODE				SP ACROSS UNIT AT MAXIMUM ROOM NC	MAX. ROOM NC (3)	ENT. AIR TEMP. °F	ENT. WATER TEMP. °F	GPM	MAX. WATER P.D. FT. HD.	PIPE RUNOUT SIZE TO COIL	AUTO VALVE Cv	AUTO VALVE TYPE	MIN. MBH (5)	
7-01	780	415	415	-	9"	11"	0.35"	3.0"	35	55	180	1.5	2	0.75"	0.7	2-WAY	21	V.V.R.
7-02	540	405	405	-	7"	9"	0.35"	3.0"	35	55	180	1.4	2	0.75"	0.7	2-WAY	21	V.V.R.
7-03	375	270	270	-	7"	9"	0.35"	3.0"	35	55	180	1.0	2	0.75"	0.5	2-WAY	14	V.V.R.
7-04	825	825	825	-	9"	11"	0.35"	3.0"	35	55	180	2.4	2	0.75"	1.1	2-WAY	36	C.V.R.
7-05	910	455	330	140	12"	14"	0.35"	3.0"	35	55	180	1.4	2	0.75"	0.7	2-WAY	21	V.V.R.
7-06	315	160	90	50	6"	8"	0.35"	3.0"	35	55	180	0.5	2	0.75"	0.2	2-WAY	7	V.V.R.
7-07	1090	545	310	-	12"	14"	0.35"	3.0"	35	55	180	1.9	2	0.75"	0.9	2-WAY	28	V.V.R.
7-08	790	395	200	-	9"	11"	0.35"	3.0"	35	55	180	1.3	2	0.75"	0.6	2-WAY	18	V.V.R.
7-09	85	50	50	-	6"	8"	0.35"	3.0"	35	55	180	0.5	2	0.75"	0.2	2-WAY	2	V.V.R.
7-10	195	195	195	-	6"	8"	0.35"	3.0"	35	55	180	0.5	2	0.75"	0.2	2-WAY	2	C.V.R.
7-11	335	170	165	-	6"	8"	0.35"	3.0"	35	55	180	0.5	2	0.75"	0.2	2-WAY	7	V.V.R.
7-12	1530	765	660	-	14"	16"	0.35"	3.0"	35	55	180	2.4	2	0.75"	1.1	2-WAY	35	V.V.R.
7-13	1155	580	440	-	12"	14"	0.35"	3.0"	35	55	180	1.9	2	0.75"	0.9	2-WAY	27	V.V.R.
7-14	725	365	175	-	9"	11"	0.35"	3.0"	35	55	180	1.1	2	0.75"	0.5	2-WAY	16	V.V.R.
7-15	615	310	235	95	9"	11"	0.35"	3.0"	35	55	180	1.0	2	0.75"	0.5	2-WAY	14	V.V.R.

NOTES :

- PROVIDE DUCT TRANSITION AT UNIT INLET WHERE UNIT INLET SIZE AND DUCT RUNOUT SIZE ARE DIFFERENT. REFER TO DETAIL ON SHEET M501 FOR LOCATION OF TRANSITION.
- THE UNIT MAXIMUM SP IS THE PRESSURE DIFFERENCE BETWEEN THE UNIT INLET AND DISCHARGE INCLUDING REHEAT COIL AND SOUND ATTENUATOR. IT IS ALSO THE MINIMUM PRESSURE REQUIRED AT THE UNIT INLET TO OBTAIN THE RATED CFM.
- PROVIDE HOSPITAL GRADE SOUND ATTENUATOR WHERE REQUIRED TO CONFORM TO THE MAXIMUM NC35 REQUIREMENT.
- UNIT NOISE LEVEL SELECTION SHALL NOT EXCEED A ROOM NC OF 35 FROM BOTH AIRBORN AND RADIATED NOISE, BASED ON A 10 DB ROOM ABSORPTION COEFFICIENT (REFERENCE: 10 [1-12] WATTS) WITH 3" S.P. DIFFERENTIAL ACROSS UNIT AT MAXIMUM CFM SETTING.
- HEATING COIL CAPACITY BASED ON WINTER MINIMUM CFM.
- CONTROL TYPES: V.V.R.: VARIABLE VOLUME REHEAT TERMINAL; C.V.R.: CONSTANT VOLUME REHEAT TERMINAL.

1-AHU8 AIR TERMINAL UNIT SCHEDULE

UNIT NO.	CFM				APPROX. INLET SIZE (IN.)	DUCT RUNOUT SIZE TO UNIT (IN.) (1)	UNIT MAX. SP AT MAX. CFM (2)	SOUND REQUIREMENTS (4)		HOT WATER HEATING COIL								CONTROL TYPE (6)
	MAX.	WINTER MIN.	SUMMER MIN.	UNOCCUPIED MODE				SP ACROSS UNIT AT MAXIMUM ROOM NC	MAX. ROOM NC (3)	ENT. AIR TEMP. °F	ENT. WATER TEMP. °F	GPM	MAX. WATER P.D. FT. HD.	PIPE RUNOUT SIZE TO COIL	AUTO VALVE Cv	AUTO VALVE TYPE	MIN. MBH (5)	
8-01	415	210	195	65	7"	9"	0.35"	3.0"	35	55	180	0.8	2	0.75"	0.4	2-WAY	11	V.V.R.
8-02	1085	545	275	165	12"	14"	0.35"	3.0"	35	55	180	1.8	2	0.75"	0.8	2-WAY	27	V.V.R.
8-03	720	360	315	-	9"	11"	0.35"	3.0"	35	55	180	1.3	2	0.75"	0.6	2-WAY	19	V.V.R.
8-04	890	445	330	-	10"	12"	0.35"	3.0"	35	55	180	1.6	2	0.75"	0.8	2-WAY	23	V.V.R.
8-05	390	200	100	-	7"	9"	0.35"	3.0"	35	55	180	0.6	2	0.75"	0.3	2-WAY	9	V.V.R.
8-06	1150	575	335	-	12"	14"	0.35"	3.0"	35	55	180	1.8	2	0.75"	0.8	2-WAY	26	V.V.R.
8-07	900	450	405	-	12"	14"	0.35"	3.0"	35	55	180	1.6	2	0.75"	0.8	2-WAY	23	V.V.R.
8-08	300	170	165	45	6"	8"	0.35"	3.0"	35	55	180	0.5	2	0.75"	0.2	3-WAY	7	V.V.R.
8-09	320	160	110	50	6"	8"	0.35"	3.0"	35	55	180	0.6	2	0.75"	0.3	2-WAY	8	V.V.R.
8-10	460	230	140	70	7"	9"	0.35"	3.0"	35	55	180	0.8	2	0.75"	0.4	2-WAY	12	V.V.R.
8-11	255	130	85	40	6"	8"	0.35"	3.0"	35	55	180	0.5	2	0.75"	0.2	2-WAY	6	V.V.R.
8-12	590	300	280	90	8"	10"	0.35"	3.0"	35	55	180	1.1	2	0.75"	0.5	2-WAY	15	V.V.R.
8-13	940	470	220	145	12"	14"	0.35"	3.0"	35	55	180	1.6	2	0.75"	0.8	2-WAY	23	V.V.R.
8-14	155	90	90	25	6"	8"	0.35"	3.0"	35	55	180	0.5	2	0.75"	0.2	2-WAY	4	V.V.R.

NOTES :

- PROVIDE DUCT TRANSITION AT UNIT INLET WHERE UNIT INLET SIZE AND DUCT RUNOUT SIZE ARE DIFFERENT. REFER TO DETAIL ON SHEET M501 FOR LOCATION OF TRANSITION.
- THE UNIT MAXIMUM SP IS THE PRESSURE DIFFERENCE BETWEEN THE UNIT INLET AND DISCHARGE INCLUDING REHEAT COIL AND SOUND ATTENUATOR. IT IS ALSO THE MINIMUM PRESSURE REQUIRED AT THE UNIT INLET TO OBTAIN THE RATED CFM.
- PROVIDE HOSPITAL GRADE SOUND ATTENUATOR WHERE REQUIRED TO CONFORM TO THE MAXIMUM NC35 REQUIREMENT.
- UNIT NOISE LEVEL SELECTION SHALL NOT EXCEED A ROOM NC OF 35 FROM BOTH AIRBORN AND RADIATED NOISE, BASED ON A 10 DB ROOM ABSORPTION COEFFICIENT (REFERENCE: 10 [1-12] WATTS) WITH 3" S.P. DIFFERENTIAL ACROSS UNIT AT MAXIMUM CFM SETTING.
- HEATING COIL CAPACITY BASED ON WINTER MINIMUM CFM.
- CONTROL TYPES: V.V.R.: VARIABLE VOLUME REHEAT TERMINAL; C.V.R.: CONSTANT VOLUME REHEAT TERMINAL.
- DURING TAB, THE TAB PERSONNEL SHALL ENSURE THAT AHU-8 SUPPLY AND RETURN VFD'S DO NOT DROP BELOW 20% WHEN ALL BOXES ARE IN THE UNOCCUPIED MINIMUM POSITION. OTHERWISE CONTACT THE VA PROJECT ENGINEER.

CONVECTORS

UNIT NO.	LOCATION	TYPE UNIT	MIN. BTUH (NOTE 2)	STEAM PSIG	STEAM LBS/HR	PIPE RUNOUT SIZE	AUTO VALVE SIZE	MINIMUM CABINET DIMS. (NOTE 2)			NOTES
								LENGTH	WIDTH	HEIGHT	
1-CONV1	SEE PLANS	WALL HUNG SLOPED TOP	6500	5	6.5	.75"	0.5"	32"	6"	18"	1,3
1-CONV2	SEE PLANS	WALL HUNG SLOPED TOP	5000	5	5.0	.75"	0.5"	38"	6"	18"	1,3
1-CONV3	SEE PLANS	WALL HUNG SLOPED TOP	6000	5	6.0	.75"	0.5"	28"	6"	26"	1,3

NOTES:

- HEATING CAPACITY BASED ON 65 DEG. F. ENTERING AIR.
- OVERSIZED CABINET SHALL BE PROVIDED AS SPECIFIED. CONVECTOR CABINET SHALL BE CENTERED BENEATH WINDOW. COIL SHALL BE CENTERED WITHIN CABINET.
- CONVECTOR SHALL BE ORDERED WITH STEAM COIL RAISED INSIDE CABINET. TO FACILITATE INSTALLATION OF NEW PIPING SPECIALTIES AND CONTROLS INSIDE CABINET. REFER TO WALL HUNG CONVECTOR DETAIL ON SHEET M502.

CONSULTANTS:

ARCHITECT/ENGINEERS:

Heapy Engineering
MEP Design Technology Planning Commissioning Energy
Nationally Recognized Leader in Sustainability
1400 W Dorothy Lane, Dayton, OH 45409-1310
Ph 937-224-0861 Fax 937-224-5777 www.heapy.com
HEAPY PROJECT No.: 2013-04025 FIRM LICENSE No.: 01528

SCHEDULES, CONTROLS AND AUTOMATION

Project Title
REPLACE PNEUMATIC BOXES ON 8TH FLOOR

Location
Cincinnati, Ohio

Date
05/22/2014

Checked
JAC

Drawn
DRV

Project No.
VA Project No. 539-15-203

Building Number
1

Drawing Number
M601

Dwg. 8 of 8

Office of Construction and Facilities Management



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