

Order Plans @

EQUIPMENT IDENTIFICATION	
AHU	AIR HANDLING UNIT
AS	AIR SEPARATOR
B	BOILER
BCU	BLOWER COIL UNIT
CCC	CLOSED-CIRCUIT COOLING TOWER
CH	CHILLER
CHWP	CHILLED WATER PUMP
CRAC	COMPUTER ROOM AIR CONDITIONER
CT	COOLING TOWERS
CUH	CABINET UNIT HEATER
CWP	CONDENSER WATER PUMP
ECH	ELECTRIC CEILING HEATER
ERU	ENERGY RECOVERY UNIT
ERV	ENERGY RECOVERY VENTILATOR
ET	EXPANSION TANK
EJH	ELECTRIC UNIT HEATER
EW	ELECTRIC WALL HEATER
FCU	FAN COIL UNIT
HP	HEAT PUMP
HW	HOT WATER PUMP
HX	HEAT EXCHANGER
MAU	MAKEUP AIR UNIT
OAU	OUTDOOR AIR UNIT
P	PUMP
PTAC	PACKAGED TERMINAL AIR CONDITIONER
PTHP	PACKAGED TERMINAL HEAT PUMP
RTU	ROOFTOP UNIT
SBI	SPLIT SYSTEM INDOOR UNIT
SBO	SPLIT SYSTEM OUTDOOR UNIT
TU	TERMINAL UNIT
UH	UNIT HEATER
WSHP	WATER SOURCE HEAT PUMP

CONTROLS ABBREVIATIONS	
AF	AIRFLOW
AI	ANALOG INPUT TO CONTROLLER
ALM	ALARM
AMS	AIRFLOW MEASURING STATION
AO	ANALOG OUTPUT FROM CONTROLLER
ATS	AVERAGING TEMPERATURE SENSOR
BAS	BUILDING AUTOMATION SYSTEM
BI	BINARY INPUT TO CONTROLLER
BO	BINARY OUTPUT FROM CONTROLLER
CO2	CARBON DIOXIDE SENSOR
CSR	CURRENT SENSING RELAY
DM	DAMPER MOTOR
DP	DIFFERENTIAL PRESSURE
DPT	DIFFERENTIAL PRESSURE TRANSMITTER
FM	FLOW METER
FZ	FREEZE STAT
HS	HUMIDITY SENSOR
POS	POSITION
R	RELAY
SD	SMOKE DETECTOR
SPD	SPEED
SS	START/STOP
STS	STATUS
TS	TEMPERATURE SENSOR
VFD	VARIABLE FREQUENCY DRIVE

GENERAL NOTES

1. RECTANGULAR DUCT DIFFUSERS AND GRILLES ARE THE SAME AS THE DIFFUSER/GRILLE NECK SIZE UNLESS INDICATED OTHERWISE. PROVIDE RECTANGULAR TO ROUND TRANSITION WHERE THE BRANCH DUCT IS TALLER THAN THE TRUNK DUCT.

2. PROVIDE RECTANGULAR TO ROUND TRANSITION TO CONNECT FLEXIBLE DUCTWORK DIFFUSERS OR GRILLES WITH SQUARE OR RECTANGULAR NECK.

CONTROL SYSTEM SYMBOLS	
	CIRCULATOR OR PUMP
	MOTORIZED 2-WAY VALVE
	MOTORIZED 3-WAY VALVE
	VARIABLE FREQUENCY DRIVE
	DIRECT DIGITAL CONTROLLER
	THERMOSTAT
	FREEZE STAT
	CONTACTOR
	RELAY
	SPACE TEMPERATURE SENSOR
	LINE VOLTAGE THERMOSTAT
	HAND-OFF-AUTOMATIC SWITCH
	DUCT MOUNTED SMOKE DETECTOR
	TRANSFORMER
	FUSE
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
	WIRING OR DEVICE PROVIDED UNDER DIVISION 23
	WIRING OR DEVICE NOT PROVIDED UNDER DIVISION 23
	WIRING CONNECTION BY DIVISION 23
	WIRING CONNECTION BY OTHERS
	NUMBER OF CONDUCTORS INDICATED BY SLASH MARKS
	MOTORIZED PARALLEL BLADE DAMPER
	MOTORIZED OPPOSED BLADE DAMPER
	MOTORIZED BUTTERFLY BLADE DAMPER
	SUPPLY, RETURN OR EXHAUST FAN
	AIRFLOW DIRECTION
	CONTROL POINT INDICATOR
	INPUT OR OUTPUT (ANALOG INPUT)
	DEVICE TYPE (AIR TEMPERATURE SENSOR)
	CONTROL POINT INDICATOR
	INPUT OR OUTPUT (ANALOG INPUT)
	DEVICE TYPE (WATER TEMPERATURE SENSOR WITH BULB TYPE ELEMENT IN PIPING WELL)
	CONTROL POINT INDICATOR
	INPUT OR OUTPUT (ANALOG INPUT)
	DEVICE TYPE (CURRENT SENSING RELAY)

ABBREVIATIONS	
A	AMPERES
AD	ACCESS DOOR
AF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
APD	AIR PRESSURE DROP
BHP	BRAKE HORSEPOWER
BTUH	BRITISH THERMAL UNITS PER HOUR
CRM	CUBIC FEET PER MINUTE
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CLO	COOLING
COM	COMMON
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
D	DRAIN
DB	DRY BULB TEMPERATURE
DBA	A WEIGHTED DECIBELS
DCW	DOMESTIC COLD WATER
DIA	DIAMETER
DN	DOWN
DWG	DRAWING
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EEER	ENERGY EFFICIENCY RATIO
EQ	EQUAL
ESP	EXTERNAL STATIC PRESSURE
EW	ENTERING WATER TEMPERATURE
EX	EXISTING
F	DEGREES FAHRENHEIT
FC	FAL CLOSED
FD	FIRE DAMPER
FLA	FULL LOAD AMPS
FO	FAL OPEN
FRM	FEET PER MINUTE
FT	FOOT, FEET
GA	GAUGE
GAL	GALLONS
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HP	HORSEPOWER
HPWR	HEAT PUMP WATER RETURN
HPWS	HEAT PUMP WATER SUPPLY
HTG	HEATING
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HX	HEAT EXCHANGER
HZ	HERTZ
IN	INCH
INLV	INTEGRATED PART LOAD VALUE
KW	KILOWATTS
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	ONE THOUSAND BTUH
MCA	MINIMUM CIRCUIT AMPACITY
MFR	MANUFACTURER
MIN	MINIMUM
MOPCP	MAXIMUM OVERCURRENT PROTECTION
MOD	MOTOR OPERATED DAMPER
NC	NORMALLY CLOSED (RELAYS, DETAILS)
NC	NOISE CRITERIA (FOR FAN COILS)
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
OA	OUTSIDE AIR
OR	OWNER FURNISHED CONTRACTOR INSTALLED
OS	OPERATIONS PER SQUARE INCH-GAUGE
OS	OPEN AIR
RD	REFRIGERANT DISCHARGE
RH	RELATIVE HUMIDITY
RLM	REFRIGERANT LIQUID
RRM	REFRIGERANT REVENUE PER MINUTE
RS	REFRIGERANT SUCTION
SA	SUPPLY AIR
SEER	SEASONAL ENERGY EFFICIENCY RATIO
TD	TRANSFER DUCT
TYP	TYPICAL
UNO	UNLESS NOTED (INDICATED) OTHERWISE
V	VOLTAGE, VOLTS
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS
W	WITH
WO	WITHOUT
WB	WET BULB TEMPERATURE
WC	WATER COLUMN
WPD	WATER PRESSURE DROP
WWM	WELDED WIRE MESH

GRAPHICS SYMBOLS LEGEND	
	SPACE IDENTIFICATION TAG
	EQUIPMENT IDENTIFICATION TAG
	DIFFUSER, GRILLE OR REGISTER TAG
	DETAIL TAG
	KEYNOTE
	STRUCTURAL GRID LINE WITH DESIGNATION
	EXISTING TO BE REMOVED
	DETAIL TITLE
	SECTION TITLE
	SECTION CALLOUT
	ENLARGED PLAN
	MECHANICAL EQUIPMENT WITH REQUIRED SERVICE CLEARANCES INDICATED

DUCTWORK LEGEND	
	RECTANGULAR DUCT (FIRST DIMENSION REFERS TO SIDE VIEW)
	ROUND DUCT SIZE
	FLAT OVAL DUCT SIZE
	DOUBLE WALL DUCT
	FABRIC DUCT
	FLEXIBLE CONNECTOR
	DUCT MOUNTED SMOKE DETECTOR
	DUCT WITH DUCT LINER
	DUCT ACCESS DOOR
	DUCT WITH END CAP
	LINEAR SLOT DIFFUSER, LENGTH AS INDICATED
	LINEAR BAR GRILLE, LENGTH AS INDICATED
	SUPPLY DIFFUSER
	RETURN OR EXHAUST GRILLE
	SUPPLY DIFFUSER WITH DIRECTIONAL BLOW, SOLID HATCH INDICATES BLANK OFF PANEL
	POINT OF CONNECTION TO EXISTING
	LIMIT OF DEMOLITION
	SUPPLY AIRFLOW ARROW
	RETURN OR EXHAUST AIRFLOW ARROW
	MANUAL BALANCING DAMPER IN DUCT
	FIRE DAMPER IN DUCT
	SMOKE DAMPER IN DUCT
	COMBINATION FIRE/SMOKE DAMPER IN DUCT
	MOTORIZED DAMPER IN DUCT
	SMOKE CONTROL MANUAL BALANCING DAMPER IN DUCT
	SMOKE CONTROL MOTORIZED DAMPER IN DUCT
	SECURITY BARS IN DUCT
	DUCT WITH ACCESS PANEL
	SUPPLY/MAKEUP AIR DUCT SECTIONS
	RETURN AIR DUCT SECTIONS
	EXHAUST AIR DUCT SECTIONS
	SMOKE DETECTOR
	HUMIDITY SENSOR
	THERMOSTAT, LINE VOLTAGE
	THERMOSTAT, LOW VOLTAGE
	TEMPERATURE SENSOR
	CARBON DIOXIDE SENSOR
	CARBON MONOXIDE SENSOR
	SENSOR WELL
	DOOR UNDERCUT
	DOOR LOUVER

PIPING LEGEND	
	PIPE CAP
	PIPE TURNED DOWN
	PIPE TURNED UP
	PIPE TEE UP
	PIPE TEE DOWN
	END OF LINE CLEANOUT PLUG
	CLEANOUT PLUG
	PRESSURE GAUGE WITH GAUGE COCK
	LIQUID FILLED THERMOMETER
	UNION
	STRAINER WITH BLOWDOWN VALVE AND 3/4" HOSE END CONNECTION
	FLEXIBLE PIPE CONNECTOR
	MANUAL AIR VENT
	VALVE
	VALVE IN RISER
	MANUAL BALANCING VALVE WITH FLOW TAPS
	AUTOMATIC BALANCING VALVE WITH FLOW TAPS
	SWING CHECK VALVE
	PRESSURE REDUCING VALVE
	TRIPLE DUTY VALVE
	GAS COCK
	PRESSURE RELIEF VALVE
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	DIRECTION OF FLOW
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER

GENERAL NOTES

A. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL. IN THE CASE OF A CONFLICT, DISAGREEMENT, OR AMBIGUITY, PROVIDE THE BETTER QUALITY. IN THE CASE OF A CONFLICT, DISAGREEMENT, OR AMBIGUITY, PROVIDE THE GREATER QUANTITY OF WORK.

B. DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY. DO NOT SCALE DRAWINGS LOCATIONS OF ALL ITEMS INDICATED ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE. COORDINATE CONTRACT DOCUMENTS PRODUCT REQUIREMENTS, WORK OF OTHERS, AND EQUIPMENT AND MATERIALS PURCHASED WITH FIELD DIMENSIONS. MANUFACTURERS REQUIREMENTS FOR INSTALLATION, OPERATION AND MAINTENANCE. CONTRACTORS INTENDED MEANS AND METHODS OF INSTALLATION, AND CONTRACTORS FABRICATED ITEMS TO ENSURE A PROPER FIT AND INSTALLATION.

C. MAINTAIN MAXIMUM HEADROOM AND SPACE CONDITIONS AT ALL POINTS WHERE HEADROOM AND SPACE CONDITIONS APPEAR INADEQUATE, NOTIFY THE ARCHITECTS PRIOR TO PROCEEDING WITH INSTALLATION. MAINTAIN A MINIMUM OF 7'-0" CLEARANCE ABOVE FINISHED FLOOR TO UNDERSIDES OF PIPES, DUCTS, CONDUITS, SUSPENDED EQUIPMENT, ETC., THROUGHOUT ACCESS ROUTES IN MECHANICAL ROOMS.

D. FIELD VERIFY AND COORDINATE ALL DUCT AND PIPING DIMENSIONS BEFORE FABRICATION. MAKE MODIFICATIONS IN THE LAYOUT AS NEEDED TO PREVENT CONFLICT WITH WORK OF OTHER TRADES OR FOR PROPER EXECUTION OF THE WORK.

E. INSTALL ALL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.

F. COORDINATE LOCATIONS AND SIZES OF ALL FLOOR, WALL, AND ROOF OPENINGS WITH ALL OTHER TRADES. COORDINATE ALL PIPING AND EQUIPMENT SUPPORTED FROM STRUCTURE WITH GENERAL CONSTRUCTION WORK.

G. PROVIDE TRAPPED DRAIN PIPING FROM DRAIN PANS OF ALL COOLING COILS, FANS AND OTHER ACTIVE DRAINS EXPOSED TO SYSTEM AIRSTREAM. PROVIDE TRAP AT CONNECTION WITH WATER SEAL DEPTH ONE INCH GREATER THAN UNIT OPERATING PRESSURE. DIRECT DRAINS TO NEAREST FLOOR DRAIN, MOP SINK, OR OTHER LOCATION APPROVED BY THE ARCHITECT.

H. INSTALL PIPING, DUCTWORK, AND CONDUIT CONCEALED IN AREAS HAVING CEILING AND/OR PURRED SPACES UNLESS OTHERWISE INDICATED.

I. ALL EQUIPMENT, VALVES, DAMPERS, DAMPER AND VALVE OPERATORS SHALL BE PROVIDED WITH ADEQUATE ACCESS FOR SERVICING, MAINTENANCE, AND REPLACEMENT.

J. SIZE ALL SPLIT SYSTEM REFRIGERANT PIPING IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS.

K. DUCT DIMENSIONS MAY BE MODIFIED ONLY WITH PRIOR APPROVAL FROM ARCHITECT. DUCT DIMENSIONS ARE IN INCHES AND INSIDE CLEAR.

L. FOR LOCATION OF REGISTERES, GRILLES, AND DIFFUSERS WITHIN CEILING GRID, REFER TO ARCHITECTURAL REFLECTED CEILING PLANS.

M. ELEVATION INDICATED FOR RECTANGULAR DUCT, GRILLE AND LOUVER OPENINGS IS TO THE TOP OF ROUGH OPENING UNLESS OTHERWISE INDICATED. ELEVATION INDICATED FOR ROUND DUCTWORK AND PIPING IS TO CENTERLINE UNLESS INDICATED OTHERWISE.

N. BRANCH PIPING RUNOUTS TO TERMINAL UNITS SHALL BE 3/4" DIAMETER UNLESS INDICATED OTHERWISE.

O. REFER TO STRUCTURAL DRAWINGS FOR DETAILS AND MAXIMUM SPACING REQUIREMENTS REGARDING HANGER ATTACHMENTS TO STEEL BEAMS JOISTS.

MOSELEY ARCHITECTS



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DATE	REVISIONS
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LEGENDS, ABBREVIATIONS AND GENERAL NOTES

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