

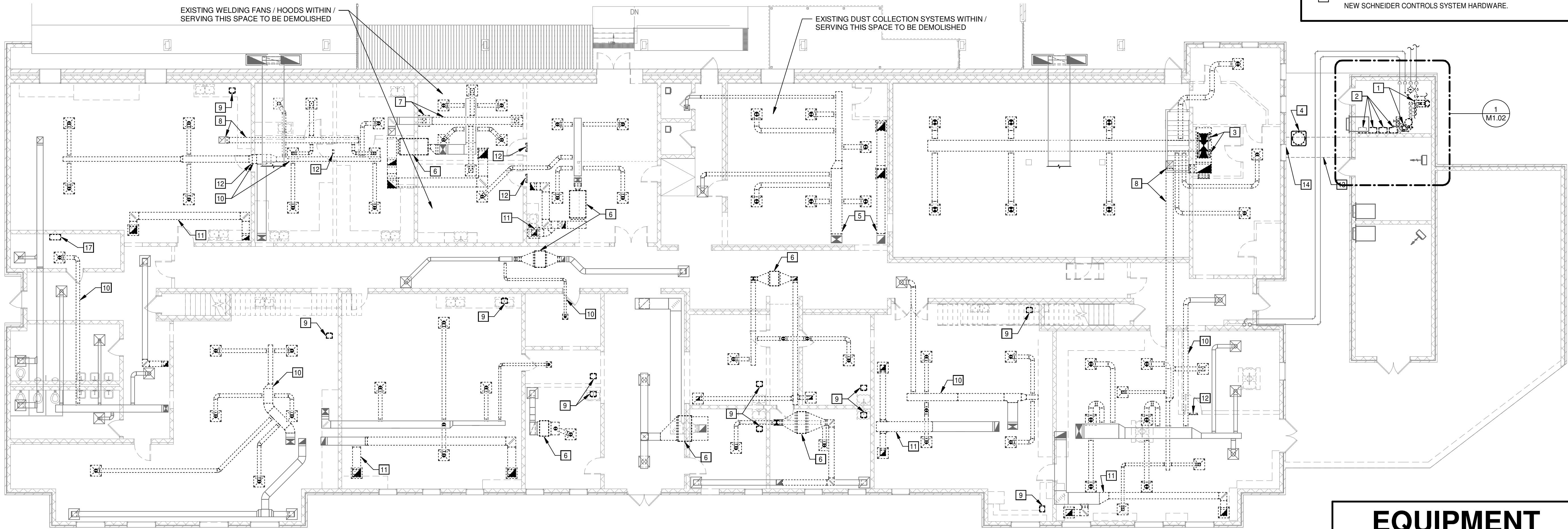
**2 LEVEL 2 DEMOLITION PLAN - HVAC**  
SCALE: 1" = 10'-0"

**HVAC GENERAL DEMOLITION NOTES**

1. ALL LIGHTER SOLID LINES REPRESENT PIPING, DUCTWORK, EQUIPMENT, ETC. TO REMAIN.
2. ALL DARKER DASHED LINES REPRESENT PIPING, DUCTWORK, EQUIPMENT, ETC. TO BE REMOVED.
3. FIELD VERIFY EXACT SIZE AND LOCATION OF ALL EXISTING ITEMS SHOWN ON THIS PLAN THAT ARE TO BE CONNECTED TO.
4. SEE ARCHITECTURAL PLANS FOR REMOVAL AND REPLACEMENT OF CEILINGS.

**HVAC DEMOLITION KEYED NOTES**

1. EXISTING PUMPS TO BE DEMOLISHED.
2. EXISTING HEATING HOT WATER HEATERS TO BE DEMOLISHED.
3. EXISTING SPLIT SYSTEM INDOOR UNITS AND ALL ASSOCIATED DUCTWORK, AIR DEVICES, PIPING, CONTROLS, ETC. TO BE DEMOLISHED COMPLETELY.
4. EXISTING SPLIT SYSTEM CONDENSING UNIT AND ALL ASSOCIATED PIPING, PADS, ETC. TO BE DEMOLISHED COMPLETELY.
5. EXISTING LOW SUPPLY AND RETURN AIR DUCTWORK SERVING THE WOOD SHOP SPACE TO BE DEMOLISHED TO POINTS INDICATED AND AS REQUIRED TO ACCOMMODATE NEW CEILING.
6. EXISTING AIR HANDLING UNIT AND ASSOCIATED SUPPLY AND RETURN AIR DUCTWORK TO BE DEMOLISHED TO POINTS INDICATED. EXISTING PIPING TO BE CAPPED.
7. EXISTING EXHAUST FAN, DUCTWORK, AND AIR DEVICES TO BE DEMOLISHED TO POINTS INDICATED. PREPARE DUCTWORK FOR NEW CONNECTIONS AS INDICATED ON NEW WORK PLAN. PREPARE EXISTING ROOF CURB FOR NEW ROOF CURB ADAPTER AND NEW FAN.
8. EXISTING EXHAUST DUCTWORK TO BE DEMOLISHED BACK TO RISER AS INDICATED. EXISTING EXHAUST FAN TO BE TURNED OFF / DISABLED.
9. EXISTING EXHAUST FAN / EXHAUST HOOD AND ASSOCIATED EXHAUST DUCTWORK TO BE DEMOLISHED COMPLETELY.
10. EXISTING SUPPLY AIR DUCTWORK AND AIR DEVICES TO BE DEMOLISHED TO POINTS INDICATED.
11. EXISTING RETURN AIR DUCTWORK AND AIR DEVICES TO BE DEMOLISHED TO POINTS INDICATED.
12. EXISTING DOOR LOUVER GRILLE TO BE DEMOLISHED.
13. SAW-CUT EXISTING CONCRETE SLAB AT THIS LOCATION AS REQUIRED TO INSTALL NEW CHILLED WATER PIPING FOR THIS FACILITY.
14. CORE DRILL AND SLEEVE EXISTING WALL AT CRAWL SPACE FOR NEW CHILLED WATER PIPING INSTALLATION.
15. EXISTING AIR HANDLING UNIT AND ASSOCIATED SUPPLY, RETURN, AND OUTSIDE AND DUCTWORK TO BE DEMOLISHED TO POINTS INDICATED. EXISTING PIPING TO BE RE-WORKED AS REQUIRED FOR NEW EQUIPMENT INSTALLATION.
16. EXISTING OUTSIDE AIR DUCTWORK TO BE DEMOLISHED TO POINT INDICATED. PREPARE DUCTWORK FOR NEW CONNECTION.
17. EXISTING TRANE DDC CONTROLS PANEL TO BE DEMOLISHED FOR INSTALLATION OF NEW SCHNEIDER CONTROLS SYSTEM HARDWARE.



**1 LEVEL 1 DEMOLITION PLAN - HVAC**  
SCALE: 1" = 10'-0"

**EQUIPMENT  
PROCUREMENT  
PACKAGE**

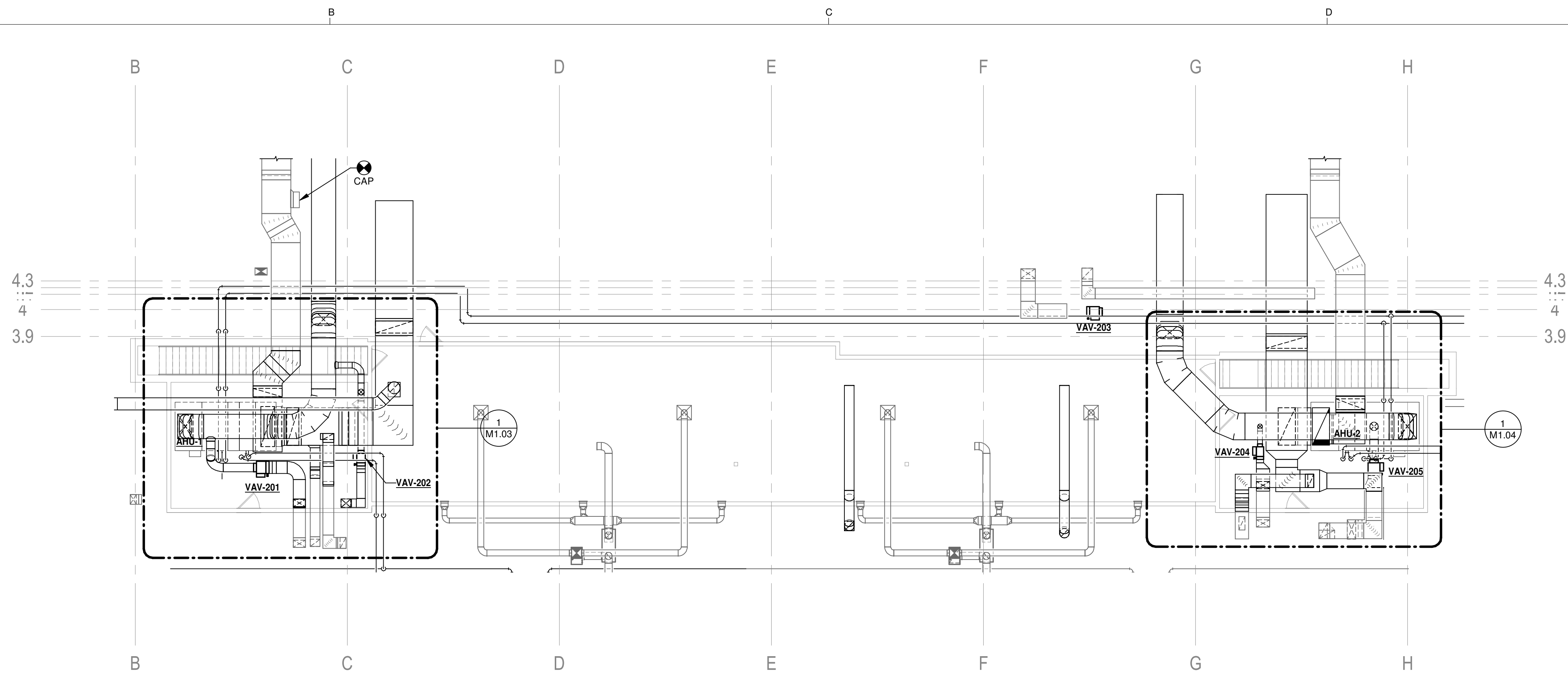


VERIFY SCALE  
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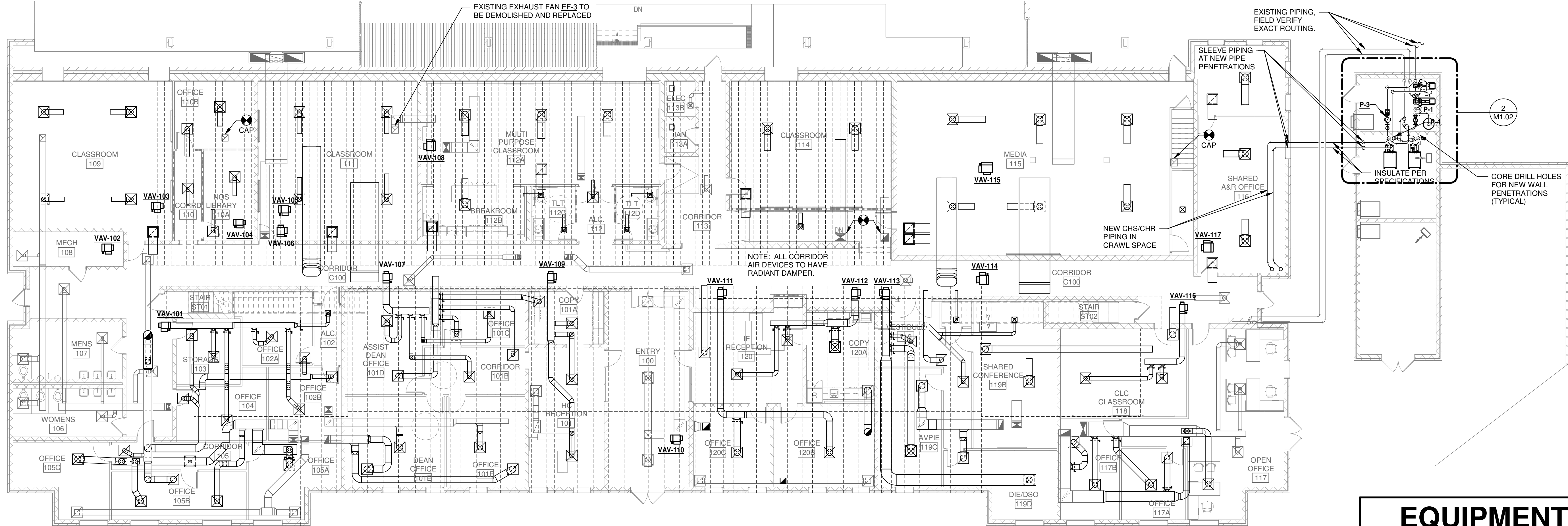


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5



**2 LEVEL 2 PLAN - HVAC**  
SCALE: 1" = 10'-0"



**1 LEVEL 1 PLAN - HVAC**  
SCALE: 1" = 10'-0"

## HVAC GENERAL NOTES

1. ALL LIGHTER SOLID LINES REPRESENT PIPING, DUCTWORK, EQUIPMENT, ETC. TO REMAIN.
2. ALL DARKER SOLID LINES REPRESENT NEW PIPING, DUCTWORK, EQUIPMENT, ETC.
3. FIELD VERIFY EXACT SIZE AND LOCATION OF ALL EXISTING ITEMS SHOWN ON THIS PLAN THAT ARE TO BE CONNECTED TO.

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**EQUIPMENT  
PROCUREMENT  
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Title: FLOOR PLANS - HVAC

Sheet Number:

**M1.01**

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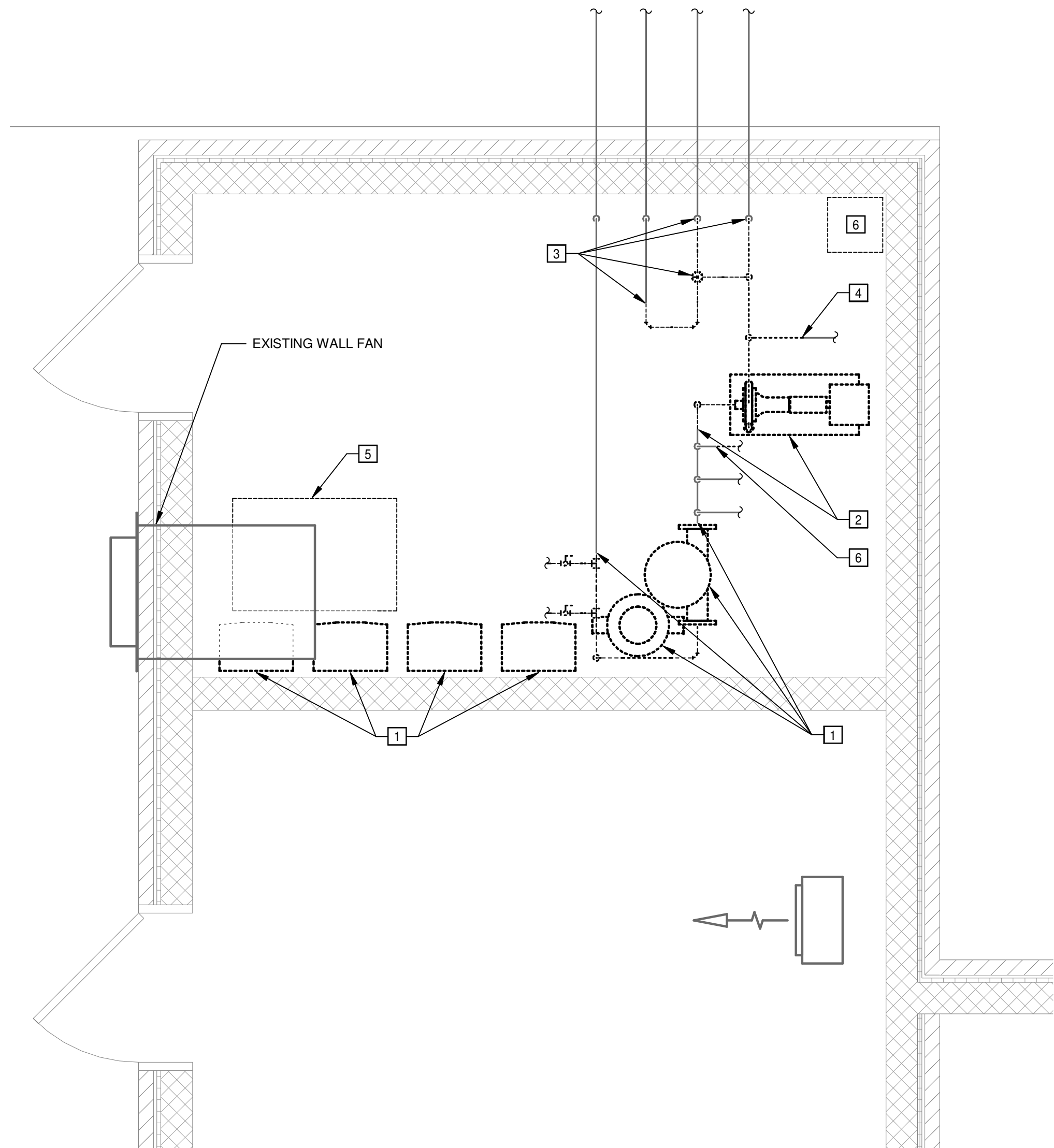
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## HVAC DEMOLITION KEYED NOTES

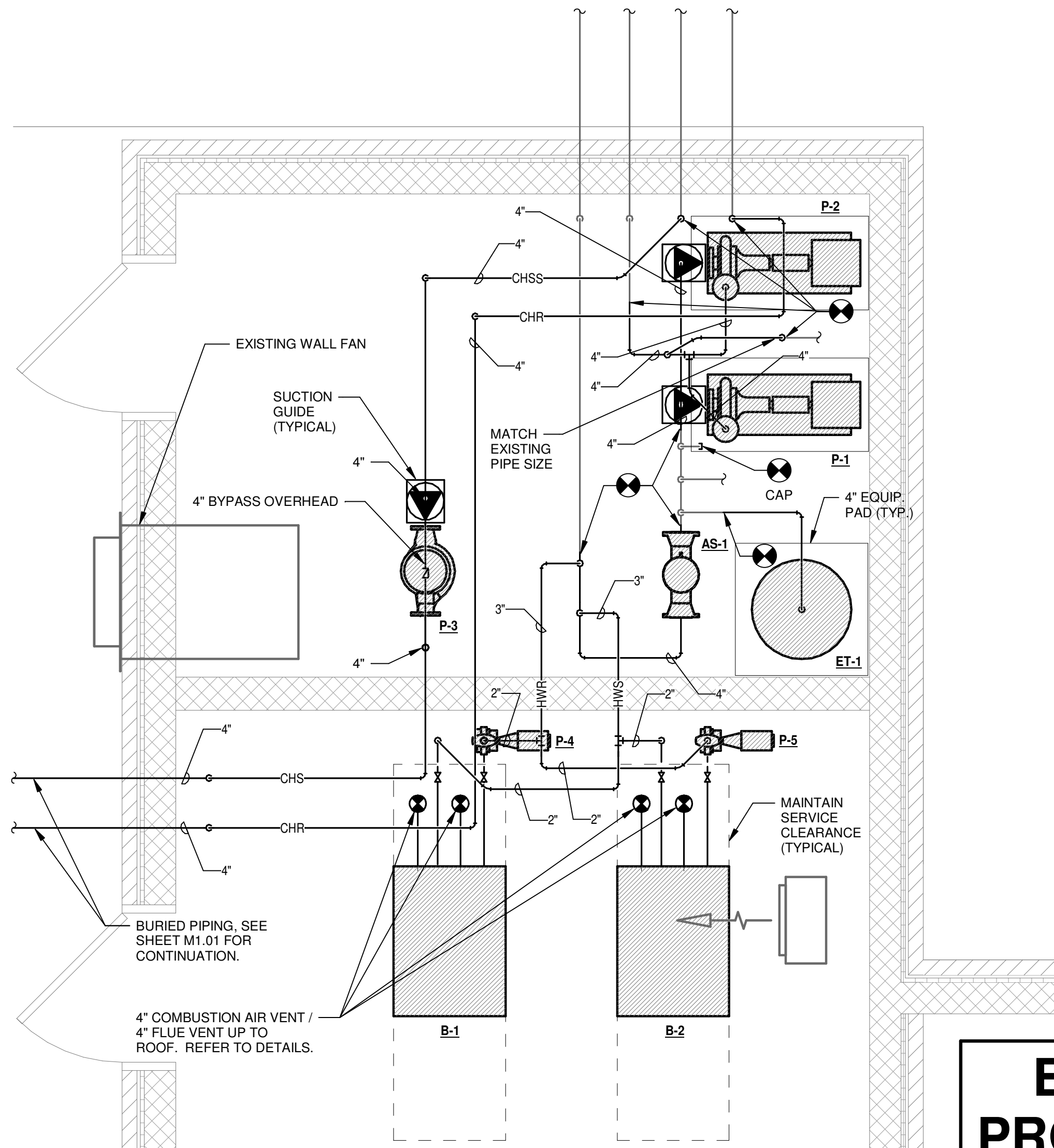
- DEMOLISH EXISTING WALL-MOUNTED HEATING HOT WATER HEATERS COMPLETELY. PREPARE WALL FOR INSTALLATION OF NEW VARIABLE FREQUENCY DRIVE(S) INSTALLATION. DEMOLISH EXISTING CIRCULATOR PUMP. DEMOLISH EXISTING PIPING BACK TO PIPING HEADER UPSTREAM OF AIR SEPARATOR. PREPARE HEADER FOR NEW HEATING HOT WATER PIPING CONNECTIONS (REFER TO NEW WORK PLAN). DEMOLISH EXISTING WATER HEATER FLUES AND COMBUSTION AIR DUCTWORK COMPLETELY. CAP ALL EXISTING ROOF / WALL PENETRATIONS WEATHER-TIGHT. TURN HEATERS OVER TO OWNER. EXISTING GAS PIPING TO BE CAPPED WHERE NOT BEING RE-CONNECTED. REFER TO PLUMBING.
- DEMOLISH EXISTING PUMP, EXISTING PUMP PAD, AND EXISTING PIPING AS REQUIRED. REFER TO NEW WORK PLAN FOR NEW HOUSEKEEPING PAD FOR NEW PUMP TO BE INSTALLED.
- DEMOLISH EXISTING THREE-WAY CONTROL VALVE AND EXISTING PIPING AS REQUIRED FOR NEW WORK INSTALLATION (REFER TO NEW WORK PLAN).
- EXISTING SECTION OF PIPING ROUTED TO EXISTING CHEMICAL SHOT FEEDER TO BE DEMOLISHED AS REQUIRED.
- DEMOLISH EXISTING CRACKED BOILER HOUSEKEEPING PAD COMPLETELY.
- DEMOLISH EXISTING GLYCOL FEEDER UNIT, PUMP SYSTEM, FRAME, PIPING, ETC. COMPLETELY. PREPARE SPACE FOR NEW WORK, REFER TO NEW WORK PLAN.

## GENERAL NOTES

- DUE TO THE SMALL SCALE OF THIS DRAWING, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, AND ACCESSORIES WHICH MAY BE REQUIRED. THE CONTRACTOR SHALL INVESTIGATE THE STRUCTURAL AND FINISH CONDITIONS AFFECTING THE WORK AND SHALL COORDINATE AND ARRANGE HIS WORK ACCORDINGLY.
- ROUND BRANCH DUCT RUNOUTS SHALL BE SAME SIZE AS DIFFUSER THROAT UNLESS OTHERWISE NOTED.
- FLEXIBLE DUCT MAY BE USED FOR FINAL CONNECTIONS TO DIFFUSERS. A MAXIMUM LENGTH OF THREE FEET (3') SHALL BE USED. A HARD 90° ELBOW MUST BE USED WHERE DUCT TURNS DOWN ABOVE DIFFUSER.
- ALL CEILING-MOUNTED SUPPLY DIFFUSERS SHALL HAVE FOUR-WAY (4-WAY) PATTERN UNLESS OTHERWISE INDICATED.
- WHERE MANUAL DAMPERS ARE INSTALLED IN EXTERNALLY INSULATED DUCTWORK, PROVIDE STAND-OFF BRACKET TO PREVENT COMPRESSION OF INSULATION BY DAMPER OPERATOR HANDLE.
- PROVIDE TURNING VANES IN ALL 90-DEGREE MITERED ELBOWS.
- PROVIDE SLEEVES THROUGH WALLS AND FLOORS. SEAL EXCESS OPENING WITH WATER-PROOF SEALANT. COORDINATE LOCATIONS AND SIZES OF SLEEVES WITH GENERAL CONTRACTOR. SLEEVES SHALL PROVIDE A MAXIMUM OF 1" CLEARANCE BETWEEN DUCT OR PIPE AND SLEEVE. SEAL PENETRATION IN FIRE/SMOKE RATED WALLS AND FLOOR WITH AN APPROVED FIRE/SMOKE BLOCK SEALANT.
- EXTERNALLY INSULATE SUPPLY, RETURN, RELIEF, AND OUTSIDE AIR DUCTWORK UNLESS NOTED OTHERWISE.
- EXHAUST DUCTWORK SHALL BE UN-INSULATED, UNLESS NOTED OTHERWISE.
- EXTERNALLY INSULATE LOW-VELOCITY ROUND RUNOUT DUCTWORK.
- INSULATE THE TOP OF ALL SUPPLY AIR DIFFUSERS WITH A MINIMUM OF 1/2" THICK FIBERGLASS DUCT WRAP.
- RUN COOLING COIL CONDENSATE DRAINS FULL SIZE TO NEAREST FLOOR OR ROOF DRAIN.
- INSULATE ALL REFRIGERANT PIPING AND CONDENSATE DRAIN PIPING WITH 3/4" ELASTOMERIC INSULATION (ARMAFLEX). COAT ALL EXTERIOR PIPE INSULATION WITH UV PROTECTANT PAINT.
- REFER TO ARCHITECTURAL PLANS FOR LOCATIONS OF FIRE AND SMOKE RATED PARTITIONS.
- COORDINATE LOCATION OF DUCTS AND DIFFUSERS WITH STRUCTURAL FRAMING MEMBERS. OFFSET DUCTS AS REQUIRED TO CLEAR STRUCTURAL MEMBERS.
- COORDINATE LOCATIONS AND ELEVATION OF DUCT RUNS WITH PLUMBING, SPRINKLER, AND ELECTRICAL CONTRACTORS.
- COORDINATE MAKE-UP WATER AND GAS REQUIREMENTS WITH PLUMBING CONTRACTOR.
- PROVIDE ACCESS DOORS FOR ALL FIRE DAMPERS. PROVIDE CEILING ACCESS DOORS FOR DAMPERS ABOVE GYPSUM BOARD CEILINGS.
- PAINT DUCTWORK BLACK THAT MAY BE VISIBLE ABOVE PARTIAL CEILINGS. COORDINATE PAINTING OF DUCTWORK WITH ARCHITECT.
- COORDINATE CEILING DIFFUSER LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS.



**1 LEVEL 1 ENLARGED DEMOLITION PLAN - HVAC**  
SCALE: 1/2" = 1'-0"



**2 LEVEL 1 ENLARGED PLAN - HVAC**  
SCALE: 1/2" = 1'-0"

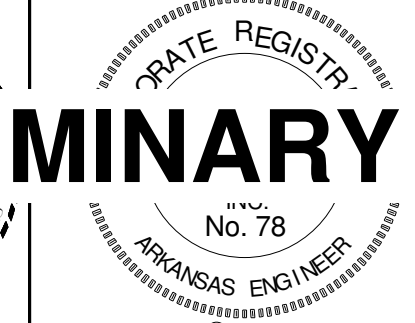
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PROCUREMENT  
PACKAGE**

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**PRELIMINARY**

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HVAC

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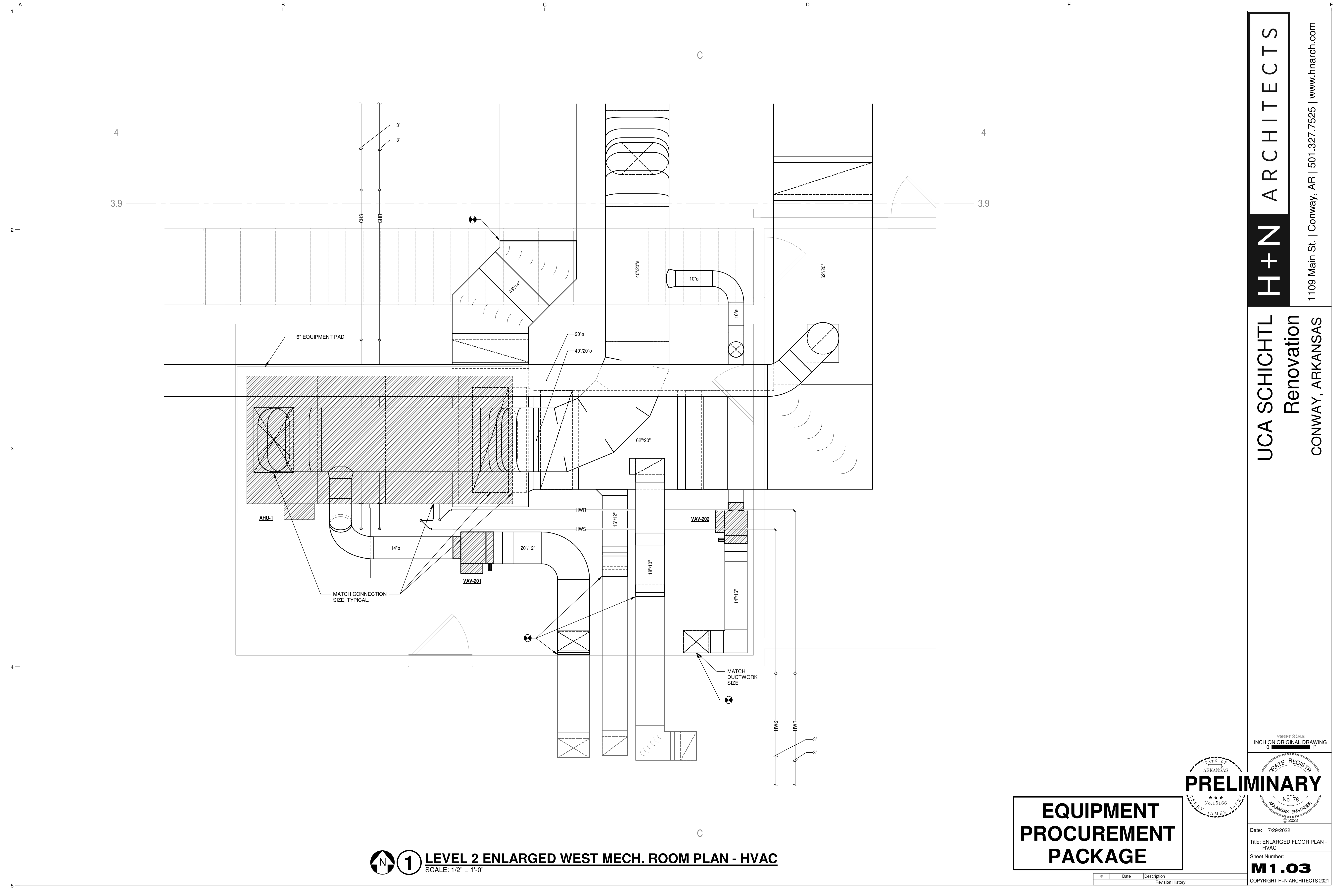
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**1** LEVEL 2 ENLARGED WEST MECH. ROOM PLAN - HVAC  
SCALE: 1/2" = 1'-0"

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PROCUREMENT  
PACKAGE**

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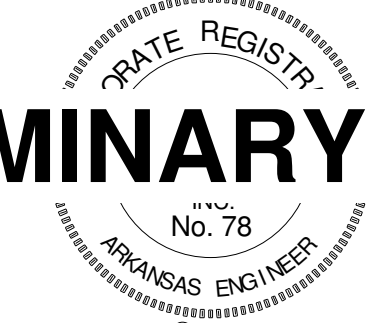


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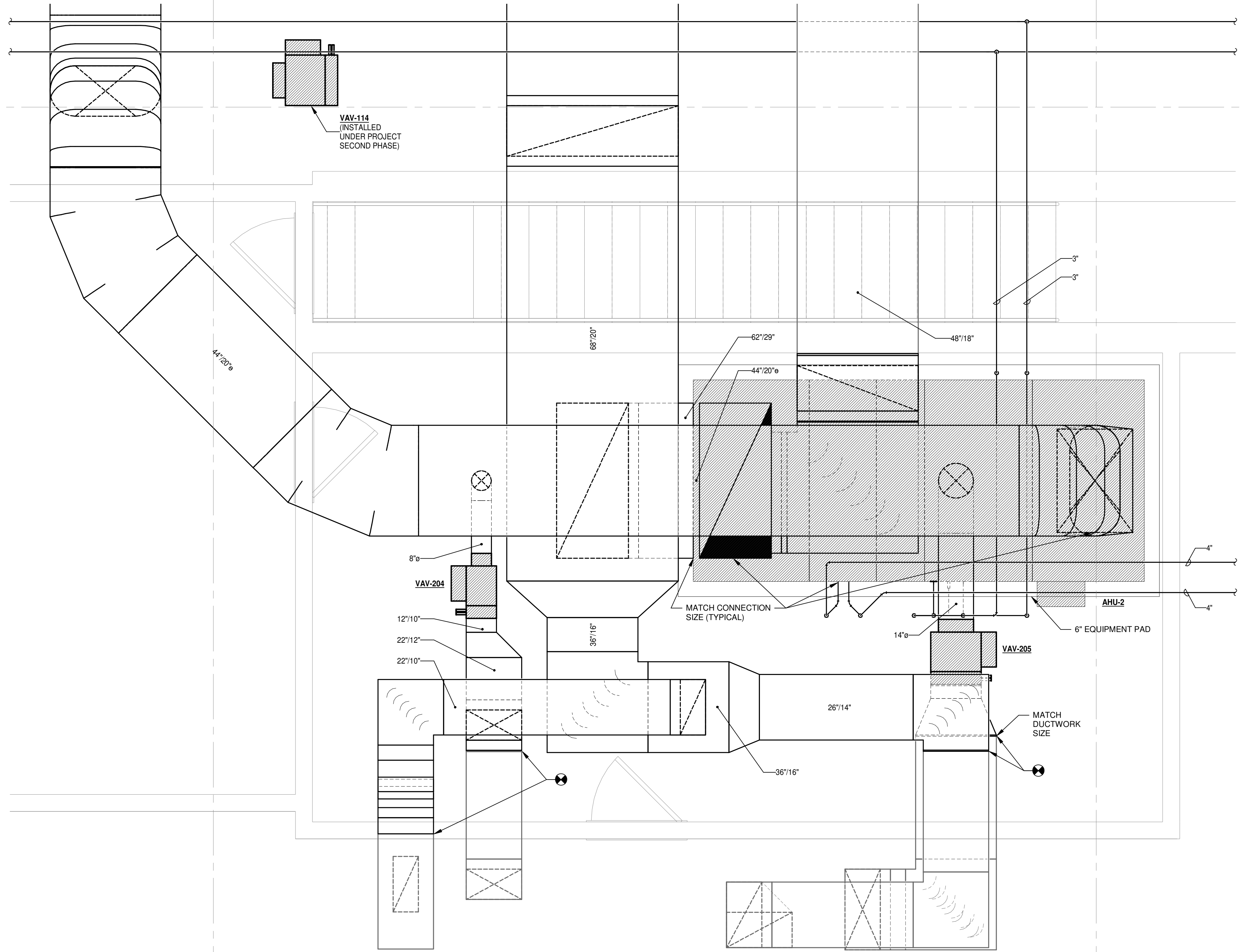
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**1** LEVEL 2 ENLARGED EAST MECH. ROOM PLAN - HVAC  
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## EQUIPMENT PROCUREMENT PACKAGE

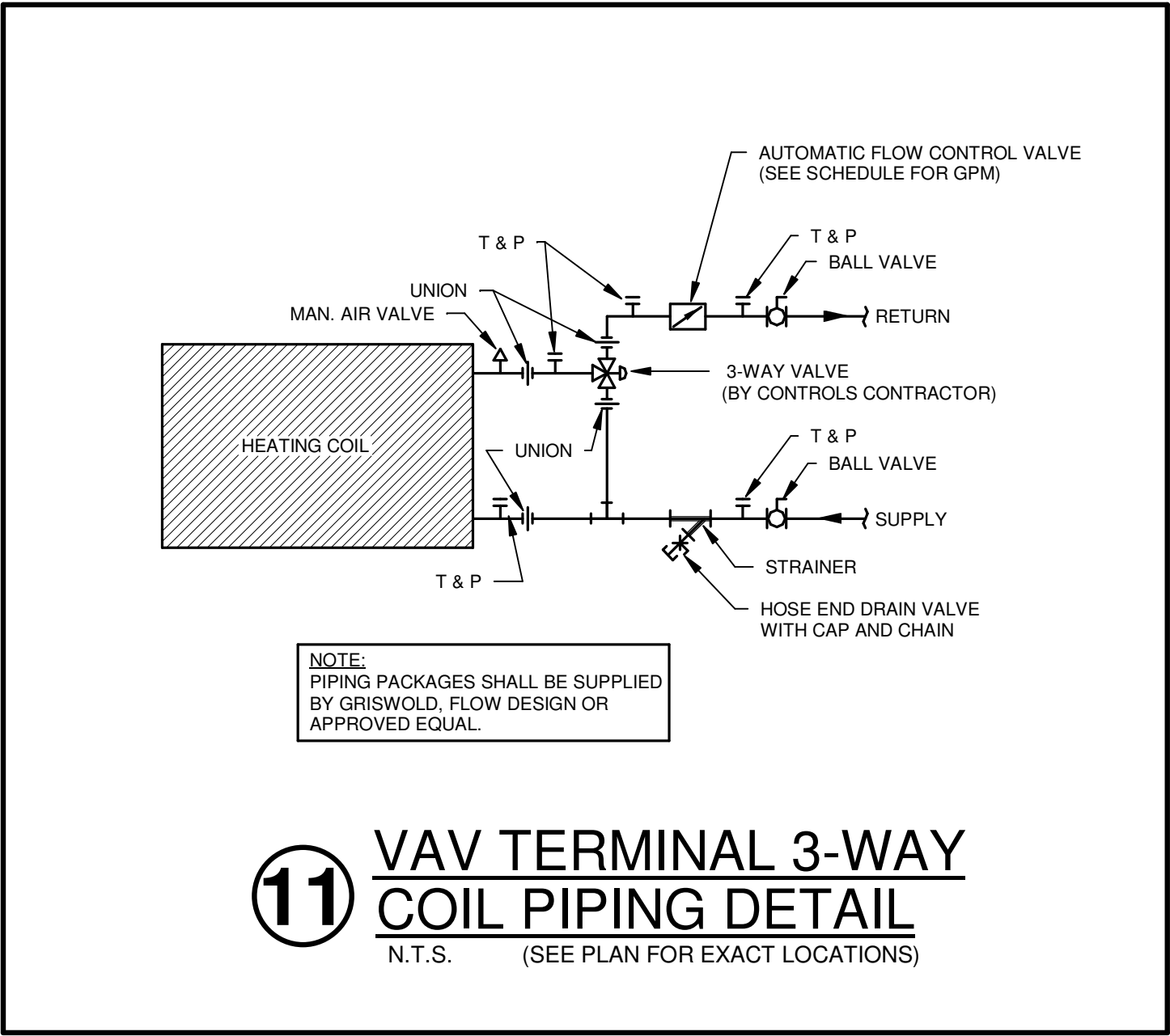
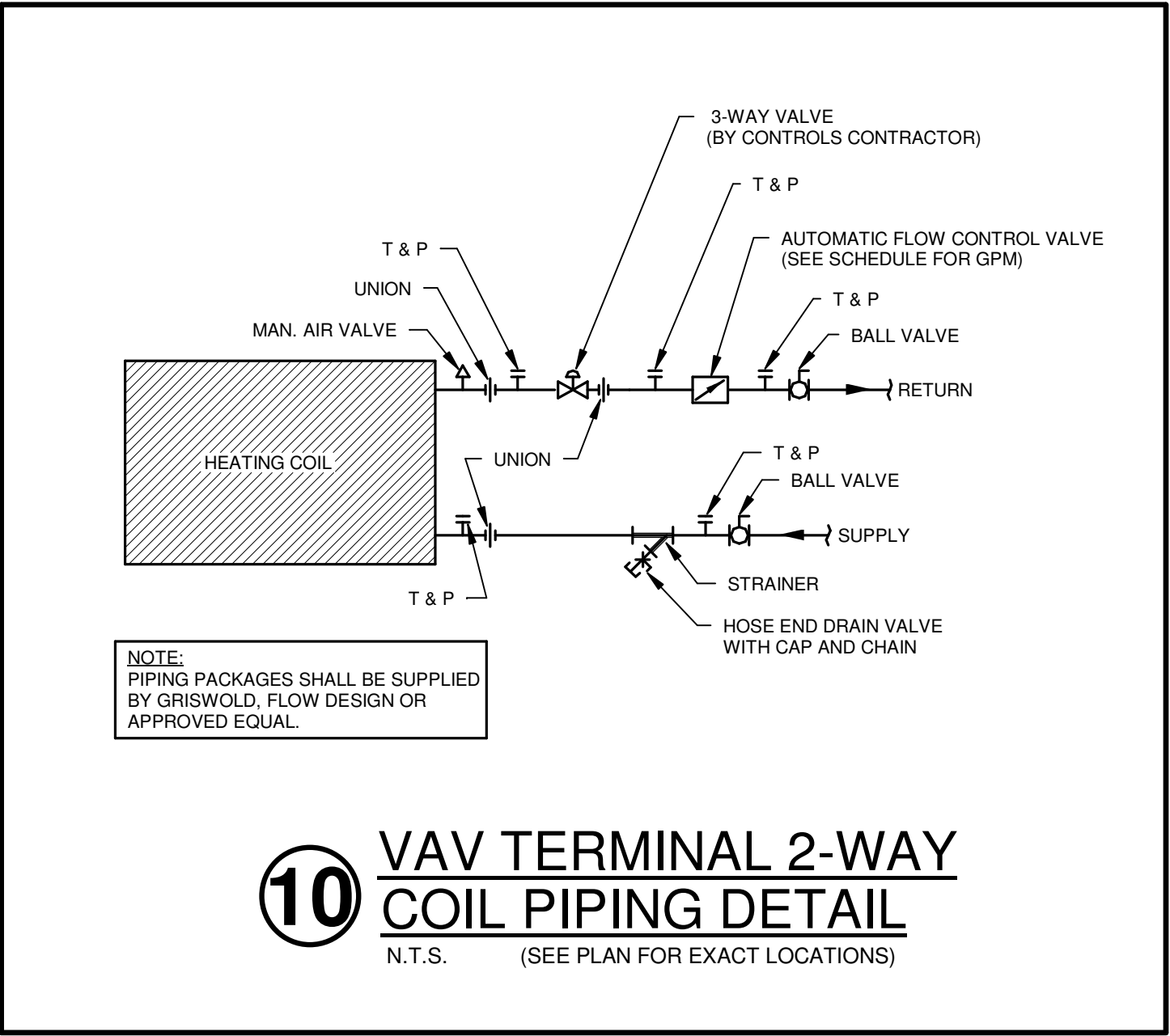
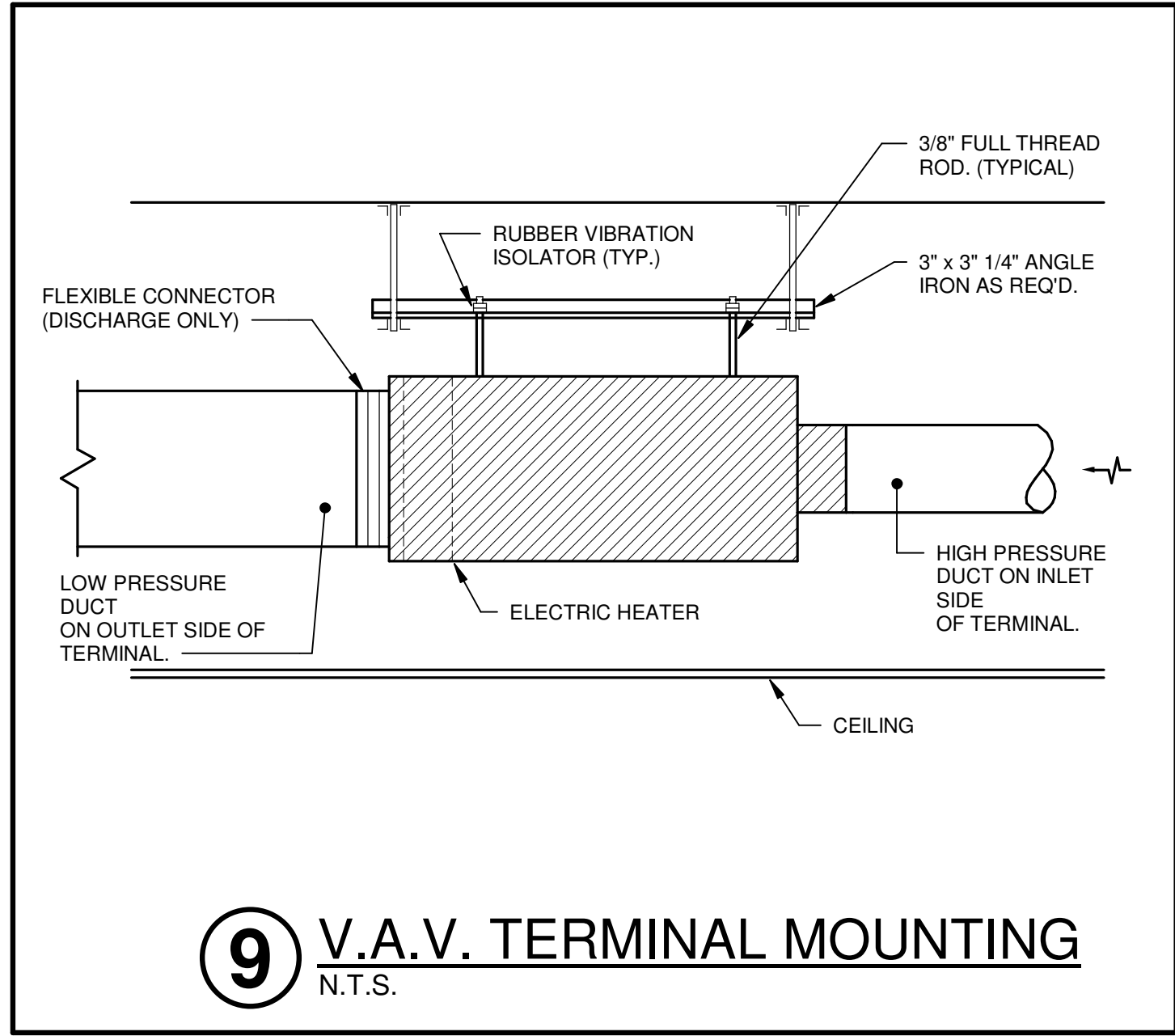
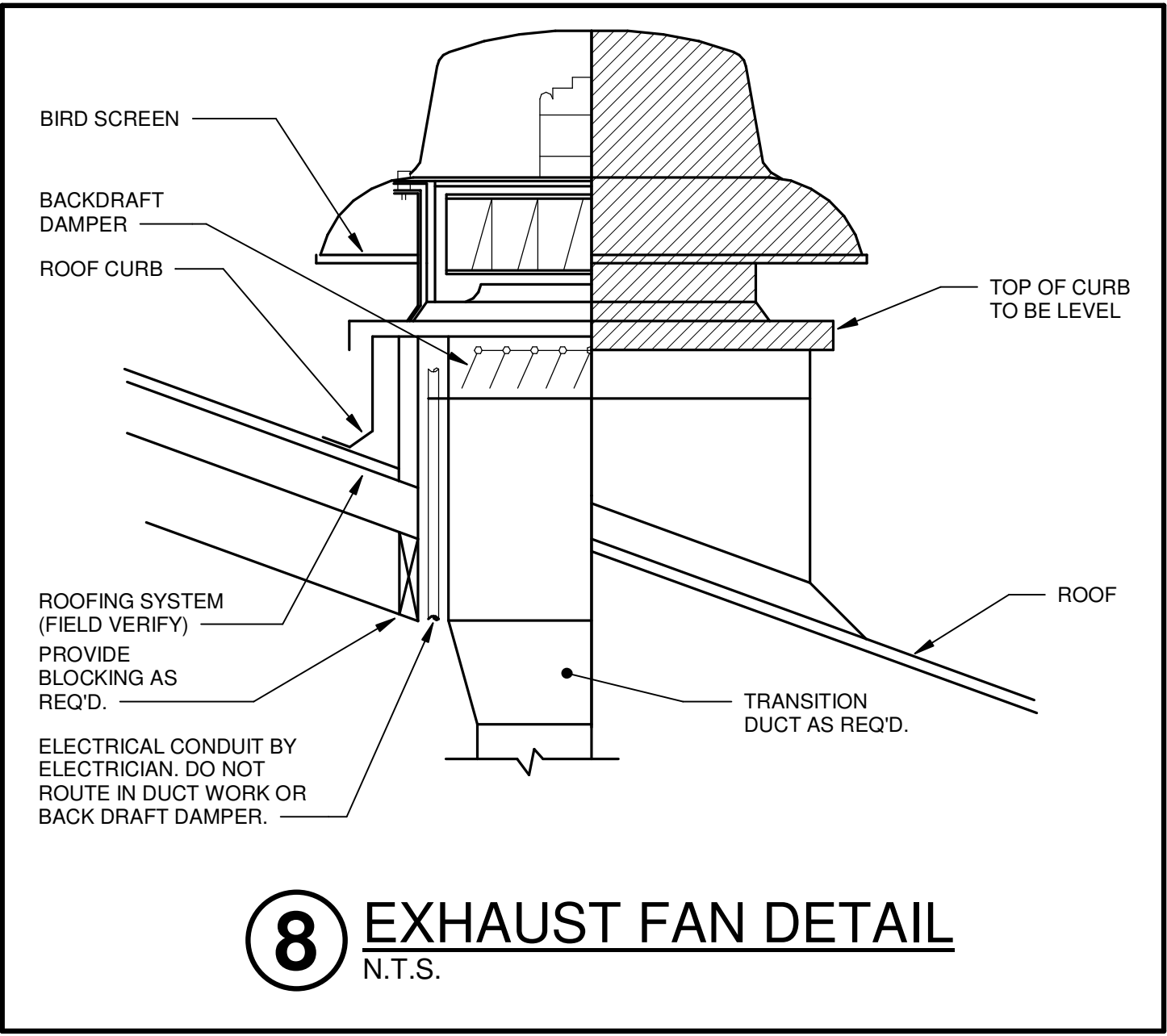
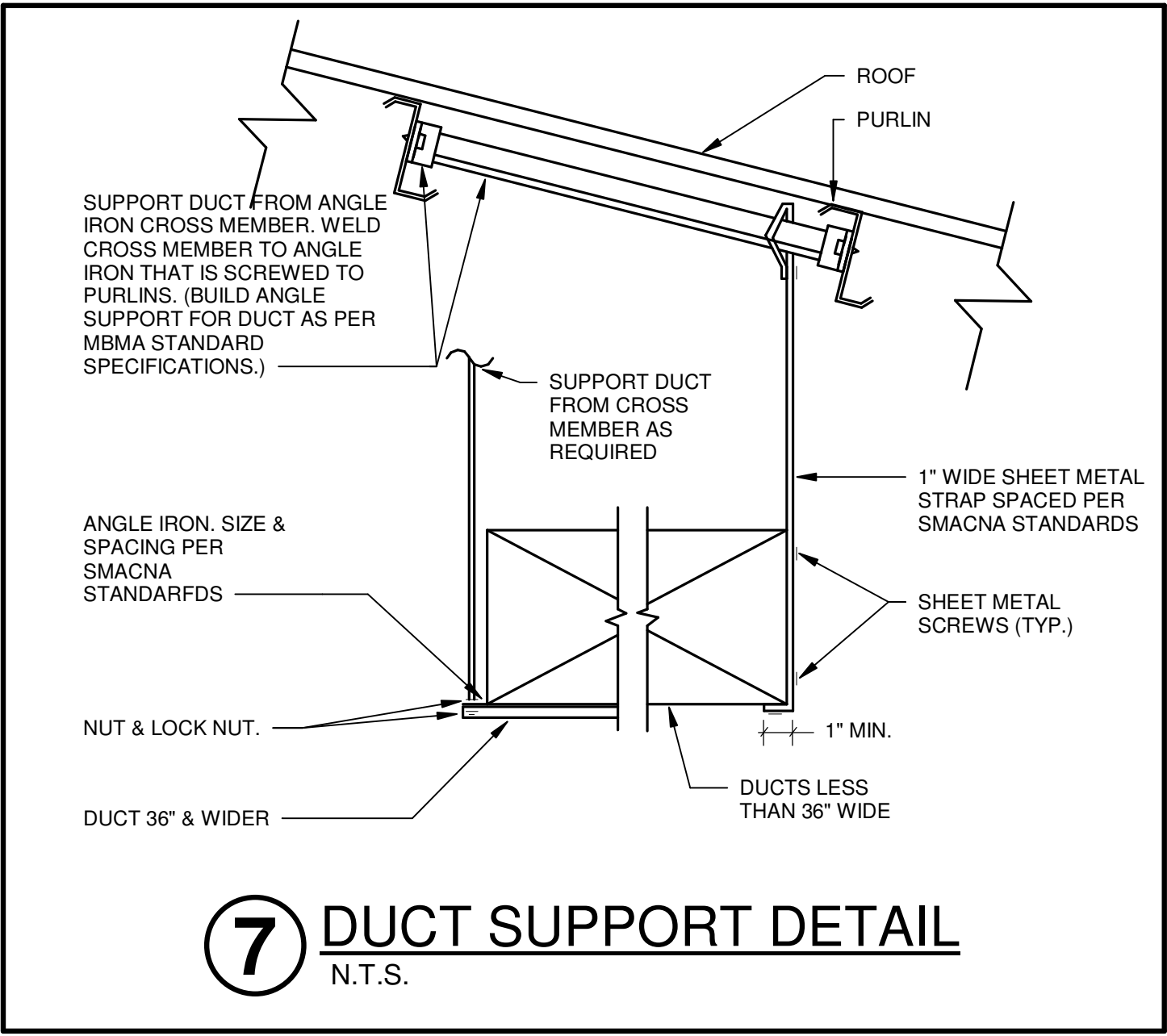
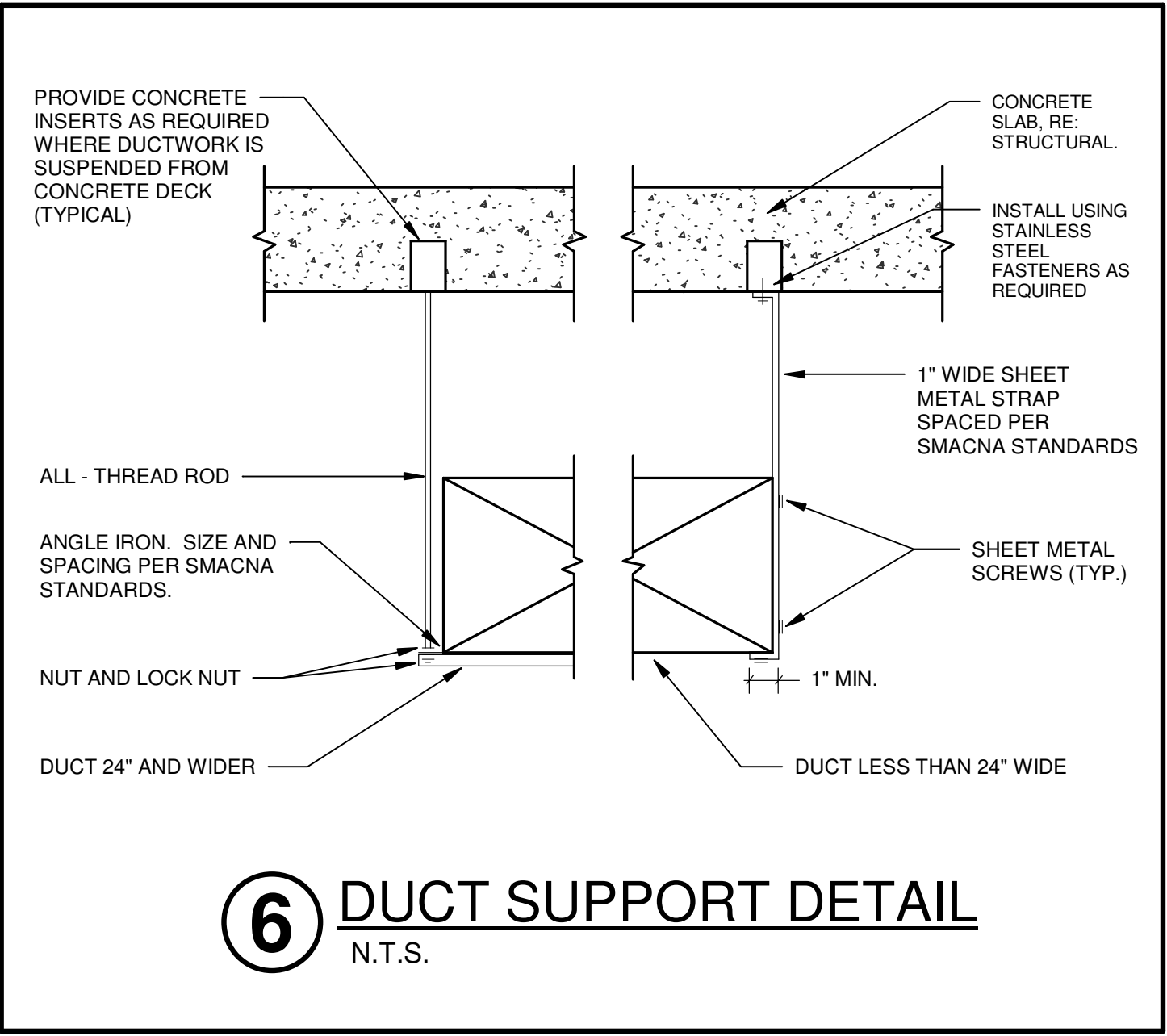
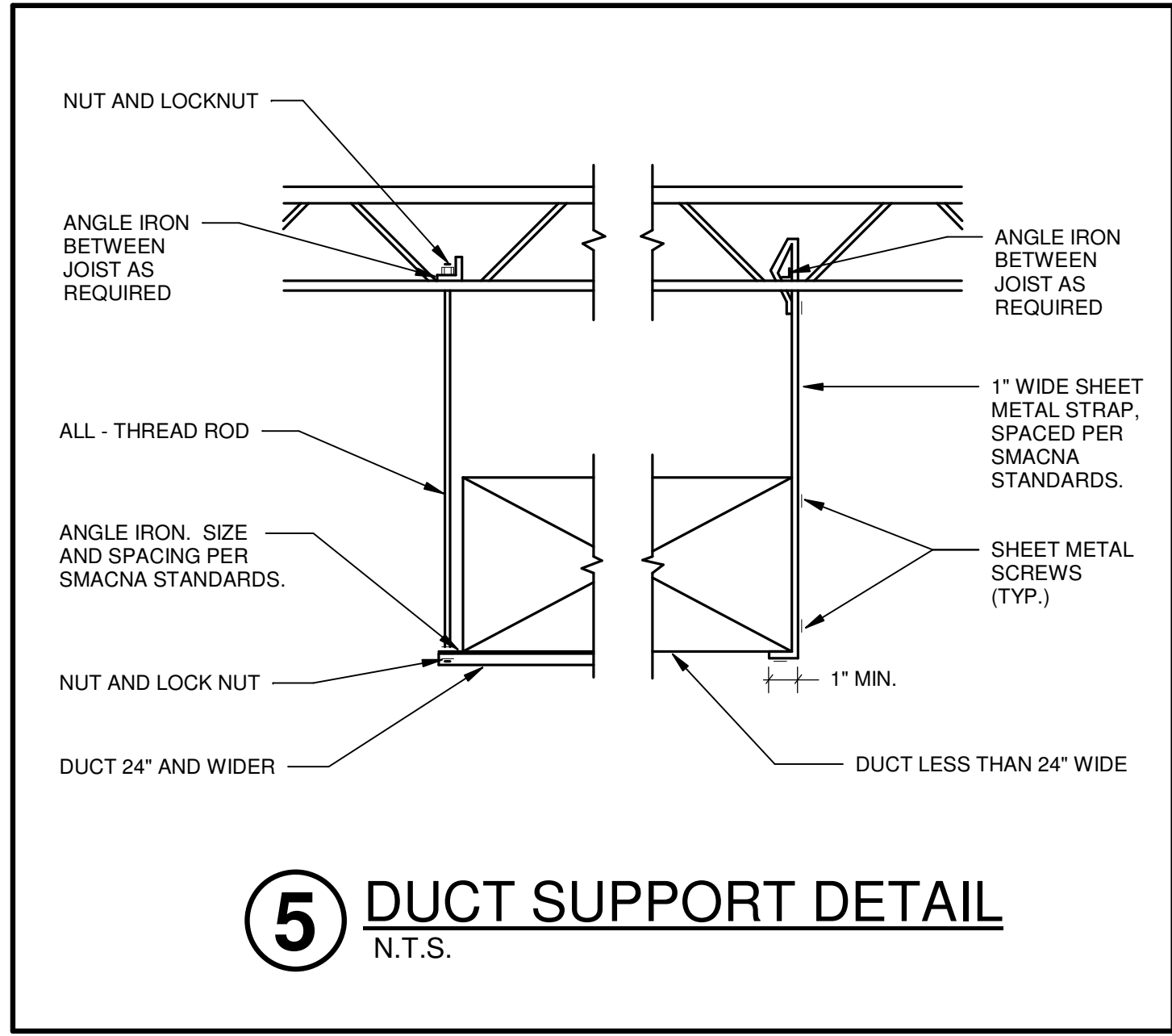
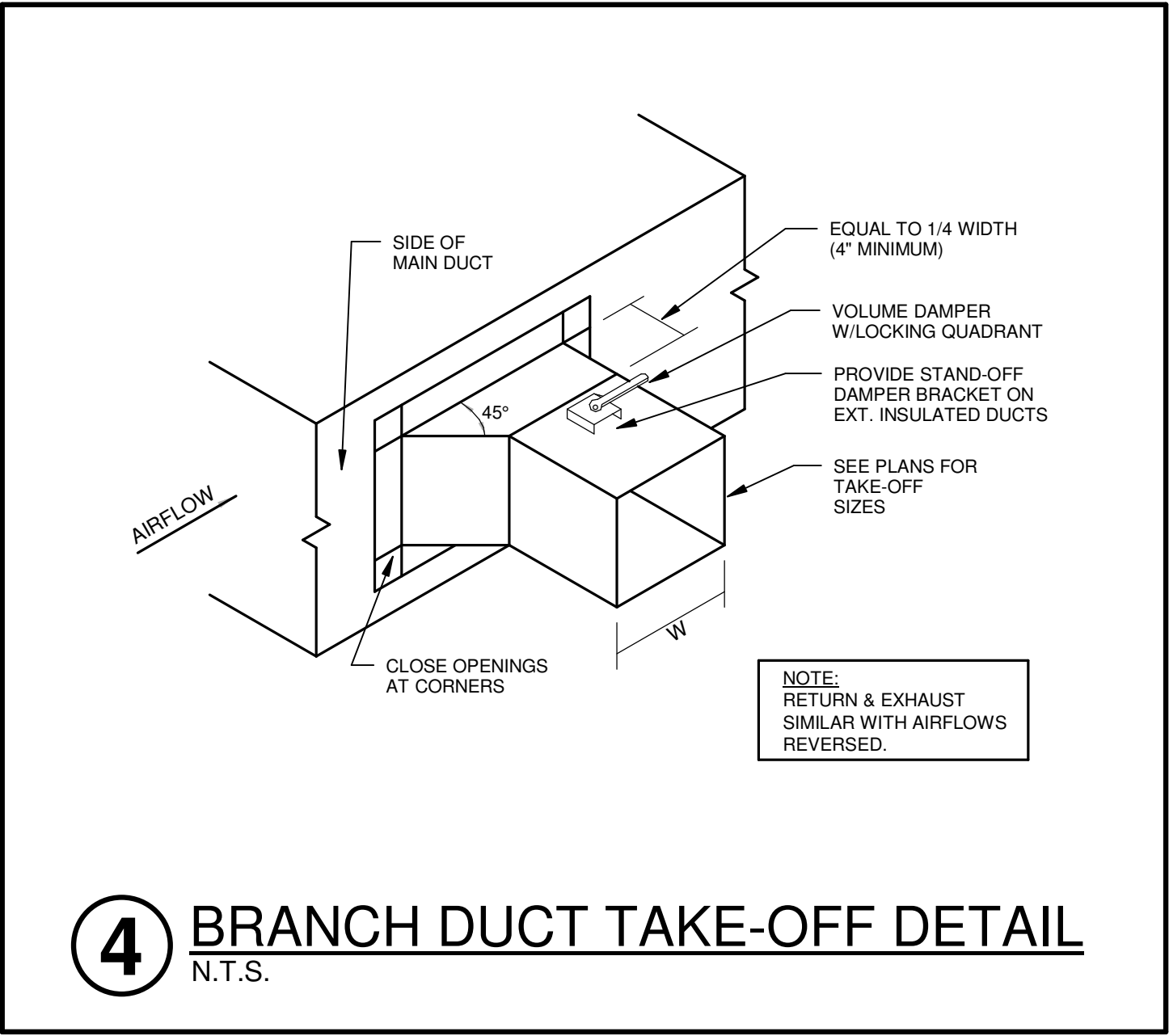
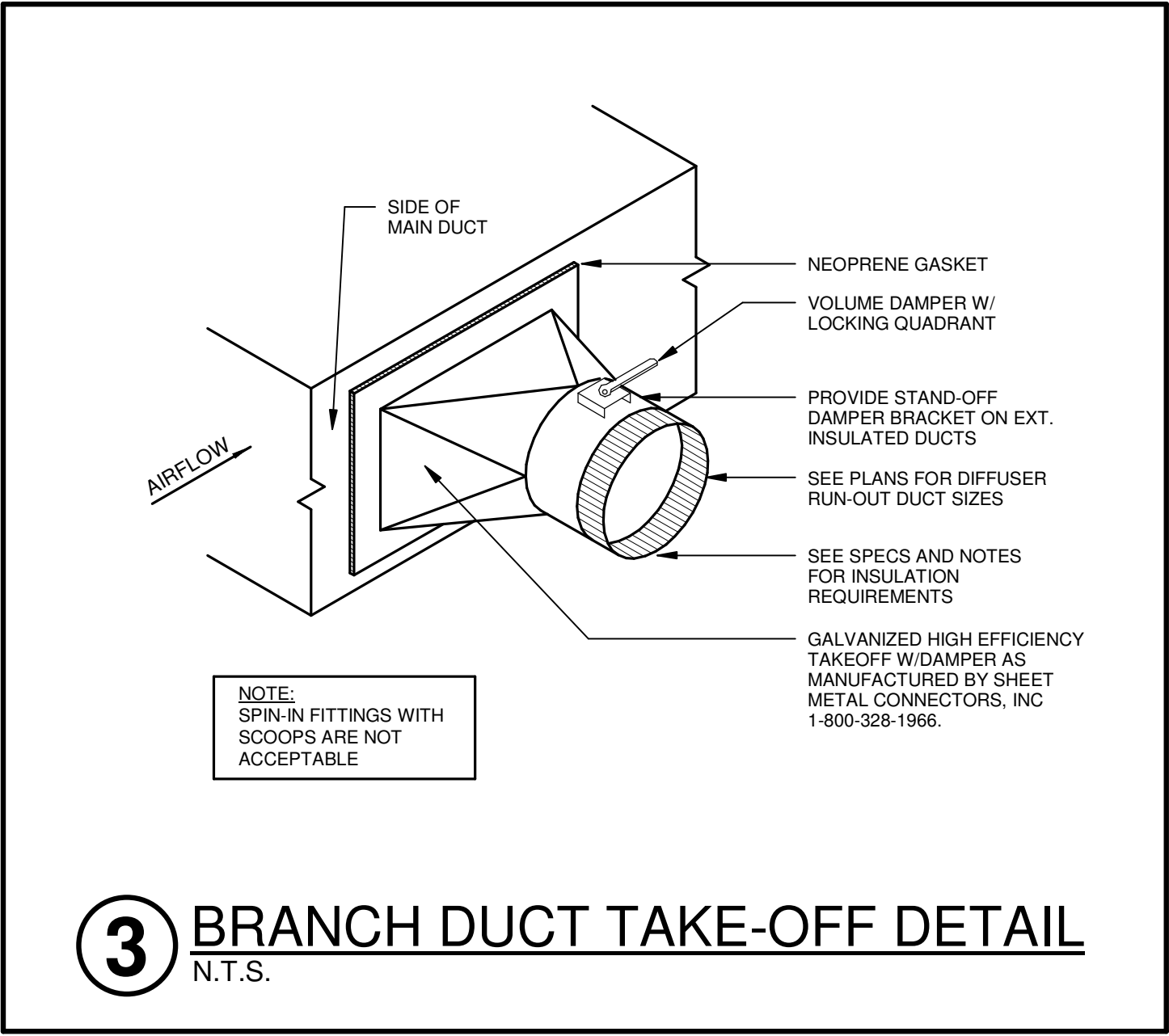
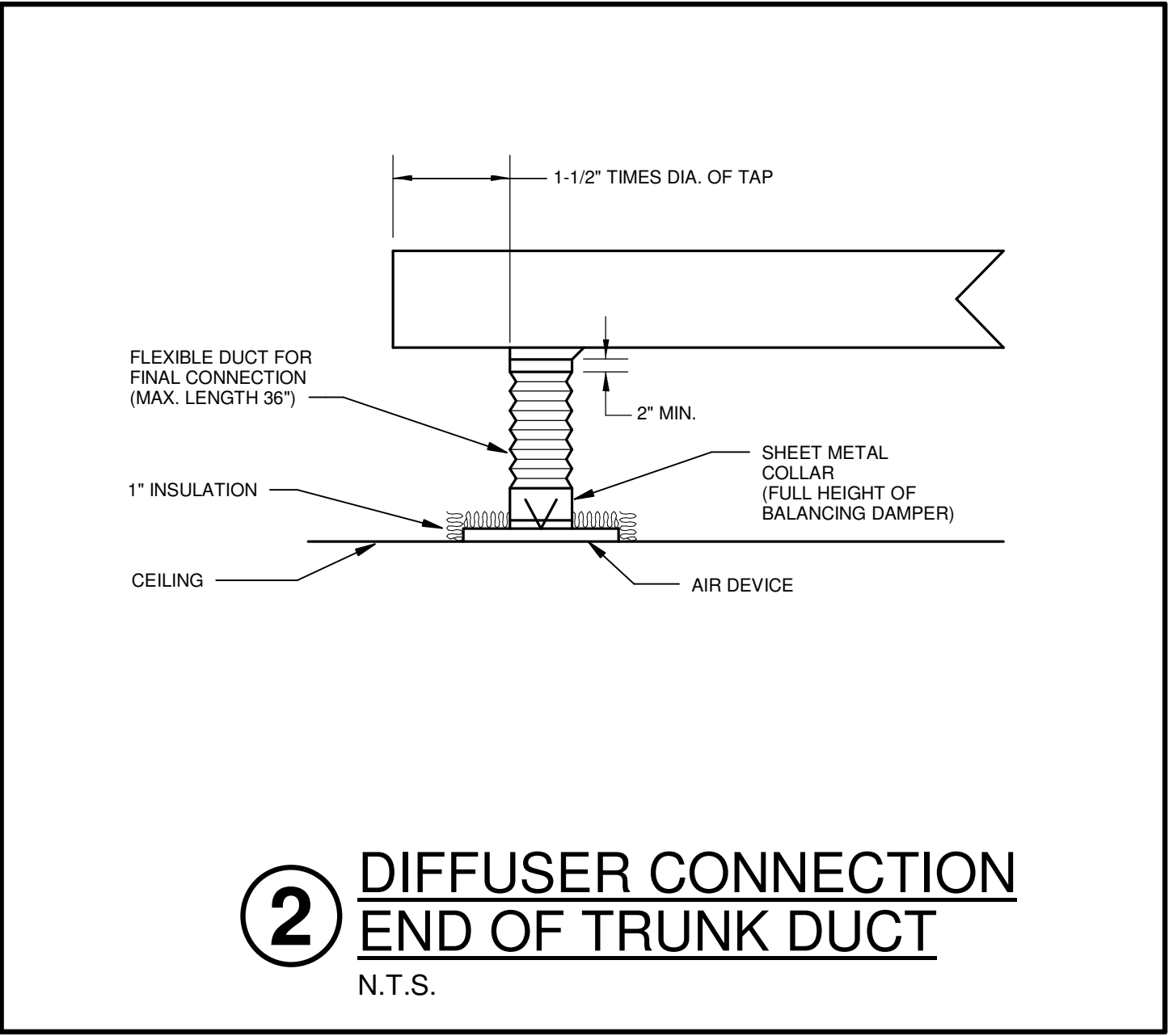
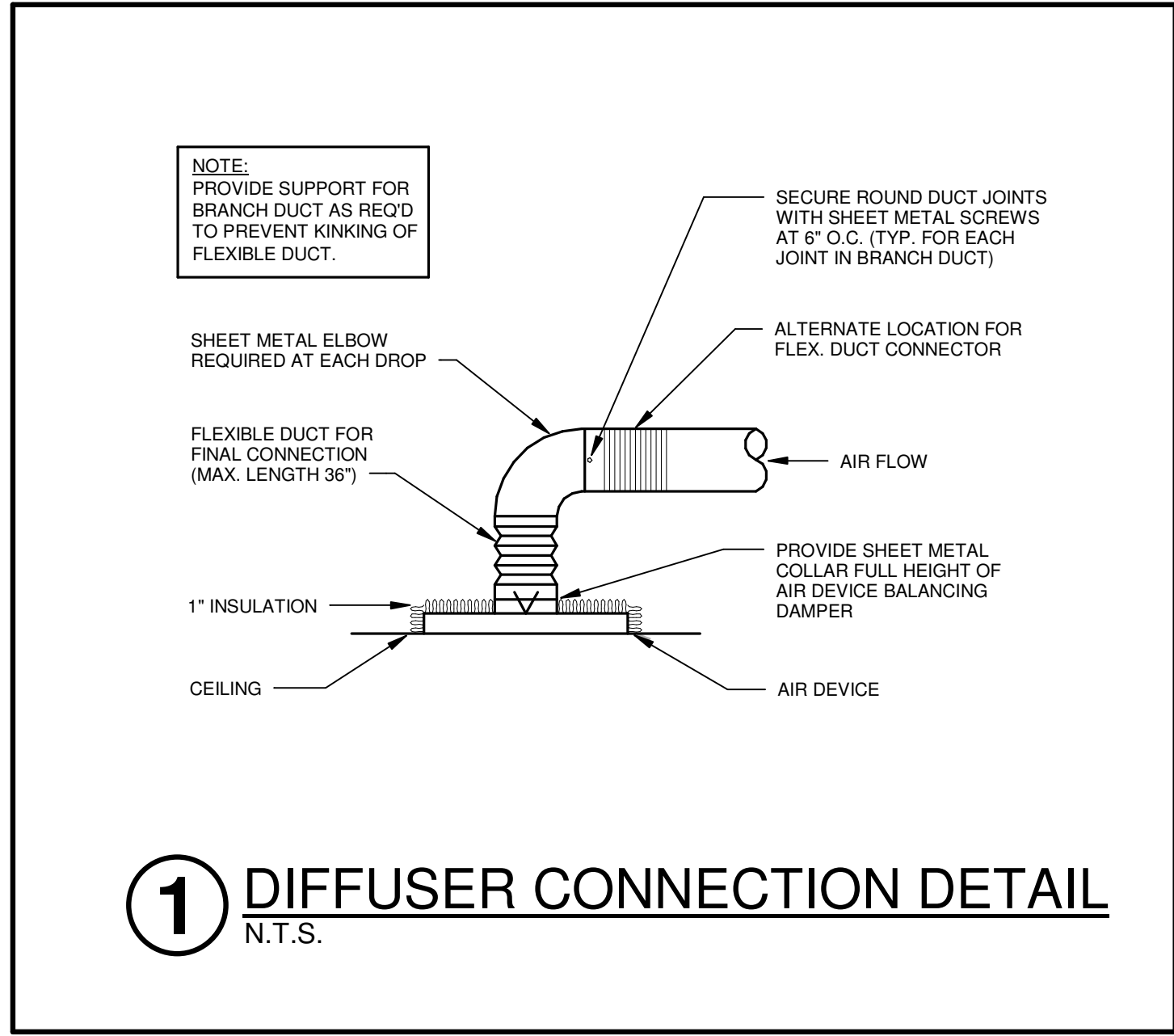
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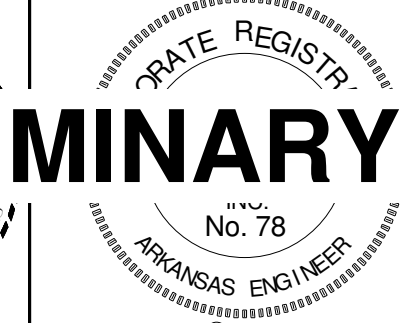
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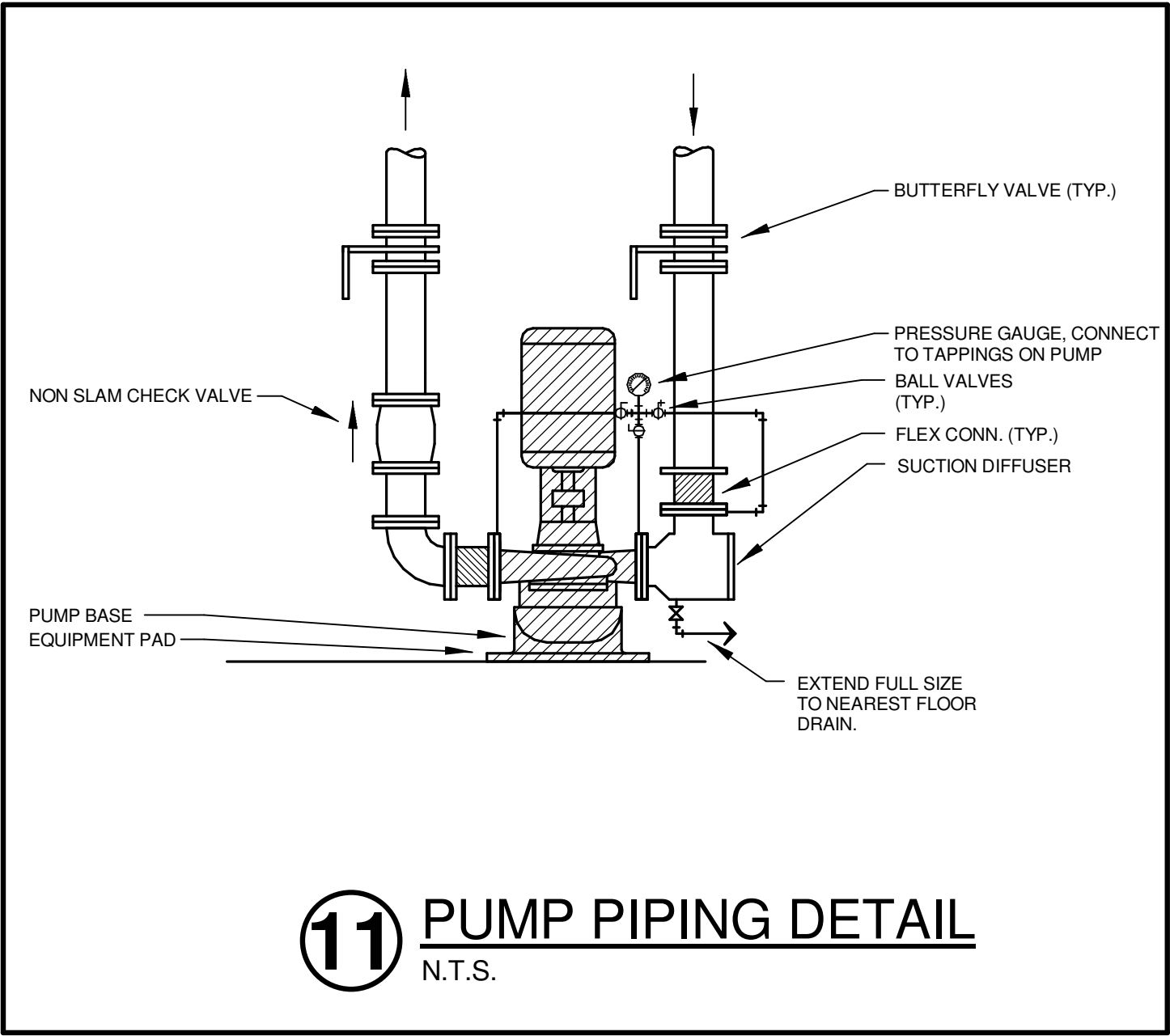
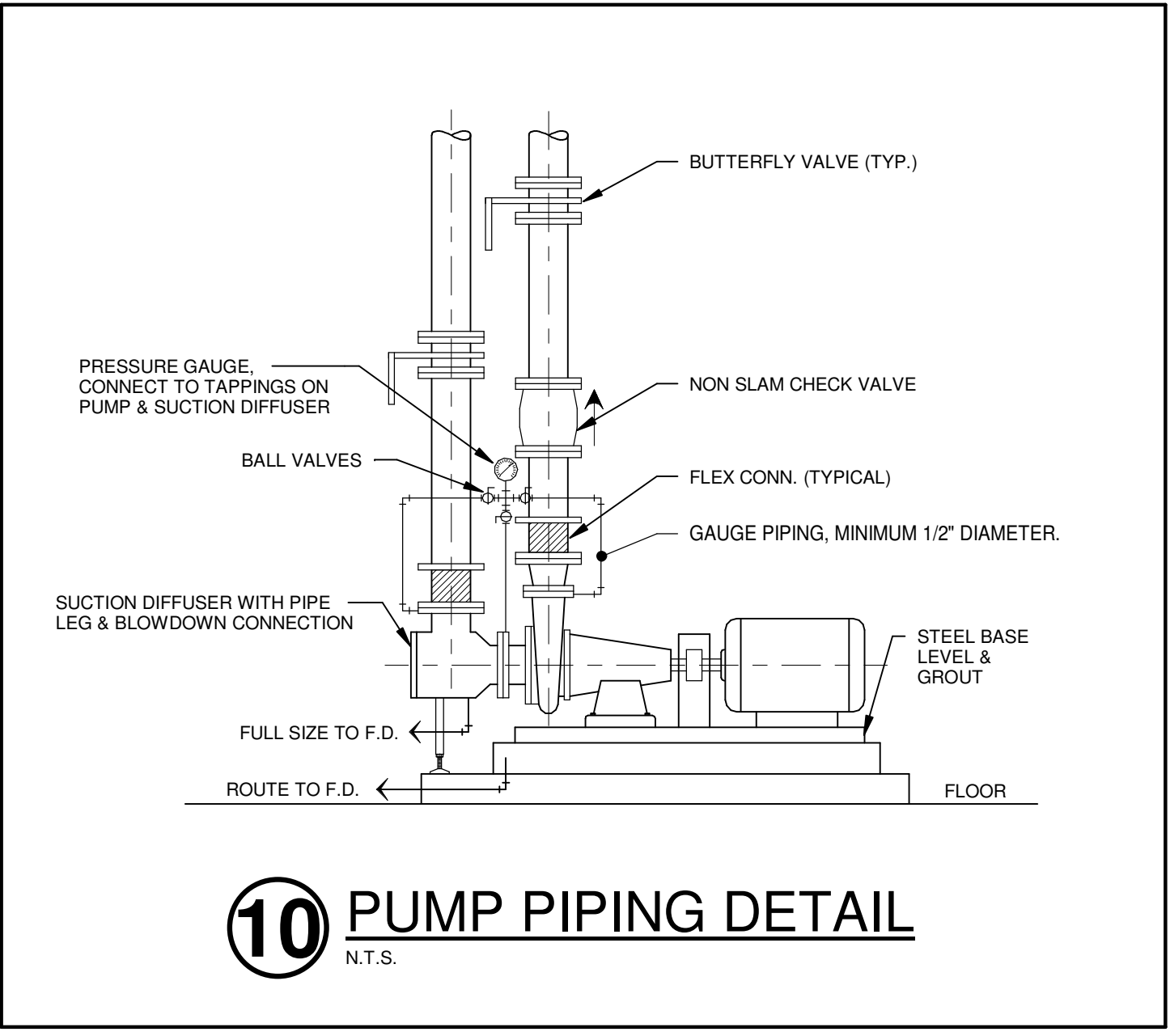
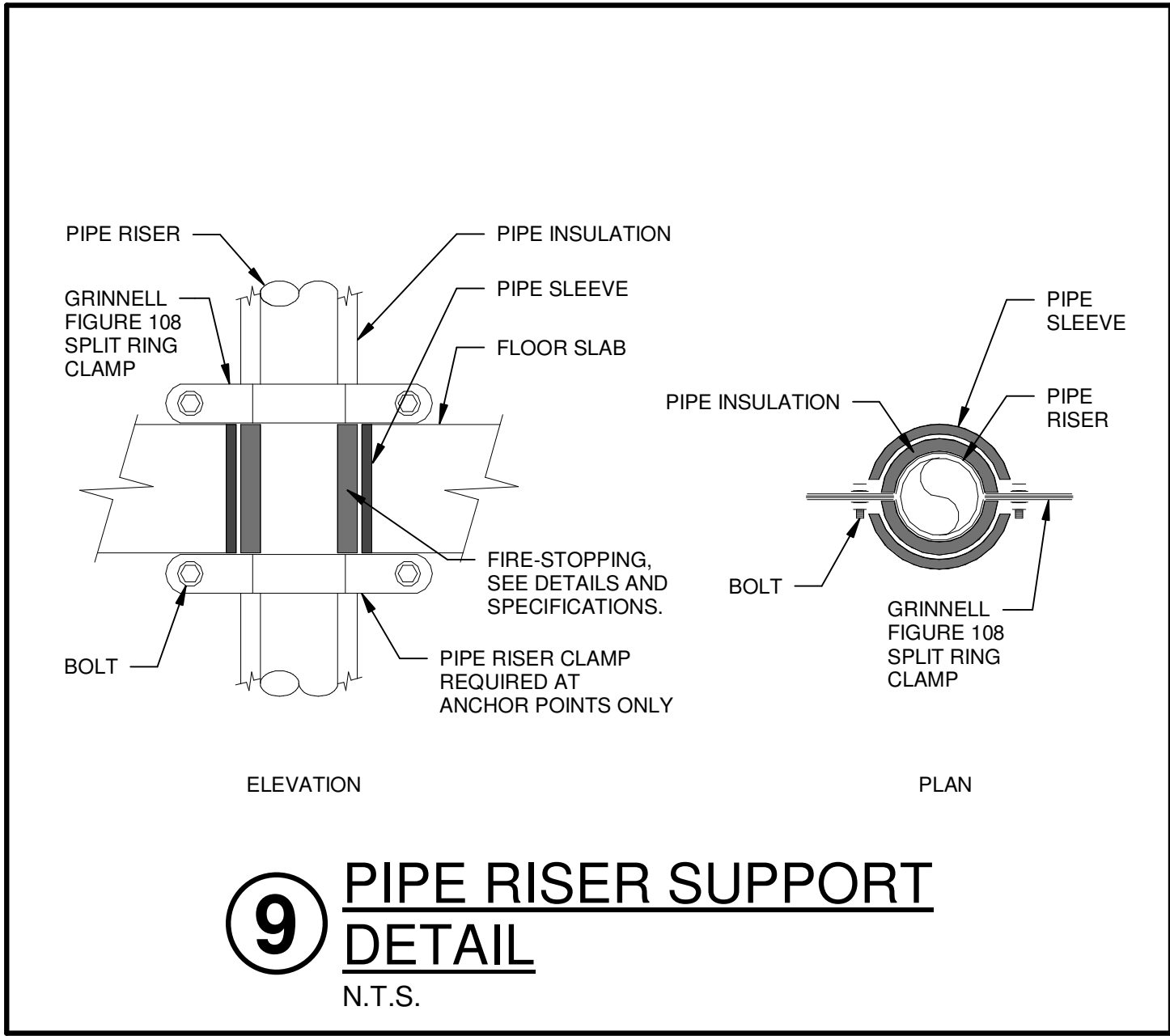
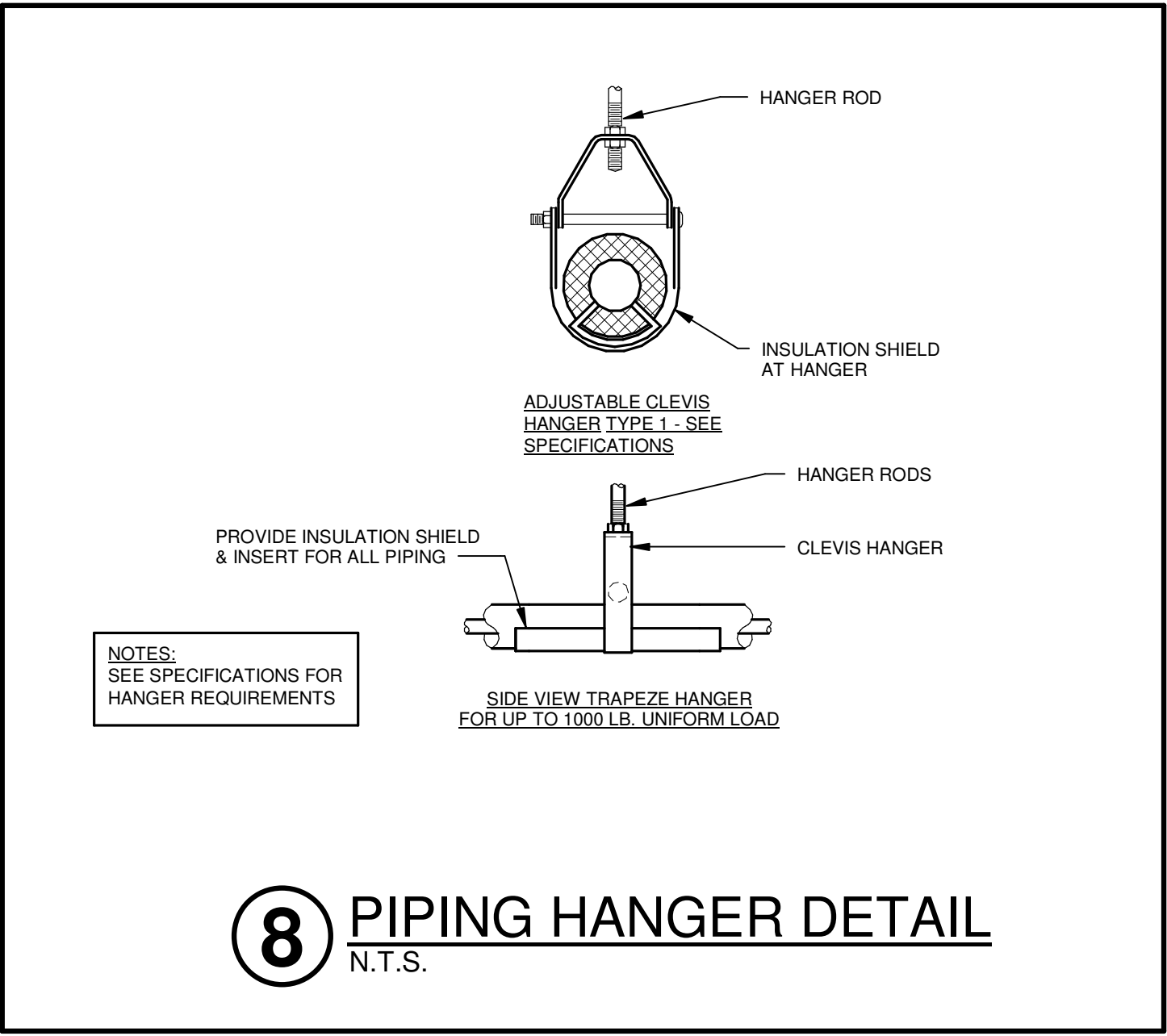
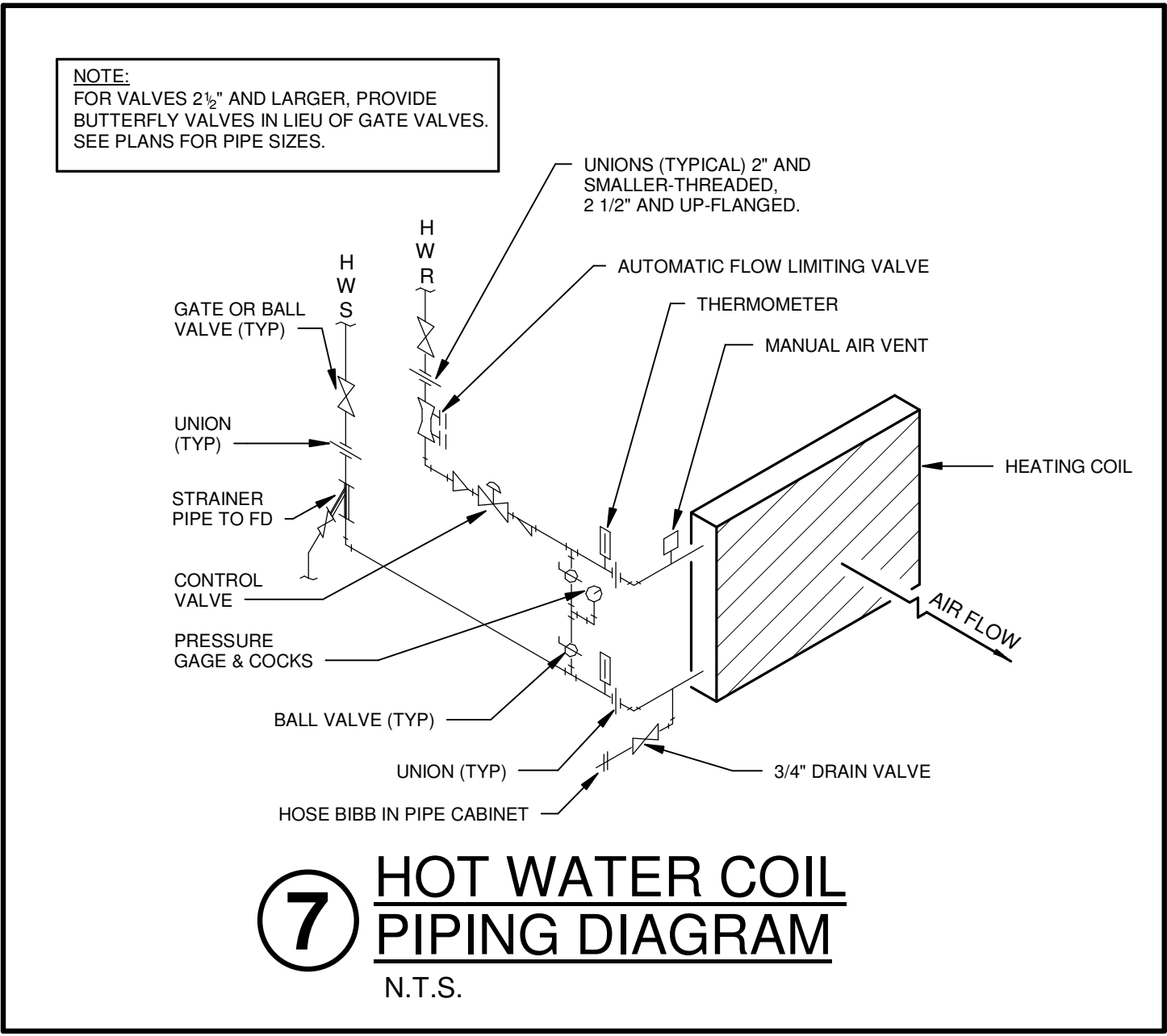
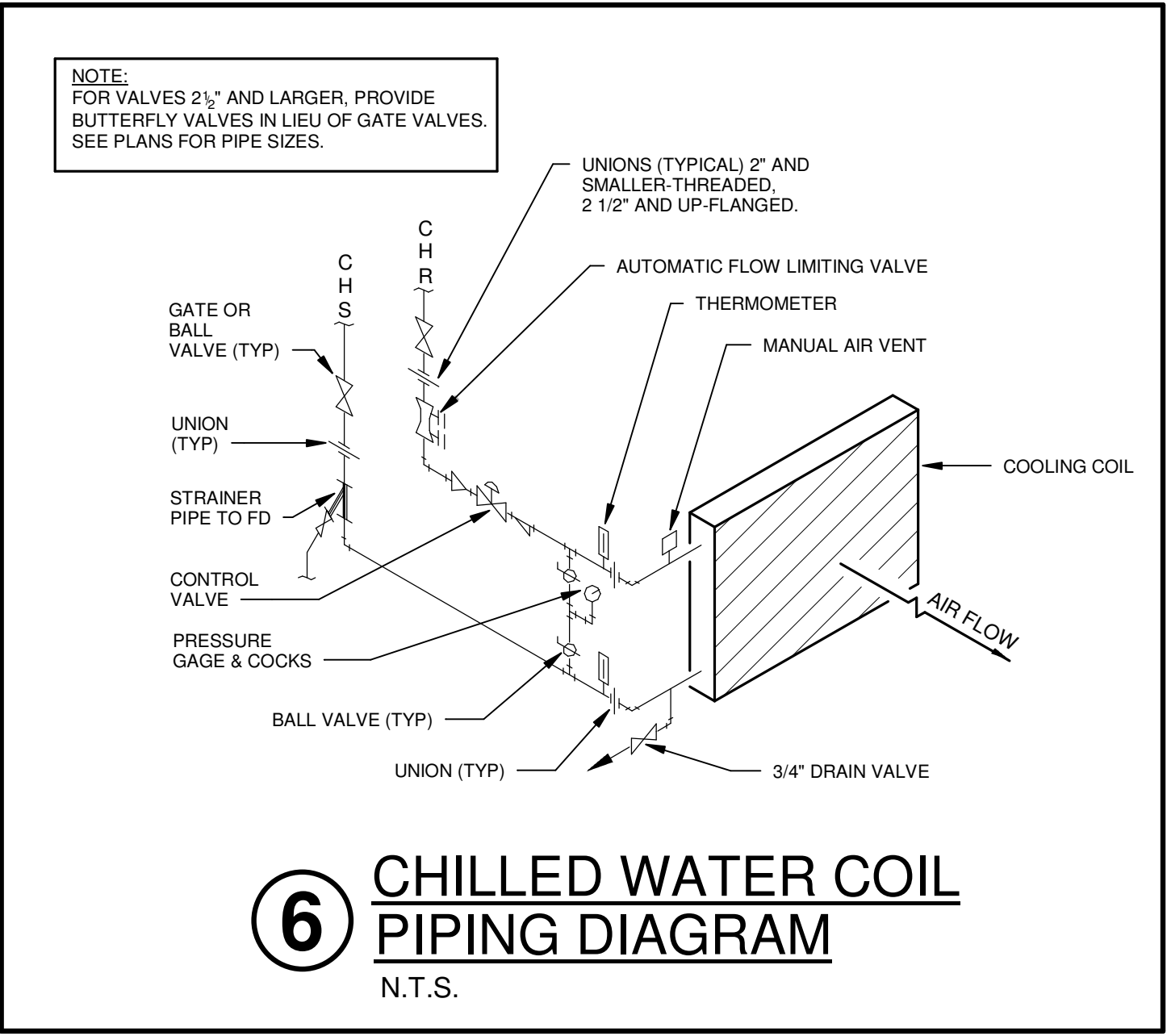
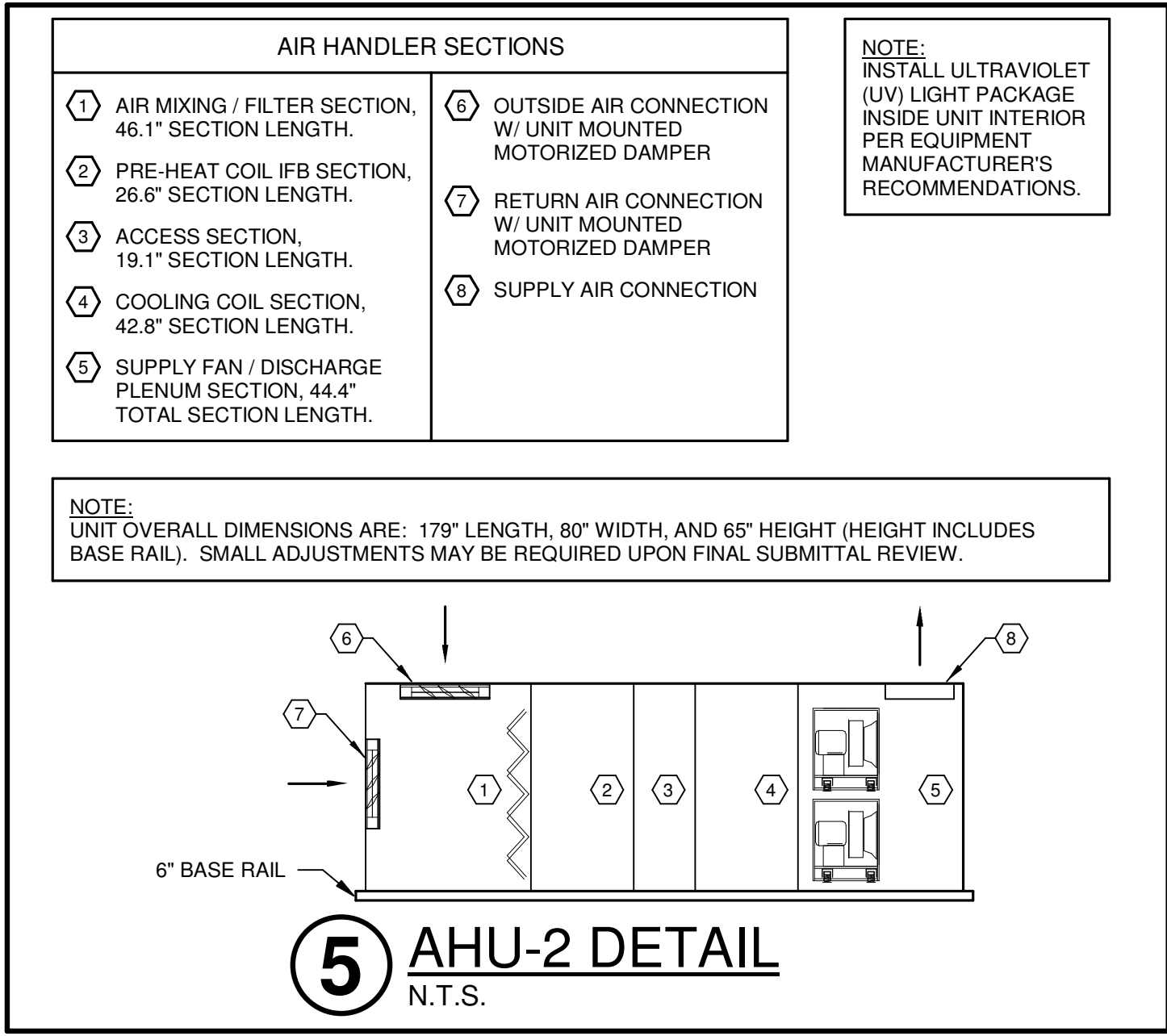
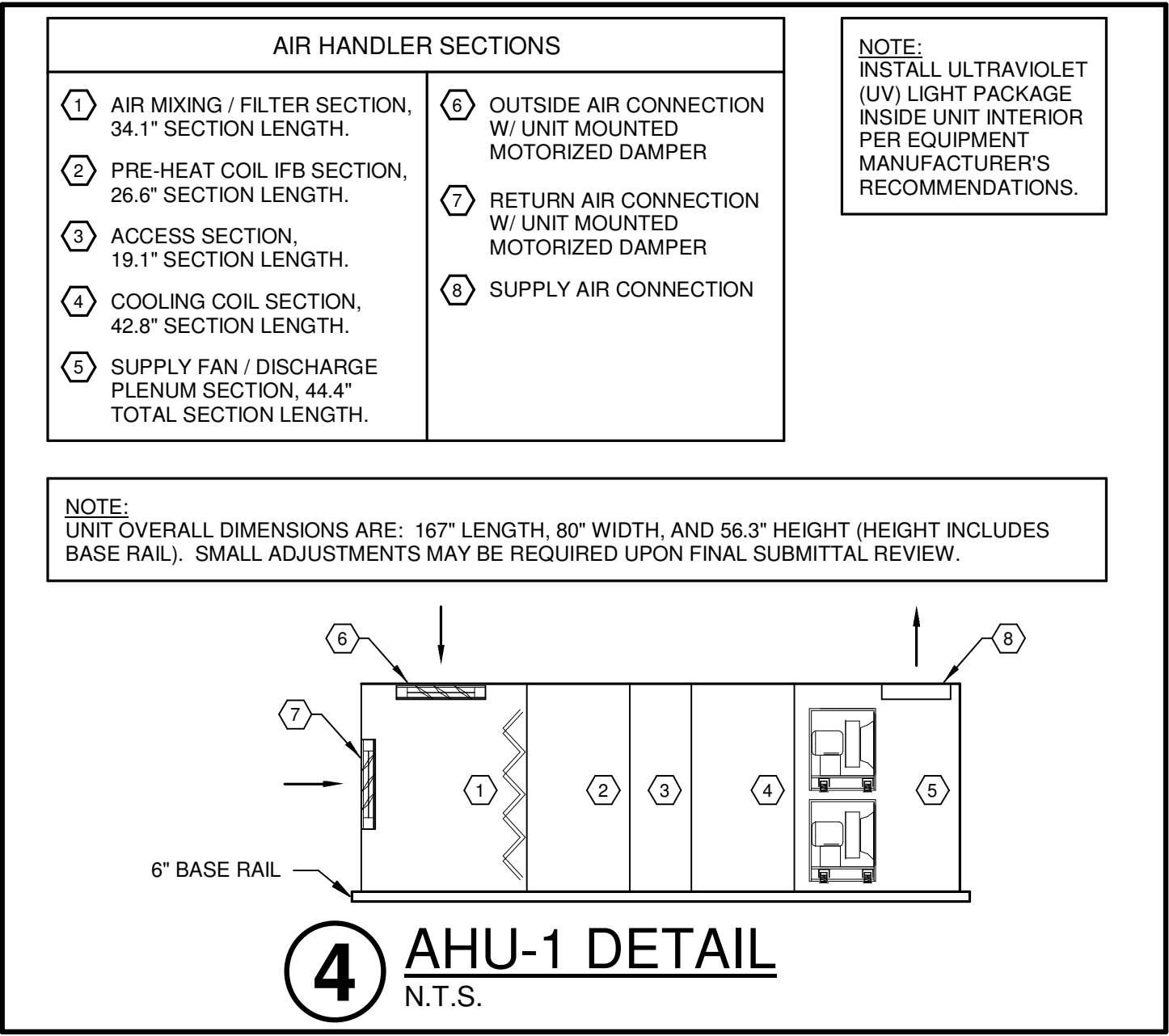
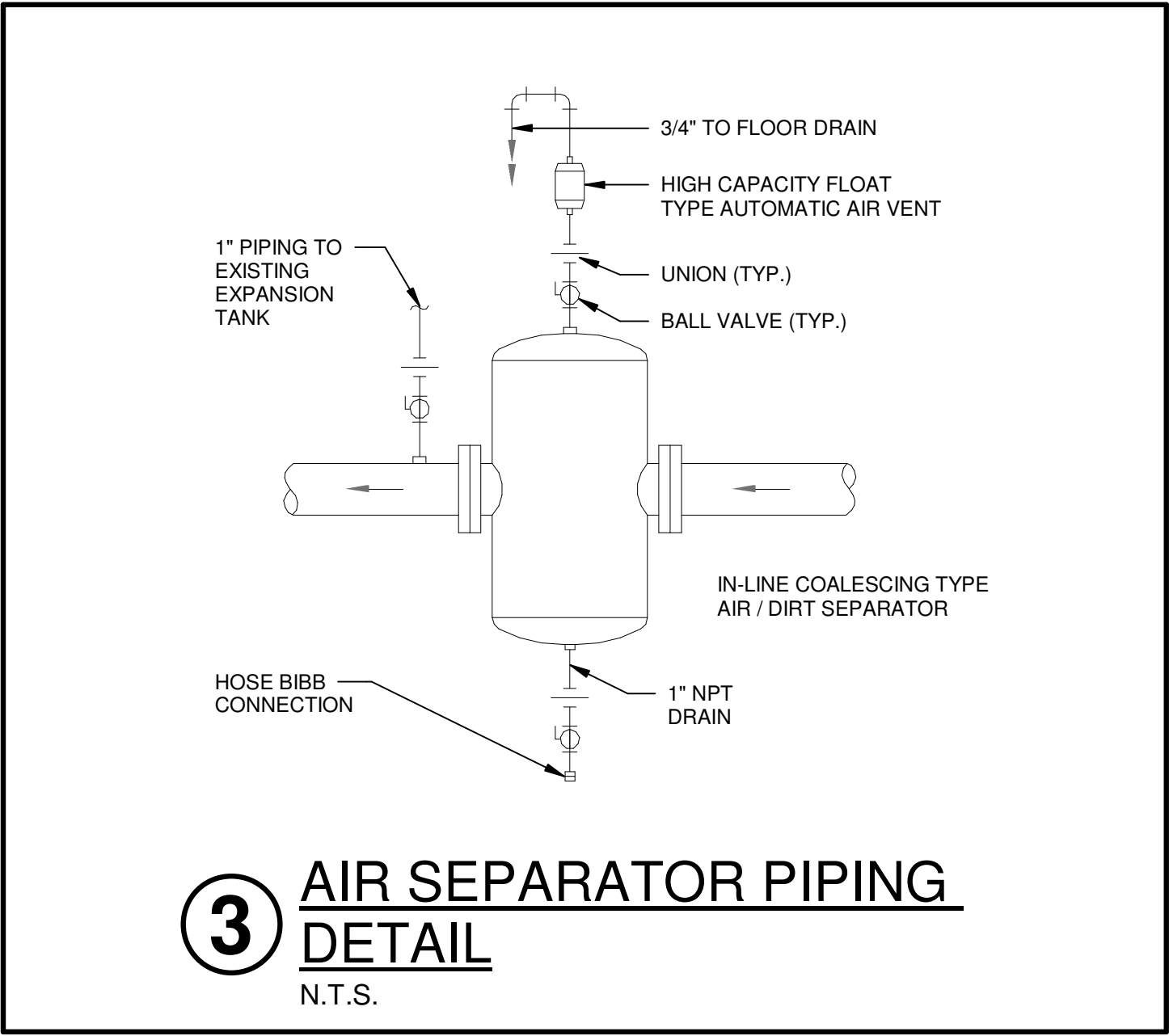
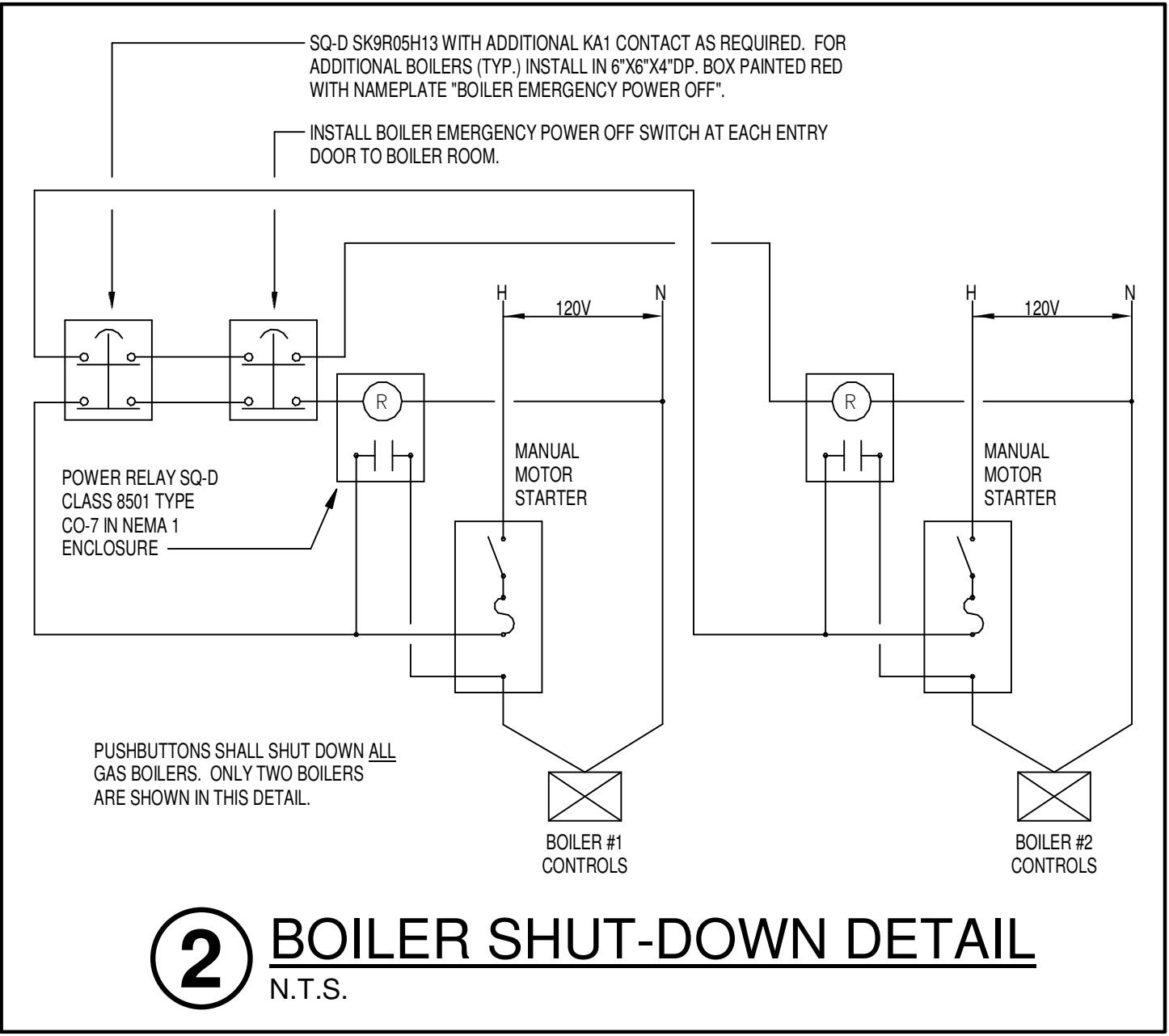
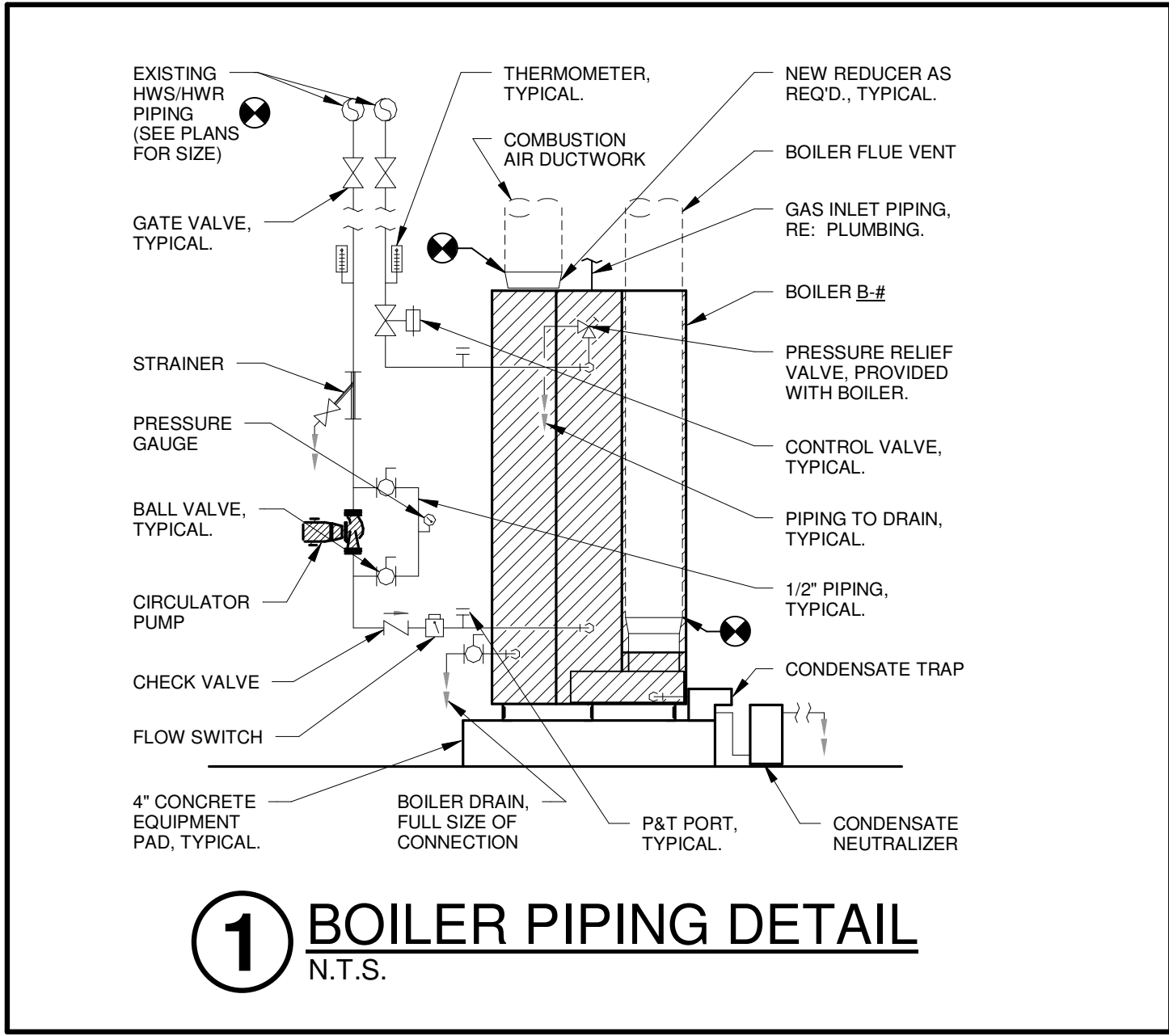
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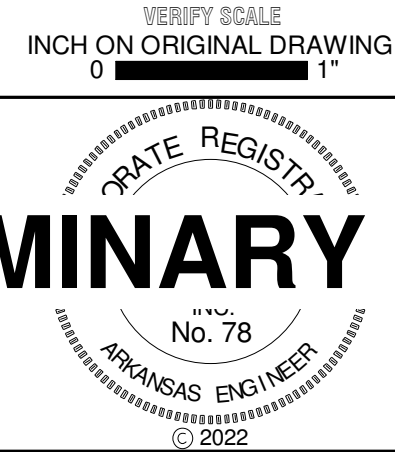
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AIR HANDLING UNIT SCHEDULE

DESIG.	MFR/MDL	LOCAT.	TYPE	DIMENSIONS			OSA	FAN DATA						PRE-HEATING WATER COIL								CHILLED WATER COIL								MOTOR DATA			REMARKS				
				LENGTH	WIDTH	HEIGHT		WEIGHT	CFM	CFM	ESP/TSP	NO.	TYPE	DIA.	EAT/LAT	EWLT/LWT	GPM	W.P.D.	MBH	ROW/FIN	FACE VELOCITY	APD	EAT	LAT	MBH TOTAL	MBH SENS.	EWLT	LWT	GPM	W.P.D.	ROW/FIN	FACE VELOCITY		APD	BHP	HP	VOLT/PH
AHU-1	TRANE CSAA021	SECOND FLR. MECH. ROOM	HORIZONTAL	167"	80"	56.3" W/ 6" BASE RAIL	3,950 LBS.	2,370		10,500 (TOTAL)	2.5"/5.09"	2	DIRECT DRIVE PLENUM	18.25"	27.4"/71.0"	160"/147.5"	27.0	1.13'	167.1	2/9 FPI	253	0.44"	80.8" d.b. 67.0" w.b.	52.0" d.b. 51.9" w.b.	478.0	333.2	45° F	54.9° F	96	8.9'	8/109 FPF	529 FPM	0.99"	6.9 (x2)	7.5 (x2)	208 / 3ø	(1) (2) (3) (4) (5) (6) (7) PROVIDE UNIT WITH MINIMUM 6" BASE RAIL FOR PROPER CONDENSATE DRAINAGE. PROVIDE WITH SERVICE LIGHTS IN EACH ACCESSIBLE SECTION (TO BE FIELD WIRED BY ELECTRICIAN).
AHU-2	TRANE CSAA025	SECOND FLR. MECH. ROOM	HORIZONTAL	179"	80"	65" W/ 6" BASE RAIL	4,500 LBS.	2,825		11,700 (TOTAL)	2.5"/5.13"	2	DIRECT DRIVE PLENUM	18.25"	24.4"/71.0"	160"/142.8"	70.0	16.7'	596.7	3/10 FPI	676	0.77"	81.2" d.b. 67.3" w.b.	52.0" d.b. 51.9" w.b.	545.1	376.5	45° F	54.9° F	110	9.2'	8/104 FPF	486 FPM	0.82"	8.0 (x2)	10 (x2)	208 / 3ø	(1) (2) (3) (4) (5) (6) (8) PROVIDE UNIT WITH MINIMUM 6" BASE RAIL FOR PROPER CONDENSATE DRAINAGE. PROVIDE WITH SERVICE LIGHTS IN EACH ACCESSIBLE SECTION (TO BE FIELD WIRED BY ELECTRICIAN).

- (1) PROVIDE 4" PLEATED MERV 13 FILTERS. UNIT SHALL NOT BE OPERATED AT ANY TIME WITHOUT FILTER MEDIA INSTALLED AS RECOMMENDED BY MANUFACTURER.  
(2) PROVIDE PIPING AND WIRING CONNECTIONS AND ACCESS PANELS/DOORS ON SIDE OF UNIT THAT WILL ALLOW GREATEST ACCESSIBILITY. SEE PLANS FOR UNIT ORIENTATIONS.  
(3) PROVIDE PREMIUM EFFICIENCY INVERTER DUTY MOTOR FOR EACH SUPPLY FAN.  
(4) PROVIDE WITH FAN BACKDRAFT DAMPER FOR EACH SUPPLY FAN.  
(5) PROVIDE WITH SUPPLY AND RETURN SMOKE DETECTORS.  
(6) PROVIDE WITH IFB SIDE HEATER COIL.  
(7) PROVIDE WITH UV LIGHT PACKAGE UV-1.  
(8) PROVIDE WITH UV LIGHT PACKAGE UV-2.

AIR TERMINAL BOX SCHEDULE

DESIG.	MFR/MDL	TYPE	PRIMARY CFM		UNIT A.P.D.	INLET SIZE	HEATING WATER COIL DATA						REMARKS	
			MAX.	MIN.			CFM	MBH	EWLT/LWT	EAT/LAT	GPM	WPD		ROW/FIN
VAV-101	TRANE / VCW	SINGLE DUCT VARIABLE VOL.	690	210	0.23"	10"ø	275	11.9	160° F / 112.2° F	55° F / 95.0° F	0.5	0.05'	2 R/10 FPI	SEE SPECIFICATIONS.
VAV-102	TRANE / VCW	SINGLE DUCT VARIABLE VOL.	940	280	0.21"	12"ø	280	13.7	160° F / 118.8° F	55° F / 100.3° F	0.67	0.03'	2 R/10 FPI	SEE SPECIFICATIONS.
VAV-103	TRANE / VCW	SINGLE DUCT VARIABLE VOL.	1155	350	0.29"	12"ø	460	20.2	160° F / 119.5° F	55° F / 95.4° F	1.0	0.07'	2 R/10 FPI	SEE SPECIFICATIONS.
VAV-104	TRANE / VCW	SINGLE DUCT VARIABLE VOL.	385	115	0.19"	8"ø	155	7.8	160° F / 128.7° F	55° F / 101.4° F	0.5	0.03'	2 R/10 FPI	SEE SPECIFICATIONS.
VAV-105	TRANE / VCW	SINGLE DUCT VARIABLE VOL.	1090	330	0.27"	12"ø	440	19.9	160° F / 120.1° F	55° F / 96.7° F	1.0	0.07'	2 R/10 FPI	SEE SPECIFICATIONS.
VAV-106	TRANE / VCW	SINGLE DUCT VARIABLE VOL.	1305	395	0.35"	12"ø	650	30.2	160° F / 123.6° F	55° F / 97.9° F	1.67	0.17'	2 R/10 FPI	SEE SPECIFICATIONS.
VAV-107	TRANE / VCW	SINGLE DUCT VARIABLE VOL.	570	175	0.17"	10"ø	225	11.1	160° F / 115.2° F	55° F / 100.7° F	0.5	0.05'	2 R/10 FPI	SEE SPECIFICATIONS.
VAV-108	TRANE / VCW	SINGLE DUCT VARIABLE VOL.	1990	600	0.39"	14"ø	800	35.1	160° F / 117.8° F	55° F / 95.4° F	1.67	0.13'	2 R/10 FPI	SEE SPECIFICATIONS.
VAV-109	TRANE / VCW	SINGLE DUCT VARIABLE VOL.	740	225	0.25"	10"ø	300	14.6	160° F / 116.0° F	55° F / 100.1° F	0.67	0.09'	2 R/10 FPI	SEE SPECIFICATIONS.
VAV-110	TRANE / VCW	SINGLE DUCT VARIABLE VOL.	740	225	0.25"	10"ø	300	14.6	160° F / 116.0° F	55° F / 100.1° F	0.67	0.09'	2 R/10 FPI	SEE SPECIFICATIONS.
VAV-111	TRANE / VCW	SINGLE DUCT VARIABLE VOL.	900	270	0.34"	10"ø	360	15.6	160° F / 113.2° F	55° F / 95.0° F	0.67	0.09'	2 R/10 FPI	SEE SPECIFICATIONS.
VAV-112	TRANE / VCW	SINGLE DUCT VARIABLE VOL.	890	270	0.34"	10"ø	360	15.6	160° F / 113.2° F	55° F / 95.0° F	0.67	0.09'	2 R/10 FPI	SEE SPECIFICATIONS.
VAV-113	TRANE / VCW	SINGLE DUCT VARIABLE VOL.	1190	360	0.31"	12"ø	475	20.4	160° F / 119.1° F	55° F / 94.6° F	1.0	0.07'	2 R/10 FPI	SEE SPECIFICATIONS.
VAV-114	TRANE / VCW	SINGLE DUCT VARIABLE VOL.	1575	475	0.27"	14"ø	630	32.2	160° F / 121.3° F	55° F / 102.1° F	1.67	0.13'	2 R/10 FPI	SEE SPECIFICATIONS.
VAV-115	TRANE / VCW	SINGLE DUCT VARIABLE VOL.	2825	850	0.50"	16"ø	1130	51.0	160° F / 116.1° F	55° F / 96.6° F	2.33	0.26'	2 R/10 FPI	SEE SPECIFICATIONS.
VAV-116	TRANE / VCW	SINGLE DUCT VARIABLE VOL.	400	120	0.20"	8"ø	160	7.9	160° F / 128.3° F	55° F / 100.5° F	0.5	0.03'	2 R/10 FPI	SEE SPECIFICATIONS.
VAV-117	TRANE / VCW	SINGLE DUCT VARIABLE VOL.	1610	500	0.29"	14"ø	670	28.7	160° F / 116.6° F	55° F / 94.5° F	1.33	0.09'	2 R/10 FPI	SEE SPECIFICATIONS.
VAV-201	TRANE / VCW	SINGLE DUCT VARIABLE VOL.	1590	480	0.27"	14"ø	635	28.2	160° F / 117.4° F	55° F / 96.0° F	1.33	0.09'	2 R/10 FPI	SEE SPECIFICATIONS.
VAV-202	TRANE / VCW	SINGLE DUCT VARIABLE VOL.	865	260	0.32"	10"ø	345	15.4	160° F / 113.9° F	55° F / 96.1° F	0.67	0.09'	2 R/10 FPI	SEE SPECIFICATIONS.
VAV-203	TRANE / VCW	SINGLE DUCT VARIABLE VOL.	925	280	0.21"	12"ø	370	24.8	160° F / 135.0° F	55° F / 117.0° F	2.0	0.24'	2 R/10 FPI	SEE SPECIFICATIONS.
VAV-204	TRANE / VCW	SINGLE DUCT VARIABLE VOL.	485	150	0.27"	8"ø	195	8.4	160° F / 125.8° F	55° F / 95.0° F	0.5	0.03'	2 R/10 FPI	SEE SPECIFICATIONS.
VAV-205	TRANE / VCW	SINGLE DUCT VARIABLE VOL.	1915	575	0.36"	14"ø	765	34.6	160° F / 118.5° F	55° F / 96.7° F	1.67	0.13'	2 R/10 FPI	SEE SPECIFICATIONS.

EXHAUST FAN SCHEDULE

DESIG.	MFR/MDL	SERVES	LOCAT.	TYPE	FAN DATA							MOTOR DATA				REMARKS
					CFM	S.P.	RPM	DRIVE	TYPE	DIA.	SONES	RPM	BHP	HP	VOLT/PH	
EF-3	GREENHECK G-080-VG	TOILETS	ROOF	ROOF-MOUNTED	150	0.5"	1,495	DIRECT	CENT.	10.875"	7.4	1,495	0.05	1/10	120 / 1ø	PROVIDE WITH ECM MOTOR, BACKDRAFT DAMPER, DISCONNECT, AND ROOF CURB ADAPTER.

HOT WATER BOILER SCHEDULE

DESIG.	MFR./MDL.	TYPE	FUEL	INPUT MBH	OUTPUT MBH	EWT	LWT	AFUE	GPM	P.D.	ELECTRICAL DATA	REMARKS
											VOLT / PHASE / MCA	
B-1	RAYPAK XFIRE/H7-400B	SEALED COMBUSTION	NATURAL GAS	399 MBH	383 MBH	130°	160°	96.0%	26	5.0'	120V / 1ø / 7.5A	MINIMUM 7:1 TURNDOWN RATIO. PROVIDE WITH BACNET CONTROL CARD. SEE SPECIFICATIONS. INTERLOCK WITH CIRCULATOR PUMP P-4.
B-2	RAYPAK XFIRE/H7-400B	SEALED COMBUSTION	NATURAL GAS	399 MBH	383 MBH	130°	160°	96.0%	26	5.0'	120V / 1ø / 7.5A	MINIMUM 7:1 TURNDOWN RATIO. PROVIDE WITH BACNET CONTROL CARD. SEE SPECIFICATIONS. INTERLOCK WITH CIRCULATOR PUMP P-5.

PUMP SCHEDULE

DESIG.	MFR/MDL	SERVES	LOCAT.	TYPE	GPM	HEAD	EFF.	MOTOR DATA				REMARKS
								BHP	HP	RPM	VOLT/PH	
P-1	BELL & GOSSETT e-1510 2BD	HEATING WATER	MECH. RM.	END SUCTION	125	80'	67.9%	3.6	7.5	1,740	208/3ø	HEATING WATER SECONDARY - VARIABLE VOLUME. PROVIDE WITH SUCTION GUIDE. LEAD PUMP, TO ALTERNATE DUTY CYCLES WITH LAG PUMP P-2.
P-2	BELL & GOSSETT e-1510 2BD	HEATING WATER	MECH. RM.	END SUCTION	125	80'	67.9%	3.6	7.5	1,740	208/3ø	HEATING WATER SECONDARY - VARIABLE VOLUME. PROVIDE WITH SUCTION GUIDE. LAG PUMP, TO ALTERNATE DUTY CYCLES WITH LEAD PUMP P-1.
P-3	BELL & GOSSETT e-80SC 3x3x11B	CHILLED WATER	MECH. RM.	VERT. IN-LINE	210	80'	62.1%	7.0	10	1,740	208/3ø	CHILLED WATER PRIMARY - VARIABLE VOLUME (GLYCOL - 30%). PROVIDE WITH SUCTION GUIDE.
P-4	TACO 0012	BOILER B-1	EXTERIOR MECH. RM.	HORIZ. IN-LINE	26	9'	---	---	1/8	3,250	120/1ø	BOILER CIRCULATOR - CONSTANT VOLUME. PROVIDE WITH 1-1/2" FLANGED CONNECTIONS.
P-5	TACO 0012	BOILER B-2	EXTERIOR MECH. RM.	HORIZ. IN-LINE	26	9'	---	---	1/8	3,250	120/1ø	BOILER CIRCULATOR - CONSTANT VOLUME. PROVIDE WITH 1-1/2" FLANGED CONNECTIONS.

AIR / DIRT SEPARATOR SCHEDULE

DESIG.	MFR./MDL.	TYPE	SERVES	SYSTEM FLOW	PRESS. DROP	VOLUME	INLET / OUTLET CONNECTIONS	DRAIN	WEIGHT	REMARKS
AS-1	SPIROTHERM VDT400	COALESCING AIR / DIRT SEPARATOR	HEATING HOT WATER	125 GPM	2.1 FT. AT 6 FPS	6.6 GAL.	4 IN.	1 IN.	149 LBS.	(1) (2) (3) (4) (5)

- (1) PROVIDE COALESCING TYPE AIR / DIRT SEPARATOR. CENTRIFUGAL TYPES ARE NOT ACCEPTABLE.  
(2) SEPARATOR VESSEL SHALL BE CERTIFIED FOR 150 LB. WORKING PRESSURE WITH CLASS 150 STEEL WELD NECK RAISED FACE FLANGES.  
(3) SEPARATOR VESSEL SHALL INCLUDE STRUCTURED COALESCING MEDIA FILLING THE ENTIRE VESSEL. PARTIALLY FILLED VESSELS OR VESSELS WITH LOOSE MEDIA ARE NOT ACCEPTABLE.  
(4) SEPARATOR VESSEL SHALL REMOVE 100% OF FREE AND ENTRAINED AIR AND 99.6% OF DISSOLVED AIR AS TESTED BY INDEPENDENT LABORATORY.  
(5) SEPARATOR VESSEL SHALL REMOVE 80% OF THE 30 MICRON PARTICLES WITHIN 100 COMPLETE SYSTEM CIRCULATIONS, AND SHALL BE CAPABLE OF REMOVING PARTICLES OF 5 MICRON SIZE.

ULTRAVIOLET (UV) LIGHTING SCHEDULE

DESIG.	MFR./MDL.	TYPE	UNIT SERVED	EMITTER QUANTITY	ROWS / COLUMNS	VOLTS / AMPS / PHASE	REMARKS
UV-1	STERILE-AIRE RIK SERIES	SINGLE-ENDED ENHANCED SE EMITTER LAMP	AHU-1	2 (EGTS 61)	2 / 1	120 / 2.6 / 1	PROVIDE WITH RIK SYSTEM ADJUSTABLE MOUNTING HARDWARE, FOOT AND BRACKET ASSEMBLY, AND PRE-WIRED 120V POWER SUPPLY WITH SOCKETS.
UV-2	STERILE-AIRE RIK SERIES	SINGLE-ENDED ENHANCED SE EMITTER LAMP	AHU-2	2 (EGTS 61)	2 / 1	120 / 2.6 / 1	PROVIDE WITH RIK SYSTEM ADJUSTABLE MOUNTING HARDWARE, FOOT AND BRACKET ASSEMBLY, AND PRE-WIRED 120V POWER SUPPLY WITH SOCKETS.

LEGEND

	CEILING DIFFUSER		MANUAL DAMPER		AIR VENT (AUTO/HAND)		PRESSURE AND TEMPERATURE TAP
	RETURN AIR GRILLE (RA)		OPPOSED BLADE DAMPER		BUTTERFLY VALVE		REDUCER (CONCENTRIC)
	EXHAUST REGISTER (ER)		DIAMETER		AUTOMATIC CONTROL VALVE (3-WAY)		REDUCER (ECCENTRIC)
	SIZE - DESIGNATION CUBIC FEET PER MINUTE		THERMOSTAT / HUMIDISTAT (WITH UNIT NUMBER)		AUTOMATIC CONTROL VALVE		STRAINER (WITH BLOW DOWN VALVE)
	FLEXIBLE DUCT CONNECTOR		CHECK VALVE		THERMOMETER		UNION (FLANGED, SCREWED)
	TURNING VANES		FLEXIBLE CONNECTOR (BRAIDED)		GATE VALVE		CHS — CHILLED WATER SUPPLY
	SPLITTER DAMPER (TEE)		GLOBE VALVE (STRAIGHT)		PLUG VALVE		CHR — CHILLED WATER RETURN
	INTERNALLY INSULATED DUCTWORK		PRESSURE GAUGE (W/COCK)		PRESSURE GAUGE		HWS — HEATING WATER SUPPLY
			CONNECT TO EXISTING		PRESSURE RELIEF VALVE		HWR — HEATING WATER RETURN
			TO FLOOR DRAIN				D — DRAIN

EQUIPMENT PROCUREMENT PACKAGE

#	Date	Description
		Revision History

UCA SCHICHTL  
Renovation  
CONWAY, ARKANSAS

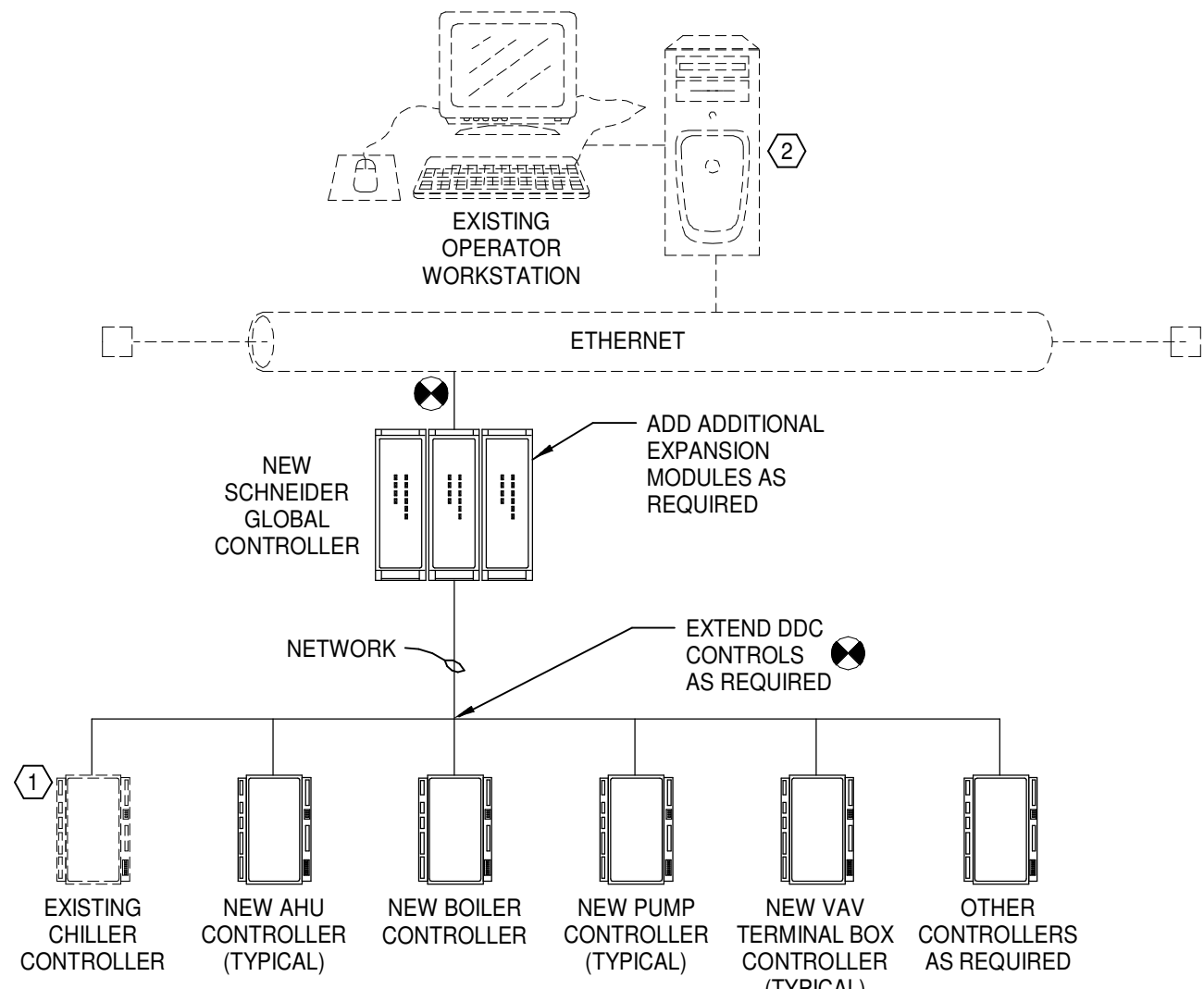
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Date: 7/29/2022  
Title: HVAC SCHEDULES  
Sheet Number:  
**M4.01**  
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- KEYED NOTES
- 1

UPGRADE EXISTING CONTROLLER AS REQUIRED.
- 2

UPGRADE EXISTING WORKSTATION (FIELD VERIFY EXACT WORKSTATION LOCATION) HARDWARE, SOFTWARE, AND GRAPHICS AS REQUIRED.

1

BUILDING AUTOMATION SYSTEM (BAS) RISER DIAGRAM

VAV TERMINAL SEQUENCE OF OPERATION

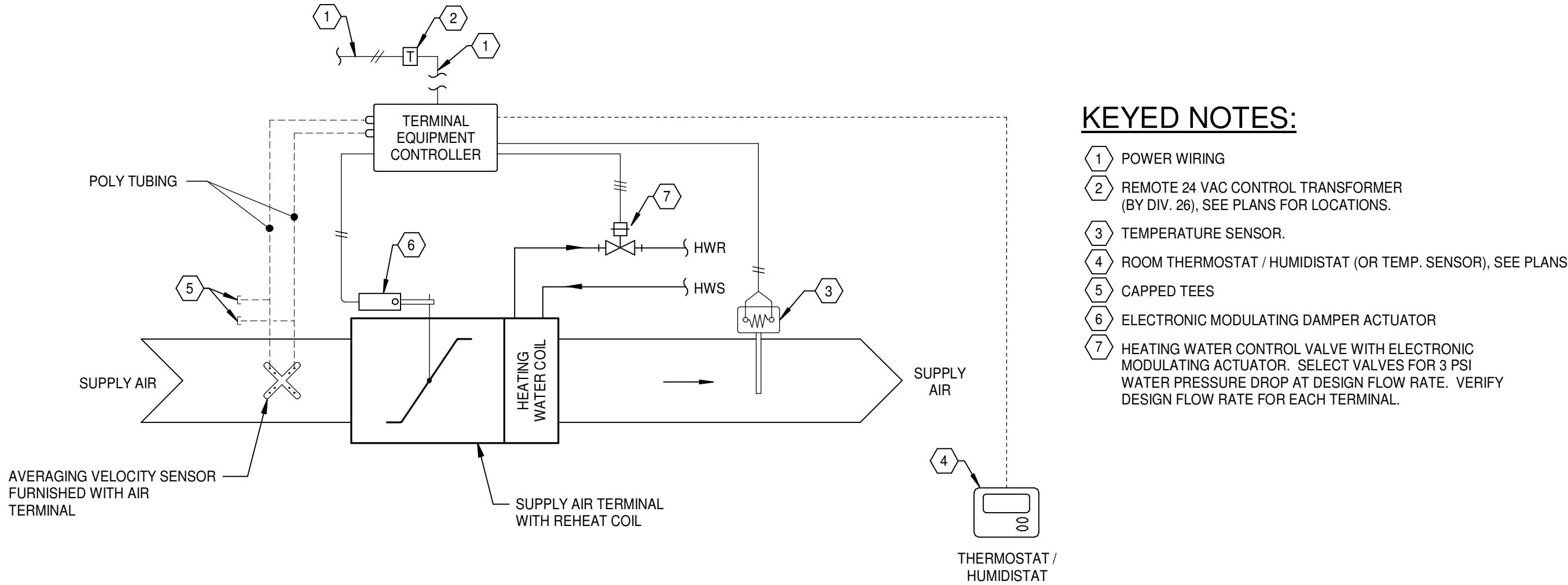
VAV TERMINALS WITH HOT WATER REHEAT

AIR TERMINAL MODE OF OPERATION IS EITHER "OCCUPIED" OR "UNOCCUPIED" BASED UPON WEEKLY SCHEDULE OR OPERATOR COMMAND.

OCCUPIED CYCLE: DURING THE OCCUPIED MODE OF OPERATION, THE SPACE TEMPERATURE SETPOINT SHALL BE ADJUSTABLE BY THE OCCUPANT AT THE THERMOSTAT BETWEEN A MINIMUM OF 68°F (ADJ.) AND A MAXIMUM OF 75°F (ADJ.). ON A RISE IN SPACE TEMPERATURE ABOVE THE SETPOINT, THE VAV CONTROLLER WILL MODULATE THE AIR VALVE TO PROVIDE MAXIMUM CFM. AS SPACE TEMPERATURE DECREASES BELOW THE HEATING SETPOINT, THE VAV CONTROLLER WILL MODULATE THE AIR VALVE TO ITS MINIMUM POSITION. AS THE SPACE TEMPERATURE CONTINUES TO FALL BELOW THE HEATING SETPOINT WITH THE AIR VALVE AT MINIMUM POSITION, THE CONTROLLER SHALL MODULATE THE AIR VALVE TO ITS HEATING MINIMUM AIRFLOW. AT THIS POINT, THE HEATING VALVE SHALL BE MODULATED OPEN AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE AT THE HEATING SETPOINT.

UNOCCUPIED CYCLE: DURING THE UNOCCUPIED CYCLE, THE AIR VALVE ON THE TERMINAL UNIT SHALL DRIVE TO THE UNOCCUPIED MINIMUM CFM. THE SYSTEM FAN AND HEAT SHALL CYCLE TO MAINTAIN A REDUCED SPACE TEMPERATURE (NSB).

UNOCCUPIED CYCLE OVERRIDE: DURING THE UNOCCUPIED CYCLE, THE LOCAL USER SHALL BE PROVIDED WITH AN OVERRIDE FUNCTION ON EACH LOCAL THERMOSTAT. THE OVERRIDE FUNCTION SHALL FUNCTION FOR A TWO (2) HOUR PERIOD.



- KEYED NOTES:
- 1

POWER WIRING
- 2

REMOTE 24 VAC CONTROL TRANSFORMER (BY DIV. 26), SEE PLANS FOR LOCATIONS.
- 3

TEMPERATURE SENSOR.
- 4

ROOM THERMOSTAT / HUMIDISTAT (OR TEMP. SENSOR), SEE PLANS.
- 5

CAPPED TEES
- 6

ELECTRONIC MODULATING DAMPER ACTUATOR
- 7

HEATING WATER CONTROL VALVE WITH ELECTRONIC MODULATING ACTUATOR. SELECT VALVES FOR 3 PSI WATER PRESSURE DROP AT DESIGN FLOW RATE. VERIFY DESIGN FLOW RATE FOR EACH TERMINAL.

2

SUPPLY AIR TERMINAL W/ HOT WATER REHEAT (TYPICAL)

VARIABLE AIR VOLUME AIR HANDLING UNIT - SEQUENCE OF OPERATION

AHU-1 (AHU-2 SIMILAR)

OCCUPIED MODE:

THE OCCUPIED MODE SHALL BE DETERMINED BY THE OWNER'S BUILDING SCHEDULE. WHEN THE AIR HANDLING UNIT IS IN OCCUPIED MODE, THE SUPPLY FANS SHALL OPERATE CONTINUOUSLY. THE VARIABLE FREQUENCY DRIVES (VFD'S) SHALL MODULATE THE SUPPLY FANS AS REQUIRED TO MAINTAIN THE DUCT STATIC PRESSURE AND THE COOLING VALVE AND HEATING VALVE SHALL MODULATE IN SEQUENCE TO MAINTAIN THE COOLING DISCHARGE AIR TEMPERATURE. THE OUTDOOR AIRFLOW, AS MEASURED AT THE AIRFLOW MEASURING STATION, SHALL BE MAINTAINED AT A VALUE EQUAL TO OR HIGHER THAN THE MINIMUM REQUIRED OUTDOOR AIRFLOW SETPOINT SECTION OF THE AHU SYSTEM LEVEL OPERATION SECTION OF THIS SPECIFICATION.

UNOCCUPIED MODE:

THE UNOCCUPIED MODE SHALL BE DETERMINED BY THE OWNER'S BUILDING SCHEDULE. WHEN THE AIR HANDLING UNIT IS IN THE UNOCCUPIED MODE, THE SUPPLY FANS SHALL CYCLE ON/OFF (THE FANS SHALL CYCLE ON IF AT LEAST 30% OF THE SUPPLY AIR TERMINAL BOXES ARE CALLING FOR AIR). THE OUTDOOR AIR DAMPER SHALL BE CLOSED. THE ZONE TERMINAL RE-HEAT SHALL MODULATE TO MAINTAIN THE BUILDING UNOCCUPIED TEMPERATURE SETPOINT.

OVERRIDE MODE:

IF DURING THE COURSE OF AN UNOCCUPIED MODE PERIOD THE LOCAL USER UTILIZES THE OVERRIDE FUNCTION AT THE LOCAL USER THERMOSTAT, THE AIR HANDLING UNIT SHALL RETURN TO OCCUPIED MODE STATUS FOR A PERIOD OF TWO (2) HOURS.

VFD CONTROL:

WHEN THE SUPPLY FANS ARE ON, THE VFD'S SHALL SLOWLY RAMP (ADJ.) UP AND MODULATE TO MAINTAIN THE DUCT STATIC PRESSURE SETPOINT.

THE SYSTEM SHALL SHUT DOWN IMMEDIATELY UPON DETECTION OF SMOKE FROM DETECTORS LOCATED IN THE SUPPLY AND RETURN AIR STREAMS OR IF FIRE ALARM SYSTEM IS ACTIVATED.

COOLING VALVE CONTROL:

THE COOLING VALVE SHALL MODULATE TO MAINTAIN THE UNIT SUPPLY AIR TEMPERATURE OF 55°F (ADJ.). THE COOLING VALVE SHALL BE CLOSED IF THE AIR HANDLING UNIT IS IN THE HEATING MODE, THE SUPPLY FANS ARE OFF, OR THE SUPPLY AIR SENSOR HAS FAILED.

HEATING VALVE INTEGRAL FACE & BYPASS DAMPER CONTROL:

THE HEATING VALVE AND FACE AND BYPASS DAMPER SHALL MODULATE TO MAINTAIN THE PRE-HEAT COIL LEAVING AIR TEMPERATURE SETPOINT OF 55°F (ADJ.).

MINIMUM REQUIRED OUTDOOR AIRFLOW SETPOINT:

DURING OCCUPIED TIMES, THE AIR HANDLER OUTDOOR AIR DAMPER SHALL MAINTAIN A MINIMUM OPEN POSITION TO DELIVER REQUIRED OUTDOOR AIRFLOW TO EACH INDIVIDUAL VAV ZONE. SEE THE OSA CFM LISTED ON THE AIR HANDLER UNIT SCHEDULE. COORDINATE WITH ENGINEER.

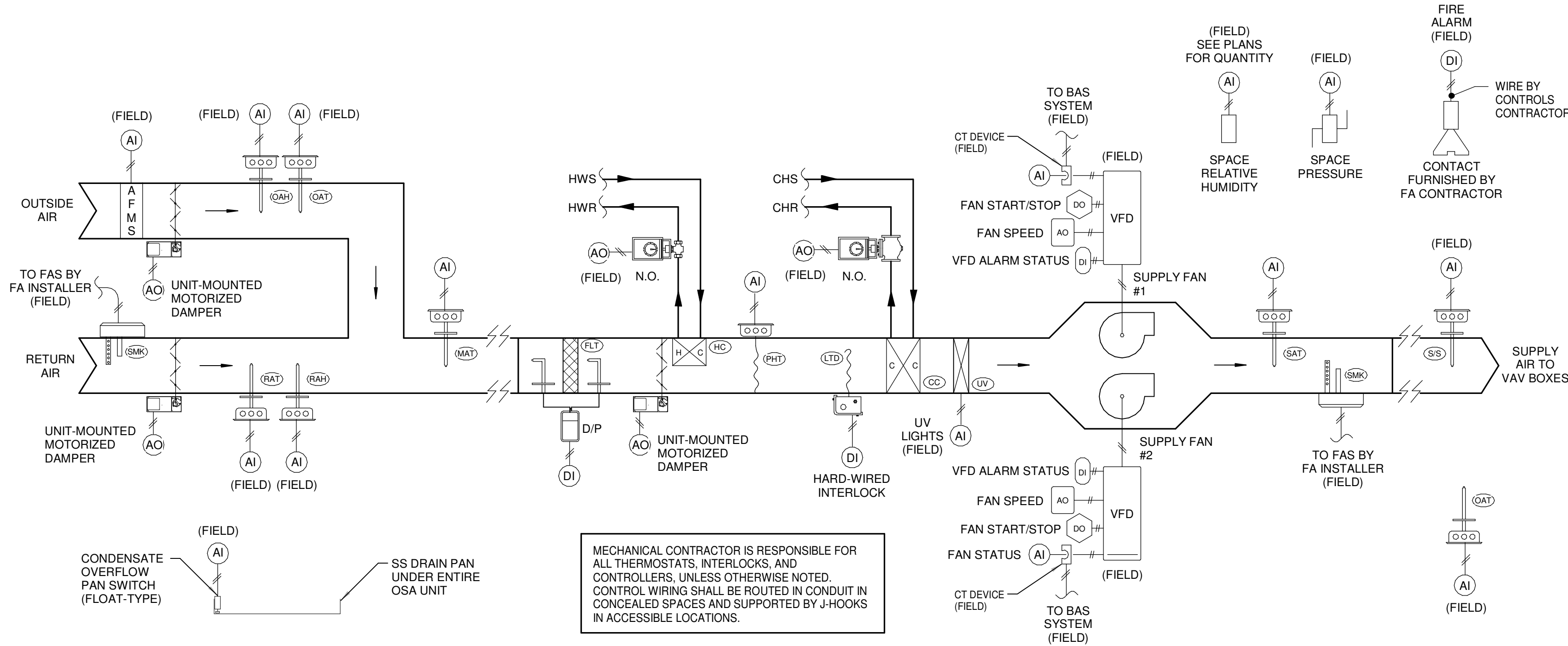
DISCHARGE DUCT STATIC PRESSURE SETPOINT:

THE DISCHARGE DUCT STATIC PRESSURE SHALL BE SENSED DIRECTLY AT THE DISCHARGE OF THE AIR HANDLING UNIT. THE SENSOR SHALL BE MOUNTED IN A NON-TURBULENT LOCATION. THE BUILDING AUTOMATION SYSTEM SHALL CONTINUOUSLY MONITOR THE DAMPER POSITION OF ALL VAV TERMINAL UNITS. WHEN ANY VAV TERMINAL UNIT DAMPER IS MORE THAN 95% (ADJ.) OPEN, THE SUPPLY FAN DISCHARGE DUCT STATIC PRESSURE SETPOINT SHALL BE RESET UPWARDS BY 0.1" W.C. (ADJ.) OF THE MAXIMUM SYSTEM STATIC PRESSURE SETPOINT AT A FREQUENCY OF 10 MINUTES (ADJ.) UNTIL NO VAV TERMINAL UNIT DAMPER IS MORE THAN 95% OPEN OR THE STATIC PRESSURE SETPOINT HAS RESET UPWARD TO THE SYSTEM MAXIMUM SETTING OR THE SUPPLY FAN VFD'S ARE AT THEIR MAXIMUM SETTING.

WHEN ALL VAV TERMINAL UNIT DAMPERS ARE LESS THAN 85% (ADJ.) OPEN, THE SUPPLY FAN DISCHARGE DUCT STATIC PRESSURE SETPOINT SHALL BE RESET DOWNWARD BY 0.1" W.C. (ADJ.) OF THE MAXIMUM SYSTEM STATIC PRESSURE SETPOINT AT A FREQUENCY OF 10 MINUTES (ADJ.) UNTIL ALL DAMPERS ARE MORE THAN 85% OPEN OR THE STATIC PRESSURE SETPOINT HAS RESET DOWNWARD TO THE SYSTEM MINIMUM SETTING OR THE VFD'S ARE AT THEIR MINIMUM SETTING. THE CONTROL BANDS, SETPOINT INCREMENT VALUES, SETPOINT DECREMENT VALUES, AND ADJUSTMENT FREQUENCIES SHALL BE ADJUSTED TO MAINTAIN STATIC PRESSURE OPTIMIZATION WITH STABLE SYSTEM CONTROL AND MAXIMUM COMFORT CONTROL.

SUPPLY AIR DISCHARGE TEMPERATURE RESET:

THE SUPPLY AIR DISCHARGE TEMPERATURE SHALL BE SENSED DIRECTLY AT THE DISCHARGE OF THE AIR HANDLING UNIT. THE BUILDING AUTOMATION SYSTEM SHALL CONTINUOUSLY MONITOR THE SPACE RELATIVE HUMIDITY AS INDICATED ON PLANS AND THE DAMPER POSITION OF ALL VAV TERMINAL UNITS. WHEN IN COOLING MODE AND ALL OF THE VAV TERMINAL UNITS HAVE BEEN REDUCED DOWN TO THE MINIMUM SETTING OF THE VAV TERMINAL UNIT, THE UNIT SUPPLY AIR TEMPERATURE SHALL BE RESET UPWARDS BY 0.5°F (ADJ.) AT A FREQUENCY OF 10 MINUTES (ADJ.) UNTIL ALL OF THE VAV TERMINAL UNIT DAMPERS ARE AT LEAST 85% OPEN (ADJ.) BUT NO VAV TERMINAL UNIT DAMPER IS MORE THAN 97% OPEN (ADJ.). UPON ANY VAV TERMINAL UNIT DAMPER OPENING TO 98% OPEN (ADJ.) OR MORE, THEN THE UNIT SUPPLY AIR TEMPERATURE SHALL BE RESET DOWNWARDS BY 0.5°F (ADJ.) AT A FREQUENCY OF 10 MINUTES (ADJ.) UNTIL ALL OF THE VAV TERMINAL UNIT DAMPERS ARE AT LEAST 85% OPEN (ADJ.) BUT NO VAV TERMINAL UNIT DAMPER IS MORE THAN 97% OPEN (ADJ.). THE BUILDING AUTOMATION SYSTEM SHALL OVERRIDE AND RESET THE UNIT SUPPLY AIR TEMPERATURE DOWNWARDS BY 0.5°F (ADJ.) AT A FREQUENCY OF 10 MINUTES (ADJ.) IF THE SPACE RELATIVE HUMIDITY INCREASES TO MORE THAN 60%RH. THE MAXIMUM ALLOWABLE SUPPLY AIR DISCHARGE TEMPERATURE RESET SHALL BE 60°F (ADJ.) FOR THE UNIT SUPPLY AIR DISCHARGE TEMPERATURE. THE SUPPLY AIR DISCHARGE TEMPERATURE RESET SEQUENCE SHALL BE ALLOWED TO BE ENABLED OR DISABLED AT ANY TIME BY THE OWNER THRU A RADIO BUTTON IN THE UNIT CONTROL GRAPHICS AT THE BAS WORKSTATION.



3

AIR HANDLING UNIT AHU-1 W/ HOT WATER & CHILLED WATER COILS

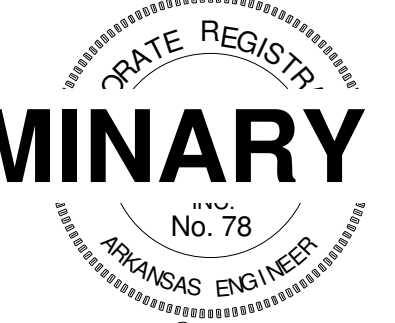
EQUIPMENT  
PROCUREMENT  
PACKAGE

#	Date	Description
		Revision History

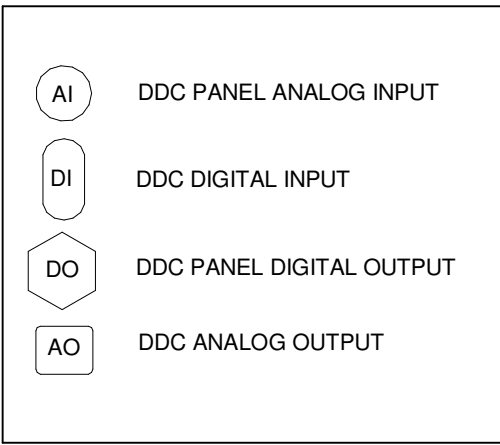
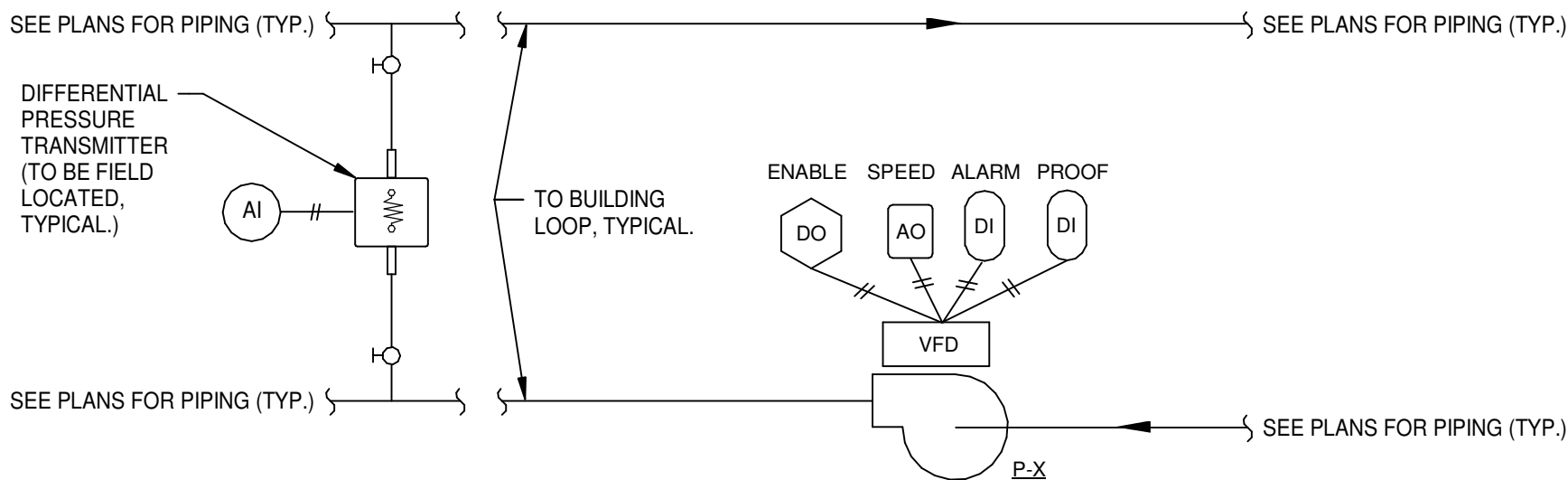
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SHEET NUMBER: M5.01  
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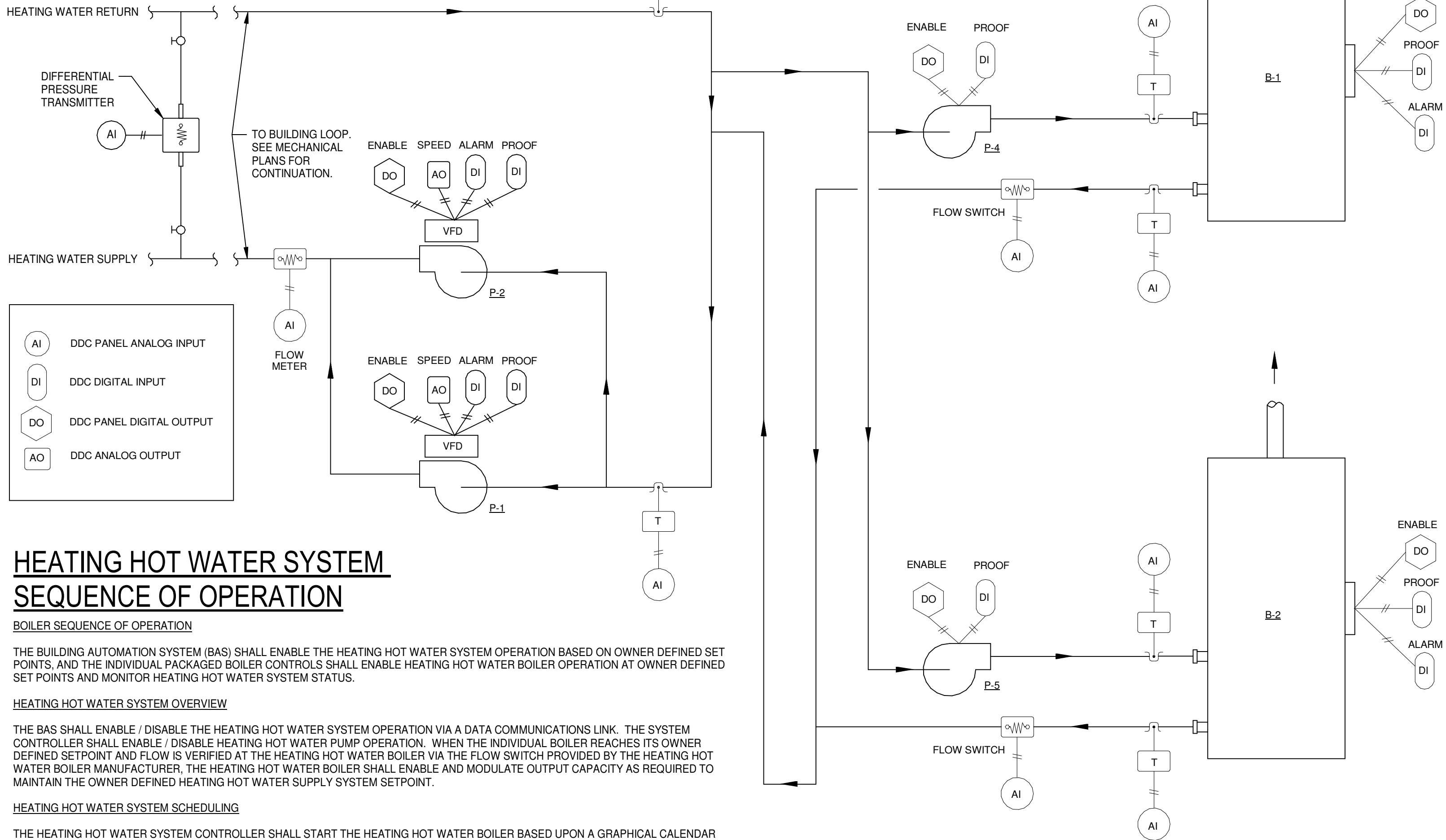


### TYPICAL PUMP SYSTEM SEQUENCE OF OPERATION

#### VARIABLE SPEED PUMPING SEQUENCE OF OPERATION

THE BAS SHALL MONITOR THE WATER DIFFERENTIAL PRESSURE SENSOR FOR THE SYSTEM SERVED. THE WATER PUMP SHALL BE ENABLED BY THE BAS CONTROLLER. WHEN ENABLED, THE WATER PUMP SHALL START AND SHALL RUN CONTINUOUSLY TO MAINTAIN THE DIFFERENTIAL PRESSURE SETPOINT. WHILE RUNNING, THE WATER PUMP VARIABLE FREQUENCY DRIVE SHALL MODULATE PUMP SPEED AS REQUIRED TO MAINTAIN THE WATER MINIMUM DIFFERENTIAL PRESSURE SETPOINT OF 15 PSI (ADJUSTABLE). IF, FOR ANY REASON, THE WATER PUMP FAILS TO START OR THE PUMP STATUS DOES NOT MATCH ITS COMMANDED VALUE, AN ALARM FOR THE FAILED PUMP SHALL BE GENERATED AT THE BAS WORKSTATION.

## 1 TYPICAL PUMP P-X SYSTEM CONTROL DIAGRAM



### HEATING HOT WATER SYSTEM SEQUENCE OF OPERATION

#### BOILER SEQUENCE OF OPERATION

THE BUILDING AUTOMATION SYSTEM (BAS) SHALL ENABLE THE HEATING HOT WATER SYSTEM OPERATION BASED ON OWNER DEFINED SET POINTS, AND THE INDIVIDUAL PACKAGED BOILER CONTROLS SHALL ENABLE HEATING HOT WATER BOILER OPERATION AT OWNER DEFINED SET POINTS AND MONITOR HEATING HOT WATER SYSTEM STATUS.

#### HEATING HOT WATER SYSTEM OVERVIEW

THE BAS SHALL ENABLE / DISABLE THE HEATING HOT WATER SYSTEM OPERATION VIA A DATA COMMUNICATIONS LINK. THE SYSTEM CONTROLLER SHALL ENABLE / DISABLE HEATING HOT WATER PUMP OPERATION. WHEN THE INDIVIDUAL BOILER REACHES ITS OWNER DEFINED SETPOINT AND FLOW IS VERIFIED AT THE HEATING HOT WATER BOILER VIA THE FLOW SWITCH PROVIDED BY THE HEATING HOT WATER BOILER MANUFACTURER, THE HEATING HOT WATER BOILER SHALL ENABLE AND MODULATE OUTPUT CAPACITY AS REQUIRED TO MAINTAIN THE OWNER DEFINED HEATING HOT WATER SUPPLY SYSTEM SETPOINT.

#### HEATING HOT WATER SYSTEM SCHEDULING

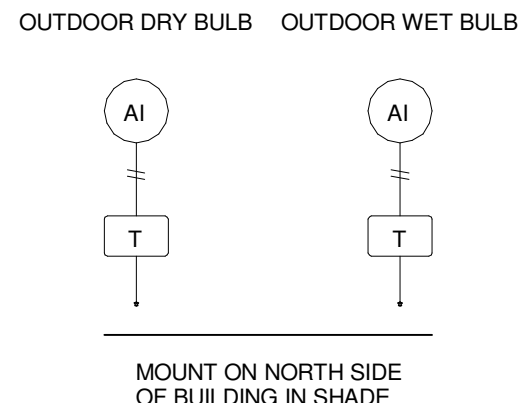
THE HEATING HOT WATER SYSTEM CONTROLLER SHALL START THE HEATING HOT WATER BOILER BASED UPON A GRAPHICAL CALENDAR TIME OF DAY SCHEDULING APPLICATION WITH THE OPTION TO USE OUTSIDE AMBIENT TEMPERATURE LOCKOUT. THE HEATING WATER PLANT SHALL START IN RESPONSE TO THE OPTIMUM START, NIGHT SETBACK, OR TIMED OVERRIDE OPERATION OF THE BUILDING AIR HANDLING UNITS.

#### HEATING HOT WATER BOILER SEQUENCE OF OPERATION

UPON A CALL FOR HEATING, THE INDIVIDUAL PACKAGED ON-BOARD BOILER CONTROLLERS SHALL ENABLE AND DISABLE HEATING HOT WATER BOILERS AS REQUIRED BY OWNER DEFINED SETPOINTS. THE PACKAGED ON-BOARD BOILER CONTROLS SHALL MODULATE FIRING RATE TO MAINTAIN THE SYSTEM LEAVING WATER TEMPERATURE SETPOINT OF 160 DEG. F (ADJ.).

#### VARIABLE SPEED PUMPING SEQUENCE OF OPERATION

THE BAS SHALL MONITOR THE HEATING HOT WATER DIFFERENTIAL PRESSURE SENSOR. THE HEATING HOT WATER SYSTEM CONTROLLER SHALL CYCLE THE SYSTEM HEATING HOT WATER PUMPS BETWEEN PRIMARY / STANDBY POSITIONS WEEKLY TO ENSURE EQUAL PUMP RUN TIME (OWNER SHALL BE ABLE TO OVERRIDE PUMP SEQUENCING). THE PRIMARY HEATING HOT WATER PUMP SHALL BE ENABLED BY THE HEATING HOT WATER SYSTEM CONTROLLER. WHEN ENABLED, THE PRIMARY HEATING HOT WATER PUMP SHALL START AND SHALL RUN CONTINUOUSLY. WHILE RUNNING, THE PRIMARY HEATING HOT WATER PUMP VARIABLE FREQUENCY DRIVE SHALL MODULATE PUMP SPEED AS REQUIRED TO MAINTAIN THE HEATING HOT WATER MINIMUM DIFFERENTIAL PRESSURE SETPOINT OF 15 PSI (ADJ.). IF, FOR ANY REASON, THE PRIMARY HEATING HOT WATER PUMP FAILS TO START OR THE PUMP STATUS DOES NOT MATCH ITS COMMANDED VALUE, THE STANDBY HEATING HOT WATER PUMP SHALL BE STARTED AUTOMATICALLY AND AN ALARM FOR THE FAILED PUMP SHALL BE GENERATED AT THE BAS WORKSTATION.



## 2 HEATING WATER SYSTEM CONTROL DIAGRAM

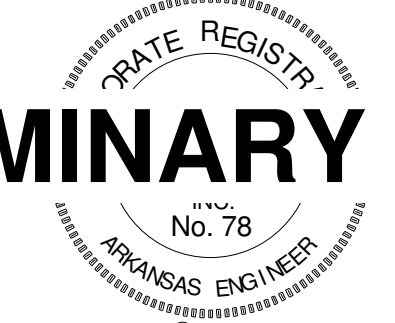
**EQUIPMENT  
PROCUREMENT  
PACKAGE**

#	Date	Description
Revision History		



**PRELIMINARY**

VERIFY SCALE  
INCH ON ORIGINAL DRAWING  
0 1"



Date: 7/29/2022  
Title: HVAC CONTROLS  
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**M5.02**  
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