GENERAL NOTES - REMOVALS

A. ALL WORK IS SHOWN DIAGRAMMATIC, AND ACTUAL SITE CONDITIONS MUST BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

B. REMOVE ALL EQUIPMENT, PIPING, AND DUCTWORK SHOWN DASHED.

C. THIS CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED TO COMPLETE THIS WORK UNLESS OTHERWISE NOTED. ALL PATCHING AND PAINTING MUST EXACTLY MATCH EXISTING CONDITIONS.

D. EVERY EFFORT HAS BEEN MADE TO INDICATE ALL EQUIPMENT THAT IS BEING REMOVED THROUGH EXISTING DRAWINGS AND FIELD OBSERVATIONS, HOWEVER THE CONTRACTOR IS TO VISIT THE SITE PRIOR TO BIDDING AND VERIFY ALL REMOVALS, SOME DIFFERENCES MAY OCCUR.

E. THIS CONTRACTOR SHALL FIELD VERIFY ALL EXISTING EQUIPMENT AND PIPING LOCATIONS, PIPE SIZES, AND COORDINATE WITH ALL OTHER TRADES.

F. RE-USE EXISTING FLOOR/WALL/ROOF PENETRATIONS WHERE POSSIBLE. PROVIDE NEW PENETRATIONS AS REQUIRED. ALL OPEN PENETRATIONS THROUGH FLOOR AND OR WALLS SHALL BE SEALED OR PATCHED.

G. THIS CONTRACTOR SHALL REMOVE ALL PIPING, VALVES, SPECIALTIES AND CONTROLS ASSOCIATED WITH EACH PIECE OF EQUIPMENT TO BE REMOVED.

H. IF EXISTING HV UNIT, UNIT VENTILATOR, OR ANY OTHER MECHANICAL SYSTEM IS TO BE REMOVED, MC WILL REMOVE ALL ACCESSORIES, HANGERS, SUPPORTS AND EXISTING ROOM SENSORS/THERMOSTATS AND TERMINATE ALL EXISTING WIRES NOT USED IN JUNCTION BOX. ANY HOLES/OPENINGS OF OLD ROOM SENSORS SHALL BE COVERED WITH BLANK STAINLESS STEEL PLATES.

I. THIS CONTRACTOR SHALL REMOVE AND RE-INSTALL ALL CEILINGS AS REQUIRED TO COMPLETE HIS WORK. ANY DAMAGE TO THE EXISTING CEILING AS A RESULT OF THIS WORK SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR.

J. ALL EQUIPMENT REMOVED IS PROPERTY OF THE OWNER. IF THE OWNER DEEMS EQUIPMENT "UNSALVAGEABLE" THE CONTRACTOR IS TO DISPOSE OF IT IN A PROPER MANNER.

K. ALL EQUIPMENT TO BE REMOVED SHALL HAVE ALL ACCESSORIES AND SUPPORTS REMOVED WITH IT, WHETHER INDICATED OR NOT. IN ADDITION, UNLESS OTHERWISE NOTED, ANY REFRIGERANT CONTAINING EQUIPMENT THAT IS SHOWN FOR REMOVAL SHALL HAVE ALL REFRIGERANT EVACUATED FROM THE SYSTEM AND PROPERLY DISPOSED OF AND ALL REFRIGERANT PIPING REMOVED FROM THE SITE.

L. ANY EQUIPMENT, PIPING, OR DUCTWORK THAT HAS BEEN REMOVED IN THE PROJECT AND HAS LEFT AN OPENING, ANCHOR POINT, OR OTHER IMPERFECTION IN A FLOOR, WALL, OR ROOF SHALL HAVE THE OPENINGS AND VOIDS INFILLED TO MATCH EXISTING CONDITIONS.

GENERAL INSTALLATION NOTES

A. ALL WORK IS SHOWN DIAGRAMMATIC. FIELD VERIFY ALL EXISTING SITE CONDITIONS, PIPING, DUCTWORK, UNIT LOCATIONS ETC. PRIOR TO THE COMMENCEMENT OF WORK.

B. THIS CONTRACTOR TO VISIT JOB SITE BEFORE BID DATE TO VERIFY ALL EXISTING CONDITIONS INDICATED. IT IS THE RESPONSIBILITY OF THE MC TO VERIFY ALL EXISTING QUANTITIES FOR REPLACEMENT/RECONDITIONING ETC. COORDINATE ALL DUCTWORK, PIPING AND EQUIPMENT LOCATIONS WITH ALL OTHER TRADES.

C. INSTALL NEW SUPPLY DIFFUSERS, REGISTERS, AND EXHAUST GRILLES INTO NEW CEILING GRID AVOIDING LIGHTS, AT APPROXIMATE LOCATIONS SHOWN.

D. ALL RECTANGULAR DUCTWORK BRANCH CONNECTIONS TO HAVE A 45 DEGREE CINCH COLLAR WITH AN INTEGRAL VOLUME DAMPER. ALL ROUND DUCTWORK BRANCH CONNECTIONS TO HAVE A HIGH EFFICIENCY FITTING WITH AN INTEGRAL VOLUME DAMPER.

E. PROVIDE TURNING VANES IN ALL SUPPLY DUCTS COMING OUT OF ROOF-TOP UNITS AND ALL 90 DEG ELBOWS, WHETHER SHOWN OR NOT.

F. PROVIDE ACCESS DOORS FOR ALL FIRE DAMPERS AND DUCT COILS UNLESS OTHERWISE NOTED.

G. PROVIDE A MINIMUM SIZE ACCESS DOOR OF 24"x24" ON ALL FIRE AND FIRE/SMOKE DAMPERS UNLESS NOT PERMITTED BY DUCT SIZE.

H. RE-USE EXISTING FLOOR/SLAB/ROOF PIPING PENETRATIONS WHEREVER POSSIBLE. MC RESPONSIBLE FOR ENLARGING OR MODIFYING EXISTING PENETRATIONS AS REQUIRED TO ACCOMMODATE NEW PIPING.

I. ALL NEW PENETRATIONS FOR PIPING, DUCTWORK OR TO COMPLETE HIS WORK ARE BY THE MC. ALL OPENINGS THAT ARE BY THE GC ARE NOTED ON THESE DRAWINGS OR THE GC DRAWINGS.

J. PROVIDE ADDITIONAL STRUCTURAL STEEL AND HANGERS AS REQUIRED TO INSTALL AND SUPPORT HVAC EQUIPMENT.

K. IN GENERAL, ALL DUCTWORK IS TO BE TIGHT TO JOISTS AND MC IS TO COORDINATE DUCTWORK ELEVATIONS WITH ALL OTHER TRADES.

L. WHERE PIPING IS REMOVED AND NOT REPLACED, THIS CONTRACTOR SHALL PATCH THE AREAS TO MATCH EXISTING CONDITIONS. ALL PATCHING AND PAINTING MUST EXACTLY MATCH EXISTING CONDITIONS.

M. ALL AREAS WHERE PIPING IS REMOVED AND NOT REPLACED, THIS CONTRACTOR SHALL PATCH THE AREAS TO MATCH EXISTING CONDITIONS.

N. REFER TO PIPING SCHEMATICS FOR DETAILED PIPING INFORMATION FOR BOTH THE HEATING AND DOMESTIC HOT WATER SYSTEMS.

O. NO VALVES SHALL BE PLACED ABOVE/BEHIND DUCTWORK OR IN AN INACCESSIBLE LOCATION.

P. ALL WORK IS SHOWN DIAGRAMMATIC, IF OFFSETS OR TRANSITIONS IN DUCTWORK ARE REQUIRED FOR SITE CONDITIONS, TO MAINTAIN ARCHITECTS CEILING HEIGHTS AND/OR COORDINATION WITH OTHER TRADES IT IS THE RESPONSIBILITY OF THE MC. ADDITIONALLY, IF A TRANSITION FROM ANY TYPE OF AIR HANDLING UNIT TO THE DUCTWORK SIZE INDICATED IS REQUIRED, IT IS THE RESPONSIBILITY OF THE MC, WETHER THE TRANSITION IS SHOWN OR NOT.

Q. REFER TO STRUCTURAL DRAWINGS FOR FINAL LOCATIONS OF UNITS AND PENETRATIONS THROUGH DECKS. STRUCTURAL DRAWINGS ARE TO TAKE PRECEDENCE OVER DUCTWORK DRAWINGS FOR LOCATIONS. ANY OFFSETS OR TRANSITIONS IN DUCTWORK REQUIRED FOR COORDINATION WITH STEEL IS THE RESPONSIBILITY OF THE MC.

R. IT IS NOT THE INTENT OF THE DRAWINGS TO SHOW ALL AIR VENTS OR DRAINS ON THE PIPING SYSTEMS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL NECESSARY AIR VENTS AT HIGH POINTS WHICH COULD ACCUMULATE AIR WHICH WOULD PREVENT THE PROPER OPERATION OF THE HWS&R AND CHWS&R PIPING. DRAINS SHALL BE PROVIDED AT LOW POINTS IN THE SYSTEM TO FACILITATE THE DRAINING OF HWS&R AND CHWS&R PIPING.

S. ALL WORK IS SHOWN DIAGRAMMATIC, IF ELBOWS OR CHANGES IN PIPING ELEVATION ARE REQUIRED FOR SITE CONDITIONS, TO MAINTAIN ARCHITECTS CEILING HEIGHTS AND/OR COORDINATION WITH OTHER TRADES IT IS THE RESPONSIBILITY OF THE MC.

T. UNLESS NOTED ON THE EC OR TC DRAWINGS, THIS CONTRACTOR IS FULLY RESPONSIBLE TO PROVIDE ALL WIRING OR ANY FINAL CONNECTIONS FOR ANY MECHANICAL EQUIPMENT TO MAKE THAT UNIT FULLY OPERATIONAL.

U. INSTALLATION OF ROOF TOP DUCTWORK SHALL BE ACCORDING TO SPECIFICATION SECTION 233330, ITEM 2.15. DUCT LINER INSTALLATION SHALL BE ACCORDING TO SPECIFICATION SECTION 233330 ITEM 2.11. ALSO REFER TO SECTION 230005, ITEM 1.17 FOR STORAGE OF MATERIALS.

GENERAL NOTES - TEMPERATURE CONTROLS

A. WIRE ALL LOW VOLTAGE, LINE VOLTAGE CONTROL, AND COMMUNICATIONS CABLING FOR A COMPLETE FULLY OPERATIONAL SYSTEM. COORDINATE WITH HEATING CONTRACTOR & ELECTRIC CONTRACTOR WHERE REQUIRED FOR ALL INTERFACES.

B. CONTROL PANELS ARE NOT SHOWN ON THE DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR PROVIDING PROPER QUANTITIES OF PANELS TO MEET I/O SCHEDULE & DIAGRAM I/O. RISER DIAGRAMS ARE FOR INFORMATION ONLY & MAY NOT INDICATE ALL PANELS. ADDITIONALLY, SOME JOBS MAY HAVE LINE VOLTAGE POWER PROVIDED BY THE EC IN POSSIBLE PANEL LOCATIONS. THE TC SHALL REVIEW THESE PRIOR TO BID AND SHALL PROVIDE ANY ADDITIONAL LOCATIONS FOR POWER UNDER HIS CONTRACT AND WITHIN THE TC BID.

C. LOCATE ALL BUILDING CONTROLLERS ON THE SUBMITTAL SO THAT C.C. CAN FURNISH A DATA DROP IN THAT SPACE. T.C. TO COORDINATE WITH E.C..

D. IN ROOMS THAT HAVE A HARD CEILING TC SHALL PROVIDE RACEWAY FOR HIS WIRING. THERE SHALL BE NO EXPOSED CONTROL WIRING IN A OCCUPIED SPACE.

E. TEMPERATURE CONTROL VALVES: SIZE VALVES PER CHART IN SPECIFICATION SECTION WITH MAXIMUM DELTA P OF 3PSI.

F. WHERE ANY THERMOSTAT THAT IS REMOVED, THE WALL SHALL BE PATCHED AND PAINTED TO MATCH THE EXISTING.

G. CONTRACTOR TO COORDINATE THERMOSTAT LOCATIONS WITH APPROVED FURNITURE LAYOUT.

GENERAL

	REMOVE / CONNECT TO
1	REMOVAL NOTE TAG
1	INSTALLATION NOTE TAG
	PIPING BREAK
	EDGE BREAK LINE
	OFFSET FOR CLARITY
0'-0"	DUCT WORK ELEVATION

DUCTWORK AND FITTINGS

	DUCTWORK W / INTERNAL LINER
	DUCTWORK UNLINED
	TURNING VANES
DN UP	RECTANGULAR SUPPLY ELBOW
DN UP	RECTANGULAR RETURN/EXHAUST ELBOW
RND SQ	SQUARE TO ROUND TRANSITION
	HIGH EFFICIENCY TAKE-OFF W / INTEGRAL DAMPER
	VOLUME DAMMPER
A.D.	FIRE DAMPER W / ACCESS DOOR
A.D.	FIRE/SMOKE DAMPER W / ACCESS DOOR
A.D. A.D.	DUCT ACCESS DOOR
	FLEXIBLE DUCTWORK (6" MAX)
	FLEXIBLE COLLAR
(LENGTH)x (HEIGHT)	RECTANGULAR DUCT DESIGNATION
(DIAMETER)"Ø	ROUND DUCT DESIGNATION
(MAJOR AXIS)" / (MINOR AXIS)	FLAT OVAL DUCT DESIGNATION
	ROOF MOUNTED EXHAUST FAN
	4 - WAY SUPPLY DIFFUSER
	2 - WAY SUPPLY DIFFUSER
	RETURN AIR GRILLE
	BACKDRAFT DAMPER (BD-1,2)
S	SMOKE DETECTOR FURNISHED AND WIRED BY EC, INSTALLED BY MC

FITTINGS & ACCESSORIES

	PIPE ELBOW DOWN
	PIPE ELBOW UP
	PIPE TEE DOWN
	PIPE UNION
	PIPE REDUCER
	CAP - SCREWED
	PIPE FLANGE
	PIPE STRAINER W / BLOW DOWN
	PIPE ANCHOR
	MANUAL AIR VENT
	PRESSURE GUAGE W / SNUBBER
	TEMPERATURE GUAGE
	PIPE ISOLATION JOINT
	RELIEF VALVE (RV)

PIPING

	PIPING BEING REMOVED
EXR	EXISTING PIPING TO REMAIN
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
PGHWS	PROPYLENE GLYCOL HOT WATER SUPPLY
PGHWR	PROPYLENE GLYCOL HOT WATER RETURN
RS	REFRIGERANT SUCTION LINE
RL	REFRIGERANT LIQUID LINE
HGB	HOT GAS BYPASS REFRIGERANT LINE

VALVES

	BALL VALVE(BV)
	BUTTERFLY OR WAFER VALVE(WV)
	GATE VALVE(GV)
	GLOBE VALVE(GLV)
	CHECK VALVE(CKV)
	CONTROL VALVE (2-WAY)
	CONTROL VALVE (3-WAY)
	BALANCING VALVE(CBV)
	TRIPLE DUTY VALVE (TDV)
	FLOW CONTROL VALVE(FCV)
D.V.	DRAIN VALVE ASSEMBLY(SS)

PIPE SIZING

0-2 GPM	3/4" COPPER
3-5 GPM	1" COPPER
6-8 GPM	1-1/4" COPPER
9-14 GPM	1-1/2" COPPER
15-30 GPM	2" COPPER
31-50 GPM	2-1/2" STEEL
51-90 GPM	3" STEEL
91-200 GPM	4" STEEL
201-500 GPM	6" STEEL

TEMP CONTROL SYMBOLS

E	LINE VOLTAGE BY T.C.
e	LOW VOLTAGE WIRING BY T.C.
+	WIRING BY DIV #26(EC)
	CONDUCTORS
	CURRENT FLOW SWITCH (STATUS)CFS-1
	CONTROL RELAY CR-1
	CARBON DIOXIDE SENSOR CDS-1, CDS-2
	DUCT SENSOR, SPS-1
	DAMPER - OPPOSED BLADE D-1
	DAMPER - PARALLEL BLADE D-2
ME	DAMPER ACTUATOR ME-1,-2,3
DP	DIFFERENTIAL PRESSURE SWITCH - DPT-1,1A
ES-1	END SWITCH ES-1
FS	FLOW SWITCH FS-1
	HORN
	HUMIDITY SENSOR DUCT MOUNTED HSR
LC-1	LOW TEMERATURE CUT OUT MANUAL RESET LC-1
	MOTOR STARTER
M	MOTION SENSOR MS-1, MDS-1, MDS-2
M	MOTOR
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
	PROGRAM CLOCK
P	PILOT LIGHT
START	START PUSH BUTTON
STOP	STOP PUSH BUTTON
	STATIC PRESSURE FILTER ALARM - DPS-1
	STATIC PRESSURE NETWORK SENSOR SPNL-1
	STATIC PRESSURE SENSOR SPS-1
	SWITCH
	TWO WAY VALVE CVF, CVT
	THREE WAY VALVE CVM, CVT, CVZM
	TEMPERATURE SENSOR ITS, ITS-1
	TEMPERATURE SENSOR AVERAGING TSDA
	TEMPERATURE SENSOR TSD
	TEMPERATURE CONTROL POINT
	TEMPERATURE CONTROL PANEL TCP
	TRANSFORMER - XT-1
H T	THERMOSTAT W / GUARD TSB, TSR
H H	HUMIDITY SENSOR W / GUARD HSTS
	VARIABLE AIR VOLUME MODULAR ASSEMBLY VMA
VFD	VARIABLE FREQUENCY DRIVE
ECM	ECM (ELECTRICALLY COMMUTATED MOTOR)

ABBREVIATIONS

A	AIR OR COMPRESSED AIR
AC	AIR CONDITIONING
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
APD	AIR PRESSURE DROP AUTOMATIC
ATC	TEMPERATURE CONTROL
ATM	ATMOSPHERE
ACCU	AIR COOLED CONDENSING UNIT
ADJ	ADJUSTABLE
BD	BACKDRAFT DAMPER
BHP	BRAKE HORSEPOWER
BOD	BOTTOM OF DUCT
BMS	BUILDING MANAGEMENT SYSTEM
BC	BOOKCASE
CH	CABINET HEATER
CFM	CUBIC FEET PER MINUTE
CT	COOLING TOWER
CH	CABINET UNIT HEATER
CD	CONTROL DAMPER
DB	DRY BULB
DEG	DEGREE
DDC	DIRECT DIGITAL CONTROL
DP	DIFFERENTIAL PRESSURE
DAC	DUCTLESS SPLIT A/C UNIT
DCU	DUCTLESS SPLIT CONDENSING UNIT
DHU	DEHUMIDIFYING UNIT
DS	DUCT SILENCER
EA	EXHAUST AIR
EC	ELECTRICAL CONTRACTOR
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
EMS	ENERGY MANAGEMENT SYSTEM
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
EXR	EXISTING TO REMAIN
ERL	EXISTING TO BE RELOCATED
ERU	ENERGY RECOVERY UNIT
EG	EXHAUST GRILL
F	FAHRENHEIT
FA	FREE AREA
FCU	FAN COIL UNIT
FRD-B/A	FIRE DAMPER
FRD-S	FIRE/SMOKE DAMPER
FLA	FULL LOAD AMPS
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOW SWITCH
FTR	FIN TUBE RADIATION
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
HV	HEATING & VENTILATING UNIT
HD	HEAD
HP	HORSEPOWER
HRU	HEAT RECOVERY UNIT
HTG	HEATING
HP	HEAT PUMP UNIT
HZ	HERTZ (CYCLES PER SECOND)
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
MAT	MIXED AIR TEMPERATURE
MBH	1000 BTU/HR
MC	MECHANICAL CONTRACTOR
MUA	MAKE UP AIR
MCA	MINIMUM CIRCUIT AMPACITY
MOP/ MOCP	MAXIMUM OVERCURRENT PROTECTION
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NOM	NOMINAL
OA	OUTSIDE AIR
OD	OUTSIDE DIAMETER
ODP	OPEN DRIP PROOF
OV	OPEN VELOCITY
OAT	OUTSIDE AIR TEMPERATURE
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQ IN
RESR	ROOF EQUIPMENT SUPPORT RAIL
RH	ROOF HOOD
RTU	ROOFTOP UNIT
RA	RETURN AIR
RET	RETURN
RH	RELATIVE HUMIDITY
RPM	REVOLUTIONS PER MINUTE
SAT	SUPPLY AIR TEMPERATURE
SF	SUPPLY FAN
SCV	SELF CONTAINED VALVE
SA	SUPPLY AIR
SP	STATIC PRESSURE
SG	SUPPLY GRILL
T	TEMPERATURE OR THERMOSTAT
TEMP	TEMPERATURE
TON	12,000 BTUH (COOLING CAPACITY)
TSB	TEMPERATURE SENSOR BUTTON TYPE
TSR	TEMPERATURE SENSOR W/DISPLAY
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
TC	TEMPERATURE CONTROL CONTRACTOR
UV	UNIT VENT
UH	UNIT HEATER
UC	UTILITY COMPARTMENT
V	VOLTS
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VEL	VELOCITY
VFD	VARIABLE FREQUENCY DRIVE
VFC	VARIABLE REFRIGERANT FAN COIL
WB	WET BULB TEMPERATURE
WG	WATER GAGE
WPD	WATER PRESSURE DROP

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Seal:

Alterations to Administration Building

Peekskill City School District
Peekskill, New York

Revision :
ISSUED FOR BID
05/21/2025

NOTES AND SYMBOLS

Drawn by : MLB
Date : 10/11/2024
APN : 2224-2A

Drawing Title :

Drawing Number :

M 001

SED NUMBERS:
■ Administration Building: 66-15-09-01-0-009-013
BEFORE WORK IS STARTED, CONTRACTOR SHALL VERIFY ALL THE DIMENSIONS AT THE SITE AND IMMEDIATELY NOTIFY THE ARCHITECT OF ALL DISCREPANCIES.

VRF SYSTEM SCHEDULE

FAN COIL UNIT PERFORMANCE (INDOOR)																			SINGLE PORT BRANCH SELECTOR PERFORMANCE (INDOOR)												
TAG	SERVICE	MODEL NO.	TYPE	SUPPLY (CFM)	MIN. O.A. (CFM)	COOLING CAPACITY (MBH)		HEATING CAPACITY (MBH)	REF. LINE SIZES (IN.)		SOUND PRESSURE (dBA)	WEIGHT (LBS)	ELECTRICAL DATA				NOTES		TAG	MODEL NO.	TONS	REF. LINE SIZES (IN.)		SOUND PRESSURE (dBA)	WEIGHT (LBS)	ELECTRICAL DATA				NOTES
						TOTAL	SENS.		LIQUID	SUCTION			VOLT	PHASE	MCA	MOP						LIQUID	SUCTION			VOLT	PHASE	MCA	MOP	
VRFC-1	101	FXSQ30TAVJU	FAN COIL	800	300	30	22.6	34	3/8	5/8	38	82	208	1	1.8	15	1,2,3,4,5,11		BS-1	BSQ60TAVJ	5	3/8	5/8	41	27	208	1	0.1	15	7,8
VRFC-2	101	FXSQ30TAVJU	FAN COIL	800	300	30	22.6	34	3/8	5/8	38	82	208	1	1.8	15	1,2,3,4,5,11													
VRFC-3	102	FXSQ30TAVJU	FAN COIL	600	235	30	22.6	34	3/8	5/8	38	82	208	1	1.8	15	1,2,3,4,5,11		BS-2	BSQ60TAVJ	5	3/8	5/8	41	27	208	1	0.1	15	7,8
VRFC-4	102	FXSQ30TAVJU	FAN COIL	600	235	30	22.6	34	3/8	5/8	38	82	208	1	1.8	15	1,2,3,4,5,11													
VRFC-5	103	FXSQ30TAVJU	FAN COIL	700	255	30	22.6	34	3/8	5/8	38	82	208	1	1.8	15	1,2,3,4,5,11		BS-3	BSQ60TAVJ	5	3/8	5/8	41	27	208	1	0.1	15	7,8
VRFC-6	103	FXSQ30TAVJU	FAN COIL	700	255	30	22.6	34	3/8	5/8	38	82	208	1	1.8	15	1,2,3,4,5,11													

NOTES:
1. PROVIDE CEILING UNIT AS MANUFACTURED BY DAIKIN; OR APPROVED EQUAL.
2. PROVIDE WIRED REMOTE CONTROLLER.
3. EC TO PROVIDE SEPARATE POWER FOR CONDENSATE PUMP.
4. PROVIDE MANUFACTURER'S CONDENSATE PUMP.
5. PROVIDE CEILING MOUNTED MANUFACTURERS THERMOSTAT.
6. FURNISH WITH LOW AMBIENT CONTROLS.
7. EC TO PROVIDE DISCONNECT.
8. PROVIDE BACNET INTERFACE.
9. MODULES TO BE INSTALLED 1" APART.
10. PROVIDE MANUFACTURERS SNOW / WIND HOOD.
11. PROVIDE FILTER BOX AND MERV 13 FILTER. DUE TO CONCRETE BEAMS, PROVIDE FILTER BOX WITH ACCESS ON BOTTOM.

VRF SYSTEM SCHEDULE

CONDENSING UNIT PERFORMANCE (OUTDOOR)																				MANUFACTURER
TAG	MODEL NO.	TONS	COOLING CAPACITY (MBH) RATED/NOM	RATED COOLING CONDITIONS		HEATING CAPACITY (MBH) RATED/NOM	RATED HEATING CONDITIONS		REF. LINE SIZE (IN.)		MIN. EFFICIENCY (EER)	SOUND PRESSURE (dBA)	WEIGHT (LBS)	SPPP ELECTRICAL DATA				NOTES		
				INDOOR (°F DB/WB)	AMBIENT (°F DB/WB)		INDOOR (°F DB/WB)	AMBIENT (°F DB/WB)	LIQUID	SUCTION				VOLT	PHASE	MCA	MOP			
ACCU-1 (A & B)	RELQ144TBTJA (x2)	12	138 / 144	80 / 67	95 / 75	138 / 162	70 / 60	47 / 43	1/2	1-1/8	11.4	63	727	230	3	121.6	125	6,7,8		DAIKIN

ENERGY RECOVERY UNIT

TAG	SUPPLY AIRFLOW (CFM)	RETURN (CFM)	MN. O.A. (CFM)	EXHAUST (CFM)	RECIRCULATED AIR @ MIN. O.A. (CFM)	SUPPLY FAN				EXHAUST FAN				SUMMER (TOTAL ENERGY SAVED)			WINTER (TOTAL ENERGY SAVED)			ELECTRICAL DATA				MAXIMUM WEIGHT (LBS.)	MAXIMUM DIMENSIONS LxWxH (IN.)	MANUFACTURER & MODEL NO.	NOTES
						E.S.P. (IN. W.G.)	H.P.	FAN SPEED (RPM)	FILTERS	E.S.P. (IN. W.G.)	H.P.	FAN SPEED (RPM)	FILTERS	SEN (MBH)	LAT (MBH)	TOTAL (MBH)	SEN (MBH)	LAT (MBH)	TOTAL (MBH)	VOLTS	PHASE	MCA	MOP				
ERV-1	2050	2050	2050	2050	0	1	2.0	1545	MERV-13	1	2.0	1539	MERV-8	23.8	22.7	46.5	111.1	22.5	133.6	208	3	14.9	20	999	61.5" x 50.75" x 62"	RENEWAIRE # HE-3XJINV-D35VV--DVNTF--L	1,2,3,4,5

NOTES:
1. PROVIDE UNIT WITH VFD SUPPLY AND EXHAUST FAN MOTORS WITH POTENTIOMETER SPEED CONTROL.
2. EC TO PROVIDE DISCONNECT.
3. PROVIDE FACTORY MOUNTED MOTORIZED DAMPERS.
4. UNIT TO BE INSTALLED UPSIDE DOWN. ALL EQUIPMENT AND CONTROLS TO BE ADJUSTED ACCORDINGLY.
5. UNIT TO FIT THROUGH STANDARD DOOR.

CABINET HEATER SCHEDULE

TAG	MODEL	SIZE	MOUNTING	HEATING DATA								ELECTRICAL DATA				MANUFACTURER	NOTES
				CFM	MBH	E.W.T. (°F)	L.W.T. (°F)	FLOW RATE (GPM)	W.P.D. (FT.)	FLUID	ROWS	HP	AMP	VOLT	PHASE		
CH-1	RC-1200	4	CEILING	420	35	180	150	2.3	0.5	HW	2	1/10	1.4	120	1	STERLING	1,2,3,4
CH-2	RC-1200	6	CEILING	620	53	180	150	3.5	1.4	HW	2	1/10	1.4	120	1	STERLING	1,2,3,4

NOTES:
1. PROVIDE UNIT WITH FACTORY MOUNTED AND WIRED TOGGLE-TYPE DISCONNECT SWITCH.
2. ARCHITECT TO SELECT COLOR.
3. PROVIDE COIL CONNECTION SIDE PER DRAWINGS.
4. FURNISH CABINET HEATER WITH FACTORY MOUNTED AND WIRED SOLID STATE SPEED CONTROL - SET AIRFLOW TO SCHEDULED VALUE.

ELECTRIC CABINET HEATER SCHEDULE

TAG	MODEL	ARRANGEMENT	MOUNTING	LENGTH	HEATING DATA				ELECTRICAL DATA		MANUFACTURER	NOTES
					CFM	MBH	KW	TEMP RISE (°F)	VOLT	PHASE		
ECH-1	HF3385D-RP	-	CEILING	19.5"	175	7.6	2.3	54	208	1	MARKEL	1,2,3,4,5,6
ECH-2	HF3384D-RP	-	CEILING	19.5"	175	5.1	1.5	36	208	1	MARKEL	1,2,3,4,5,6
ECH-3	HF3384D-RP	-	CEILING	19.5"	175	5.1	1.5	36	208	1	MARKEL	1,2,3,4,5,6
ECH-4	HF3384D-RP	-	CEILING	19.5"	175	5.1	1.5	36	208	1	MARKEL	1,2,3,4,5,6
ECH-5	J3484A1	SQUARE DIFFUSER	CEILING	23"	600	13.6	4	30	208	3	MARKEL	1,2,3,4,5,7

NOTES:
1. PROVIDE SAFETY CUT OUT.
2. COLOR SELECTION BY ARCHITECT.
3. PROVIDE FACTORY 2x2 T-BAR MOUNTING KIT.
4. PROVIDE MANUFACTURERS DISCONNECT SWITCH.
5. PROVIDE ALL WIRING AND CONTROLS FOR A COMPLETE INSTALLATION.
6. PROVIDE MANUFACTURERS LINE VOLTAGE THERMOSTAT. AET9SWTS.
7. PROVIDE MANUFACTURERS LOW VOLTAGE THERMOSTAT, UT1001.

DIFFUSER, REGISTERS, AND GRILLES

TAG	MODEL	MAX CFM	BLOW PATTERN	FACE SIZE	NECK SIZE	VELOCITY (FPM.)	THROW (FT.)	PD	SOUND LEVEL	MATERIAL	MANUFACTURER	NOTES
EG-1	61PR-6x6	100	-	12x12	6x6	500	-	0.067	<15	STEEL	NAILOR	1,4
RG-1	61PR-18x18	840	-	24x24	18x18	400	-	0.042	<15	STEEL	NAILOR	1,4
RG-2	61PR-20x10	495	-	22x12	20x10	400	-	0.042	<15	STEEL	NAILOR	1,3
SD-1	RNS-24x24	210	4-WAY	24x24	8"Ø	600	3	0.023	13	STEEL	NAILOR	1,4,5
SD-2	RDDG-14-RD	428	1-WAY	16"Ø	14"Ø	400	20	0.014	<15	ALUMINUM	NAILOR	1,2
SD-3	61DV-14x6	200	2-WAY	16x8	14x6	400	12	0.03	<15	STEEL	NAILOR	1,2
LO-1	EDJ-601-36x24	2050	-	36x24	36X24	732	-	0.09	N / A	ALUMINUM	GREENHECK	1

NOTES:
1. ARCHITECT TO SELECT COLOR
2. PROVIDE DAMPER.
3. PROVIDE DRYWALL/PLASTER FRAME.
4. FURNISH WITH NOMINAL 24X24 PANEL FOR T-BAR CEILING.
5. FURNISH WITH ROUND NECK ADAPTOR.

ELECTRIC DUCT COIL SCHEDULE

TAG	INSTALLATION TYPE	AIRSIDE PERFORMANCE			DIMENSIONS(IN.)		CONTROL TYPE	ELECTRICAL DATA			MANUFACTURER & MODEL NO.	NOTES
		AIRFLOW (CFM)	CAPACITY (MBH)	TEMPERATURE RISE (°F)	WIDTH	HEIGHT		KW	VOLTAGE	PHASE		
EDHC-1	SLIP-IN	800	17.2	20	40	10	SCR 0-10VDC	5	208	3	NEPTRONIC DF C100HB	1, 2, 3, 4, 5, 6
EDHC-2	SLIP-IN	800	17.2	20	40	10	SCR 0-10VDC	5	208	3	NEPTRONIC DF C100HB	1, 2, 3, 4, 5, 6
EDHC-3	SLIP-IN	600	13.6	21	40	10	SCR 0-10VDC	4	208	3	NEPTRONIC DF C100HB	1, 2, 3, 4, 5, 6
EDHC-4	SLIP-IN	600	13.6	21	40	10	SCR 0-10VDC	4	208	3	NEPTRONIC DF C100HB	1, 2, 3, 4, 5, 6
EDHC-5	SLIP-IN	700	15.1	20	40	10	SCR 0-10VDC	4.5	208	3	NEPTRONIC DF C100HB	1, 2, 3, 4, 5, 6
EDHC-6	SLIP-IN	700	15.1	20	40	10	SCR 0-10VDC	4.5	208	3	NEPTRONIC DF C100HB	1, 2, 3, 4, 5, 6

NOTES:
1. FURNISH UNIT WITH MANUFACTURER'S DOOR INTERLOCKING DISCONNECT SWITCH AND MINIMUM FUSING PER NEC/UL.
2. FURNISH UNIT WITH MANUFACTURER'S AIRFLOW SWITCH, 24 VOLT CONTROL PACKAGE, MINIMUM FUSING PER NEC, 80/20 WIRE, CONTROL PANEL, AND CLASS II TRANSFORMER
3. FURNISH UNIT WITH MAGNETIC DISCONNECTING SAFETY CONTACTORS.
4. PROVIDE COIL WITH MAX ENCLOSURE HEIGHT OF 12" TALL.
5. PROVIDE COIL CAPABLE OF OPERATION DOWN TO 100FPM ACROSS COIL.
6. COIL TO BE INSTALLED IN DUCTWORK WITH 2" LINING - DIMENSIONS INDICATE FREE AREA.

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Seal

Alterations to Administration Building

Peekskill City School District
Peekskill, New York

Revision :
ISSUED FOR BID
05/21/2025

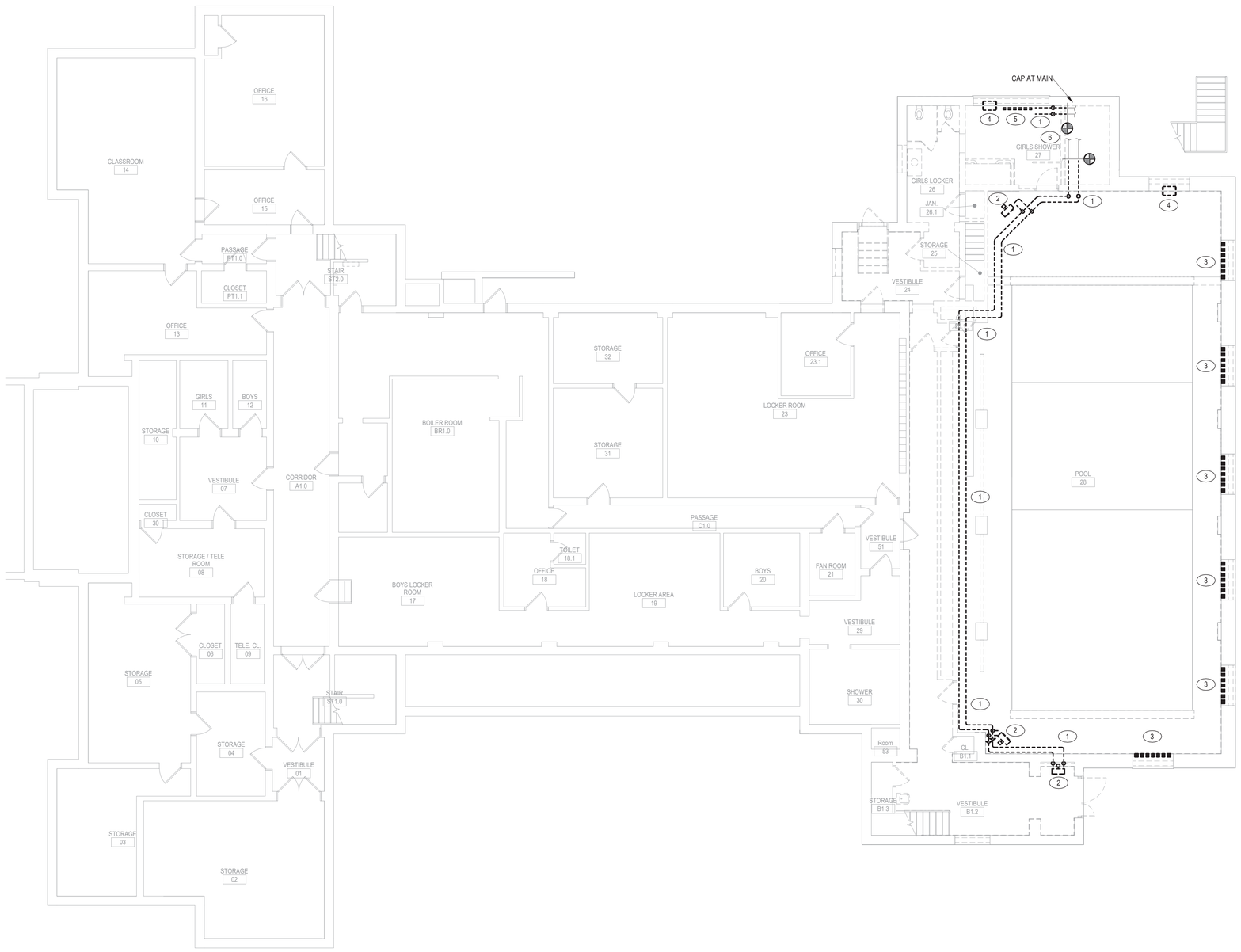
Drawing Title :
SCHEDULES

APN : 2226.2A | Date : 10/11/2024 | Drawn by : MLB

Drawing Number :
M 002

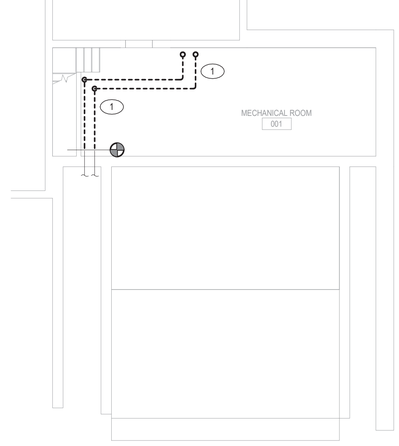
REMOVAL NOTES: (1)

1. REMOVE PIPE, HANGERS, FITTINGS, ETC BACK TO MARKED LOCATION. REPAIR ALL OPENINGS IN FINISHED SPACES.
2. REMOVE CABINET HEATER/UNIT HEATER AND ALL ASSOCIATED SUPPORTS, HANGERS, PIPING ETC.
3. REMOVE LOUVER, STEAM CONNECTOR, PIPING AND ALL ASSOCIATED ACCCESSORIES. REPAIR OPENING.
4. REMOVE FAN AND ALL ASSOCIATED ACCESSORIES.
5. REMOVE RADIATOR WITH ALL ASSOCIATED SUPPORTS, HANGERS, MOUNTS, PIPING ETC.
6. REMOVE DRYER VENT. GC TO REPAIR WALL.



1 LOWER LEVEL MECHANICAL REMOVAL PLAN

SCALE: 1/8" = 1'-0"



2 BASEMENT MECHANICAL REMOVAL PLAN

SCALE: 1/8" = 1'-0"

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Alterations to Administration Building

Peekskill City School District
Peekskill, New York

Revision:
ISSUED FOR BID
05/21/2025

SED NUMBERS: ■ Administration Building: 66-15-00-01-0-009-013
BEFORE WORK IS STARTED, CONTRACTOR SHALL VERIFY ALL THE DIMENSIONS AT THE SITE AND IMMEDIATELY NOTIFY THE ARCHITECT OF ALL DISCREPANCIES.

Drawing Title:
BASEMENT & LOWER LEVEL MECHANICAL REMOVAL PLAN

APN: 2224-2A | Date: 10/11/2024 | Drawn by: M.B.

Drawing Number:

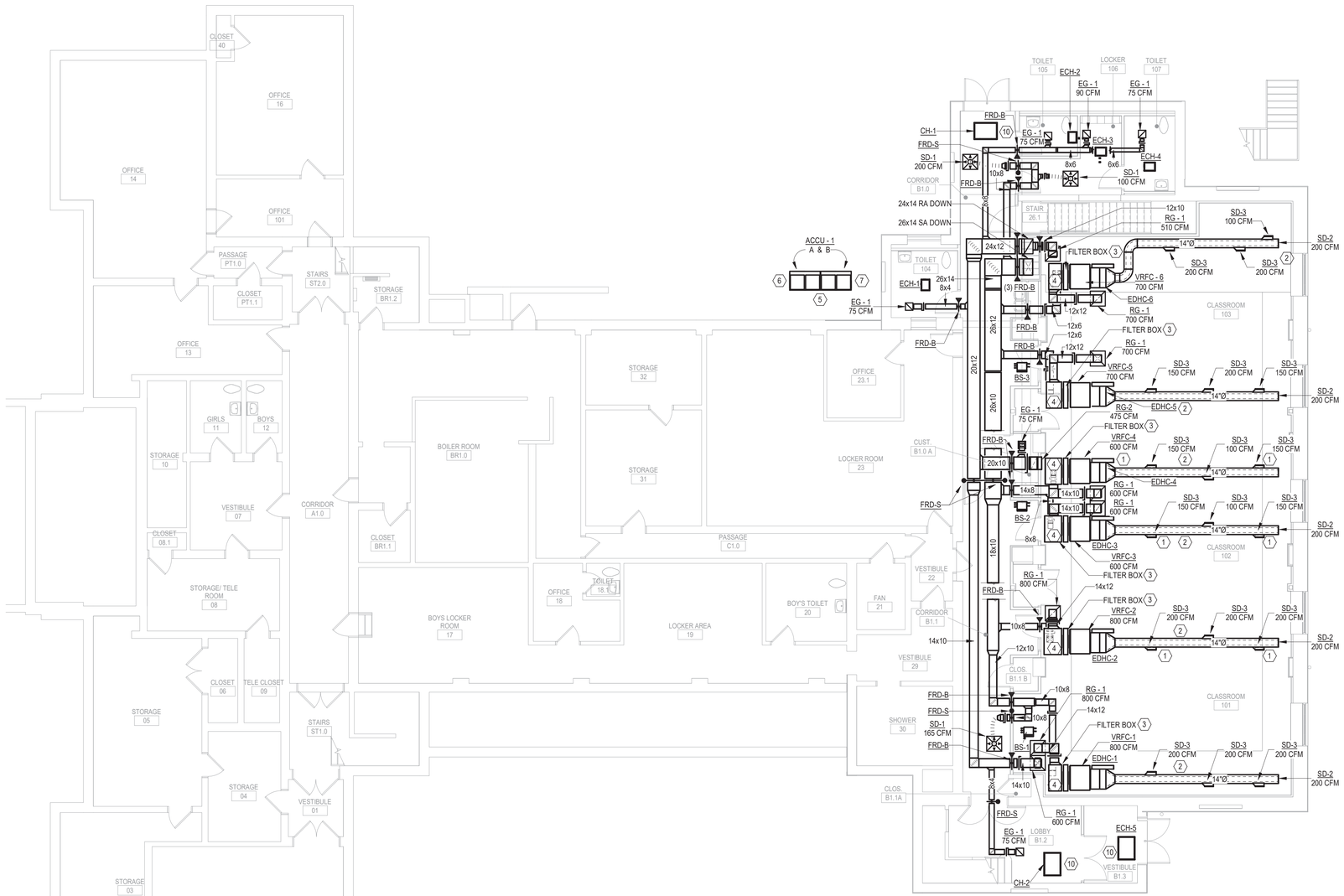
M 201

GENERAL NOTES:

A. SOFFIT IN CLASSROOM TO CONCEAL MECHANICAL EQUIPMENT AND TO BE CONSTRUCTED AT 8'-0" ABOVE FINISHED FLOOR.

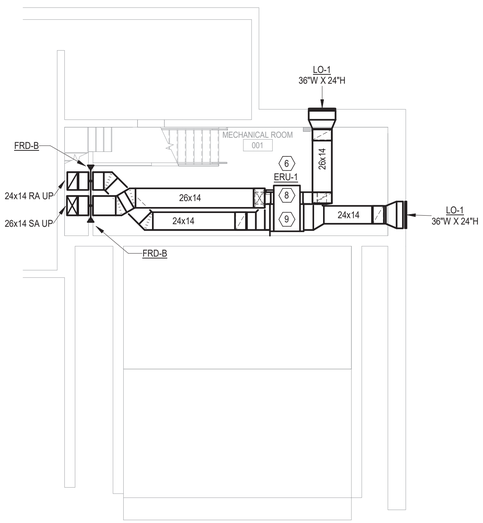
DRAWING NOTES: ⬡

1. DUCT TAP AND DIFFUSER TO BE INSTALLED AT 30 DEGREE INCLINATION BELOW THE CENTERLINE OF THE MAIN DUCT.
2. PROVIDE DOUBLE WALLED, LINED SPIRAL DUCTWORK, 14" ID, FOR ALL EXPOSED ROUND DUCT.
3. PROVIDE MANUFACTURERS FILTER BOX AND FILTER.
4. PROVIDE RETURN PLENUM. OUTSIDE AIR DUCT TO CONNECT FROM BOTTOM OF PLENUM. RETURN AIR DUCT TO CONNECT FROM SIDE OF PLENUM.
5. UNITS TO BE INSTALLED 1" APART ACCORDING TO MANUFACTURER SPECIFICATION. UNITS TO HAVE 4' OFFSET FROM BUILDING.
6. PROVIDE NEW 3" CONCRETE PAD TO BE 4" LARGER THAN UNIT.
7. PROVIDE MANUFACTURERS SNOW AND WIND HOOD ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
8. UNIT TO BE STRIPPED OF ALL ACCESSORY EQUIPMENT LOCATED ON THE EXTERIOR OF THE CASE OR UNTIL THE UNIT CAN FIT THROUGH THE PROVIDED DOOR / OPENING. UNIT TO BE FULLY REASSEMBLED IN FIELD AFTER INSTALLATION.
9. UNIT TO BE INSTALLED IN THE UPSIDE DOWN ORIENTATION. THE NON-SERVICABLE SIDE OF THE UNIT TO BE 6" FROM WALL. ADJUST ANY EQUIPMENT NECESSARY TO MATCH NEW ORIENTATION.
10. CEILING CABINET HEATERS TO OUTPUT TOWARDS ADJACENT DOORWAY.



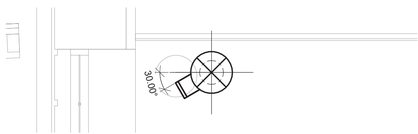
1 LOWER LEVEL DUCT PLAN

SCALE: 1/8" = 1'-0"



2 BASEMENT DUCT PLAN

SCALE: 1/8" = 1'-0"



3 DIFFUSER ORIENTATION DIAGRAM

SCALE: 1/2" = 1'-0"

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Alterations to Administration Building

Peekskill City School District
Peekskill, New York

Revision:
ISSUED FOR BID
06/27/2025

Drawing Title:
BASEMENT & LOWER LEVEL DUCT PLAN

Drawn by: M.B.
Date: 10/11/2024
APN: 2226.2A

Drawing Number:

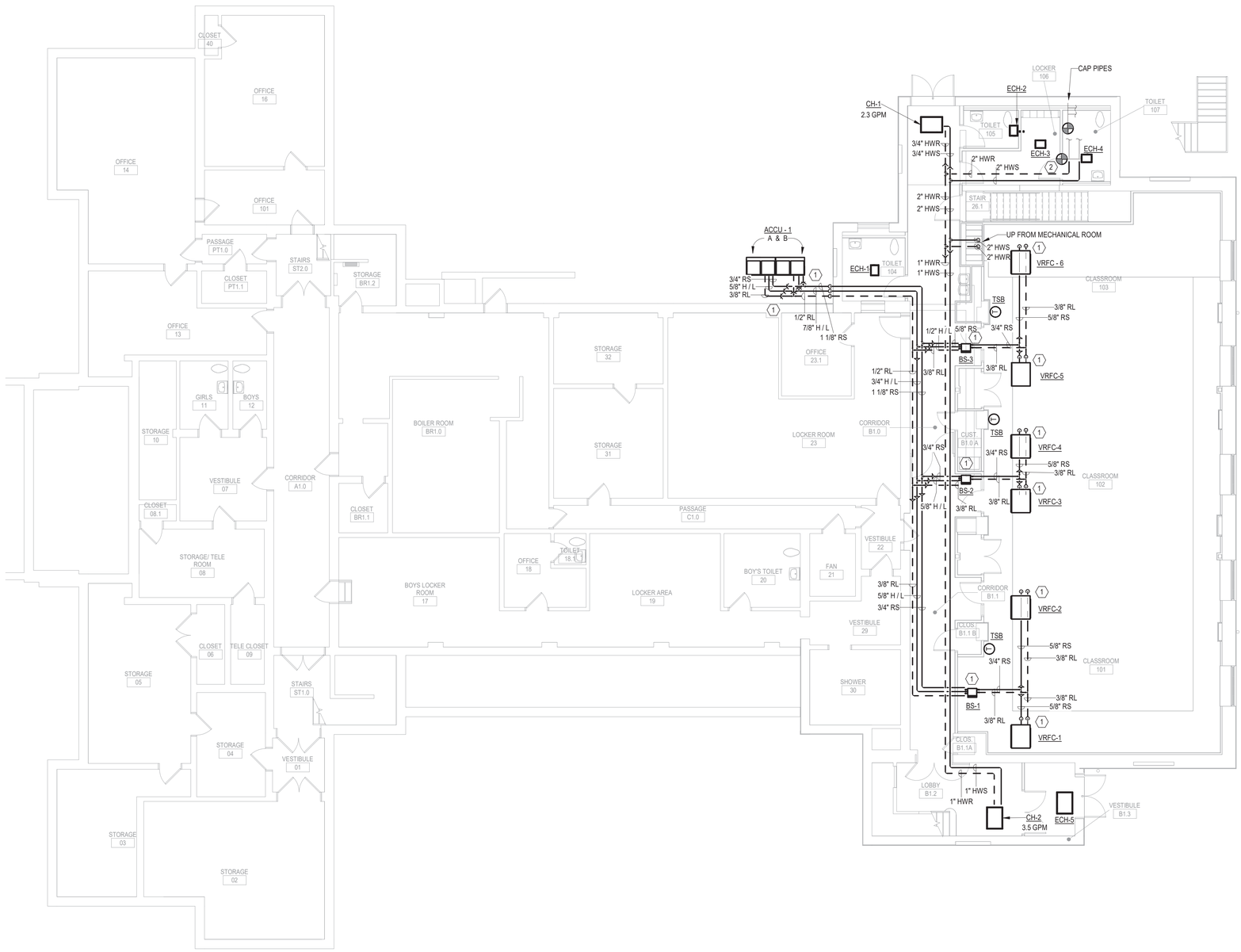
M 301

SED NUMBERS:
■ Administration Building: 66-15-00-01-0-009-013

BEFORE WORK IS STARTED, CONTRACTOR SHALL VERIFY ALL THE DIMENSIONS AT THE SITE AND IMMEDIATELY NOTIFY THE ARCHITECT OF ALL DISCREPANCIES.

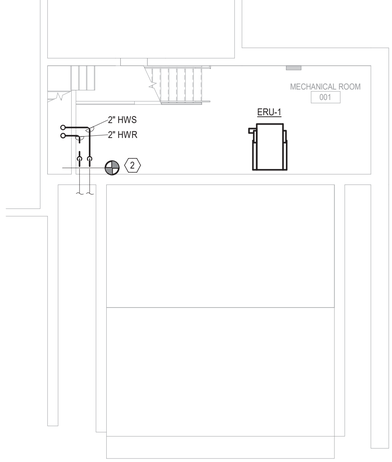
DRAWING NOTES:

1. CONNECT REFRIGERANT PIPING TO UNIT AS DEPICTED IN MANUFACTURERS DRAWINGS IN M600 SERIES.
2. CONNECT NEW PIPE INTO EXISTING SYSTEM AT MARKED LOCATION.



1 LOWER LEVEL PIPING PLAN

SCALE: 1/8" = 1'-0"



2 BASEMENT PIPING PLAN

SCALE: 1/8" = 1'-0"

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Alterations to Administration Building

Peekskill City School District
Peekskill, New York

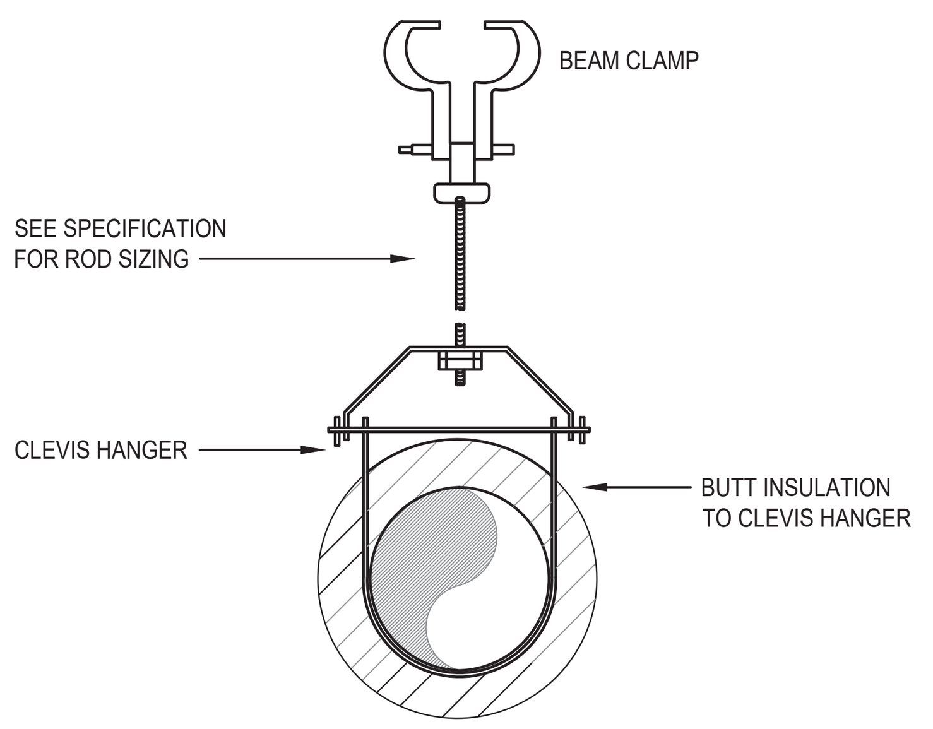
Revision:
ISSUED FOR BID
05/21/2025

Drawing Title:
BASEMENT & LOWER LEVEL PIPING PLAN

Drawn by: M.B.
Date: 10/11/2024
APN: 2224.2A

Drawing Number:
M 401

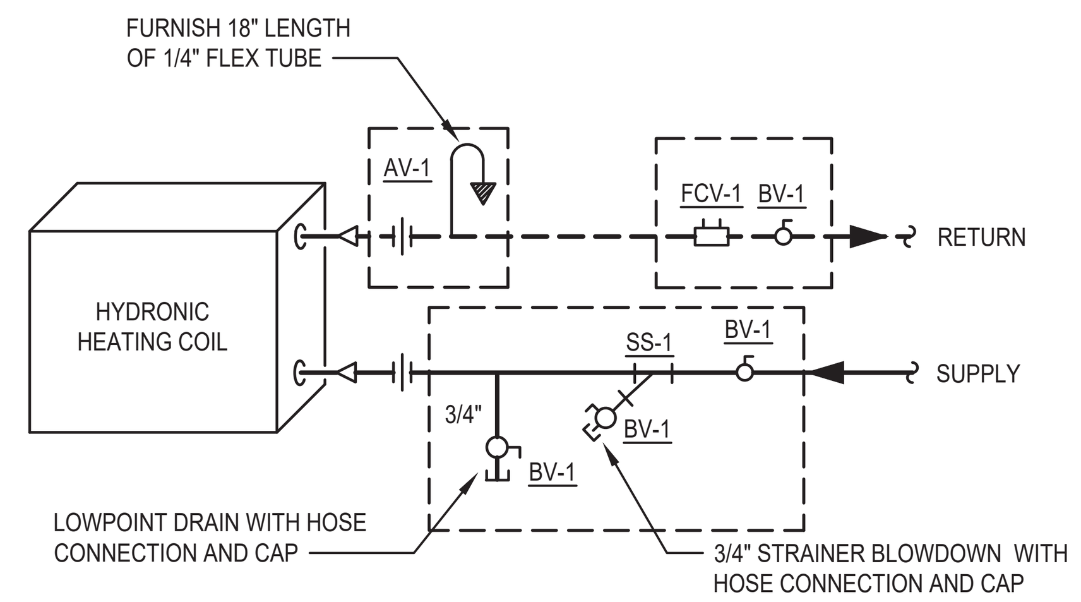
SED NUMBERS:
■ Administration Building: 66-15-00-01-0-009-013
BEFORE WORK IS STARTED, CONTRACTOR SHALL VERIFY ALL THE DIMENSIONS AT THE SITE AND IMMEDIATELY NOTIFY THE ARCHITECT OF ALL DISCREPANCIES.



1 HW PIPING MAIN HANGER

SCALE : NONE

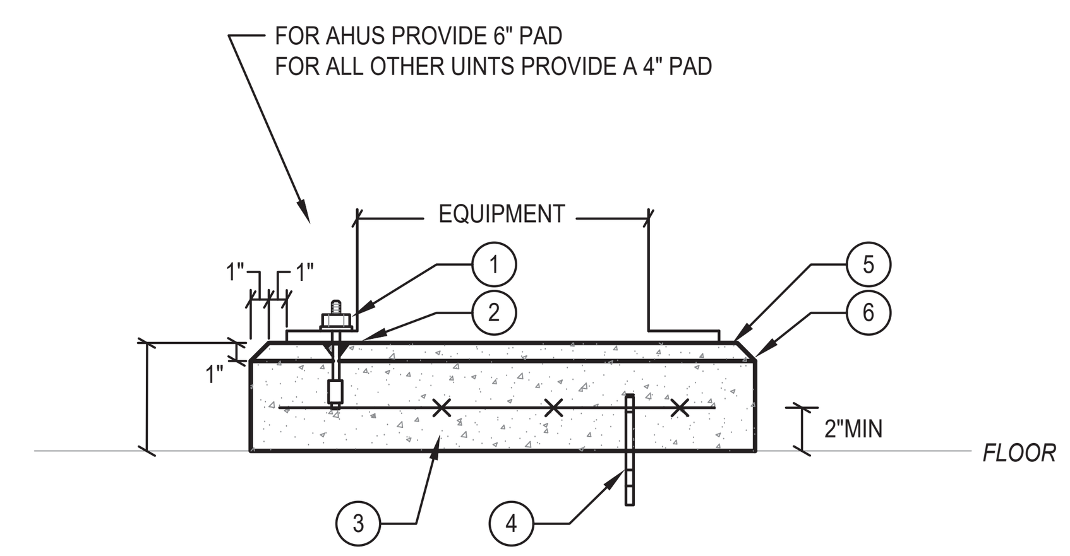
NOTES:
1. PROVIDE ANCHORS FOR CONNECTION INTO DECKING.



2 TYPICAL CH AND UH HEATING ONLY PIPING DIAGRAM

SCALE : NONE

NOTE(S):
1. FCV SIZED TO MATCH FLOW.
2. PROVIDE UNIONS ON COIL CONNECTIONS.
3. AREAS SHOWN IN DASHED BOXES WILL BE ALLOWED FOR COIL KITS.
4. COILS KITS THAT ARE SUPPLIED WITH FLEXIBLE HOSES WILL BE REJECTED WITHOUT REVIEW.
5. PROVIDE SEPARATE 3/4" DRAIN WHEN STRAINER & BLOWDOWN IS NOT THE LOW POINT IN PIPING.
5. ALL PIPING AND WATER SPECIALTIES TO BE LINE SIZE.
6. PROVIDE BRASS CAPS ON DRAINS. ALL BALL VALVES TO BE 1/4 TURN.

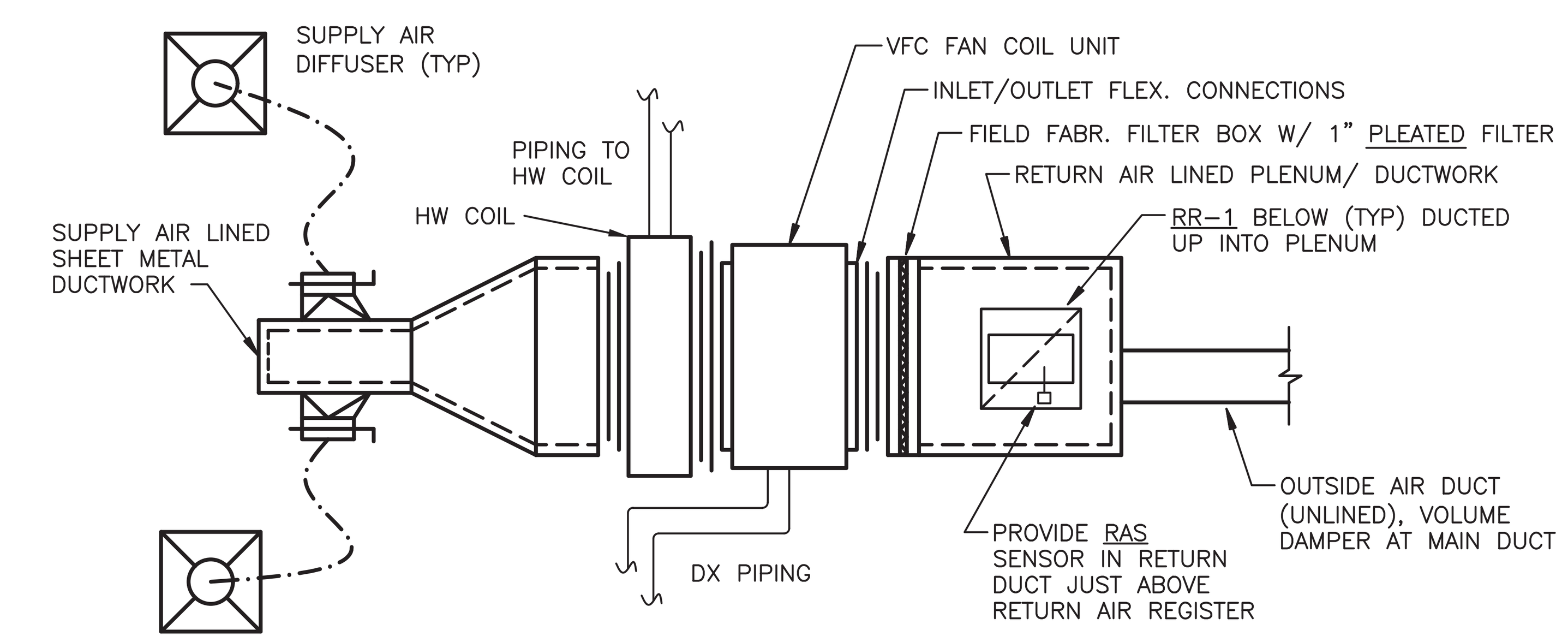


DETAIL NOTE:

1. ANCHOR BOLT, SIZE & LOCATION AS REQUIRED TO MATCH EQUIPMENT BASE
2. PLASTIC SLEEVE & ANCHOR
3. #4 REINFORCING BARS, 12" O.C EACH WAY
4. #4 DOWEL, 12" O.C
5. CONCRETE PAD 3,000 PSI CONCRETE LENGTH & WIDTH 6" GREATER THAN THE EQUIPMENT BASE PLATE
6. CHAMFER

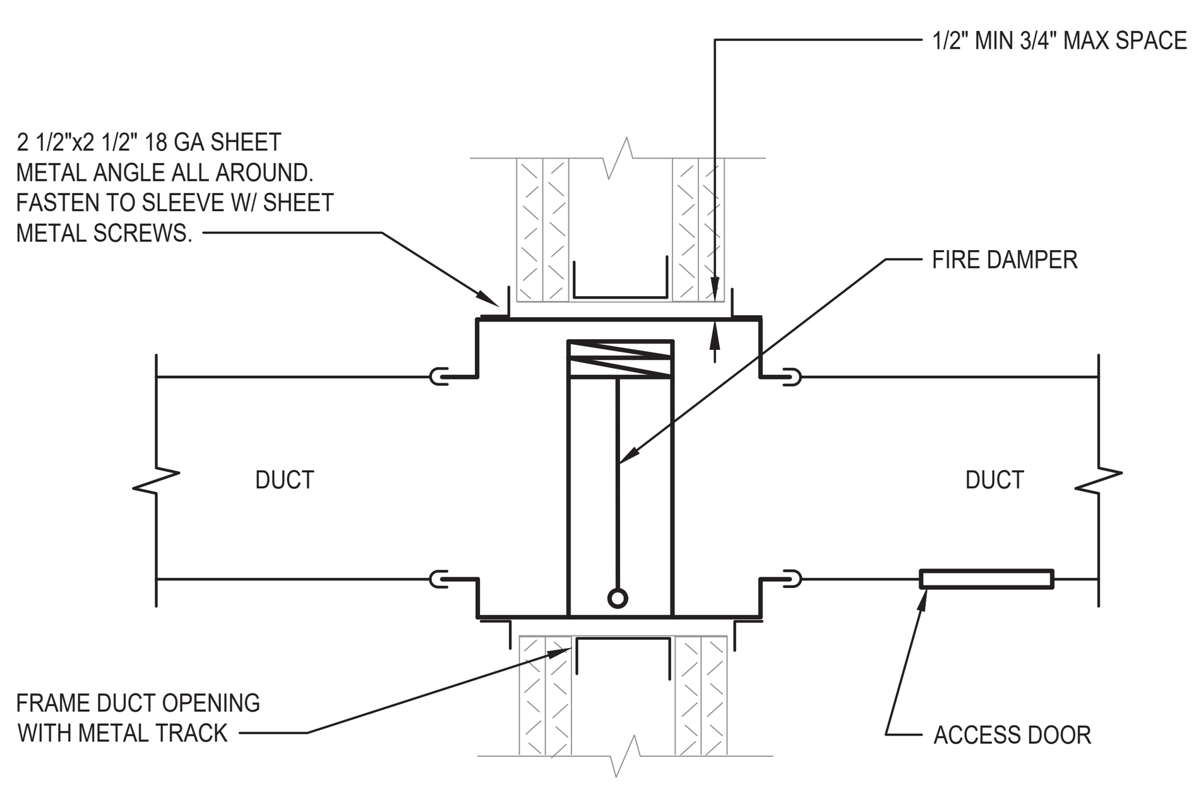
3 CONCRETE EQUIPMENT PAD DETAIL

SCALE : NONE



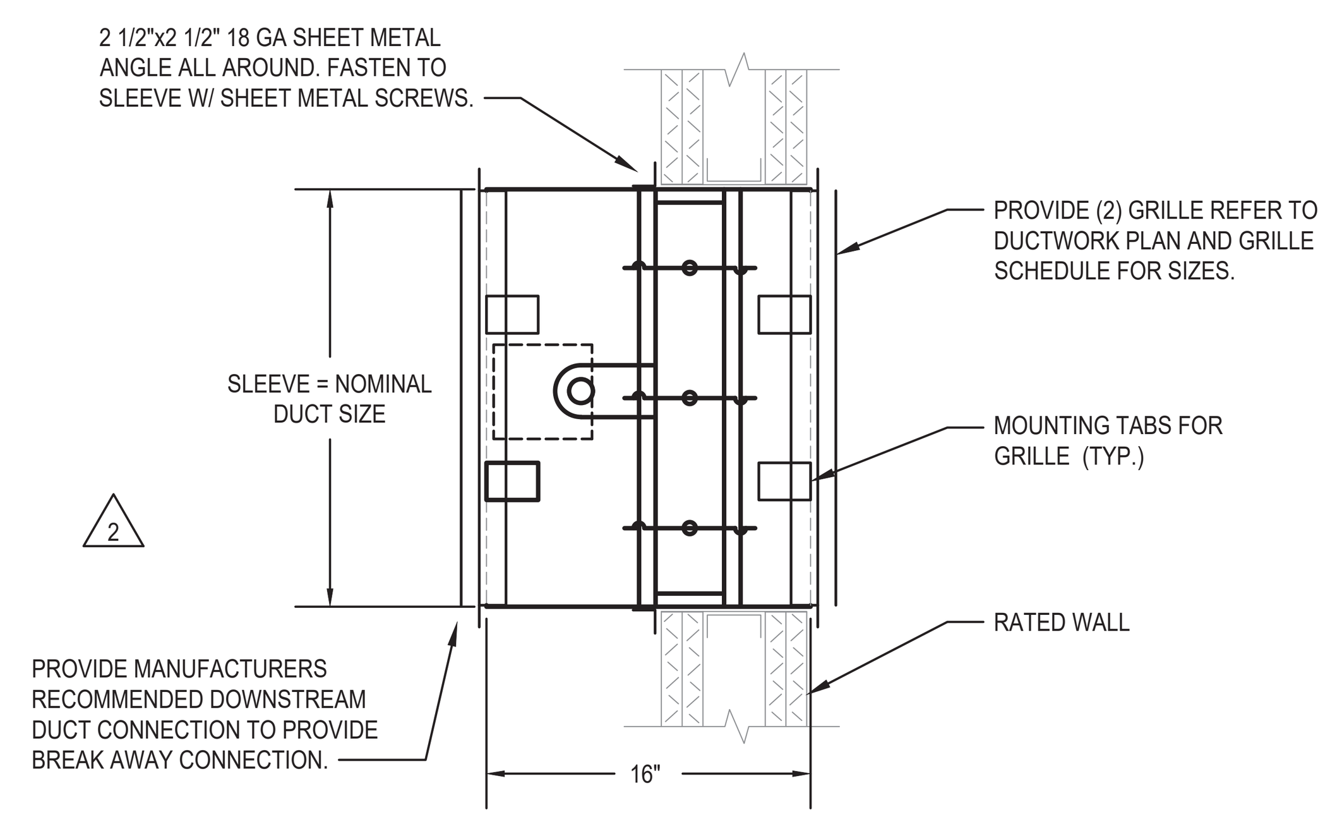
4 VARIABLE REFRIGERANT SYSTEM TYPICAL DIAGRAM

SCALE : NONE



5 VERTICAL FIRE DAMPER 'FRD' DIAGRAM - METAL STUD WALL

SCALE : NONE

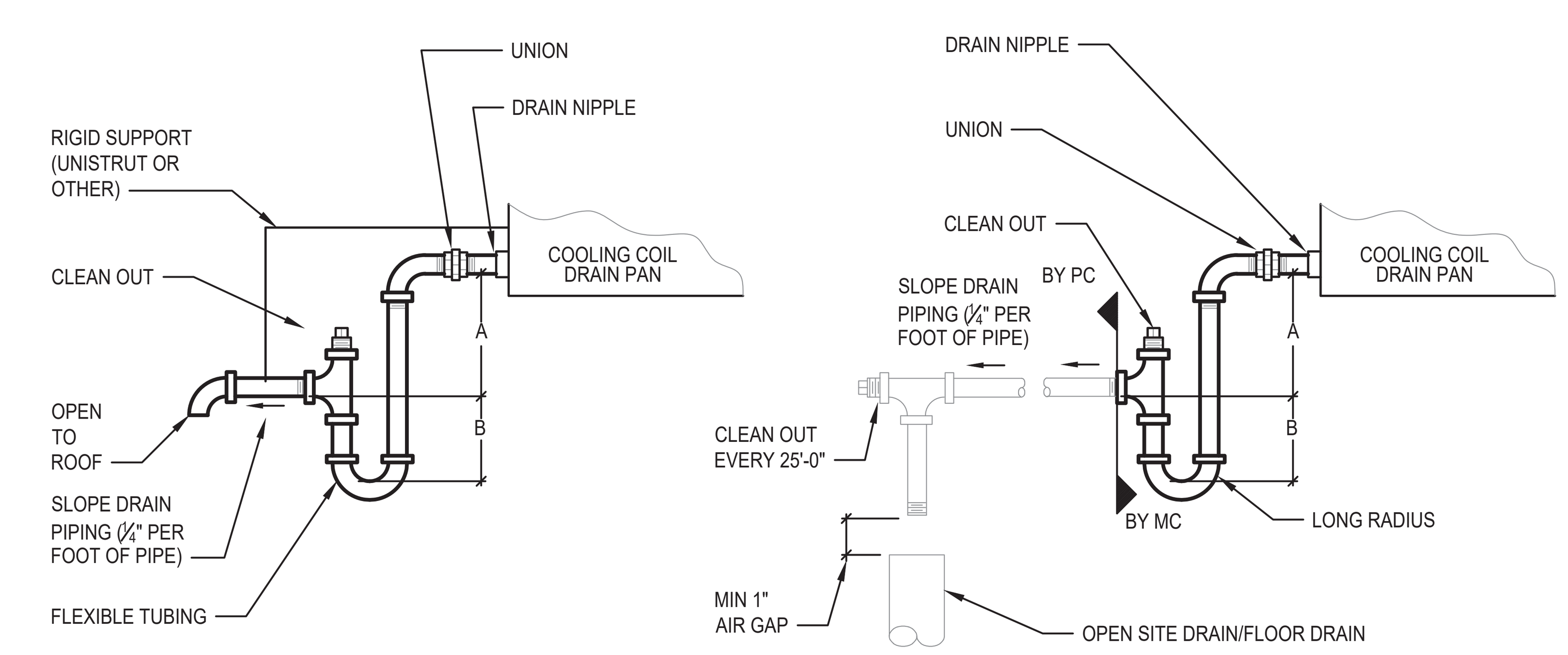


6 VERTICAL FIRE/SMOKE DAMPER 'FRD-S' DIAGRAM IN STUD WALL

SCALE : NONE

DRAW-THRU UNIT			BLOW-THRU UNIT		
MAX NEGATIVE PRESSURE	MIN A (IN.)	MIN B (IN.)	MAX POSITIVE PRESSURE	MIN A (IN.)	MIN B (IN.)
1	2	1.5	1	1	1
2	3	2.0	2	1	2
3	4	2.5	3	1	3
4	5	3.0	4	1	4
5	6	3.5	5	1	5
6	7	4.0	6	1	6
7	8	4.5	7	1	7
8	9	5.0	8	1	8
9	10	5.5	9	1	9
10	11	6.0	10	1	10

DRAIN SIZE CHART	
COOLING CAPACITY (TONS)	MIN PIPE DIAMETER (IN.)
UP TO 20	¾
20-40	1
40-90	1-1/4
90-125	1-1/2
125-250	2



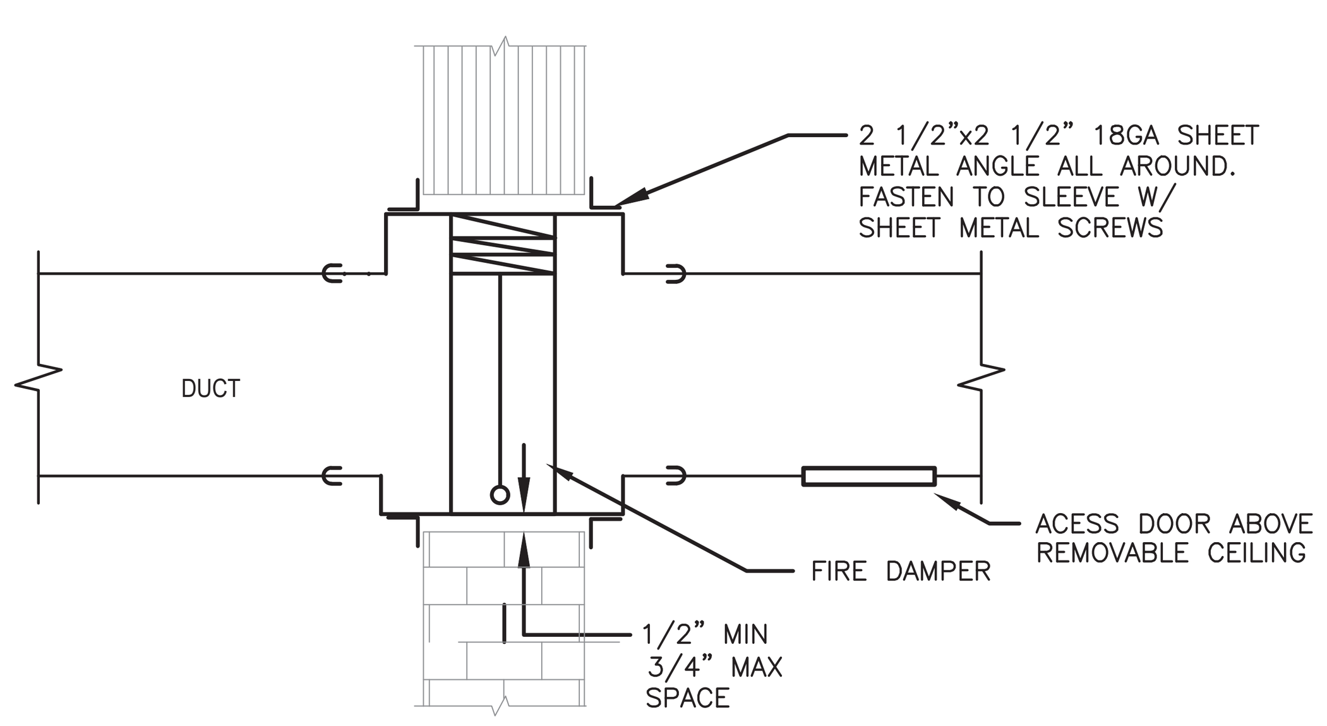
ROOFTOP HVAC EQUIPMENT WITH COOLING

HVAC EQUIPMENT WITH COOLING

9 COOLING COIL DRAIN DIAGRAM

SCALE : NONE

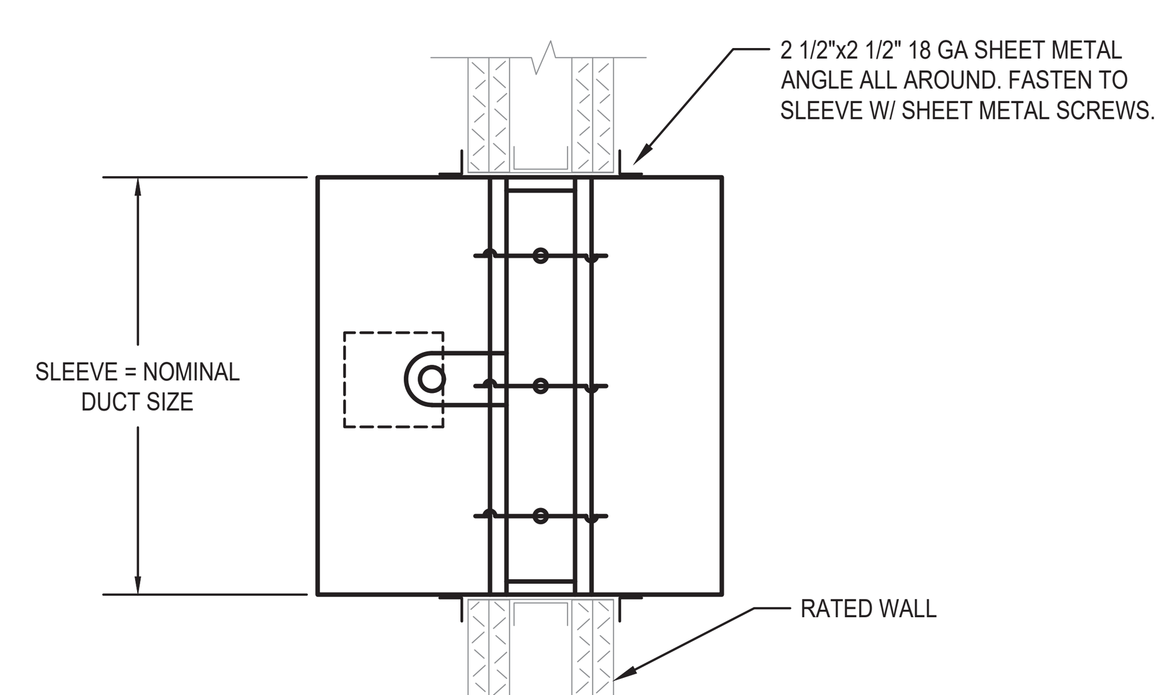
NOTES:
1. DRAIN PIPE SIZING SHALL NOT BE SMALLER THAN EQUIPMENT DRAIN CONNECTION.



7 VERTICAL FIRE DAMPER 'FRD' DIAGRAM - MASONRY WALL

SCALE : NONE

NOTE: DETAIL SIMILAR THRU CONCRETE FLOOR SLAB



8 VERTICAL FIRE/SMOKE DAMPER "FRD-S" DIAGRAM IN WALL

SCALE : NONE

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Alterations to Administration Building

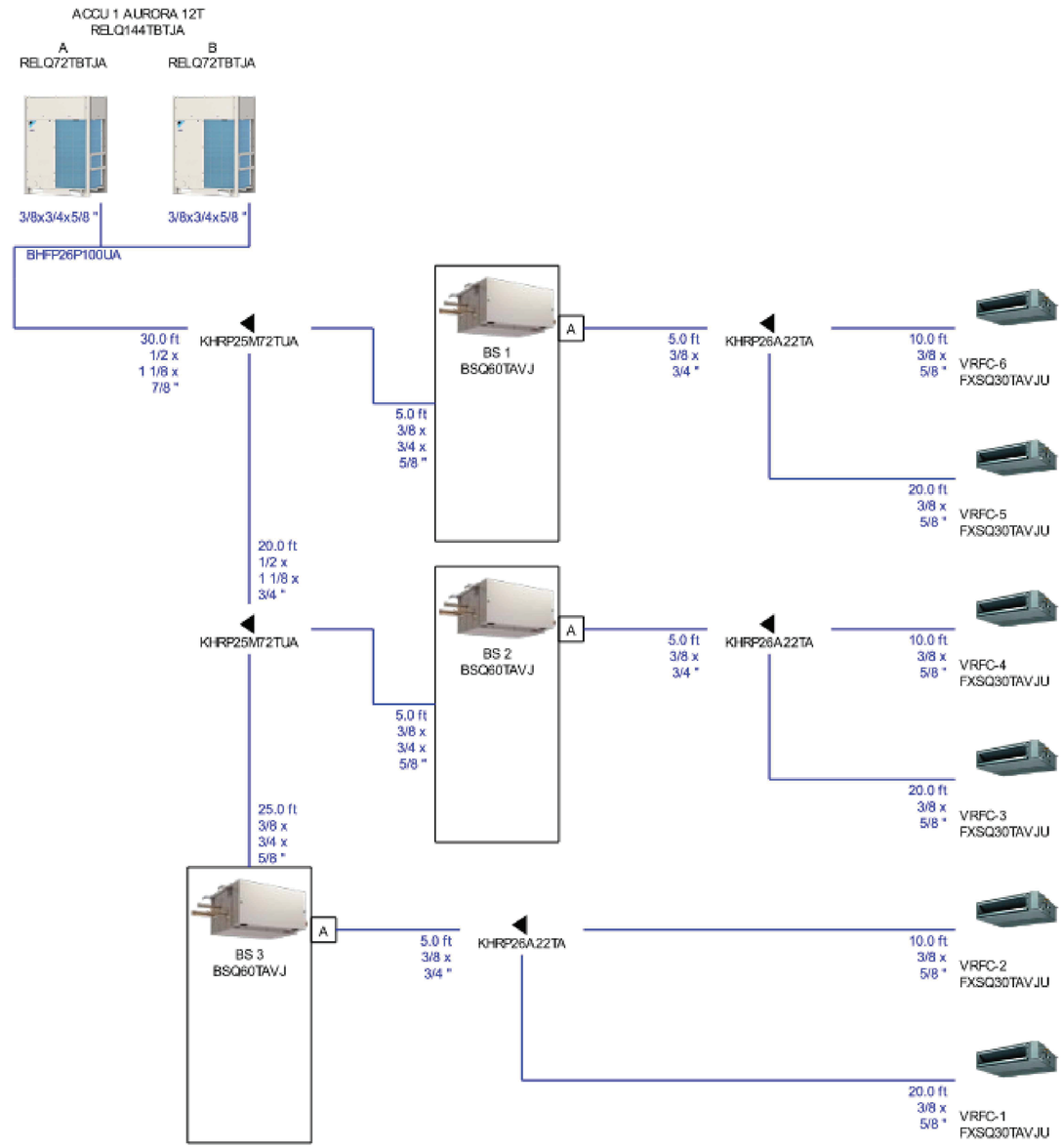
Peekskill City School District
Peekskill, New York

Revision : ISSUED FOR BID 05/21/2025

Drawing Title :
DETAILS AND DIAGRAMS

APN : 2226.2A | Date : 10/11/2024 | Drawn by : MLB

Drawing Number :
M 601



NOTE: PROVIDE (1) MAIN VRF TOUCH SCREEN THAT HAS BACNET IP CAPABILITY THAT THE BMS WILL TIE INTO.

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05/21/2025

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DETAILS AND DIAGRAMS

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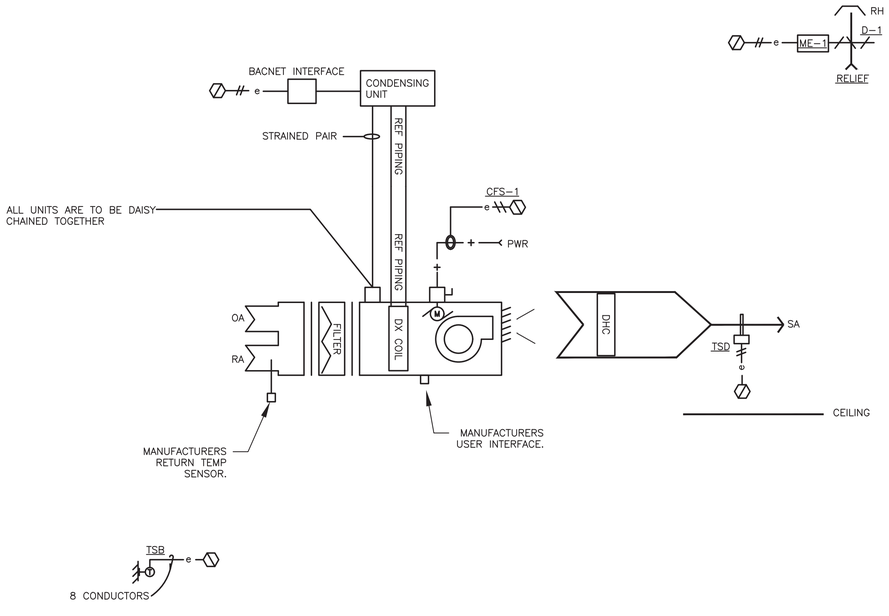
Drawing Number :
M 602

DAIKIN POINT NAME	WRITEABLE FUNCTION	SHOWN ON BMS GRAPHIC
ON/OFF	Y	X
OPERATION MODE	Y	X
SETPOINT SETTING	Y	X
FAN SPEED SETTTING	Y	X
FORCED SYSTEM STOP	Y	X
ALARM	N	X
MALFUNCTION CODE	N	X
OPERATION MODE	N	X
ROOM TEMPERATURE	N	X
THERMO-ON STATUS	N	X
COMPURESSOR STATUS	N	X
INDOOR FAN STATUS	N	X
	N	X

NOTES:
1. BMS CONNECTION AT CONDENSING UNIT. ALL FUNCTIONS AND OPERATION WILL GO THROUGH THE CONDENSING UNIT
2. TC TO HAVE FAN OPERATE CONSTANTLY IN OCCUPIED MODE AND INTERMITTENTLY IN UNOCCUPIED MODE.
3. BMS TO SEND DAIKIN SYSTEM COOLING SETPOINT AND DAIKIN SYSTEM WILL OPERATE AS REQUIRED TO MAINTAIN SETPOINT.
4. BMS TO FULLY CONTROL THE HEATING COIL.



1 VRF SYSTEM/BMS INTERFACE

SCALE : NONE

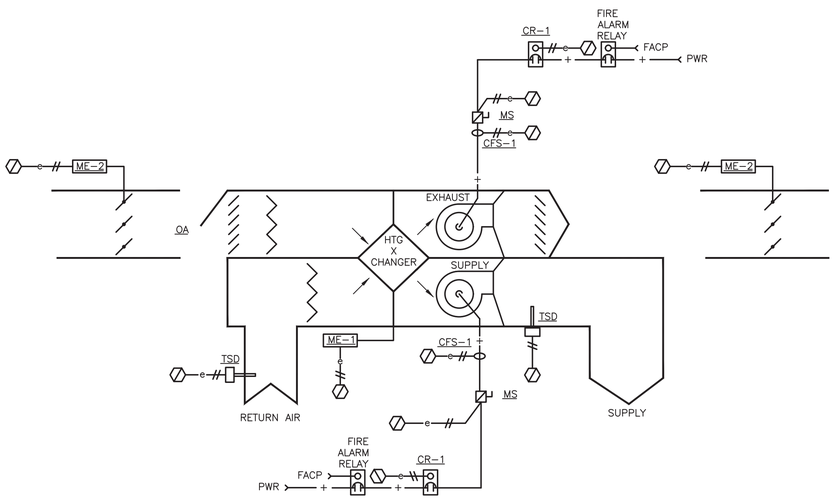
FAN COIL UNIT SHOWN. FOR CASSETTE UNIT, PROVIDE WALL TEMPERATURE SENSOR AND ME-1/D-1 ON INTAKE DUCT.

NOTES:
1. SYSTEM SHOULD BE FULLY FUNCTIONAL BEFORE BMS IS INTEGRATED.
2. TC TO INSTALL USER INTERFACE AND RETURN TENP SENSOR.
3. TC TO INSTALL WIRING FROM CONDENSING TO FAN COIL. ALL UNITS ARE DAISY CHAINED TOGETHER.

BMS POINT NAME	DEVICE NAME	HARDWARE POINTS				SOFTWARE POINTS					GRAPHIC
		AI	AO	DI	DO	AV	BV	SCHED	TREND	ALARM	
BACNET INTERFACE											X
DISCHARGE TEMPERATURE SENSOR	TSD								X		X
SPACE TEMPERATURE SENSOR	TSB							X			X

A. VRFC UNIT CONTROL SEQUENCE:

1. GENERAL: THIS TEMPERATURE CONTROL CONTRACTOR WILL INSTALL ROOM SENSORS/CONTROLLER BOARDS PROVIDED BY HEATING CONTRACTOR AS PER SPECIFICATIONS 238115, 230993.
2. NOTE: THIS CONTRACTOR TO INSTALL TSB IN EACH ROOM THAT WILL HAVE FIN IN IT OR BE SERVED BY A DUCT COIL OR VRFC UNIT.
3. BMS SHALL INTERFACE WITH MANUFACTURERS PACKAGED CONTROLS. BMS SHALL HAVE OVERALL CONTROL OF THE SYSTEM.
4. SEQUENCE AS FOLLOWS:
   a. VRFC FAN SHALL RUN IN OCCUPIED MODE AT ALL TIMES SO OA IS SUPPLIED TO ROOM. UNIT SHALL RUN INTERMITTENTLY IN UNOCCUPIED TIME TO MAINTAIN NIGHT SETBACK AS DESCRIBED BELOW.
   b. THERE SHALL BE A DEADBAND BETWEEN HEATING AND COOLING TO PREVENT SIMULTANEOUS HEATING AND COOLING.
   c. VRFC SHALL MAINTAIN A COOLING SETPOINT OF 78DEG (ADJ).
   d. VRFC (REFRIGERANT SYSTEM) SHALL BE THE SECONDARY IN HEATING. HEATING SETPOINT IS 68 (ADJ).
      (1) DHC CONTROL VALVE SHALL MODULATE OPEN WHEN ROOM TEMPERATURE IS 3DEG FROM SETPOINT (ADJ).
      (2) DUCT HEATER COIL:
         (2)1) OCCUPIED CYCLE: WHEN ROOM IS 3 DEG (ADJ) BELOW SETPOINT MODULATE OPEN DUCT HEATER COIL VALVE.
         (2)2) UNOCCUPIED CYCLE: ROOM SENSOR WILL MAINTAIN UNOCCUPIED SETPOINT (60°F ADJUSTABLE) WHEN ROOM TEMPERATURE DROPS BELOW SETPOINT, OPEN DUCT HEATER COIL VALVE TO MAINTAIN DEPRESSED NIGHT TEMPERATURE. WHEN DUCT HEATER VALVE OPENS VRFC UNIT FAN WILL RUN. VRFC UNITS WITH FIN RADIATION IN THEIR ROOMS WILL USE THE FIN RADIATION TO MAINTAIN DEPRESSED NIGH TEMPERATURE SETPOINT OF 60°F (ADJUSTABLE) AND SUPPLEMENT HEAT WITH VRFC AND DHC IF FIN IS NOT ABLE TO MAINTAIN ROOM SETPOINT.
      (1) IF ROOM HAS RADIATION, THE RADIATION CONTROL VALVE SHALL MODULATE OPEN WHEN ROOM SETPOINT IS 2 DEG FROM SETPOINT (ADJ).
      (2) FIN RADIATION:
         (2)1) OCCUPIED CYCLE: ON A DROP IN TEMPERATURE, ROOM SENSOR WILL OPEN FIN RADIATION VALVE (CVT) WHERE APPLICABLE. ON DROP IN ROOM TEMPERATURE BELOW DHC SENSOR SETPOINT OPERATOR WORKSTATION WILL OPEN FIN RADIATION VALVE TO SUPPLEMENT VRFC CONTROL OF ROOM TEMPERATURE. FIN RADIATION VALVE WILL CLOSE WHEN VRFC UNIT IS ENERGIZED FOR COOLING.
         (2)2) UNOCCUPIED CYCLE: FIN RADIATION VALVE WILL CLOSE AND ROOM SENSOR WILL MAINTAIN A DEPRESSED NIGHT TEMPERATURE SETTING. UNITS WITH FIN RADIATION IN THEIR ROOMS WILL USE THE FIN RADIATION TO MAINTAIN DEPRESSED NIGH TEMPERATURE SETPOINT OF 60°F (ADJUSTABLE) AND SUPPLEMENT HEAT WITH DHC IF FIN IS NOT ABLE TO MAINTAIN ROOM SETPOINT.
6. VRFC UNITS ARE TO BE COMMISSIONED, AND CALIBRATED BY HEATING CONTRACTOR AND SUPPLIER OF EQUIPMENT. MANUFACTURES REPRESENTATIVE TO BE PRESENT DURING START UP.
7. MANUFACTURERS ROOM TEMPERATURE SENSORS ARE TO BE CALIBRATED BY THIS CONTRACTOR, SO THEY ALIGN WITH TSB IN ROOM.



2 ERU CONTROLS DIAGRAM

SCALE : NONE

POINT NAME	DEVICE NAME	HARDWARE POINTS				SOFTWARE POINTS					GRAPHIC
		AI	AO	DI	DO	AV	BV	SCHED	TREND	ALARM	
SUPPLY FAN		--									
SUPPLY FAN START/STOP	CR-1				X				X		X
SUPPLY FAN VFD FAULT				X						X	
SUPPLY FAN STATUS	CFS-1			X					X		X
EXHAUST FAN		--									
EXHAUST FAN START/STOP	CR-1				X				X		X
EXHAUST FAN VFD FAULT				X						X	
EXHAUST FAN STATUS	CFS-1			X					X		X
RETURN TEMPERATURE	TSD	X							X		X
CLOGGED FILTER SWITCH				X					X	X	X
DISCHARGE TEMPERATURE SENSOR	TSD	X							X		X
DAMPER - NOTE 1	ME-2		X						X		X

1. SEE SCHEMATIC FOR QUANTITY OF DAMPERS.

I. ENERGY RECOVERY UNITS:

1. UNIT IS TO PROVIDE OUTSIDE AIR TO INTERIOR AREAS. UNITS SHALL OPERATE DURING OCCUPIED CYCLE ONLY. IF THE DHC SEES A FREEZING TEMP AND THE FREEZE STAT TRIPS, THE UNIT SHALL STOP, DHC SHALL OPEN FULLY AND ALARM THE BMS.
2. UNOCCUPIED CYCLE:
   a. WHEN LOCAL ZONE SWITCHES TO NIGHT CYCLE, CLOSE OA AND EA DAMPERS, AND TURN OFF FANS.

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Alterations to Administration Building

Peekskill City School District
Peekskill, New York

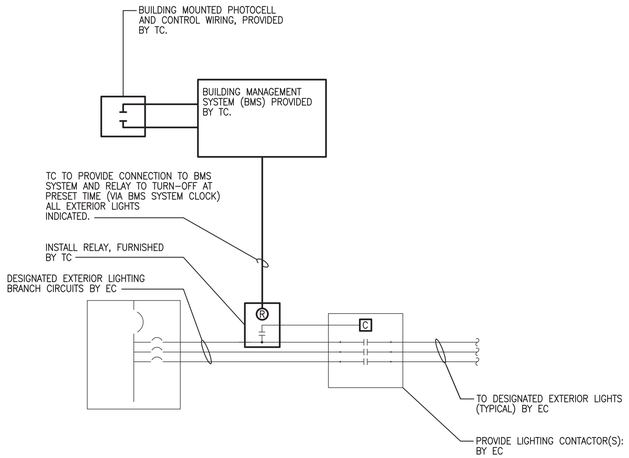
Revision :
ISSUED FOR BID
05/21/2025

Drawing Title :
TEMPERATURE CONTROLS

Drawn by : MJB
Date : 10/1/2024
APN : 22362A

Drawing Number :

M 701

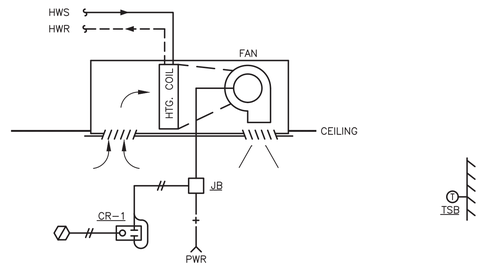


POINT NAME	DEVICE NAME	HARDWARE POINTS				SOFTWARE POINTS					GRAPHIC
		AI	AO	DI	DO	AV	BV	SCHED	TREND	ALARM	
BMS RELAY					X			X			X

1 EXTERIOR LIGHTING CONTROL SCHEMATIC
SCALE : NONE

IN MECHANICAL ROOM 001

POINT NAME	DEVICE NAME	HARDWARE POINTS				SOFTWARE POINTS					GRAPHIC
		AI	AO	DI	DO	AV	DV	SCHED	TREND	ALARM	
CH FAN START/STOP	CR-1				X				X		X
FAN STATUS					X						X
SPACE TEMPERATURE	TSB	X							X		X
SCHEDULE								X			
SPACE TEMP. SET POINT						X			X		X
LOW SPACE TEMPERATURE										X	
HIGH SPACE TEMPERATURE										X	

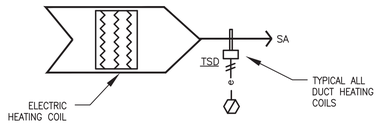


2 CABINET HEATER CONTROL
SCALE : NONE

A. CABINET HEATERS WITH DDC CONTROL SEQUENCE (THIS APPLIES TO ALL FANS THAT ARE NOT INTERMITTENT USE, IE WITH AN ON/OFF SWITCH IN THE ROOM):
   1. OCCUPIED CYCLE:
      a. ENABLE CH UNITS WHEN:
         (1) BOILERS AND HOT WATER PUMPS ARE OPERATIONAL.
         (2) OAT BELOW SETPOINT (INITIAL SP = 50F).
      b. OPERATE CH FAN WHEN SPACE SENSOR FALLS BELOW SETPOINT (INITIAL SP = 70F).
   2. UNOCCUPIED CYCLE:
      a. FAN SHALL RUN INTERMITTENTLY TO MAINTAIN A LOWER NIGHT SETPOINT (INITIAL SP = 60F).

POINT NAME	DEVICE NAME	HARDWARE POINTS				SOFTWARE POINTS					GRAPHIC	REMARKS
		AI	AO	DI	DO	AV	BV	SCHED	TREND	ALARM		
SCR CONTROL			X						X		X	
DISCHARGE AIR TEMP	TSD	X							X		X	
SPACE TEMPERATURE	TSB/TSR	X						X	X		X	1
SPACE TEMP. SET POINT						X			X		X	
LOW SPACE TEMPERATURE										X		
HIGH SPACE TEMPERATURE										X		

REMARKS:
1. REFER TO PLANS FOR SENSOR TYPE/LOCATIONS.



3 DUCT HEATING COIL CONTROLS DIAGRAM
SCALE : NONE

A. DUCT HEATING COIL:
   1. CHANGES IN SPACE TEMPERATURE BELOW SETPOINT WILL CAUSE CONTROLLER TO INDEX DISCHARGE TEMPERATURE ACCORDING TO A PRESET SCHEDULE. DUCT HEATER COIL IS CONTROLLED IN TANDEM WITH ROOF TOP UNIT FROM ROOM SENSOR TO HOLD ROOM TEMPERATURE SETPOINT OF 72°F (ADJUSTABLE). CONTROLLER WILL MODULATE HEATING CONTROL VALVE TO MAINTAIN DESIRED TEMPERATURE.
   2. IF HEATING COIL LEAVING AIR TEMPERATURE FALLS BELOW 35°F, CONTROLLER SHALL STOP RTU FAN, CLOSE OAD, AND SIGNAL ALARM CONDITION TO SYSTEM.

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05/21/2025

Drawing File :
TEMPERATURE CONTROLS

Drawn by : MLB
Date : 10/11/2024
APN : 2226-2A

Drawing Number :
M
702