

	PIPE ELBOW TURNED DN		GLOBE VALVE		STEAM TRAP (FLOAT & THERMOSTATIC INDICATED T.T. = THERMOSTATIC TRAP, B.T. = BUCKET TRAP)		EXPANSION LOOP		CHANGE IN ELEVATION (UP/DOWN, RISE OR DROP)		MOTORIZED DAMPER		REGISTER, GRILLE & DIFFUSER TAG
	PIPE ELBOW TURNED UP		LOCKABLE BALL VALVE		PLUG VALVE		FLOOR DRAIN		SUPPLY DUCT TURNED UP/DN		FLEXIBLE CONNECTION		DIFFUSER, REGISTER OR GRILLE No.
	PIPING TEE DOWN		2-WAY CONTROL VALVE		PUMP - POINT OF TRIANGLE INDICATES DIRECTION OF FLOW		SHOCK ABSORBER (WATER HAMMER ARRESTER)		RETURN DUCT TURNED UP/DN		TEMPERATURE SENSOR OR THERMOSTAT (AS SPECIFIED)		FINTUBE TAG
	PIPING TEE UP		3-WAY CONTROL VALVE		GAS SHUT-OFF VALVE		FIRE DEPARTMENT CONNECTION		EXHAUST DUCT TURNED UP/DN		HUMIDISTAT OR HUMIDITY SENSOR (AS SPECIFIED)		VAV TAG
	PIPE RISER		LOCK & SHIELD VALVE		HOSE END DRAIN VALVE W/CAP		FREE STANDING FIRE DEPARTMENT CONNECTION		ROUND DUCT TURNED UP/DN		CARBON DIOXIDE SENSOR		CARBON MONOXIDE SENSOR
	45° ELBOW DOWN		CHECK VALVE		TEMPERATURE/PRESSURE TAP (PETE'S PLUG)		WATER GONG		MITERED DUCT ELBOW W/TURNING VANES		ACCESS PANEL		EQUIPMENT TAG
	PIPING TO BE REMOVED		BALANCING VALVE (CIRCUIT SETTER)		THERMOMETER WITH COCK		DUCTWORK TO BE REMOVED		RADIUS DUCT ELBOW		DUCT SMOKE DETECTOR		EQUIPMENT TAG (ON FLOOR/ROOF ABOVE)
	CAPPED PIPING		AIR VENT - REFER TO SPECIFICATIONS		SOLENOID VALVE		SINGLE LINE DUCTWORK TO BE REMOVED		DUCT/PIPE CAP (SINGLE/DOUBLE LINE)		ROOFTOP EXHAUST FAN		DETAIL REFERENCE SYMBOL
	CAPPED BELOW FINISHED FLOOR		STRAINER WITH BLOWDOWN VALVE AND CAP		ORIFICE FLOWMETER		DUCT TRANSITION		FIRE DAMPER		ROOFTOP SUPPLY FAN		SECTION REFERENCE SYMBOL
	CONCENTRIC REDUCER		EXPANSION VALVE (AUTOMATIC)		DIFFERENTIAL PRESSURE TRANSMITTER		SQUARE TO ROUND TRANSITION		SMOKE DAMPER		CEILING DIFFUSER - 4-WAY BLOW		
	ECCENTRIC REDUCER		RELIEF/SAFETY VALVE		HUMIDIFIER (DUCT/AHU MOUNTED)		FLEX DUCT - DOUBLE LINE		FIRE AND SMOKE DAMPER		CEILING DIFFUSER - 3-WAY BLOW		
	DIRECTION OF FLOW		PRESSURE GAUGE WITH COCK		FINNED TUBE BASEBOARD		FLEX DUCT - SINGLE LINE		BACKDRAFT DAMPER		CEILING DIFFUSER - 2-WAY BLOW		
	PIPING PITCHES DOWN		SIGHT GLASS		HOSE BIB/WALL HYDRANT						CEILING DIFFUSER - CORNER BLOW		
	PIPE GUIDE		PRESSURE REDUCING VALVE		FLOOR CLEANOUT						CEILING DIFFUSER - CORNER BLOW		
	EXPANSION JOINT		FLOW SWITCH		FUSIBLE LINK VALVE						CEILING RETURN GRILLE		
	PIPE ANCHOR		SELF-CONTAINED TEMP. CONTROL VALVE WITH REMOTE SENSOR		WALL CLEANOUT						CEILING EXHAUST GRILLE		
	UNION				AQUASTAT						POINT OF CONNECTION EXISTING TO NEW		
	FLANGED CONNECTION										DIRECTION OF AIR FLOW		
	BACKFLOW PREVENTER												
	FLEXIBLE CONNECTION												
	SHUT-OFF/ISOLATION VALVE REFER TO SPECIFICATIONS												
	GATE VALVE - OUTSIDE SCREW & YOKE (OS&Y)												

**E1 SYMBOLS LEGEND**

NONE		NONE		NONE		NONE		NONE		NONE		NONE	
AW	ACID WASTE	LPR	LOW-PRESSURE CONDENSATE	AAV	AUTOMATIC AIR VENT	DN	DOWN	LP	LIQUID PETROLEUM GAS	TOD	TOP OF DUCT		
ATV	AIR RELIEF	LPS	LOW-PRESSURE STEAM	AC	ABOVE CEILING	DS	DOWNSPOUT	LPR	LOW PRESSURE STEAM RETURN	TP	TRAP PRIMER		
BBD	BOILER BLOWDOWN	MA	MEDICAL AIR	ACC	AIR COOLED CONDENSER	DT	DROP AND TRANSITION	LPS	LOW PRESSURE STEAM SUPPLY	TSP	TOTAL STATIC PRESSURE		
C	CONDENSATE (HVAC DRAIN PAN)	MPR	MEDIUM-PRESSURE CONDENSATE	ACU	AIR CONDITIONING UNIT	DV	DRAIN VALVE	LAX	MAXIMUM	TTS	TIGHT TO STEEL		
C	CONDENSATE (HVAC DRAIN PAN - BELOW FLOOR)	MPS	MEDIUM-PRESSURE STEAM	ADA	AMERICANS WITH DISABILITIES ACT	DWG	DRAWING	MBH	1000 BTU/HR.	TV	TURNING VANE		
CA	COMPRESSED AIR	MU	MAKEUP WATER	AD	ACCESS DOOR	EA	EXHAUST AIR	MFR	MANUFACTURER	TW	TEMPERED WATER		
CHWR	CHILLED WATER RETURN	N2	NITROGEN	AE	ACID EXHAUST	EF	EXHAUST FAN	MIN	MINIMUM	TYP	TYPICAL		
CHWS	CHILLED WATER SUPPLY	NCW	NON-POTABLE COLD WATER	AW	ACID WASTE	EG	EXHAUST GRILLE	MOD	MOTOR OPERATED DAMPER	UH	UNIT HEATER		
CWS	CONDENSER WATER SUPPLY	NG	NATURAL GAS	AFF; A.F.F.	ABOVE FINISHED FLOOR	ELEV	ELEVATION	MPG	MEDIUM PRESSURE GAS	UIC	UP IN CHASE		
CWR	CONDENSER WATER RETURN	NHW	NON-POTABLE HOT WATER	AHJ	AIR HANDLING UNIT	ELONG	ELONGATE	MPV	MULTI-PURPOSE VALVE	UIW	UP IN WALL		
DCW	DOMESTIC COLD WATER (DCW)	NO	NITROUS OXIDE	AP	ACCESS PANEL	ENC	ENCLOSURE	MTD	MOUNTED	UV	UNIT VENTILATOR		
DHW	DOMESTIC HOT WATER (DHW)	OX	OXYGEN	APPROX	APPROXIMATE; APPROXIMATELY	ER	EXHAUST REGISTER	MTG	MOUNTING	V	VENT		
DHWR	DOMESTIC WATER RECIRC. (DHWR)	PC	PUMPED CONDENSATE	APMR	AS PER MFR'S RECOMMENDATIONS	ESP	EXTERNAL STATIC PRESSURE	MUA	MAKE UP AIR	VAC	VACUUM		
D	DRAIN	PCWR	PROCESSED COLD WATER RETURN	ATC	AUTOMATIC TEMPERATURE CONTROL	ET	EXPANSION TANK	N.C.	NORMALLY CLOSED	VAC	VACUUM BREAKER		
FM	PUMP FORCE MAIN	PWS	PROCESSED COLD WATER SUPPLY	AV	AIR VENT	(E)	EXISTING	N.O.	NORMALLY OPEN	VCFF	VALVE & CAP FOR FUTURE		
FOF	FUEL OIL FILL	RD	REFRIGERANT DISCHARGE	BC	BALANCING COCK	F & T	FLOAT AND THERMOSTATIC	NPT	NATIONAL PIPE THREAD	VD	VOLUME DAMPER - MANUAL		
FOR	FUEL OIL RETURN	RL	REFRIGERANT LIQUID	BDD	BACKDRAFT DAMPER	FBO	FURNISHED BY OTHERS	NTS	NOT TO SCALE	VLV	VALVE		
FOS	FUEL OIL SUPPLY	RS	REFRIGERANT SUCTION	BG	BLAST GATE	FBP	FACE AND BYPASS	OA	OUTSIDE AIR	VS	VENT STACK		
FOV	FUEL OIL TANK VENT	SP	SPRINKLER MAIN PIPING	BF	BARRIER FREE	FC	FLEXIBLE CONNECTION	OD	OPPOSED BLADE DAMPER	VTR	VENT THROUGH ROOF		
FW	FEEDWATER	SWR	SOLAR WATER RETURN	BFP	BACKFLOW PREVENTER	FD	FLOOR CLEANOUT	OED	OPEN ENDED DUCT	W	WASTE		
GR	GLYCOL RETURN	SWS	SOLAR WATER SUPPLY	BHP	BRAKE HORSEPOWER	FD#	FLOOR DRAIN TAG	P#	PLUMBING FIXTURE TAG	W	W/ WITH		
GS	GLYCOL SUPPLY	TP	TRAP PRIMER PIPING ABOVE GRADE	BLDG	BUILDING	FIN	FINISH	PD	PUMPED DISCHARGE	WB	WET BULB TEMPERATURE, °F		
H	HUMIDIFICATION LINE	TP	TRAP PRIMER PIPING BELOW GRADE	BOD	BOTTOM OF DUCT	FL	FLOOR	PRS	PRESSURE REDUCING STATION	WCO	WALL CLEANOUT		
H2	HYDROGEN GAS	TWR	TEMPERED RETURN WATER	B.T.U.	BRITISH THERMAL UNIT	FTG	FOOTING	PRV	PRESSURE REDUCING VALVE	WH	WATER HEATER		
HPWR	HEAT PUMP WATER RETURN	TWS	TEMPERED SUPPLY WATER	C; CONV.	CONVECTOR	FTR	FINNED TUBE RADIATION	RA	RETURN AIR	WHYD	WALL HYDRANT		
HPWS	HEAT PUMP WATER SUPPLY	V	SANITARY SOIL VENT (ABOVE FLOOR)	CCW	COUNTER CLOCKWISE	FS	FLOW SWITCH	RD	ROOF DRAIN	NTS	NOT TO SCALE		
HPC	HIGH-PRESSURE CONDENSATE	V	SANITARY SOIL VENT (BELOW FLOOR)	CCW	COUNTER CLOCKWISE	FS	FLOW SWITCH	REC	RECOMMENDATION	Ø	DIAMETER		
HPS	HIGH-PRESSURE STEAM	VC	VACUUM CLEANING (HOUSE)	CF	CAPPED FOR FUTURE	FM	FORCE MAIN	REG	REGULAR	@	AT		
HTWR	HIGH-TEMP. HOT WATER RETURN	VPD	VACUUM PUMP DISCHARGE	CFM	CUBIC FEET PER MINUTE	GC	GENERAL CONTRACTOR	RF	RETURN FAN	&	AND		
HWR	HOT WATER RETURN	W	SANITARY SOIL WASTE (ABOVE FLOOR)	CLG	CEILING	GPM	GALLONS PER MINUTE	RG	RETURN GRILLE	%	PERCENT		
HWS	HOT WATER SUPPLY	W	SANITARY SOIL WASTE (BELOW FLOOR)	CO	CLEANOUT	GV	GRAVITY VENTILATOR	RHC	REHEAT COIL				
IND	INDUSTRIAL WASTE	WV	SANITARY WET VENT (ABOVE FLOOR)	CM	CONSTRUCTION MANAGER	H	HUMIDIFIER	RM	ROOM				
IW	INDIRECT WASTE	WV	SANITARY WET VENT (BELOW FLOOR)	CNTR	COUNTER; COUNTERTOP	HB	HOSE BIB	RPZ	REDUCED PRESSURE BFP				
LN	LIQUID NITROGEN			CONN	CONNECT; CONNECTION	HC; HDC	HANDICAP ACCESS	RR	RETURN REGISTER				
LOX	LIQUID OXYGEN			CONT	CONTINUE; CONTINUATION	HGT, HT.	HEIGHT	RV	RELIEF VALVE				
LPC	LOW-PRESSURE CONDENSATE			COORD	COORDINATE	HP	HEAT PUMP	RW	RAIN WATER				
LP	LIQUID PETROLEUM GAS			CORR	CORRIDOR	HRU	HEAT RECOVERY UNIT	S	SUPPLY AIR				
				CR	CHEMICAL RESISTING	HTR	HEATER	SA-"	SHOCK ABSORBER OF PDI SIZE ("")				
				CTE	CONNECT TO EXISTING	H & V	HEATING AND VENTILATION	SCV	SELF CONTAINED VALVE				
				CTR	CENTER	HVAC	HEATING, VENTILATING, & AIR COND.	SD	SMOKE DAMPER				
				CTRLN	CENTERLINE	HW	HOT WATER	SF	SUPPLY FAN				
				CU	COPPER	HWR	HOT WATER RETURN	SG	SUPPLY GRILLE				
				CUH	CABINET UNIT HEATER	HWS	HOT WATER SUPPLY	SGL	SINGLE				
				C.V.	CONTROL VALVE	HX	HEAT EXCHANGER	SHT	SHEET				
				CW	COLD WATER/CLOCKWISE	ID	INSIDE DIAMETER	SPLR	SPRINKLER				
				DB	DRY BULB TEMPERATURE, °F	IN WG	INCHES WATER GAUGE	SO FT; S. F.	SQUARE FEET				
				DC	DOUBLE CONTAINED	INCL	INCLUDING	SR	SUPPLY REGISTER				
				DDC	DIRECT DIGITAL CONTROL	INV EL	INVERT ELEVATION	S/O	SHUT OFF				
				DET	DETAIL	IPS	IRON PIPE SIZE	S.S.	STAINLESS STEEL				
				DIA	DIAMETER	KE-#	KITCHEN EQUIPMENT NUMBER	TD	TRENCH DRAIN				
				DIC	DOWN IN CHASE	LD	LINEAR DIFFUSER	TG	TRANSFER GRILLE				
				DIW	DOWN IN WALL	LE-#	SCIENCE LAB EQUIPMENT NUMBER						

**A1 PIPING LINETYPE LEGEND**

NONE		NONE		NONE		NONE		NONE		NONE		NONE	
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**PLUMBING AND HVAC NOTES, LEGEND AND ABBREVIATIONS**

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**NOTE**  
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