ABBREVIATIONS

A/E ARCHITECT / ENGINEER
AB AIR BLENDER
AAV AUTOMATIC AIR VENT
ACC AIR COOLED CONDENSER
ACCH AIR COOLED CHILLER
ACCU AIR-COOLED CONDENSING UNIT
ACU AIR CONDITIONING UNIT
ACD AUTOMATIC CONTROL DAMPER,MODULATING
ACD-TP AUTOMATIC CONTROL DAMPER,TWO POSITION
AD ACCESS DOOR
AF AFTER FILTER
AFCV AIR FLOW CONTROL VALVE
AFF ABOVE FINISHED FLOOR
AFMD AIR FLOW MEASURING DEVICE
AFW AIR FOIL WHEEL (FAN)
AHU AIR-HANDLING UNIT
AP ACCESS PANEL
APD AIR PRESSURE DROP
AS AIR SEPARATOR
AW AIR WASHER
AXF AXIAL FLOW

B BOILER
BD BUTTERFLY DAMPER
BDD BACKDRAFT DAMPER
BDR BASE BOARD RADIATOR
BFP BACKFLOW PREVENTER
BG BOTTOM GRILLE
BHP BRAKE HORSEPOWER
BW BACKWARD INCLINO WHEEL (FAN)
BR BOTTOM REGISTER
BTU BRITISH THERMAL UNIT
BTUH BRITISH THERMAL UNIT PER HOUR

C CENTIGRADE (CELCIUS)
CC COOLING COIL
CCD COOLING COIL CONDENSATE DRAIN
CCU CENTRIFUGAL OR HELICAL ROTARY SCREW CHILLER UNIT
CD CEILING DIFFUSER
CFM CUBIC FEET PER MINUTE
CFT CUBIC FEET
CG CEILING GRILLE
CHP CHILLED WATER PUMP
CHWR CHILLED WATER RETURN
CHWS CHILLED WATER SUPPLY
CI CAST IRON
CM CARBON MONOXIDE
CO CLEAN OUT
CO2 CARBON DIOXODE
COMP COMPRESSOR UNIT
COP COEFFICIENT OF PERFORMANCE
CP CONDENSATE PUMP
CR CEILING REGISTER
CSG CLEAN STEAM GENERATOR
CT COOLING TOWER
CU CONDENSING UNIT
CUH CABINET UNIT HEATER
CV CONSTANT VOLUME
CW COLD WATER (POTABLE)
CWP CONDENSER WATER PUMP
CWR CONDENSER WATER RETURN (TO COOLING TOWER)
CWS CONDENSER WATER SUPPLY (FROM COOLING TOWER)

D DAMPER - AUTOMATIC
DB DECIBELS
Db DRY-BULB TEMPERATURE
DDC DIRECT DIGITAL CONTROLS
DEG DEGREE
DF DIFFUSER
DIA DIAMETER
DW DEIONIZED WATER
DP DEW POINT TEMPERATURE
DPS DIFFERENTIAL PRESSURE SENSOR
DX DIRECT EXPANSION

EA EXHAUST AIR
EAT ENTERING AIR TEMPERATURE
EC EVAPORATIVE COOLER
ECC ENGINEERING CONTROL CENTER
ECU EVAPORATIVE CONDENSER UNIT
EDH ELECTRIC DUCT HEATER
EER ENERGY EFFICIENCY RATIO
EF EXHAUST FAN
EG EXHAUST GRILLE
EH EXHAUST HOOD
EJ EXPANSION JOINT
EMD END OF MAIN DRIP (STEAM)
ER EXHAUST REGISTER
ERC ELECTRIC REHEAT COIL
ERP ELECTRIC RADIANT PANEL
ESP EXTERNAL STATIC PRESSURE
ET EXPANSION TANK
EUH ELECTRIC UNIT HEATER
EWC EVAPORATIVE WATER COOLER
EWT ENTERING WATER TEMPERATURE
EX. EXISTING

F FAHRENHEIT
F&T FLOAT AND THERMOSTATIC
F/SDPR COMBINATION FIRE SMOKE DAMPER
FA FREE AREA
FC FLEXIBLE CONNECTION
FCU FAN COIL UNIT
FCW FORWARD CURVED WHEEL (FAN)
FD FLOOR DRAIN
FD FIRE DAMPER
FF FINAL FILTER
FM FLOW METER
FPM FEET PER MINUTE
FPS FEET PER SECOND
FPTU FAN POWERED TERMINAL UNIT
FR FLOOR REGISTER
FRP FIBER REINFORCED POLYESTER
FS FLOW SWITCH
FSTAT FREEZESTAT
FT FEET
FT-LB FOOT-POUND
FTR FIN TUBE RADIATION
FV FACE VELOCITY

GA GAUGE
GH GRAVITY HOOD
GPD GALLONS PER DAY
GPM GALLONS PER MINUTE
GPR GAS PRESSURE REGULATOR
GS GALVANIZED STEEL

H&CW HOT & COLD WATER
HAC HOUSEKEEPING AID CLOSET
HB HOSE BIBB
HC HEATING COIL
HD HEAD
HD HOOD
HEX HEAT EXCHANGER
HOA HAND/OFF/AUTOMATIC
HP HEAT PUMP
HP HORSEPOWER
HPDT HIGH PRESSURE DRIP TRAP
HPR HIGH PRESSURE RETURN (STEAM CONDENSATE)
HPS HIGH PRESSURE SUPPLY (STEAM)
HRC HEAT RECOVERY COIL
HRD HEAT RECOVERY DEVICE
HRP HYDRONIC RADIANT (CEILING) PANEL
HRW HEAT RECOVERY WHEEL
HSTAT HUMIDISTAT
HVU HEATING AND VENTILATING UNIT
HW HOT WATER
HWC HOT WATER COIL
HWP HEATING HOT WATER PUMP
HWR HEATING HOT WATER RETURN
HWS HEATING HOT WATER SUPPLY
HVD HOISTWAY VENT DAMPER
HX HEAT EXCHANGER
HZ HERTZ

I/O INPUT/OUTPUT
IAQ INDOOR AIR QUALITY
IBT INVERTED BUCKET TRAP
ICF IN-LINE CENTRIFUGAL FAN
ID INSIDE DIAMETER
IFB INTEGRAL FACE AND BYPASS
IN WC INCH WATER COLUMN
IN WG INCH WATER GAUGE
IN-LB INCH-POUND
IRH INTRARED HEATER
IS INSECT SCREEN
IU INDUCTION UNIT
IV INLET VANES

J INTENTIALLY LEFT BLANK

KG KILOGRAM
KPA KILOPASCAL
KW KILOWATT
KWH KILOWATT HOUR

L/s LITERS PER SECOND (OR LITERS/SECOND)
LAT LEAVING AIR TEMPERATURE
LB/HR POUNDS PER HOUR
LF LINEAR FOOT (FEET)
LH LATENT HEAT
LPG LIQUID PROPANE GAS
LPR LOW PRESSURE RETURN (STEAM CONDENSATE)
LPRC LOW PRESSURE STEAM RETURN (CLEAN)
LPS LOW PRESSURE STEAM
LPSC LOW PRESSURE STEAM (CLEAN)
LSD LINEAR SLOT DIFFUSER
LTCP LOCAL TEMPERATURE CONTROL PANEL
LVR LOUVER
LWT LEAVING WATER TEMPERATURE

M METER
MA MIXED AIR
MAT MIXED AIR TEMPERATURE
MAU MAKE-UP AIR UNIT
MAV MANUAL AIR VENT
MAX MAXIMUM
MB MIXING BOX
MBH 1000 BTUH
MER MECHANICAL EQUIPMENT ROOM
MERV MINIMUM EFFICIENCY REPORTING VALUE
MH MANHOLE
MHP MOTOR HORSEPOWER
MIN MINIMUM
MM MILLIMETER
MOV MOTOR OPERATED VALVE
MPR MEDIUM PRESSURE RETURN (STEAM CONDENSATE)
MPS MEDIUM PRESSURE STEAM
MTD MEAN TEMPERATURE DIFFERENCE
MVD MANUAL VOLUME DAMPER
MZ MULTI-ZONE

NA NOT APPLICABLE
NC NOISE CRITERIA
NC NORMALLY CLOSED
NO NORMALLY OPEN
NOM NOMINAL
NTS NOT TO SCALE

OA OUTSIDE AIR
OAC OUTSIDE AIR GRILLE
OAI OUTSIDE AIR INTAKE
OD OUTSIDE DIAMETER
OR OPERATING ROOM

P PUMP
PA PASCAL
PC PUMPED CONDENSATE
PCF POUNDS PER CUBIC FOOT (FEET)
PD PRESSURE DROP
PEF PROPELLER (TYPE) EXHAUST FAN
PF PRE-FILTER
PG PRESSURE GAGE
PGW PROPYLENE GLYCOL-WATER (SOLUTION)
PHC PREHEAT COIL
PPM PARTS PER MILLION
PRS PRESSURE REGULATING (VALVE) STATION
PRV PRESSURE REGULATING VALVE
PSI POUNDS PER SQUARE INCH
PSIA POUNDS PER SQUARE INCH - ABSOLUTE
PSIG POUNDS PER SQUARE INCH - GAGE
PSV PRESSURE SAFETY VALVE
PTAC PACKAGED TERMINAL AIR CONDITIONER

RA RETURN AIR
RAT RETURN AIR TEMPERATURE
RCU RECIPROCATING CHILLER UNIT
RD REFRIGERANT DISCHARGE
REA RELIEF AIR
RF RETURN FAN
RG RETURN GRILLE
RH RELATIVE HUMIDITY
RHC REHEAT COIL
RHG REFRIGERANT HOT GAS
RL REFRIGERANT LIQUID LINE
RPM REVOLUTIONS PER MINUTE
RR RETURN REGISTER
RS REFRIGERANT SUCTION
RTU ROOF TOP UNIT
RV RELIEF VALVE

SA SUPPLY AIR
SAD SOUND ATTENUATING DEVICE
SAT SUPPLY AIR TEMPERATURE
SC SHADING COEFFICIENT
SCR SILICON CONTROLLED RECTIFIER
SD SMOKE DETECTOR
SD SUPPLY AIR DIFFUSER
SDPR SMOKE DAMPER
SEN SENSIBLE HEAT
SF SUPPLY FAN
SG SUPPLY AIR GRILLE
SH STEAM HUMIDIFIER
SI SQUARE INCHES
SP STATIC PRESSURE
SP GR SPECIFIC GRAVITY
SPS STATIC PRESSURE SENSOR
SQF SQUARE FOOT (FEET)
SR SUPPLY AIR REGISTER
SS STAINLESS STEEL
SSR SOLID SEPARATOR
SV STEAM PRESSURE REDUCING VALVE

T & PCV TEMPERATURE AND PRESSURE CONTROL VALVE
TAB TESTING, ADJUSTING, BALANCE
TD TEMPERATURE DIFFERENCE
TDH TOTAL DYNAMIC HEAD
TDS TOTAL DISSOLVED SOLIDS
TG TRANSFER GRILLE
TP TRAP
TR TOP REGISTER
TSP TOTAL STATIC PRESSURE
TSTAT THERMOSTAT
TU TERMINAL UNIT
TWU THRU-WALL UNIT

UC UNDER CUT
UC UNIT COOLER
UH UNIT HEATER
URV UPBLAST UNIT VENTILATOR

V VALVE
VAF VANE-AXIAL FAN
VAV VARIABLE AIR VOLUME
VD VOLUME DAMPER (MANUAL OPPOSED BLADE)
VFD VARIABLE FREQUENCY DRIVE
VI VIBRATION ISOLATOR
VIV VARIABLE INLET VANES
VP VACUUM PUMP
VR VACUUM (STEAM CONDENSATE) RETURN
VUH VERTICAL UNIT HEATER

WAG WASTE ANETHESIA GAS
Wb WET-BULB (TEMPERATURE)
WCCU WATER COOLED CONDENSING UNIT
WEF WALL EXHAUST FAN
WF WATER FILTER
WFMD WATER FLOW MEASURING DEVICE
WG WATER GAGE
WM WATER METER
WPD WATER PRESSURE DROP

YR YEAR

DRAWING SYMBOLS

DETAIL NUMBER
DRAWING NUMBER WHERE DRAWN
SECTION LETTER
DRAWING NUMBER WHERE SHOWN
BUILDING NO. WHERE EQUIPMENT IS LOCATED.
EQUIPMENT ABBREVIATION (SUPPLY FAN)
SUPPLY FAN NO. 3 IN BUILDING NO. 26
TYPICAL UNIT NO.
BUILDING NO. WHERE EQUIPMENT IS LOCATED
ITEM (TERMINAL UNIT SHOWN)
ITEM NUMBER (TERMINAL UNIT NO. 1)
SERVED BY AIR HANDLER UNIT NO. 1
SUPPLY DUCT (UP & DOWN)
EXHAUST DUCT (UP & DOWN)
RETURN DUCT (UP & DOWN)
ROUND AND SQUARE 4-WAY CEILING DIFFUSERS
SQUARE 3-WAY CEILING DIFFUSERS
SQUARE 2-WAY CEILING DIFFUSERS
SQUARE 1-WAY CEILING DIFFUSERS
LINEAR SLOT DIFFUSER
SUPPLY TOP REGISTER OR GRILLE (WALL TYPE)
EXHAUST OR RETURN CEILING REGISTER OR GRILLE
EXHAUST OR RETURN BOTTOM REGISTER OR GRILLE (WALL TYPE)
EXHAUST OR RETURN REGISTER OR TOP GRILLE (WALL TYPE)
VANED ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF
CONNECT NEW DUCT TO EXISTING DUCT
INCLINED RISE, IN DIRECTION OF AIR FLOW
INCLINED DROP, IN DIRECTION OF AIR FLOW
LIMIT OF DEMOLITION
FLEXIBLE CONNECTION, EQUIPMENT, VIBRATION, OR SEISMIC
VANED ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH VANES EVEN IF SYMBOL IS MISSING)
VANED ELBOW (SHORT RADIUS)
STANDARD RADIUS ELBOW (LONG RADIUS)
NEW DUCT (INSIDE DIMENSIONS: WIDTH x DEPTH)
EXISTING DUCT TO REMAIN
EXISTING DUCT TO BE REMOVED
LOUVER (LOUVER SPECIFIED IN ARCHITECTURAL SECTION.)
FLEXIBLE DUCTWORK (INSULATED)
DUCT WITH SOUND LINING
MANUAL VOLUME DAMPER
FIRE DAMPER

COMBINATION FIRE/SMOKE DAMPER
POINT OF CHANGE IN DUCT CONSTRUCTION BY STATIC PRESSURE CLASS. THE NUMBER ASSIGNS PRESSURE CLASS (IN. OF WATER) WHICH WILL ACCOMMODATE MAXIMUM OPERATING PRESSURE IN THE DUCT SUBSECTION. THE SYMBOL CONTINUES THE ASSIGNMENT UNTIL THE DUCT TERMINATES OR ANOTHER SYMBOL APPEARS. A "N" SUPERSCRIPT INDICATES NEGATIVE PRESSURE.
AUTOMATIC CONTROL DAMPER MODULATING
AUTOMATIC CONTROL DAMPER TWO POSITION
STAINLESS STEEL DUCT
MANUAL SPLITTER DAMPER
STANDARD BRANCH SUPPLY OR RETURN, NO SPLITTER (45° TAP)
DUCT MOUNTED COIL (HOT WATER OR STEAM COIL)
DUCT MOUNTED COIL (ELECTRIC)
DIRECTION OF PIPE PITCH (DOWN)
DIRECTION OF FLOW
ANCHOR
REDUCER OR INCREASER
ECCENTRIC REDUCER
TOP CONNECTION, 45° OR 90°
BOTTOM CONNECTION, 45° OR 90°
SIDE CONNECTION
CAPPED OUTLET
RISE OR DROP IN PIPE
UNION
PIPE UP
PIPE DOWN
POINT OF CONNECTION BETWEEN NEW AND EXISTING WORK
LIMIT OF DEMOLITION
INVERTED BUCKET TRAP SET INCLUDING PIPING ACCESSORIES
FLOAT & THERMOSTATIC TRAP SET INCLUDING PIPING ACCESSORIES
THERMOSTATIC TRAP SET INCLUDING PIPING ACCESSORIES
THERMOMETER
PRESSURE GAGE
FLOW ELEMENT
REFRIGERANT SIGHT GLASS
TEST PLUG (PRESSURE/TEMPERATURE)
AUTOMATIC AIR VENT
MANUAL AIR VENT
POINT OF CONNECTION BETWEEN NEW AND EXISTING WORK
THERMOSTAT
PRIMARY ELEMENT FOR FLOW METERING
QUICK-COUPLE HOSE CONNECTOR
INVERTED BUCKET STEAM TRAP ASSEMBLY (T)
CLOSED-FLOAT-THERMOSTATIC STEAM TRAP ASSEMBLY (T)
THERMOSTATIC STEAM TRAP (T)
PRESSURE GAGE (WITH SIPHON ON STEAM SERVICE)

GENERAL NOTES

1. ALL PIPING AND DUCTS IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN A FURRED CHASE OR ABOVE THE HARD SUSPENDED CEILING.
2. THE FIRST FIGURE OF DUCT SIZE INDICATES DIMENSION OF FACE SHOWN OR INDICATED. DUCT SIZES ARE NET INSIDE DIMENSIONS.
3. ACCESS PANELS IN HARD SUSPENDED CEILINGS ARE REQUIRED FOR ALL VALVES, TRAPS, DAMPERS, CLEANOUTS, CONTROLS, ETC. ACCESS PANELS SHALL BE FURNISHED AND INSTALLED UNDER THE ARCHITECTURAL SPECIFICATIONS.
4. TOTAL STATIC PRESSURE NOTED IN THE SCHEDULES INCLUDES DUCT SYSTEM, TERMINAL UNITS, FILTERS, COILS, ETC.
5. FOR TYPICAL STEAM AND WATER PIPING CONNECTIONS TO EQUIPMENT, SEE STANDARD EQUIPMENT DETAILS.
6. DIFFUSER, REGISTER AND GRILLE SIZES SHOWN ON FLOOR PLANS ARE NECK SIZES.
7. WATER PIPE CONNECTIONS TO AIR HEATING AND COOLING COILS SHALL BE MADE TO PROVIDE COUNTER FLOW BETWEEN WATER AND AIR.
8. WALL TYPE EXHAUST REGISTERS NOTED AS "BR" ON DRAWINGS ARE TO BE INSTALLED WITH BOTTOM ELEVATION OF REGISTER AT 7" [175mm] ABOVE FINISHED FLOOR.
9. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF CEILING DIFFUSERS, REGISTERS, AND GRILLES.
10. STEAM HEADER SET PRESSURE: ____ PSIG [kPa] NORMAL
    ____ PSIG [kPa] LOW DEMAND PERIODS
11. ALTITUDE-BOILER ROOM FLOOR: ____ FT. [M] ABOVE SEA LEVEL
12. SEISMIC PROVISIONS ARE TO MEET THE REQUIREMENTS OF SEISMIC CATEGORY 'C'.

4/19/13

Revisions	Date

OVERALL FLOOR PLAN

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