GENERAL SPECIFICATIONS

DESIGN & MODIFICATIONS
- THESE SPECIFICATIONS INCLUDE AND INCORPORATE THE COMPANION HVAC DRAWINGS FOR THE SUBJECT PROJECT. THE DRAWINGS ARE GENERAL IN NATURE AND ASSUME A CERTAIN LEVEL OF PROFESSIONAL COMPETENCE BY THE INSTALLER. HOWEVER, THEY ARE SPECIFIC IN THE ESSENTIAL ELEMENTS OF A PROPERLY INSTALLED SYSTEM. CONSEQUENTLY, THE INSTALLATION SHALL FOLLOW THE DRAWINGS WITHOUT DEVIATION. IF THE DRAWINGS SHOW A 90-DEGREE BOOT OR A HARD ELBOW, THOSE ITEMS SHALL BE USED. CHANGING FITTINGS, DUCT MATERIALS OR ROUTING MAY INCREASE THE RESISTANCE OF THE DUCT SYSTEM, WHICH IS NOT ACCOUNTED FOR IN THE DESIGN.
- WHERE THERE IS INSUFFICIENT DETAIL, WHICH PRODUCES QUESTIONS AND/OR CONFUSION, PLEASE BRING IT TO THE ATTENTION OF THE BUILDER OR HVAC DESIGN PROS, LLC BEFORE PROCEEDING.

INSTALLATION PER CODES
- THE HVAC CONTRACTOR SHALL PROVIDE A COMPLETE AND WORKING SYSTEM, INCLUDING ALL NECESSARY LABOR AND MATERIALS, ALL NEW EQUIPMENT, DUCT MATERIALS, CONTROLS AND ANCILLARY COMPONENTS AS REQUIRED TO COMPLETE THE WORK IN ACCORDANCE WITH THE MOST CURRENT VERSION OF THE HVAC QUALITY INSTALLATION SPEC - ANSI/ACCA 5 QI.
- EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE STATE CODE HAVING JURISDICTION IN PROJECT LOCATION, OR THE INTERNATIONAL MECHANICAL CODE SHOULD NO STATE CODE BE IN EFFECT.
- THE HVAC CONTRACTOR SHALL ACQUIRE AND PAY FOR ALL NECESSARY PERMITS TO DO THE WORK.
- ALL MECHANICAL PIPING, CONDENSATE, REFRIGERANT, GAS AND HYDRONIC PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE STATE CODE HAVING JURISDICTION IN PROJECT LOCATION, OR THE INTERNATIONAL MECHANICAL CODE SHOULD NO STATE CODE BE IN EFFECT.

DUCTWORK
- DUCT SYSTEMS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE DRAWINGS AND IN ACCORDANCE WITH THE STATE CODE HAVING JURISDICTION IN PROJECT LOCATION, OR THE INTERNATIONAL MECHANICAL CODE SHOULD NO STATE CODE BE IN EFFECT.
- DUCTS SHALL BE FABRICATED IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS. SHEET METAL FOR DUCTS SHALL BE CROSS-BROKEN OR BEADED TO PREVENT WARPING AND BUCKLING.
- DUCT FITTINGS SHALL BE FABRICATED AS STREAMLINED AS PRACTICAL FOR EFFICIENT AIRFLOW. AN EFFICIENT AERODYNAMIC DUCT SYSTEM REDUCES ENERGY CONSUMPTION, INCREASES MOTOR LIFE AND PROVIDES QUIETER OPERATION.
- ALL REGISTER BOOTS AND RETURN BOXES SHALL BE OF THE SIZE AND LOCATION ON THE DRAWINGS.
- REGISTER BOOTS SHALL BE INSTALLED WITH PROPER CLEARANCE TO EASILY ACCEPT THE DIFFUSER OR REGISTER INTENDED TO FIT.
- SPECIAL CARE SHALL BE TAKEN TO ASSURE AN AIRTIGHT SEAL BETWEEN THE FRAMING, FLOORING OR SHEETROCK AND THE REGISTER BOOT OR RETURN BOX.
- ALL DIFFUSERS, REGISTERS AND RETURN BOXES SHALL BE STRAIGHT, LEVEL AND PARALLEL WITH ADJOINING WALLS.
- ALL TRUNK DUCT ELBOWS SHALL INCLUDE A MINIMUM INSIDE RADIUS OF ½ THE WIDTH AS INDICATED IN ACCA MANUAL D, GROUP 8 ELBOWS AND OFFSETS.
- ANY ELBOW OR OFFSET NOT BUILT WITH ¼ RADIUS SHALL INCLUDE INTERNAL TURNING VANES.
- BRANCH DUCTS COMING OUT OF THE TOP OF A TRUNK DUCT SHALL INCORPORATE AN ADJUSTABLE 30-GAUGE SHEET METAL ELBOW. THE DAMPER SHALL BE INSTALLED JUST AFTER THE ELBOW WITH THE HANDLE POSITION FOR ACCESS.
- TURNING VANES, WHEN SPECIFIED, SHALL BE SET IN PROPERLY ENGINEERED RAILS AS MANUFACTURED BY DURODYNE OR EQUAL.
- ALL DUCT JOINTS SHALL BE MADE WITH APPROVED METHODS SUCH AS S LOCK AND DRIVES, PITTSBURGH LAP OR SNAP LOCK.
- TRUNK DUCTS SHALL BE SUSPENDED WITH METAL STRAPS OR DRIVES AT LEAST 1 INCH WIDE.
- HANGERS SHALL BE FASTENED TO THE JOISTS WITH MINIMUM OF 1-INCH #8 SCREWS OR 8D NAILS. ZIP SCREWS ½ INCH LONG ARE NOT THE PREFERRED FASTENER FOR HANGING DUCTWORK.
- HANGERS SHALL BE STRAIGHT AND SQUARE EXTENDING TO THE BOTTOM OF THE DUCT. EACH HANGER SHALL INCLUDE A MINIMUM OF TWO SCREWS CENTERED AND POSITIONED 1 ½ INCH FROM THE TOP AND 1 ½ INCH FROM THE BOTTOM.
- IF A HANGER CANNOT BE FASTENED TO THE SIDE OF THE DUCT, TURN 1 INCH OF THE HANGER UNDER THE BOTTOM OF THE DUCT AND CENTER A SCREW THROUGH THE HANGER INTO THE BOTTOM OF THE DUCT.
- HANGERS SHALL BE INSTALLED AT A MAXIMUM OF 4 FT. INTERVALS.
- ALL PIPING SHALL BE ROUTED UNIFORMLY LEVEL, STRAIGHT, PARALLEL AND PERPENDICULAR, WITHOUT DROOPS OR SAGS.

FLEXIBLE DUCTWORK (IF APPLICABLE)
- FLEX DUCT SHALL BE INSTALLED IN ACCORDANCE WITH THE AIR DIFFUSION COUNCIL'S INSTALLATION STANDARDS AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- ALL FLEX DUCT RUNS SHALL BE AS SHORT AS POSSIBLE. NO EXCESS LENGTHS OF FLEX SHALL REMAIN IN ANY BRANCH DUCT.
- BENDING FLEX DUCT AROUND SHARP CORNERS SHALL BE AVOIDED.
- THE RADIUS AT THE CENTERLINE SHALL NOT BE LESS THAN ONE DUCT DIAMETER ON ALL TURNS.
- HANGERS ON FLEX SHALL BE 1-½ INCH WIDE POLYPROPYLENE STRAP MATERIAL AS MANUFACTURED BY SHURETAPE, MFR# DS100 OR EQUAL.
- ALL FLEX DUCT RUNS HANGING FROM THE FLOOR SYSTEM IN A BASEMENT OR CRAWL SHALL ALWAYS BE INSTALLED AS HIGH AS IS PRACTICAL TO MAXIMIZE CEILING HEADROOM. FLEX DUCT MAY BE ROUTED UP INTO FLOOR JOIST BAYS WHERE DRAWINGS INDICATE.
- IF THE OUTER LINER OF FLEX DUCT BECOMES TORN OR DAMAGED, IT SHALL BE REPAIRED WITH UL181BFX TAPE. IF THE INTERNAL LINER IS PUNCTURED, THE DUCT MUST BE REPLACED OR TREATED WITH A SPLICE CONNECTION.
- ALL CONNECTIONS, JOINTS AND SPLICES SHALL BE MADE IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- SHEET METAL SLEEVES SHALL BE USED WHEN JOINING TWO PIECES OF FLEX DUCT. THE SLEEVE SHALL BE A MINIMUM OF 8 INCHES LONG.
- SPLICES SHALL BE CONNECTED IN THE SAME MANNER AS FLEX TO A COLLAR OR REGISTER BOOT.

BALANCING DAMPERS
- ALWAYS ASSURE THE DAMPER HANDLE IS ACCESSIBLE AND FUNCTIONAL BY USING DAMPER SETS WITH 2-INCH MINIMUM INSULATION STAND-OFFS.
- EVERY BRANCH SUPPLY DUCT SHALL INCLUDE A BALANCING DAMPER, REGARDLESS OF WHETHER INDICATED ON THE DRAWINGS OR NOT.
- IF A BRANCH BALANCING DAMPER IS NOT ACCESSIBLE, A CABLE OPERATED DAMPER AS MANUFACTURED BY DURODYNE OR EQUAL SHALL BE INSTALLED. THE DAMPER SHALL BE INSTALLED AS FAR FROM THE BOOT CONNECTION AS CONSTRUCTION WILL ALLOW REDUCING VELOCITY NOISE ACROSS THE DAMPER.
- OPPOSED BLADE DAMPERS SHALL BE AS MANUFACTURED BY USAIRE (OBDE), HART & COOLEY (AD), LIMA, AIR MATE OR EQUAL.

DUCT INSULATION AND AIR LEAKAGE
- ALL DUCTS REQUIRING EXTERNAL INSULATION SHALL BE INSULATED WITH JOHNS MANVILLE MICROLITE FORMALDEHYDE FREE OR EQUAL DUCT WRAP. INSULATION SHALL BE APPLIED WITH PRESSURE SENSITIVE FSK TAPE WITH REINFORCING THREAD AND OUTWARD CLINCHING STAPLES A MINIMUM OF 6 INCHES ON CENTER.
- WHERE APPLICABLE, DUCT LINER SHALL BE ARMAFLEX AP OR EQUAL CLOSED CELL ELASTOMERIC FOAM INSULATION AT 1-INCH THICKNESS UNLESS OTHERWISE NOTED.
- ALL DUCTS SHALL BE SEALED SUBSTANTIALLY AIRTIGHT USING GASKETS MASTICS, MASTIC EMBEDDED FABRIC SYSTEMS.
- THE DUCT LEAKAGE FRACTION SHALL BE NO GREATER THAN .03 CFM PER SQUARE FOOT OF CONDITIONED FLOOR AREA AT 25 PASCAL.
- TO ASSURE THE DUCT SYSTEM COMPLIES WITH THE LEAKAGE TARGET, IT SHALL BE TESTED FOR LEAKAGE WITH A CALIBRATED FAN ASSISTED FLOW METER IN ACCORDANCE WITH ASTM E1554-94.
- IF DUCT SYSTEM FAILS TO MEET THE LEAKAGE TARGET, NECESSARY REPAIRS AND ADDITIONAL SEALING MUST BE PROVIDED AS REQUIRED TO MEET THIS STANDARD.
- THE HVAC CONTRACTOR SHALL NOTIFY THE TESTING AGENCY WHEN THE DUCT SYSTEM(S) IS READY TO BE TESTED.
- DUCTS SHALL BE SEALED SUBSTANTIALLY AIRTIGHT BY USING NON-TOXIC FIBER REINFORCED ELASTOMERIC SEALANT AS MANUFACTURED BY RCD OR EQUAL.
- ALL AIR TERMINALS SHALL BE INSTALLED AS SPECIFIED ON THE DRAWINGS.
- BEFORE INSTALLING A SUPPLY TERMINAL, INSPECT THE JOINT BETWEEN FRAMING, FLOOR OR SHEETROCK AND THE REGISTER BOOT TO ASSURE THERE IS AN AIRTIGHT SEAL.

TERMINATIONS
- DIFFUSERS SHALL BE SQUARE, PERPENDICULAR OR PARALLEL TO THE ADJOINING WALLS.
- ALL REGISTERS, GRILLES AND DIFFUSERS SHALL BE INSTALLED SO AS NOT TO INTERFERE WITH BASEBOARD, CROWN OR OTHER MOLDINGS AND TRIM.
- ALWAYS CONSULT WITH THE BUILDER BEFORE ASSUMING THE LOCATION OF HIGH SIDEWALL GRILLES AND DIFFUSERS.

CONTROLS
- THERMOSTATS SHALL BE INSTALLED AT LOCATIONS ON THE DRAWINGS. IF NO LOCATION IS SPECIFIED, THE HVAC CONTRACTOR SHALL CONSULT WITH THE BUILDER AND/OR HVAC DESIGN PROS, LLC TO DETERMINE AN APPROPRIATE LOCATION.
- THERMOSTATS SHALL BE COMPLETELY LEVELED AND ANY FINGERPRINTS OR SMUDGES MADE WHILE INSTALLING THERMOSTATS SHALL BE CLEANED.
- THE HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR ALL LOW VOLTAGE AND CONTROL WIRING.

SETTING EQUIPMENT
- HORIZONTAL AIR HANDLERS INSTALLED UNDER FLOORS SHALL BE SUSPENDED WITH A MINIMUM 3/8 INCH ALL THREAD ROD AND IMF SPRING ISOLATORS AS MANUFACTURED BY MASON INDUSTRIES.
- VERTICAL OR HORIZONTAL AIR HANDLERS ON TOP OF A FLOOR SHALL BE RAISED 1 BRICK WIDTH AND INCLUDE VIBRATION ISOLATORS TO REDUCE VIBRATION AND NOISE.
- IF APPLICABLE, OUTDOOR SECTIONS SHALL SIT ON A LEVEL CONCRETE OR ULTRA-LITE PAD AS MANUFACTURED BY HEFCO, DIVERSITECH OR EQUAL. THE PAD SHALL BE SUPPORTED WITH TAMPED DIRT EXTENDING A MINIMUM OF 4 INCHES PAST THE EDGE.
- THE UNITS SHALL BE SQUARE, LEVEL AND PERPENDICULAR TO ADJACENT WALLS. IF NOT INDICATED ON THE DRAWINGS, LOCATION OF OUTDOOR UNITS SHALL BE DETERMINED AT THE JOB SITE. SOUTH IS ALWAYS THE PREFERRED LOCATION FOR HEAT PUMP CONDENSERS.
- BEFORE SETTING ANY PIECE OF EQUIPMENT, INSTALLING DUCT WORK AGAINST ANY WALL, HANGING EQUIPMENT OR DUCT FROM A CEILING, THE CAVITY OF THE WALL OR CEILING SHALL BE PROPERLY INSULATED AND COVERED WITH DRY WALL BEFORE INSTALLING EQUIPMENT OR DUCTS WHICH OBSTRUCT ACCESS. SUCH INCLUDES BUT IS NOT LIMITED TO: INSULATING AND/OR INSTALLING SHEETROCK ON A CEILING ABOVE A SUSPENDED BLOWER COIL UNIT. INSULATING AND/OR INSTALLING SHEETROCK ON A CEILING ABOVE DUCTWORK IN A GARAGE. INSULATING AND/OR INSTALLING SHEETROCK ON A WALL BEHIND A BLOWER COIL UNIT OR DUCTWORK INSTALLED IN A BASEMENT, CLOSET OR GARAGE. INSULATING (IF REQUIRED) AND/OR INSTALLING SHEETROCK ON WALLS OR CEILINGS IN AN EQUIPMENT CLOSET. INSULATING A BAND AREA BEFORE INSTALLING A REGISTER BOOT THAT THE INSTALLATION OF SUCH MAKES THE BAND INACCESSIBLE.

WIRING
- WIRING SHALL BE INSTALLED IN A WORKMANLIKE MANNER USING PROPER ENCLOSURES AND RACEWAYS FOR NOT ONLY PROTECTION BUT TO PROVIDE A NEAT APPEARANCE.
- DANGLING WIRES, EXPOSED CONNECTIONS, AND SLOPPY ROUTING IS CONSIDERED UNSUITABLE WORKMANSHIP. DUCT TAPE TO SECURING LOW VOLTAGE CONTROL WIRING TO AN AIR HANDLER OR DUCT SHALL NOT BE ALLOWED

CONDENSATE
- CONDENSATE PIPING SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH THE STATE CODE HAVING JURISDICTION IN PROJECT LOCATION, OR THE INTERNATIONAL MECHANICAL CODE SHOULD NO STATE CODE BE IN EFFECT.
- DRAINS SHALL BE GRADED SO THERE IS NO STANDING WATER IN CONDENSATE DRAIN PANS.
- WHEN A CONDENSATE PUMP IS NECESSARY, THE AUXILIARY SWITCH SHALL BE WIRED TO INTERRUPT LOW VOLTAGE TO THE UNIT AND PROVIDE AUDIBLE ALARM IF THE PUMP FAILS.
- EACH EVAPORATOR DRAIN SHALL INCLUDE A P-TRAP SUCH AS AN EZ TRAP BY EZ TRAP, INC.

RETURN AIR
- THE RETURN AIR SYSTEM IS ENGINEERED TO BE PRESSURE BALANCED BY ENSURING A LOW RESISTANCE RETURN AIR PATHS BETWEEN EVERY ROOM AND THE RETURN SIDE OF THE AIR HANDLER. THIS IS ACCOMPLISHED THROUGH DUCT RETURNS AND TRANSFER DUCTS.
- IF TRANSFER DUCTS ARE USED, THEY SHALL BE INSTALLED TO PREVENT NOISE TRANSMISSION AND CROSS TALK BETWEEN ROOMS. THIS IS ACCOMPLISHED BY STAGGERING THE TRANSFER GRILLES ACROSS THE STUD WALL ELIMINATING A LINE OF SIGHT BETWEEN THE TWO SPACES.
- IF TRANSFER GRILLES ARE NECESSARY AND NOT NOTED ON THE DRAWINGS. THEY SHALL BE LOCATED ON THE JOB SITE AFTER CONSULTING WITH THE BUILDER/HOMEOWNER AND INSTALLED PRIOR TO SHEETROCK USING A FLANGED RETURN-AIR FRAME.
- PROPERLY SIZED TRANSFER GRILLES SHALL BE INSTALLED IN LAUNDRY ROOMS TO PROVIDE ADEQUATE MAKE UP AIR FOR THE CLOTHES DRYER. SUCH AREA SHALL NOT BE LESS THAN 200 SQ. INCHES OF FREE AREA.

OUTDOOR AIR INLETS
- LOCATION OF THE VENTILATION INTAKE SHALL BE AS INDICATED ON THE DRAWINGS OR APPROVED BY THE BUILDER OR HVAC DESIGN PROS, LLC.
- VENTILATION INTAKE SHALL BE OF SUFFICIENT HEIGHT FOR SNOW CLEARANCE.
- THE OPENING SHALL ALSO BE LOCATED AWAY FROM OUTDOOR POLLUTION SOURCES SUCH AS A GARAGE, DRYER OR RANGE EXHAUST OUTLET, COMBUSTION VENT, FUEL TANKS, GAS METERS OR PLUMBING VENTS.
- AN INSECT SCREEN SHALL BE PROVIDED IN THE FRESH AIR INLET AS REQUIRED BY THE STATE CODE HAVING JURISDICTION IN PROJECT LOCATION, OR THE INTERNATIONAL MECHANICAL CODE SHOULD NO STATE CODE BE IN EFFECT.

EXHAUST DUCTING
- HVAC CONTRACTOR SHALL COMPLETE AS NECESSARY THE INSTALLATION OF THE DRYER VENT IN ACCORDANCE WITH THE STATE CODE HAVING JURISDICTION IN PROJECT LOCATION, OR THE INTERNATIONAL MECHANICAL CODE SHOULD NO STATE CODE BE IN EFFECT, AND THE MANUFACTURER'S INSTRUCTIONS. WHERE POSSIBLE, A DRYER BOX SHALL BE INSTALLED BEHIND THE DYER.
- THE HVAC CONTRACTOR SHALL PROVIDE DUCTS FROM BATH EXHAUST FANS.
- DUCT MATERIAL SHALL BE FLEXIBLE AIR DUCT FOR RUNS LESS THAN 10 FT. WITH R-8 INSULATION IF INSTALLED IN UNCONDITIONED SPACE.
- ANY EXHAUST DUCTS IN EXCESS OF 10 FT. SHALL BE OF CHANGED TO 30 GAUGE HARD PIPE WITH ADJUSTABLE ELBOWS AND INSULATED WITH R-8 DUCT WRAP IN UNCONDITIONED SPACE.
- ALL BATH EXHAUST FANS SHALL TERMINATE OUTSIDE AND NOT THE ATTIC. TERMINATION SHALL BE MADE WITH APPROVED WEATHER CAP AND BACKDRAFT DAMPER.
- ALL EXHAUSTS DUCTS SHALL BE SEALED SUBSTANTIALLY AIRTIGHT.

GENERAL SPECIFICATIONS (CONT)

STARTUP
- THE HVAC CONTRACTOR SHALL START AND TEST THE EQUIPMENT TO ASSURE IT IS OPERATING IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED SPECIFICATIONS. THIS SHALL INCLUDE GIVING SUITABLE EVIDENCE BY COMPLETION OF ENERGY STAR VERSION 3.0 HVAC CHECKLISTS, IF APPLICABLE.
- THE HVAC CONTRACTOR SHALL PROVIDE AIR BALANCE OF THE SYSTEM TO WITHIN 10% OF THE INDIVIDUAL ROOM AIRFLOWS REQUIRED BY THE DESIGN.
- DOCUMENTATION IN THE FORM OF AN AIR BALANCE REPORT WOULD SERVE AS ACCEPTABLE DOCUMENTATION OF THESE ELEMENTS.
- AFTER START UP, THE HVAC CONTRACTOR SHALL ACQUAINT THE HOMEOWNER WITH THE SYSTEM. THIS SHALL INCLUDE BUT NOT BE LIMITED TO: HOW TO OPERATE THE SYSTEM. NECESSARY MAINTENANCE REQUIRED FOR EFFICIENT OPERATION. WHO TO CALL FOR SERVICE. WARRANTY PROCEDURES AND RESPONSIBILITIES. AN OWNER'S MANUAL SHALL BE PROVIDED.

SANITATION & PROTECTION
- THE HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ALL WORK AREAS SAFE AND CLEAN. ALL WASTE, DEBRIS, SCRAP SHEET METAL, FLEX DUCT, WIRING, PIPING, INSULATION, AND CARDBOARD BOXES, SHALL BE REMOVED FROM THE JOB SITE.
- IT SHALL BE THE RESPONSIBILITY OF THE HVAC CONTRACTOR TO PROTECT THE EQUIPMENT AND MATERIAL AT ALL TIMES. THIS INCLUDES THE NEW EQUIPMENT AS WELL AS DUCT AND ALL OTHER MATERIALS.
- WET INSULATION OF ANY KIND SHALL BE REPLACED.
- MANUFACTURER'S INSTALLATION INSTRUCTIONS AND ALL RELATED PAPERWORK SHALL BE PRESERVED AND REMAIN ON THE JOB FOR INSPECTION. IF ANY PAPERWORK OR MATERIALS ARE LOST, GET WET, TORN OR DAMAGED, THE HVAC CONTRACTOR SHALL PROVIDE REPLACEMENTS.
- TO PROTECT THE HEALTH OF THE OWNERS, ALL DIFFUSERS, RETURN AIR GRILLES AND BOOTS SHALL BE COVERED TO PREVENT TRASH, DIRT AND DEBRIS FROM FALLING INTO THE DUCT SYSTEM UNTIL THE SYSTEM IS STARTED.
- SHOULD TRASH AND DEBRIS GET INTO THE DUCT SYSTEM THROUGH UNCOVERED REGISTER BOOTS, THE HVAC CONTRACTOR SHALL VACUUM AND CLEAN THE DUCTWORK PRIOR TO STARTING THE SYSTEM.

AIR FILTRATION

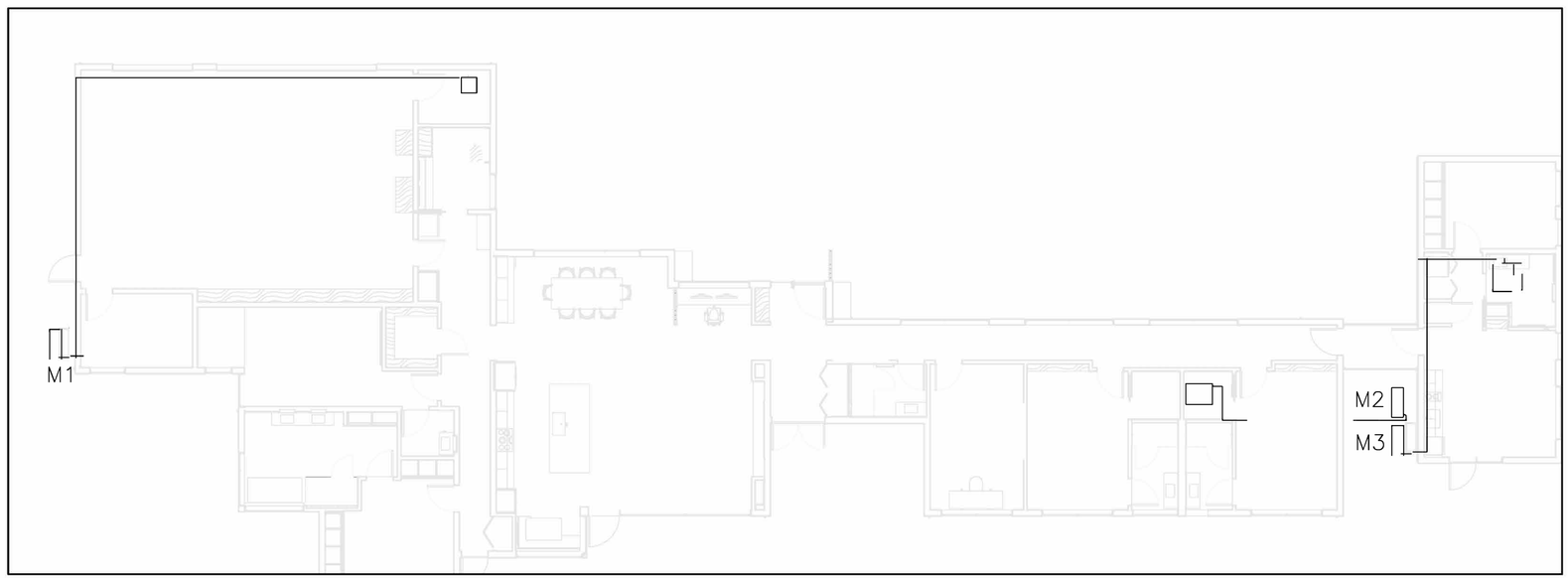
SYSTEM ID	MERV	THICKNESS	SIZES	LOCATION
M1	11 MINIMUM	4" MINIMUM	20X25X4	CABINET AT FURNACE
M2 & M3	11 MINIMUM	4" MINIMUM	20X20X4	FILTER GRILLE
ALL	11 MINIMUM	2" MINIMUM	8X8X2	VENTILATION PRE-FILTER

TERMINATION DETAILS

SYSTEM	TYPE	LOCATION	MFG	MODEL	COMMENTS
ALL	SUPPLY	CEILING	HART & COOLEY	311	1-WAY CURVED VANE
	SUPPLY	SIDEWALL	HART & COOLEY	92HVO	DOUBLE DEFLECTION NO DAMPER
	TRANSFER/RETURNS	ALL	HART & COOLEY	RH45LF	45-DEGREE FIXED BLADE
	FILTER GRILLES	PEAD UNITS	HART & COOLEY	RHF454	4" DEEP 45-DEGREE FIXED BLADE
ALL TERMINATION SIZES ARE LISTED ON DRAWINGS.					

HEATING/COOLING EQUIPMENT

SYSTEM ID	MFG	CONDENSER	FAN-COIL	DESCRIPTION	VENTILATION	ZONING
M-1	MITSUBISHI	SUZ-KA30NAHZ	SVZ-KP30NA	LOW-TEMP HEAT PUMP	SUPPLY-ONLY, DAMPER CONTRO9LLED BY SYSTEM CONTROL. PRE-FILTER AIR VIA 8X8 FILTER CABINET. USE MANUAL DAMPER TO SET MAX QUANTITY AT HIGH-BLOWER SPEED.	3 ZONES
M-2	MITSUBISHI	SUZ-KA09NAHZ	PEAD-09AA7	LOW-TEMP HEAT PUMP		1 ZONE
M-3	MITSUBISHI	SUZ-KA09NAHZ	PEAD-09AA7	LOW-TEMP HEAT PUMP		1 ZONE



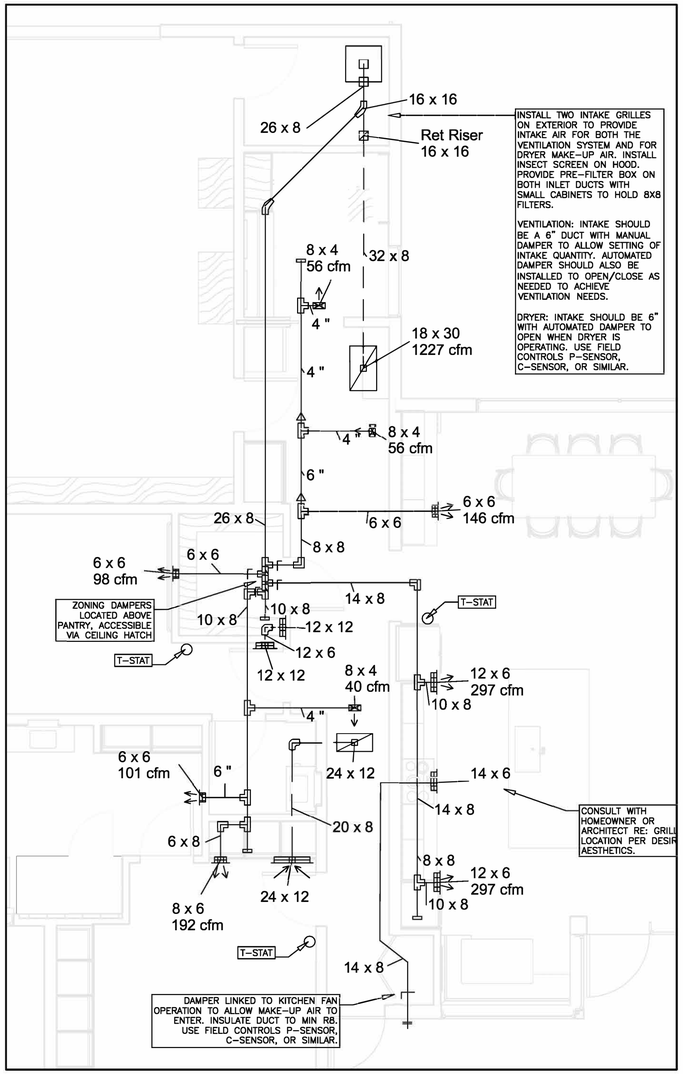
COMMON AREA SYSTEM – EQUIPMENT LOCATION
SCALE : 1/8" = 1'-0"

HVAC DESIGN PROS
PO BOX 1036
SALUDA, NC 28773
828-549-8755

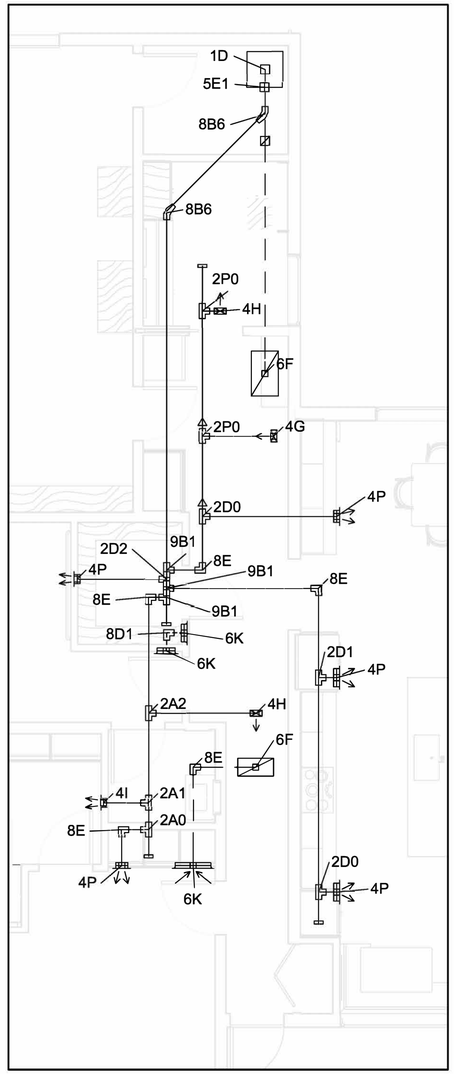
1 U.S. ROAD 1

DATE ISSUED:
02.07.22

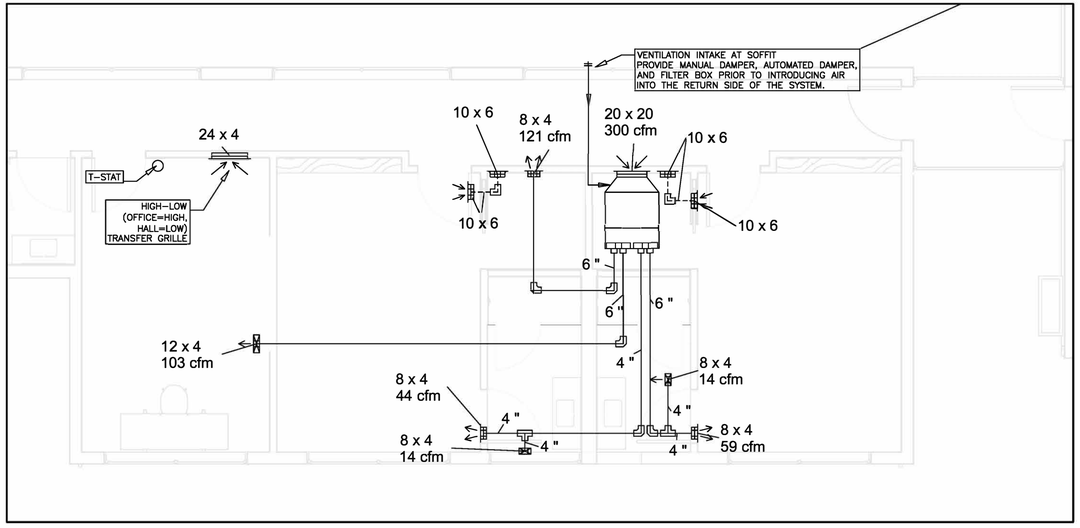
SHEET NUMBER:
M-101



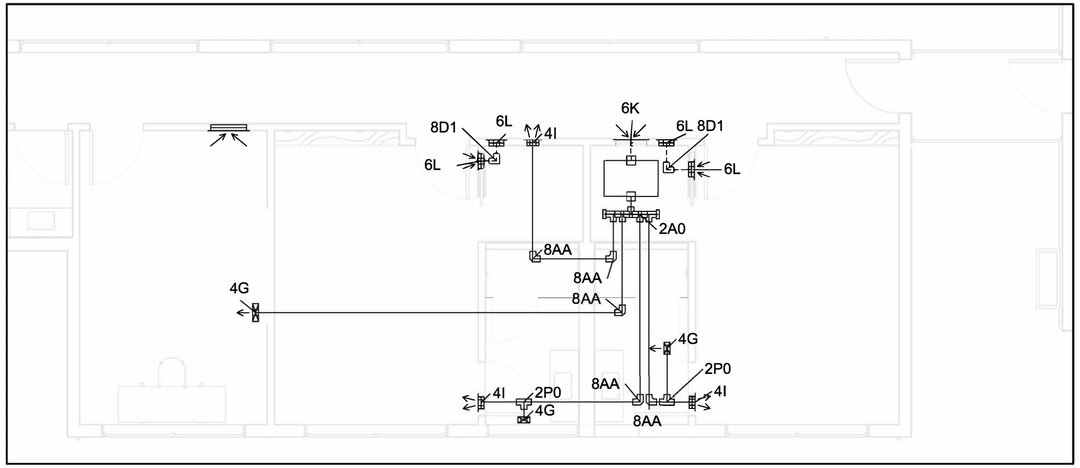
COMMON AREA SYSTEM – SIZING
SCALE : 1/4" = 1'-0"



COMMON AREA SYSTEM – FITTINGS
SCALE : 1/4" = 1'-0"



GUEST/OFFICE SYSTEM – SIZING
SCALE : 1/4" = 1'-0"



GUEST/OFFICE SYSTEM – FITTINGS
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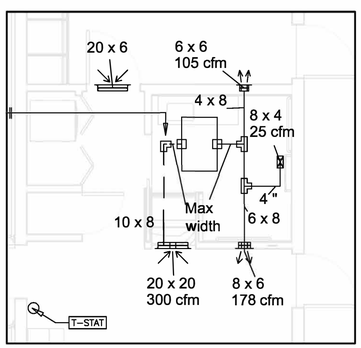
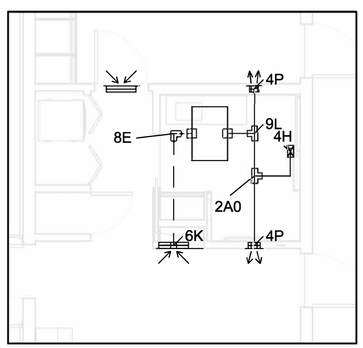


MOM'S SYSTEM – SIZING
SCALE : 1/4" = 1'-0"



MOM'S SYSTEM – FITTINGS
SCALE : 1/4" = 1'-0"

HVAC DESIGN PROS
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RESIDENCE

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