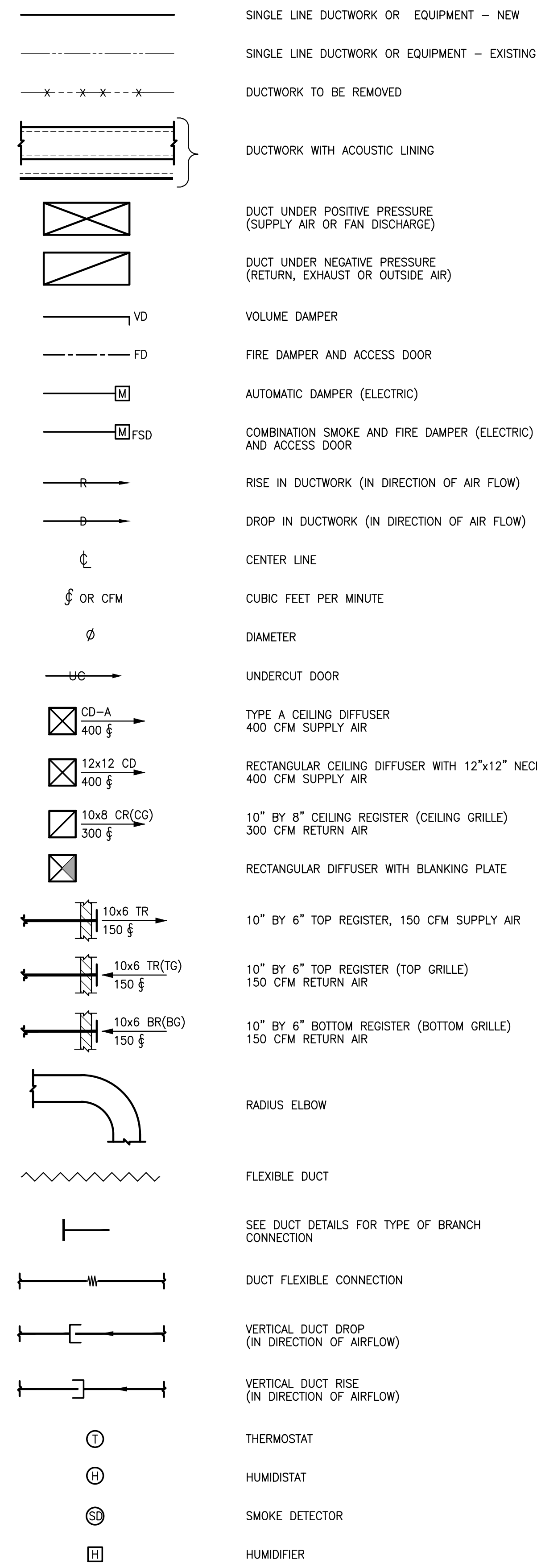


MECHANICAL SYMBOL LIST

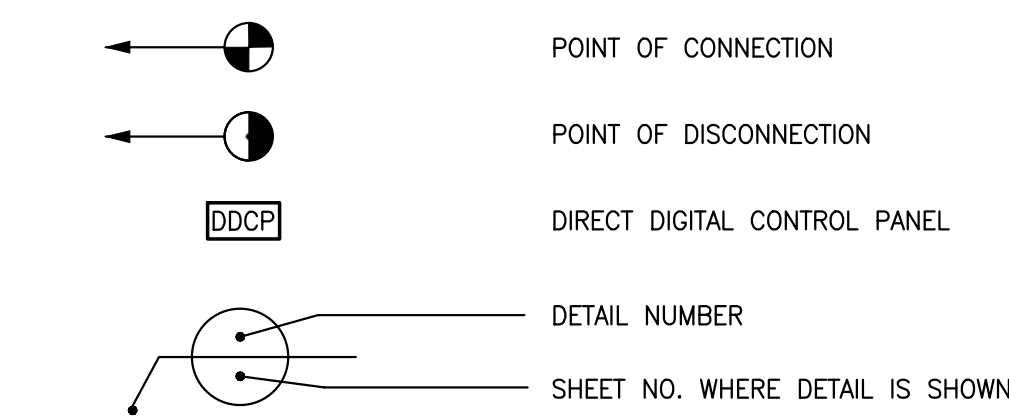
DUCTWORK

(NOT ALL SYMBOLS ARE NECESSARILY USED ON THIS PROJECT)

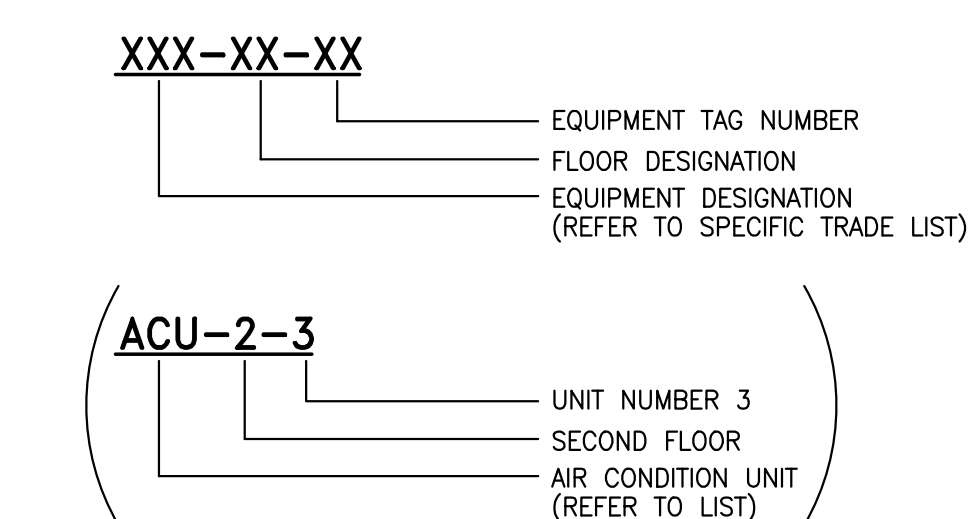


GENERAL

(NOT ALL SYMBOLS ARE NECESSARILY USED ON THIS PROJECT)

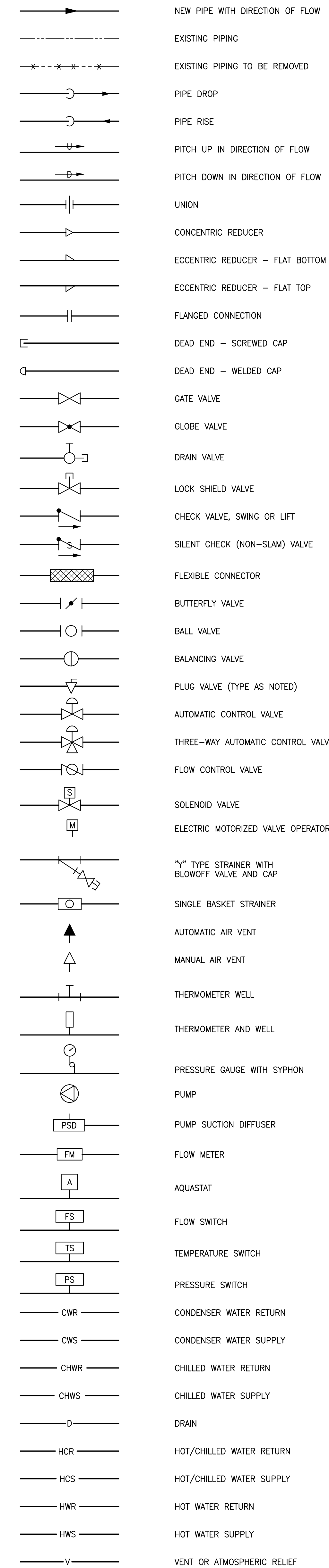


HVAC EQUIPMENT DESIGNATIONS



PIPING

(NOT ALL SYMBOLS ARE NECESSARILY USED ON THIS PROJECT)



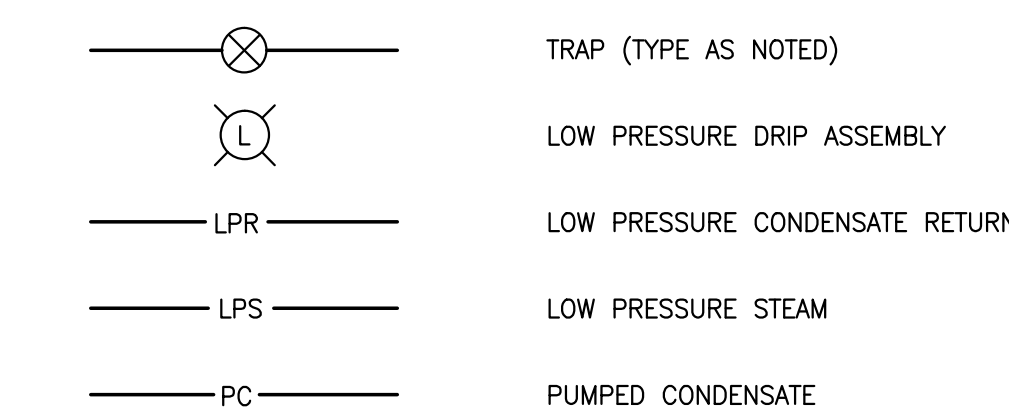
ABBREVIATIONS

(NOT ALL ABBREV. ARE NECESSARILY USED ON THIS PROJECT)

A	AMPERES	HR	HOUR
AAV	AUTOMATIC AIR VENT	HT	HEIGHT
AC	AIR CONDITIONING	HWP	HOT WATER PUMP
ACCU	AIR COOLED CONDENSING UNIT	HV	HEATING AND VENTILATING
ACS	AUTOMATIC CONTROL SYSTEM	HX	HEAT EXCHANGER
ACU	AIR CONDITIONING UNIT	IN	INCH OR INCHES
AD	ACCESS DOOR	IPS	IRON PIPE SIZE
AFF	ABOVE FINISHED FLOOR	KW	KILOWATT
AHU	AIR HANDLING UNIT	L	LENGTH
AL	ALUMINUM	LAT	LEAVING AIR TEMPERATURE
BF	BOOSTER FAN	LBS	POUNDS
BG	BOTTOM GRILLE	LD	LINEAR DIFFUSER
BHP	BRAKE HORSEPOWER	LDB	LEAVING DRY BULB TEMPERATURE
BDW	BACKWARD INCLINE DOUBLE WIDTH	LF, LIN.FT.	LINEAR FEET
BISW	BACKWARD INCLINE SINGLE WIDTH	LR	LINEAR RETURN
BMS	BUILDING MANAGEMENT SYSTEM	LRA	LOCKED ROTOR AMPS
BR	BOTTOM REGISTER	LWB	LEAVING WET BULB TEMPERATURE
BT	BOTTOM THROAT	LWT	LEAVING WATER TEMPERATURE
BTU	BRITISH THERMAL UNIT	MAX	MAXIMUM
BTUH	BTU PER HOUR	MB	MIXING BOX
°C	DEGREES CENTIGRADE (CELSIUS)	MBH	THOUSAND BTU PER HOUR
CC	COOLING COIL	MHP	MOTOR HORSEPOWER
CCW	COUNTER CLOCKWISE	MIN	MINIMUM
CD	CEILING DIFFUSER	MM	MILLIMETER
CFFC	CAP FOR FUTURE CONNECTION	MOT	MOTOR
CFM	CUBIC FEET PER MINUTE	MOV	MOTOR OPERATED VALVE
CG	CEILING GRILLE	NC	NORMALLY CLOSED
CLG	CEILING	NIC	NOT IN CONTRACT
COND	CONDENSATE	N.O.	NORMALLY OPEN
CP	CONDENSATE PUMP	NO.	NUMBER
CR	CEILING REGISTER	NTS	NOT TO SCALE
CU IN	CUBIC INCHES	OA	OUTSIDE AIR
CUH	CABINET UNIT HEATER	P	PUMP
CV	CONSTANT VOLUME	PD	PRESSURE DROP
CW	CLOCKWISE	PHC	PREHEAT COIL
CWP	CONDENSER WATER PUMP	PSI	POUNDS PER SQUARE INCH
DB	DRY BULB	PSIA	PSI ABSOLUTE
DX	DIRECT EXPANSION	PSIG	PSI GAUGE
DIAM	DIAMETER	PVC	POLYVINYL CHLORIDE
DMPR	DAMPER	RA	RETURN AIR
DN	DOWN	(RE)	RELOCATED EXISTING
(E)	EXISTING TO REMAIN	RF	RETURN FAN
EA	EACH	RH	RELATIVE HUMIDITY
EAT	ENTERING AIR TEMPERATURE	RHC	REHEAT COIL
EDB	ENTERING DRY BULB TEMPERATURE	RHWP	REHEAT WATER PUMP
EF	EXHAUST FAN	RM	ROOM
ELEC	ELECTRIC	RPM	REVOLUTIONS PER MINUTE
EDH	ELECTRIC DUCT HEATER	(RRG)	EXISTING TO BE REMOVED AND RETURN TO OWNER
EQ	EQUAL	SA	SUPPLY AIR
(ER)	EXISTING TO BE REMOVED	SAU	SOUND ATTENUATION UNIT
(ERR)	EXISTING TO BE REMOVED & RELOCATED	SD	SMOKE DAMPER
EUH	ELECTRIC UNIT HEATER	SF	SUPPLY FAN
EWB	ENTERING WET BULB	SP	STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE	T	THROAT
EXH	EXHAUST	TDH	TOTAL DYNAMIC HEAD
EXIST	EXISTING	TEMP	TEMPERATURE
°F	DEGREES FAHRENHEIT	TG	TOP GRILLE
FA	FREE AREA (SQ.FT.)	TR	TOP REGISTER
FC	FLEXIBLE CONNECTION	TRD	TRANSFER DUCT
FCU	FAN COIL UNIT	TRF	TRANSFER FAN
FD	FIRE DAMPER	TRG	TRANSFER GRILLE
FIN FL	FINISHED FLOOR	TT	TOP THROAT
FLA	FULL LOAD AMPERES	TYP	TYPICAL
FPM	FEET PER MINUTE	TX	TOILET EXHAUST
FPS	FEET PER SECOND	UON	UNLESS OTHERWISE NOTED
FR	FLOOR REGISTER	UH	UNIT HEATER
FT	FEET	V	VOLTS
FV	FACE VELOCITY	W	WIDTH
GPM	GALLONS PER MINUTE	W/	WITH
GX	GENERAL EXHAUST	W/O	WITHOUT
H	HUMIDIFIER	WB	WET BULB
HALX	HALON EXHAUST	WG	WATER GAUGE
HC	HEATING COIL	WMS	WIRE MESH SCREEN
HD	HEAD	WSP	WORKING STEAM PRESSURE

STEAM SERVICES

(NOT ALL SYMBOLS ARE NECESSARILY USED ON THIS PROJECT)



DRAWING INDEX

DRAWING NO.	DRAWING TITLE
M-000	MECHANICAL COVER SHEET
M-100	MECHANICAL FLOOR PLANS
M-200	MECHANICAL SCHEDULES AND DETAILS
M-300	MECHANICAL SPECIFICATIONS

GENERAL NOTES

- GENERAL NOTES, SYMBOL LIST AND DETAILS ARE APPLICABLE TO ALL HVAC/MECHANICAL DRAWINGS.
 - DRAWINGS ARE DIAGRAMMATIC. DETERMINE LOCATIONS OF SYSTEMS AND COMPONENTS IN FIELD. RELOCATE EXISTING WORK THAT INTERFERES WITH WORK OF THIS CONTRACT.
 - COORDINATE THIS WORK WITH THAT OF OTHER TRADES.
 - DIMENSIONS SHOWN ON PLAN ARE HORIZONTAL. DIMENSIONS SHOWN IN ELEVATION ARE VERTICAL EXCEPT IN WAY OF STRUCTURAL STEEL. DIMENSIONS ARE MEASURED PERPENDICULAR TO FLANGE.
 - NEITHER ACCURACY NOR COMPLETION OF SERVICES AND UTILITY LOCATIONS SHOWN ON DRAWINGS IS GUARANTEED. DETERMINE EXACT LOCATIONS OF EXISTING SERVICES AND UTILITIES IN FIELD, WHETHER OR NOT SHOWN ON DRAWINGS. EXERCISE CAUTION AND IDENTIFY LOCATIONS OF UNMARKED UTILITY LINES AS NECESSARY TO PERFORM WORK OF THIS SECTION.
 - MANUFACTURERS MODEL NUMBERS ARE SPECIFIED SOLELY TO ESTABLISH STANDARDS OF QUALITY FOR PERFORMANCE AND MATERIALS.
 - PRODUCT INSTALLATION SHALL ADHERE TO MANUFACTURERS RECOMMENDATIONS.
 - PROVIDE ACCESS PANELS FOR EQUIPMENT THAT REQUIRES PERIODIC SERVICE.
 - PROVIDE HANGERS, INSERTS, ANCHORS, SUPPLEMENTAL STEEL & SUPPORTS AS REQUIRED TO SUPPORT DUCTWORK, PIPING AND EQUIPMENT FROM STRUCTURE.
 - SCHEDULE WORK OF THIS SECTION TO AVOID INTERFERING WITH EXISTING OPERATIONS IN THE FACILITY.
 - RUN DUCTS AND PIPING CONCEALED, UNLESS OTHERWISE SPECIFIED AND CLEAR OF CEILING INSERTS.
 - INSTALL THERMOSTATS 4'-6" ABOVE FINISHED FLOOR OR AS DIRECTED OTHERWISE BY ARCHITECT.
 - STRUCTURAL WELDING SHALL BE CONTINUOUS 1/4" FILLET UNLESS REQUIRED OTHERWISE.
- ### AIR SYSTEMS
- AIR SYSTEMS REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF AIR DEVICES.
 - INTERNAL AIRFLOW DIMENSIONS ARE SHOWN FOR DUCTS. INCREASE DUCT SIZE AS NECESSARY TO MAINTAIN FREE FLOW AREA INDICATED.
 - USE FLAT TRANSVERSE SEAM FOR DUCTWORK WHERE SPACE AVAILABLE DICTATES.
 - DIFFUSER SIZES SHOWN ARE NECK SIZES. REGISTERS AND GRILLE SIZES ARE NOMINAL.
 - PROVIDE VOLUME DAMPERS OR OTHER APPROVED BALANCING DEVICES AT DUCT BRANCHES AND RUN OUTS, AND AT REGISTER GRILLE AND DIFFUSER NECKS IN SUPPLY, RETURN AND EXHAUST DUCTWORK WHETHER SHOWN OR NOT.
 - PROVIDE 36" CLEARANCE IN FRONT OF ALL ELECTRIC CONTROL PANELS PER N.E.C. AND MFG. REQUIREMENTS.
- ### PIPING SYSTEMS
- PITCH PIPING 1" IN 20' IN DIRECTION OF FLOW.
 - PROVIDE TRAPS IN CONDENSATE LINES THAT EXTEND OVER 2'.

DEMOLITION NOTES

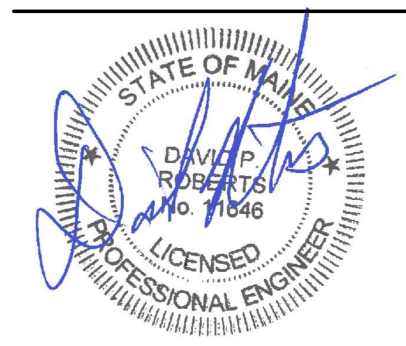
- GENERAL
 - THIS CONTRACTOR SHALL VISIT THE SITE AND ADJOINING AREAS AND EXAMINE THE EXISTING CONDITIONS TO BECOME FAMILIAR WITH THEM AND TO DETERMINE THE DIFFICULTIES WHICH WILL AFFECT THE EXECUTION OF THE WORK OF THIS CONTRACT. THIS CONTRACTOR SHALL PERFORM THIS PRIOR TO THE SUBMISSION OF HIS PROPOSAL. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE AND LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE.
 - THE DEMOLITION WORK SHALL INCLUDE, PROVIDING ALL MATERIALS, ALL NECESSARY EXTENSIONS, CONNECTIONS, CUTTING, REPAIRING, ADAPTING AND OTHER MECHANICAL WORK REQUIRED, TOGETHER WITH ANY REQUIRED TEMPORARY CONNECTIONS TO MAINTAIN SERVICE PENDING THE COMPLETION OF THE PERMANENT WORK. NOTES AND GRAPHIC REPRESENTATION SHALL NOT LIMIT THE EXTENT OF DEMOLITION REQUIRED. EXTENT OF DEMOLITION WORK SHALL BE COORDINATED WITH THE ARCHITECT AND BUILDING MANAGEMENT.
- REFER TO ARCHITECTS PLANS FOR AREA OF WORK.
- SCOPE OF WORK
 - EXISTING WORK INTERFERING WITH NEW.
 - ALL EXISTING WORK REQUIRED TO REMAIN BUT INTERFERING WITH PROPOSED NEW MECHANICAL (AS WELL AS ELECTRICAL AND GENERAL CONSTRUCTION WORK) SHALL BE RELOCATED AND RECONNECTED USING MATERIALS CONFORMING TO STANDARDS OF THIS CONTRACT.
 - REMOVAL OF DUCTWORK AND ACCESSORIES
 - REMOVE ALL SUPPLY AIR, RETURN AIR AND EXHAUST AIR DUCTWORK WITH ALL ASSOCIATED DIFFUSERS, TERMINAL BOXES, CONTROLS, COLLARS, DAMPERS, RETURN/EXHAUST GRILLES AND CONTROLS BACK TO THE EXISTING SUPPLY AND RETURN AIR SHAFTS, OR AS NOTED ON DRAWINGS.
 - CONTRACTOR TO CONTACT BUILDING MANAGEMENT AND TENANT REGARDING DUCTWORK REMOVAL SCOPE OF WORK TO ENSURE THAT OTHER TENANTS THAT ARE TO STAY OPERATIONAL ARE NOT AFFECTED BY REMOVALS OF THE BASE BUILDING DUCTWORK.
 - ALL EXISTING BUILDING FIRE DAMPERS, FIRE/SMOKE DAMPERS, DUCT MOUNTED SMOKE DETECTORS AT SUPPLY AND RETURN AIR SHAFTS TO REMAIN.
- CONTRACTOR TO REPLACE/ PATCH WALLS AND FLOORS TO MATCH EXISTING.
- PROVIDE ADDITIONAL SUPPORT FOR ALL EXISTING DUCTS AND PIPING TO REMAIN WHICH ARE AFFECTED BY DEMOLITION OF EXISTING CEILING AND PARTITIONS.
- EQUIPMENT REQUIRED TO BE TURNED OVER TO THE OWNER SHALL BE PLACED IN A MUTUALLY ACCEPTABLE LOCATION. ALL MATERIALS AND EQUIPMENT REMOVED AS A RESULT OF DEMOLITION SHALL BE TAKEN FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE LAWS AND ENVIRONMENTAL REGULATIONS.
- CONTRACTOR SHALL IDENTIFY ALL EXISTING WORK TO REMAIN BY ACCEPTABLE IDENTIFICATION MEANS TO CONFIRM PROPER SCOPE PRIOR TO COMMENCEMENT OF DEMOLITION.



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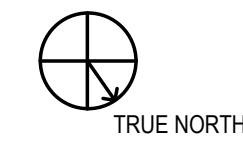
PROJECT

MMC Cath Lab 4
22 Bramhall Street
Portland, ME 04102



Maine Medical Center
22 Bramhall Street
Portland, ME 04102

KEYPLAN



ISSUE FOR BID

01/15/2016

ISSUE CHART

NO.	ISSUE	DATE
Job Number	B150268-000	
Checked	DPR	
Approved	DPR	

MECHANICAL COVER SHEET

SHEET NUMBER

M-000

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