PIPING SYMBOLS

SYMBOL	DESCRIPTION
CW / CW	DOMESTIC COLD WATER MAKE-UP
D / D	DRAIN LINE

CONTROL SYMBOLS

SYMBOL	DESCRIPTION
(S)	SMOKE DETECTOR
(T)	THERMOSTAT & CO2
(CO)	CO SENSOR

MISCELLANEOUS SYMBOLS

SYMBOL	DESCRIPTION
A / M-2 ; SECTION # / DRAWING LOCATION	SECTION
1	REVISION NUMBER
AH / 3 ; EQUIPMENT TYPE / EQUIPMENT TAG NUMBER	EQUIPMENT DESIGNATION
FTR - A / 10'-0" A.L. ; FTR TYPE / ACTIVE LENGTH	FIN TUBE DESIGNATION

DUCTWORK SYMBOLS

SYMBOL	DESCRIPTION
	POSITIVE PRESSURE DUCT (SUPPLY) UP
	NEGATIVE PRESSURE DUCT (RETURN OR EXHAUST) UP
	POSITIVE PRESSURE DUCT (SUPPLY) DOWN
	NEGATIVE PRESSURE DUCT (RETURN OR EXHAUST) DOWN
	SLOPING RISE IN DUCTWORK
	SLOPING DROP IN DUCTWORK
	ACCESS DOOR IN DUCT
18x12 / 18x12	DUCT SIZE (CLEAR INSIDE DIMENSION) FIRST FIGURE INDICATES PLAN DIMESION
12"ø / 12"ø	ROUND DUCT DIAMETER SIZE
	ACOUSTIC LINING IN DUCT (SIZE NOTED INDICATES CLEAR INSIDE DIMENSION)
FC / FC	FLEXIBLE CONNECTION
BDD	BACK DRAFT DAMPER
VD / VD	VOLUME DAMPER
ALD / ALD	AUTOMATIC LOUVER DAMPER
FLD / FLD	FUSIBLE LINK FIRE DAMPER WITH DUCT ACCESS DOOR
	SQUARE DUCT ELBOW WITH TURNING VANE
	RADIUS ELBOW
	DUCT SPLIT
	BRANCH TAKE-OFF WITH VOLUME DAMPER
	RETURN REGISTER OR GRILLE
TRG	TRANSFER GRILLE ON BOTH SIDES OF PARTITION OR WALL
	SUPPLY TOP REGISTER OR GRILLE
	RETURN TOP REGISTER OR GRILLE
	LOUVERED DOOR
	UNDERCUT DOOR
	FIRE RATED ENCASED DUCT
TX / 4 ; RISER SERVICE / RISER NUMBER	RISER DESIGNATION
UNIT / SIZE / DUCT DIM / VELOCITY	

ABBREVIATIONS

A	AMPERES	ELEC	ELECTRIC	NC	NORMALLY CLOSED
AAV	AUTOMATIC AIR VENT	EQ	EQUAL	NIC	NOT IN CONTRACT
AC	AIR CONDITIONING	EWB	ENTERING WET BULB	NO	NORMALLY OPEN
ACCU	AIR COOLED CONDENSING UNIT	EWT	ENTERING WATER TEMPERATURE	NO.	NUMBER
ACS	AUTOMATIC CONTROL SYSTEM	EXIST	EXISTING	NTS	NOT TO SCALE
AD	AUTOMATIC DAMPER	°F	DEGREES FAHRENHEIT	OA	OUTSIDE AIR
AFF	ABOVE FINISHED FLOOR	FA	FREE AREA (SQ.FT.)	PD	PRESSURE DROP
AHU	AIR HANDLING UNIT	FC	FLEXIBLE CONNECTION	PSI	POUNDS PER SQUARE INCH
AL	ACOUSTICAL LINING	FLA	FULL LOAD AMPERES	PSIA	PSI ABSOLUTE
BD	BACKDRAFT DAMPER	FPM	FEET PER MINUTE	PSIG	PSI GAUGE
BHP	BRAKE HORSEPOWER	FPS	FEET PER SECOND	RA	RETURN AIR
BTU	BRITISH THERMAL UNIT	FT	FEET	RF	RETURN FAN
BTUH	BTU PER HOUR	FV	FACE VELOCITY	RH	RELATIVE HUMIDITY
CCW	COUNTER CLOCKWISE	GPM	GALLONS PER MINUTE	RPM	REVOLUTIONS PER MINUTE
CD	CEILING DIFFUSER	HD	HEAD	SA	SUPPLY AIR
CFFC	CAP FOR FUTURE CONNECTION	HR	HOUR	SD	SMOKE DAMPER
CFM	CUBIC FEET PER MINUTE	HV	HEATING AND VENTILATING	SP	STATIC PRESSURE
CG	CEILING GRILLE	HX	HEAT EXCHANGER	TDH	TOTAL DYNAMIC HEAD
CLG	CEILING	IN	INCH OR INCHES	TEMP	TEMPERATURE
COND	CONDENSATE	IPS	IRON PIPE SIZE	TG	TOP GRILLE
CP	CONDENSATE PUMP	KW	KILOWATT	TR	TOP REGISTER
CR	CEILING REGISTER	L	LENGTH	TRD	TRANSFER DUCT
CRAC	CUMPUTER ROOM AC	LAT	LEAVING AIR TEMPERATURE	TYP	TYPICAL
CV	CONSTANT VOLUME	LBS	POUNDS	UON	UNLESS OTHERWISE NOTED
DB	DRY BULB	LDB	LEAVING DRY BULB TEMPERATURE	V	VOLTS
DIAM	DIAMETER	LIN FT	LINEAR FEET	W	WIDTH
DMPR	DAMPER	LWB	LEAVING WET BULB TEMPERATURE	W/	WITH
DN	DOWN	LWT	LEAVING WATER TEMPERATURE	W/O	WITHOUT
DWG	DRAWING	MAX	MAXIMUM	WB	WET BULB
EAT	ENTERING AIR TEMPERATURE	MHP	MOTOR HORSEPOWER	WG	WATER GAUGE
EDB	ENTERING DRY BULB TEMPERATURE	MIN	MINIMUM	WMS	WIRE MESH SCREEN
		MOT	MOTOR		

GENERAL NOTES

1. WHERE PIPING, LIGHTS AND DUCTWORK CONFLICT, DUCTWORK SHALL BE COORDINATED TO SUIT CONDITIONS.

2. ALL DUCTWORK TO BE KEPT AS HIGH AS POSSIBLE SO AS TO MAINTAIN CEILING HEIGHTS SHOWN ON ARCHITECTURAL DRAWINGS.

3. WHERE PIPING, LIGHTS AND DUCTWORK CONFLICT, DUCTWORK SHALL BE SET UP AND DOWN.

4. PROVIDE VOLUME DAMPERS ON ALL SPLITS AND TAPS FOR ALL LOW PRESSURE DUCTWORK. DO NOT INSTALL DAMPERS ON MEDIUM PRESSURE DUCTWORK.

5. ACCESS IS REQUIRED BELOW ALL DAMPERS, FC UNITS, VALVES AND OTHER MECHANICAL EQUIPMENT. LOCATION SHALL BE COORD. W/ARCH.

6. FOR EXACT LOCATION OF REGISTERS, REFER TO ARCHITECT'S PLAN.

7. CONTRACTOR SHALL REVIEW ARCHITECTURAL PLANS AND SHALL BE RESPONSIBLE FOR FURNISHING ALL AIR OUTLETS WITH FRAMES AND BORDER COMPATIBLE WITH WALL CONSTRUCTION.

8. FOR EXACT LOCATIONS OF THERMOSTATS AND SWITCHES, REFER TO ARCHITECTURAL DRAWINGS. ELEVATION SHALL BE APPROX. 5 FT A.F.F.

9. PROVIDE ACCESS DOORS IN DUCTWORK OR PLENUMS WHERE INDICATED OR REQUIRED FOR ACCESS TO SYSTEM COMPONENTS INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:

   a. AUTOMATIC DAMPERS.
   b. FIRE DAMPERS.
   c. COMBINATION FIRE SMOKE DAMPERS.

10. ALL MOTOR STARTERS LOCATED OUTDOORS OR EXPOSED TO WET OR DAMP CONDITIONS SHALL BE NEMA TYPE 4.

11. ALL DUCT DIMENSIONS ARE CLEAR INSIDE DUCT DIMENSIONS

12. ALL DUCTS ELBOW SHALL BE ROUND ELBOW EXCEPT WHERE THERE IS A SPACE CONDITION.

13. CONTRACTOR SHALL COORDINATE LOCATION OF SERVICE CONNECTION AND SLAB PENETRATIONS WITH EQUIPMENT MANUFACTURER'S. PROVIDE FINAL CONNECTION TO EQUIPMENT PER MANUFACTURER'S RECOMMENDATION.

CENTRAL AVENUE PARKING GARAGE

CORNELL UNIVERSITY
Owner

DESMAN ASSOCIATES
Architect/Structural Engineer

TROWBRIDGE & WOLF LLP
Landscape Architect

T.G. MILLER ENGINEERS AND SURVEYORS
Civil Engineering

PLUS GROUP CONSULTING ENGINEERING PLLC
MEPFP Engineer

CME ASSOCIATES, INC.
Geotechnical Engineer

HOLT ARCHITECTS
Design Architect

NO.	DATE	ISSUE
11		
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4	DEC. 05, 2008	BID DOCUMENTS
3	NOV. 07, 2008	50% CONSTRUCTION DOCUMENTS
2	SEPT. 19, 2008	DESIGN DEVELOPMENT
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PROJECT NO.
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DRAWING TITLE

MECHANICAL SYMBOLS, NOTES AND ABBREVIATIONS

DRAWING NO.
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