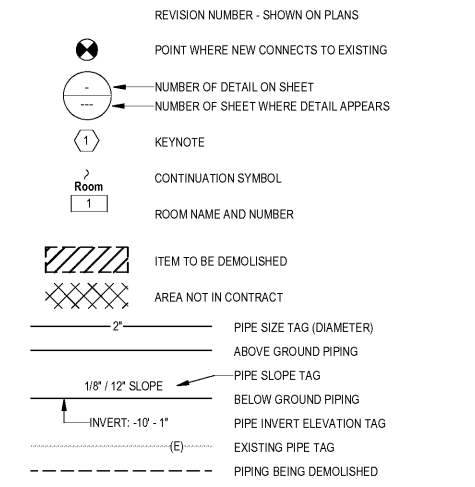
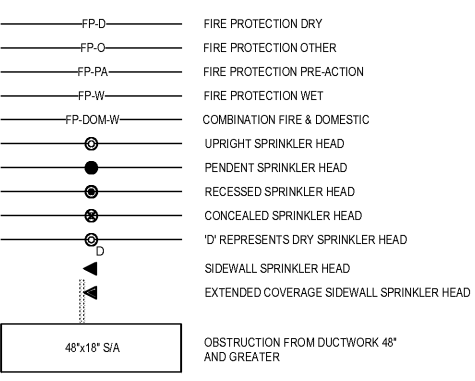


GENERAL MECHANICAL SYMBOLS



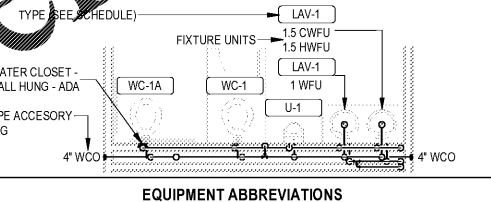
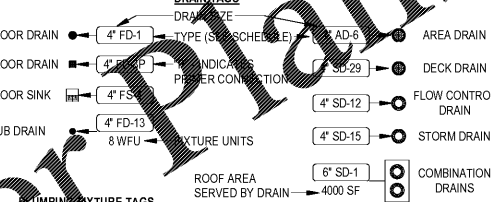
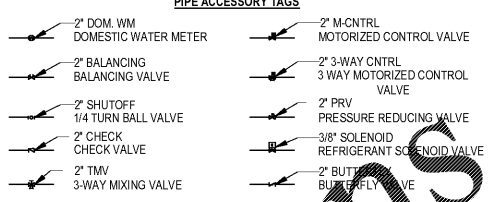
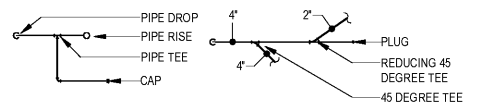
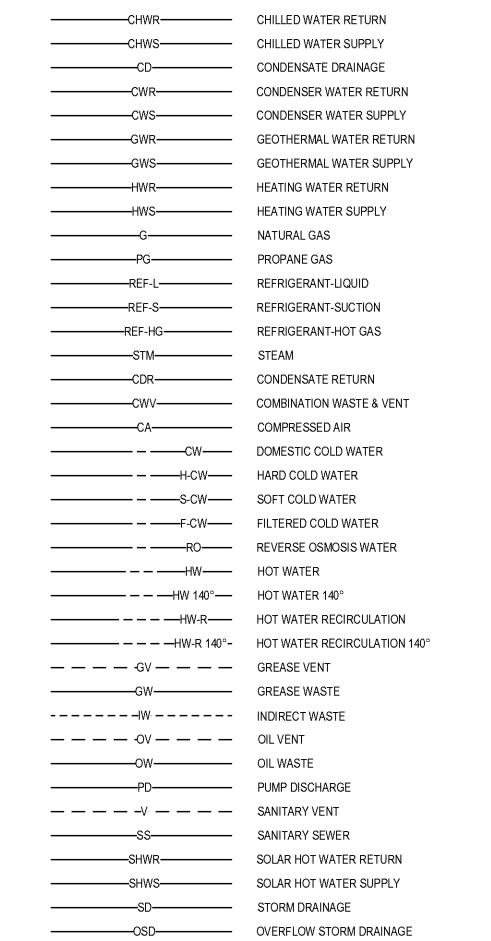
FIRE PROTECTION SYMBOLS



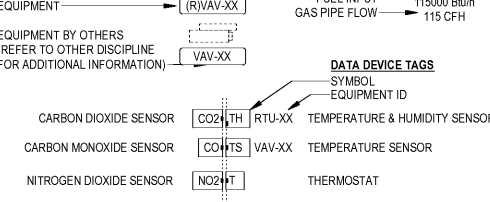
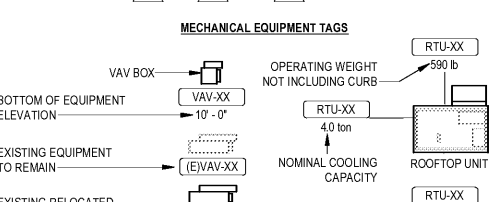
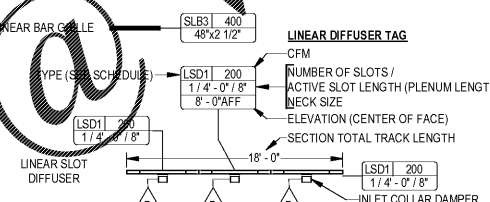
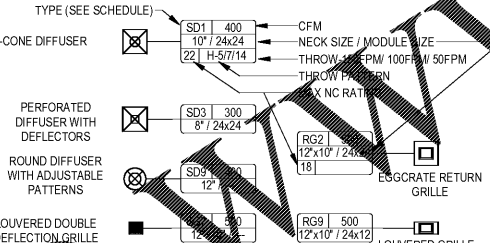
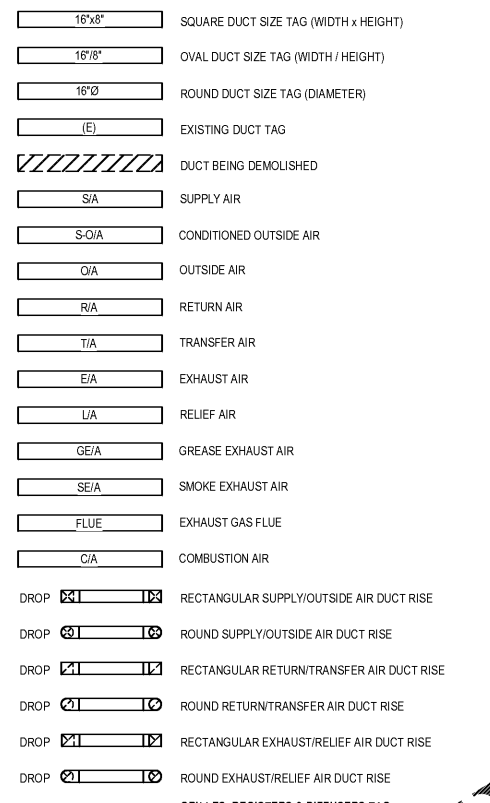
ABBREVIATIONS

Ø	ROUND	LVR	LOUVER
ABV	ABOVE	LWT	LEAVING WATER TEMPERATURE
AC	AIR CONDITIONING	MIA	MIXED AIR
AD	AREA DRAIN	MAX	MAXIMUM
ADD	ADDENDUM	MBH	ONE THOUSAND BTU PER HOUR
AFF	ABOVE FINISHED FLOOR	MCF	ONE THOUSAND CUBIC FEET
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY	MD	MOTORIZED DAMPER
ALT	ALTERNATE	MECH	MECHANICAL
AP	ACCESS PANEL	MFR	MANUFACTURER
ARCH	ARCHITECTURAL	MIN	MINIMUM
BFF	BELOW FINISHED FLOOR	MISC	MISCELLANEOUS
BLW	BELOW	MTR	MOTOR
BTU	BRITISH THERMAL UNITS	MUA	MAKE-UP/AIR
BTUH	BRITISH THERMAL UNITS PER HOUR	NC	NOISE CRITERIA
CAP	CAPACITY	NC	NORMALLY CLOSED
CB	CATCH BASIN	NC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NO	NUMBER
CLG	CEILING	NO	NORMALLY OPEN
CO	CLEAN OUT	NTS	NOT TO SCALE
CW	COLD WATER	O ₂	OXYGEN
D	DEGREE	O/A	OUTSIDE AIR
DB	DRY BULB	ORD	OVERFLOW ROOF DRAIN
DIA	DIAMETER	PD	PRESSURE DROP
DN	DOWN	PIV	POST INDICATOR VALVE
DW	DISTILLED WATER	PLBG	PLUMBING
EAT	EACH	PRESS	PRESSURE
ELEC	ELECTRICAL	PRV	PRESSURE REDUCING VALVE
EQUIP	EQUIPMENT	PSI	POUNDS PER SQUARE INCH
EWC	ELECTRIC WATER COOLER	PSIG	POUNDS PER SQUARE INCH GAUGE
EWT	ENTERING WATER TEMPERATURE	PWR	POWER
E/A	EXHAUST AIR	R	DUCT RISER
EXIST	EXISTING	R/A	RETURN AIR
F	DEGREES FAHRENHEIT	RCP	RADIANT CEILING PANEL
FDO	FLOOR CLEAN OUT	RD	ROOF DRAIN
FD	FLOOR DAMPER	REC	RECESSED
FDV	FIRE DEPARTMENT VALVE	RED	REDUCER
FL	FLOOR	RH	RELATIVE HUMIDITY
FO	FUEL OIL	R/LA	RELIEF AIR
FOV	FUEL OIL VENT	RM	ROOM
FOR	FUEL OIL RETURN	RPM	REVOLUTIONS PER MINUTE
FOS	FUEL OIL SUPPLY	RW	RAIN WATER
FPM	FEET PER MINUTE	SE	SEWER
FS	FLOOR SINK	SAN	SANITARY
FT	FOOT/FEET	SAN	SANITARY
FTR	FIN TUBE RADIATION	SAN	SANITARY
GAL	GALLON	SAN	SANITARY
GC	GENERAL CONTRACTOR	SAN	SANITARY
GPM	GALLONS PER MINUTE	SP	STEAM PRESSURE
GW	GREASE WASTE	STM	STEAM
HB	HOSE BIB	T	THERMOSTAT
HP	HORSE POWER	TD	TEMPERATURE DROP
HTG	HEATING	TD	TEMPERATURE DROP
HTR	HEATER	TR	TEMPERATURE
HW	HOT WATER	TR	TEMPERATURE
HYD	HYDRANT	TR	TEMPERATURE
ID	INDIRECT	TR	TEMPERATURE
IN	INCH	TR	TEMPERATURE
INV	INVERT	TR	TEMPERATURE
LB	POUND	TR	TEMPERATURE
LBHR	POUNDS PER HOUR	TR	TEMPERATURE
LAT	LEAVING AIR TEMPERATURE	TR	TEMPERATURE
LP	LOW PRESSURE	TR	TEMPERATURE
LPG	LIQUEFIED PETROLEUM GAS	TR	TEMPERATURE

PLUMBING AND PIPING SYMBOLS



HVAC SYMBOLS



GENERAL NOTES

- WORK TO BE ACCOMPLISHED ON THESE DRAWINGS AND THE ACCOMPANYING SPECIFICATIONS INCLUDES THE FURNISHING OF ALL LABOR, MATERIALS, EQUIPMENT, AND SERVICES NECESSARY FOR THE PROPER COMPLETION OF ALL MECHANICAL WORK.
- BEFORE SUBMITTING A PROPOSAL ON THE WORK CONTEMPLATED ON THESE DRAWINGS AND ACCOMPANYING SPECIFICATIONS, EACH BIDDER SHALL EXAMINE THE SITE, CHECK AS TO THE MEANS OF MAKING CONNECTIONS TO SERVICES, AND SHALL BECOME FAMILIAR WITH ALL THE EXISTING CONDITIONS AND LIMITATIONS. NO EXTRAS WILL BE ALLOWED BECAUSE OF THE CONTRACTOR'S MISUNDERSTANDING AS TO THE AMOUNT OF WORK INVOLVED OR HIS LACK OF KNOWLEDGE OF ANY SITE CONDITIONS, WHICH MAY AFFECT THIS WORK. ANY APPARENT VARIANCE OF THE PLAN OR SPECIFICATION FROM EXISTING CONDITIONS AT THE SITE SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER DURING THE BID PERIOD SO CLARIFICATION CAN BE MADE BY ADDENDUM.
- EXISTENCE OF ANY WIRES, CONDUITS, PIPES, DUCTS, OR OTHER FACILITIES ARE SHOWN IN A GENERAL WAY ONLY. IT WILL BE THE DUTY OF THE CONTRACTOR TO VISIT THE SITE AND MAKE EXACT DETERMINATION OF THE EXISTENCE OF ANY SUCH FACILITIES PRIOR TO THE SUBMISSION OF HIS BID. IT IS UNDERSTOOD THAT HE WILL BE RESPONSIBLE FOR MAKING THE EXACT DETERMINATION OF THE LOCATION AND CONDITION OF SUCH FACILITIES.
- ALL REQUIRED FEES, PERMITS, AND INSPECTIONS SHALL BE OBTAINED AND/OR ARRANGED FOR BY THE CONTRACTOR UNDER THE SECTION OF THE SPECIFICATIONS FOR WHICH THEY ARE REQUIRED.
- REGULAR INSPECTIONS SHALL BE ARRANGED BY THE CONTRACTOR AS REQUIRED BY ANY AND ALL REGULATIONS. ALL CHARGES FROM REGULATING AGENCIES FOR INSPECTIONS OF INSTALLATIONS OR REVIEW OF PLANS AND SPECIFICATIONS SHALL BE PAID BY THE CONTRACTOR.
- CONTRACTOR TO PROVIDE CERTIFICATE OF FINAL INSPECTION.
- ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH ALL CURRENT AND APPLICABLE CODES, SPECIFICATIONS, ORDINANCES, LAWS, REGULATIONS, INDUSTRY STANDARDS, AND UTILITY COMPANY REGULATIONS.
- IN CASE OF DIFFERENCE AMONG BUILDING CODES, SPECIFICATIONS, STATE LAWS, LOCAL ORDINANCES, INDUSTRY STANDARDS, AND UTILITY COMPANY REGULATIONS AND THE CONTRACT DOCUMENTS, THE MOST STRINGENT SHALL GOVERN. CONTRACTOR SHALL PROMPTLY NOTIFY THE ENGINEER IN WRITING OF SUCH DIFFERENCE.
- ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND ORDINANCES SHALL BE ADHERED TO THROUGHOUT THE CONSTRUCTION PROJECT.
- NON-COMPLIANCE SHOULD THE CONTRACTOR PERFORM ANY WORK THAT DOES NOT COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE BUILDING CODES, STATE LAWS, LOCAL ORDINANCES, INDUSTRY STANDARDS, AND UTILITY COMPANY REGULATIONS, HE SHALL BEAR ALL COSTS ARISING TO CORRECT THE DEFICIENCIES.
- CONTRACTOR SHALL INITIATE, MAINTAIN, AND SUPERVISE ALL SAFETY PRE-CAUTIONS REQUIRED FOR HIS WORK, INCLUDING REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION.
- DRAWINGS ARE TO SCALE AS NOTED, BUT THE CONTRACTOR SHALL REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR EXACT LOCATION OF PARTITIONS, BEAMS, SHAFTS, EQUIPMENT, ETC.
- EACH TRADE SHALL OBTAIN DRAWINGS AND SPECIFICATIONS OF ALL OTHER TRADES AND COORDINATE HIS WORK WITH ALL OTHER TRADES.
- DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, AND APPURTENANCES AND SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND WORK OF OTHER TRADES WILL PERMIT. MECHANICAL WORK SHALL CONFORM TO THE REQUIREMENTS SHOWN ON ALL OF THE DRAWINGS. ARCHITECTURAL AND STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER MECHANICAL DRAWINGS, BECAUSE OF THE SMALL SCALE OF THE MECHANICAL DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, AND ACCESSORIES THAT MAY BE REQUIRED.
- DISCREPANCIES DISCOVERED BEFORE OR AFTER WORK HAS STARTED, SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY AND THE ENGINEER RESERVES THE RIGHT TO REQUIRE MINOR CHANGES IN THE WORK OF ANY CONTRACTOR TO ELIMINATE SUCH DISCREPANCIES WITH NO CHANGE IN CONTRACT COST.
- PLANS AND SPECIFICATIONS ARE COMPLEMENTARY, AND WHAT IS CALLED FOR IN EITHER ONE SHALL BE AS BINDING AS IF CALLED FOR IN BOTH.
- WHERE A DISAGREEMENT EXISTS BETWEEN THE PLANS AND SPECIFICATIONS, THE ITEM OR ARRANGEMENT OF BETTER QUALITY, GREATER QUALITY, OR HIGHER COST SHALL BE INCLUDED IN THE BID.
- NORMAL USE OF THE FACILITY SHALL NOT BE DISTURBED, EXCEPT WITHIN THE IMMEDIATE CONSTRUCTION AREA. ALL WALKS, DRIVEWAYS, AND ENTRANCES SHALL BE KEPT CLEAR AND FREE OF ALL THE CONTRACTOR'S EQUIPMENT, MATERIAL, AND DEBRIS AT ALL TIMES.
- ALL MATERIALS AND EQUIPMENT SHALL BE STORED IN SUCH A PLACE AND IN SUCH A MANNER THAT A MINIMUM OF CONGESTION WILL RESULT. THE PLACING OF SUCH MATERIALS AND EQUIPMENT SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER.
- CONTRACTOR SHALL THOROUGHLY EXAMINE THE EXISTING BUILDING WITH REGARD TO WHAT TEMPORARY MEASURES HE MUST TAKE IN ORDER TO PERMIT THE OWNER TO OCCUPY SPECIFIC AREAS OF THE BUILDING DURING THE VARIOUS CONSTRUCTION PHASES. IN GENERAL, SYSTEMS MUST REMAIN IN USE IN THOSE DESIGNATED AREAS TO PERMIT THE OWNER TO FUNCTION IN A PRE-CONSTRUCTION MANNER.
- EACH CONTRACTOR SHALL COORDINATE WORK WITH OTHER TRADES IN THE INSTALLATION OF EQUIPMENT, PIPING, CONDUIT, AND DUCTWORK.
- HVAC/SHEET-METAL CONTRACTOR SHALL INITIATE THE COORDINATION PROCESS BY PROVIDING REPRODUCIBLE PLAN DRAWINGS SHOWING DUCTWORK AND EQUIPMENT.
- DRAWINGS TO BE FORWARDED TO THE PIPING CONTRACTOR AND ELECTRICAL CONTRACTOR FOR INCLUSION OF THEIR SYSTEMS WORK.
- CONTRACTORS SHALL SOLVE ALL COORDINATION CONFLICTS AMONG THEMSELVES WHEN POSSIBLE. ENGINEER WILL ARBITRATE WHEN NECESSARY, AND HIS JUDGMENT WILL STAND, WITH NO ADDITIONAL COST TO THE OWNER.
- ACCESS PANELS SHALL BE FURNISHED BY THE TRADE REQUIRING THEM AND DELIVERED TO THE GENERAL CONTRACTOR FOR INSTALLATION.
- ACCESS PANELS SHALL BE MANUFACTURED BY MILCOR, OR APPROVED EQUAL, AND OF TYPE THAT IS COMPATIBLE WITH CONSTRUCTION AND FINISH OF THE WALL AND/OR CEILING.
- EACH TRADE SHALL PERFORM ALL CUTTING AND PATCHING NECESSARY IN ORDER TO PERFORM THE WORK, UNLESS SUCH WORK HAS BEEN DELEGATED TO THE GENERAL CONTRACTOR/ANOTHER TRADE. HOWEVER, SPECIAL PERMISSION SHALL BE OBTAINED FROM THE ENGINEER BEFORE CUTTING STRUCTURAL MEMBERS OR FINISHED MATERIALS. ALL PATCHING SHALL BE PERFORMED IN SUCH A MANNER AS TO LEAVE NO VISIBLE TRACE AND TO RETURN THE PART AFFECTED TO THE CONDITION OF UNDISTURBED WORK. PATCHING WORK SHALL BE PERFORMED BY PERSONS EXPERIENCED, SKILLED, AND LICENSED FOR THE PARTICULAR TYPE OF WORK INVOLVED. INFERIOR WORK WILL NOT BE ACCEPTED. ALL HOLES IN MASONRY SHALL BE DRILLED WITH ROTARY DRILLS. IMPACT TOOLS SHALL NOT BE USED.

- EACH TRADE SHALL BEAR THE EXPENSE OF CUTTING, PATCHING, REPAIRING, OR REPLACING OF THE WORK OF OTHER TRADES REQUIRED BECAUSE OF HIS FAULT, ERROR, OR TARDINESS, BECAUSE OF ANY DAMAGE DONE BY HIM.
- EACH TRADE SHALL PROVIDE ALL HOLES AND OPENINGS REQUIRED FOR HIS WORK, UNLESS SUCH HOLES AND OPENINGS ARE SHOWN TO BE PROVIDED ON THE ARCHITECTURAL OR STRUCTURAL DRAWINGS.
- EACH TRADE SHALL REMOVE EXISTING WORK THAT IS SHOWN, SPECIFIED, OR OBVIOUSLY NECESSARY FOR COMPLETION OF THIS WORK. OWNER SHALL HAVE THE OPTION OF RETAINING ANY ITEM OR MATERIAL REMOVED UNDER THIS CONTRACT. ITEMS OR MATERIALS NOT RETAINED BY OWNER SHALL BECOME THE PROPERTY OF THE TRADE AND SHALL BE REMOVED FROM THE PREMISES.
- EACH TRADE SHALL PERIODICALLY CLEAR AWAY ALL DEBRIS, SURPLUS MATERIALS, ETC., RESULTING FROM HIS WORK OR OPERATIONS, LEAVING THE WORKING EQUIPMENT FURNISHED UNDER ANY OR ALL CONTRACTS IN A CLEAN CONDITION.
- EACH TRADE SHALL TEST THE EQUIPMENT PROVIDED AND INSTALLED UNDER THE SPECIFICATION AND SHALL DEMONSTRATE ITS PROPER OPERATION TO THE OWNER'S OPERATING ENGINEER.
- EACH TRADE SHALL FURNISH, WITHOUT ADDITIONAL EXPENSE TO THE OWNER, THE SERVICES OF COMPETENT INSPECTORS WHO WILL BE FULL INSTRUCTION IN THE CARE, ADJUSTMENT, AND OPERATION AND MAINTENANCE OF ALL PARTS OF THE EQUIPMENT TO THE OWNER'S PERMANENT EMPLOYEES WHO ARE TO HAVE CHARGE OF THE EQUIPMENT.
- HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR TESTED & RATED FIRE STOP SYSTEMS FOR ALL THRU-PENETRATION OF WALLS, FLOORS AND ROOF ASSEMBLIES RESULTING FROM PIPING AND OTHER WORK UNDER HIS CONTRACT. REFER TO SPECIFICATION SECTION FOR FIRE STOPPING FOR REQUIREMENTS.
- WOOD MILLERS AND OTHER LUMBER WHICH IS INSTALLED IN CONTACT WITH METAL, CONCRETE, OR MASONRY SHALL BE PRESSURE TREATED AGAINST DECAY UNLESS OTHERWISE NOTED.

MECHANICAL SHEET INDEX

M000	MECHANICAL TITLE SHEET
M001	MECHANICAL SPECIFICATIONS
M002	MECHANICAL SPECIFICATIONS
M100	HVAC PLAN
M200	MECHANICAL SCHEDULES AND DETAILS
P100	PLUMBING PLANS, RISERS, DETAILS, AND SCHEDULES

ALL FLEX DUCT MUST BE INSTALLED PER THE ADC (AIR DIFFUSION COUNCIL) INSTALLATION STANDARDS (MOST CURRENT EDITION), INCLUDING A BEND RADIUS OF ONE DUCT DIAMETER OR GREATER, PROPERLY SEALED AND SECURED WITH 2 INCH BEADED COLLARS, PROPERLY SUPPORTED AND FULLY EXTENDED DUCT. FAN CALCULATIONS FOR THIS PROJECT WERE SIZED FOR A 4 FOOT MAXIMUM FLEX DUCT INSTALLED PER THE ADC INSTALLATION STANDARDS. FLEX DUCT SHOWN ON PLANS IS FOR SCHEMATIC PURPOSES ONLY AND SHALL IN NO INSTANCE EXCEED 4 FOOT.

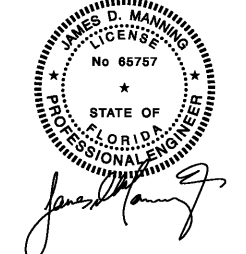
ALL OF GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET. THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THIS SET OF DRAWINGS.

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65757

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SHEET TITLE:
 MECHANICAL TITLE SHEET

REVISIONS:
 ORIGINAL ISSUE: 01.17.19

NO:	DATE:	BY:

PROJECT NO: 18028.008
 DRAWN BY: PAS

M000