

MECHANICAL SPECIFICATIONS	
1.	ALL NEW DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH THE MOST RECENT SMACNA STANDARDS. RIGIDITY CLASS, DIMENSIONS OF TRANSVERSE JOINTS AND INTERMEDIATE REINFORCEMENT SHALL BE IN ACCORDANCE WITH THE PHYSICAL SPACE LIMITATIONS OF PROJECT. THE ENTIRE AIR DISTRIBUTION SYSTEM INCLUDING ALL BRANCH DUCTWORK AND DIFFUSER CONNECTIONS SHALL BE SEALED AS REQUIRED TO PREVENT AIR LEAKAGE IN EXCESS OF 2% DUCT SEALANT HAVE A FIRE HAZARD RATING NOT TO EXCEED 25 FLAME SPREAD AND 50 SMOKE DEVELOPED. ALL SQUARE THROAT 90 ELBOWS SHALL HAVE TURNING VANES. FIBERGLASS DUCTWORK WILL NOT BE ACCEPTABLE.
2.	ALL DUCTWORK DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSIONS. DUCTWORK SIZES SHOWN DO NOT ACCOUNT FOR DUCTWORK LINER OR INSULATION WRAP THICKNESS.
3.	RETURN AIR DUCTWORK SHALL BE INTERNALLY INSULATED WITH 1" THICK FIBERGLASS DUCT LINER WITH FIRE-RESISTANT COATING ON THE SURFACE FACING THE AIR STREAM. DUCT LINER SHALL BE 2-LB DENSITY WITH A MAXIMUM THERMAL CONDUCTIVITY (K) OF 0.26 AT 75 DEGREES F. ALL SUPPLY AND EXHAUST DUCTWORK SHALL BE EXTERNALLY INSULATED WITH A FIBERGLASS FLEXIBLE BLANKET TYPE OF INSULATION 0.6 LB DENSITY, 1-1/2" THICK WITH VAPOR BARRIER FACING, UNLESS OTHERWISE NOTED ON PLANS.
4.	ALL NEW FLEXIBLE DUCT SHALL BE INSULATED WITH FIBERGLASS VAPOR JACKET HAVING A MAXIMUM THERMAL CONDUCTIVITY (K) OF 0.23 AT 75 DEGREES F. NEW FLEXIBLE DUCT SHALL BE WOUND SPIRAL ALUMINUM HELIX OR REINFORCED ALUMINUM FOIL FABRIC LOCKED INTO A SPIRAL ALUMINUM HELIX SUITABLE FOR A POSITIVE WORKING PRESSURE OF AT LEAST 3" W.C. NEW FLEXIBLE DUCT SHALL BE FLEXMASTER TYPE 3, TYPE 5, TYPE 8 OR APPROVED EQUAL.
5.	ALL LINER AND INSULATION SHALL HAVE A COMPOSITE (INSULATION, JACKET OR FACING, AND ADHESIVE) FIRE HAZARD RATING NOT TO EXCEED 25 FLAME SPREAD AND 50 SMOKE DEVELOPED AS DETERMINED BY THE APPLICABLE UL OR ASTM STANDARD. ACCESSORIES SUCH AS COATINGS, TAPES, AND ADHESIVES SHALL HAVE THE SAME COMPONENT RATINGS. INSULATION SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS WRITTEN RECOMMENDATIONS.
6.	THE MAXIMUM LENGTH OF FLEXIBLE DUCTWORK SHALL NOT EXCEED 8'-0". WHERE A LENGTH GREATER THAN 8'-0" OCCURS, CONTRACTOR SHALL EXTEND THE DUCTWORK WITH EXTERNALLY INSULATED ROUND SHEET METAL OF THE SAME SIZE AS THE FLEXIBLE DUCT.
7.	FLEXIBLE DUCTWORK SHALL NOT EXTEND THROUGH FULL HEIGHT PARTITIONS. CONTRACTOR SHALL EXTEND RIGID ROUND DUCTWORK THROUGH FULL HEIGHT PARTITIONS BEFORE CONNECTING FLEXIBLE DUCTWORK.
8.	PROVIDE SPIN COLLAR BRANCH FITTINGS, CONSTRUCTED OF GALVANIZED STEEL, WITH VOLUME DAMPER AT ALL NEW ROUND BRANCH TAPS SERVING ALL SUPPLY AIR CEILING DIFFUSERS AND EXHAUST AIR CEILING GRILLES OR REGISTERS. WHERE THE DEPTH OF THE DUCTWORK WILL NOT PERMIT A SPIN COLLAR FITTING, PROVIDE AN EQUIVALENT FLAT OVAL CONNECTION WITH MANUAL VOLUME DAMPER AND AN OVAL TO ROUND TRANSITION FOR EACH DIFFUSER TAP.
9.	UNLESS OTHERWISE NOTED ON THE DRAWINGS, ALL DUCTWORK SHALL BE INSTALLED AS CLOSE TO THE BOTTOM OF THE STRUCTURE AS POSSIBLE. ALL DUCTWORK SHALL BE INSTALLED TO MAXIMIZE CLEARANCE BETWEEN THE BOTTOM OF DUCTWORK AND THE TOP OF CEILING CONSTRUCTION. DUCTWORK SHALL BE CONFIGURED, POSITIONED, AND INSTALLED TO PERMIT THE INSTALLATION OF LIGHT FIXTURES. PROVIDE ALL NECESSARY RISES, DROPS, OFFSETS, AND OTHER FITTINGS AS REQUIRED TO ACCOMMODATE THIS CRITERIA. ANY DUCTWORK WHICH MUST TRANSITION AND DROP BELOW PIPING OR OTHER DUCTWORK SHALL TRANSITION BACK TO THE BOTTOM OF THE STRUCTURE IMMEDIATELY.
10.	PROVIDE FLEXIBLE CONNECTION AT INLETS AND OUTLETS OF ALL UNITS, AND FANS. MATERIAL SHALL BE VENT-FABRICS, INC., "METALEDGE VENTGLAS" OR APPROVED EQUAL. ENDS OF FABRIC MUST BE OVERLAPPED 2" AND GLUED WITH R- H PRODUCTS COMPANY, INC., NUMBER XL8 CONTACT GLUE. SEWING OR STAPLING MAY BE USED IN CONJUNCTION WITH GLUING. AT LEAST ONE INCH SLACK SHALL BE ALLOWED IN ALL FLEXIBLE CONNECTION INSTALLATIONS TO INSURE THAT NO VIBRATION IS TRANSMITTED.
11.	ALL NEW SUPPLY AIR DIFFUSERS AND EXHAUST OR RETURN AIR GRILLES AND REGISTERS SHALL BE AS INDICATED ON THE DIFFUSER SCHEDULE OR ON THE DRAWINGS. DIFFUSERS SHALL BE SUITABLE FOR INSTALLATION IN THE CEILING TYPE AS SHOWN ON THE ARCHITECTURAL DRAWINGS. NECK SIZE OF DIFFUSER SHALL BE THE SAME AS THE FLEXIBLE SUPPLY DUCT UNLESS OTHERWISE INDICATED. AIR VOLUME SHALL BE AS INDICATED ON THE DRAWINGS. PROVIDE AIR THROW WITH 4-WAY ADJUSTABLE DISCHARGE PATTERN UNLESS OTHERWISE INDICATED.
12.	THE INSTALLATION OF ALL VIBRATION ISOLATION DEVICES AND SYSTEMS SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS AND PROCEDURES OF THE VIBRATION ISOLATOR MANUFACTURER. IT SHALL BE THE RESPONSIBILITY OF THE VIBRATION ISOLATION MANUFACTURER TO COORDINATE THE SELECTION OF PIPING SUPPORTS WITH EQUIPMENT SUPPORTS TO PROVIDE FOR A CAREFULLY ENGINEERED SYSTEM DESIGNED TO ACCOMMODATE FOR EXPANSION AND CONTRACTION WITHOUT CREATING EXCESSIVE STRESSES AT ANY EQUIPMENT CONNECTIONS OR IN ANY PORTION OF THE PIPING.
13.	ALL NEW VIBRATION ISOLATORS SHALL BE FURNISHED WITH ZINC ELECTROPLATED HARDWARE TO PREVENT CORROSION AND BOLT FREEZE-UP AND TO MAINTAIN ATTRACTIVE APPEARANCE. TO PREVENT CORROSION, STEEL OR CAST IRON HOUSING SHALL BE TREATED BY PHOSPHATING AND PAINTING WHILE ALUMINUM HOUSING SHALL BE ETCHED IN CHROMI-COAT SOLUTION AND PAINTED. ISOLATORS EXPOSED TO WEATHER SHALL HAVE THE SPRING CADMIUM PLATED AND NEOPRENE COATED. HOUSINGS SHALL BE OF CAST ALUMINUM, HOT-DIPPED GALVANIZED STEEL, OR STEEL CADMIUM PLATED AFTER FABRICATION. ISOLATORS FOR EQUIPMENT SUBJECT TO WIND LOADING SHALL BE PROVIDED WITH UPLIFT RESTRAINTS.
14.	PROVIDE TYPE M COPPER PIPING, WITH SOLDER JOINTS AND DRAINAGE-TYPE FITTINGS, FOR ALL CONDENSATE DRAIN PIPING. INSTALL CONDENSATE DRAIN PIPING WITH A SLOPE OF 1/8" PER LINEAR FOOT AND PROVIDE A TRAP AT EACH UNIT. GRAVITY DRAINAGE IS SHOWN ON THE PLANS. IF NOT POSSIBLE, INSTALL A PLENUM RATED CONDENSATE PUMP USING 1" TYPE M COPPER CONDENSATE LINES FOR CONDENSATE PUMP DISCHARGE PIPING. INSTALL A BACKWATER VALVE AT THE DISCHARGE OF ALL CONDENSATE PUMPS.
15.	REFRIGERANT PIPING SHALL BE SOFT DRAWN TYPE ACR COPPER. MAXIMUM LENGTH OF REFRIGERANT PIPING SHALL BE AS PER MANUFACTURERS REQUIREMENTS.
INSULATION	
16.	INSULATE ALL SUPPLY AND "VENTILATION AIR" DUCTWORK "LOCATED INSIDE CONDITIONED SPACE" WHICH IS NOT SOUND LINED WITH (R-6) 1-1/2" THICK, 1-1/2 POUNDS PER CUBIC FOOT DENSITY FIBERGLASS INSULATION DUCT WRAP WITH AN INTEGRAL VAPOR BARRIER. MAINTAIN 3" CLEARANCE FROM THE DUCT INSULATION TO RECESSED LIGHTING FIXTURES.
17.	INSULATE ALL CONDENSATE DRAIN PIPING WITH 1/2" THICK FLEXIBLE UNICELLULAR PIPING INSULATION.
18.	INSULATE ALL REFRIGERANT PIPING WITH 1-1/2" (R-3) THICK FLEXIBLE UNICELLULAR PIPING INSULATION.
19.	INSTALL ALL INSULATION IN ACCORDANCE WITH ASTM E84. PROVIDE INSULATION WITH A FLAME SPREAD RATING OF LESS THAN 25 AND A SMOKE DEVELOPED RATING OF LESS THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84.
20.	MAINTAIN VAPOR BARRIER ON ALL INSULATION APPLIED TO ALL EQUIPMENT, PIPING, OR DUCTWORK WHICH CONVEYS LIQUID OR AIR AT A TEMPERATURE OF LESS THAN 70 DEGREES F.
21.	PIPING INSULATION EXPOSED TO WEATHER SHALL BE PROTECTED FROM DAMAGE, INCLUDING THAT CAUSED BY SUNLIGHT, MOISTURE, EQUIPMENT MAINTENANCE AND WIND, AND SHALL PROVIDE SHIELDING FROM SOLAR RADIATION THAT CAN CAUSE DEGRADATION OF THE MATERIAL. ADHESIVE TAPE SHALL NOT BE PERMITTED.

MECHANICAL SPECIFICATIONS (CONT)	
INSULATION (CONT.)	
22.	INSULATE ALL SUPPLY AND "OUTSIDE AIR" DUCTWORK LOCATED IN ATTIC SPACE WHICH IS NOT SOUND LINED WITH (R-8) 2" THICK, 1-1/2 POUNDS PER CUBIC FOOT DENSITY FIBERGLASS INSULATION DUCT WRAP WITH AN INTEGRAL VAPOR BARRIER. MAINTAIN 3" CLEARANCE FROM THE DUCT INSULATION TO RECESSED LIGHTING FIXTURES.
23.	MECHANICAL PIPING CAPABLE OF CARRYING FLUIDS ABOVE 105°F (41°C) OR BELOW 55°F (13°C) SHALL BE INSULATED TO A MINIMUM OF R-3.
24.	INSULATE ALL SUPPLY AND RETURN AIR DUCTWORK LOCATED IN UNCONDITIONED SPACES WHICH IS NOT SOUND LINED WITH (R-8) 2-1/2" THICK FIBERGLASS INSULATION DUCT WRAP WITH AN INTEGRAL VAPOR BARRIER. MAINTAIN 3" CLEARANCE FROM THE DUCT INSULATION TO RECESSED LIGHTING FIXTURES.

MECHANICAL GENERAL NOTES	
1.	ALL WORK SHALL BE IN ACCORDANCE WITH ALL STATE CODE REQUIREMENTS, LOCAL AUTHORITIES, AND NFPA 90.
2.	PRIOR TO BID, THE CONTRACTOR SHALL EXAMINE ALL PROJECT DOCUMENTS TO DEVELOP A COMPLETE UNDERSTANDING OF THE PROJECT SCOPE. FAILURE TO REVIEW ALL CONTRACT DRAWINGS AND EXISTING CONDITIONS WILL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO PERFORM ALL WORK REQUIRED. THE CONTRACTOR SHALL, UPON REVIEW OF THE DRAWINGS AND EXISTING CONDITIONS, ADVISE THE OWNER OF ANY DISCREPANCIES WHICH WILL AFFECT THE WORK REQUIRED.
3.	IT IS THE INTENT OF THE CONTRACT DOCUMENTS TO INDICATE FINISHED WORK THAT IS FULLY ADJUSTED, TESTED, AND READY FOR OPERATION. WHEREVER THE WORD "PROVIDE" IS USED, IT SHALL MEAN "FURNISH AND INSTALL COMPLETE AND READY FOR USE", UNLESS OTHERWISE NOTED.
4.	THE CONTRACTOR SHALL FURNISH AND INSTALL THE COMPLETE AND FUNCTIONAL SYSTEMS REQUIRED, INCLUDING EQUIPMENT, CONTROLS, DUCTWORK, PIPING, WIRING, VALVES, AND ALL OTHER APPURTENANCES AND HARDWARE FOR A COMPLETE SYSTEM.
5.	THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ITEMS NECESSARY FOR THE COMPLETE INSTALLATION OF THE EQUIPMENT AS REQUIRED BY CODE WITHOUT ADDITIONAL COST TO THE OWNER. REGARDLESS WHETHER THE ITEMS ARE INDICATED IN THE CONTRACT DRAWINGS OR SPECIFICATIONS. SUCH ITEMS COULD BE, BUT ARE NOT LIMITED TO, SUPPORTS, INSULATION, WIRING, LUBRICATION, MOTOR CONTROLLERS, REFRIGERANTS, START-UP AND SERVICE, ETC.
6.	THE CONTRACTOR SHALL FURNISH AND INSTALL A FIRST CLASS SYSTEM AND SHALL COMPLETELY COORDINATE WITH ALL OTHER TRADES.
7.	ALL CONFLICTS WHICH MAY PREVENT THE COMPLETION OF WORK SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL NOT PROCEED WITH RELATED WORK UNTIL THE CONFLICT IS RESOLVED.
8.	THE CONTRACTOR SHALL INSTALL ALL MECHANICAL AND ELECTRICAL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
9.	THE CONTRACT DRAWINGS ARE DIAGRAMMATIC AND DO NOT INDICATE ALL COMPONENTS AND ACCESSORIES REQUIRED FOR THE COMPLETE INSTALLATION. THE CONTRACTOR SHALL PROVIDE SUCH ITEMS TO COMPLETE THE ENTIRE SYSTEM AND PLACE IN PROPER OPERATION IN ACCORDANCE WITH APPLICABLE CODES, INDUSTRY STANDARDS, AND EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
10.	LOCATIONS OF EQUIPMENT, PIPING, VALVES, ETC. ARE INDICATED DIAGRAMMATICALLY ON THE DRAWINGS. THE CONTRACTOR SHALL OBTAIN EXACT LOCATIONS AND ESTABLISH EXACT DIMENSIONS ON THE JOB SITE AFTER STUDYING THE CONDITIONS.
11.	THE CONTRACTOR SHALL OBTAIN ALL PERMITS AND ARRANGE FOR ALL INSPECTIONS BY LOCAL AUTHORITIES HAVING JURISDICTION.
12.	THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL ADDITIONAL FITTINGS AND REROUTING OF DUCTWORK AS REQUIRED TO ASSURE THE AIR DISTRIBUTION SYSTEMS ARE INSTALLED PROPERLY AND IN ACCORDANCE WITH SMACNA STANDARDS.
13.	THE CONTRACTOR SHALL INSTALL ALL AIR DISTRIBUTION SYSTEMS SO AS TO NOT INTERFERE WITH THE PLUMBING, STRUCTURAL, ELECTRICAL, ARCHITECTURAL AND FIRE PROTECTION SYSTEMS. THE CONTRACTOR SHALL COORDINATE THIS PROJECT REQUIREMENT.
14.	ALL NEW AIR SYSTEMS SHALL BE BALANCED AND TESTED BY THE CONTRACTOR UPON COMPLETION OF THE PROJECT. IT SHALL BE ESTABLISHED THAT ALL EQUIPMENT IS CAPABLE OF OPERATING AT THE DESIGN CAPACITY AND ALL CONTROLS ARE OPERATING TO THE SATISFACTION OF THE OWNER. ALL SYSTEMS SHALL BE CHECKED FOR EXCESSIVE NOISE OR VIBRATION AND ALL SUCH CONDITIONS BE CORRECTED BY THE CONTRACTOR. BALANCING CONTRACTOR SHALL BE NEBB OR AABC. THE CONTRACTOR SHALL SUBMIT A CERTIFIED BALANCING REPORT TO THE OWNER UPON COMPLETION OF THE PROJECT.
15.	PROVIDE NFPA APPROVED FIRE STOPPING AT ALL PIPING AND CONDUIT PENETRATIONS OF FIRE RATED FLOORS, WALLS, AND COMPONENTS.
16.	THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL MOTOR STARTERS FOR MECHANICAL EQUIPMENT AND THE EQUIPMENT SHALL BE WIRED BY THE ELECTRICAL CONTRACTOR.
17.	THE CONTRACTOR SHALL GUARANTEE ALL WORKMANSHIP, MATERIALS, EQUIPMENT, AND RELATED ITEMS FOR A PERIOD AFTER COMPLETION OF THE PROJECT AND REPLACE ANY DEFECTIVE MATERIALS, EQUIPMENT, AND RELATED ITEMS WITHIN THE GUARANTEE PERIOD. THE PERIOD SHALL BE TWELVE MONTHS FROM THE COMPLETION OF THE PROJECT UNLESS SPECIFIED OTHERWISE IN THE SPECIFICATIONS OR CONTRACT DOCUMENTS.
18.	ALL CONTRACT DOCUMENTS INCLUDING ARCHITECTURAL, STRUCTURAL, ELECTRICAL, MECHANICAL, AND PLUMBING ARE COMPLEMENTARY AND MUST BE USED IN COMBINATION BY THE CONTRACTOR TO OBTAIN COMPLETE CONSTRUCTION INFORMATION AND PROVIDE A COMPLETE OPERABLE SYSTEM.
19.	THE CONTRACTOR SHALL PROVIDE MINIMUM OF FOUR COPIES OF SUBMITTALS ON UNITS, FIXTURES, DIFFUSERS, AND FANS FOR ENGINEER REVIEW PRIOR TO PURCHASE. SUBMITTALS SHALL INCLUDE ALL INFORMATION NECESSARY TO INDICATE COMPLIANCE WITH THE SPECIFIED MATERIALS.
20.	PROVIDE SUBMITTALS OF ALL MECHANICAL EQUIPMENT INCLUDING BUT NOT LIMITED TO THE FOLLOWING : (SUBMITTALS SHALL BE IN ACCORDANCE WITH PROJECT GENERAL CONDITIONS AND ARCHITECTURAL DIVISIONS): <ul style="list-style-type: none"><li>* SPLIT SYSTEM INDOOR &amp; OUTDOOR UNITS</li><li>* FANS</li><li>* HEATERS</li><li>* GAS FURNACES</li><li>* PIPING MATERIAL</li></ul>
21.	REFER TO SPECIFICATIONS ON THIS DRAWING FOR MORE INFORMATION.
22.	THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULLY COORDINATING ALL EQUIPMENT (INCLUDING OWNER SUPPLIED) WITH DUCT, PIPING AND CONDUITS SHOWN ON MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS.
23.	DUCTWORK & EQUIPMENT SHOWN ARE SHOWN FOR DIAGRAMMATICAL PURPOSES. EQUIPMENT OR DUCTWORK MIGHT HAVE TO BE SHIFTED SOME DUE TO EXISTING ELECTRICAL CONDUIT, DUCTWORK, SPRINKLER PIPING & PLUMBING PIPING.
24.	ALL THERMOSTAT SHALL BE A 7-DAY PROGRAMMABLE THERMOSTAT. A CLEAR LOCK COVER SHALL BE PROVIDED ON THEM.
25.	MECHANICAL CONTRACTOR SHALL COORDINATE EQUIPMENT WITH THE PLUMBING CONTRACTOR & THE ELECTRICAL CONTRACTOR PRIOR TO FINAL BID.
26.	ALL AIR TRANSFER GRILLES SHALL BE AMERICAN LOUVER SIGHT GUARD GRILLE.
27.	INSTALLED BACKDRAFT DAMPERS ON ALL INTAKE/EXHAUST PENETRATING EXTERIOR WALL.
28.	ALL AIR HANDLERS SHALL HAVE A MANUFACTURER'S DESIGNATION FOR AN AIR LEAKAGE OF NO MORE THAN 2 PERCENT OF THE DESIGN AIR FLOW RATE WHEN TESTED IN ACCORDANCE WITH ASHRAE 193.
29.	WHEN ELECTRIC HEATER IS BEING USED AN OUTDOOR AMBIENT THERMOSTAT ACCESSORY SHALL BE INSTALLED ON HEAT PUMP.

MECHANICAL GENERAL NOTES (CONT)	
30.	CONTRACTOR SHALL SUBMIT FINAL INSPECTION REPORT FOR A DUCT LEAKAGE TEST SHOWING A PASSING RATING OF <=8 CFM PER 100 SQUARE FEET OF CONDITIONED FLOOR AREA AT A PRESSURE OF 25 PASCAL. A WRITTEN REPORT OF RESULTS OF THE TEST SHALL BE SIGNED BY PARTY CONDUCTING THE TEST AND PROVIDE TO CODE OFFICIAL.
31.	CONTRACTOR SHALL SUBMIT FINAL INSPECTION REPORT FOR A WHOLE-BUILDING BLOWER DOOR TEST SHOWING A PASSING RATING OF <=5 AIR CHANGES PER HOUR AT A PRESSURE OF 50 PASCAL. A WRITTEN REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDING TO THE CODE OFFICIAL.

MECHANICAL ABBREVIATIONS	
ABBREVIATION	DESCRIPTION
ABV	ABOVE
AC	AIR CONDITIONING
AFF	ABOVE FINISHED FLOOR
ARCH	ARCHITECTURAL
BLW	BELOW
BTU	BRITISH THERMAL UNIT
BPD	BYPASS DAMPER
CD	CONDENSATE
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
DB, db	DRY BULB
DEG	DEGREES
DIA	DIAMETER
DN	DOWN
DWG	DRAWING
EA	EACH/EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
(E)	EXISTING TO REMAIN
ESP	EXTERNAL STATIC PRESSURE
ETR	EXISTING TO REMAIN
F	FAHRENHEIT
FLA	FULL LOAD AMPS
FPM	FEET PER MINUTE
Ft2	SQUARE FEET
GPM	GALLONS PER MINUTE
HP	HORSEPOWER
HR	HOURLY
HZ	HERTZ
IN WG	INCH WATER GAUGE
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LF	LINEAR FOOT
LV	LEAVING
MAX	MAXIMUM
MBH	1000 BRITISH THERMAL UNITS PER HOUR
MCA	MINIMUM CIRCUIT AMPACITY
MIN	MINIMUM
MCCP	MAXIMUM OVERCURRENT PROTECTION
MOD	MOTORIZED DAMPER
NIC	NOT IN CONTRACT
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
PD	PRESSURE DROP
PH	PHASE
RA	RETURN AIR
RPM	REVOLUTIONS PER MINUTE
RTU	ROOFTOP UNIT
SA	SUPPLY AIR
SENS	SENSIBLE
SF	SQUARE FEET
SD	SMOKE DETECTOR
SP	STATIC PRESSURE
TEMP	TEMPERATURE
TYP	TYPICAL
UC	UNDERCUT
UON	UNLESS OTHERWISE NOTED
V	VOLTAGE
VD	VOLUME DAMPER
VEL	VELOCITY
W	WATTS
WB, wb	WET BULB
WG	WATER GAUGE
W/	WITH
Ø	ROUND
ZD	ZONE DAMPER

MECHANICAL SYMBOLS	
SYMBOL	DESCRIPTION
	NEW DUCTWORK OR EQUIPMENT
	NEW DUCT SIZE TRANSITION FITTING
	RISE IN SUPPLY AIR DUCT
	RISE IN RETURN AIR DUCT
	NEW FLEXIBLE DUCTWORK
	NEW SUPPLY AIR CEILING DIFFUSER
	NEW RETURN AIR CEILING GRILLE
	NEW CEILING MOUNTED EXHAUST FAN
	THERMOSTAT (WITH CONTROL WIRING/TUBING)
	REFERENCED NEW WORK PLAN NOTE DESIGNATION
	MANUAL VOLUME DAMPER
	POINT OF CONNECTION (NEW TO EXISTING)
	DUCT SMOKE DETECTOR
	MINIMUM 1" UNDERCUT DOOR
	PLAN OR DETAIL NUMBER
	DRAWING NUMBER WHERE PLAN OR DETAIL APPEARS
	DIFFUSER/REGISTER/GRILLE DESIGNATION WITH CFM INDICATION
	MOTORIZED DAMPER

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NUMBER 7959, EXPIRATION DATE DECEMBER 31, 2019

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INTERIOR FIT-OUT FOR COLD STONE CREAMERY  
AT ST. MARY'S MARKETPLACE  
ST. MARY'S COUNTY, MD

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