

PIPE ELBOW TURNED DN PIPE ELBOW TURNED UP PIPING TEE DOWN PIPING TEE UP PIPE RISER 45° ELBOW DOWN PIPING TO BE REMOVED CAPPED PIPING CAPPED BELOW FINISHED FLOOR CONCENTRIC REDUCER ECCENTRIC REDUCER DIRECTION OF FLOW PIPING PITCHES DOWN PIPE GUIDE EXPANSION JOINT PIPE ANCHOR UNION FLANGED CONNECTION BACKFLOW PREVENTER FLEXIBLE CONNECTION SHUT-OFF/ISOLATION VALVE REFER TO SPECIFICATIONS GATE VALVE - OUTSIDE SCREW & YOKE (OS&Y)	GLOBE VALVE LOCKABLE BALL VALVE PLUG VALVE 2-WAY CONTROL VALVE 3-WAY CONTROL VALVE LOCK & SHIELD VALVE CHECK VALVE BALANCING VALVE (CIRCUIT SETTER) AIR VENT - REFER TO SPECIFICATIONS STRAINER WITH BLOWDOWN VALVE AND CAP EXPANSION VALVE (AUTOMATIC) RELIEF/SAFETY VALVE PRESSURE GAUGE WITH COCK SIGHT GLASS PRESSURE REDUCING VALVE FLOW SWITCH SELF-CONTAINED TEMP. CONTROL VALVE WITH REMOTE SENSOR	STEAM TRAP (FLOAT & THERMOSTATIC INDICATED T.T. = THERMOSTATIC TRAP, B.T. = BUCKET TRAP) PUMP - POINT OF TRIANGLE INDICATES DIRECTION OF FLOW GAS SHUT-OFF VALVE HOSE END DRAIN VALVE W/CAP TEMPERATURE/PRESSURE TAP (PETE'S PLUG) THERMOMETER WITH COCK SOLENOID VALVE ORIFICE FLOWMETER DIFFERENTIAL PRESSURE TRANSMITTER HUMIDIFIER (DUCT/AHU MOUNTED) FINNED TUBE BASEBOARD HOSE BIB/WALL HYDRANT FLOOR CLEANOUT FUSIBLE LINK VALVE WALL CLEANOUT AQUASTAT	EXPANSION LOOP EXPANSION LOOP (BRAIDED/MANUFACTURED) FLOOR DRAIN SHOCK ABSORBER (WATER HAMMER ARRESTER) FIRE DEPARTMENT CONNECTION FREE STANDING FIRE DEPARTMENT CONNECTION WATER GONG DUCTWORK - FIRST DIMENSION IS SIDE SHOWN IN INCHES S= SUPPLY, R= RETURN, E= EXHAUST, OA= OUTSIDE AIR F.O. = FLAT OVAL ACOUSTICAL LINING (DUCT DIMENSION FOR NET FREE AREA) DUCTWORK TO BE REMOVED SINGLE LINE DUCTWORK TO BE REMOVED DUCT TRANSITION SQUARE TO ROUND TRANSITION FLEX DUCT - DOUBLE LINE FLEX DUCT - SINGLE LINE	CHANGE IN ELEVATION (UP/DOWN, RISE OR DROP) SUPPLY DUCT TURNED UP/DN RETURN DUCT TURNED UP/DN EXHAUST DUCT TURNED UP/DN ROUND DUCT TURNED UP/DN MITERED DUCT ELBOW W/TURNING VANES RADIUS DUCT ELBOW DUCT/PIPE CAP (SINGLE/DOUBLE LINE) VOLUME DAMPER FIRE DAMPER SMOKE DAMPER FIRE AND SMOKE DAMPER BACKDRAFT DAMPER	MOTORIZED DAMPER FLEXIBLE CONNECTION TEMPERATURE SENSOR OR THERMOSTAT (AS SPECIFIED) HUMIDISTAT OR HUMIDITY SENSOR (AS SPECIFIED) CARBON DIOXIDE SENSOR CARBON MONOXIDE SENSOR ACCESS PANEL DUCT SMOKE DETECTOR ROOFTOP EXHAUST FAN ROOFTOP SUPPLY FAN CEILING DIFFUSER - 4-WAY BLOW CEILING DIFFUSER - 3-WAY BLOW CEILING DIFFUSER - 2-WAY BLOW CEILING DIFFUSER - CORNER BLOW CEILING RETURN GRILLE CEILING EXHAUST GRILLE POINT OF CONNECTION EXISTING TO NEW DIRECTION OF AIR FLOW	R, G & D TAG DIFFUSER, REGISTER OR GRILLE No. QUANTITY CFM AIR FLOW FINTUBE TAG FINTUBE No. LENGTH GPM VAV TAG VAV No. MINIMUM CFM MAXIMUM CFM GPM EQUIPMENT TAG TYPE DESIGNATOR NUMBER EQUIPMENT TAG (ON FLOOR/ROOF ABOVE) TYPE DESIGNATOR NUMBER DETAIL No. DETAIL REFERENCE SYMBOL SHEET DETAIL LOCATED ON SECTION No. SECTION REFERENCE SYMBOL SHEET SECTION LOCATED ON
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E1 SYMBOLS LEGEND

<p>AW ACID WASTE</p> <p>ATV AIR RELIEF</p> <p>BBD BOILER BLOWDOWN</p> <p>C CONDENSATE (HVAC DRAIN PAN)</p> <p>--- C --- CONDENSATE (HVAC DRAIN PAN - BELOW FLOOR)</p> <p>CA COMPRESSED AIR</p> <p>CHWR CHILLED WATER RETURN</p> <p>CHWS CHILLED WATER SUPPLY</p> <p>CWS CONDENSER WATER SUPPLY</p> <p>CWR CONDENSER WATER RETURN</p> <p>--- --- DOMESTIC COLD WATER</p> <p>--- --- DOMESTIC HOT WATER</p> <p>--- --- DOMESTIC WATER RECIRC.</p> <p>D DRAIN</p> <p>FM PUMP FORCE MAIN</p> <p>FOF FUEL OIL FILL</p> <p>FOR FUEL OIL RETURN</p> <p>FOS FUEL OIL SUPPLY</p> <p>FOV FUEL OIL TANK VENT</p> <p>FW FEEDWATER</p> <p>GR GLYCOL RETURN</p> <p>GS GLYCOL SUPPLY</p> <p>H HYDROGEN GAS</p> <p>HE HELIUM</p> <p>HPWR HEAT PUMP WATER RETURN</p> <p>HPWS HEAT PUMP WATER SUPPLY</p> <p>HPC HIGH-PRESSURE CONDENSATE</p> <p>HPS HIGH-PRESSURE STEAM</p> <p>HTWR HIGH-TEMP. HOT WATER RETURN</p> <p>HWR HOT WATER RETURN</p> <p>HWS HOT WATER SUPPLY</p> <p>IND INDUSTRIAL WASTE</p> <p>IW INDIRECT WASTE</p> <p>LN LIQUID NITROGEN</p> <p>LOX LIQUID OXYGEN</p> <p>LPC LOW-PRESSURE CONDENSATE</p> <p>LP LIQUID PETROLEUM GAS</p> <p>LPR LOW-PRESSURE CONDENSATE</p> <p>LPS LOW-PRESSURE STEAM</p> <p>MA MEDICAL AIR</p> <p>MPR MEDIUM-PRESSURE CONDENSATE</p> <p>MPS MEDIUM-PRESSURE STEAM</p> <p>MU MAKEUP WATER</p> <p>N2 NITROGEN</p> <p>NG NATURAL GAS</p> <p>NO NITROUS OXIDE</p> <p>NPW NON-POTABLE WATER</p> <p>O₂ OXYGEN</p> <p>PC PUMPED CONDENSATE</p> <p>PCW PROCESSED COLD WATER SUPPLY</p> <p>PHW PROCESSED HOT WATER</p> <p>PHWR PROCESSED HOT WATER RETURN</p> <p>RD REFRIGERANT DISCHARGE</p> <p>RL REFRIGERANT LIQUID</p> <p>ROS REVERSE OSMOSIS SUPPLY</p> <p>ROR REVERSE OSMOSIS RETURN</p> <p>RS REFRIGERANT SUCTION</p> <p>RW RAIN WATER ABOVE FLOOR</p> <p>RW RAIN WATER BELOW GRADE</p> <p>--- --- SANITARY SOIL WASTE (ABOVE FLOOR)</p> <p>--- --- SANITARY SOIL WASTE (BELOW FLOOR)</p> <p>--- --- SANITARY SOIL VENT (ABOVE FLOOR)</p> <p>--- --- SANITARY SOIL VENT (BELOW FLOOR)</p> <p>SV SANITARY WASTE & VENT COMBINATION</p> <p>SP SPRINKLER MAIN PIPING</p> <p>SWR SOLAR WATER RETURN</p> <p>SWS SOLAR WATER SUPPLY</p> <p>TP TRAP PRIMER PIPING ABOVE GRADE</p> <p>--- TP --- TRAP PRIMER PIPING BELOW GRADE</p> <p>TW TEMPERED WATER</p> <p>UHP-HE ULTRA - H1 PURITY HELIUM</p> <p>VAC VACUUM (AIR)</p> <p>VC VACUUM CLEANING (HOUSE)</p> <p>VPD VACUUM PUMP DISCHARGE</p>	<p>AAV AUTOMATIC AIR VENT</p> <p>AC ABOVE CEILING</p> <p>ACC AIR COOLED CONDENSER</p> <p>ACU AIR CONDITIONING UNIT</p> <p>ADA AMERICANS WITH DISABILITIES ACT</p> <p>AD ACCESS DOOR</p> <p>AE ACID EXHAUST</p> <p>AW ACID WASTE</p> <p>AFF; A.F.F. ABOVE FINISHED FLOOR</p> <p>AHU AIR HANDLING UNIT</p> <p>AP ACCESS PANEL</p> <p>APPROX APPROXIMATE; APPROXIMATELY</p> <p>APMR AS PER MFR'S RECOMMENDATIONS</p> <p>ATC AUTOMATIC TEMPERATURE CONTROL</p> <p>AV AIR VENT</p> <p>BC BALANCING COCK</p> <p>BDD BACKDRAFT DAMPER</p> <p>BG BLAST GATE</p> <p>BF BARRIER FREE</p> <p>BFP BACKFLOW PREVENTER</p> <p>BHP BRAKE HORSEPOWER</p> <p>BLDG BUILDING</p> <p>BOD BOTTOM OF DUCT</p> <p>B.T.U. BRITISH THERMAL UNIT</p> <p>C; CONV. CONVECTOR</p> <p>CCW COUNTER CLOCKWISE</p> <p>CFM CAPPED FOR FUTURE</p> <p>CFM CUBIC FEET PER MINUTE</p> <p>CLG CEILING</p> <p>CO CLEANOUT</p> <p>CM CONSTRUCTION MANAGER</p> <p>CNTR COUNTER; COUNTERTOP</p> <p>CONN CONNECT; CONNECTION</p> <p>CONT CONTINUE; CONTINUATION</p> <p>COORD COORDINATE</p> <p>CORR CORRIDOR</p> <p>CR CHEMICAL RESISTING</p> <p>CT COOLING TOWER</p> <p>CTE CONNECT TO EXISTING</p> <p>CTR CENTER</p> <p>CTRLN CENTERLINE</p> <p>CU COPPER</p> <p>CUH CABINET UNIT HEATER</p> <p>C.V. CONTROL VALVE</p> <p>C.V. COLD WATER/CLOCKWISE</p> <p>DB DRY BULB TEMPERATURE, °F</p> <p>DC DOUBLE CONTAINED</p> <p>DDC DIRECT DIGITAL CONTROL</p> <p>DET DETAIL</p> <p>DIA DIAMETER</p> <p>DIC DOWN IN CHASE</p> <p>DIW DOWN IN WALL</p> <p>DN DOWN</p> <p>DS DOWNSPOUT</p> <p>DT DROP AND TRANSITION</p> <p>DV DRAIN VALVE</p> <p>DWVG DRAWING</p> <p>EA EXHAUST AIR</p> <p>EF EXHAUST FAN</p> <p>EG EXHAUST GRILLE</p> <p>ELEV ELEVATION</p> <p>ELONG ELONGATE</p> <p>ENC ENCLOSURE</p> <p>ER EXHAUST REGISTER</p> <p>ESP EXTERNAL STATIC PRESSURE</p> <p>ET EXPANSION TANK</p> <p>(E) EXISTING</p> <p>F & T FLOAT AND THERMOSTATIC</p> <p>FBO FURNISHED BY OTHERS</p> <p>FBP FACE AND BYPASS</p> <p>FC FLEXIBLE CONNECTION</p> <p>FCO FLOOR CLEANOUT</p> <p>FD-# FLOOR DRAIN TAG</p> <p>FD FIRE DAMPER</p> <p>FIN FINISH</p> <p>FL FLOOR</p> <p>FTG FOOTING</p> <p>FTR FINNED TUBE RADIATION</p> <p>FS FLOW SWITCH</p> <p>FM FORCE MAIN</p> <p>GC GENERAL CONTRACTOR</p> <p>GE GENERAL EXHAUST</p> <p>GPM GALLONS PER MINUTE</p> <p>GV GRAVITY VENTILATOR</p> <p>H HUMIDIFIER</p> <p>HB HOSE BIB</p> <p>HC; HDC HANDICAP ACCESS</p> <p>HE HOOD EXHAUST</p> <p>HGT, HT. HEIGHT</p> <p>HP HEAT PUMP</p> <p>HRU HEAT RECOVERY UNIT</p> <p>HTR HEATER</p> <p>H & V HEATING AND VENTILATION</p> <p>HVAC HEATING, VENTILATING, & AIR COND.</p> <p>HW HOT WATER</p> <p>HWR HOT WATER RETURN</p> <p>HWS HOT WATER SUPPLY</p> <p>HX HEAT EXCHANGER</p> <p>ID INSIDE DIAMETER</p> <p>IN WG INCHES WATER GAUGE</p> <p>INCL INCLUDING</p> <p>INV EL INVERT ELEVATION</p> <p>IPS IRON PIPE SIZE</p> <p>KE-# KITCHEN EQUIPMENT NUMBER</p> <p>LD LINEAR DIFFUSER</p> <p>LE-# SCIENCE LAB EQUIPMENT NUMBER</p> <p>LP LIQUID PETROLEUM GAS</p> <p>LPR LOW PRESSURE STEAM RETURN</p> <p>LPS LOW PRESSURE STEAM SUPPLY</p> <p>MAX MAXIMUM</p> <p>MBH 1000 BTU/HR.</p> <p>MFR MANUFACTURER</p> <p>MIN MINIMUM</p> <p>MOD MOTOR OPERATED DAMPER</p> <p>MPG MEDIUM PRESSURE GAS</p> <p>MPV MULTI-PURPOSE VALVE</p> <p>MTD MOUNTED</p> <p>MTG MOUNTING</p> <p>MUA MAKE UP AIR</p> <p>N.C. NORMALLY CLOSED</p> <p>N.O. NORMALLY OPEN</p> <p>NIC NOT IN CONTRACT</p> <p>NPT NATIONAL PIPE THREAD</p> <p>NTS NOT TO SCALE</p> <p>OA OUTSIDE AIR</p> <p>OBD OPPOSED BLADE DAMPER</p> <p>OD OUTSIDE DIAMETER</p> <p>OED OPEN ENDED DUCT</p> <p>P-# PLUMBING FIXTURE TAG</p> <p>PD PUMPED DISCHARGE</p> <p>PRS PRESSURE REDUCING STATION</p> <p>PRV PRESSURE REDUCING VALVE</p> <p>RA RETURN AIR</p> <p>RD ROOF DRAIN</p> <p>REC RECOMMENDATION</p> <p>REG REGULAR</p> <p>RF RETURN FAN</p> <p>RG RETURN GRILLE</p> <p>RHC REHEAT COIL</p> <p>RM ROOM</p> <p>RPZ REDUCED PRESSURE BFP</p> <p>RR RETURN REGISTER</p> <p>RV RELIEF VALVE</p> <p>RW RAIN WATER</p> <p>S SUPPLY AIR</p> <p>SA-° SHOCK ABSORBER OF PDI SIZE (°)</p> <p>AS INDICATED</p> <p>SCV SELF CONTAINED VALVE</p> <p>SD SMOKE DAMPER</p> <p>SF SUPPLY FAN</p> <p>SG SUPPLY GRILLE</p> <p>SGL SINGLE</p> <p>SHT SHEET</p> <p>SPLR SPRINKLER</p> <p>SQ FT. S. F. SQUARE FEET</p> <p>SR SUPPLY REGISTER</p> <p>S/O SHUT OFF</p> <p>S.S. STAINLESS STEEL</p> <p>TD TRENCH DRAIN</p> <p>TG TRANSFER GRILLE</p> <p>TOD TOP OF DUCT</p> <p>TP TRAP PRIMER</p> <p>TSP TOTAL STATIC PRESSURE</p> <p>TTS TIGHT TO STEEL</p> <p>TV TURNING VANE</p> <p>TW TEMPERED WATER</p> <p>TYP TYPICAL</p> <p>UH UNIT HEATER</p> <p>UIC UP IN CHASE</p> <p>UIW UP IN WALL</p> <p>UV UNIT VENTILATOR</p> <p>V VENT</p> <p>VAC VACUUM</p> <p>VB VACUUM BREAKER</p> <p>VCFF VALVE & CAP FOR FUTURE</p> <p>VD VOLUME DAMPER - MANUAL</p> <p>VLV VALVE</p> <p>VS VENT STACK</p> <p>VTR VENT THROUGH ROOF</p> <p>W WASTE</p> <p>W WITH</p> <p>WB WET BULB TEMPERATURE, °F</p> <p>WCO WALL CLEANOUT</p> <p>WH WATER HEATER</p> <p>WHYD WALL HYDRANT</p> <p>NTS NOT TO SCALE</p> <p>@ AT</p> <p>& AND</p> <p>% PERCENT</p>
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A1 PIPING LINETYPE LEGEND **A4 ABBREVIATIONS**

NONE	NONE
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NOTE

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