

ABBREVIATIONS					GENERAL NOTES				
ABS	ABSOLUTE	DWH	ELECTRIC WATER HEATER	NL	NIGHT LIGHT	1.	ALL WORK IS TO BE IN COMPLIANCE WITH THE 2018 INTERNATIONAL MECHANICAL CODE. NOT ALL CODE REQUIREMENTS HAVE BEEN DESCRIBED IN THIS SPECIFICATION OR INDICATED ON THE DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE CODES AND INSTALL THE WORK IN ACCORDANCE WITH CODES.	44.	1/2" MESH SCREENS ARE TO BE INSTALLED ON ALL INTAKE LOUVER, AND VENT EQUIPMENT LOCATIONS (INCLUDING DIRECT-VENT INTAKE LOCATIONS).
AC	ALTERNATING CURRENT	DWT	ENTERING WATER TEMPERATURE	N.O.	NORMALLY OPEN	2.	OBTAIN AND PAY FOR BUILDING PERMITS, INSPECTIONS, CONNECTION CHARGES, AND FEES.	45.	ALL BATHROOM DOORS ARE TO BE UNDERCUT BY 3/4" FOR AIR TRANSFER.
AD	AREA DRAIN	EXP	EXPANSION	NO.	NUMBER	3.	CONTRACTOR IS TO BE ACCREDITED THROUGH ACCA'S QUALITY ASSURANCE CONTRACTOR PROGRAM.	46.	ALL THREE PHASE STARTER EQUIPMENT IS TO BE PROVIDED BY THE MECHANICAL CONTRACTOR AND IS TO BE MAGNETIC, ACROSS-THE-LINE WITH AUXILIARY CONTACTS. ALL SINGLE PHASE STARTER EQUIPMENT IS TO BE PROVIDED BY ELECTRICAL CONTRACTOR.
AFB	ABOVE FINISHED FLOOR	EXT JT	EXPANSION JOINT	NTS	NOT TO SCALE	4.	THE CONTRACTOR IS TO SURVEY AND VERIFY ALL EXISTING CONDITIONS PRIOR TO BID SUBMISSION AND BECOME AWARE OF ALL CONDITIONS WHICH MAY IMPACT THE REQUIRED WORK. CONTRACTOR IS TO INCLUDE ALL ASSOCIATED COSTS (MATERIALS/LABOR) DETERMINED TO BE REQUIRED DURING SITE INSPECTIONS. CONTRACTOR'S BID SUBMISSION IS TO BE CONSIDERED PROOF THAT THIS REQUIREMENT HAS BEEN MET.	47.	PROVIDE CONDENSATE DRAIN TO ACCEPTABLE CODE APPROVED DISCHARGE POINT. 1-1/2" PVC (COPPER), ALL CONDENSATE PIPING IS TO HAVE 1/2" FIBERGLASS INSULATION WITH VAPOR BARRIER, PROVIDE CONDENSATE PUMPS(S) WITH DISCHARGE CHECK VALVE(S) IF GRAVITY FLOW IS NOT OBTAINABLE. SUBMIT SHOP DRAWING FOR REVIEW AND APPROVAL, AND COORDINATE ELECTRICAL WORK WITH THE ELECTRICAL CONTRACTOR.
AGF	AIR GAP FITTING	EXT	EXTERIOR	OA	OUTSIDE AIR	5.	DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE TAKEN AS A WHOLE. IF A CONFLICT OR CONTRADICTION EXISTS BETWEEN THE DRAWINGS AND SPECIFICATIONS, THE MORE STRINGENT WILL APPLY. THE ARCHITECT'S AND ENGINEER'S INTERPRETATION OF THE DOCUMENTS ARE TO BE BINDING UPON THE CONTRACTOR.	48.	CONTRACTOR IS TO EXTEND A TRAPPED A/C CONDENSATE LINE AND A TRAPPED CONDENSATE LINE FROM FURNACE PAN TO A FUNNEL DRAIN IN UTILITY CLOSET. EACH DRAIN IS TO BE PROTECTED BY A TRAP PRIMER OR A TRAP-GUARD TO PREVENT DRY-OUT.
AHU	AIR HANDLING UNIT	F	DEGREE FAHRENHEIT	OD	OUTSIDE DIAMETER	6.	ALL WORK IS TO BE COORDINATED WITH, AND APPROVED BY THE OWNER PRIOR TO ANY SHUT-DOWNS. ALL REQUESTS ARE TO BE SUBMITTED, IN WRITING, TO THE OWNER 24, TO 48 HOURS PRIOR TO REQUESTED DELETION.	49.	PROVIDE FIRE DAMPERS IN ALL RATED WALL/ FLOOR/ SHAFT ASSEMBLIES WHERE INDICATED ON THE ARCHITECTURAL PLANS. FIRE DAMPERS ARE TO BE INSTALLED IN ACCORDANCE WITH THE UL LISTING FOR THE DAMPER AND AS DETAILED AS ON THE DRAWINGS, AND DETAILS. THE DAMPERS ARE TO BE SET IN A STEEL SLEEVE, AND ARE TO BE PROVIDED WITH BREAKAWAY CONNECTIONS DAMPERS ARE TO BE 1-1/2 HOUR RATED. PROVIDE SMOKE DAMPERS IN ALL SMOKE-RATED WALLS/ PARTITIONS PER THE ARCHITECTURAL PLANS. COORDINATE ALL LOCATIONS AND POWER REQUIREMENTS WITH ELECTRICAL, AND FIRE ALARM CONTRACTORS.
AMP	AMPERE	F	FIRE PROTECTION WATER SUPPLY	OD	OPEN END DUCT	7.	COORDINATE LOCATIONS AND ROUGH-IN REQUIREMENTS WITH ALL TRADES PRIOR TO INSTALLATION.	50.	PROVIDE INSULATED PREFABRICATED ROOF CURB FOR ROOF-MOUNTED EQUIPMENT, DUCTWORK, AND PIPING AS MANUFACTURED BY THE ROOF-MOUNTED EQUIPMENT MANUFACTURER (DATE, OR APPROVED EQUAL). ALL DUCT/ PIPING ROOF PENETRATIONS ARE TO HAVE ROOF CURBS. ALL ROOF CURBS ARE TO BE SECURED TO THE ROOF AND COORDINATED WITH THE OWNER'S ROOFING CONTRACTOR.
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	FDO	FLOOR CLEANOUT	OED	OPEN END DUCT	8.	COORDINATE ALL ELECTRICAL REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR PRIOR TO PURCHASING EQUIPMENT. VERIFY ALL VOLTAGE AND AMPERE REQUIREMENTS FOR FEEDERS, AND MOPC DEVICES.	51.	KITCHEN EXHAUST DUCTS ARE TO BE 16 GAUGE, CONTINUOUS WELDED STEEL, INSTALLED IN ACCORDANCE WITH NFPA 96. PROVIDE ONE HOUR FIRE-RATING AROUND THE ENTIRETY OF DUCTWORK FROM THE KITCHEN HOOD TO THE EXHAUST FAN. ALL ELBOWS ARE TO BE LONG-SWEEP RADIUS ELBOWS. PROVIDE CLEAN-OUT ACCESS PANELS AT ALL CHANGES IN DIRECTION, SPACED IN ACCORDANCE WITH NFPA-96 REQUIREMENTS.
APP	APPROVED	FD	FLOOR DRAIN	%	PERCENT	9.	ALL EXTERIOR WALL/ ROOF PENETRATIONS ARE TO BE SEALED, AIR, AND WATER-TIGHT. ALL PIPING PASSING THROUGH WALL, OR FLOOR PENETRATIONS IS TO HAVE SLEEVES. ALL WALL, OR FLOOR-RATED PENETRATIONS ARE TO BE SEALED WITH FIRE-RATED SEALANT FORMED IN PLACE (BY 3M OR MILT).	52.	ALL FINISHES RELATED TO MECHANICAL EQUIPMENT, TERMINAL EQUIPMENT, AIR DEVICES, PERIMETER HEATERS, LOUVERS, ACCESS PANELS, EXPOSED WREEMOLD/ RACEWAYS, ETC. ARE TO BE COORDINATED AND SELECTED BY THE ARCHITECT/ OWNER/ ENGINEER PRIOR TO SHOP DRAWING SUBMISSION, ORDERING, AND INSTALLATION.
APPROX	APPROXIMATE	FHC	FIRE HOSE CABINET	PD	PUMPED DRAIN	10.	PROVIDE ALL ACCESS DOORS FOR ALL VALVES, DAMPERS, DEVICES, CONTROLLERS, ETC. WHICH MAY REQUIRE SERVICE. ALL ACCESS PANELS ARE TO BE 16 GAUGE STEEL FRAME, OR GAUGE HATCHED DOOR, LOCKABLE, AND FIRE-RATED (WHEN INSTALLED IN RATED WALLS, FLOORS, "B" LABEL, 1-1/2 HOURS). FINISH AS SELECTED BY THE ARCHITECT.	53.	FINAL LOCATIONS OF ALL THERMOSTATS, ACCESS PANELS, SPACE SENSORS, DETECTION DEVICES, ETC. IN FINISHED SPACES ARE TO BE COORDINATED AND APPROVED BY THE ARCHITECT/ OWNER PRIOR TO ROUGH-IN AND INSTALLATION.
AV	ACID VENT	FMV	FIRE HOSE VALVE	PD	PUMPED DRAIN	11.	SUBMIT SHOP DRAWINGS FOR ALL EQUIPMENT TO BE REVIEWED BY THE ENGINEER PRIOR TO ORDERING. COORDINATE ALL ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR, AND PHYSICAL DIMENSIONS PRIOR TO SHOP DRAWING SUBMISSION.	54.	PROVIDE NEW MERV 8 FILTERS FOR ALL NEW AND EXISTING HVAC EQUIPMENT. CONTRACTOR IS TO PROVIDE ONE SPARE SET OF MERV 8 FILTERS FOR EACH HVAC SYSTEM, AND TURN OVER TO THE OWNER.
AVG	AVERAGE	FMV	FIRE HOSE VALVE	PD	PUMPED DRAIN	12.	SUBMIT SHOP DRAWINGS OF ALL SHEET METAL FOR REVIEW. DRAWINGS ARE TO BE NOT LESS THAN 1/4"x1'-0" SCALE AND ARE TO INDICATE ALL STEEL PIPING, CONDUIT WIRING METHODS, LIGHTING FIXTURES, SPRINKLER EQUIPMENT, AND ARCHITECTURAL FEATURES. DUCTWORK IS TO BE INDICATED DOUBLE-LINE. INDICATE DETAIL OF FIRE DAMPER. SHEET METAL SHOP DRAWING WILL BE UTILIZED FOR CONTRACTOR'S COORDINATION DRAWINGS AND IS TO BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. IF SHEET METAL SHOP DRAWINGS ARE NOT SUBMITTED, OR IF THE CONTRACTOR INSTALLS THE DUCTWORK WITHOUT PRIOR APPROVALS, THE CONTRACTOR IS TO ASSUME ALL RESPONSIBILITIES AND FIELD COORDINATION, AND PAY ALL ASSOCIATED COSTS ASSOCIATED WITH DUCTWORK INSTALLATION DEFICIENCIES, AND FIELD COORDINATION ISSUES.	55.	RENOVATION PROJECTS: CONTRACTOR IS TO PROVIDE TEMPORARY FILTERS IN ALL EXISTING HVAC EQUIPMENT IMPACTED BY THE RENOVATION PROJECT'S SCOPE OF WORK. CONTRACTOR IS TO COVER ALL EXISTING SUPPLY, RETURN, EXHAUST, AND RELIEF AIR OPENINGS DURING CONSTRUCTION, AND/ OR DEMOLITION TO PREVENT DUST, DIRT, AND DEBRIS FROM ENTERING THE EXISTING DUCTWORK.
B.O.P.	BOTTOM OF PIPE	FF	FINISHED FLOOR	PH	PHASE-ELECTRICAL	13.	AHRI CERTIFICATES FOR ALL AIR HVAC UNITS ARE REQUIRED TO BE PROVIDED FOR APPROVAL DURING THE EQUIPMENT SUBMITTAL PROCESS.	56.	WATER SYSTEM START-UP: FILL SYSTEM AND THOROUGHLY FLUSH ALL SEDIMENT, DIRT, PARTICLES, AND ANY OTHER MATERIAL FROM THE SYSTEM. REMOVE ALL AIR FROM THE SYSTEM. THIS WILL REQUIRE SEVERAL BLEEDING SEQUENCES. PROVIDE AIR VENTS AS REQUIRED. CLEAN ALL STRAINERS AFTER A THOROUGH FLUSHING. PROVIDE CHEMICAL TREATMENTS FOR THE FIRST YEAR OF OPERATION INCLUDING ALL NECESSARY TASKS, CHEMICALS, ADJUSTS, AND SERVICE VISITS.
BFP	BACKFLOW PREVENTION DEVICE	FLFD	FUSIBLE LINK FIRE DAMPER	PV	POST INDICATOR VALVE	14.	ALL DUCTWORK IS TO COMPLY WITH NFPA PAMPHLET 90 A. ALL DUCTWORK SEAMS ARE TO BE SEALED WITH LOW V.O.C. DUCT SEALANT. ALL NEW DUCTWORK SECTIONS AND FITTINGS TO BE INSTALLED ON THE PROJECT ARE TO BE COVERED AND SEALED FROM DUST, DIRT, AND DEBRIS. FIBERGLASS DUCTBOARD IS NOT ACCEPTABLE. ALL DUCT SIZES ARE INTERNAL, AIRSTREAM DIMENSIONS. WHERE UNING IS SPECIFIED, THE DUCT SHALL BE EXPANDED ACCORDINGLY.	57.	THE CONTRACTOR IS TO PROVIDE RADIENT CEILING DAMPERS IN ALL CEILING AIR DEVICES, (DIFFUSERS, GRILLES, REGISTERS, ETC.) AND RECESSED CEILING EXHAUST FANS LOCATED IN A FIRE-RATED CEILING ASSEMBLY. REFER TO ATTACHED DETAILS. RADIENT DAMPERS ARE NOT REQUIRED WHERE DUCTS EXTEND THROUGH SOFFITS BELOW THE (PRE-ROCKED) RATED CEILING ASSEMBLY.
BFV	BUTTERFLY VALVE	FLR	FLOOR	PLBG	PLUMBING	15.	PROVIDE THIRD-PARTY TEST, BALANCE, AND ADJUST REPORT AT THE COMPLETION OF THE WORK. BALANCE AIR QUANTITIES AND FLOW RATES TO VALUES AS IDENTIFIED ON THE DRAWINGS. SET DAMPER AND VALVE POSITIONS. ALLOW FOR ONE SWEAT CHANGE PER EACH (50%) OF THE HVAC SYSTEMS. PROVIDE TOTAL AND STATIC PRESSURE READINGS, TRANSFERS AT FAN INLETS AND OUTLETS, HEAD PUMP PRESSURE, AMPERAGE, CPMS, RPMs AND IDENTIFY OPERATING POINT ON THE IMPELLER CURVE. T.B.A. CONTRACTOR IS TO BE INDEPENDENT, AND AHJ/ NEBB CERTIFIED.	58.	THE CONTRACTOR IS TO BE RESPONSIBLE FOR PROVIDING AUXILIARY DEHUMIDIFICATION UNITS IN EACH DWELLING UNIT AND THROUGHOUT THE BUILDING AFTER THE BUILDING IS OCCUPIED. DRYWALL AND PAINTING IS FINISHED. THE DEHUMIDIFICATION UNITS ARE TO REMAIN IN OPERATION UNTIL UNIT TURN-OVER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DISCHARGE ALL CONDENSATE AND PROVIDE MEANS FOR POWER.
BHP	BRAKE HORSEPOWER	FO	FUEL OIL	PP	POLYPROPYLENE PIPE	16.	DUCT LEAKAGE TESTS ARE TO BE PERFORMED IN ACCORDANCE WITH THE PROJECT'S SPECIFIED ENERGY STAR REQUIREMENTS.	59.	THE CONTRACTOR IS TO PROVIDE MANUFACTURER'S START-UP OF ALL EQUIPMENT, AND SYSTEMS.
BLDG	BUILDING	FPW	FEET PER MINUTE	PRV	PRESSURE REDUCING VALVE	17.	AIR BALANCING, AND COMMISSIONING IS TO BE PERFORMED FOR EACH UNIT, AND SYSTEM. REPORTS ARE TO BE SUBMITTED PRIOR TO THE FINAL ACCEPTANCE OF ANY UNIT, OR SYSTEM.	60.	PROPERLY INSTRUCT OWNER'S PERSONNEL IN THE OPERATION AND MAINTENANCE OF ALL SYSTEMS AND EQUIPMENT. PROVIDE THREE INSTRUCTION AND MAINTENANCE MANUALS. SUBMIT MANUALS FOR REVIEW PRIOR TO OPERATING INSTRUCTION.
BLV	BALANCING VALVE	FPS	FEET PER SECOND	PSF	POUNDS PER SQUARE FOOT	18.	ALL WORK IS TO BE CONCEALED, UNLESS OTHERWISE INDICATED.	61.	IF THE CONTRACTOR ELECTS TO SUBMIT ALTERNATE EQUIPMENT, MANUFACTURERS, SYSTEMS, METHODS, OR MATERIALS NOT SPECIALLY IDENTIFIED IN THE DRAWINGS AND SPECIFICATIONS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE WORK WITH OTHER TRADES AND PAY FOR ANY ADDITIONAL COSTS ASSOCIATED WITH THE SUBSTITUTION OR CHANGE.
BTU	BRITISH THERMAL UNIT	FS	FLOW SWITCH	PSI	POUNDS PER SQUARE INCH	19.	NO PVC PIPING IS PERMITTED IN RETURN AIR PLENUMS. ALL EXISTING PVC PIPING LOCATED IN PLENUMS IS TO BE INSULATED WITH 1". PLENUM-RATED FIBERGLASS INSULATION WITH VAPOR BARRIER, AND IS TO COMPLY WITH FLAME SPREAD OF 25 AND SMOKE DEVELOPED RATING OF 50.	62.	THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY ALL DEVIATIONS FROM THE DESIGN DRAWINGS, SPECIFICATIONS, AND/ OR STANDARDS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR MANUAL "D" CALCULATIONS REQUIRED AS A RESULT OF DEVIATION FROM THE DUCTWORK DESIGN DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR MANUAL "D" CALCULATIONS REQUIRED AS A RESULT OF DEVIATION FROM THE UNIT SIZING, AND/ OR AIR FLOW REQUIREMENTS INDICATED ON THE DESIGN DRAWINGS.
BU	BALL VALVE	FT	FEET	PVC	POLYVINYL CHLORIDE PIPE	20.	HEATING AND COOLING SYSTEMS FOR THE PROJECT HAVE BEEN "RIGHT-SIZED" ACCORDING TO ENERGY-STAR, AND THE ACCA MANUAL "D" CALCULATION GUIDELINES AND PROCEDURES. TO MAINTAIN COMFORT, TEMPERATURE, AND HUMIDITY LEVELS, THE HEATING AND COOLING SYSTEMS ARE TO BE IN OPERATION AT ALL TIMES. SYSTEM "SET-BACK" IS PERMITTED. EQUIPMENT IS NOT TO BE SHUT-OFF, OR DE-ENERGIZED ON A DAILY BASIS. REGULAR SYSTEM SHUT-DOWNS, REQUIRE EXCESSIVE TIME TO REGAIN CONTROL OVER SET-POINT TEMPERATURE. ALL RESIDENTS ARE TO BE INSTRUCTED ON OPERATION, AND MAINTENANCE OF THESE SYSTEMS.		
BWV	BACKWATER VALVE	FU	FIXTURE UNIT	Q	QUART	21.	PROVIDE ALL FUNCTIONAL TESTING REQUIRED BY ENERGY STAR MULTIFAMILY NEW CONSTRUCTION VERSION 1/1.1/12/ (REV.01). THIS INCLUDES FILLING OUT ALL REQUIRED DOCUMENTS, INCLUDING BUT NOT LIMITED TO: A) REFRIGERANT CHARGE B) INDOOR HVAC FAN AIRFLOW C) AIR BALANCING OF SUPPLY REGISTERS AND RETURN GRILLES D) INDOOR/TERMINAL UNITS E) VRF OUTDOOR UNIT F) CENTRAL BOILERS G) COOLING TOWERS H) CHILLERS		
CA	COMPRESSED AIR	FV	FLUSH VALVE	(R)	REMOVE EXISTING	22.	ALL RESIDENTIAL AIR HANDLERS ARE TO BE PROVIDED WITH ECM VARIABLE SPEED BLOWER MOTORS. AIR HANDLERS FOR NON-RESIDENTIAL AREAS MAY BE CONSTANT VOLUME IN ORDER TO SATISFY VENTILATION REQUIREMENTS. THIS EQUIPMENT IS TO BE PROVIDED WITH ECM ECM DIRECT DRIVE MOTORS, WHERE AVAILABLE). VENTILATION IS TO BE REDUCED TO MINIMUM CODE REQUIREMENTS FOR ENERGY CONSERVATION. VENTILATION IS TO BE CLOSED-OFF WITH MOTOR OPERATED DAMPERS WHEN IN "UNOCCUPIED" MODE.		
C TO C	CENTER TO CENTER	G	NATURAL GAS	(RE)	RELOCATE EXISTING	23.	ALL FLUENT, GRADE-MOUNTED CONDENSING UNIT EQUIPMENT IS TO BE SUPPORTED ON EQUIPMENT WITH RAISED FEET THAT ELEVATE THE UNIT A MINIMUM OF 6"-6" ABOVE A 4"x4" POLYMER CONCRETE PAD WITH WIRE (WELDED WIRE FABRIC) REINFORCEMENT. THE PAD IS TO BE INSTALLED ON COMPACTED SOIL WITH A MINIMUM OF 6"-6", CRUSHED STONE SUB-BASE.		
C/D	CONDENSATE DRAIN	GA	GAUGE	RA	RETURN AIR	24.	CONTRACTOR IS TO MAINTAIN A MINIMUM OF 30" CLEARANCE IN FRONT OF ALL FURNACE/ COOLING COIL EQUIPMENT FOR SERVICING. COORDINATE WATER HEATER INSTALLATION WITH THE PLUMBING CONTRACTOR TO MAINTAIN ALL SERVICE CLEARANCES. FURNACE ASSEMBLY IS TO BE EASILY REMOVED WITHOUT IMPACTING THE WATER HEATER INSTALLATION. THIS APPLIES TO ALL WATER HEATER INSTALLATIONS.		
CFH	CUBIC FEET PER HOUR	GAL	GALLONS	RD	ROOM DRAIN	25.	REFRIGERANT LINE-SETS ARE TO BE SIZED, AND EXTENDED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. LINE LENGTH AND HEIGHT RESTRICTIONS MUST BE OBEYED. CONTRACTOR IS TO SUBMIT MANUFACTURER'S GUIDELINES/ LIMITATIONS IN ORDER TO DEMONSTRATE THAT THE INSTALLATION IS IN COMPLIANCE.		
CFM	CUBIC FEET PER MINUTE	GALV	GALVANIZED	R&D	RESEARCH & DEVELOPMENT	26.	CONTRACTOR IS TO COORDINATE ALL EQUIPMENT LOCATIONS WITH STRUCTURAL DRAWINGS, AND FRAMING INSTALLER TO VERIFY THAT THE FRAMING SPACING ALLOWS SUPPLY, AND RETURN PLENUMS TO BE INSTALLED DIRECTLY ABOVE THE UNIT WITHOUT THE USE OF ELBOWS. THIS IS TO BE DONE PRIOR TO FRAMING.		
CHWR	CHILLED WATER RETURN	GD	GALLONS PER DAY	REQ	REQUIRED	27.	DUCTWORK IS NOT PERMITTED TO BE INSTALLED OVER ELECTRICAL EQUIPMENT (SWITCHGEAR, PANELBOARDS, PULL-BOXES, ETC.). CONTRACTOR IS TO COORDINATE WITH THE ELECTRICAL CONTRACTOR PRIOR TO ANY ROUGH-IN. COORDINATE RELOCATION OF ELECTRICAL EQUIPMENT WHEN DUCTWORK IS CONTINUED BY STRUCTURE.		
CHWS	CHILLED WATER SUPPLY	GPH	GALLONS PER HOUR	RG	RETURN AIR GRILLE	28.	ALL DUCTWORK IS TO BE INSTALLED IN CEILING SPACE OR SOFFIT UNLESS NOTED OTHERWISE. ALL DUCTWORK IS TO BE SEALED WITH LOW V.O.C. MASTIC. NO TAPES WILL BE ALLOWED. MASTIC ALL FINAL DUCT CONNECTIONS TO WALLS, SCREEN HOLES, CABINET, AND COIL SEAMS.		
CI	CAST IRON	GM	GALLONS PER MINUTE	RH	RELATIVE HUMIDITY	29.	WITHOUT EXCEPTION, ALL DUCTWORK IS TO BE INSTALLED ON THE INSIDE OF THERMAL ENVELOPE. DUCTWORK WILL NOT BE PERMITTED TO BE INSTALLED WITHIN CRAWLSPACE, ATTIC SPACE, EXTERIOR WALLS, EXTERIOR CEILING, OR FLOORS.		
CISP	CAST IRON SOIL PIPE	GR	GRAINS OF MOISTURE	RW	ROOM	30.	HVAC SUPPLY MAIN DUCTWORK COMPONENTS ARE TO EXTEND THROUGH OPEN-WEB TRUSSES, AND BETWEEN TRUSSES UNLESS OTHERWISE NOTED. CONTRACTOR IS TO COORDINATE ALL DUCTWORK INSTALLATIONS WITH STRUCTURAL DRAWINGS, SPECIFICATIONS, AND TRUSS MANUFACTURER REQUIREMENTS. CONTRACTOR IS NOT PERMITTED TO CUT HOLES, OR ALTER ANY TRUSSES UNLESS AUTHORIZED BY THE MANUFACTURER. CONTRACTOR IS TO COORDINATE ALL WALL, AND JOIST FRAMING TO ENSURE THAT DUCTWORK MAY PASS FREELY IN THE CEILING SPACE WITH MINIMAL TURNS. SOFFITS ARE TO BE CONSTRUCTED FOR ANY DUCTWORK REQUIRED BELOW AN UNCONDITIONED ATTIC SPACE SO DUCTWORK DOES NOT INTERFERE WITH THE THERMAL ENVELOPE, AND/ OR AIR BARRIERS. A SOFT (PRE-ROCKED) DRYWALL AIR BARRIER IS TO BE INSTALLED ABOVE ANY DUCTWORK WITHIN A SOFFIT PRIOR TO INSTALLATION.		
CKT	CIRCUIT	GRD	GROUND	RPM	REVOLUTIONS PER MINUTE	31.	FLEXIBLE, INSULATED SUPPLY DUCT CONNECTIONS NOT EXCEEDING 10'-0" IN TOTAL LENGTH ARE TO BE ALLOWED FOR CONNECTING REGISTERS TO HVAC SUPPLY MAIN DUCTWORK COMPONENTS. FLEXIBLE DUCTWORK IS TO BE INSTALLED AS STRAIGHT AS POSSIBLE AND IS TO BE SUPPORTED TO PREVENT CRIMPING. NO FLEXIBLE DUCTWORK IS PERMITTED FOR RETURN-AIR, OR EXHAUST.		
CLG	CEILING	GWH	GAS WATER HEATER	RRC	RETURN AIR REGISTER	32.	NO DUCTWORK IS TO PENETRATE ANY FIRE-RATED ASSEMBLY UNLESS IDENTIFIED ON PLANS. WHERE DUCTWORK PASSES THROUGH FIRE-RATED FLOOR ASSEMBLIES, OR PARTY WALLS, CONTRACTOR IS TO PROVIDE FUSIBLE-LINK FIRE DAMPERS, OR RADANT DEVICES AS REQUIRED TO MAINTAIN FIRE RATING. PROVIDE ACCESS PANELS FOR ALL DAMPER LOCATION.		
CO	CLEANOUT	HB	HOSE BIBB	RZBP	REDUCED PRESSURE ZONE BFP	33.	ALL SUPPLY DUCTWORK INSTALLED DIRECTLY OVER BATHROOM CEILING (WITH TUB, OR SHOWER) IS TO BE EXTERNALLY WRAPPED WITH DUCT-WRAP INSULATION TO PREVENT CONDENSATION. CONTRACTOR IS TO AVOID INSTALLING DUCTWORK IN THESE AREAS, OR USE PRE-INSULATED, FLEXIBLE DUCTWORK WHEREVER POSSIBLE.		
CO2	CARBON DIOXIDE	HC	HANDICAP	SA	SHOCK ABSORBER	34.	ZERO-RADIUS, THROAT ELBOWS ARE PROHIBITED. ALL DUCTWORK TRANSITIONS ARE TO BE GRADUAL, AND SMOOTH. ABRUPT ELBOWS ARE NOT PERMITTED UNLESS TURNING VANES ARE PROVIDED. ALL ELBOWS ARE TO HAVE AN INNER THROAT RADIUS, AND AN OUTER KEEL RADIUS. ALL TAKE-OFFS ARE TO HAVE A 45° CANT. REFER TO DUCTWORK DETAILS FOR ADDITIONAL INFORMATION.		
COL	COLUMN	HD	HEAD	SAN	SANITARY WASTE	35.	ALL VOLUME DAMPERS ARE TO BE ACCESSIBLE. INSTALL ACCESS PANELS WHERE REQUIRED. LOCATE DUCTWORK SO ACCESS PANELS ARE ABOVE CLOSETS, OR OTHER DISCREET AREAS.		
COND	CONDENSATE	HP	HORSEPOWER	SCH	SCHEDULE	36.	DRYER DUCTWORK IS TO BE 4"Ø, RIGID-METAL, AND IS TO BE INSTALLED IN ACCORDANCE WITH DRYER MANUFACTURER'S REQUIREMENTS (PENROSE STANDARD IS MANDATORY). DRYER VENTS ARE TO BE 4" METAL-TYPE WITH 4" OPENING. PROVIDE BACKDRAFT DAMPER INSTALLED 1'-0" ABOVE FINISHED GRADE. MINIMUM. DUCTWORK JOINTS ARE TO BE SEALED WITH METALLIC TAPE. DRYER VENT BACK-PRESSURE IS NOT TO EXCEED 3/4" WC. EACH DRYER DUCTWORK SYSTEM IS TO BE DEDICATED TO ONE DRYER (DO NOT COMBINE DUCTWORK SYSTEMS). DRYER DUCTWORK IS INSTALLED AS STRAIGHT AS POSSIBLE WITH MINIMAL ELBOWS. ELBOWS ARE BE LONG SWEEP WHEREVER POSSIBLE. PLASTIC DUCTWORK IS PROHIBITED.		
CONN	CONNECTION	HPCOR	HIGH PRESSURE CONDENSATE RETURN	SD	SUPPLY AIR DIFFUSER	37.	DRYER MAKE-UP AIR IS TO BE PROVIDED IN ALL DRYER ROOMS. FOR SPACES WITH MULTIPLE DRYERS, MAKE-UP AIR-SOURCE DUCTWORK IS TO BE PROVIDED AND IS TO BE LINKED WITH DRYER OPERATION. COORDINATE ALL REQUIREMENTS WITH THE EQUIPMENT MANUFACTURER.		
CONT	CONTINUED	HPSS	HIGH PRESSURE STEAM SUPPLY	SF	SQUARE FEET	38.	A KITCHEN HOOD WITH BACKDRAFT DAMPER IS TO BE PROVIDED OVER RANGES, AND/ OR COOK-TOPS. CONTRACTOR IS TO PROVIDE ALL DUCTWORK AND WALL, OR ROOF CAP. REFER TO HOOD EQUIPMENT MANUFACTURER'S INSTRUCTIONS FOR ADDITIONAL REQUIREMENTS. DUCTWORK LENGTHS ARE NOT TO EXCEED THE MANUFACTURER'S RECOMMENDATIONS.		
CONTR	CONTRACTOR	HR	HOUR	SH	SHOWER	39.	ALL THERMOSTATS ARE TO HAVE CONDENSER START-UP DELAY CONTROL TO PREVENT DAMAGE TO CONDENSING UNIT FROM REPEATED START-UPS. THERMOSTATS IN COMMON AREAS ARE TO HAVE LOCKABLE, TAMPERPROOF COVERS, OR LOCK-OUT CODE. THERMOSTATS ARE BE 24-HOUR, 7-DAY PROGRAMMABLE. THERMOSTAT DISPLAYS IN RESIDENTIAL AREAS ARE TO BE EASY-TO-READ. THERMOSTAT OPERATION IS TO BE AS SIMPLE AS POSSIBLE FOR RESIDENTIAL DEVICES.		
CP	CONTROL PANEL	HS	HOSE STATION	SP	STANDPIPE	40.	ALL VOLUME DAMPERS ARE TO BE ACCESSIBLE. INSTALL ACCESS PANELS WHERE REQUIRED. LOCATE DUCTWORK SO ACCESS PANELS ARE ABOVE CLOSETS, OR OTHER DISCREET AREAS.		
CR	CONDENSER RETURN	HT	HEIGHT	SPD	SURGE PROTECTION DEVICE	41.	ALL VISIBLE AIR DEVICES ARE TO BE CENTRED OVER WINDOWS, OR WALLS WHEREVER POSSIBLE. COORDINATE ALL FINAL LOCATIONS WITH ARCHITECTURAL DRAWINGS, AND ELEVATIONS.		
CS	CONDENSER SUPPLY	HTR	HEATER	SPEC	SPECIFICATION	42.	ALL RETURN REGISTERS ARE TO BE NON-CLOSING FILTER GRILLES (HART & COOLEY 673, OR APPROVED EQUAL). FILTERS ARE TO BE ACCESSIBLE. IF FILTERS ARE INSTALLED IN A FILTER RACK, THE RACK IS TO HAVE DASKETED, AIRTIGHT ACCESS TO COMPLETELY SEAL THE SLIDE-IN FILTER SLOT. FAILURE TO SEAL FILTER SLOTS WILL RESULT IN REJECTED LEAKAGE TESTING RESULTS.		
CU FT	CUBIC FEET	HVAC	HEATING VENTILATION AIR CONDITIONING	SPR	SPRINKLER	43.	ALL AIR DIFFUSER AND REGISTER EQUIPMENT IN DWELLING UNITS ARE TO BE READILY ADJUSTABLE BY OCCUPANT. ALL AIR DIFFUSER AND REGISTER EQUIPMENT IN COMMON, OR PUBLIC SPACES ARE TO NOT HAVE FACE VOLUME CONTROL (THEY ARE TO BE BALANCED VIA VOLUME DAMPER).		
CU IN	CUBIC INCH	HW	HOT WATER (DOMESTIC)	SQ	SQUARE				
CV	CHECK VALVE	HWR	HOT WATER RETURN (DOMESTIC)	SR	SUPPLY AIR REGISTER				
OW	COLD WATER (DOMESTIC)	HNR	HOT WATER RETURN	SS	STAINLESS STEEL				
DB	DECIBEL	HWS	HOT WATER SUPPLY	STD	STANDARD				
DB	DRY BULB	ID	FREQUENCY-ELECTRICAL	STL	STEEL				
DCSP	DOUBLE CHECK BACKFLOW PREVENTER	IZ	INSIDE DIAMETER	STR	STRAINER				
DD	DECK DRAIN	ID	INDIRECT DRAIN	STRUC	STRUCTURAL				
DG	DEGREE	IE	INVERT ELEVATION	SUCT	SUCTION				
DFU	DRAINAGE FIXTURE UNIT	IW	INDIRECT WASTE	SV	SANITARY VENT				
DI	DEIONIZED WATER	KW	KILOWATT	SWV	SANITARY WASTE VENT				
DA	DIAMETER	KWH	KILOWATT HOUR	TAP	TEMPERATURE & PRESSURE RELIEF VALVE				
DIS	DISTILLED WATER	LAT	LEAVING AIR TEMPERATURE	TEMP	TEMPERATURE				
DSCD	DISCHARGE	LAV	LAVATORY	THERM	THERMOMETER				
DN	DOWN	LBS	POUNDS	T.O.P.	TOP OF PIPE				
DP	DEEP	LF	LINEAR FEET	TP	TRAP PRIMER				
DSP	DOWNSPOUT	LL	LOW LEVEL	TP	TYPICAL				
DSS	DRY STANDPIPE	LP	LIQUID PROPANE	UL	UNDERWRITER'S LABORATORY				
DTR	DUAL TEMPERATURE RETURN	LPOR	LOW PRESSURE CONDENSATE RETURN	UTL	UTILITY				
OTS	DUAL TEMPERATURE SUPPLY	LPCS	LOW PRESSURE CONDENSATE SUPPLY	VAC	VACUUM				
DTV	DOUBLE THICK TURNING VANES	LWT	LEAVING WATER TEMPERATURE	VAV	VARIABLE AIR VOLUME				
DVC	DRY VACUUM CLEANING	MAU	MAKE-UP AIR UNIT	VB	VACUUM BREAKER				
DWG	DRAWING	MAX	MAXIMUM	VD	VOLUME DAMPER				
DWR	DOMESTIC WATER RISER	MECH	MECHANICAL	VEL	VELOCITY				
EA	EXISTING	MFR	MANUFACTURER	VERT	VERTICAL				
EE	EXHAUST AIR	MH	MANHOLE	VFD	VARIABLE FREQUENCY DRIVE				
EAT	ENTERING AIR TEMPERATURE	MIN	MINIMUM	VF	VERIFY IN FIELD				
EFF	EFFICIENCY	MISC	MISCELLANEOUS	VOL	VOLUME				
EFL	EFFLUENT	MOD	MOTOR OPERATED DAMPER	VPC	VIA PHOTOCELL				
EL	ELEVATION	MPCR	MEDIUM PRESSURE CONDENSATE RETURN	VTC	VIA TIME CLOCK				
ELEC	ELECTRICAL	MPH	MILES PER HOUR	VTR	VENT THROUGH ROOF				
EMF	ELECTROMOTIVE FORCE	MPSS	MEDIUM PRESSURE STEAM SUPPLY	W/	WITH				
EQ	EQUAL	(N)	NEW	WB	WET BULB TEMPERATURE				
EQUIP	EQUIPMENT	NA	NOT APPLICABLE	WCO	WALL CLEANOUT				
ES	EMERGENCY SHOWER	NC	NOISE CRITERIA	WH	WALL HYDRANT				
ESP	EXTERNAL STATIC PRESSURE	N.C.	NORMALLY CLOSED	WP	WEATHERPROOF				
EWP	EVAPORATOR	NC	NOT IN CONTRACT	W/O	WITHOUT				
EW	EMERGENCY EYEWASH			WSFU	WATER SUPPLY FIXTURE UNITS				
EW	ELECTRIC WATER COOLER			YR	YEAR				

DESIGN NOTES

1. DESIGN CONDITIONS

SIZING, DESIGN AND PERFORMANCE OF THE HEATING AND COOLING SYSTEMS ARE BASED ON THE FOLLOWING DESIGN CHARACTERISTICS. MODIFICATION OF ANY OF THESE CHARACTERISTICS MAY ADVERSELY AFFECT THE HEATING AND COOLING PERFORMANCE AND LEVEL OF COMFORT TO THE BUILDING OCCUPANTS.

WEATHER STATION LOCATIONS – NEW WINDSOR, NY  
HEATING DEGREE DAYS = 4989

OUTDOOR:  
WINTER DRY BULB -3.5F  
SUMMER DRY BULB 87.0F  
SUMMER WET BULB 71.3F  
INDOOR:  
WINTER DRY BULB 70F  
SUMMER DRY BULB 75F

PROJECT DEDUCT/ADD ALTERNATES

1. REFER TO FLOOR PLANS.

DRAWING LIST

MOUNT SAINT MARY COLLEGE- GUZMAN HALL

			Issued for Permit 07/19/21	Issued for Bid Set 08/27/2021	Issued for Addendum 1 09/23/2021	Issued for Bid Revision #2 11/22/2021
MO.1	COVER SHEET	- MECHANICAL	●	●		●
DM1.1	GROUND FLOOR DEMO PLAN	- MECHANICAL	●	●		●
DM1.2	FIRST FLOOR DEMO PLAN	- MECHANICAL	●	●		●
M1.1	GROUND FLOOR PLAN	- MECHANICAL	●	●	●	●
M1.2	FIRST FLOOR PLAN	- MECHANICAL	●	●		●
M2.1	DETAILS & SCHEDULES	- MECHANICAL	●	●		●
M2.2	DETAILS & SCHEDULES	- MECHANICAL	●	●		●
M2.3	DETAILS & SCHEDULES	- MECHANICAL	●	●	●	●
M2.4	DETAILS & SCHEDULES	- MECHANICAL	●	●		●
M2.5	DETAILS & SCHEDULES	- MECHANICAL	●	●		●
M2.6	DETAILS & SCHEDULES	- MECHANICAL	●	●	●	●
M2.7	DETAILS & SCHEDULES	- MECHANICAL	●	●		●

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