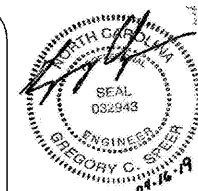


ABBREVIATIONS AND SYMBOLS

ALL SYMBOLS MAY NOT APPEAR ON DRAWINGS.

MECHANICAL		PLUMBING		ELECTRICAL	
PIPING DESIGNATIONS	EQUIPMENT DESIGNATIONS	PIPING SYMBOLS	PIPING DESIGNATIONS	POWER SYMBOLS	ABBREVIATIONS
<p>— CHS — CHILLED WATER SUPPLY</p> <p>— CHR — CHILLED WATER RETURN</p> <p>— CWS — CONDENSER WATER SUPPLY</p> <p>— CWR — CONDENSER WATER RETURN</p> <p>— HWS — HEATING WATER SUPPLY</p> <p>— HWR — HEATING WATER RETURN</p> <p>— HPWS — HEAT PUMP WATER SUPPLY</p> <p>— HPWR — HEAT PUMP WATER RETURN</p> <p>— E — EXPANSION LINE</p> <p>— CD — CONDENSATE DRAIN</p>	<p>AC AIR COMPRESSOR</p> <p>AF AIR FILTER</p> <p>AH/AHU AIR HANDLING UNIT</p> <p>AS AIR SEPARATOR</p> <p>BF BOOSTER FAN</p> <p>CP CIRCULATING PUMP</p> <p>CRAC COMPUTER ROOM AIR CONDITIONER</p> <p>CT COOLING TOWER</p> <p>CU CONDENSING UNIT, AIR COOLED</p> <p>CVT CONSTANT VOLUME FAN TERMINAL COOL/HEAT</p> <p>EDH ELECTRIC DUCT HEATER</p> <p>EF EXHAUST FAN</p> <p>EUH ELECTRIC UNIT HEATER</p> <p>FCU FAN COIL UNIT</p> <p>FD FIRE DAMPER</p> <p>FPB FAN POWERED BOX</p> <p>FSD FIRE/SMOKE COMBINATION DAMPER</p> <p>GRV GRAVITY ROOF VENTILATOR</p> <p>GUH GAS-FIRED UNIT HEATER</p> <p>HC HEATING COIL</p> <p>HP HEAT PUMP, AIR SOURCE</p> <p>HUM HUMIDIFIER</p> <p>HX HEAT EXCHANGER</p> <p>IRH INFRARED HEATER</p> <p>KEF KITCHEN EXHAUST FAN</p> <p>KSF KITCHEN SUPPLY FAN</p> <p>MAU MAKE-UP AIR UNIT</p> <p>MD MOTORIZED DAMPER</p> <p>RTU ROOF TOP UNIT</p> <p>SA SOUND ATTENUATOR</p> <p>SD SMOKE DAMPER</p> <p>SF SUPPLY FAN</p> <p>VAV VARIABLE VOLUME TERMINAL - COOL ONLY</p> <p>VFD VARIABLE FREQUENCY DRIVE</p> <p>VRF VARIABLE REFRIGERANT FLOW</p> <p>VSD VARIABLE SPEED DRIVE</p> <p>VVT VARIABLE VOLUME & TEMPERATURE</p> <p>WH WALL HEATER</p> <p>WSHP HEAT PUMP, WATER SOURCE</p>	<p>PIPING UP</p> <p>PIPING DOWN</p> <p>CAPPED PIPE TERMINATION</p> <p>CONNECTION BOTTOM OF MAIN</p> <p>CONNECTION TOP OF MAIN</p> <p>DIRECTION OF FLOW</p> <p>SLOPE DOWN IN DIRECTION SHOWN</p> <p>CONCENTRIC REDUCER</p> <p>ECCENTRIC REDUCER</p> <p>GATE VALVE</p> <p>BALL VALVE</p> <p>BUTTERFLY VALVE</p> <p>GLOBE VALVE</p> <p>TEMPERATURE & PRESSURE RELIEF VALVE</p> <p>GAS COCK</p> <p>PRESSURE REGULATING VALVE</p> <p>CHECK VALVE</p> <p>HYDRAULIC SHOCK ARRESTOR</p> <p>SOLENOID VALVE</p> <p>ANGLE VALVE</p> <p>GAUGE COCK</p> <p>AIR VENT</p> <p>PRESSURE GAUGE</p> <p>STRAINER</p> <p>THERMOMETER WELL</p> <p>EXPANSION JOINT</p> <p>UNION</p> <p>HOSE BIBB OR HYDRANT</p> <p>THERMOMETER</p> <p>P-TRAP</p> <p>FLOOR DRAIN/FLOOR SINK WITH P-TRAP</p> <p>HUB DRAIN WITH P-TRAP</p> <p>FLOOR CLEANOUT OR GRADE CLEANOUT</p> <p>CLEANOUT OR WALL CLEANOUT</p> <p>DOUBLE CHECK BACKFLOW PREVENTER</p> <p>REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER</p> <p>CONNECT TO EXISTING</p>	<p>EXISTING TO REMAIN</p> <p>EXISTING TO BE REMOVED/DEMOLISHED</p> <p>DOMESTIC COLD WATER</p> <p>DOMESTIC HOT WATER</p> <p>CONNECTION TOP OF MAIN</p> <p>F FIRE PROTECTION</p> <p>G NATURAL GAS</p> <p>W WATER SERVICE</p> <p>A COMPRESSED AIR</p> <p>V VACUUM</p> <p>D INDIRECT WASTE</p> <p>SS SANITARY SEWER</p> <p>SANITARY VENT</p> <p>RD PRIMARY ROOF DRAIN</p> <p>OD OVERFLOW ROOF DRAIN</p> <p>SD STORM DRAIN</p> <p>SSD BELOW GRADE SUB-SOIL DRAIN</p> <p>AW ACID WASTE</p> <p>AV ACID VENT</p> <p>GW GREASE WASTE</p> <p>TP TRAP PRIMER SUPPLY</p>	<p>GENERAL PURPOSE RECEPTACLE XX=HEIGHT ABOVE FINISHED FLOOR</p> <p>FLOOR GENERAL PURPOSE RECEPTACLE</p> <p>CEILING GENERAL PURPOSE RECEPTACLE</p> <p>GFI RECEPTACLE</p> <p>1/2 SWITCHED RECEPTACLE</p> <p>QUADRAPLEX RECEPTACLE</p> <p>FLOOR QUADRAPLEX RECEPTACLE</p> <p>CEILING QUADRAPLEX RECEPTACLE</p> <p>USB/DUPLEX RECEPTACLE</p> <p>SPECIAL RECEPTACLE</p> <p>TELEVISION OUTLET</p> <p>TELEPHONE OUTLET</p> <p>FLOOR TELEPHONE OUTLET</p> <p>CEILING TELEPHONE OUTLET</p> <p>DATA OUTLET</p> <p>FLOOR DATA OUTLET</p> <p>CEILING DATA OUTLET</p> <p>TELE/DATA OUTLET</p> <p>FLOOR TELE/DATA OUTLET</p> <p>CEILING TELE/DATA OUTLET</p> <p>JUNCTION BOX - SEE IN ACCORDANCE WITH NEC FOR SPECIFIC APPLICATION</p> <p>SECTOR JUNCTION BOX</p> <p>CEILING JUNCTION BOX</p> <p>COMBINATION MOTOR STARTER & FUSED DISCONNECT</p> <p>NON-FUSED DISCONNECT SWITCH *WP INDICATES WEATHER PROOF, MOTOR RATED</p> <p>FUSED DISCONNECT SWITCH (EX. 30/15/3 = 30A RATED DISC., 15A FUSES, (EX. 3 PHASE) *WP INDICATES WEATHER PROOF, MOTOR RATED</p> <p>CIRCUIT BREAKER IN NEMA ENCLOSURE</p> <p>MOTOR</p> <p>CIRCUIT HOME RUN</p> <p>CROSS MARKS INDICATE WIRES (NEUTRAL, HOT, COMMON GROUND, ISOLATED GROUND)</p> <p>PANELBOARD (240 VOLT AND BELOW)</p> <p>PANELBOARD (480 VOLT)</p> <p>TRANSFORMER</p> <p>EMERGENCY POWER OFF (EPO) BUTTON</p> <p>COPPER GROUND BAR ASSEMBLY</p> <p>KWH METER</p>	<p>AC ALTERNATING CURRENT</p> <p>A AMPS</p> <p>AFF ABOVE FINISHED FLOOR</p> <p>ATS AUTOMATIC TRANSFER SWITCH</p> <p>C CONDUIT</p> <p>CCTV CLOSED CIRCUIT T.V.</p> <p>CLG CEILING</p> <p>DP DISTRIBUTION PANEL</p> <p>EG EQUIPMENT GROUND</p> <p>ELEC ELECTRIC</p> <p>EMERG EMERGENCY</p> <p>FA FIRE ALARM</p> <p>FAMP FIRE ALARM ANNUNCIATOR PANEL</p> <p>FACP FIRE ALARM CONTROL PANEL</p> <p>FLO FLOOR</p> <p>GND GROUND</p> <p>GEN GENERATOR</p> <p>GFI GROUND FAULT CIRCUIT INTERRUPTER</p> <p>HP HORSE POWER</p> <p>HV HIGH VOLTAGE</p> <p>IG ISOLATED GROUND</p> <p>JB JUNCTION BOX</p> <p>LTS LIGHTS</p> <p>LTG LIGHTING</p> <p>LV LOW VOLTAGE</p> <p>MCB MAIN CIRCUIT BREAKER</p> <p>MDP MAIN DISTRIBUTION PANEL</p> <p>MLO MAIN LUGS ONLY</p> <p>MTD MOUNTED</p> <p>HTG HT MOUNTING HEIGHT</p> <p>P POLE</p> <p>PH PHASE</p> <p>PB PULL BOX</p> <p>PNL PANEL</p> <p>REC, RECEPTACLE</p> <p>SS SAFETY SWITCH</p> <p>TEL TELEPHONE</p> <p>TV TELEVISION</p> <p>UNO UNLESS NOTED OTHERWISE</p> <p>V VOLTAGE</p> <p>WP WEATHER PROOF</p> <p>WT WATER TIGHT</p> <p>XFMR TRANSFORMER</p> <p>Φ PHASE</p>
<p>MECHANICAL SYMBOLS</p> <p>NEW FAN POWERED BOX</p> <p>EXISTING FAN POWERED BOX</p> <p>DEMOLISHED FAN POWERED BOX</p> <p>RELOCATED FAN POWERED BOX</p> <p>NEW VAV</p> <p>EXISTING VAV</p> <p>DEMOLISHED VAV</p> <p>RELOCATED VAV</p> <p>NEW DUCTWORK</p> <p>EXISTING DUCTWORK</p> <p>DEMOLISHED DUCTWORK</p> <p>SUPPLY OR OUTSIDE AIR DUCT</p> <p>RETURN OR EXHAUST AIR DUCT</p> <p>DUCT TURNING UP</p> <p>DUCT TURNING DOWN</p> <p>CLEAR INSIDE DUCT DIMENSION, FIRST VALUE IS DUCT WIDTH</p> <p>DUCT TRANSITION</p> <p>DUCT TAP WITH MANUAL VOLUME DAMPER</p> <p>NEW SUPPLY AIR GRILLE</p> <p>NEW RETURN AIR GRILLE</p> <p>NEW EXHAUST AIR GRILLE</p> <p>EXISTING SUPPLY AIR GRILLE</p> <p>EXISTING RETURN AIR GRILLE</p> <p>EXISTING EXHAUST AIR GRILLE</p> <p>DEMOLISHED SUPPLY AIR GRILLE</p> <p>DEMOLISHED RETURN AIR GRILLE</p> <p>DEMOLISHED EXHAUST AIR GRILLE</p> <p>SIDEWALL OUTLET</p> <p>SIDEWALL INLET</p> <p>THERMOSTAT/SENSOR</p> <p>HUMIDISTAT</p> <p>DUCT SMOKE DETECTOR</p>	<p>MECHANICAL SYMBOLS</p> <p>MANUAL VOLUME DAMPER (VD)</p> <p>FIRE DAMPER (FD)</p> <p>SMOKE DAMPER (SD)</p> <p>FIRE/SMOKE COMBINATION DAMPER (FSD)</p> <p>AUTOMATIC DAMPER, OPPOSED BLADE</p> <p>AUTOMATIC DAMPER, PARALLEL BLADE</p> <p>BACK DRAFT DAMPER (BDD)</p>	<p>FIRE PROTECTION SYMBOLS</p> <p>FIRE DEPARTMENT VALVE WITH CABINET</p> <p>FLOW SWITCH</p> <p>ALARM VALVE</p> <p>DRY PIPE VALVE</p> <p>SIAMESE CONNECTION</p> <p>EXPOSED TYPE SIAMESE CONNECTION</p> <p>INSPECTORS TEST CONNECTION</p> <p>MOTOR GONG</p> <p>O.S.&Y. VALVE</p> <p>TAMPER SWITCH</p> <p>FLOOR CONTROL VALVE</p> <p>FIRE HOSE VALVE</p>	<p>EQUIPMENT DESIGNATIONS</p> <p>AC AIR COMPRESSOR</p> <p>CP CIRCULATION PUMP</p> <p>ET EXPANSION TANK</p> <p>EWV ELECTRIC WATER COOLER</p> <p>FD FLOOR DRAIN</p> <p>FP FIRE PUMP</p> <p>FS FLOOR SINK</p> <p>HB HOSE BIBB</p> <p>HD HUB DRAIN</p> <p>JOCKEY PUMP</p> <p>LAVATORY</p> <p>MOP SINK</p> <p>NFWH NON FREEZE WALL HYDRANT</p> <p>PRV PRESSURE REDUCING VALVE</p> <p>RPBP REDUCED PRESSURE BACKFLOW PREVENTER</p> <p>RV RELIEF VALVE</p> <p>S SINK</p> <p>SA SHOCK ARRESTOR</p> <p>SE SEWAGE EJECTOR</p> <p>SH SHOWER</p> <p>SP SUMP PUMP</p> <p>TD TRENCH DRAIN</p> <p>TM THERMOSTATIC MIXING VALVE</p> <p>TP TRAP PRIMER</p> <p>U URINAL</p> <p>WC WATER CLOSET</p> <p>WCB WASHER CONNECTION BOX</p> <p>WH WATER HEATER</p>	<p>LIGHT FIXTURE LABELING</p> <p>UPPERCASE LETTER - INDICATES FIXTURE TYPE, REFER TO FIXTURE SCHEDULE</p> <p>LOWERCASE LETTER - INDICATED SWITCHING GROUP</p> <p>NUMBER INDICATES CIRCUIT</p> <p>NL - INDICATES NIGHT LIGHT</p> <p>FIXTURE WITH BE-LEVEL SWITCHING, LOWER CASE LETTERS INDICATE SWITCH LEGS</p>	<p>LIFE SAFETY SYMBOLS</p> <p>UNSWITCHED EMERGENCY FIXTURE WITH BATTERY BACKUP</p> <p>EXIT SIGN WITH BATTERY BACKUP</p> <p>FLUSH MOUNTED CEILING SPEAKER ASSEMBLY WITH BACK BOX, TRANSFORMER, AND CEILING BAFFLE (WHITE)</p> <p>FIRE ALARM STROBE - VISUAL ONLY</p> <p>COORDINATE FINISH WITH ARCHITECT</p> <p>FIRE ALARM STROBE - COMBINATION AUDIO & VISUAL</p> <p>COORDINATE FINISH WITH ARCHITECT</p> <p>FIRE ALARM HORN - AUDIO ONLY</p> <p>COORDINATE FINISH WITH ARCHITECT</p> <p>FIRE ALARM MANUAL PULL STATION</p> <p>COORDINATE FINISH WITH ARCHITECT</p> <p>FIRE ALARM SMOKE DETECTOR - 120V W/ BATTERY BACK UP, COORDINATE FINISH WITH ARCHITECT</p> <p>X=DD (DUCT DETECTOR), X=SS (SINGLE STATION), X=ER (ELEVATOR RECALL)</p> <p>FIRE ALARM HEAT DETECTOR - 120V W/ BATTERY BACK UP COORDINATE FINISH WITH ARCHITECT</p> <p>HATCHED FIXTURE INDICATES UNSWITCHED FIXTURE ON EMERGENCY CIRCUIT OR BATTERY PACK</p> <p>BATTERY PACKS SHALL BE SELF-TESTING TYPE AND SHALL BE RATED FOR 90 MINUTES</p>
MECHANICAL/PLUMBING ABBREVIATIONS					
<p>AFF ABOVE FINISHED FLOOR</p> <p>AFG ABOVE FINISHED GRADE</p> <p>A/C ABOVE CEILING</p> <p>BAS BUILDING AUTOMATION SYSTEM - SEE EMCS</p> <p>B/F BELOW FLOOR</p> <p>BFF BELOW FINISHED FLOOR</p> <p>B/G BELOW GRADE</p> <p>BRF BELOW RAISED FLOOR</p>	<p>CLG CEILING</p> <p>CD CLEANOUT</p> <p>DCO DOUBLE CLEANOUT</p> <p>DS DOWNSPOUT</p> <p>EMCS ENERGY MANAGEMENT & CONTROL SYSTEM</p> <p>FCO FLOOR CLEANOUT</p> <p>FLR FLOOR</p> <p>GCO GRADE CLEANOUT</p>	<p>GW GREASE WASTE</p> <p>HW HOT WATER</p> <p>HWR HOT WATER RETURN</p> <p>MTD MOUNTED</p> <p>OD OVERFLOW DRAIN</p> <p>ODN OVERFLOW DOWNSPOUT NOZZLE</p> <p>PRV PRESSURE REDUCING VALVE</p> <p>RD ROOF DRAIN</p>	<p>RV RELIEF VALVE</p> <p>SD STORM DRAIN</p> <p>SS SANITARY SEWER</p> <p>SV SANITARY VENT</p> <p>UNO UNLESS NOTED OTHERWISE</p> <p>VTR VENT THRU ROOF</p> <p>WCO WALL CLEANOUT</p>	<p>\$ SINGLE POLE SWITCH</p> <p>\$3 FOUR WAY SWITCH</p> <p>\$4 THREE WAY SWITCH</p> <p>⊕ DIMMER SWITCH</p> <p>\$WP WEATHERPROOF SWITCH</p> <p>\$u MANUAL MOTOR CONTROLLER, MOTOR RATED</p> <p>\$os OCCUPANCY SENSOR SWITCH</p> <p>☒ WALL MOUNTED OCCUPANCY SENSOR</p> <p>☒ CEILING MOUNTED OCCUPANCY SENSOR</p> <p>* PHOTOCCELL</p>	<p>19033</p> <p>19033</p> <p>04/16/19</p> <p>Gregory C. Speer</p> <p>5020 Tennyson Pkwy. - Plano, TX 75024</p> <p>Phone (214) 432-3030 / Fax (214) 618-8191</p>



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Project No: 19033
Date: 04/16/19
Drawn By:
Checked By:

SHEET
MEP101
COVER SHEET SYMBOLS

CONTRACTOR SHALL COORDINATE MEP DRAWINGS WITH ALL OTHER DISCIPLINES

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