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LEGEND & ABBREVIATIONS

M001

ABBREVIATIONS				MECHANICAL SYMBOLS		PIPING SYMBOLS	
<p>AT AMP</p> <p>ABS ACRYLONITRILE BUTADIENE STYRENE PLASTIC</p> <p>ABV ABOVE</p> <p>AC AIR CONDITIONING</p> <p>AD ACCESS DOOR</p> <p>ADA AMERICANS WITH DISABILITIES ACT</p> <p>AF AIR FILTER</p> <p>AFF ABOVE FINISHED FLOOR</p> <p>AFM AIR FLOW MEASURING STATION</p> <p>AHU AIR HANDLING UNIT</p> <p>AL ACOUSTICAL LINER</p> <p>AMB AMBIENT</p> <p>AP ACCESS PANEL</p> <p>APD AIR PRESSURE DROP</p> <p>APPROX APPROXIMATELY</p> <p>AS AIR SEPARATOR</p> <p>ASME AMERICAN SOCIETY OF MECHANICAL ENGINEERS</p> <p>ASSY ASSEMBLY</p> <p>ATC AUTOMATIC TEMPERATURE CONTROL</p> <p>ATT ACOUSTICAL ATTENUATOR</p> <p>AV AUTOMATIC VENT</p> <p>BDD BACKDRIFT DAMPER</p> <p>BHP BRAKE HORSEPOWER</p> <p>BLDG BUILDING</p> <p>BOT BOTTOM</p> <p>BTUH BTU PER HOUR</p> <p>C CENTERLINE</p> <p>CA COMPRESSED AIR</p> <p>CAP CAPACITY</p> <p>CD CONDENSATE DRAIN</p> <p>CF CEILING FAN</p> <p>CFM CUBIC FEET PER MINUTE</p> <p>CH CHILLER</p> <p>CHWR CHILLED WATER RETURN</p> <p>CHWS CHILLED WATER SUPPLY</p> <p>CLG CEILING</p> <p>CO CLEAN OUT, CARBON MONOXIDE COLUMN</p> <p>CONC CONCRETE</p> <p>COND CONDENSATE</p> <p>CONN CONNECTION</p> <p>CONT CONTINUATION</p> <p>CONV CONVERTOR</p> <p>CP CONTROL PANEL, CONDENSATE PUMP</p> <p>CPT CONDENSATE PUMP TRAP</p> <p>CSA CANADIAN STANDARDS ASSOCIATION</p> <p>CU CONDENSING UNIT</p> <p>CUH CABINET UNIT HEATER</p> <p>CV CONTROL VALVE</p> <p>Cv CONTROL VALVE RATING</p> <p>CVT CONSTANT VOLUME AIR TERMINAL</p> <p>CW COLD WATER</p> <p>CHR COLD WATER RETURN</p> <p>CHS COLD WATER SUPPLY</p> <p>D DRAIN</p> <p>dB DECIBELS</p> <p>DB DRY BULB</p> <p>DC DRY COOLER</p> <p>DDC DIRECT DIGITAL CONTROL</p> <p>DIAM DIAMETER</p> <p>DIFF DIFFERENTIAL, DIFFUSER</p> <p>DISCH DISCHARGE</p> <p>DN DOWN</p> <p>DOM DOMESTIC</p> <p>DP DIFFERENTIAL PRESSURE</p> <p>DWG DRAWING</p> <p>DWGS DRAWINGS</p> <p>E ELECTRICAL, EXHAUST</p> <p>EA EXHAUST AIR</p> <p>EAT ENTERING AIR TEMPERATURE</p> <p>EC ELECTRICAL CONTRACTOR</p> <p>EDR EQUIVALENT DIRECT RADIATION</p> <p>EER ENERGY EFFICIENT RATIO</p> <p>EF EXHAUST FAN</p> <p>EFF EFFICIENCY</p> <p>ELEC ELECTRIC, ELECTRICAL</p> <p>ELEV ELEVATION</p> <p>ENT ENTERING</p> <p>EPDM ETHYLENE PROPYLENE DIENE MEMBRANE</p> <p>EQUIP EQUIPMENT</p> <p>ESP EXTERNAL STATIC PRESSURE</p> <p>ET EXPANSION TANK</p> <p>EVAP EVAPORATOR</p> <p>EWC ELECTRIC WATER COOLER</p> <p>EWT ENTERING WATER TEMPERATURE</p> <p>EXH EXHAUST</p> <p>EXIST EXISTING</p> <p>EXT EXPANSION TANK</p>	<p>EXP EXPANSION</p> <p>F FAN, DEGREES FAHRENHEIT</p> <p>FA FRESH AIR</p> <p>FBI FURNISHED BY GOVERNMENT</p> <p>FC FLEX CONNECTION</p> <p>FCO FLOOR CLEANOUT</p> <p>FD FIRE DAMPER, FLOOR DRAIN</p> <p>FF FINISH FLOOR</p> <p>FIX FIXTURE</p> <p>FLA FULL LOAD AMPS</p> <p>FLR FLOOR</p> <p>FOB FLAT ON BOTTOM</p> <p>FOT FLAT ON TOP</p> <p>FS FLOAT SWITCH</p> <p>FTR FIN TUBE RADIATION</p> <p>FZ FREEZE/STAT</p> <p>G GAS</p> <p>GA GAUGE</p> <p>GAL GALLONS</p> <p>GALV GALVANIZED</p> <p>GC GENERAL CONTRACTOR</p> <p>GP GENERAL PURPOSE</p> <p>GPH GALLONS PER HOUR</p> <p>GPM GALLONS PER MINUTE</p> <p>GR GLYCOL RETURN</p> <p>GRH GRAVITY RELIEF HOOD</p> <p>GS GLYCOL SUPPLY</p> <p>GV GATE VALVE</p> <p>OSM GALVANIZED SHEET METAL</p> <p>GYP GYPSUM WALLBOARD</p> <p>HC HEATING COIL</p> <p>HOA HANDS-OFF-AUTOMATIC</p> <p>HOR HORIZONTAL</p> <p>HP HORSEPOWER, HIGH PRESSURE</p> <p>HPC HIGH PRESSURE CONDENSATE</p> <p>HPS HIGH PRESSURE STEAM (16 PSI TO 150 PSI)</p> <p>HR HOUR</p> <p>HT HEIGHT</p> <p>HUMID HUMIDIFIER, HUMIDITY</p> <p>HV HEATING AND VENTILATING UNIT</p> <p>HVAC HEATING, VENTILATING AND AIR</p> <p>HW HOT WATER</p> <p>HWR HOT WATER RETURN</p> <p>HWS HOT WATER SUPPLY</p> <p>HX HEAT EXCHANGER</p> <p>HZ HERTZ</p> <p>IBR HYDRONICS INSTITUTE</p> <p>ID INSIDE DIAMETER</p> <p>IN INCHES</p> <p>INDIR INDIRECT WASTE</p> <p>KW KILOWATT</p> <p>L LENGTH, LOUVER</p> <p>LAT LEAVING AIR TEMPERATURE</p> <p>LD LIQUEFIED PETROLEUM</p> <p>LDB LEAVING DRY BULB</p> <p>LF LINEAR FEET</p> <p>LG LONG</p> <p>LOC LOCATION, LOCATED</p> <p>LP LIQUEFIED PROPANE</p> <p>LPC LOW PRESSURE CONDENSATE</p> <p>LPS LOW PRESSURE STEAM (15 PSI OR LESS)</p> <p>LRA LOCKED ROTOR AMPS</p> <p>LVS LEAVINGS</p> <p>LWB LEAVING WET BULB</p> <p>LWT LEAVING WATER TEMPERATURE</p> <p>M MECHANICAL</p> <p>MANUF MANUFACTURER</p> <p>MAX MAXIMUM</p> <p>MAX PD MAXIMUM PRESSURE DROP</p> <p>MBH 1000 BTU PER HOUR</p> <p>MBU 1000 BTU</p> <p>MCA MAXIMUM CIRCUIT AMPS</p> <p>MCC MOTOR CONTROL CENTER</p> <p>MD MOTORIZED DAMPER</p> <p>MECH MECHANICAL</p> <p>MEZZ MEZZANINE</p> <p>MFG MANUFACTURER</p> <p>MIN MINIMUM, MINUTES</p> <p>mm MILLIMETERS</p> <p>MNTD MOUNTED</p> <p>MOCPP MAXIMUM OVERCURRENT</p> <p>MUA MAKE-UP AIR</p> <p>MUW MAKE-UP WATER</p>	<p>N/A NOT APPLICABLE</p> <p>NATL NATURAL</p> <p>NC NORMALLY CLOSED, NOISE CRITERIA</p> <p>NEC NATIONAL ELECTRIC CODE</p> <p>NG NATURAL GAS</p> <p>NFPA NATIONAL FIRE PROTECTION ASSOCIATION</p> <p>NIC NOT IN CONTRACT</p> <p>NO NORMALLY OPEN, NUMBER</p> <p>NO2 NITROGEN DIOXIDE</p> <p>NTS NOT TO SCALE</p> <p>OA OUTSIDE AIR</p> <p>OAI OUTSIDE AIR INTAKE</p> <p>OAT OUTSIDE AIR TEMPERATURE</p> <p>OBD OPPOSED BLADE DAMPER</p> <p>OD OUTSIDE DIAMETER</p> <p>OED OPEN ENDED DUCT</p> <p>OS&amp;Y OPENED AND YOKED</p> <p>P PUMP, PITCH</p> <p>PC PUMPED CONDENSATE</p> <p>PD PRESSURE DROP</p> <p>PLUMB PLUMBING</p> <p>PRESS PRESSURE</p> <p>PRV PRESSURE REDUCING VALVE</p> <p>PSI POUNDS PER SQUARE INCH</p> <p>PSIG POUNDS PER SQUARE INCH GAUGE</p> <p>PT PRESSURE TREATED</p> <p>PVC POLYVINYL CHLORIDE</p> <p>QTY QUANTITY</p> <p>R RADIUS, RETURN</p> <p>RA RETURN AIR</p> <p>RAD RADIATOR</p> <p>RAF, RF RETURN AIR FAN</p> <p>RAT RETURN AIR TEMPERATURE</p> <p>REL RELIEF</p> <p>REQD REQUIRED</p> <p>RET RETURN</p> <p>RH RELATIVE HUMIDITY</p> <p>RL REFRIGERANT LIQUID</p> <p>RLA RATED LOAD AMPS</p> <p>RM ROOM</p> <p>RPM REVOLUTIONS PER MINUTE</p> <p>RS REFRIGERANT SUCTION</p> <p>RTOONDITIOING TOP UNIT</p> <p>S SUPPLY DIFFUSER</p> <p>SA SUPPLY AIR</p> <p>SCR SCREEN</p> <p>SD SMOKE DAMPER</p> <p>SF SQUARE FOOT</p> <p>SIM SIMILAR</p> <p>SMACNA SHEET METAL AND AIR CONDITIONING CONTRACTOR'S NATIONAL ASSOCIATION</p> <p>SOV STATIC PRESSURE</p> <p>SP STATIC PRESSURE</p> <p>SPH STATIC PRESSURE HIGH LIMIT</p> <p>SPL STATIC PRESSURE LOW LIMIT</p> <p>SPS STATIC PRESSURE SENSOR</p> <p>SO SQUARE</p> <p>SS STAINLESS STEEL</p> <p>STL STEEL</p> <p>SUP SUPPLY</p> <p>T TEMPERATURE SENSOR, THERMOSTAT</p> <p>TC TOTAL COOLING TEMPERATURE</p> <p>TEMP TEMPERATURE</p> <p>THK THICK, THICKNESS</p> <p>TG TRANSFER GRILLE</p> <p>TRANS TRANSITION</p> <p>TSP TOTAL STATIC PRESSURE</p> <p>TYP TYPICAL</p> <p>UH UNIT HEATER</p> <p>UNO UNLESS NOTED OTHERWISE</p> <p>V VENT</p> <p>VAV VARIABLE AIR VOLUME</p> <p>VD VOLUME DAMPER</p> <p>VEL VELOCITY</p> <p>VFD VARIABLE FREQUENCY DRIVE</p> <p>VTR VENT THROUGH ROOF</p> <p>W WIDTH, WATT</p> <p>WI WITH</p> <p>WB WET BULB</p> <p>WC WATER COLUMN</p> <p>WCO WALL CLEANOUT</p> <p>WF WALL FAN</p> <p>WG WATER GAUGE</p> <p>WH WATER HEATER</p> <p>WMS WIRE MESH SCREEN</p> <p>WPD WATER PRESSURE DROP</p>	<p>CS DETAIL NUMBER</p> <p>MT01 DRAWING WHERE DETAIL IS DRAWN</p> <p>D1 DETAIL NUMBER</p> <p>B SYMBOL PER ABBREVIATION LIST</p> <p>1 EQUIPMENT SEQUENCE NUMBER</p> <p>S-1 DIFFUSER, REGISTER OR GRILLE SEQUENCE NUMBER</p> <p>100 CFM</p> <p>FR-1 FIN TUBE DESIGNATION</p> <p>2.2 MBH</p> <p>5 LF LENGTH OF ACTIVE FIN TUBE</p> <p># EXIST HOT WATER FIN TUBE UNIT TAG</p> <p>22 GPM</p> <p>(22) KEY NOTE (NUMBER)</p> <p>A REVISION (LETTER)</p> <p>RETURN OR EXHAUST GRILLE, REGISTER</p> <p>AD SUPPLY DIFFUSER, REGISTER, GRILLE</p> <p>ACCESS DOOR</p> <p>FIN TUBE RADIATION AND ENCLOSURE</p> <p>UNIT HEATER</p> <p>TERMINAL UNIT, VARIABLE VOLUME WITH HOT WATER COIL</p> <p>TERMINAL UNIT, VARIABLE VOLUME</p> <p>PROPELLER FAN</p> <p>CENTRIFUGAL FAN</p> <p>COMBINATION CARBON MONOXIDE / NITROGEN DIOXIDE SENSOR</p> <p>IN LINE FAN</p> <p>DIRECTION OF AIR FLOW</p> <p>DIRECTION OF AIR FLOW EXHAUST</p> <p>DOOR UNDERCUT</p> <p>DOOR LOUVER</p> <p>VOLUME DAMPER</p> <p>SMOKE DAMPER</p> <p>FIRE DAMPER</p> <p>MOTORIZED DAMPER, PARALLEL BLADE</p> <p>MOTORIZED DAMPER, OPPOSED BLADE</p> <p>THERMOSTAT OR THERMISTOR</p> <p>HUMIDISTAT</p> <p>TEMPERATURE SENSOR, THERMOSTAT SWITCH</p> <p>SMOKE DETECTOR</p> <p>CONNECT TO EXISTING</p> <p>SQUARE ELBOW WITH TURNING VANES</p> <p>FLEXIBLE DUCT</p> <p>FLEXIBLE CONNECTOR</p> <p>ROOF VENTILATOR, EXHAUST</p> <p>STARTER/DISCONNECT</p> <p>PUMP</p> <p>CEILING SUPPLY DIFFUSER W/ THROW</p> <p>DIRECTION SHOWN BY ARROWS (FOR 4-WAY THROW ARROWS NOT SHOWN)</p> <p>CEILING PADDLE FAN</p> <p>WALL MOUNTED OSCILLATING FAN</p>	<p>AFS AIR FLOW SWITCH</p> <p>S AIR SEPARATOR</p> <p>AUTOMATIC AIR VENT WITH ISOLATION VALVE</p> <p>BALL VALVE</p> <p>BALL VALVE IN VERTICAL</p> <p>BOILER DRAIN VALVE W/ HOSE BIB</p> <p>BUCKET TRAP</p> <p>BUTTERFLY VALVE</p> <p>CHECK VALVE</p> <p>TRIPLE DUTY VALVE</p> <p>COCK</p> <p>COMBINATION FLOW MEASURING/ BALANCING VALVE (CIRCUIT SETTER)</p> <p>DIRECTION OF FLOW OF PIPE</p> <p>DIRT LEG</p> <p>END SWITCH</p> <p>FLEXIBLE PIPE CONNECTION</p> <p>FLOW SWITCH, FREEZE/STAT</p> <p>FLOAT AND THERMOSTATIC TRAP</p> <p>FUSOMATIC VALVE</p> <p>GATE VALVE</p> <p>THREE WAY VALVE</p> <p>GLOBE VALVE</p> <p>HOSE BIBB</p> <p>MANUAL AIR VENT</p> <p>METER</p> <p>NONELECTRIC ZONE VALVE</p> <p>OS&amp;Y VALVE</p> <p>OS&amp;Y VALVE IN VERTICAL (PLAN)</p> <p>(PETE'S PLUG)</p> <p>PIPE DROP</p> <p>PIPE END CAP</p> <p>PIPE GUIDE</p> <p>PIPE PITCH DOWN IN DIRECTION OF FLOW</p> <p>PIPE PITCH UP IN DIRECTION OF FLOW</p> <p>PIPE RISE</p> <p>PIPE DROP FROM BOTTOM</p> <p>PIPE TEE FROM TOP</p> <p>PIPE UP TO FIN TUBE RADIATION ON FLOOR ABOVE</p> <p>PLUG VALVE</p> <p>PRESSURE GAUGE W/BALL VALVE (GATE VALVE AND SIPHON FOR STEAM)</p> <p>PRESSURE REDUCING VALVE</p> <p>PRESSURE REGULATING VALVE</p> <p>PRESSURE SWITCH</p> <p>REDUCED PRESSURE BACKFLOW PREVENTER</p> <p>REDUCER (CONCENTRIC)</p> <p>REDUCER (ECCENTRIC-FOB OR FOT)</p> <p>SAFETY RELIEF VALVE</p> <p>SOLENOID VALVE</p> <p>STEAM MONITOR</p> <p>STRAINER W/BALL DRAIN VALVE, HOSE BIB AND CAP (GATE VALVE FOR STEAM)</p> <p>STRAINER W/ BLOW OFF</p> <p>TEMPERATURE SENSOR</p> <p>THERMOMETER</p> <p>TEMPERATURE/PRESSURE WELL</p> <p>THERMOSTATIC TRAP</p> <p>THREE-WAY AUTOMATIC CONTROL VALVE (ELECTRIC OR DDC)</p> <p>THREE-WAY AUTOMATIC CONTROL VALVE (PNEUMATIC)</p> <p>TWO-WAY AUTOMATIC CONTROL VALVE (ELECTRIC OR DDC)</p> <p>TWO-WAY AUTOMATIC CONTROL VALVE (PNEUMATIC)</p> <p>UNION AS DICTATED BY PIPE SIZE</p> <p>FLANGE AS DICTATED BY PIPE SIZE</p> <p>VIBRATION ISOLATOR</p>			
<p>DUCTWORK SYMBOLS</p> <p>BULLHEAD TEE</p> <p>TAKE-OFF</p> <p>SPLIT TAKE-OFF W/ BRANCH DAMPERS SUPPLY</p> <p>SUPPLY</p> <p>EXHAUST/RETURN</p> <p>BULLHEAD SPLIT</p> <p>RADIUS ELBOW</p> <p>SQUARE ELBOW W/TURNING VANES</p> <p>OFFSET</p> <p>RETURN/EXHAUST DUCT UP</p> <p>RETURN/EXHAUST DUCT DOWN</p> <p>RISE(R) OR DROP(D)</p> <p>CEILING DIFFUSER OR GRILLE W/ FLEXIBLE DUCT</p> <p>SUPPLY DUCT UP</p> <p>SUPPLY DUCT DOWN</p>				<p>MECHANICAL LINETYPE LEGEND</p> <p>SOLID LINE ITEMS TO BE PROVIDED</p> <p>DASHED LINE HIDDEN ITEMS</p> <p>DOTTED LINE CONTROL WIRING</p>			

**CORE & SHELL NOTE:**

THESE DOCUMENTS ARE INTENDED TO SHOW THE CORE AND SHELL SYSTEMS FOR A BUILDING THAT WILL ALSO HAVE A TENANT FIT - UP COMPLETED DURING THE INITIAL BUILDING CONSTRUCTION PHASE. NO TEMPORARY CONDITIONING OF SPACES ARE NECESSARY. CORE BUILDING MECHANICAL AND PLUMBING SYSTEMS HAVE BEEN DESIGNED TO SUPPLY CHILLED WATER, HOT WATER, VENTILATION AND EXHAUST AIR TO ALL AREAS OF THE BUILDING. DURING FIT - UP DESIGN INTERIOR SYSTEMS WILL BE DEFINED.