ABBREVIATIONS

ALL ABBREVIATIONS SHOWN MAY NOT APPLY

ABBREV.	DEFINITION
ABV	ABOVE
ACT	ACOUSTICAL TILE CEILING
A/C	AIR CONDITIONING
AD	ACCESS DOOR
AF	AIR FOIL
AFF	ABOVE FINISHED FLOOR
AI	ANALOG INPUT
AO	ANALOG OUTPUT
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
APPR	APPROXIMATE
ARCH	ARCHITECT, ARCHITECTURE
AUTO	AUTOMATIC
AWG	AMERICAN WIRE GAUGE
BFS	BOILER FEED SYSTEM
BHP	BRAKE HORESEPOWER
BLDG	BUILDING
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BOT	BOTTOM
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT/HOUR
BTW	BETWEEN
CC	CABINET CONVECTOR
CtoC	CENTER TO CENTER
CCW	COUNTER CLOCKWISE
CFM	CUBIC FEET PER MINUTE
CHAR	CHARCOAL
CLG	CEILING
CLR	CLEAR, CLEARANCE
COL	COLUMN
COND	CONDENSATE
CONN	CONNECTION
CONT	CONTINUATION
CTR	CENTER
CU.FT.	CUBIC FEET
CU.IN.	CUBIC INCH
DB	DRY BULB
dB	DECIBELS
DET	DETAIL
DH	DUCT HEATER
DI	DIGITAL INPUT
DIA	DIAMETER
DIFF	DIFFUSER
DIM	DIMENSION
DN	DOWN
DO	DIGITAL OUTPUT
DPI	DIFFERENTIAL PRESSURE INDICATOR
DTF	DOWN THRU THE FLOOR
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULB
EFF	EFFICIENCY
ELEV	ELEVATION
ELEC	ELECTRICAL, ELECTRIC
EMER	EMERGENCY
ENCL	ENCLOSURE
EQ	EQUAL
EQUIP	EQUIPMENT
ESP	EXTERNAL STATIC PRESSURE
ETR	EXISTING TO REMAIN
EWB	ENTERING WET BULB
EWT	ENTERING WATER TEMPERATUIRE
EXH	EXHAUST
EXIST.	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
°F	DEGREES FAHRENHEIT
FA	FREE AREA
FC	FAN COIL OR FAIL CLOSE
FF	FINAL FILTER
FIN	FINISH
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FLR	FLOOR
FO	FAIL OPEN-FOR CV
FOB	FLAT ON BOTTOM
FOS	FUEL OIL SUPPLY
FOR	FUEL OIL RETURN
FOT	FLAT ON TOP
FPI	FINS PER INCH
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FOOT OR FEET
FUT	FUTURE
FV	FACE VELOCITY
GAL	GALLON
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GALV	GALVANIZED
GA	GAUGE
GC	GENERAL CONTRACTOR
GE	GENERAL EXHAUST
GND	GRAOUND
GYP	GYPSUM
GWB	GYPSUM WALL BOARD
HB	HOSE BIB
HD	HEAD
HEPA	HIGH EFFICIANCY PARTICULATE AIR
HOA	HAND-OFF-AUTO
HP	HORSE POWER/HEAT PUMP
HR	HOUR
HT	HEIGHT
HTG	HEATING
HZ	FREQUENCY (HERTZ)
ID	INSIDE DIAMETER
IN	INCH(ES)
INCL	INCLUDE
INFO	INFORMATION
INSUL	INSULATION
IN.WG.	INCHES OF WATER GAUGE
KW	KILOWATT

ABBREV.	DEFINITION
L	LENGTH
LAT	LEAVING AIR TEMPERATURE
LB	POUND WEIGHT
LDB	LEAVING DRY BULB TEMPERATURE
LF	LINEAR FEET
LFU	LAMINAR FLOW UNIT
LG	LENGTH
LRA	LOCK ROTOR AMPS
LVG	LEAVING
LWB	LEAVING WET BULB
LWT	LEAVING WATER TEMPERATURE
MAT	MIXED AIR TEMPERATURE
MAX	MAXIMUM
MBH	1000Btuh
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MER	MECHANICAL EQUIPMENT ROOM
MEZZ	MEZZANINE
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MTD	MOUNTED
MUA	MAKE-UP AIR
N/A	NOT APPLICABLE
NC	NOISE CRITERIA
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
NOM	NOMINAL
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NO	NUMBER
NPT	NOMINAL PIPE THREAD
OA	OUTSIDE AIR
OC	ON CENTER
OD	OUTSIDE DIAMETER
OH	OVERHEAD
OPNG	OPENING
OPP	OPPOSITE
OV	OUTLET VELOCITY
PD	PRESSURE DROP/DIFFERENTIAL
PE	PNUEMATIC ELECTRIC
PF	PRE-FILTER
PHC	PRE-HEAT COIL
PLUMB	PLUMBING
POC	POINT OF CONNECTION
PREFAB	PREFABRICATED
PRV	PRESSURE REDUCING VALVE
PSF	POUNDS PER SQUARE FEET
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	PUNDS PER SQUARE IN GAUGE
QTY	QUANTITY
R	RISE
RA	RETURN AIR
RAD	RADIUS
REFR	REFRIGERANT
REG	REGISTER
REQD	REQUIRED
REV	REVISION
RH	RELATIVE HUMIDITY
RM	ROOM
RO	REVERSE OSMOSIS
RPM	REVOLUTIONS PER MINUTE
RR	RETURN REGISTER
SA	SUPPLY AIR/SOUND ATTENUATOR
SCHED	SCHEDULE
SENS	SENSIBLE
SEP	SEPARATOR
SHT	SHEET
SIM	SIMILAR
SP	STATIC PRESSURE/SETPOINT
SPEC	SPECIFICATION
SQ	SQUARE
SR	SUPPLY REGISTER
S/S	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STM	STEAM
STOR	STORAGE
STR	STRAINER
STRL	STRUCTURAL
SUSP	SUSPENDED
SV	SOLENOID VALVE
TEMP	TEMPERATURE
TG	TRANSFER GRILLE
THRU	THROUGH
TOD	TOP OF DUCT
TOP	TOP OF PIPE
TOS	TOP OF STEEL
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
U	UNDERCUT
ULPA	ULTRA LOW PENETRATION AIR FILTER
UNO	UNLESS NOTED OTHERWISE
V	VOLTS
VEL	VELOCITY
VENT	VENTILATION
VFD	VARIABLE FREQUENCY DRIVE
VTR	VENT TO ROOF
W	WIDTH/WATT
W/	WITH
WB	WET BULB
WC	WATER COLUMN
WG	WATER GAUGE
WMS	WIRE MESH SCREEN
W/O	WITHOUT
WPD	WATER PRESSURE DROP
WT	WEIGHT
XFER	TRANSFER
&	AND
@	AT
ø	DIAMETER/PHASE
#	POUND OR NUMBER

CONTROL SYMBOL DESIGNATION

SYMBOL	DESCRIPTION
	DENOTES DDC INPUT/OUTPUT CONTROL POINT IDENTIFICATION NUMBER
AFMS	AIR FLOW MEASURING STATION
CDS	CARBON DIOXIDE SENSOR
CR	CURRENT RELAY
CP	CONTROL PANEL
CV	CONTROL VALVE
CT	CURRENT TRANSDUCER
DPS	DIFFERENTIAL PRESSURE SENSOR
EC	ELECTRIC COIL RELAY
ES	END SWITCH
FM	FLOW MONITOR
FMS	FLOW MEASURING STATION
FS	FLOW SENSOR
FSD	COMBINATION FIRE-SMOKE DAMPER
HPS	HIGH LIMIT PRESSURE SENSOR
HS	HUMIDITY SENSOR
HFMS	HYDRONIC FLOW MEASURING STATION
M	MOTOR
MOD	MOTOR OPERATED DAMPER
PD	PRESSURE DIFFERENTIAL
PS	PRESSURE SENSOR
SD	SMOKE DAMPER
SMD	SMOKE DETECTOR
TS	TEMPERATURE SENSOR
VFD	VARIABLE FREQUENCY DRIVE
IGV	INLET GUIDE VANES
VS	VELOCITY SENSOR
S	SWITCH

DUCTWORK SYMBOLS

ALL SYMBOLS SHOWN MAY NOT APPLY

(double line)	(single line)	DESCRIPTION
24x12	24x12	RECTANGULAR DUCT DIMENSIONS (I.D. IN INCHES) FIRST DIMENSION IS PLAN VIEWED (WIDTH). SECOND DIMENSION IS HEIGHT.
12ø	12ø	ROUND DUCT DIMENSION (IN INCHES)
		SUPPLY DUCT UP/ ROOF PENETRATION
		EXHAUST OR RETURN DUCT UP/ ROOF PENETRATION
		ROUND DUCT UP/ ROOF PENETRATION
		SUPPLY DUCT DOWN, OR AWAY FROM VIEWER
		EXHAUST OR RETURN DUCT DOWN
		ROUND DUCT DOWN, OR AWAY FROM VIEWER
		LINED DUCT - DIMENSION GIVEN IS INSIDE CLEAR
DN	DN	DUCT DROP IN DIRECTION OF AIR FLOW
UP	UP	DUCT RISE IN DIRECTION OF AIR FLOW
		FLEXIBLE DUCT CONNECTION
		SOUND ATTENUATOR
		DUCT MOUNTED COIL
		RECTANGULAR ELBOW
		RECTANGULAR ELBOW WITH TURNING VANES
		MITERED TEE DUCT JUNCTION WITH TURNING VANES
		DUCT TRANSITION (CONCENTRIC)
		DUCT TRANSITION (ECCENTRIC)
		BRANCH DUCT (NO SPLITTER W/ 45° FLARE)
AD	AD	ACCESS DOOR INTO DUCT (PLAN & ELEV. SHOWN)
F/SD OR FD, AD	F/SD OR FD, AD	FIRE/SMOKE DAMPER OR FIRE DAMPER W/ ACCESS DOOR
		FLEXIBLE DUCT
		DUCT CAP
		CEILING DIFFUSER, SUPPLY GRILLE
		EXHAUST OR RETURN GRILLE OR REGISTER
		LINEAR SUPPLY AIR DIFFUSER
		HEPA FILTER
		FAN FILTER UNIT
		RADIANT CEILING PANEL

ANNOTATION/MISC. SYMBOLS

ALL SYMBOLS SHOWN MAY NOT APPLY

SYMBOL	DESCRIPTION
#	KEYED NOTE
	(THIS SIDE TO BE DEMOLISHED) LIMIT OF DEMOLITION (THIS SIDE TO REMAIN)
	DEMOLITION HATCH; INDICATES EQUIP. TO BE RELOCATED
	DEMOLITION HATCH; ITEMS TO BE REMOVED
BDD	BACKDRAFT DAMPER
FD	FIRE DAMPER
FD/SD	COMBINATION SMOKE AND FIRE DAMPER
SD	SMOKE DAMPER
	VOLUME DAMPER
H	HUMIDIFIER
M	MOTORIZED DAMPER
BD	BAROMETRIC DAMPER
OBD	OPPOSED BLADE DAMPER
PBD	PARALLEL BLADE DAMPER
SMD	SMOKE DETECTOR
T	THERMOSTAT
TS	TEMPERATURE SENSOR
H	HUMIDISTAT
P	PRESSURE SENSOR
	CONNECT TO EXISTING
	AIR FLOW (SUPPLY)
	AIR FLOW (RETURN OR EXHAUST)
	PITCH DIRECTIONAL ARROW
U	DOOR UNDERCUT
L	DOOR LOUVER

PIPE FITTING SYMBOLS

ALL SYMBOLS SHOWN MAY NOT APPLY

SYMBOL (double line)	SYMBOL (single line)	DESCRIPTION
		DOWN THRU FLR.
		UP THRU FLR. ABV.
		DROP
		DROP & RUN
		DROP & TURN
		OFFSET
		BRANCH RISE
		BLIND FLANGE
		CAP
		BRANCH DROP
		90° ELBOW
		45° ELBOW
		TEE
		BREAK
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER
		FLANGED CONNECTION
		FLEXIBLE CONNECTOR
		Y-TYPE STRAINER WITH GATE VALVE DRAIN & HOSE END CAP

EQUIPMENT DESIGNATION

ALL DESIGNATIONS SHOWN MAY NOT APPLY

SYMBOL	DEFINITION
ACU 1	AIR CONDITIONING UNIT
ACC 1	AIR COOLED CONDENSER
AV 1	LABORATORY SUPPLY AIR VALVE
EAV 1	LABORATORY EXHAUST AIR VALVE
ER CFM	EXHAUST REGISTER
FHAV 1	LABORATORY FUME HOOD EXHAUST AIR VALVE
FCU 1	FAN COIL UNIT
FTR-1 4'-0"	FINNED TUBE RADIATION TYPE; ACTIVE FINNED LENGTH
HC 1	HEATING COIL
RCP-1 LENGTH	RADIANT CEILING PANEL
RR-1 CFM	RETURN REGISTER
SD-1 THROW CFM	SUPPLY DIFFUSER
VAV 1	VARIABLE AIR VOLUME BOX (**WITH AN HOT WATER REHEAT COIL**)

GENERAL NOTES:

1. COORDINATE ANY SYSTEM SHUT DOWN WITH USM FACILITIES.
2. START-UP OF CHILLER, AIR HANDLING UNIT, PUMP, EXHAUST FAN/ENERGY RECOVERY UNIT - COMPLY\ WITH USM IDAT.
3. VFD TO BE SUPPLIED BY ATC SUBCONTRACTOR.

PIPING ABBREVIATIONS & SYMBOLS

ALL ABBREVIATIONS & SYMBOLS SHOWN MAY NOT APPLY

ABBREVIATION	DEFINITION
A	COMPRESSED AIR
AR	AIR RELIEF
ARV	AIR RELIEF VENT
BBO	BOILER BLOW OFF
BF	BOILER FEED
CF	CHEMICAL FEED
CHS	CHILLED WATER SUPPLY
CHR	CHILLED WATER RETURN
COND	CONDENSATE
CW	COLD WATER
CWS	CONDENSER WATER SUPPLY
CWR	CONDENSER WATER RETURN
D	DRAIN
FOS	FUEL OIL SUPPLY
FOR	FUEL OIL RETURN
G	GAS
HPC	HIGH PRESSURE CONDENSATE
HPS	HIGH PRESSURE STEAM
HPR	HIGH PRESSURE RETURN
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
LPC	LOW PRESSURE CONDENSATE
LPS	LOW PRESSURE STEAM
LPR	LOW PRESSURE RETURN
MPS	MEDIUM PRESSURE STEAM
MPR	MEDIUM PRESSURE RETURN
N	NITROGEN
O	OXYGEN
PC	PUMPED CONDENSATE
SCHS	SECONDARY CHILLED WATER SUPPLY
SCHR	SECONDARY CHILLED WATER RETURN
SHWS	SECONDARY HOT WATER SUPPLY
SHWR	SECONDARY HOT WATER RETURN
VAC	VACUUM
V	VENT

SYMBOL	DEFINITION
	ANGLE GLOBE VALVE
	AUTOMATIC AIR VENT
	BALANCING VALVE
	BALL JOINT
	CHECK VALVE
	COMBINATION BALANCE/SHUT-OFF VALVE
	CONCENTRIC REDUCER
	DRAIN TRAP
	ECCENTRIC REDUCER
	EXPANSION JOINT
	FINNED TUBE RADIATION
	FLANGE
	FLEXIBLE CONNECTION
	FLOW CONTROL BALANCING VALVE
	FLOW MEASURING STATION
	FUSIBLE LINK VALVE
	GEAR ACTUATOR
	HOSE END VALVE
	LEVER ACTUATOR
	LOCK SHIELD VALVE
	LUBRICATED PLUG VALVE
	MANUAL AIR VENT
M	METER
	NON-RISING STEAM ACTUATOR
	ORIFICE
	OS&Y ACTUATOR
	PETCOCK
	PIPE ANCHOR
	PIPE GUIDE
	PIPE TURNED DOWN
	PIPE TURNED UP
	PRESSURE GAUGE ASSEMBLY
	PRESSURE REDUCING VALVE
	PRESSURE TEMPERATURE TAP W/ CAP
	RELIEF VALVE OR SAFETY VALVE
	RISING STEAM ACTUATOR
	SHUT-OFF VALVE
	SOLENOID VALVE
T	STEAM TRAP
	STRAINER ASSEMBLY
	THERMOMETER
	THERMOMETER WELL
	THREE-WAY CONTROL VALVE
	THREE-WAY MOTOR OPERATED VALVE
	TRAP ASSEMBLY
	TWO-WAY CONTROL VALVE
	TWO-WAY MOTOR OPERATED VALVE
	UNION
	VACUUM BREAKER
	VENTURI METER ASSEMBLY
	CAP

SMMA
SYMMES MAINI & MCKEE ASSOCIATES
1000 Massachusetts Avenue
Cambridge, Massachusetts 02138
617.547.5400 Fax 617.354.5758

OWNER REVIEW

NAME	DATE

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ISSUE LOG

△ = CLOUDED CHANGE

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PORTLAND, MAINE

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LEGEND SHEET

SCALE	NONE
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CHECKED BY	
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