HVAC				Minimum Pipe Insulation					
Piping System Types		Fluid Temperature Range		Insulation Thickness for Pipe Sizes*					
				Run-outs 2"** (51 mm)	1" (25 mm) and Less	1¼-2" (32-51mm)	2½-4" (63-102 mm)	5 & 6" (127-152 mm)	8" (203 mm) and Larger
		°C	°F	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)
Heating Systems Steam & Hot Water	High Pressure/ Temp	152-238	306-450	1.5 (38 mm)	2.5 (64 mm)	2.5 (64 mm)	3.0 (76 mm)	3.5 (89 mm)	3.5 (89 mm)
	Medium Pressure/ Temp	122-151	251-305	1.5 (38 mm)	2.0 (51 mm)	2.5 (64 mm)	2.5 (64 mm)	3.0 (76 mm)	3.0 (76 mm)
	Low Pressure/ Temp	94-121	201-250	1.0 (25 mm)	1.5 (38 mm)	1.5 (38 mm)	2.0 (51 mm)	2.0 (51 mm)	2.0 (51 mm)
	Low Temperature	49-93	120-200	0.5 (13 mm)	1.0 (25 mm)	1.0 (25 mm)	1.5 (38 mm)	1.5 (38 mm)	1.5 (38 mm)
	Steam Condensate (for Feed Water)	Any	Any	1.0 (25 mm)	1.0 (25 mm)	1.5 (38 mm)	2.0 (51 mm)	2.0 (51 mm)	2.0 (51 mm)
	Chilled Water	4.5-13	40-55	0.5 (13 mm)	0.5 (13 mm)	0.75 (19 mm)	1.0 (25 mm)	1.0 (25 mm)	1.0 (25 mm)
Cooling Systems	Refrigerant, or Brine	Below 4.5	Below 40	1.0 (25 mm)	1.0 (25 mm)	1.5 (38 mm)	1.5 (38 mm)	1.5 (38 mm)	1.5 (38 mm)

*For piping exposed to ambient temperatures, increase thickness by 0.5 in.
**Runouts to Individual Terminal Units (not exceeding 12 ft in length)

Heating Systems
Steam & Hot Water

Plumbing		Minimum Pipe Insulation							
		Insulation Thickness for Pipe Sizes							
		Non-circulating Runouts Up to 1" (25 mm)		Circulating Mains & Runouts					
Service Water Heating Temperatures				Up to 1¼" (32 mm)		1¼"-2" (38 mm-51 mm)		Over 2" (51 mm)	
°C	°F	in.	mm	in.	mm	in.	mm	in.	mm
76.5-82	170-180	0.5	13	1.0	25	1.5	38	2.0	51
60-71	140-160	0.5	13	0.5	13	1.0	25	1.5	38
38-54	100-130	0.5	13	0.5	13	0.5	13	1.0	25

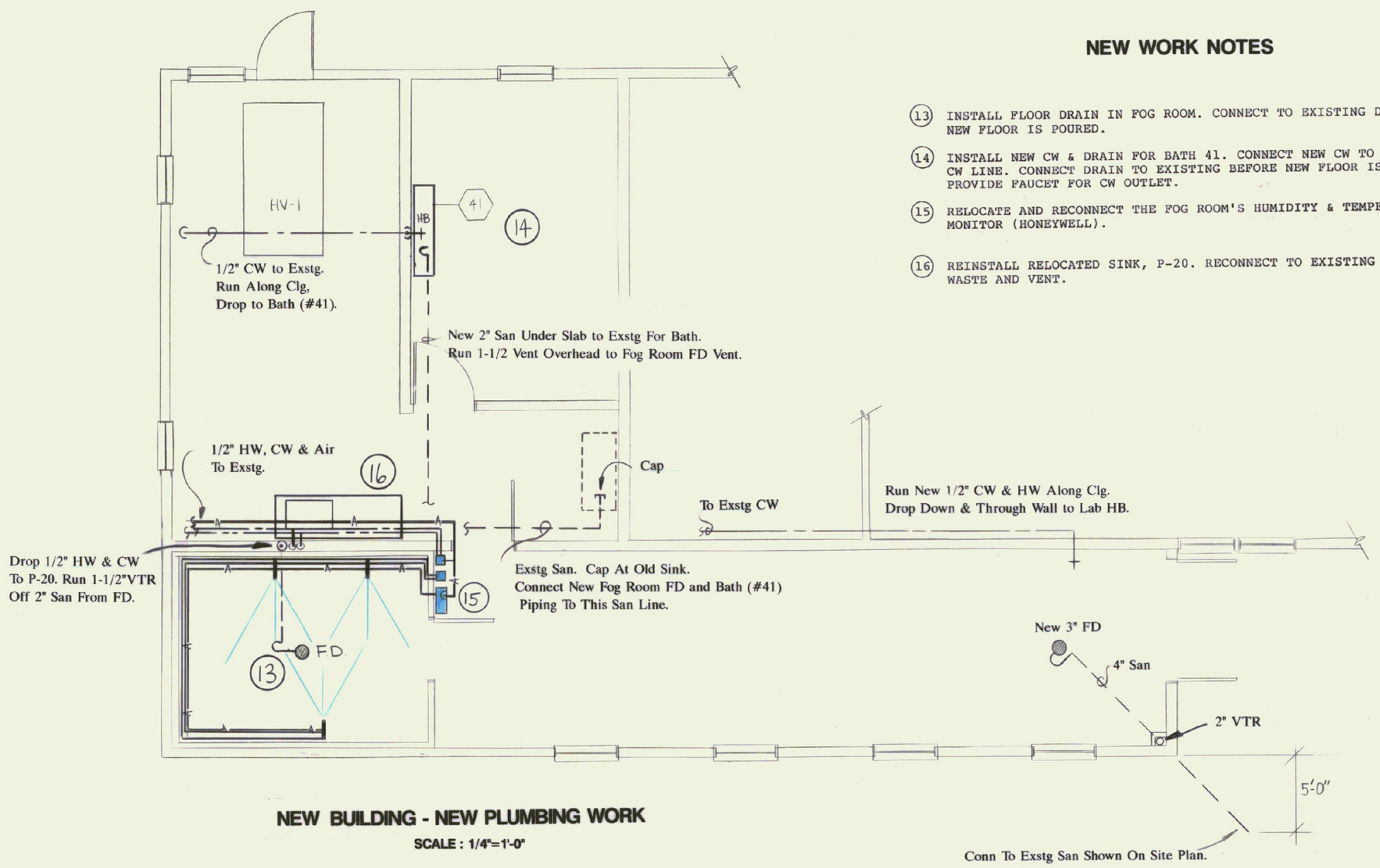
EQUIPMENT SCHEDULE

MARK	TYPE	MANUFACTURER	MODEL	CHARACTERISTICS	ELECTRICAL	NOTES
A	EXHAUST FAN	STANLEY	"S" SIZE 10	501 CFM @ 1/10" S.P. W/ SHUTTER & WALL BOX SIDE GUARDS	1/6 HP, 120 V 1 PH	DISCONN SW & SPEED CONTROL
B	EXHAUST FAN	BUFFALO	SA-10-F	CENTRIFUGAL UPBLAST 2000 CFM @ 1/2" ESP ARRANG. # 10, SINGLE INLET	3/4 HP, 208V, 3Ø 60HZ, 2094 RPM	① 200 LBS.
C	UNIT HEATER	McQUAY	UHH 016B	28,800 BTUH, 380 CFM 60° F. EAT, 123° F. FAT 2 PSI STEAM	1/60 HP, 120V, 1Ø, 0.6 A	

① Exhaust fan to be wired to operate when any one of the dust hoods (209, 211, 219) are in use.

REGISTER-LOUVER SCHEDULE

MARK	TYPE	MANUFACTURER	MODEL	CHARACTERISTICS	ELECTRICAL	NOTES
A	SUPPLY REGISTER	METALAIRE	VHD	14" x 10" - DOUBLE DEFLECTION W/ OBD 525 CFM, 500 FPM, 20NC		ALUM. FIN.
B	SUPPLY LOUVER	ARROW	BL 245	48" X 24" 4" DEEP STATIONARY W/BIRD SCREEN AND FLANGE		ALUM. FIN



NEW BUILDING - NEW PLUMBING WORK

SCALE : 1/4"=1'-0"

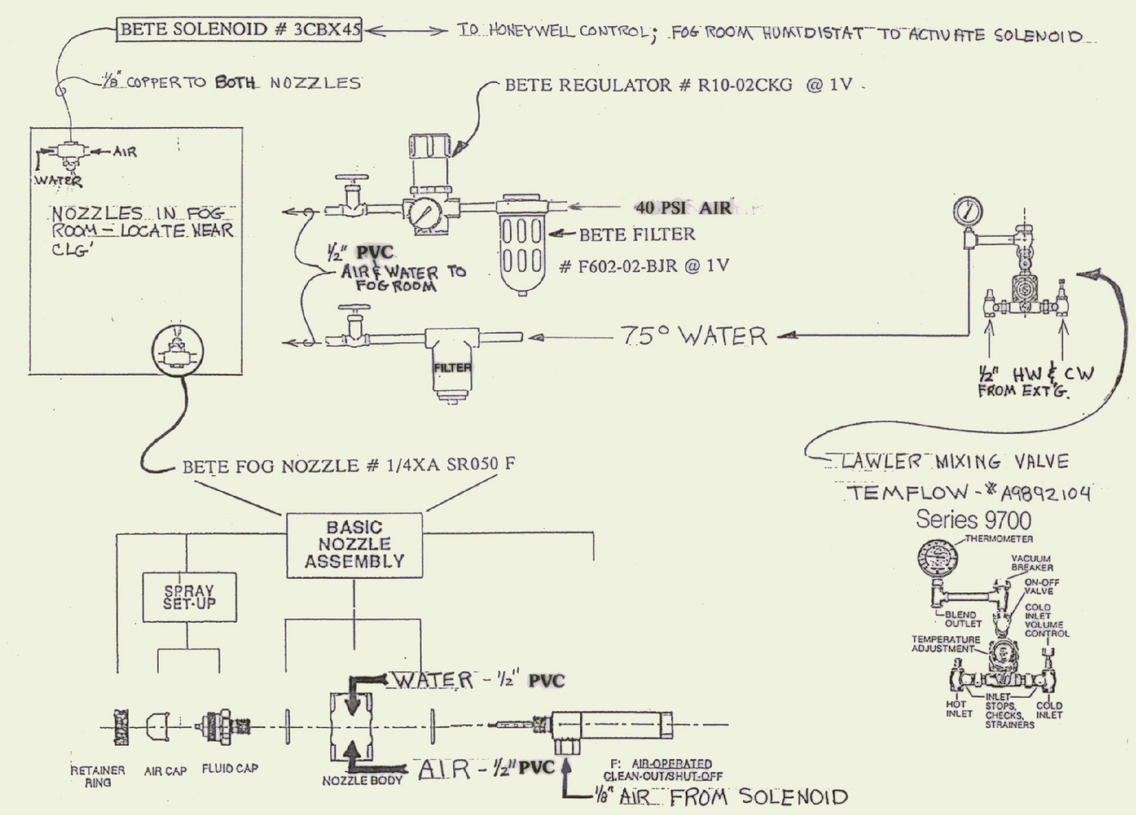
NEW WORK NOTES

(13) INSTALL FLOOR DRAIN IN FOG ROOM. CONNECT TO EXISTING DRAIN BEFORE NEW FLOOR IS POURED.

(14) INSTALL NEW CW & DRAIN FOR BATH 41. CONNECT NEW CW TO EXISTING CW LINE. CONNECT DRAIN TO EXISTING BEFORE NEW FLOOR IS POURED. PROVIDE FAUCET FOR CW OUTLET.

(15) RELOCATE AND RECONNECT THE FOG ROOM'S HUMIDITY & TEMPERATURE MONITOR (HONEYWELL).

(16) REINSTALL RELOCATED SINK, P-20. RECONNECT TO EXISTING CW, HW, WASTE AND VENT.



FOG ROOM HUMIDITY AND TEMPERATURE CONTROL & PIPING DETAILS

MECHANICAL CONSULTANT								
GWR ENGINEERING, P.C. Consulting Engineer P.O. Box 157 SHELBURNE, VERMONT 05482 TEL: (802) 985-9061 FAX: (802) 985-8499	STATE OF VERMONT GORDON W. R. PATTEE No. 1850 REGISTERED PROFESSIONAL ENGINEER Gordon W. Pattee		State of Vermont Department of State Buildings John Zampieri, Commissioner	Materials & Research Laboratory Berlin, VT		Janson Design, Inc. FRED KEIL, ARCHITECT P.O. BOX 55 – BOLTON ROAD, WATERBURY, VT 05676 (802) 244-5800 Architect's Project No. 247		DATE: 10-10-89 DWG. NO. M-2