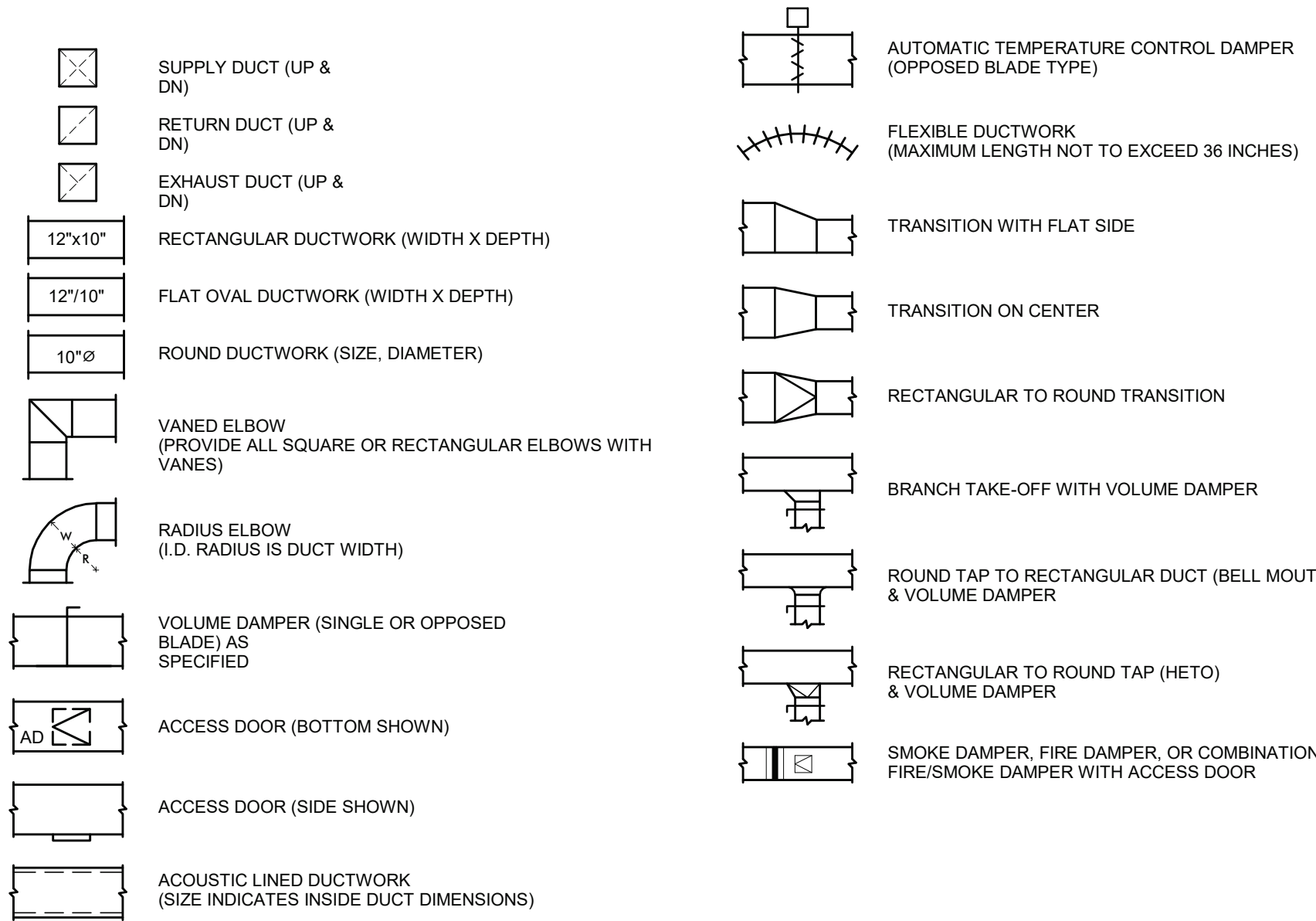
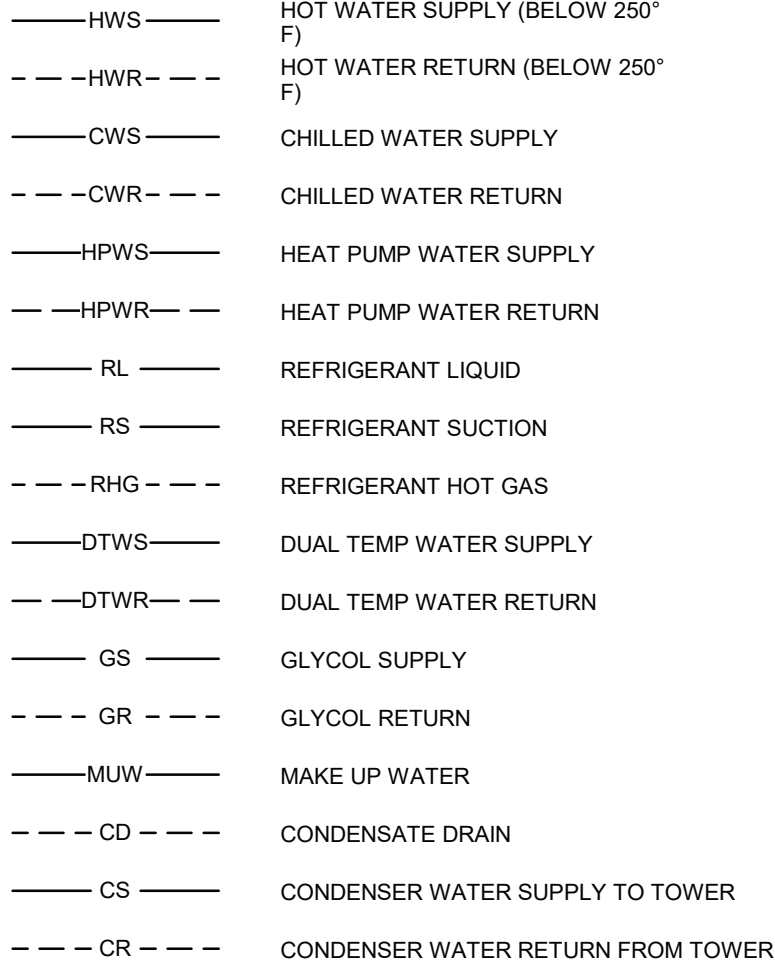


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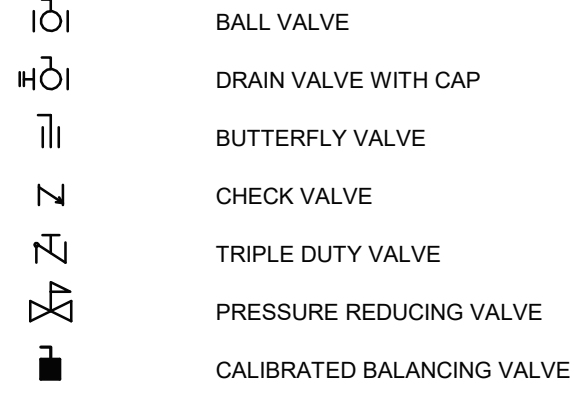
SHEETMETAL LEGEND



PIPING LEGEND



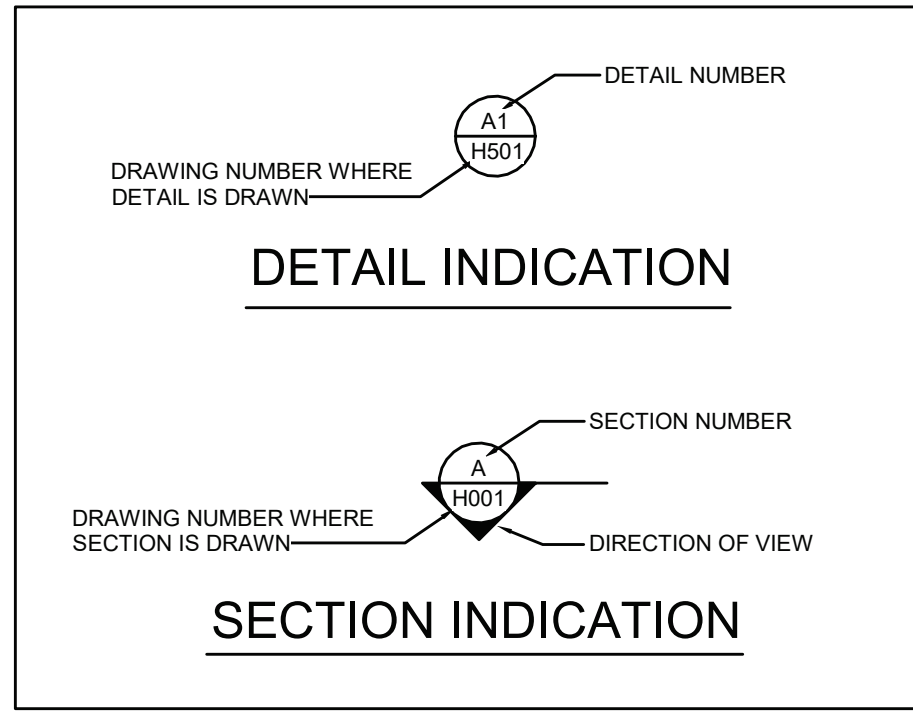
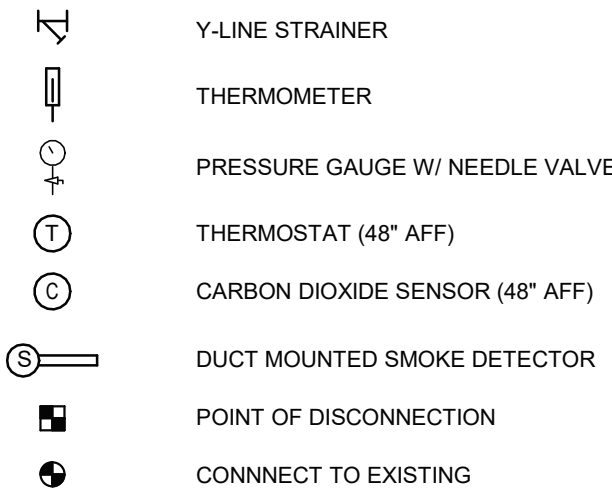
VALVE LEGEND



ABBREVIATION LEGEND

ABBREVIATION	DESCRIPTION
ACC	AIR-COOLED CONDENSER
ACCU	AIR-COOLED CONDENSING UNIT
AD	ACCESS DOOR
AF	AIR FILTER
AFF	ABOVE FINISHED FLOOR
AFM	AIR FLOW MEASURING DEVICE
AHU	AIR HANDLING UNIT
APD	AIR PRESSURE DROP
AV	AUTOMATIC AIR VENT
BTUH	BRITISH THERMAL UNITS PER HOUR
CC	COOLING COIL
CCCT	CLOSED CIRCUIT COOLER
CD	CEILING DIFFUSER
CEF	CEILING EXHAUST FAN
CFM	CUBIC FEET PER MINUTE
CO	CLEAN OUT
CONT	CONTINUED
CR	CEILING RETURN
CT	COOLING TOWER
CUH	CABINET UNIT HEATER
DB	DECIBELS
DBT	DRY BULB TEMPERATURE
DA	DIAMETER
DPT	DEW POINT TEMPERATURE
DX	DIRECT EXPANSION
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EFT	ENTERING FLUID TEMPERATURE
EG	EXHAUST GRILLE
EHC	ELECTRIC HEATING COIL
ER	EXHAUST REGISTER
ERC	ENERGY RECOVERY COIL
ERP	ELECTRIC RADIANT PANEL
ET	EXPANSION TANK
EWT	ENTERING WATER TEMPERATURE
EX	EXISTING
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FDS	COMBINATION FIRE/SMOKE DAMPER
FF	FINAL FILTER
FL	FLOOR
FPM	FEET PER MINUTE
FT	FEET
G	GALLONS
GM	GALLONS PER MINUTE
GR	GLYCOL SUPPLY
GRV	GRAVITY ROOF VENTILATION
GS	GLYCOL SUPPLY
H	HUMIDIFIER
HC	HEATING COIL
HT	HEIGHT
HP	HORSEPOWER OR HEAT PUMP
HRI	HEAT RECOVERY UNIT
HX	HEAT EXCHANGER
IN	INCH
KW	KILOWATT
L	LEAVING AIR TEMPERATURE
LAT	POUNDS PER HOUR
LB/SHR	LINEAR DIFFUSER
LFT	LEAVING FLUID TEMPERATURE
LPC	LOW PRESSURE CONDENSATE RETURN
LPS	LOW PRESSURE STEAM (15 PSIG AND BELOW)
LSD	LINEAR SLOT DIFFUSER
LWT	LEAVING WATER TEMPERATURE
M	MAXIMUM
MAX	MAXIMUM
MBH	ONE THOUSAND BRITISH THERMAL UNITS PER HOUR
MC	MECHANICAL CONTRACTOR
MD	MOTORIZED DAMPER
MIN	MINIMUM
MPC	MEDIUM PRESSURE CONDENSATE RETURN
MPS	MEDIUM PRESSURE STEAM (16-59 PSIG)
NC	NOT IN CONTRACT
NOM	NOMINAL
O	OUTSIDE AIR
OA	OUTSIDE AIR
P	PUMP
PC	PUMPED CONDENSATE
PD	PRESSURE DROP
PRV	PRESSURE REDUCING VALVE OR POWER ROOF VENTILATOR
PSIG	POUND PER SQUARE INCH - GAUGE
RA	RETURN AIR
RF	RETURN FAN
RG	RETURN GRILLE
RH	REHEAT COIL
RM	ROOM
ROTV	ROTARY VENTILATOR
RPM	REVOLUTIONS PER MINUTE
RR	RETURN REGISTER
RTU	ROOF-TOP UNIT
S	SUPPLY AIR
SA	SUPPLY AIR
SD	SMOKE DAMPER
SF	SUPPLY FAN
SP	STATIC PRESSURE
SR	SUPPLY REGISTER
T	TRANSFER OPENING
TO	TRANSFER OPENING
U	UNLESS NOTED OTHERWISE
UNO	UNIT VENTILATOR
V	VENTILATION AIR
VA	VARIABLE AIR VOLUME
VAV	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
VP	VACUUM PUMP
VR	VACUUM STEAM CONDENSATE RETURN
W	WET BULB TEMPERATURE
WB	WET BULB TEMPERATURE
WG	WATER GAUGE
WMS	WIRE MESH SCREEN
WPD	WATER PRESSURE DROP

SPECIALTY LEGEND



ELECTRIC CABINET HEATER SCHEDULE

TAG	LOCATION	CONFIGURATION	CFM (LOW-HIGH)	TOTAL MBH	KW	VOLTS	PH	AMPS	QMARK	REMARKS
WBW-ECH-1	SECURITY VESTIBULE SV1	HORIZONTAL RECESSED	400-500	34.1	10	208	3	34.0	CU945	1,2,3,4

REMARKS:

- PROVIDE UNIT MOUNTED DISCONNECT.
- PROVIDE TERMINAL BLOCK IN THE CONTROL COMPARTMENT FOR CONTROL INTERFACE BY THE BMS.
- PROVIDE ALL NECESSARY ACCESSORIES FOR CEILING MOUNTING INCLUDING TRIM FRAME.
- PROVIDE BOTTOM INLET AND OUTLET.

ELECTRIC FIN RADIATION SCHEDULE

TAG	STYLE	TOTAL WATTS	HEATING ELEMENT VOLTS	PH	WATTS/FT	DEPTH	HGT.	ENCLOSURE	MTGHT	OUTLET	LENGTH	MANUFACTURERS	REMARKS
WBW-EFT-1	SILL HEIGHT	750	208	1	250	3"	6.5"	4" AFF	TOP	3		CSH90A	1,2,4

REMARKS:

- PROVIDE UNIT MOUNTED DISCONNECT AND INTEGRAL THERMOSTAT.
- PROVIDE ALL NECESSARY MOUNTING AND TRIM ACCESSORIES.

HEAT PUMP SCHEDULE

ASSOCIATED CONDENSING						COOLING								HEATING		ELECTRICAL			MANUFACTURERS	
TAG	UNIT	UNIT STYLE	SERVICE	CFM (LOW-HIGH)	OA CFM	EXT S.P.	OAT (F)	EAT DB (MEH)	EAT MAXIMUM (MEH)	MINIMUM (MEH)	OAT (F)	EAT DB (MEH)	EAT MAXIMUM (MEH)	VOLTS	PH	MCA	TRANE / MITSUBISHI	REMARKS		
WBW-HP-1	WBW-CU-1	CEILING CASSETTE	SECURITY OFFICE S01	230 - 335	15	0	95	60	67	9.0	4.8	5	70	11.0	208	1	0.25	NTXCKS09A112AA	1,2,3,4	
WBW-HP-2	WBW-CU-2	CEILING CASSETTE	MAIN OFFICE 5	530 - 810	50	0	95	80	67	24.0	10.0	5	70	26.0	208	1	1.0	TFLA0241EA70B	1,2,4	
REMARKS:																				
1. PROVIDE UNIT MOUNTED DISCONNECT, WALL MOUNTED WIRED CONTROLLER, INTEGRAL CONDENSATE LIFT PUMP AND OUTSIDE AIR KIT.																				
2. PROVIDE BACKUP INTERFACE FOR CONNECTION TO BMS.																				
3. PROVIDE INDOOR UNIT WITH AUXILIARY HEAT RELAY KIT TO ENABLE ZONE FINNED RADIATION AS SECOND STAGE OF HEATING.																				
4. OUTDOOR UNIT SHALL SUPPLY POWER TO INDOOR UNIT.																				

AIR COOLED CONDENSING UNIT SCHEDULE

TAG	SERVICE	NOMINAL TONS	SUCTION TEMP (F)	COOLING OAT (F)	HEATING OAT (F)	SEER	ELECTRICAL				MANUFACTURERS	REMARKS
							VOLTS	PH	MCA	MOCPP	TRANE / MITSUBISHI	
WBW-CU-1	WBW-HP-1	0.75	45	95	5	20.2	208	1	14	24	NTXSKH08A112AA	1.2
WBW-CU-2	WBW-HP-2	2.0	45	95	5	21.6	208	1	17	27	TRUZH0241HA10NA	1.2

REMARKS:

1. PROVIDE UNIT MOUNTED DISCONNECT.
2. PROVIDE ALL ACCESSORIES FOR OPERATION DOWN TO -13F.

NON-POWERED ROOF VENTILATORS SCHEDULE

TAG	SERVICE	MAX. CFM	HOOD VELOCITY (FPM)	THROAT SIZE (")	CURB CAP SIZE (")	S.P. DROP AT MAX. CFM (")	H (")	L (")	W (")	COOK	REMARKS
WBW-SV-1	INTAKE	690	500	8 DIA.	16x18	0.375	8	16 DIA.	16 DIA.	PR	1

REMARKS:

- PROVIDE 24" TALL INSULATED ROOF CURB.

VENTILATION SCHEDULE

ROOM	ROOM NUMBER	OCCUPANCY CATEGORY	AREA (SF)	PEOPLE OUTDOOR AIR RATE (R6) (CFM/PERSON)	AREA OUTDOOR AIR RATE (R6) (CFM/SF)	OCCUPANT DENSITY (#/1000 SF)	NUMBER OF OCCUPANTS	CODE MIN. PEOPLE	CODE MIN. AREA	CODE MIN. COMBINED (Vbz) (Ez)	DIST. EFF. (Ez)	ZONE OA MIN. (Vbz)	DESIGN
MAIN OFFICE	5	OFFICE SPACE	460	5	0.06	5	1	5	4	9	0.8	11	15
SECURITY OFFICE	S01	OFFICE SPACE	61	5	0.06	5	2	10	28	36	0.8	46	50

- AIR COOLED CONDENSING UNIT
- COUNTER FLASHING OVER TREATED WOOD NAILED
- WELDED GALVANIZED STEEL EQUIPMENT RAIL (MIN. 24" HIGH), MIN. 18 GAGE, AS MANUFACTURED BY GREENHECK OR APPROVED EQUAL
- FASSTEN CONDENSING UNIT TO EQUIPMENT RAIL, COORDINATE SPACING PRIOR TO INSTALLATION.

NOTE: EQUIPMENT RAIL FURNISHED BY MC AND TURNED OVER TO GC FOR INSTALLATION. COORDINATE SIZE AND LAYOUT WITH GC.

PROVIDE PROFESSIONAL ENGINEER STAMPED AND SIGNED ENGINEERING CALCULATIONS AND DETAILS OF WIND RESTRAINT SYSTEMS TO MEET TOTAL DESIGN LATERAL FORCE REQUIREMENTS FOR SUPPORT AND RESTRAINT OF MECHANICAL SYSTEMS.

WIND RESTRAINT ENGINEERING CALCULATIONS AND DETAILS SHALL PROVIDE THE QUANTITY OF ATTACHMENTS AND SIZE/TYPE OF ATTACHMENTS FOR THE MOUNTING OF SUPPORT RAIL TO THE BUILDING STRUCTURE, AND FOR ATTACHMENT OF THE EQUIPMENT TO THE SUPPORT RAIL.

SUBMIT WIND FORCE LEVEL (FPI) CALCULATIONS FROM APPLICABLE BUILDING CODE. SUBMIT PRE-APPROVED RESTRAINT SELECTIONS, INSTALLATION DETAILS, PLANS INDICATING LOCATIONS OF RESTRAINTS AND MANUFACTURER'S PRODUCT DATA.

WIND RESTRAINT DESIGN CRITERIA:

ULTIMATE DESIGN WIND SPEED, V 126 MPH

EXPOSURE CATEGORY B

RISK CATEGORY III

HEIGHT & EXPOSURE ADJUSTMENT COEFFICIENT NA (1)

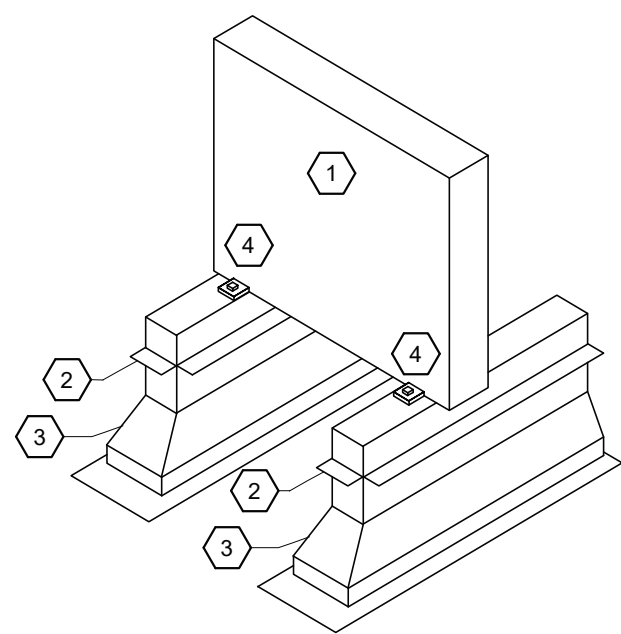
(1) BUILDING HEIGHT LESS THAN 60 FT.

- PROVIDE STRAIGHT SIDED INSULATED CURB (MIN. 24" HIGH), COVER, CAP AND CLAMPS AS MANUFACTURED BY PORTALS PLUS OR APPROVED EQUAL.
- REFRIGERANT PIPE, QTY PER PLANS
- ELECTRICAL CONDUIT, QTY PER PLANS
- ROOF FLASHING AND ROOF DECK

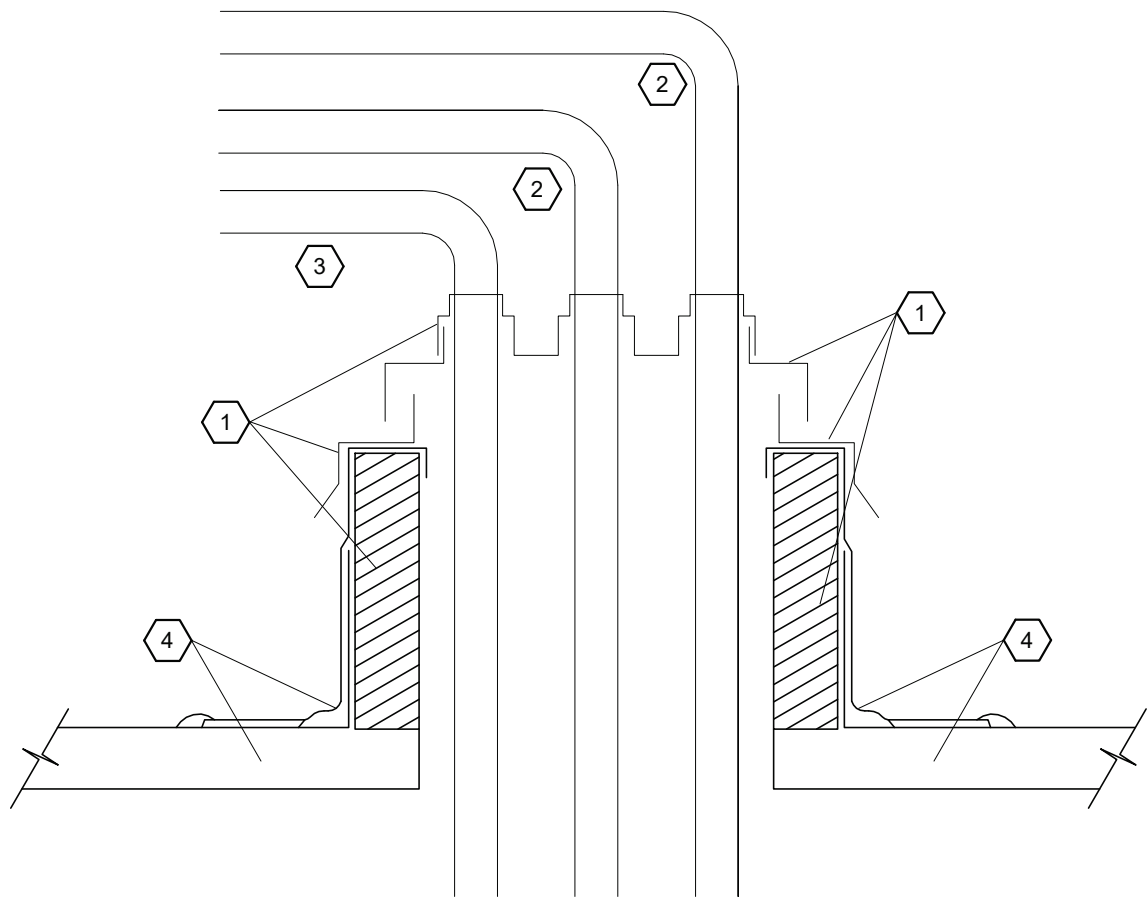
NOTE: EACH COMPLETE PIPE PORTAL SHALL INCLUDE A BASE WITH A MOLDED SEALING RING ON A COLLARED OPENING AND AN EPDM COMPRESSION MOLDED RUBBER CAP. THE CAP AND BASE SHALL BE LOCKED WITH A "WEATHER TIGHT PRESSURE SEAL." THE PORTAL SHALL INCLUDE STAINLESS STEEL CLAMP SEALING UNITS. THE PIPE PORTAL SHALL INCLUDE A PREFABRICATED ROOF CURB, A LAMINATED ACRYLIC COATED ABS COVER WITH PRE-PUNCHED MOUNTING HOLES AND A DOUBLE MOLDED SEALING RING ON THE COLLARED OPENING.

CONTRACTOR TO VERIFY CURB DIMENSIONS IN FIELD.

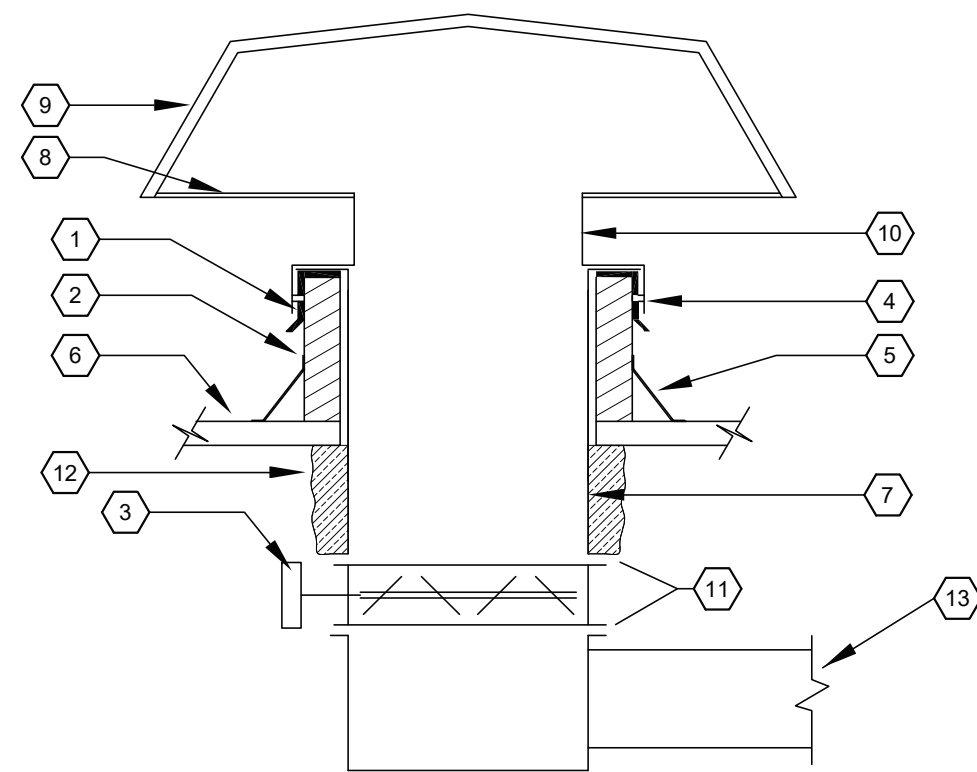
- CAP FLASHING
- ROOF CURB MIN. 24" HIGH. ROOF CURB TO BE PROVIDED FOR INSTALLATION ON SLOPED ROOF. COORDINATE WITH ARCHITECTURAL DRAWINGS.
- INSULATED/THERMALLY BROKEN MOTORIZED DAMPER, TAMCO OR EQUAL.
- LAG TO CURB
- ROOF FLASHING
- ROOF
- DUCT TO BE FULL SIZE OF CURB OPENING
- BIRD SCREEN
- HOOD
- 12" BASE ON INTAKES
- FLANGED CONNECTION
- DUCT INSULATION
- SEE PLAN FOR DUCT SIZE AND CONTINUATION



1 Roof Mounted Condensing Unit Support - Single Unit
N.T.S.



2 Roof Piping Penetration At Condensing Unit Detail
N.T.S.



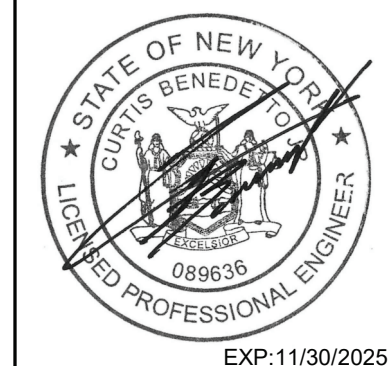
3 Fresh Air Intakes And Air Relief Vents Detail
N.T.S.

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845.561.1379 www.csarch.com



CITY SCHOOL DISTRICT OF NEW ROCHELLE
WILLIAM B. WARD ELEMENTARY SCHOOL
2023 CAPITAL PROJECT - PHASE 1

Project Title



NO.	DATE	DESCRIPTION
1	11/13/2024	RID ADDENDUM 1
2		
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Drawn By: AN

Checked By: CB

Proj. #: 66-11-00-01-0-013-016

CSArch Proj. #: 186.2301.00

Issued for Bid: 10/14/2024

Sheet Title

Mechanical
Legends,
Details and
Schedules

Sheet No.

WBW
M001

CONSTRUCTION DOCUMENTS

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