AIR DISTRIBUTION SYMBOLS

- 12x16 — RECTANGULAR DUCT, (FIRST NUMBER IS SIDE SHOWN) DIMENSIONS IN INCHES
- 12"Ø — 12 INCH ROUND DUCT
- MD — MOTORIZED DAMPER
- FLEXIBLE DUCT
- DUCT FLEXIBLE CONNECTOR (FC)
- D R — DUCT DROPS AND RISES IN DIRECTION OF AIR FLOW
- RETURN DUCT TURNED UP OR DOWN (DASHED)
- SUPPLY DUCT TURNED UP OR DOWN (DASHED)
- EXHAUST DUCT TURNED UP OR DOWN (DASHED)
- ACOUSTICAL LINING (DUCT DIM. FOR NET FREE AREA)
- ROUND DUCT ELBOW DOWN
- ROUND DUCT ELBOW UP
- SQUARE TO ROUND TRANSITION
- CAP (DUCT AND/OR PIPE)
- INDICATES DUCT, PIPING, EQUIPMENT TO BE REMOVED.
- EA — EXHAUST AIR
- RA — RETURN AIR
- SA — SUPPLY AIR
- VOLUME DAMPER
- FIRE DAMPER
- SMOKE DAMPER — TAG NO.
- COMBINATION SMOKE/FIRE DAMPER — TAG NO.
- RECTANGULAR ELBOW W/TURNING VANES
- DIRECTION OF AIR FLOW (IN)
- DIRECTION OF AIR FLOW (OUT)
- H — HUMIDISTAT OR HUMIDITY SENSOR
- T — THERMOSTAT (T'STAT) OR TEMP. SENSOR
- SD — SMOKE DETECTOR
- 5-3 — DIFFUSER, REGISTER OR GRILLE TAG
  300 — CFM AIR FLOW
  TYP. 3 — QUANTITY
- FT-2 — FIN/NED TUBE TAG
  20 — LENGTH OF FIN/NED ELEMENT
- 3/1 — DETAIL NO.
  M6NE01 — SHEET NO. WHERE DETAIL IS LOCATED
- CUH — EQUIPMENT TAG
  2 — EQUIPMENT NO.

PIPING SYMBOLS

- UNION
- FLANGE
- PIPE ANCHOR
- PIPE GUIDE OR SLEEVES
- PIPE ELBOW TURNED DOWN
- PIPE ELBOW TURNED UP
- PIPING TEE-DOWN
- PIPING TEE-UP
- PIPE RISER
- FLOOR CLEAN OUT
- CLEAN OUT
- WALL CLEAN OUT
- PIPE PITCHES DOWN
- GENERIC VALVE, SEE SPECIFICATIONS FOR TYPE
- GATE VALVE
- BALL VALVE
- BUTTERFLY VALVE (MANUAL)
- 2-WAY CONTROL VALVE
- 3-WAY CONTROL VALVE
- BALANCING VALVE (CIRCUIT SETTER)
- CHECK VALVE
- PLUG VALVE
- GLOBE VALVE
- NEEDLE VALVE
- BACK FLOW PREVENTER
- SOLENOID VALVE
- PRESSURE REDUCING OR REGULATING VALVE
- PRESSURE RELIEF VALVE
- STRAINER
- STRAINER W/BLOWDOWN
- MANUAL AIR VENT
- AUTOMATIC AIR VENT
- PS — PRESSURE SWITCH
- FS — FLOW SWITCH
- PG — PRESSURE GAUGE AND COCK
- THERMOMETER AND WELL
- TEMPERATURE & PRESSURE TAP (PETE'S PLUG)
- HOSE END DRAIN VALVE WITH CAP
- ORIFICE FLOWMETER
- FLEXIBLE PIPE CONNECTOR
- EXPANSION JOINT
- F&T — STEAM TRAP (FLOAT AND THERMOSTATIC INDICATED T.T. THERMOSTAT, B.T. BUCKET TRAP) TRAP, T.D. THERMODYNAMIC TRAP)
- CONCENTRIC REDUCER/INCREASER
- ECCENTRIC REDUCER/INCREASER
- HOSE BIBB
- WALL HYDRANT
- DIRECTION OF FLOW
- FIRE DEPARTMENT CONNECTION
- PUMP
- WATER HAMMER SUPPRESSER
- FINNED TUBE BASEBOARD
- H — HUMIDIFIER
- DP — DIFFERENTIAL PRESSURE TRANSMITTER
- SPRINKLER HEAD
- GAS TURRET
- MEDICAL OXYGEN OUTLET
- MEDICAL VACUUM INLET
- MEDICAL AIR OUTLET
- NITROUS OXIDE OUTLET

ABBREVIATIONS

AAV	AUTOMATIC AIR VENT
ACC	AIR COOLED CONDENSER
ACU	AIR CONDITIONING UNIT
AD	ACCESS DOOR
AE	ACID EXHAUST
AFF	ABOVE FINISHED FLOOR
AFMS	AIR FLOW MEASURING STATION
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
ATC	AUTOMATIC TEMPERATURE CONTROL
AV	AIR VENT
BA	BREATHING COMPRESSED AIR
BB	BASEBOARD
BDD	BACKDRAFT DAMPER
BG	BLAST GATE
BFP	BACKFLOW PREVENTER
BLDG	BUILDING
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BTU	BRITISH THERMAL UNIT
CBD	COUNTER BALANCED DAMPER
CD	CEILING DIFFUSER
CFF	CAPPED FOR FUTURE
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CO	CLEANOUT
CONT	CONTINUATION
COORD	COORDINATE
CP	CONDENSATE PUMP & RECEIVER
CT	COOLING TOWER
CTE	CONNECT TO EXISTING
CU	COPPER
CUH	CABINET UNIT HEATER
CV	CONTROL VALVE
CW	COLD WATER
CW-P	CITY WATER-PROCESS
DC	DOUBLE CONTAINED
DDC	DIRECT DIGITAL CONTROL
DIA	DIAMETER
DIC	DOWN IN CHASE
DIW	DOWN IN WALL
DN	DOWN
DS	DOWNSPOUT
DT	DROP AND TRANSITION
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
EA	EXHAUST AIR
EF	EXHAUST FAN
ENC	ENCLOSURE
ER	EXHAUST REGISTER
(E)	EXISTING
EXIST.	EXISTING
FBO	FURNISHED BY OWNER
FBP	FACE AND BYPASS
FC	FLEXIBLE CONNECTION
FCO	FLOOR CLEANOUT
FD-##	FLOOR DRAIN TAG
FD	FIRE DAMPER
FG	FIBERGLASS
F & T	FLOAT AND THERMOSTATIC
FO	FLAT OVAL
FRHB	FREEZE RESISTANT HOSE BIBB
FTR	FINNED TUBE RADIATION
FS	FLOW SWITCH
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
H	HUMIDIFIER
HB	HOSE BIB
HRU	HEAT RECOVERY UNIT
HTR	HEATER
H & V	HEATING AND VENTILATION
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HW	HOT WATER
HX	HEAT EXCHANGER
IN WG	INCHES WATER GAUGE
LD	LINED DUCT
MAU	MAKE UP AIR UNIT
MAX	MAXIMUM
MBH	1000 BTU/HR.
ME	MECHANICAL ENGINEER
MFR	MANUFACTURER
MIN	MINIMUM
MD	MOTOR OPERATED DAMPER
MPV	MULTI-PURPOSE VALVE
MTD	MOUNTED
MUA	MAKE UP AIR
NPW	NON-POTABLE WATER
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
OED	OPEN ENDED DUCT
P-##	PLUMBING FIXTURE TAG
PEA	ALKALI EXHAUST
PEH	HEAT EXHAUST
PAE	PROCESS ACID EXHAUST
PHE	PROCESS HEAT EXHAUST
PSE	PROCESS SOLVENT EXHAUST
PP	POLY-PROPYLENE
PPE	PRE PURCHASED EQUIPMENT
PRS	PRESSURE REDUCING STATION
PRV	PRESSURE REDUCING VALVE
PVD	PNEUMATIC VOLUME DAMPER
(R)	REMOVE
RA	RETURN AIR
RD	ROOF DRAIN
(REL.)	RELOCATED
RF	RETURN FAN
RG	RETURN GRILLE
RHC	REHEAT COIL
RM	ROOM
RPZ	REDUCED PRESSURE ZONE B/FP
RR	RETURN REGISTER
RV	RELIEF VALVE
SA	SUPPLY AIR
SCV	SELF CONTAINED VALVE
SD	SMOKE DETECTOR
SF	SUPPLY FAN
SG	SUPPLY GRILLE
SR	SUPPLY REGISTER
SS	STAINLESS STEEL
TE	TEMPERATURIZED ELEMENT (SENSOR)
TG	TRANSFER GRILLE
TOD	TOP OF DUCT
TOP	TOP OF PIPE
TTS	TIGHT TO STEEL
TV	TURNING VANE(S)
TYP	TYPICAL
UH	UNIT HEATER
UIC	UP IN CHASE
UIW	UP IN WALL
UV	UNIT VENTILATOR
VAV	VARIABLE AIR VOLUME BOX
VB	VACUUM BREAKER
VTR	VENT THRU ROOF
VD	MANUAL VOLUME DAMPER
VCFF	VALVED AND CAPPED FOR FUTURE
VFD	VARIABLE FREQUENCY DRIVE
VOC	VOLATILE ORGANIC COMPOUNDS
W/	WITH
WCO	WALL CLEANOUT
WH	WALL HYDRANT

PIPING SYSTEMS

10:1 HF	10:1 HF	
AV	ACID VENT	
AD	ACID DRAIN	
AD	ACID DRAIN (BELOW SLAB)	
BA	BREATHING AIR	
CD	CONDENSATE DRAIN	
CDA	COMPRESSED DRY AIR	
CHWS	CHILLED WATER SUPPLY	
CHWR	CHILLED WATER RETURN	
CWS	CONDENSER WATER SUPPLY	
CWR	CONDENSER WATER RETURN	
DB	DISTRIBUTION VALVE BOX	
DIS	DEIONIZED WATER SUPPLY	
DIR	DEIONIZED WATER RETURN	
EKCD	EXC DRAIN	
ESEW	EYEWASH	
FCS	FREE COOLING SUPPLY	
FCR	FREE COOLING RETURN	
FOS	FUEL OIL SUPPLY	
FOR	FUEL OIL RETURN	
FOV	FUEL OIL VENT	
GCR	GRAVITY STEAM CONDENSATE RETURN	
GLY	GLYCOL	
GV	GAS VENT	
H	HYDROGEN	
H2O2	HYDROGEN PEROXIDE	
HCR	HOT/ CHILLED WATER RETURN	
HCS	HOT/ CHILLED WATER SUPPLY	
HCV	HOUSE CLEAN VACUUM	
HG	HOT GAS	
HPS	HIGH PRESSURE STEAM	
HPR	HIGH PRESSURE CONDENSATE RETURN	
HWS	HOT WATER SUPPLY	
HWR	HOT WATER RETURN	
IAD	ISOPROPYL ALCOHOL DRAIN	
LP	LIQUID PROPANE GAS	
HLP	HIGH PRESSURE LIQUID PROPANE GAS	
LPS	LOW PRESSURE STEAM	
LPR	LOW PRESSURE RETURN	
MA	MEDICAL AIR	
MPS	MEDIUM PRESSURE STEAM	
MPR	MEDIUM PRESSURE RETURN	
MV	MEDICAL VACUUM	
N2NP	NON-PROCESS NITROGEN	
N2	PROCESS NITROGEN	
NG	NATURAL GAS	
HNG	HIGH PRESSURE NATURAL GAS	
N02	NITROUS OXIDE	
NEG. SOLV.	NEGATIVE SOLVENT DRAIN	
NPW	NON POTABLE COLD WATER	
O2	OXYGEN	
OFA	OIL FREE COMPRESSED AIR	
PCWR	PROCESS COOLING WATER RETURN	
PC	PUMPED STEAM CONDENSATE	
PD	PUMPED DISCHARGE	
POS. SOLV.	POSITIVE SOLVENT DRAIN	
PW	POTABLE WATER	
R	RELIEF LINE	
RL	REFRIGERANT LIQUID	
RS	REFRIGERANT SUCTION	
SLD	MIXED SOLVENT DRAIN	
SV	SOLVENT	
SP	SPRINKLER	
TW	TEMPERED WATER	
TWS	TEMPERED CHILLED WATER SUPPLY	
TWR	TEMPERED CHILLED WATER RETURN	
VAC	PLANT VACUUM	
ZB	ZONE VALVE BOX	
TEMP	DOMESTIC HOT WATER (TEMP °F)	
TEMP	RECIRC. DOMESTIC HOT WATER (TEMP °F)	
CW	DOMESTIC COLD WATER	
HW	DOMESTIC HOT WATER (120° F)	
RHW	**RECIRCULATED DOMESTIC HOT WATER** (120° F)	
S, W or KW	S SANITARY, W WASTE & KW KITCHEN WASTE	
S, W or KW	S SANITARY, W WASTE & KW KITCHEN WASTE (EXIST.)	
S, W or KW	S SANITARY, W WASTE & KW KITCHEN WASTE (BELOW SLAB)	
S, W or KW	S SANITARY, W WASTE & KW KITCHEN WASTE (BELOW SLAB-EXIST.)	
SD	SD STORM DRAIN	
SD	SD STORM DRAIN (EXIST.)	
SD	SD STORM DRAIN (BELOW SLAB)	
SD	SD STORM DRAIN (BELOW SLAB-EXIST.)	
V	V SANITARY VENT	
V	V SANITARY VENT (EXIST.)	
V	V SANITARY VENT (BELOW SLAB)	
V	V SANITARY VENT (BELOW SLAB-EXIST.)	

GENERAL NOTE

1. ALL GENERAL NOTES, SYMBOL LISTS, AND DETAILS ARE TO BE CONSIDERED AS APPLICABLE TO ALL HVAC AND PLUMBING DRAWINGS FOR THIS PROJECT. SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY AND DO NOT INDICATE THEIR INCORPORATION INTO THE DESIGN.

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ISSUED FOR G.M.P. & PERMITTING
4-3-09

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JOB CAP/DRAWN:	TCM/DJL		
A/E OF RECORD:	TAC	SHEET No.	
SMRT CAD FILE:	M-001-08139	M-001	
PROJECT No.	08139		

PROGRESS PRINT