

REVIEWED  
FOR  
CODE  
COMPLIANCE  
01/12/2024



OCT. 19, 2023



**Holiday Inn Express**  
3400 S. LINCOLN AVE  
STEAMBOAT SPRINGS, CO 80487

HVAC GENERAL SPECIFICATIONS

- ALL MECHANICAL EQUIPMENT AND INSTALLATIONS SHALL CONFORM WITH THE REQUIREMENTS OF THE CURRENT REQUIRED CODES, THE 2018 INTERNATIONAL BUILDING CODE, THE 2018 INTERNATIONAL MECHANICAL CODE, THE STATE ENERGY CODE, NFPA 90A, 96, 101, UNDERWRITERS LABORATORIES (OR ETL) AND ALL APPLICABLE LOCAL CODES AND ORDINANCES.
- ALL MECHANICAL EQUIPMENT SHALL BE LABELED WITH BAKELITE NAMEPLATE WITH 2" HIGH WHITE LETTERS ON A BLACK BACKGROUND, NAMEPLATE SHALL SHOW EQUIPMENT TAG USED ON THESE DRAWINGS.
- ALL MECHANICAL EQUIPMENT REQUIRING ELECTRICAL POWER SHALL BE INSTALLED WITH DISCONNECT SWITCHES AT EACH PIECE OF EQUIPMENT. COORDINATE SWITCH TYPE (FUSED OR NON-FUSED) WITH EQUIPMENT CHARACTERISTICS, MANUFACTURER'S RECOMMENDATIONS AND ELECTRICAL DRAWINGS.
- ALL FANS SUPPLYING MORE THAN 2000 CFM OF AIR TO ANY SPACE AND ALL RECIRCULATING FAN SYSTEMS SERVING AREAS OF EGRESS SHALL BE INSTALLED WITH A SMOKE DETECTOR IN THE RETURN DUCTWORK. THE SMOKE DETECTOR SHALL BE WIRED TO STOP THE FAN UPON DETECTION OF SMOKE, AND SIGNAL THE BUILDING FIRE ALARM CONTROL PANEL. (IF BUILDING IS SO EQUIPPED), SMOKE DETECTOR TROUBLE CONDITIONS SHALL BE INDICATED VISUALLY OR AUDIBLY IN A NORMALLY OCCUPIED AREA AND SHALL BE IDENTIFIED AS AIR DUCT DETECTOR TROUBLE. IF A BUILDING FIRE ALARM SYSTEM IS INSTALLED, THE SMOKE DETECTOR SHALL BE FURNISHED BY THE FIRE ALARM SYSTEM CONTRACTOR, MOUNTED IN THE DUCT BY THE MECHANICAL CONTRACTOR, AND WIRED BY THE ELECTRICAL CONTRACTOR.
- PROVIDE FIRE DAMPERS IN ALL RATED WALLS, FLOOR AND CEILING PENETRATIONS. REFER TO THE ARCHITECTURAL/FIRE SAFETY PLAN FOR LOCATIONS OF RATED AREAS. PROVIDE ACCESS DOORS IN DUCTWORK AND CEILING AT EACH FIRE/SMOKE/FIRE SMOKE DAMPER LOCATION. INSTALL SMOKE DAMPERS IN ALL DUCT PENETRATIONS THROUGH SMOKE RATED WALLS. WHERE DUCTS PENETRATE WALLS THAT CARRY BOTH FIRE AND SMOKE RATINGS, THE DAMPERS INSTALLED SHALL BE COMBINATION FIRE AND SMOKE DAMPERS. ALL DAMPERS SHALL BE U.L. 555 LABELED, COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER REQUIREMENT.
- ALL MECHANICAL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- ALL MECHANICAL EQUIPMENT AND SYSTEMS SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE BY OWNER.
- ALL HVAC COMPRESSORS SHALL HAVE EXTENDED 5-YEAR MANUFACTURER'S WARRANTY.
- GROUND MOUNTED OUTDOOR AIR CONDITIONING EQUIPMENT LEVEL ON 4" THICK REINFORCED CONCRETE PADS, EXTENDING 6" BEYOND UNIT PERIMETER OF EQUIPMENT.
- ALL DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEET METAL AS RECOMMENDED IN SMACNA (LATEST EDITION) LOW-PRESSURE DUCT CONSTRUCTION STANDARDS, THE MINIMUM THICKNESS OF 0.0127 INCHES (NO. 26 GAGE), UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL JOINTS AND SEAMS IN ALL SHEET METAL DUCTWORK SHALL BE SEALED WITH DUCT SEALER.
- SHEET METAL SUPPLY, RETURN, & O.A. DUCTWORK IN NON-AIR CONDITIONED AREAS AND MECHANICAL ROOMS SHALL BE EXTERNAL INSULATION WITH 2" THICK FIBERGLASS, 3/4 LB/FT3 DENSITY, DUCT INSULATION WITH FOIL VAPOR BARRIER, U.L. LISTED, MINIMUM R-6. OUTSIDE OF THE BUILDING, INTERNAL INSULATION FOR SUPPLY, RETURN & O.A. DUCTWORK MUST BE 2" THICK CLOSED-CELL ELASTOMERIC, 3 LB/FT3 DENSITY, MINIMUM R-8 IN CLIMATE ZONE 1 THROUGH 4, MINIMUM R-12 IN CLIMATE ZONE 5 THROUGH 8.
- ALL DUCTWORK SHALL BE SUPPORTED BY THE BUILDING STRUCTURE AND SHALL NOT REST ON CEILING TILES OR CEILING STRUCTURE. DUCT SUPPORTS AND ATTACHMENT TO STRUCTURE SHALL BE AS PER SMACNA STANDARDS.
- FLEXIBLE DUCTWORK SHALL BE THERMAFLEX M-KE (U.L. 181 LISTED, CLASS 1 FLEXIBLE AIR DUCT) OR EQUAL. PROVIDE THERMAFLEX M-KE R-6 (R VALUE = 6.0 MINIMUM OR AS REQUIRED BY LOCAL ENERGY CODE) IN ATTICS AND OTHER UNCONDITIONED SPACES. AIR CONNECTORS ARE NOT ACCEPTABLE. SIZE TO MATCH DEVICE NECK, PROVIDE ROUND GALVANIZED STEEL DUCT RUNOUTS TO MAINTAIN A MAXIMUM FLEXIBLE DUCT LENGTH OF 5'-0". FLEXIBLE DUCTWORK SHALL BE INSTALLED, SUPPORTED AS STRAIGHT AS POSSIBLE WITHOUT FORMING CRIMPS OR OTHER AIR FLOW RESTRICTIONS. FLEXIBLE DUCT ROUTING SHALL NOT PENETRATE FIRE- RESISTANCE RATED ASSEMBLY. PROVIDE SQUARE TO ROUND ADAPTERS OR BOOTS TO CONNECT TO AIR DEVICE NECK WHEN REQUIRED.
- ROUND AND FLEXIBLE DUCTWORK SHALL BE CONNECTED TO MAIN DUCTS WITH SPIN-IN FITTINGS WITH SCOOP AND BALANCING DAMPER.
- PROVIDE DUCT LINER ONLY WHERE REQUIRED FOR ACOUSTIC NEEDS USING 1" THICK CLOSED-CELL ELASTOMERIC MATERIAL THAT COMPLIES WITH ASTM C1534-07-E1 AND LINE ALL DUCTWORK A 10'-0" DOWNSTREAM OF ALL AIR HANDLING UNITS, FAN COIL UNITS, AND TERMINAL UNITS.
- PORTIONS OF DUCTWORK VISIBLE THROUGH AIR DISTRIBUTION DEVICES IN FINISHED AREAS SHALL BE PAINTED FLAT BLACK.
- DUCTWORK DIMENSIONS SHOWN ON THE DRAWINGS ARE INSIDE CLEAR DIMENSIONS.
- REFRIGERANT PIPING SHALL BE TYPE L OR REFRIGERATION SERVICE COPPER TUBING WITH BRAZED JOINTS, SHALL BE INSTALLED BY THE MANUFACTURER'S INSTRUCTION INSTALLATION, REFER MANUFACTURER'S SUGGESTION FOR SIZING, LIQUID AND SUCTION SECTION OF REFRIGERANT PIPING SHALL BE INSULATED WITH 1" ARMAREX INSULATION, INSULATION APPLIED OVER TUBING WITHOUT CUTTING. ALL JOINTS AND SEAMS SHALL BE SEALED WITH ADHESIVE.
- CONDENSATE FROM ALL ROOFTOP AIR CONDITIONING EQUIPMENT SHALL BE TRAPPED AND ROUTED TO THE NEAREST ROOF DRAIN. CONDENSATE FROM ALL HORIZONTAL WATER SOURCE HEAT PUMPS ABOVE THE CEILING SHALL BE TRAPPED AND ROUTED TO THE NEAREST UTILITY SINK, POOL SINK OR HUB DRAIN IN THE CEILING PLENUM. CONDENSATE PIPING SHALL BE SCHEDULE 40 PVC (EXCEPT INSULATED COPPER IN HVAC PLENUMS AND OUTDOORS). CONDENSATE SHALL BE PUMPED AS REQUIRED. INSULATE CONDENSATE PIPES WITH 1" INCH AMARFLEX INSULATION.
- AFTER CONSTRUCTION, THE ENTIRE HVAC SYSTEM SHALL BE TESTED, ADJUSTED, AND BALANCED IN ACCORDANCE WITH AABC OR NEBB STANDARDS, TO DELIVER THE AIR (AND WATER FLOW) QUANTITIES SHOWN ON THE DRAWINGS. SUBMIT CERTIFIED TEST AND BALANCE REPORT TO ARCHITECT FOR APPROVAL.
- PROVIDE ACCESS PANELS IN NON-ACCESSIBLE CEILINGS AND IN WALL STRUCTURE TO ALLOW ADEQUATE ROOM FOR MAINTENANCE OF EQUIPMENT AND BALANCING OF SYSTEM. ACCESS PANELS IN CEILING AND WALLS SHALL BE PROVIDED WHERE SHOWN ON THE DRAWINGS OR NECESSARY TO ACCESS DAMPERS, VALVES, ETC. COORDINATE EXACT LOCATION OF ALL ACCESS PANELS WITH THE ARCHITECT DURING THE SHOP DRAWING PROCESS.
- MOUNT THERMOSTATS AND HUMIDISTATS 4" AFF TO TOP UNLESS NOTED OTHERWISE. PROVIDE CLEAR LOCKING COVER ASSEMBLIES FOR ALL PUBLIC AREA THERMOSTATS AND HUMIDISTATS.
- ALL ROOFTOP MOUNTED EQUIPMENT SHALL BE INSTALLED LEVEL ON, AND ANCHORED TO, MINIMUM 12" HIGH INSULATED ROOF CURBS. CONTRACTOR SHALL COORDINATE ROOF SLOPE AND ACTUAL CURB HEIGHTS WITH ARCHITECTURAL DRAWINGS. ALL REFERENCES TO ROOF HEIGHTS REFER TO HEIGHTS ABOVE FINISHED ROOF SURFACE.
- U.N.O. ROOF CURBS SHALL BE CUSTOM CURB OR APPROVED EQUAL (SUBMIT WITH SHOP DRAWINGS). VIBRATION/SOUND ATTENUATING ROOF CURBS (WHERE SCHEDULED OR NOTED) SHALL BE MASON RSC-A (2-1/2") OR EQUAL WITH ACOUSTICAL PACKAGE.
- LOCATIONS OF GRILLES, REGISTERS, & DIFFUSERS SHOWN ON THE DRAWINGS ARE APPROXIMATE. COORDINATE EXACT LOCATIONS WITH LIGHTS, CEILING GRID, ETC. AND ARCHITECTURAL REFLECTED CEILING PLAN.
- SLOPE ALL HORIZONTAL GAS FLUE PIPING MINIMUM 1/4"/FT.
- GAS FLUE PIPING SHALL BE TYPE "B" DOUBLE WALL FLUE, U.L. LISTED, EXCEPT FOR INDUCED OR FORCED DRAFT EQUIPMENT, WHICH SHALL BE METALBESTOS TYPE PS OR EQUAL.

- PROVIDE MANUAL AIR VENTS AT HIGH POINTS OF ALL RECIRCULATING WATER PIPING SYSTEMS.
- PIPING AT PUMPS AND EQUIPMENT SHALL BE SUPPORTED SO THAT NO PIPING OR ACCESSORY LOAD IS CARRIED BY THE PUMP OR EQUIPMENT.
- ALL PIPING ABOVE GRADE SHALL BE SUPPORTED BY THE BUILDING STRUCTURE AND SHALL NOT REST ON CEILING TILES OR CEILING STRUCTURE. PIPING HUNG FROM JOISTS SHALL BE HUNG FROM THE TOP CHORDS OF THE JOISTS.
- ALL PIPE AND DUCT PENETRATIONS OF FIRE AND/OR SMOKE-RATED ASSEMBLIES SHALL BE FIRE-STOPPED AS REQUIRED TO RESTORE ASSEMBLY TO ORIGINAL INTEGRITY. FIRE BARRIER PRODUCTS SHALL BE AS MANUFACTURED BY 3M CO., CP-25 GAULK, CSI99 COMPOSITE PANEL, FS195 WRAP/STRIP, OR PSS 7900 SERIES SYSTEMS AS RECOMMENDED BY MFG. FOR PARTICULAR APPLICATION, OR EQUIVALENT SYSTEM AS APPROVED BY LOCAL CODE OFFICIALS.
- MANUAL OVER-RIDE CONTROL (EMERGENCY SHUT-DOWN) SWITCHES FOR ALL HVAC UNITS SHALL BE LOCATED IN LOCKING COVER ADJACENT TO FIRE ALARM ANNUNCIATOR PANEL OR OTHER LOCATION APPROVED BY LOCAL AUTHORITY HAVING JURISDICTION.
- ROOFTOP HVAC UNITS SHALL BE INSTALLED SUCH THAT ROOF DECK IS COMPLETE AND CONTINUOUS UNDER BOTTOMS OF HVAC UNITS, AND SHALL BE CUT ONLY FOR UNIT SUPPLY AND RETURN OPENINGS. SPACE BETWEEN ROOF DECK AND BOTTOM OF ROOFTOP HVAC UNITS (INSIDE OF ROOF CURBS) SHALL BE FILLED WITH HIGH DENSITY, 6 LBS./CU.F.T., ACOUSTICAL INSULATION.
- DRYER VENTS SHALL BE CONSTRUCTED OF SHEET METAL AS RECOMMENDED IN SMACNA (LATEST EDITION) AND MECHANICAL CODE. INSTALL CLEAN-OUT DOOR IN HEEL OF 90° ELBOWS. DUCT DISCHARGE OPENING SHALL BE REINFORCED TO MAINTAIN SHAPE AND SHALL HAVE REMOVABLE 1/2" X 1/2" BIRD SCREEN.
- DO NOT ROUTE DUCT OR PIPE OVER ELECTRICAL PANELS.
- LOCATE VALVES/ CONTROL VOLUME DAMPER WITHIN 18" OF CEILING SO THAT THEY ARE WITHIN REACH
- WHERE THE DUCTWORK PENETRATE THE RATE WALL WHICH NOT REQUIRE FD/PSD, THE CONTRACTOR MUST PROVIDE A MINIMUM 12-INCH-LONG (305 MM) BY 0.060-INCH-THICK (1.52 MM) STEEL SLEEVE. IT SHALL BE CENTERED IN EACH DUCT OPENING. THE SLEEVE SHALL BE SECURED TO BOTH SIDES OF THE WALL AND ALL FOUR SIDES OF THE SLEEVE WITH MINIMUM 11/2-INCH BY 11/2-INCH BY 0.060-INCH (38 MM BY 38 MM BY 1.52 MM) STEEL RETAINING ANGLES. THE RETAINING ANGLES SHALL BE SECURED TO THE SLEEVE AND THE WALL WITH NO. 10 (M5) SCREWS. THE ANNULAR SPACE BETWEEN THE STEEL SLEEVE AND THE WALL OPENING SHALL BE FILLED WITH ROCK (MINERAL) WOOL BATTING ON ALL SIDES.
- THE CONTRACTOR SHALL VERIFY AND RECEIVE AN APPROVAL FROM THE HVAC SYSTEM'S MANUFACTURER TO ENSURE THE HVAC EQUIPMENT'S PROPER OPERATION AT THE LOCAL WEATHER.
- THE CONTRACTORS SHALL CONSTRUCT THE MECHANICAL SYSTEM ACCORDING TO MEPGS MECHANICAL PLANS, CALCULATION, DETAILS AND SPECIFICATION. ALL REQUESTS FOR ALTERNATE MECHANICAL EQUIPMENT AND SOLUTIONS MUST BE SUBMITTED THROUGH REQUEST FOR INFORMATION (RFI)
- THE CONTRACTOR SHALL REVIEW THE LIFE SAFETY OR FIRE RATED WALL PLANS ON THE ARCHITECT PLANS AND MECHANICAL PLANS TO ENSURE BIDDING PROPER NUMBERS OF FIRE/SMOKER DAMPER AND CEILING RADIANT DAMPERS.
- THE COMPLETE MECHANICAL SYSTEM MUST BE TESTED, BALANCED, AND COMMISSIONED BY QUALIFIED COMMISSIONER AGENT DURING THE CONSTRUCTION PHASE PRIOR TO FULL OPERATION. FAILURE TO PROPERLY CONDUCT TESTING, BALANCING, AND COMMISSIONING THE MECHANICAL SYSTEM SHALL RESULT IN SYSTEM DYSFUNCTION, WHICH IS FULLY RESPONSIBLE BY THE CONTRACTOR
- DUCTS AND PIPING SHALL BE DESIGNED AND INSTALLED TO MEET THE REQUIREMENTS OF THE CURRENT EDITION OF THE SMACNA DUCT CONSTRUCTION STANDARDS AND SEISMIC RESTRAINT MANUAL. INSTALLER SHALL HAVE A COPY OF THE MANUAL ON SITE AT TIME OF INSPECTIONS. WHERE DISCREPANCIES OCCUR IN THE FIELD, INSPECTION WILL HAVE JURISDICTION, OR JUSTIFICATION SHALL BE PROVIDED FOR STRUCTURAL REVIEW
- ENVIRONMENTAL AIR DUCT EXHAUST SHALL TERMINATE NOT LESS THAN 3 FEET (914 MM) FROM A PROPERTY LINE, 10 FEET (3048 MM) FROM A FORCED AIR INLET, AND 3 FEET (914 MM) FROM OPENINGS INTO THE BUILDING. ENVIRONMENTAL EXHAUST DUCTS SHALL NOT DISCHARGE ONTO A PUBLIC WALKWAY. CONTRACTOR TO VERIFY ON PLAN PRIOR BIDDING.
- FACTORY-MADE FLEXIBLE AIR DUCTS AND CONNECTORS SHALL BE NOT MORE THAN 5 FEET (1524 MM) IN LENGTH AND SHALL NOT BE USED IN LIEU OF RIGID ELBOWS OR FITTINGS. FLEXIBLE AIR DUCTS SHALL BE PERMITTED TO BE USED AS AN ELBOW AT A TERMINAL DEVICE
- ALL EXTERNAL LOUVERS/REGISTER SHALL BE PAINTED/COORDINATED WITH ARCHITECTURAL PLAN FOR ADJACENT BUILDING COLOR.

COMMERCIAL ENERGY CONSERVATION CODE COMPLIANCE

- DRAWINGS: CONSTRUCTION DOCUMENTS SHALL REQUIRE THAT WITHIN 90 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE RECORD DRAWINGS OF THE ACTUAL INSTALLATION BE PROVIDED TO THE BUILDING OWNER OR THE DESIGNATED REPRESENTATIVE OF THE BUILDING OWNER. RECORD DRAWINGS SHALL INCLUDE AS A MINIMUM THE LOCATION AND PERFORMANCE DATA ON EACH PIECE OF EQUIPMENT, GENERAL CONFIGURATION OF DUCT AND PIPE DISTRIBUTION SYSTEM INCLUDING SIZES, AND THE TERMINAL AIR OR WATER DESIGN FLOW RATES.
- MANUALS: CONSTRUCTION DOCUMENTS SHALL REQUIRE THAT AN OPERATING MANUAL AND A MAINTENANCE MANUAL BE PROVIDED TO THE BUILDING OWNER OR THE DESIGNATED REPRESENTATIVE OF THE BUILDING OWNER WITHIN 90 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE. THESE MANUALS SHALL BE IN ACCORDANCE WITH INDUSTRY-ACCEPTED STANDARDS (SEE APPENDIX E) AND SHALL INCLUDE, AT A MINIMUM, THE FOLLOWING:
- (a) SUBMITTAL DATA STATING EQUIPMENT SIZE AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE.
  - (b) OPERATION MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE, EXCEPT EQUIPMENT NOT FURNISHED AS PART OF THE PROJECT, REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED.
  - (c) NAMES AND ADDRESSES OF AT LEAST ONE SERVICE AGENCY.
  - (d) HVAC CONTROLS SYSTEM MAINTENANCE AND CALIBRATION INFORMATION, INCLUDING WIRING DIAGRAMS, SCHEMATICS, AND CONTROL SEQUENCE DESCRIPTIONS. DESIRED OR FIELD-DETERMINED SET-POINTS SHALL BE PERMANENTLY RECORDED ON CONTROL DRAWINGS AT CONTROL DEVICES OR, FOR DIGITAL CONTROL SYSTEMS, IN PROGRAMMING COMMENTS.
  - (e) A COMPLETE NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE, INCLUDING SUGGESTED SET-POINTS.

GENERAL NOTE

- THE CONTRACTORS SHALL CONSTRUCT MEP SYSTEM ACCORDING TO MEPGS PLANS, CALCULATION, DETAILS AND SPECIFICATION. ALL REQUESTS FOR ALTERNATE MATERIAL, EQUIPMENT AND SOLUTIONS MUST BE SUBMITTED THROUGH REQUEST FOR INFORMATION (RFI). FAILURE TO SUBMIT THE RFI SHALL RESULT IN THE DISAPPROVAL OF CHANGE ORDER (IF ANY) FOR THE PROPOSED ALTERNATE MATERIAL, EQUIPMENT, AND SOLUTION.
- THE CONTRACTORS ARE REQUIRED TO FOLLOW THE SPECIFIED EQUIPMENTS INSTALLATION MANUAL FROM THE MANUFACTURE.
- THE CONTRACTORS ARE REQUIRED TO FOLLOW THE LOCAL BUILDING CODE OF AUTHORITY HAVING JURISDICTION.
- MECHANICAL CONTRACTOR TO INSTALL ROOF TOP UNITS SECURED TO ROOF PER REQUIRED SEISMIC/ WIND LOAD STANDARDS.
- THE CONTRACTORS ARE REQUIRED TO SUBMIT THEIR VALUED ENGINEERING (IF ANY) TO MEP GREEN DESIGN AND BUILD PLLC FOR ASSESSMENT AND COMMENT/APPROVAL BEFORE EXECUTING THEM ON THE JOB SITE. OTHERWISE, THE CONTRACTORS SHALL HOLD ALL RESPONSIBILITIES REGARDING RESPONDING TO THE INSPECTORS, RESUBMITTING PLANS FOR CITY REAPPROVAL, ETC. DUE TO THE CHANGES MADE, ON THE JOB SITE WITHOUT WRITTEN APPROVAL FROM THE ENGINEER OF RECORD AND OWNER

MECHANICAL SYMBOLS						
SYMBOL	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
	AHU	AIR HANDLING UNIT - HORIZONTAL (ABOVE CEILING)	ACCU	AIR COOLED CONDENSING UNIT	LDB	LEAVING DRY BULB TEMPERATURE
	AHU	AIR HANDLING UNIT - VERTICAL	AHU	AIR HANDLING UNIT	LWB	LEAVING WET BULB TEMPERATURE
	ACCU	AIR COOLED CONDENSING UNIT	AD	ACCESS DOOR	LRA	LOCKED ROTOR AMP
	FCU	FAN COIL UNIT-DUCTLESS	AFF	ABOVE FINISHED FLOOR	MC	MECHANICAL CONTRACTOR
	FCU	FAN COIL UNIT - HORIZONTAL (ABOVE CEILING)	AP	ACCESS PANEL	NFA	NATIONAL FIRE PROTECTION ASSOCIATION
	DOAS	DEDICATED OUTSIDE AIR UNIT	ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERANT & AIR CONDITIONING ENGINEERS	M	ONE THOUSAND
	EF	EXHAUST FAN	ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS	MBH	1000 BTU PER HOUR
	SAD	SUPPLY AIR DIFFUSER	BTU	BRITISH THERMAL UNIT	OSA	OUTSIDE AIR
	SR	SIDEWALL SUPPLY REGISTER	BTUH	BRITISH THERMAL UNIT PER HOUR	OSAT	OUTSIDE AIR TEMPERATURE
	RG/RR	RETURN GRILLE OR REGISTER	CA	COMBUSTION AIR	PACU	PACKAGE AIR-CONDITIONING UNIT
	EG/ER	EXHAUST GRILLE	CFM	CUBIC FEET PER MINUTE	RA	RETURN AIR
	VCD	VOLUME CONTROL DAMPER	F	DEGREES FAHRENHEIT	RG	RETURN GRILLE
	FD	FIRE/SMOKE DAMPER	DIA.	DIAMETER	RR	RETURN REGISTER
		MANUAL BUTTERFLY DAMPER	DF	DUCT FURNACE	RAT	RETURN AIR TEMPERATURE
		LOUVER FOR COMBUSTION AIR	EDBH	ELECTRIC BASEBOARD HEATER	RPM	REVOLUTIONS PER MINUTE
	EUH	ELECTRIC UNIT HEATER	EUH	ELECTRIC UNIT HEATER	SMACNA	SHEET METAL & AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
		FLEXIBLE DUCT	EAT	ENTERING AIR TEMPERATURE	TSP	TOTAL STATIC PRESSURE
	T'STAT	WALL MOUNTED THERMOSTAT	EDB	ENTERING DRY BULB TEMPERATURE	SA	SUPPLY AIR
	SD	DUCT MOUNTED SMOKE DETECTOR	EWB	ENTERING WET BULB TEMPERATURE	SAG	SUPPLY AIR GRILLE
	MD	MOTORIZED DAMPER	EF	EXHAUST FAN	SR	SUPPLY REGISTER
		TEMPERATURE SENSOR	EAD	EXHAUST AIR DUCT	TΔ	TEMPERATURE DIFFERENCE
		RETURN AIR DUCT	EAL	EXHAUST AIR LOUVER	TYP.	TYPICAL
		SUPPLY AIR DUCT	FFM	FEET PER MINUTE	UL	UNDERWRITTEN LABORATORIES
		FRESH AIR DUCT	FD	FIRE DAMPER	VTAC	VERTICAL TERMINAL AIR-CONDITIONING
		EXHAUST AIR DUCT	FLA	FULL LOAD AMPS	VCD	VOLUME CONTROL DAMPER
		1 HR FIRE RATED WALL	GPM	GALLONS PER MINUTE	WSA	WIRE SIZE AMPS
		2 HR FIRE RATED WALL	OC	GENERAL CONTRACTOR		
			HVAC	HEATING, VENTILATION AND AIR CONDITIONING		
			HP	HORSE POWER		
			"WC	INCHES WATER COLUMN		
			KW	KILOWATT		
			LAT	LEAVING AIR TEMPERATURE		

10/19/24

BALANCE AIR CALCULATION

EXHAUST AIR QUANTITIES:

A) RESTROOM	- EXH. FAN EF-1:	103 @ 30 CFM	=	3090
B) ICE MACHINE	- EXH. FAN EF-2:	3 @ 70 CFM	=	210
C) MECH. STORE	- EXH. FAN EF-3:	1 @ 150 CFM	=	150
D) STORAGE	- EXH. FAN EF-4:	1 @ 250 CFM	=	250
E) FITNESS CENTER	- EXH. FAN EF-5:	1 @ 340 CFM	=	340
F) WATER HEATER ROOM	- EXH. FAN EF-6:	1 @ 180 CFM	=	180
G) PUBLIC TOILET	- EXH. FAN EF-7:	1 @ 180 CFM	=	180
H) POOL DECK	- EXH. FAN EF-8:	1 @ 700 CFM	=	700
I) POOL EQUIPMENT	- EXH. FAN EF-9:	1 @ 150 CFM	=	150
J) ELEVATOR CAR	- EXH. FAN EF-10:	1 @ 126 CFM	=	126
K) CHUTE, NET, STAFF	- EXH. FAN EF-11:	4 @ 50 CFM	=	200
TOTAL EXHAUST AIR CFM				= 5576

OUTSIDE AIR QUANTITIES AND SOURCE:

A) OUTSIDE AIR SERVED FOR THE WHOLE BUILDING:	DOAS-1	=	3150
B) POOL DECK	DU-1	=	600
C) TOTAL GUESTROOM OUTSIDE AIR QUANTITIES:	99 @ 35 CFM	=	3465
TOTAL OUTSIDE AIR SYSTEM CFM = 7215			

OUTSIDE AIR SYSTEM > EXHAUST AIR => POSITIVE BUILDING PRESSURIZATION

OUTSIDE AIR REQUIREMENTS PER TABLE 403.3.1.1 - THE 2018 IMC

AREA SERVED	FLOOR AREA (Square feet A2)	PEOPLE P2	PEOPLE OUTDOOR AIR RATE PER TABLE 403.3.1.1 (CFM/person) Rp	AREA OUTDOOR AIRFLOW RATE PER TABLE 403.3.1.1 (CFM/ sq.ft. area) Ra	TOTAL OUTSIDE AIR REQUIRED (CFM) V2a	TOTAL OUTSIDE AIR PROVIDED THRU AHU (CFM)
LAUNDRY	810	11	5	0.12	153	160 (FCU-1.1)
BREAKFAST	414	24	7.5	0.18	255	260 (FCU-1.2)
PANTRY	365	6	7.5	0.18	111	120 (FCU-1.3)
MEETING	423	25	5	0.06	151	160 (FCU-1.4)
FITNESS	428	7	20	0.06	166	170 (FCU-1.5)
GREAT ROOM	821	27	7.5	0.06	252	250 (FCU-1.6)
LOBBY, MARKET, CHECK IN	1140	35	7.5	0.06	331	340 (FCU-1.7)
MAIN VEST	200	0	7.5	0.06	12	90 (FCU-1.8)
GM	140	2	5	0.06	19	
WORK AREA	200	4	5	0.06	32	
SALES	89	3	5	0.06	21	50 (FCU-1.9)
CORRIDOR	682	0	10	0.06	41	
CORRIDOR2	760	0	10	0.06	46	130 (FCU-1.10)
GUEST LAUN.	183	4	7.5	0.06	41	
ENGINEER	127	2	5	0.06	18	
CORRIDOR 2F	1747	4	10	0.06	145	200 (AHU-2.1)
ELEV LOBBY 2F	108	3	5	0.06	22	
ICE 2F	35	1	5	0.06	8	
HSKPG 2F	313	1	5	0.06	24	200 (AHU-3.1)
CORRIDOR 3F	1747	4	10	0.06	145	
ELEV LOBBY 3F	108	3	5	0.06	22	
ICE 3F	35	1	5	0.06	8	200 (AHU-4.1)
HSKPG 3F	313	1	5	0.06	24	
CORRIDOR 4F	1747	4	10	0.06	145	
ELEV LOBBY 4F	108	3	5	0.06	22	
ICE 4F	35	1	5	0.06	8	
HSKPG 4F	313	1	5	0.06	24	

V2a = Rp\*P2+ Ra\*A2

WHERE:

P2 : ZONE POPULATION: THE NUMBER OF PEOPLE IN THE SPACE OR SPACES IN THE ZONE.

A2 : ZONE FLOOR AREA: THE NET OCCUPABLE FLOOR AREA OF THE SPACE OR SPACES IN THE ZONE.

Rp : PEOPLE OUTDOOR AIR RATE: THE OUTDOOR AIRFLOW RATE REQUIRED PER PERSON FROM TABLE 403.3.1.1.

Ra : AREA OUTDOOR AIR RATE: THE OUTDOOR AIRFLOW RATE REQUIRED PER UNIT AREA FROM TABLE 403.3.1.1.

MECHANICAL  
GENERAL  
SPECIFICATIONS  
AND SYMBOLS

M1.0

SHEET: 81 OF 140



VRV SYSTEMS HEAT RECOVERY- SCHEDULES																																				
INDOOR UNIT															OUTDOOR UNIT																					
MARK	MANUF.	AREA SERVED	MODEL	TYPE	COOLING CAPACITY (BTU/hr)	HEATING CAPACITY (BTU/hr)	SUPPLY CFM	OA CFM	MAX FAN ESP SETTING 208V/230V (IN WG)	VOLTAGE (V/P/HZ)	ELECTRICAL MCA/MOP	HEAT STRIP			ELECTRICAL DUCT HEATER							MARK	MANUF.	MODEL	TONS	COOLING CAPACITY		HEATING CAPACITY		MCA 208/230	MOP	VOLTAGE	DIMENSIONS (HXWXD)	COP	EER	
												VOLTAGE (V/P/HZ)	HEATING CAPACITY (KW)	MODEL#	MARK	MANUF.	MODEL #	KW	MCA	MOP	DIMENSIONS WxH					VOLTAGE	BTU/HR	AMBIENT DESIGN (°F DB)	BTU/HR							AMBIENT DESIGN (°F WB)
FCU-1.1	DAIKIN	LAUNDRY	FXS054TAVJU	CEILING-CONCEALED (DUCTED)	46,396	60,998	1800	150	0.6/0.6	208/1/60	3.3/15	--	--	--	EDH-1.1	WARREN	SL10A	7.2	37.9	60	20x12	208/1/60	ACCU-1.1	DAIKIN	REL0192TATJA	16	160,101	87.0	196.522	-15.0/-7.0	75.6 + 75.6	80 + 80	208/3/60	(66x49x30) (66x49x30)	3.85/3.59	12.5/12.7
FCU-1.2	DAIKIN	BREAKFAST	FXS024TAVJU	CEILING-CONCEALED (DUCTED)	20,665	26,999	800	50	0.6/0.6	208/1/60	1.8/15	--	--	--	EDH-1.2	WARREN	SL5A	3.6	19.2	30	14x10	208/1/60														
FCU-1.3	DAIKIN	PANTRY	FXS024TAVJU	CEILING-CONCEALED (DUCTED)	20,665	26,999	800	110	0.6/0.6	208/1/60	1.8/15	--	--	--	EDH-1.3	WARREN	SL5A	3.6	19.2	30	14x10	208/1/60														
FCU-1.4	DAIKIN	MEETING	FXS030TAVJU	CEILING-CONCEALED (DUCTED)	25,765	33,999	1000	150	0.6/0.6	208/1/60	1.8/15	--	--	--	EDH-1.4	WARREN	SL5A	3.6	19.2	30	14x10	208/1/60														
FCU-1.8	DAIKIN	GM, WORK AREA, SALES	FXS024TAVJU	CEILING-CONCEALED (DUCTED)	20,665	26,999	800	70	0.6/0.6	208/1/60	1.8/15	--	--	--	EDH-1.8	WARREN	SL5A	3.6	19.2	30	14x10	208/1/60														
FCU-1.9	DAIKIN	1ST FLOOR CORRIDOR	FXS018TAVJU	CEILING-CONCEALED (DUCTED)	15,465	19,999	600	50	0.6/0.6	208/1/60	1.6/15	--	--	--	EDH-1.9	WARREN	SL5A	3.6	19.2	30	14x10	208/1/60	ACCU-1.2	DAIKIN	REL0192TATJA	16	160,101	87.0	196.522	-15.0/-7.0	75.6 + 75.6	80 + 80	208/3/60	(66x49x30) (66x49x30)	3.85/3.59	12.5/12.7
FCU-1.5	DAIKIN	FITNESS	FXS030TAVJU	CEILING-CONCEALED (DUCTED)	25,765	33,999	1000	165	0.6/0.6	208/1/60	1.8/15	--	--	--	EDH-1.5	WARREN	SL5A	3.6	19.2	30	14x10	208/1/60														
FCU-1.6	DAIKIN	GREAT ROOM	FXS054TAVJU	CEILING-CONCEALED (DUCTED)	46,396	60,998	1800	250	0.6/0.6	208/1/60	3.3/15	--	--	--	EDH-1.6	WARREN	SL10A	7.2	37.9	60	20x12	208/1/60														
FCU-1.7	DAIKIN	LOBBY, MARKET, CHECK IN	FXS054TAVJU	CEILING-CONCEALED (DUCTED)	46,396	60,998	1800	340	0.6/0.6	208/1/60	3.3/15	--	--	--	EDH-1.7	WARREN	SL10A	7.2	37.9	60	20x12	208/1/60														
FCU-1.10	DAIKIN	1ST FLOOR CORRIDOR/BOH	FXS024TAVJU	CEILING-CONCEALED (DUCTED)	20,665	26,999	800	130	0.6/0.6	208/1/60	1.8/15	--	--	--	EDH-1.10	WARREN	SL5A	3.6	19.2	30	14x10	208/1/60	ACCU-1.3	DAIKIN	REL0192TATJA	16	160,101	87.0	196.522	-15.0/-7.0	75.6 + 75.6	80 + 80	208/3/60	(66x49x30) (66x49x30)	3.85/3.59	12.5/12.7
AHU-2.1	DAIKIN	2ND FLOOR	FXT054TAVJUA	VERTICAL	46,396	60,998	1800	200	0.9	208/1/60	47.1/60	208/1/60	8.0	HKSC15XA	--	--	--	--	--	--	--															
AHU-3.1	DAIKIN	3ND FLOOR	FXT054TAVJUA	VERTICAL	46,396	60,998	1800	200	0.9	208/1/60	47.1/60	208/1/60	8.0	HKSC15XA	--	--	--	--	--	--	--															
AHU-4.1	DAIKIN	4ND FLOOR	FXT054TAVJUA	VERTICAL	46,396	60,998	1800	200	0.9	208/1/60	47.1/60	208/1/60	8.0	HKSC15XA	--	--	--	--	--	--	--	--														
NOTES:																																				
1. MANUFACTURER MUST BE CERTIFIED, LISTED, AND LABELED PER AHRI 1230.																																				
2. SYSTEM RATING DATA BASED ON DESIGN AMBIENT CONDITIONS FOR COOLING AND FOR HEATING.																																				
3. SUBMITTED PERFORMANCE DATA MUST BE FULLY DE-RATED FOR ALL COMPONENTS AND ACCESSORIES, INCLUDING BUT NOT LIMITED TO, LINE LENGTH, VERTICAL SEPARATION, CONNECTION RATIO, DESIGN CONDITIONS, CONDENSER COIL COATING.																																				
4. CONDENSING UNITS MUST HAVE FULLY MODULATING INVERTER COMPRESSORS.																																				
5. CONDENSING UNITS MUST HAVE AUTO CHANGEOVER FUNCTIONS.																																				
6. DEMAND LIMITING RELAY CONTACT MUST BE PROVIDED.																																				
7. ELEVATORS MUST BE REMOVABLE FROM VALVE BODY WITHOUT DISTURBING THE REFRIGERANT SYSTEM.																																				
8. FOU THERMOSTATS MUST PROVIDE +/- 1 DEGREE DEAD-BAND SET-POINT AND CONTROL CAPABILITY.																																				
9. SYSTEM SHALL BE PROVIDED WITH 1-TOUCH MANAGER CONTROLLER WITH WEB BASED SOFTWARE FOR DISPLAYING UP TO 8 DII-NET SYSTEMS WITH 128 INDOOR UNITS PER SYSTEM.PC BY OTHERS.																																				
10. MANUFACTURERS SUBMITTAL MUST INCLUDE REFRIGERANT PIPING DIAGRAM WITH PIPE DIAMETERS, LENGTHS, AND REFRIGERANT VOLUME.																																				
11. SUBSTITUTE MANUFACTURER SHALL BE RESPONSIBLE FOR ADDITIONAL PIPING AND REFRIGERANT.																																				
12. CONTRACTOR TO VERIFY PIPING DIMENSIONS.																																				
13. INSTALLING CONTRACTOR MUST HAVE SUCCESSFULLY COMPLETED INSTALLATION CLASS WITHIN PAST 36 MONTHS.																																				
14. CONTRACTOR TO FURNISH AND INSTALL INSULATION ON REFRIGERANT PIPING.																																				
15. MANUFACTURERS REPRESENTATIVE MUST HAVE LOCAL STOCK OF PARTS AND FACTORY CERTIFIED TECHNICIAN ON STAFF.																																				
16. MANUFACTURERS REPRESENTATIVE SHALL PROVIDE PROOF OF ONGOING INSTALLATION TRAINING AT THEIR LOCAL FACILITY FOR AT LEAST THE PAST 5 YEARS.																																				
17. MANUFACTURERS REPRESENTATIVE SHALL PROVIDE PROOF OF CONTINUOUS SALES AND SUPPORT OF THEIR PRODUCTS FOR AT LEAST 15 YEARS.																																				
18. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DIRECT COSTS AND OPERATING COSTS INCREASED FOR 20 YEARS ASSOCIATED WITH ANY DEVIATIONS RESULTING FROM CHANGES IN DESIGN.																																				
19. MANUFACTURER MUST PROVIDE 10 YEARS PARTS WARRANTY ON ALL FCUS, CONDENSING UNITS, AND MODE CHANGEOVER DEVICES. WARRANTY CONDITIONS MUST BE CLARIFIED DURING SUBMITTAL PHASE.																																				
20. 3-PHASE AIR COOLED CONDENSING UNITS MUST HAVE PUBLISHED PERFORMANCE DATA WITH 200K INDOOR CONNECTED CAPACITY.																																				
21. CONDENSING UNITS MUST BE FURNISHED WITH PROTECTIVE COIL COATING TO WITHSTAND ASTM B117 SALT SPRAY TEST FOR A MINIMUM OF 1000 HOURS. PERFORMANCE OF SYSTEM MUST BE DE-RATED FOR COIL COATING.																																				
22. MANUFACTURER MUST CERTIFY AND SUBMIT SYSTEM PERFORMANCE AT EXTREME CONDITIONS OF 122 DEGREES FDB AMBIENT IN COOLING MODE AND -22 DEGREES FDB IN HEATING MODE.																																				
23. MANUFACTURER MUST WARRANTY ON ALL PARTS WARRANTY ON ALL FANS AND CONDENSING UNITS. WARRANTY CONDITIONS MUST BE CLARIFIED DURING SUBMITTAL PHASE.																																				
24. OUTSIDE AIR METAL MESH PRE-FILTER; 2" PLATED FILTERS - MERV 13																																				
25. PROVIDE UNIT WITH CONDENSATE PUMP.																																				



FLEXIBLE DUCT SIZE SCHEDULE	
SUPPLY AIR (CFM)	DIFFUSER NECK AND FLEXIBLE DUCT SIZE
0-100	6"
101-200	8"
201-300	10"
301-400	12"
401-500	14"

COMBUSTION AIR ANALYSIS				
AREA SERVED	TOTAL GAS INPUT	REQUIRED SIZE OF OPENING STANDARD (SECTION 304 - IFGC 2018)	MINIMUM SIZE OF OPENING	PROPOSED LOUVERS
COMM. LAUNDRY	675,000 BTUH	1 SQ. IN. PER 4000 BTUH	170 SQ. IN.	2 NOS OF 16x16

EXHAUST AIR FLOW PER TABLE 403.3.1.1-2018 IMC				
AREA SERVED	ZONE FLOOR AREA FT2	EXHAUST AIR FLOW RATED CFM/FT2	EXHAUST AIR FLOW REQUIRED CFM	EXHAUST AIR FLOW PROVIDED CFM
ELEVATOR CAR	126	1.0	126	150 (EF-10)
NOTES:				
1. INTERLOCKED HEAT DETECTOR AND ELEVATOR LOBBY SMOKE DETECTORS WITH THE FAN. 2. THE ELEVATOR CONTRACTOR SHALL BE PROVIDE THE EXHAUST FANS FOR ALL ELEVATOR CARS THAT DISCHARGE EXHAUST INTO THE ELEVATOR SHAFT PER IMC TABLE 403.1.1.1.				

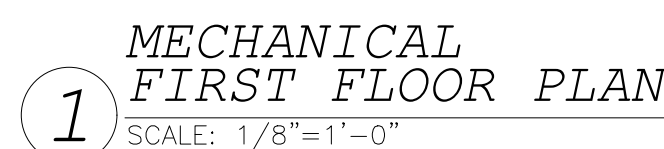
PACKAGED TERMINAL AIR CONDITIONER (MAKE-UP AIR) SCHEDULES																
MARK	MANUF.	MODEL#	AREA SERVED	FAN		COOLING CAPACITY		EER	HEATING CAPACITY			ELECT. HEATER CAPACITY			VOLTAGE	REMARKS
				C.F.M. HI/LOW	MIN. O.S.A.	TOTAL BTU/HR	CLG. WATTS		HTG BTU/HR	HTG. WATTS	C.O.P.	WATTS	M.C.A	M.O.C.P		
PTAC-1	FRIEDRICH	PVH09K	GUEST ROOMS	400/250	35	9,400	775	12.1	8,500	685	3.51	2,500	13.9	15	208/1/60	SEE NOTE #1,2,3,4,5,6,7,8,9,10,11.
PTAC-2	FRIEDRICH	PVH12K	GUEST ROOMS	470/360	35	11,800	1025	11.5	11,800	950	3.58	2,500	13.9	15	208/1/60	SEE NOTE #1,2,3,4,5,6,7,8,9,10,11.
MCA = MINIMUM CIRCUIT AMPS      C.B. = CIRCUIT BREAKER      MOPC = MAXIMUM OVER CURRENT PROTECTION																
NOTES:																
1. FURNISH WITH FACTORY INSTALLED POWER CORD & SUB-BASE WITH ACCESS PLATES FOR THE MOUNTING OF ELECTRICAL RECEPTACLE.								5. FURNISH ARCHITECTURAL OUTDOOR GRILLE, PAINT GRILLE TO MATCH EXTERIOR WALL.				9. FURNISH UNIT WITH 42 1/4"W x 16 1/4"H x 13 3/4"D WALL CASE.				
2. PROVIDE INSTRUCTION PLATE AT UNIT FOR REMOTE T-STAT AT WALL.								6. FURNISH INSULATED STEEL WALL SLEEVE.				10. MULTIPLE UNITS. SEE MECHANICAL PLANS FOR EXACT LOCATIONS AND QUANTITIES OF UNITS.				
3. PROVIDE HARDWIRED T-STAT/ REMOTE CONTROL WITH TWO SPEED FAN CONTROL CAPABILITY. REFER TO ARCH/FRANCHISE FOR FINAL LOCATION.								7. FURNISH INTERNAL CONDENSATE DRAIN KIT .				11. PROVIDE TELNETK ECOUNIGHT + HARDWIRED WALL MOUNTED THERMOSTAT, INNOVOM BY HONEYWELL, SCHNIEDER ELECTRIC. REFER TO ARCH/FRANCHISE FOR FINAL LOCATION.				
4. LOCATE THERMOSTAT AT WITHIN 12 FEET OF PERIMETER WALL.								8. FURNISH UNIT WITH LOW AMBIENT CONTROL AND LOW AMBIENT LOCKOUT TO LOCKOUT COMPRESSOR BELOW 40°F.								

EXHAUST FAN SCHEDULES														
MARK	TYPE	MANUF.	MODEL #	AREA SERVED	MIN. CAPACITY		DRIVE	RPM	ELECTRICAL			SPHERICAL SONES	WEIGHT LBS	REMARKS
					C.F.M.	E.S.P.			WATTS	HP	VOLTAGE			
EF-1	CEILING	GREENHECK	SP-A70	GUEST ROOM	30	0.375	DIRECT	0,850	12	--	115/1/60	0.6	12	NOTES #1, 3, 4, 5, 8.
EF-2	CEILING	GREENHECK	SP-A390-VG	ICE MACHINE	70	0.5	DIRECT	1,299	26	--	115/1/60	1.5	24	NOTES #1, 3, 4, 5, 8.
EF-3	CEILING	GREENHECK	SP-A390-VG	MECH STORE	150	0.250	DIRECT	0,916	18	--	115/1/60	2.0	24	NOTES #3, 5, 8.
EF-4	INLINE	GREENHECK	CSP-A390-VG	STORE/ELEC	250	0.375	DIRECT	1,164	43.4	--	115/1/60	1.8	24	NOTES #3, 5, 8.
EF-5	CEILING	GREENHECK	SP-A390-VG	FITNESS ROOM	340	0.5	DIRECT	1,299	70	--	115/1/60	4.0	24	NOTES #1, 2, 3, 4.
EF-6	INLINE	GREENHECK	CSP-A710-VG	WATER HEATER RM.	180	0.375	DIRECT	1,110	49.8	--	115/1/60	0.6	36	NOTES #3, 5, 8.
EF-7	INLINE	GREENHECK	CSP-A390-VG	PUBLIC TOILET	180	0.5	DIRECT	1,000	37	--	115/1/60	1.5	24	NOTES #2, 3.
EF-8	INLINE	GREENHECK	CSP-A390-VG	POOL DECK	240	0.375	DIRECT	1,150	41	--	115/1/60	1.2	24	NOTES #3, 7, 8.
EF-9	INLINE	GREENHECK	CSP-A390-VG	POOL EQUIPMENT	150	0.250	DIRECT	0,941	19.7	--	115/1/60	1.1	24	NOTES #5, 7, 8.
EF-11	CEILING	GREENHECK	SP-A90	CHUTE, NET, STAFF	50	0.375	DIRECT	0,900	14	--	115/1/60	0.8	12	NOTES #1, 3, 4, 5, 8.
NOTES:														
1. PROVIDE FAN CEILING RADIATION DAMPER WHERE THE FAN INSTALL AT RATED CEILING. REFER TO ARCHITECTURAL DRAWING FOR EXACT LOCATION OF FIRE RATE CEILING					3. PROVIDE FAN WITH MANUFACTURERS BACKDRIFT DAMPER.					6. PROVIDE FAN WITH 14" MANUFACTURER ROOF CURB.				
2. INTERLOCK FAN WITH LIGHTING					4. PROVIDE FAN WITH OFF-WHITE ALUMINUM GRILLE.					7. PROVIDE HI-PRO POLYESTER COATING FOR ACID AND CHLORINE RESISTANCE.				
					5. PROVIDE FAN WITH SOLID STATE SPEED CONTROLLER.					8. FAN WILL RUN CONTINUOUSLY.				





**Holiday Inn Express**  
3350 S. LINCOLN AVE  
STEAMBOAT SPRINGS, CO 80487

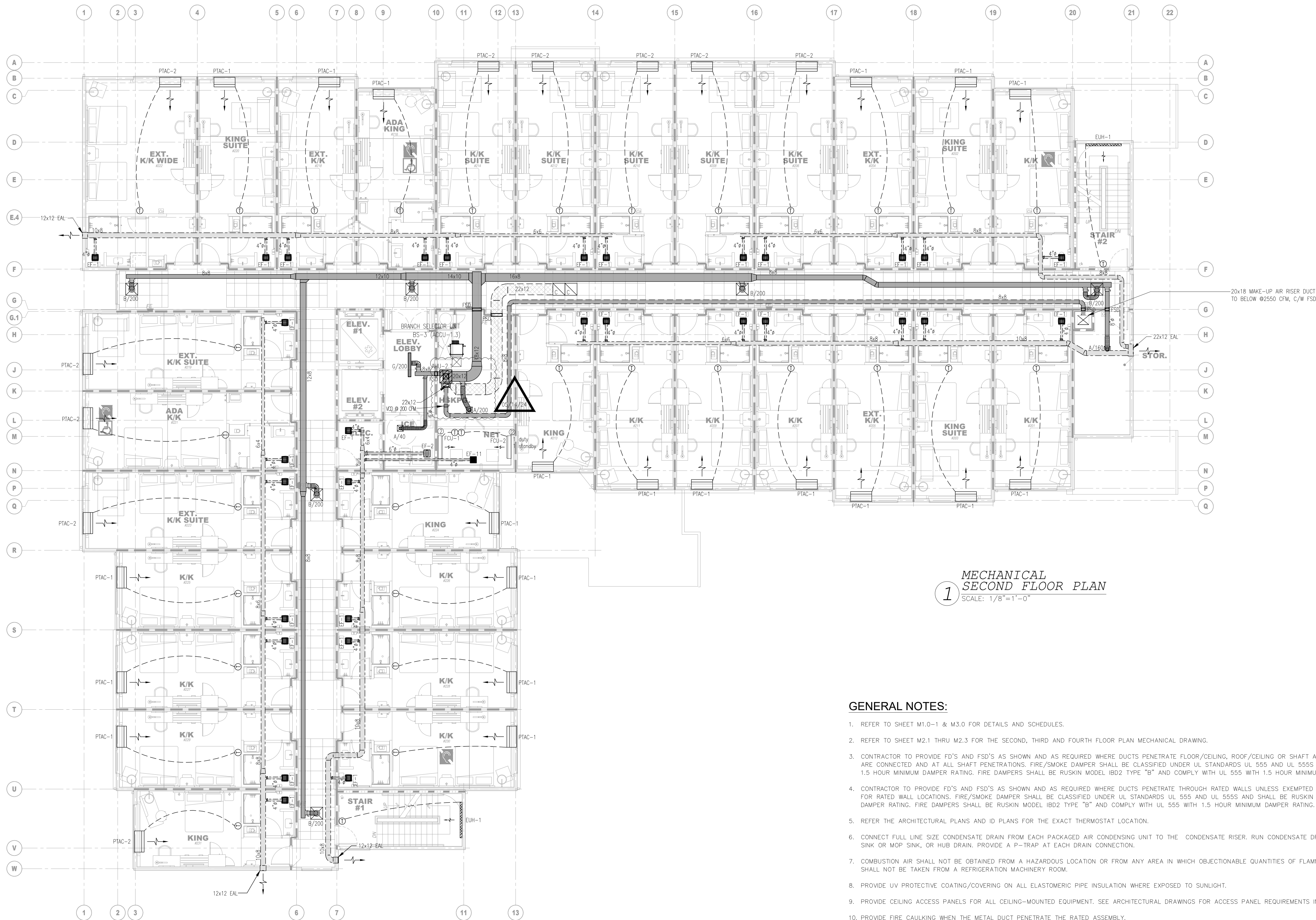
**BROAN**

### Under-Cabinet

- KEY NOTES:**
1. KITCHEN HOOD SHALL BE VENTLESS, REFER TO SHEET M2.0 FOR MANUFACTURER INSTRUCTION INSTALLATION
  2. PROVIDE FULL SIZE CONDENSATE PIPE TO THE NEAREST APPROVE SANITARY PLUMBING FIXTURE, FLOOR DRAIN, FLOOR SINK, HUB DRAIN OR STORM DRAIN SYSTEM, FOR AHU/FCU FIELD VERIFY AS REQUIRED. CONDENSATE PIPE SHALL BE INSULATED WITH 1" AF ARMAFLEX INSULATION (TYP)
  3. SMOKE DETECTOR SHALL BE CONNECTED TO THE ALARM PANEL & INTERLOCKED WITH AHU, FCU TO SHUT DOWN WHEN SMOKE IS DETECTED.
  4. DUCT HEATER, REFER TO VRY SCHEDULE FOR FURTHER DETAILS.

ASI #2 5/28/24





1  
MECHANICAL  
SECOND FLOOR PLAN  
SCALE: 1/8"=1'-0"

GENERAL NOTES:

- REFER TO SHEET M1.0-1 & M3.0 FOR DETAILS AND SCHEDULES.
- REFER TO SHEET M2.1 THRU M2.3 FOR THE SECOND, THIRD AND FOURTH FLOOR PLAN MECHANICAL DRAWING.
- CONTRACTOR TO PROVIDE FD'S AND FSD'S AS SHOWN AND AS REQUIRED WHERE DUCTS PENETRATE FLOOR/CEILING, ROOF/CEILING OR SHAFT ASSEMBLIES. FSD'S ARE REQUIRED WHEN MORE THAN 2-STORIES ARE CONNECTED AND AT ALL SHAFT PENETRATIONS. FIRE/SMOKE DAMPER SHALL BE CLASSIFIED UNDER UL STANDARDS UL 555 AND UL 555S AND SHALL BE RUSKIN MODEL FSD-37 OR EQUIVALENT WITH 1.5 HOUR MINIMUM DAMPER RATING. FIRE DAMPERS SHALL BE RUSKIN MODEL IBD2 TYPE "B" AND COMPLY WITH UL 555 WITH 1.5 HOUR MINIMUM DAMPER RATING.
- CONTRACTOR TO PROVIDE FD'S AND FSD'S AS SHOWN AND AS REQUIRED WHERE DUCTS PENETRATE THROUGH RATED WALLS UNLESS EXEMPTED PER GENERAL NOTES #16 & 17. SEE ARCHITECTURAL DRAWINGS FOR RATED WALL LOCATIONS. FIRE/SMOKE DAMPER SHALL BE CLASSIFIED UNDER UL STANDARDS UL 555 AND UL 555S AND SHALL BE RUSKIN MODEL FSD-37 OR EQUIVALENT WITH 1.5 HOUR MINIMUM DAMPER RATING. FIRE DAMPERS SHALL BE RUSKIN MODEL IBD2 TYPE "B" AND COMPLY WITH UL 555 WITH 1.5 HOUR MINIMUM DAMPER RATING.
- REFER THE ARCHITECTURAL PLANS AND ID PLANS FOR THE EXACT THERMOSTAT LOCATION.
- CONNECT FULL LINE SIZE CONDENSATE DRAIN FROM EACH PACKAGED AIR CONDENSING UNIT TO THE CONDENSATE RISER. RUN CONDENSATE DRAIN LINES FROM AIR HANDLING UNITS TO THE NEAREST UTILITY SINK OR MOP SINK, OR HUB DRAIN. PROVIDE A P-TRAP AT EACH DRAIN CONNECTION.
- COMBUSTION AIR SHALL NOT BE OBTAINED FROM A HAZARDOUS LOCATION OR FROM ANY AREA IN WHICH OBJECTIONABLE QUANTITIES OF FLAMMABLE VAPOR, LINT OR DUST ARE RELEASED. COMBUSTION AIR SHALL NOT BE TAKEN FROM A REFRIGERATION MACHINERY ROOM.
- PROVIDE UV PROTECTIVE COATING/COVERING ON ALL ELASTOMERIC PIPE INSULATION WHERE EXPOSED TO SUNLIGHT.
- PROVIDE CEILING ACCESS PANELS FOR ALL CEILING-MOUNTED EQUIPMENT. SEE ARCHITECTURAL DRAWINGS FOR ACCESS PANEL REQUIREMENTS IN PUBLIC AREAS.
- PROVIDE FIRE CAULKING WHEN THE METAL DUCT PENETRATE THE RATED ASSEMBLY.
- PROVIDE THE SECONDARY DRAIN PANS FOR ALL AHUs THAT ARE HUNG ABOVE THE CEILING.
- PROVIDE REFRIGERANT PIPES FROM/TO CORRESPONDING CONDENSING UNIT. REFER TO MANUFACTURER FOR INSTRUCTION INSULATION. PROVIDE 1-1/2" AF' ARMAFLEX INSULATION AS REQUIRED.
- CONTRACTOR TO PROVIDE CEILING RADIATION DAMPERS COMPLYING WITH UL 555C AT LOCATIONS WHERE DUCTWORK OR REGISTERS PENETRATE THE FLOOR/CEILING OR ROOF/CEILING ASSEMBLY.
- ALL SUPPLY AND EXHAUST DUCTWORK (26 GA MINIMUM) ON GUEST ROOM LEVELS SHALL BE HARD PIPED. NO FLEXIBLE DUCTWORK ALLOWED FOR FIRE DAMPER EXCEPTION IN IBC 717.5.2 EXCEPTION #3 (FIRE BARRIERS) AND IBC 717.5.4 EXCEPTION #4 (FIRE PARTITIONS).
- NO FIRE DAMPERS NEEDED AT FIRE PARTITION PENETRATIONS PER IBC 717.5.4 EXCEPTION #1 AT CORRIDOR WALLS AND EXCEPTION #4 AT NON-CORRIDOR WALLS.
- NO FIRE DAMPERS NEEDED AT FIRE BARRIER PENETRATION PER IBC 717.5.2 EXCEPTION #3
- NO CEILING RADIATION DAMPERS ARE NECESSARY AT THE GUESTROOM EXHAUST FANS DUE TO THE FAN BEING BELOW THE RATED ASSEMBLY.

05/14/24  
NOTE:  
• NEW BACKGROUND

MEP GREEN DESIGN & BUILD PLLC RETAINS. COPYRIGHT TO THIS DOCUMENT, THE IDEA DESIGN AND DETAILS, AS A PROFESSIONAL AND INTELLECTUAL INSTRUMENT OF SERVICE, AND IS NOT TO BE USED/COPIED IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE EXPRESSED WRITTEN CONSENT OF MEP GREEN DESIGN & BUILD PLLC.

MAY 14, 2024



**Holiday Inn Express**  
**3350 S. LINCOLN AVE**  
**STEAMBOAT SPRINGS, CO 80487**

This document (whether in hard copy or electronic file format) is the property of Design 2 Function, LLC and no part of this drawing shall not be used for any purpose other than for the construction of the referenced project. Any other use, reuse or modification of the prints or electronic files without our prior written consent is expressly prohibited and if done so, will be at the recipient's sole risk and without liability or legal exposure to Design 2 Function, LLC.  
Due to variable printing techniques, only printed dimensions and/or areas. Contractors shall verify all layout, dimensions and other related information prior to building or construction.  
D2F reserves the right to make changes without notice.

DRAWING ISSUE DATES:  
8/18/23 Permit Set

REVISION DATES:  
10/18/23 Staff/GM Toilets, Permit Revisions  
11/28/23 Mr. Warner Revisions  
02/15/24 Pool Removal, Guest Room Addition  
03/05/24 Updated plans  
05/14/24 Updated plans

PROJECT MANAGER:  
DV

DRAWN BY:  
PL

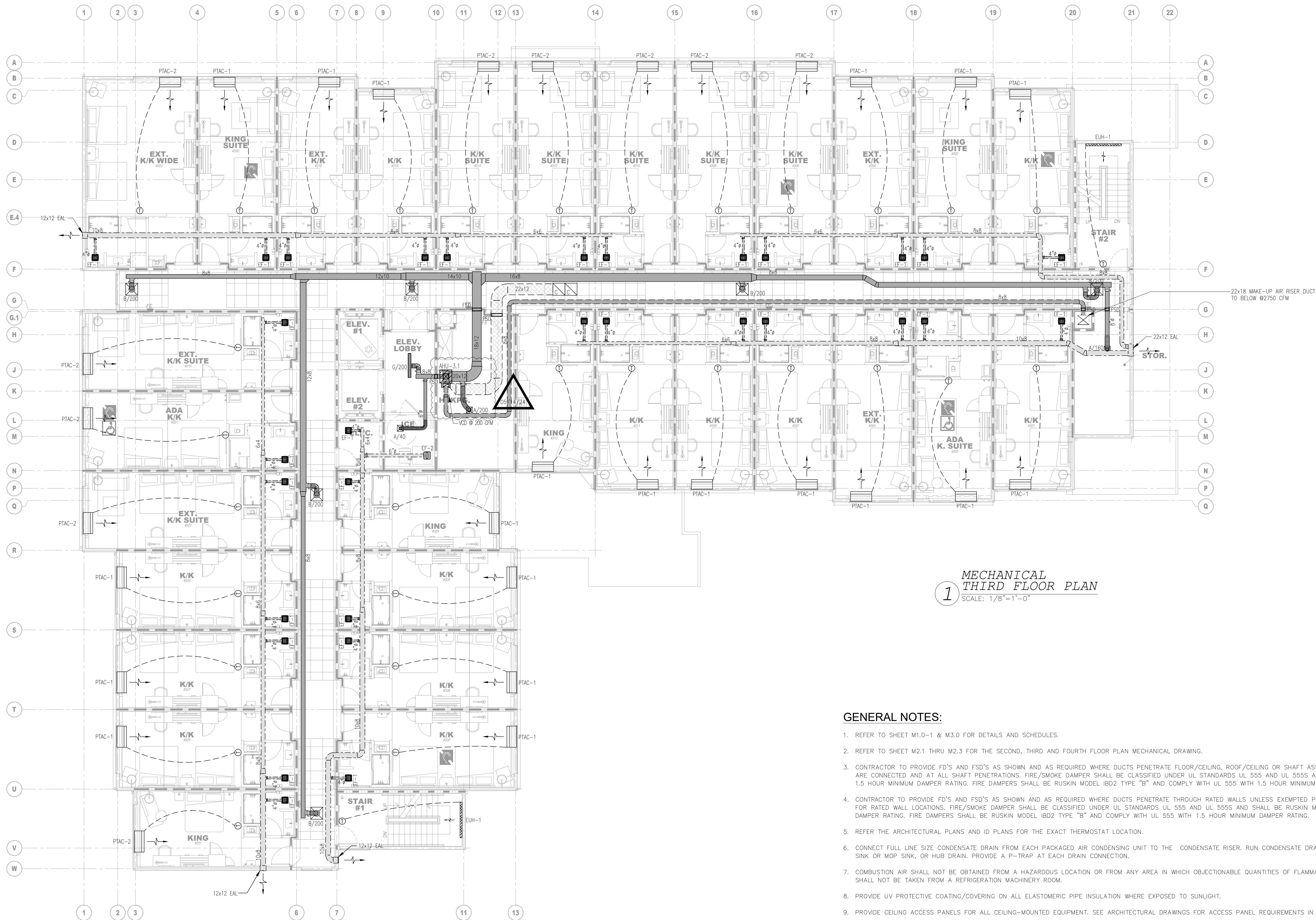
SHEET TITLE:  
**MECHANICAL  
SECOND  
FLOOR PLAN**

**M2.1**

SHEET: 84 OF 142

ASI #2 5/28/24





MECHANICAL  
THIRD FLOOR PLAN  
SCALE: 1/8"=1'-0"

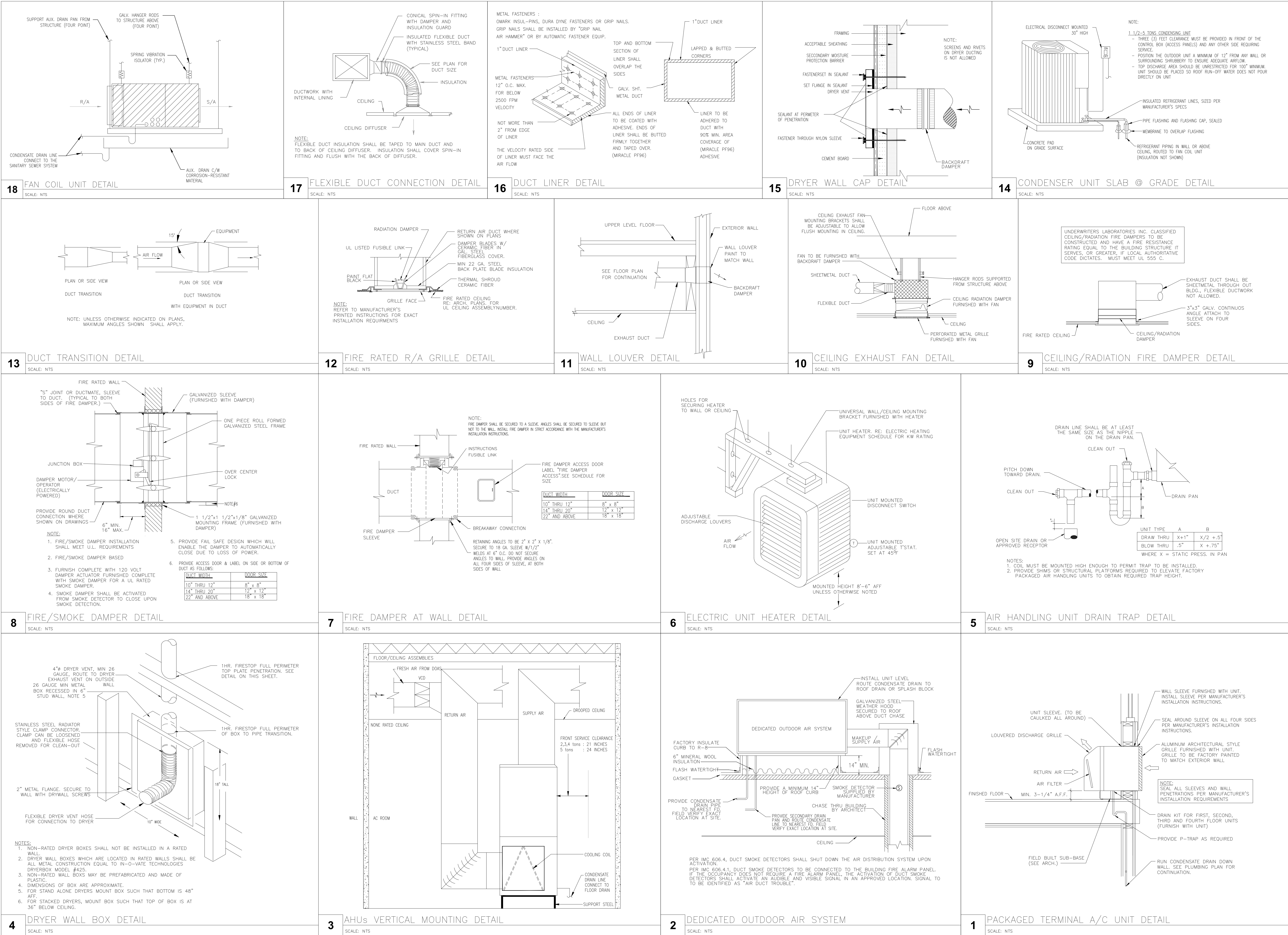
GENERAL NOTES:

- REFER TO SHEET M1.0-1 & M3.0 FOR DETAILS AND SCHEDULES.
- REFER TO SHEET M2.1 THRU M2.3 FOR THE SECOND, THIRD AND FOURTH FLOOR PLAN MECHANICAL DRAWING.
- CONTRACTOR TO PROVIDE FD'S AND FSD'S AS SHOWN AND AS REQUIRED WHERE DUCTS PENETRATE FLOOR/CEILING, ROOF/CEILING OR SHAFT ASSEMBLIES. FSD'S ARE REQUIRED WHEN MORE THAN 2-STORIES ARE CONNECTED AND AT ALL SHAFT PENETRATIONS. FIRE/SMOKE DAMPER SHALL BE CLASSIFIED UNDER UL STANDARDS UL 555 AND UL 555S AND SHALL BE RUSKIN MODEL FSD-37 OR EQUIVALENT WITH 1.5 HOUR MINIMUM DAMPER RATING. FIRE DAMPERS SHALL BE RUSKIN MODEL IB02 TYPE "B" AND COMPLY WITH UL 555 WITH 1.5 HOUR MINIMUM DAMPER RATING.
- CONTRACTOR TO PROVIDE FD'S AND FSD'S AS SHOWN AND AS REQUIRED WHERE DUCTS PENETRATE THROUGH RATED WALLS UNLESS EXEMPTED PER GENERAL NOTES #16 & 17. SEE ARCHITECTURAL DRAWINGS FOR RATED WALL LOCATIONS. FIRE/SMOKE DAMPER SHALL BE CLASSIFIED UNDER UL STANDARDS UL 555 AND UL 555S AND SHALL BE RUSKIN MODEL FSD-37 OR EQUIVALENT WITH 1.5 HOUR MINIMUM DAMPER RATING. FIRE DAMPERS SHALL BE RUSKIN MODEL IB02 TYPE "B" AND COMPLY WITH UL 555 WITH 1.5 HOUR MINIMUM DAMPER RATING.
- REFER THE ARCHITECTURAL PLANS AND ID PLANS FOR THE EXACT THERMOSTAT LOCATION.
- CONNECT FULL LINE SIZE CONDENSATE DRAIN FROM EACH PACKAGED AIR CONDENSING UNIT TO THE CONDENSATE RISER. RUN CONDENSATE DRAIN LINES FROM AIR HANDLING UNITS TO THE NEAREST UTILITY SINK OR MOP SINK, OR HUB DRAIN. PROVIDE A P-TRAP AT EACH DRAIN CONNECTION.
- COMBUSTION AIR SHALL NOT BE OBTAINED FROM A HAZARDOUS LOCATION OR FROM ANY AREA IN WHICH OBJECTIONABLE QUANTITIES OF FLAMMABLE VAPOR, LINT OR DUST ARE RELEASED. COMBUSTION AIR SHALL NOT BE TAKEN FROM A REFRIGERATION MACHINERY ROOM.
- PROVIDE UV PROTECTIVE COATING/COVERING ON ALL ELASTOMERIC PIPE INSULATION WHERE EXPOSED TO SUNLIGHT.
- PROVIDE CEILING ACCESS PANELS FOR ALL CEILING-MOUNTED EQUIPMENT. SEE ARCHITECTURAL DRAWINGS FOR ACCESS PANEL REQUIREMENTS IN PUBLIC AREAS.
- PROVIDE FIRE CAULKING WHEN THE METAL DUCT PENETRATE THE RATED ASSEMBLY.
- PROVIDE THE SECONDARY DRAIN PANS FOR ALL AHUs THAT ARE HUNG ABOVE THE CEILING.
- PROVIDE REFRIGERANT PIPES FROM/TO CORRESPONDING CONDENSING UNIT. REFER TO MANUFACTURER FOR INSTRUCTION INSULATION. PROVIDE 1-1/2" AF ARMAFLEX INSULATION AS REQUIRED.
- CONTRACTOR TO PROVIDE CEILING RADIATION DAMPERS COMPLYING WITH UL 555C AT LOCATIONS WHERE DUCTWORK OR REGISTERS PENETRATE THE FLOOR/CEILING OR ROOF/CEILING ASSEMBLY.
- ALL SUPPLY AND EXHAUST DUCTWORK (26 GA MINIMUM) ON GUEST ROOM LEVELS SHALL BE HARD PIPED. NO FLEXIBLE DUCTWORK ALLOWED FOR FIRE DAMPER EXCEPTION IN IBC 717.5.2 EXCEPTION #3 (FIRE BARRIERS) AND IBC 717.5.4 EXCEPTION #4 (FIRE PARTITIONS).
- NO FIRE DAMPERS NEEDED AT FIRE PARTITION PENETRATIONS PER IBC 717.5.4 EXCEPTION #1 AT CORRIDOR WALLS AND EXCEPTION #4 AT NON-CORRIDOR WALLS.
- NO FIRE DAMPERS NEEDED AT FIRE BARRIER PENETRATION PER IBC 717.5.2 EXCEPTION #3
- NO CEILING RADIATION DAMPERS ARE NECESSARY AT THE GUESTROOM EXHAUST FANS DUE TO THE FAN BEING BELOW THE RATED ASSEMBLY.


05/14/24  
NOTE:  
• NEW BACKGROUND

MEP GREEN DESIGN & BUILD, PLLC RETAINS COPYRIGHT TO THIS DOCUMENT. THE IDEA DESIGN AND DETAILS, AS A PROFESSIONAL AND INTELLECTUAL INSTRUMENT OF SERVICE, AND IS NOT TO BE USED, COPIED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE EXPRESSED WRITTEN CONSENT OF MEP GREEN DESIGN & BUILD, PLLC.






REVIEWED  
FOR  
CODE  
COMPLIANCE  
01/12/2024




**DESIGN 2 FUNCTION, LLC**  
P.O. BOX 93366  
ALBUQUERQUE  
NEW MEXICO 87199-3366  
info@design2functionllc.com  
505-823-6481  
© 2023 Design 2 Function, LLC



FAST AND ACCURATE

AUG. 18, 2023



51953  
EXHAUST FAN  
REVIEWED

# Holiday Inn Express

3400 S. LINCOLN AVE  
STEAMBOAT SPRINGS, CO 80487

This document (whether in hard copy or electronic form) is the property of Design 2 Function, LLC and is part of our intellectual property. It is intended for the use of the customer of the project and is not to be used for any other purpose. Any use, reproduction, modification of the project or electronic files without our prior written consent is expressly prohibited and if it does so, we will at the recipient's sole risk and without liability or legal exposure to Design 2 Function, LLC.

Due to weather or printing techniques, only printed dimensions shall be used. Contractors shall verify all layout, dimensions and other related information prior to bidding or construction.

MEP Green Design & Build, LLC retains copyright to this document. The idea, design and details, as a professional and intellectual instrument of service, and is not to be used/copied in whole or in part, for any other project without the expressed written consent of MEP Green Design & Build, LLC.

DRAWING ISSUE DATES:  
6/19/23 PERMIT SET

REVISION DATES:

PROJECT MANAGER:  
DV

DRAWN BY:  
FL

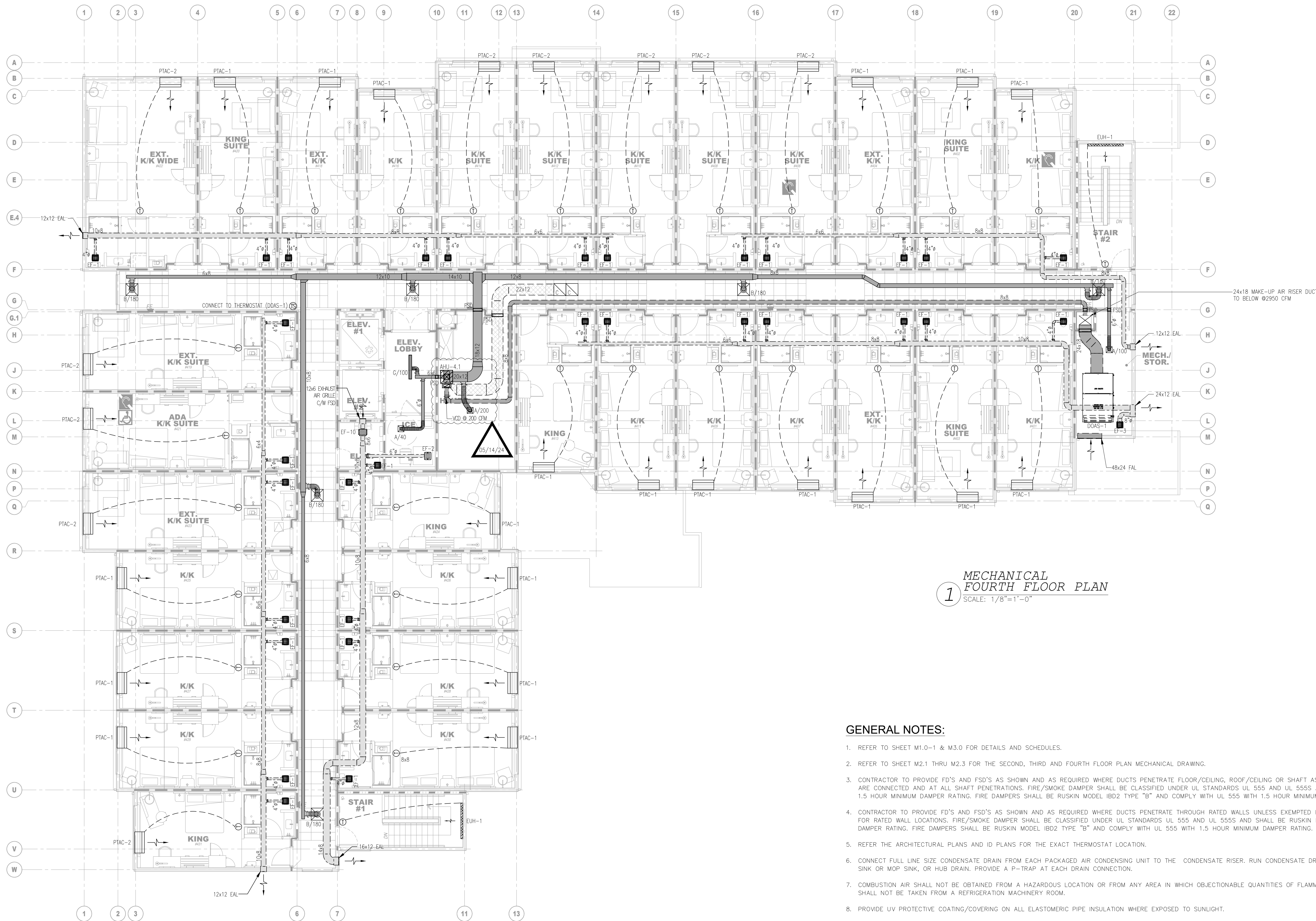
SHEET TITLE:  
MECHANICAL  
INSTALLATION  
DETAILS

**M3.0**

SHEET: 87 OF 140



**Holiday Inn Express**  
3350 S. LINCOLN AVE  
STEAMBOAT SPRINGS, CO 80487



**MECHANICAL  
FOURTH FLOOR PLAN**  
SCALE: 1/8"=1'-0"

**GENERAL NOTES:**

- REFER TO SHEET M1.0-1 & M3.0 FOR DETAILS AND SCHEDULES.
- REFER TO SHEET M2.1 THRU M2.3 FOR THE SECOND, THIRD AND FOURTH FLOOR PLAN MECHANICAL DRAWING.
- CONTRACTOR TO PROVIDE FD'S AND FSD'S AS SHOWN AND AS REQUIRED WHERE DUCTS PENETRATE FLOOR/CEILING, ROOF/CEILING OR SHAFT ASSEMBLIES. FSD'S ARE REQUIRED WHEN MORE THAN 2-STORIES ARE CONNECTED AND AT ALL SHAFT PENETRATIONS. FIRE/SMOKE DAMPER SHALL BE CLASSIFIED UNDER UL STANDARDS UL 555 AND UL 555S AND SHALL BE RUSKIN MODEL FSD-37 OR EQUIVALENT WITH 1.5 HOUR MINIMUM DAMPER RATING. FIRE DAMPERS SHALL BE RUSKIN MODEL IB02 TYPE "B" AND COMPLY WITH UL 555 WITH 1.5 HOUR MINIMUM DAMPER RATING.
- CONTRACTOR TO PROVIDE FD'S AND FSD'S AS SHOWN AND AS REQUIRED WHERE DUCTS PENETRATE THROUGH RATED WALLS UNLESS EXEMPTED PER GENERAL NOTES #16 & 17. SEE ARCHITECTURAL DRAWINGS FOR RATED WALL LOCATIONS. FIRE/SMOKE DAMPER SHALL BE CLASSIFIED UNDER UL STANDARDS UL 555 AND UL 555S AND SHALL BE RUSKIN MODEL FSD-37 OR EQUIVALENT WITH 1.5 HOUR MINIMUM DAMPER RATING. FIRE DAMPERS SHALL BE RUSKIN MODEL IB02 TYPE "B" AND COMPLY WITH UL 555 WITH 1.5 HOUR MINIMUM DAMPER RATING.
- REFER THE ARCHITECTURAL PLANS AND ID PLANS FOR THE EXACT THERMOSTAT LOCATION.
- CONNECT FULL LINE SIZE CONDENSATE DRAIN FROM EACH PACKAGED AIR CONDENSING UNIT TO THE CONDENSATE RISER. RUN CONDENSATE DRAIN LINES FROM AIR HANDLING UNITS TO THE NEAREST UTILITY SINK OR MOP SINK, OR HUB DRAIN. PROVIDE A P-TRAP AT EACH DRAIN CONNECTION.
- COMBUSTION AIR SHALL NOT BE OBTAINED FROM A HAZARDOUS LOCATION OR FROM ANY AREA IN WHICH OBJECTIONABLE QUANTITIES OF FLAMMABLE VAPOR, LINT OR DUST ARE RELEASED. COMBUSTION AIR SHALL NOT BE TAKEN FROM A REFRIGERATION MACHINERY ROOM.
- PROVIDE UV PROTECTIVE COATING/COVERING ON ALL ELASTOMERIC PIPE INSULATION WHERE EXPOSED TO SUNLIGHT.
- PROVIDE CEILING ACCESS PANELS FOR ALL CEILING-MOUNTED EQUIPMENT. SEE ARCHITECTURAL DRAWINGS FOR ACCESS PANEL REQUIREMENTS IN PUBLIC AREAS.
- PROVIDE FIRE CAULKING WHEN THE METAL DUCT PENETRATE THE RATED ASSEMBLY.
- PROVIDE THE SECONDARY DRAIN PANS FOR ALL AHU'S THAT ARE HUNG ABOVE THE CEILING.
- PROVIDE REFRIGERANT PIPES FROM/TO CORRESPONDING CONDENSING UNIT. REFER TO MANUFACTURER FOR INSTRUCTION INSULATION. PROVIDE 1-1/2" AF ARMAFLEX INSULATION AS REQUIRED.
- CONTRACTOR TO PROVIDE CEILING RADIATION DAMPERS COMPLYING WITH UL 555C AT LOCATIONS WHERE DUCTWORK OR REGISTERS PENETRATE THE FLOOR/CEILING OR ROOF/CEILING ASSEMBLY.
- ALL SUPPLY AND EXHAUST DUCTWORK (26 GA MINIMUM) ON GUEST ROOM LEVELS SHALL BE HARD PIPED. NO FLEXIBLE DUCTWORK ALLOWED FOR FIRE DAMPER EXCEPTION IN IBC 717.5.2 EXCEPTION #3 (FIRE BARRIERS) AND IBC 717.5.4 EXCEPTION #4 (FIRE PARTITIONS).
- NO FIRE DAMPERS NEEDED AT FIRE PARTITION PENETRATIONS PER IBC 717.5.4 EXCEPTION #1 AT CORRIDOR WALLS AND EXCEPTION #4 AT NON-CORRIDOR WALLS.
- NO FIRE DAMPERS NEEDED AT FIRE BARRIER PENETRATION PER IBC 717.5.2 EXCEPTION #3
- NO CEILING RADIATION DAMPERS ARE NECESSARY AT THE GUESTROOM EXHAUST FANS DUE TO THE FAN BEING BELOW THE RATED ASSEMBLY.

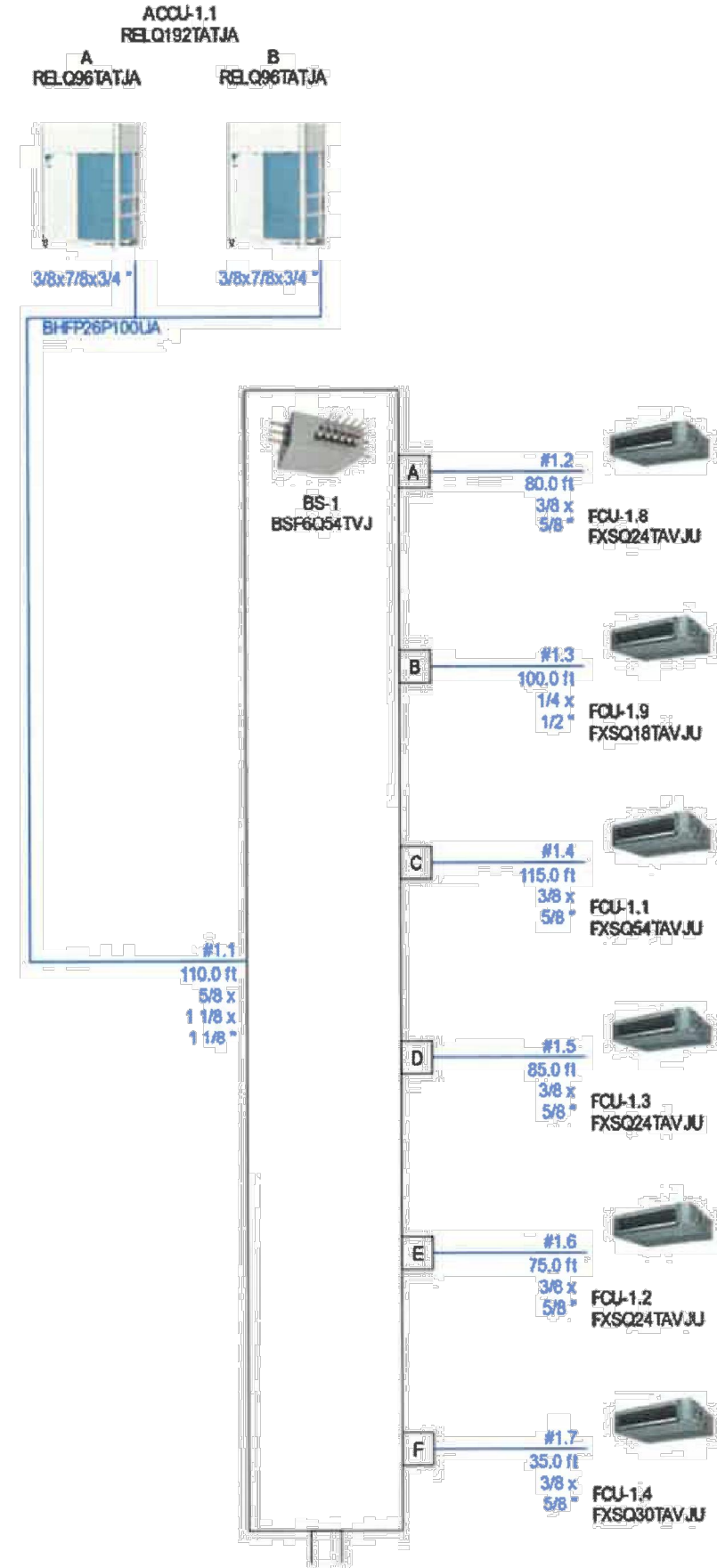
05/14/24  
NOTE:  
• NEW BACKGROUND





Piping diagrams

Piping ACCU-1.1

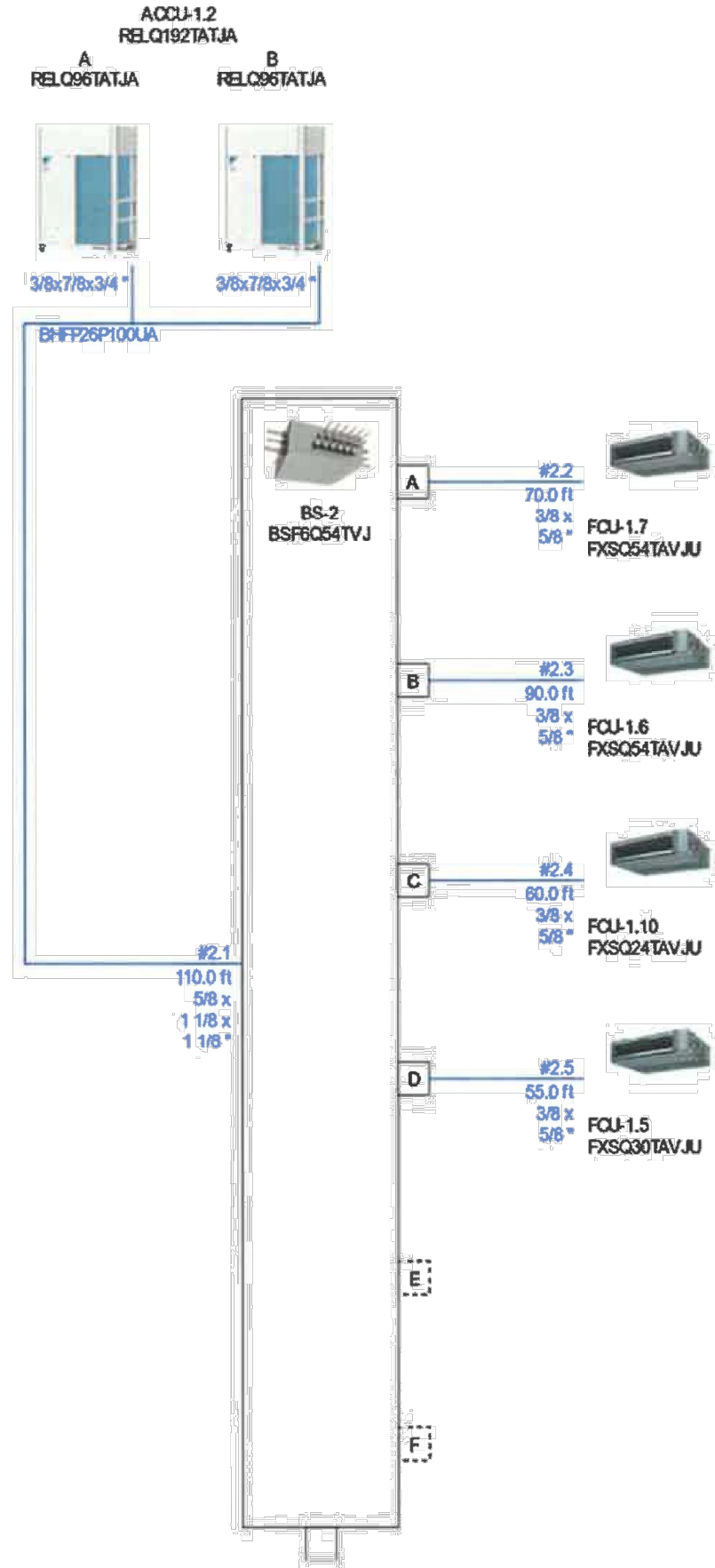


The VVM Selection application is property of Daikin Europe N.V. Daikin Europe N.V. cannot be held liable for any inaccuracy, reliability of the outcome of the VVM Selection application.

15



Piping ACCU-1.2

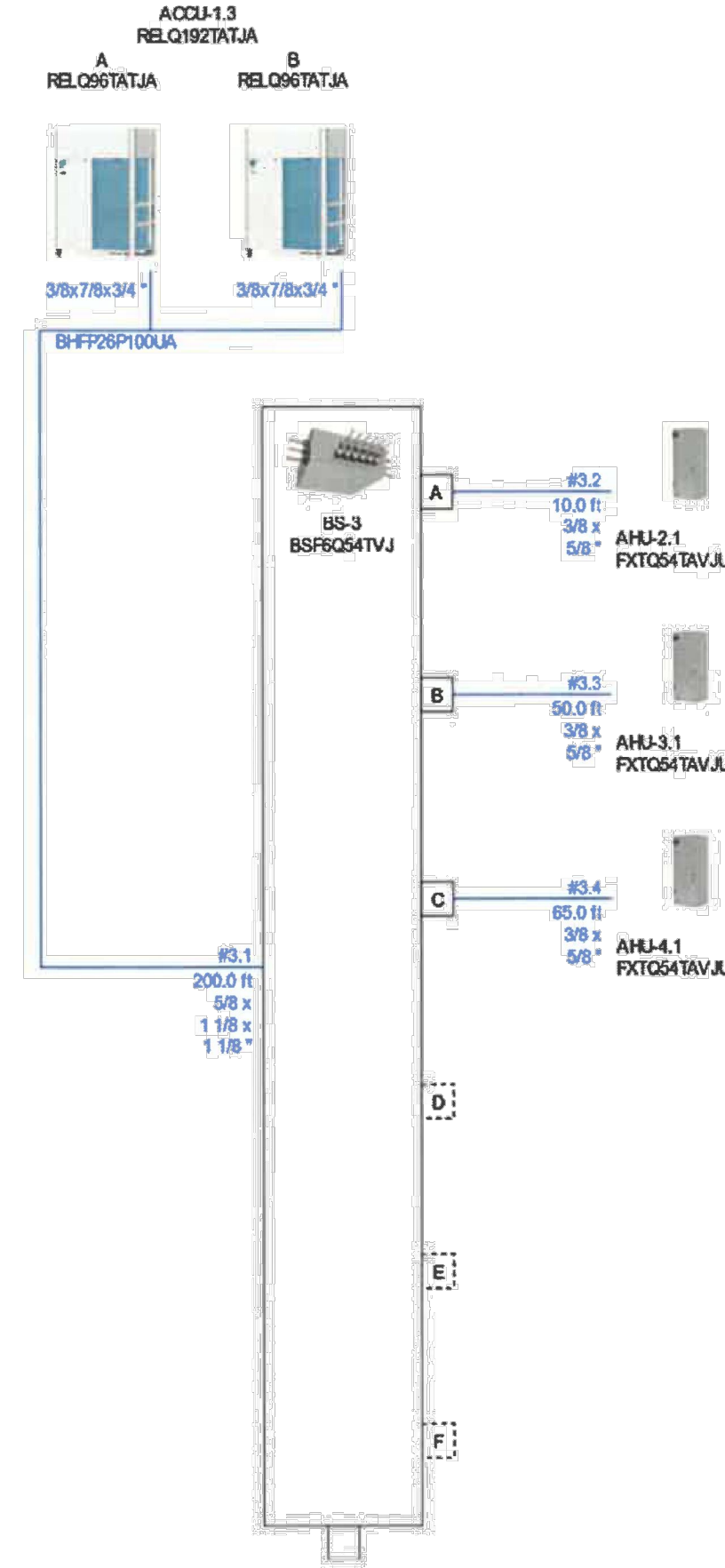


The VVM Selection application is property of Daikin Europe N.V. Daikin Europe N.V. cannot be held liable for any inaccuracy, reliability of the outcome of the VVM Selection application.

16



Piping ACCU-1.3



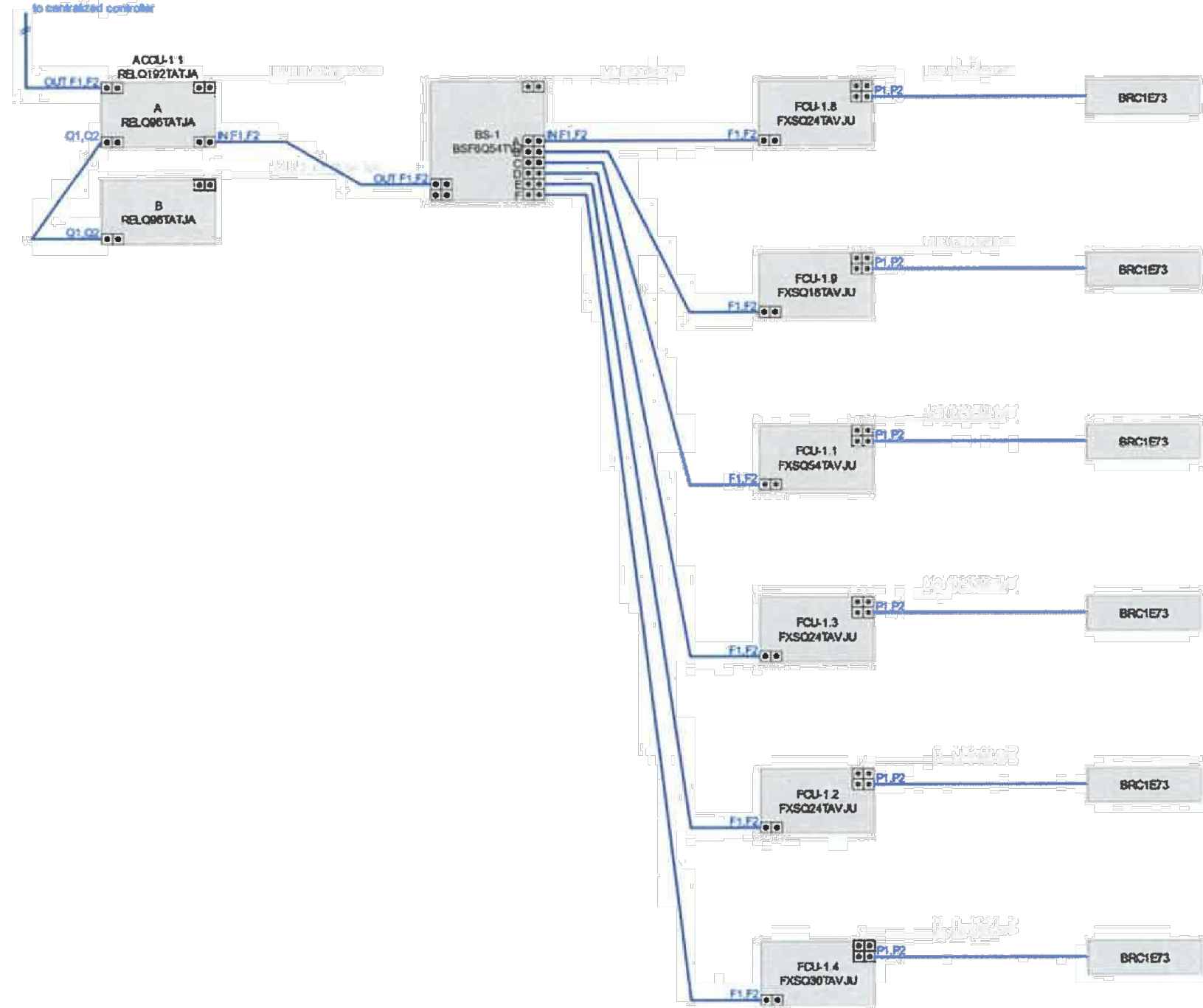
The VVM Selection application is property of Daikin Europe N.V. Daikin Europe N.V. cannot be held liable for any inaccuracy, reliability of the outcome of the VVM Selection application.

17



Wiring diagrams

Wiring ACCU-1.1



Remarks

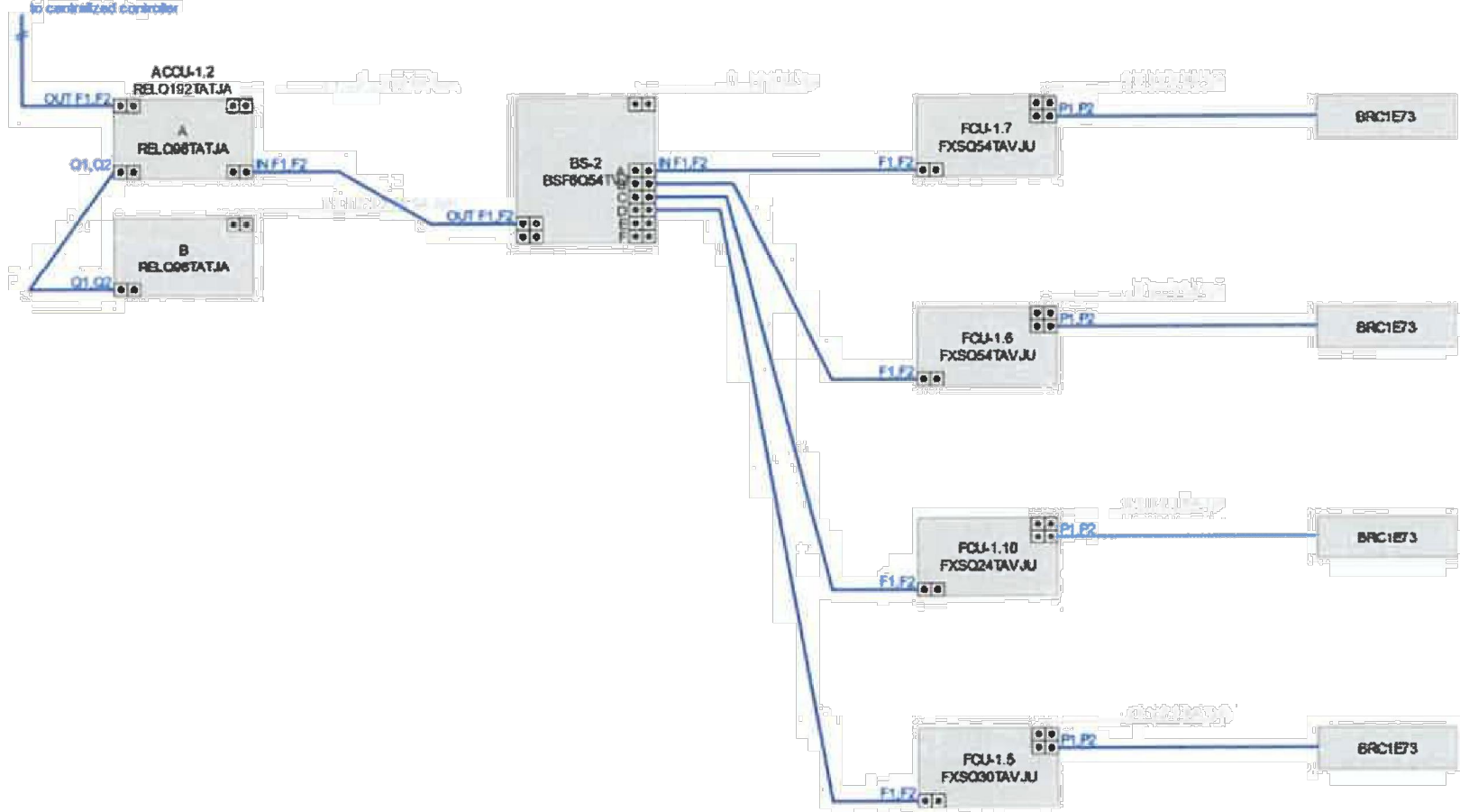
- P1P2 = AWG 18-2 is required - however always refer to local code for further information.  
F1F2 IN/OUT = AWG 18-2 is required - however always refer to local code for further information
- Note:

The VVM Selection application is property of Daikin Europe N.V. Daikin Europe N.V. cannot be held liable for any inaccuracy, reliability of the outcome of the VVM Selection application.

18



Wiring ACCU-1.2



Remarks

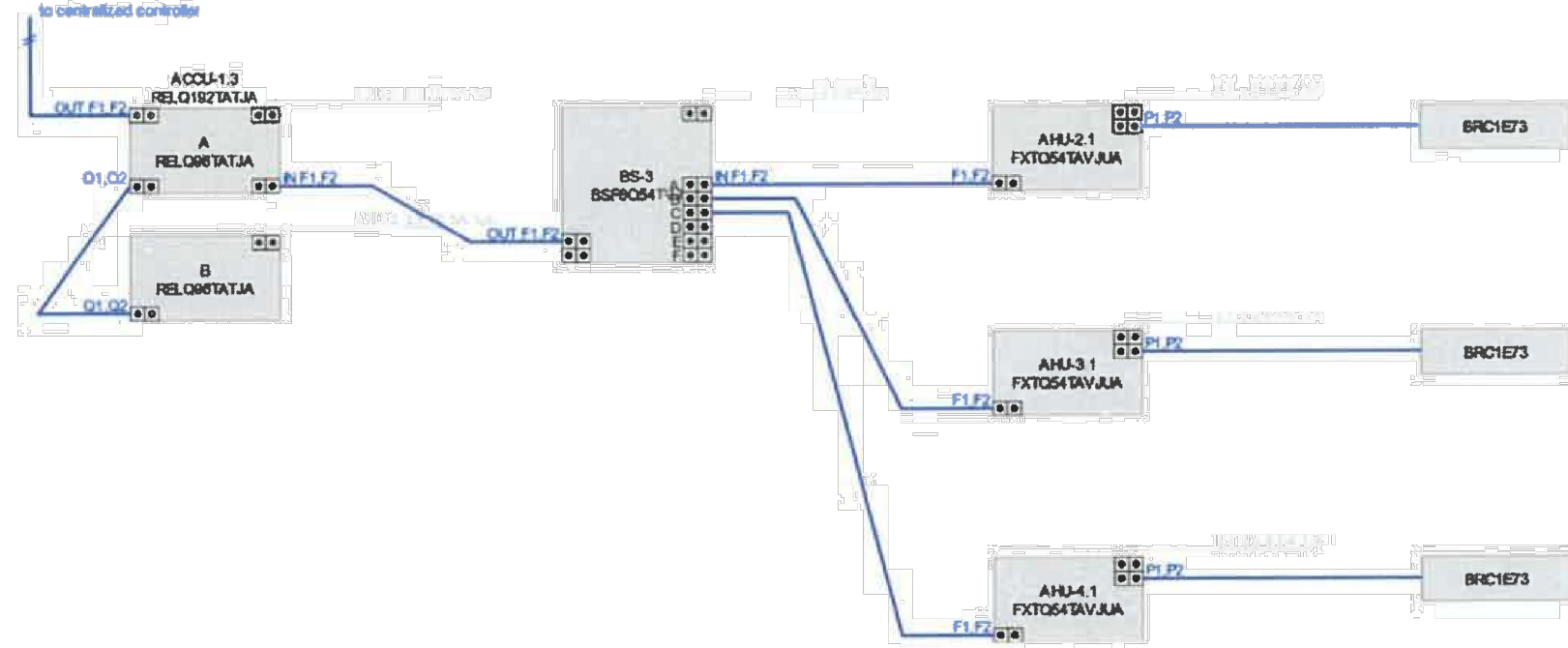
- P1P2 = AWG 18-2 is required - however always refer to local code for further information.  
F1F2 IN/OUT = AWG 18-2 is required - however always refer to local code for further information
- Note:

The VVM Selection application is property of Daikin Europe N.V. Daikin Europe N.V. cannot be held liable for any inaccuracy, reliability of the outcome of the VVM Selection application.

19



Wiring ACCU-1.3



Remarks

- P1P2 = AWG 18-2 is required - however always refer to local code for further information.  
F1F2 IN/OUT = AWG 18-2 is required - however always refer to local code for further information
- Note:

The VVM Selection application is property of Daikin Europe N.V. Daikin Europe N.V. cannot be held liable for any inaccuracy, reliability of the outcome of the VVM Selection application.

20

FEB. 15, 2024



**Holiday Inn Express**  
3350 S. LINCOLN AVE  
STEAMBOAT SPRINGS, CO 80487

This document (whether in hard copy or electronic file format) is the property of Design 2 Function, LLC and is part of our confidential information. It is to be used only for the construction of the referenced project. Any other use, reuse or modification of the prints or electronic files without our prior written consent is expressly prohibited and if it does so, will be at the recipient's sole risk and without liability or legal exposure to Design 2 Function, LLC.

Due to variable printing techniques, only printed dimensions and/or notes. Contractors must verify all locations, dimensions and other related information prior to building or construction.

NOT to be used for construction unless noted otherwise.

DRAWING ISSUE DATES:  
8/18/23 Permit Set

REVISION DATES:  
10/18/23 Staff/GM Toilets, Permit Revisions  
11/28/23 ME, Warner Revisions  
02/15/24 Pool Removal, Guest Room Addition

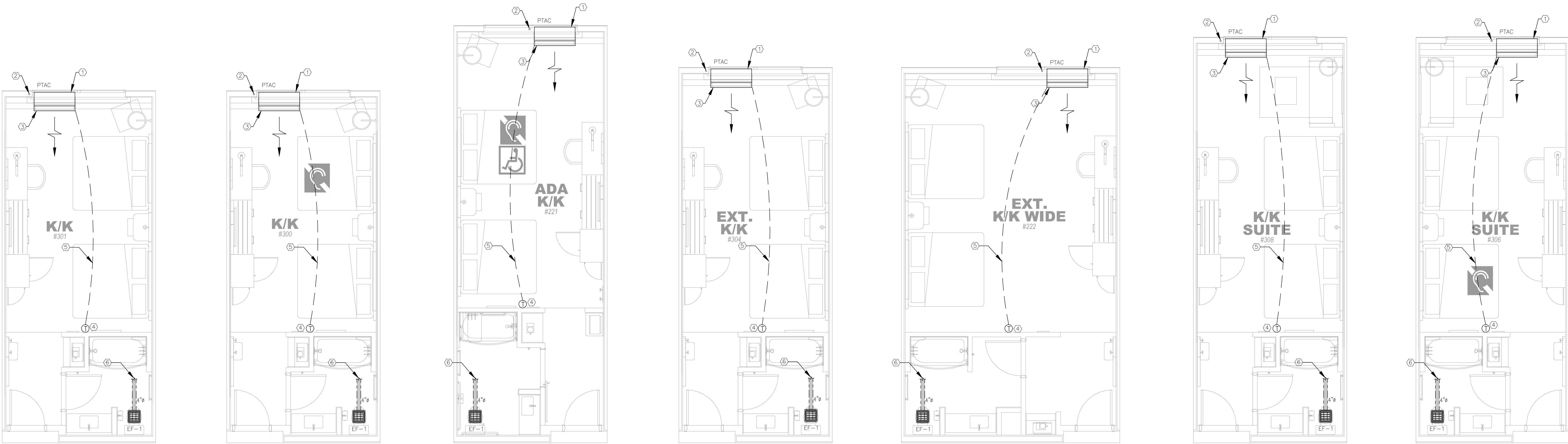
PROJECT MANAGER:  
DV  
DRAWN BY:  
PL

SHEET TITLE:  
MECHANICAL  
GAS PIPING  
AND WIRING  
SCHEMATICS

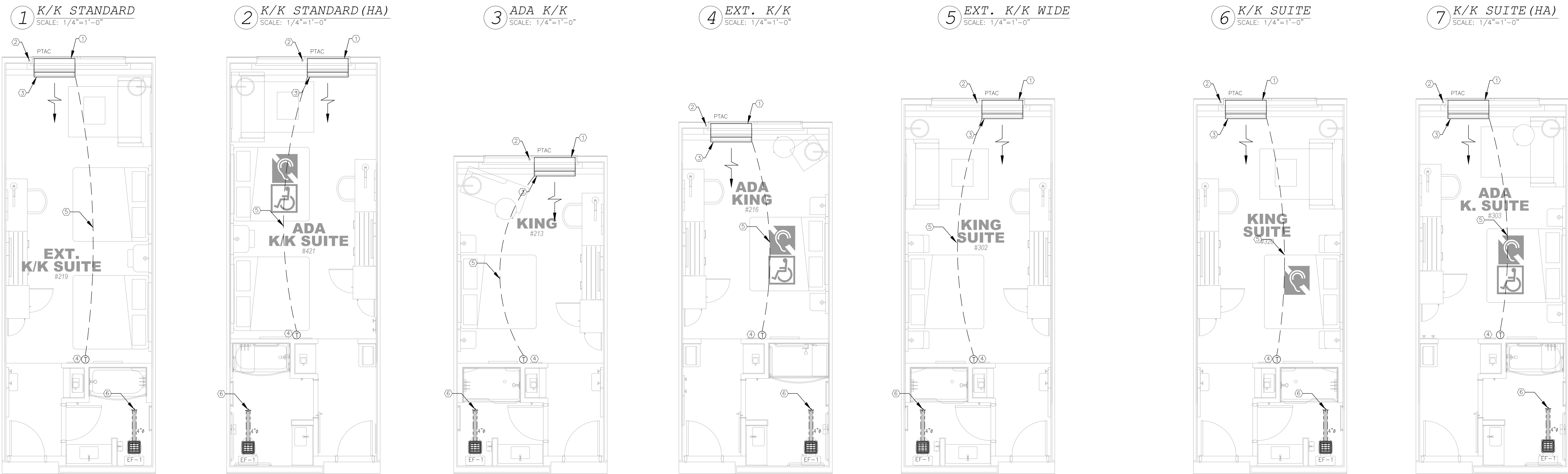
**M3.1**

SHEET: 88 OF 142





REVIEWED  
FOR  
CODE  
COMPLIANCE  
01/12/2024



- NOTES.
1. ARCHITECTURAL WALL GRILLE ARE PART OF THE WINDOW UNIT. PROVIDE BLANK-OFF PLATES AROUND PTAC SLEEVE AS REQUIRED (TYPICAL FOR ALL PTAC UNITS).
  2. SEE PLUMBING DRAWINGS FOR CONDENSATE DRAIN PIPING (TYPICAL FOR ALL PTAC UNITS).
  3. PACKAGED TERMINAL A/C UNIT (PTAC). SEE DETAIL ON M3.0 FOR INSTALLATION DETAIL.
  4. REFER THE ARCHITECTURAL PLANS AND ID PLANS FOR THE EXACT THERMOSTAT LOCATION. PROVIDE TELKONET'S ECOINSIGHT+ THERMOSTAT (CONNECTED ROOM'S REQUIREMENT)
  5. THERMOSTAT CONTROL CONDUIT AND CONTROL WIRING.
  6. METAL EXHAUST DUCT ABOVE CEILING. SEE MECHANICAL FLOOR PLAN FOR CONTINUATION

9/19/23  
NOTE:

- NEW BACKGROUND

MEP GREEN DESIGN & BUILD PLLC RETAINS. COPYRIGHT TO THIS DOCUMENT, THE IDEA DESIGN AND DETAILS, AS A PROFESSIONAL AND INTELLECTUAL INSTRUMENT OF SERVICE, AND IS NOT TO BE USED/COPIED IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE EXPRESSED WRITTEN CONSENT OF MEP GREEN DESIGN & BUILD PLLC.

**Holiday Inn Express**  
3400 S. LINCOLN AVE  
STEAMBOAT SPRINGS, CO 80487

This document (whether in print copy or electronic file format) is the property of Design 2 Function, LLC and is part of our intellectual property. No information contained in this drawing shall not be used for any purpose other than for the construction of the referenced project. Any other use, reuse or modification of the prints or electronic files without our prior written consent is expressly prohibited and if done so, will be at the recipient's sole risk and without liability or legal exposure to Design 2 Function, LLC.

Due to variable printing techniques, only printed dimensions shall be used. Contractors shall verify all layout, dimensions and other related information prior to building or construction.

MEP Green Design & Build, PLLC reserves the right to make changes without notice.

DRAWING ISSUE DATES:  
9/19/23 PERMIT SET

REVISION DATES:  
10/19/23 Staff/IGM Toilets, Permit Revisions

PROJECT MANAGER:  
DV  
DRAWN BY:  
PL  
SHEET TITLE:  
**MECHANICAL  
TYPICAL  
GUESTROOM PLAN**

**M4.0**

SHEET: 88 OF 140



**Holiday Inn Express**  
3350 S. LINCOLN AVE  
STEAMBOAT SPRINGS, CO 80487

This document (whether in print copy or electronic file format) is the property of Design 2 Function, LLC and is part of our intellectual property. It is to be used only for the construction of the relevant project. Any other use, reuse or modification of the print or electronic file without our prior written consent is expressly prohibited and, if done so, will be at the recipient's sole risk and without liability or legal exposure to Design 2 Function, LLC.

Due to variable printing techniques, only printed dimensions and/or callouts shall prevail over all digital dimensions and/or callouts. Contractors shall verify all layout, dimensions and other related information prior to bidding or construction.

MEP Green Design & Build, LLC reserves the right to make changes without notice.

DRAWING ISSUE DATES:  
8/16/23 Permit Set

REVISION DATES:  
10/19/23 Staff/GM Toilets, Permit Revisions  
11/28/23 Mt. Werner Revisions  
02/15/24 Pool Removal, Guest Room Addition  
05/14/24 Updated plans

PROJECT MANAGER:  
DV  
DRAWN BY:  
PL  
SHEET TITLE:

**MECHANICAL  
TYPICAL  
STAFFROOM PLAN**

**M4.1**

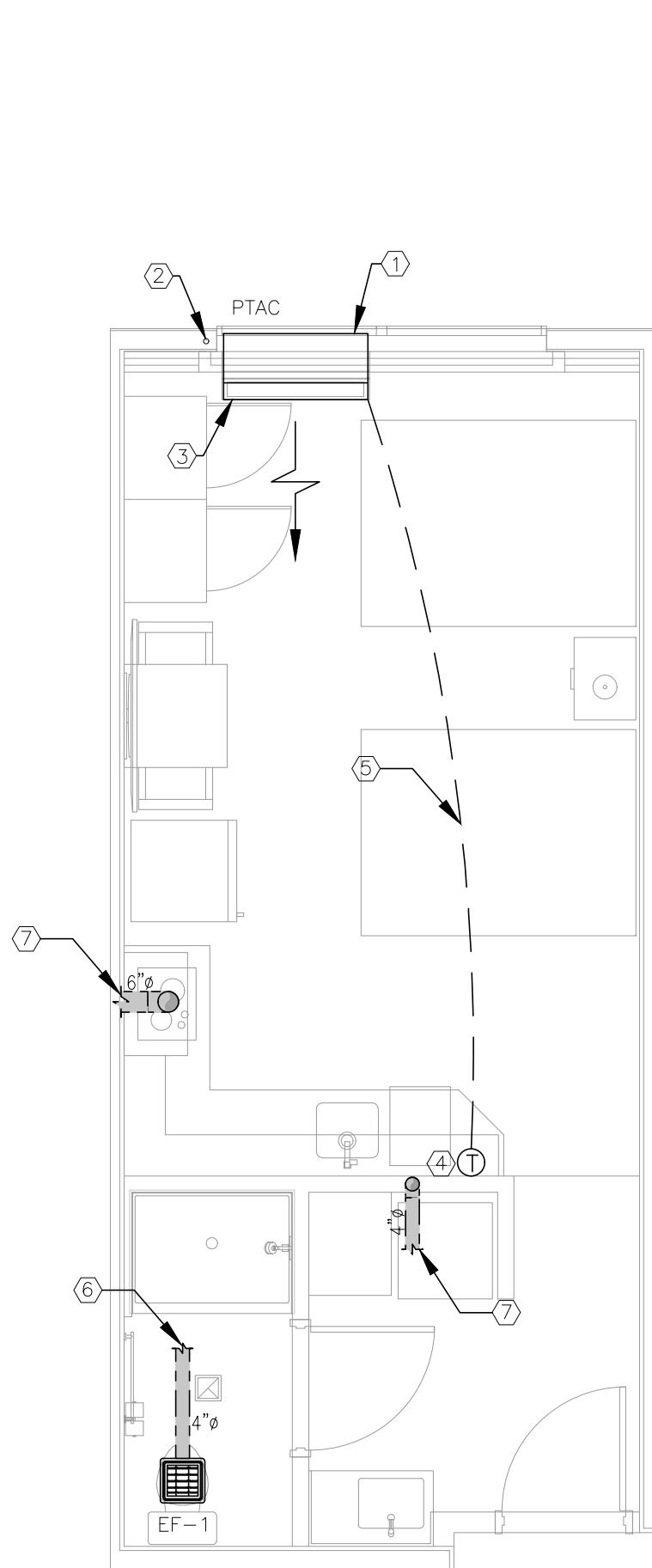
SHEET: 90 OF 142

ASI #2 5/28/24

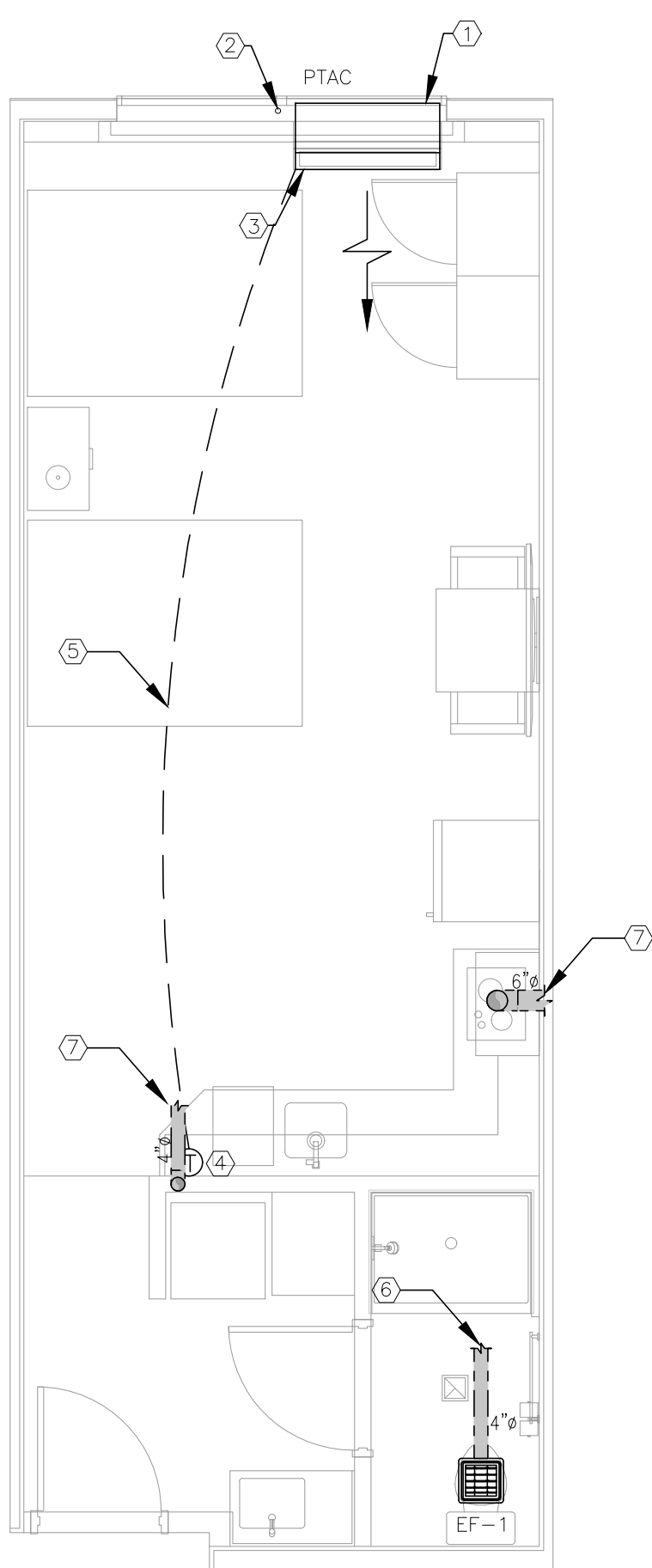
05/14/24  
NOTE:

- NEW BACKGROUND

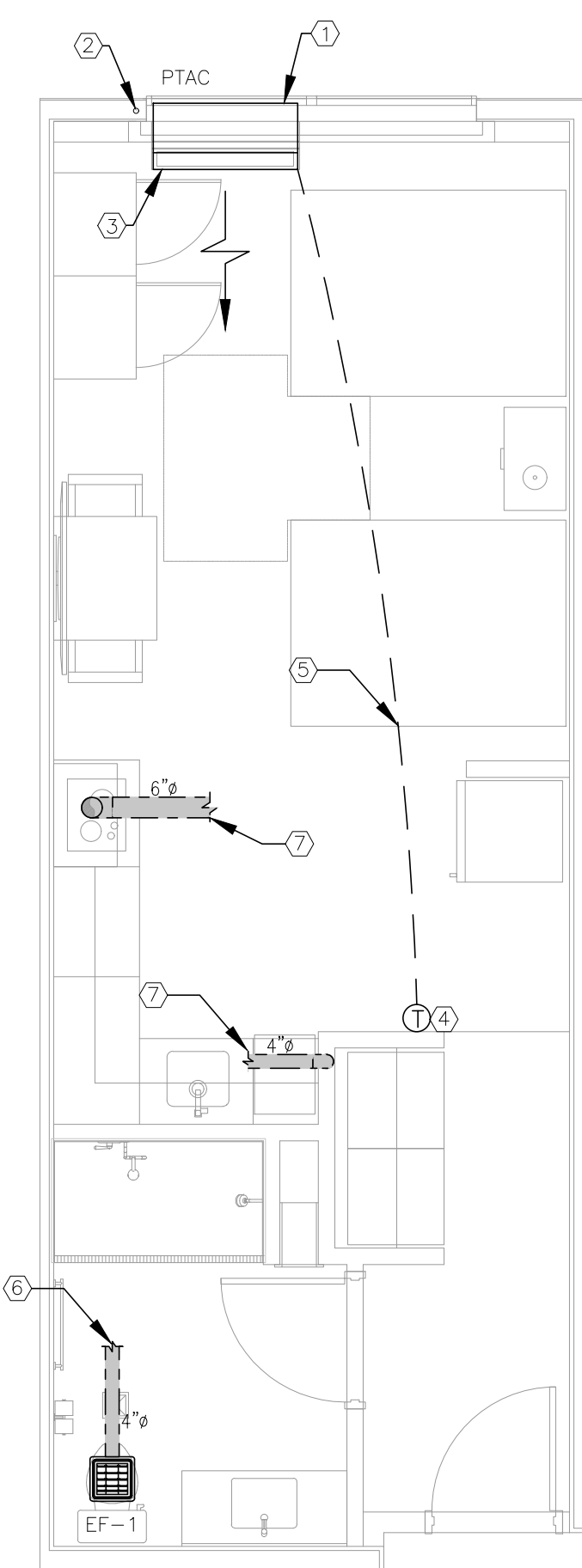
MEP GREEN DESIGN & BUILD, PLLC RETAINS COPYRIGHT TO THIS DOCUMENT. THE IDEA DESIGN AND DETAILS, AS A PROFESSIONAL AND INTELLECTUAL INSTRUMENT OF SERVICE, AND IS NOT TO BE USED/COPIED IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE EXPRESSED WRITTEN CONSENT OF MEP GREEN DESIGN & BUILD, PLLC.



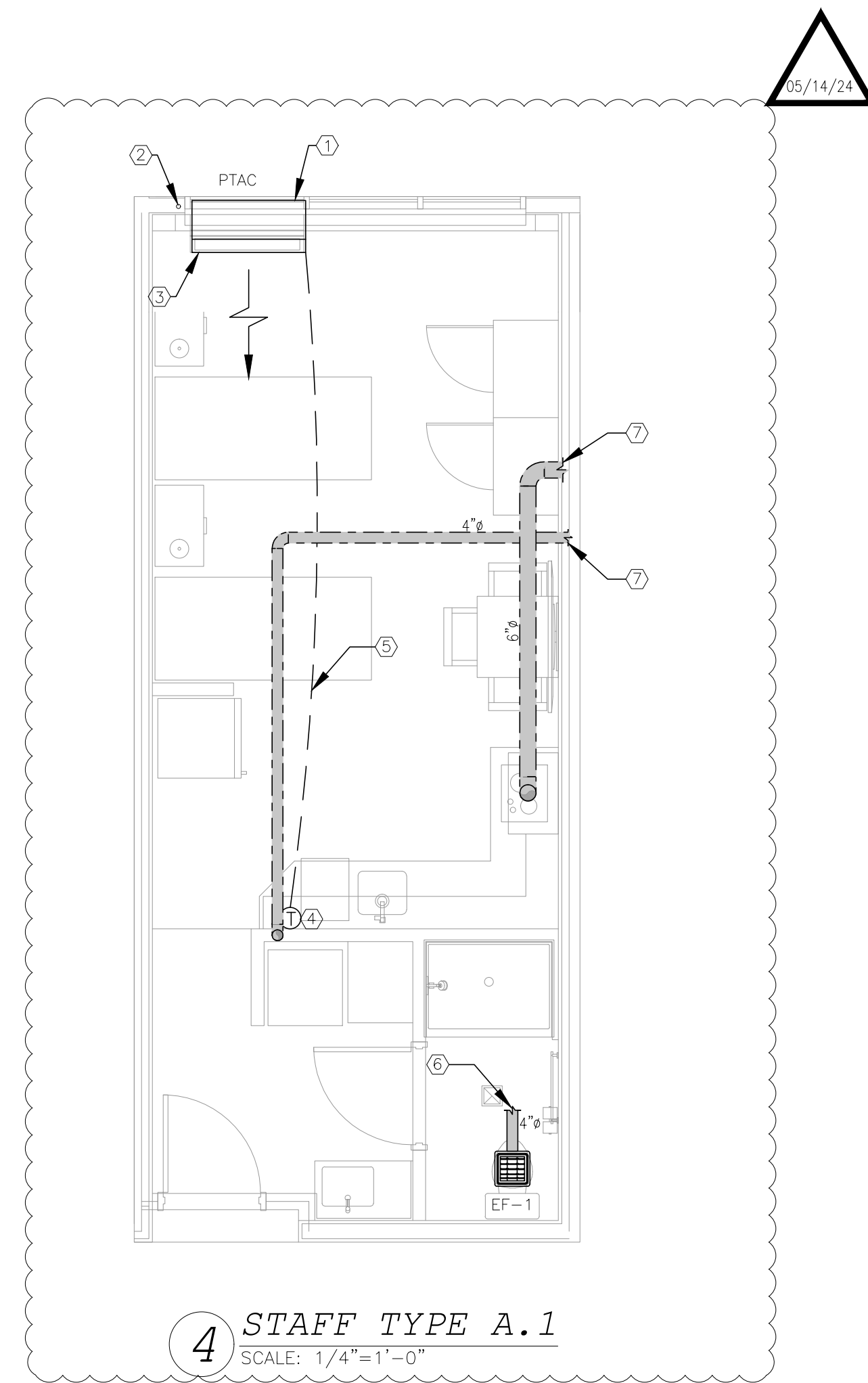
**1 STAFF TYPE A**  
SCALE: 1/4"=1'-0"



**2 STAFF TYPE B**  
SCALE: 1/4"=1'-0"



**3 STAFF TYPE C**  
SCALE: 1/4"=1'-0"



**4 STAFF TYPE A.1**  
SCALE: 1/4"=1'-0"

NOTES:

- ARCHITECTURAL WALL GRILLE ARE PART OF THE WINDOW UNIT, PROVIDE BLANK-OFF PLATES AROUND PTAC SLEEVE AS REQUIRED (TYPICAL FOR ALL PTAC UNITS).
- SEE PLUMBING DRAWINGS FOR CONDENSATE DRAIN PIPING (TYPICAL FOR ALL PTAC UNITS).
- PACKAGED TERMINAL A/C UNIT (PTAC). SEE DETAIL ON M3.0 FOR INSTALLATION DETAIL.
- REFER THE ARCHITECTURAL PLANS AND ID PLANS FOR THE EXACT THERMOSTAT LOCATION. PROVIDE TELKONET'S ECOLNSIGHT+ THERMOSTAT (CONNECTED ROOM'S REQUIREMENT)
- THERMOSTAT CONTROL CONDUIT AND CONTROL WIRING.
- METAL EXHAUST DUCT ABOVE CEILING. SEE MECHANICAL FLOOR PLAN FOR CONTINUATION
- METAL VENT DUCT ABOVE CEILING. SEE MECHANICAL FLOOR PLAN FOR CONTINUATION



REVIEWED  
FOR  
CODE  
COMPLIANCE  
01/12/2024



COMcheck Software Version COMcheckWeb  
**Mechanical Compliance Certificate**

**Project Information**

Energy Code: 2021 IECC  
Project Title: HIEX, Steamboat Springs, CO  
Location: Steamboat Springs, Colorado  
Climate Zone: 7  
Project Type: New Construction

Construction Site: 3400 S. Lincoln Ave  
Steamboat Springs, Colorado 80487  
Owner/Agent:  
Designer/Contractor:  
Dung Vu, P.E., LEED AP  
MEP Green Designs & Build PLLC  
915 GEMINI STREET  
Houston, Texas 77058  
281-788-1155

**Additional Efficiency Package(s)**

Credits: 10.0 Required 9.0 Proposed  
5% cooling efficiency improvement, 1.0 credit  
Reduced lighting power, 8.0 credit

**Mechanical Systems List**

**Quantity System Type & Description**

- 65 PTAC-1 (Single Zone):  
Packaged Terminal Heat Pump  
Heating Mode: Capacity = 9 kBtu/h,  
Proposed Efficiency = 3.51 COP, Required Efficiency = 3.23 COP  
Cooling Mode: Capacity = 9 kBtu/h,  
Proposed Efficiency = 12.10 EER, Required Efficiency = 11.30 EER  
Proposed Part Load Efficiency = 0.00, Required Part Load Efficiency = 0.00
- 34 PTAC-2 (Single Zone):  
Packaged Terminal Heat Pump  
Heating Mode: Capacity = 11 kBtu/h,  
Proposed Efficiency = 3.58 COP, Required Efficiency = 3.13 COP  
Cooling Mode: Capacity = 11 kBtu/h,  
Proposed Efficiency = 11.50 EER, Required Efficiency = 10.70 EER  
Proposed Part Load Efficiency = 0.00, Required Part Load Efficiency = 0.00
- 1 ACCU-1.1 (Unknown):  
VRF Condensing Unit, Air Cooled w/ Heat Recovery Heat Pump  
Heating Mode: Capacity = 139 kBtu/h,  
Proposed Efficiency = 3.35 COP, Required Efficiency = 3.20 COP  
Cooling Mode: Capacity = 136 kBtu/h,  
Proposed Efficiency = 12.00 EER, Required Efficiency = 10.40 EER  
Proposed Part Load Efficiency = 22.50 IER, Required Part Load Efficiency = 13.70 IER  
Fan System: None
- 2 ACCU-1.2, ACCU-1.3 (Unknown):  
VRF Condensing Unit, Air Cooled w/ Heat Recovery Heat Pump  
Heating Mode: Capacity = 143 kBtu/h,  
Proposed Efficiency = 3.20 COP, Required Efficiency = 3.20 COP  
Cooling Mode: Capacity = 140 kBtu/h,  
Proposed Efficiency = 11.10 EER, Required Efficiency = 10.40 EER  
Proposed Part Load Efficiency = 21.40 IER, Required Part Load Efficiency = 13.70 IER  
Fan System: None
- 2 FCU-1, FCU-2 (Single Zone):  
Split System Heat Pump  
Heating Mode: Capacity = 27 kBtu/h,  
Proposed Efficiency = 10.20 HSPF2, Required Efficiency = 7.50 HSPF2

Project Title: HIEX, Steamboat Springs, CO  
Data Filename: Report date: 08/17/23  
Page 1 of 2

**Quantity System Type & Description**

- Cooling Mode: Capacity = 24 kBtu/h,  
Proposed Efficiency = 17.60 SEER2, Required Efficiency = 14.30 SEER2  
Proposed Part Load Efficiency = 0.00, Required Part Load Efficiency = 0.00
- 1 DOAS-1 (Multiple-Zone):  
Heating: 1 each - Central Furnace, Electric, Capacity = 184 kBtu/h  
No minimum efficiency requirement applies  
Cooling: 1 each - Split System, Capacity = 168 kBtu/h, Air-Cooled Condenser, Air Economizer  
Proposed Efficiency = 12.30 EER, Required Efficiency = 11.00 EER  
Proposed Part Load Efficiency = 17.00 IER, Required Part Load Efficiency = 14.20 IER
- 4 Water Heater:  
Gas Storage Water Heater, Capacity: 100 gallons, Input Rating: 250 kBtu/h w/ Circulation Pump  
Proposed Efficiency: 96.00 % Et, Required Efficiency: 80.00 % Et

**Mechanical Compliance Statement**

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

DUNG DUC VU, Ph.D, P.E., LEED AP  
Name - Title Signature Date 08/17/2023

Project Title: HIEX, Steamboat Springs, CO  
Data Filename: Report date: 08/17/23  
Page 2 of 2

\* This document (whether in hard copy or electronic file format) is the property of Design 2 Function, LLC and is part of our intellectual property. The information contained in this drawing shall not be used for any purpose other than for the construction of the referenced project. Any other use, reuse or modification of this print or electronic file without our prior written consent is expressly prohibited and if done so, will be at the recipient's sole risk and without liability or legal exposure to Design 2 Function, LLC.  
\* Due to variable printing techniques, only printed dimensions shall be used. Contractors shall verify all layout, dimensions and other related information prior to bidding or construction.  
\* MEP Green Design & Build, PLLC, retains the right to make changes.

DRAWING ISSUE DATES:  
8/19/23 PERMIT SET

REVISION DATES:

PROJECT MANAGER:  
DV

DRAWN BY:  
PL

SHEET TITLE:  
MECHANICAL  
COMCHECK  
REPORT

**M5.0**

SHEET: 90 OF 140



REVIEWED  
FOR  
CODE  
COMPLIANCE  
01/12/2024



AUG. 18, 2023



**Holiday Inn Express**  
3400 S. LINCOLN AVE  
STEAMBOAT SPRINGS, CO 80487

\* This document (whether in print or electronic form) is the property of Design 2 Function, LLC and is part of our confidential records. It is loaned to you for your use only. It is not to be reproduced, copied, or distributed in any form without the express written permission of Design 2 Function, LLC. Due to weather or printing technology, any printed documents shall be used in conjunction with the electronic version. If there is a discrepancy between the printed and electronic versions, the electronic version shall prevail. It is the responsibility of the user to ensure that the information is accurate and that it is used for the intended purpose. If you have any questions or concerns, please contact Design 2 Function, LLC.

DRAWING ISSUE DATES:  
8/19/23 PERMIT SET

REVISION DATES:

PROJECT MANAGER:  
DV  
DRAWN BY:  
FL  
SHEET TITLE:

MECHANICAL  
HEATING  
COOLING LOAD

**M6.0**

SHEET: 91 OF 140

MEP GREEN DESIGN & BUILD, PLLC RETAINS COPYRIGHT TO THIS DOCUMENT, THE IDEA DESIGN AND DETAILS, AS A PROFESSIONAL AND INTELLECTUAL INSTRUMENT OF SERVICE, AND IS NOT TO BE USED, COPIED, OR IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE EXPRESSED WRITTEN CONSENT OF MEP GREEN DESIGN & BUILD, PLLC.

System Checksums  
By Trane

FCU-1-3										FCU-1-3									
COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES				
Peaked at Time: Outside Air: Mo/Hr: 7 / 18 OADB/WBHR: 81 / 53 / 31					Mo/Hr: Sum of OADB: Peaks					Mo/Hr: Heating Design OADB: -7					Mo/Hr: Sum of OADB: Peaks				
Space	Plenum	Net	Percent		Space	Percent				Space	Percent				Space	Percent			
Sens. + Lat.	Sens. + Lat.	Total	Of Total		Sens. + Lat.	Of Total				Sens. + Lat.	Of Total				Sens. + Lat.	Of Total			
Btu/h	Btu/h	Btu/h	(%)		Btu/h	(%)				Btu/h	(%)				Btu/h	(%)			
Envelope Loads					Envelope Loads					Envelope Loads					Envelope Loads				
Skyline Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skyline Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Roof Cond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glass Solar	21,344	0	21,344	36	21,344	36				21,344	36				21,344	36			
GlassDoor Cond	848	0	848	1	848	1				848	1				848	1			
Wall Cond	1,747	671	2,418	4	1,747	3				1,747	3				1,747	3			
PartitionDoor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Floor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Adjacent Floor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Infiltration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sub Total ==>	23,938	671	24,609	42	23,938	40				-11,769	-12,633	53,67			-11,769	-12,633	53,67		
Internal Loads					Internal Loads					Internal Loads					Internal Loads				
Lights	1,216	304	1,520	3	1,216	2				0	0	0	0	0	0	0	0	0	0
People	1,928	0	1,928	3	1,928	3				0	0	0	0	0	0	0	0	0	0
Misc	32,886	0	32,886	56	32,886	55				0	0	0	0	0	0	0	0	0	0
Sub Total ==>	36,028	304	36,332	62	36,028	60				-68	0	0	0	0	-68	0	0	0	0
Ceiling Load					Ceiling Load					Ceiling Load					Ceiling Load				
Ventilation Load	77	-77	0	0	77	0				0	0	0	0	0	0	0	0	0	0
Adj Air Trans Heat	0	0	-2,057	-3	0	0				-10,944	-46,49				-10,944	-46,49			
Dehumid. Ov Sizing	0	0	0	0	0	0				0	0	0	0	0	0	0	0	0	0
OvUnder Sizing	0	0	0	0	0	0				0	0	0	0	0	0	0	0	0	0
Exhaust Heat	0	-41	-41	-1	0	0				37	-0.16				37	-0.16			
Sup. Fan Heat	0	0	0	0	0	0				0	0	0	0	0	0	0	0	0	0
Ret. Fan Heat	0	0	0	0	0	0				0	0	0	0	0	0	0	0	0	0
Duct Heat PkUp	0	0	0	0	0	0				0	0	0	0	0	0	0	0	0	0
Underfrr Sup Ht PkUp	0	0	0	0	0	0				0	0	0	0	0	0	0	0	0	0
Supply Air Leakage	0	0	0	0	0	0				0	0	0	0	0	0	0	0	0	0
Grand Total ==>	60,043	857	58,843	100.00	60,043	100.00				-11,837	-23,540	100.00			-11,837	-23,540	100.00		
COOLING COIL SELECTION					COOLING COIL SELECTION					COOLING COIL SELECTION					COOLING COIL SELECTION				
Sens Cap.	Coil Airflow	Enter DBWBHR	Leave DBWBHR		Sens Cap.	Coil Airflow	Enter DBWBHR	Leave DBWBHR		Sens Cap.	Coil Airflow	Enter DBWBHR	Leave DBWBHR		Sens Cap.	Coil Airflow	Enter DBWBHR	Leave DBWBHR	
ton	MbH	cfm	°F	°F	ton	MbH	cfm	°F	°F	ton	MbH	cfm	°F	°F	ton	MbH	cfm	°F	°F
Main Cig	5.1	61.7	61.7	3.307	75.5	58.3	61.6	55.0	50.9	61.5					Main Cig	-31.9	1,370	65.0	90.7
Aux Cig	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0					Aux Cig	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0					Opt Vent	0.0	0.0	0.0	0.0
Total	5.1	61.7													Total	0.0	0.0	0.0	0.0
AREAS					AREAS					AREAS					AREAS				
Gross Total					Gross Total					Gross Total					Gross Total				
Floor	810				Floor	414				Floor	414				Floor	408			
Part	0				Part	0				Part	0				Part	0			
Int Door	0				Int Door	0				Int Door	0				Int Door	0			
Roof	0				Roof	0				Roof	0				Roof	0			
Wall	588	236	40	0	Wall	120	0	0	0	Wall	120	0	0	0	Wall	153	68	44	0
Ext Door	0	0	0	0	Ext Door	0	0	0	0	Ext Door	0	0	0	0	Ext Door	0	0	0	0
Total	23.5				Total	-28.2				Total	-28.2				Total	-31.9			
HEATING COIL SELECTION					HEATING COIL SELECTION					HEATING COIL SELECTION					HEATING COIL SELECTION				
Capacity/Coil Airflow	Ent	Lvg			Capacity/Coil Airflow	Ent	Lvg			Capacity/Coil Airflow	Ent	Lvg			Capacity/Coil Airflow	Ent	Lvg		
°F	°F	°F			°F	°F	°F			°F	°F	°F			°F	°F	°F		
MinStopRth	0	0			MinStopRth	0	0			MinStopRth	0	0			MinStopRth	0	0		
Return	1,019	1,019			Return	1,019	1,019			Return	1,019	1,019			Return	1,019	1,019		
Exhaust	275	275			Exhaust	275	275			Exhaust	275	275			Exhaust	275	275		
Rm Esh	0	0			Rm Esh	0	0			Rm Esh	0	0			Rm Esh	0	0		
Auxiliary	0	0			Auxiliary	0	0			Auxiliary	0	0			Auxiliary	0	0		
Leakage Dwn	0	0			Leakage Dwn	0	0			Leakage Dwn	0	0			Leakage Dwn	0	0		
Leakage Ups	0	0			Leakage Ups	0	0			Leakage Ups	0	0			Leakage Ups	0	0		
ENGINEERING CKS					ENGINEERING CKS					ENGINEERING CKS					ENGINEERING CKS				
% OA	Cooling	Heating			% OA	Cooling	Heating			% OA	Cooling	Heating			% OA	Cooling	Heating		
cfm/ft²	4.6	4.6			cfm/ft²	4.6	4.6			cfm/ft²	4.6	4.6			cfm/ft²	4.6	4.6		
cmf/ton	4.08	4.08			cmf/ton	4.08	4.08			cmf/ton	4.08	4.08			cmf/ton	4.08	4.08		
R/ton	64.5	64.5			R/ton	64.5	64.5			R/ton	64.5	64.5			R/ton	64.5	64.5		
Btu/hr-ft²	76.14	-29.06			Btu/hr-ft²	76.14	-29.06			Btu/hr-ft²	76.14	-29.06			Btu/hr-ft²	76.14	-29.06		
No. People	11	7			No. People	11	7			No. People	11	7			No. People	11	7		

FCU-1-1										FCU-1-1										Fan Coil	
COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES						
Peaked at Time: Outside Air: Mo/Hr: 7 / 18 OADB/WBHR: 81 / 53 / 31					Mo/Hr: Sum of OADB: Peaks					Mo/Hr: Heating Design OADB: -7					Mo/Hr: Sum of OADB: Peaks						
Space	Plenum	Net	Percent		Space	Percent				Space	Percent				Space	Percent					
Sens. + Lat.	Sens. + Lat.	Total	Of Total		Sens. + Lat.	Of Total				Sens. + Lat.	Of Total				Sens. + Lat.	Of Total					
Btu/h	Btu/h	Btu/h	(%)		Btu/h	(%)				Btu/h	(%)				Btu/h	(%)					
Envelope Loads					Envelope Loads					Envelope Loads					Envelope Loads						
Skyline Solar	0	0	0	0	0	0	0	0	0	Skyline Solar	0	0	0	0	0	0	0	0	0		
Skyline Cond	0	0	0	0	0	0	0	0	0	Skyline Cond	0	0	0	0	0	0	0	0	0		
Roof Cond	0	0	0	0	0	0	0	0	0	Roof Cond	0	0	0	0	0	0	0	0	0		
Glass Solar	21,344	0	21,344	36	21,344	36				Glass Solar	21,344	36				Glass Solar	21,344	36			
GlassDoor Cond	848	0	848	1	848	1				GlassDoor Cond	-9,522	-9,522	40.45			Reheat	75.5	68.1			
Wall Cond	1,747	671	2,418	4	1,747	3				Wall Cond	-2,247	-3,111	13.02			Fn MtrD	0.0	0.0			
PartitionDoor	0	0	0	0	0	0	0	0	0	PartitionDoor	0	0	0	0	0	Fn Brct	0.0	0.0			
Floor	0	0	0	0	0	0	0	0	0	Floor	0	0	0	0	0	Fn Fndt	0.0	0.0			
Aditional Floor	0	0	0	0	0	0	0	0	0	Aditional Floor	0	0	0	0	0						
Initiation	0	0	0	0	0	0	0	0	0	Initiation	0	0	0	0	0						
Sub Total ==>	23,938	671	24,609	42	23,938	40				Sub Total ==>	-11,768	-12,653	53.67								
Internal Loads					Internal Loads					Internal Loads					Internal Loads						
Lights	1,216	304	1,520	3	1,216	2				Lights	0	0	0	0	0						
People	1,926	0	1,926	3	1,926	3				People	0	0	0	0	0						
Misc	32,698	0	32,698	55	32,698	55				Misc	0	0	0	0	0						
Sub Total ==>	36,028	304	36,332	62	36,028	60				Sub Total ==>	0	0	0	0	0						
Ceiling Load					Ceiling Load					Ceiling Load					Ceiling Load						
Ventilation Load	0	0	-2,057	-3	0	0	0	0	0	Ventilation Load	-68	-68	0.00								
Ad Air Trans Heat	0	0	0	0	0	0	0	0	0	Ad Air Trans Heat	-10,944	-48.94									
Dehumid. OvSizing	0	0	0	0	0	0	0	0	0	Dehumid. OvSizing	0	0	0	0	0						
OvSizing Exhaust Heat	0	-41	-41	0	0	0	0	0	0	Exhaust Heat	37	-6.16									
RA Preheat Diff.	0	0	0	0	0	0	0	0	0	RA Preheat Diff.	0	0	0	0	0						
RA Preheat Dirf.	0	0	0	0	0	0	0	0	0	RA Preheat Dirf.	0	0	0	0	0						
Additional Return	0	0	0	0	0	0	0	0	0	Additional Return	0	0	0	0	0						
Ret. Fan Heat	0	0	0	0	0	0	0	0	0	Ret. Fan Heat	0	0	0	0	0						
Supply Fan Heat	0	0	0	0	0	0	0	0	0	Supply Fan Heat	0	0	0	0	0						
Duct Heat Pickup	0	0	0	0	0	0	0	0	0	Duct Heat Pickup	0	0	0	0	0						
Underfr Sup Ht Pump	0	0	0	0	0	0	0	0	0	Underfr Sup Ht Pump	0	0	0	0	0						
Supply Air Leakage	0	0	0	0	0	0	0	0	0	Supply Air Leakage	0	0	0	0	0						
Grand Total ==>	60,043	857	58,843	100.00	60,043	100.00				Grand Total ==>	-11,837	-23,540	100.00								
COOLING COIL SELECTION					COOLING COIL SELECTION					AREAS					HEATING COIL SELECTION						
Sens Cap	MBH	Glb	Enter	DBWBHR	Leave	DBWBHR				Gross Total	Glass	%			Capacity	Enter	Exit				
MBH			cfm	F	cfm	F									MBH	cfm	cfm				
Main Cg	5.1	61.7	61.7	3.307	75.5	58.3	61.6	55.0	50.9	61.5	Floor	810			Main Htg	-23.5	3.307	68.1	75.5		
Aux Cg	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Plat	0			Aux Htg	0.0	0.0	0.0	0.0		
Opt Vent	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Door	0			Preheat	0.0	0.0	0.0	0.0		
Total	5.1	61.7									Roof	0			Humidif	0.0	0.0	0.0	0.0		
											Walf	588	236	40	Opt Vent	0.0	0.0	0.0	0.0		
											Door	0			Total	0.0	0.0	0.0	0.0		



REVIEWED  
FOR  
CODE  
COMPLIANCE  
01/12/2024



AUG. 18, 2023



**Holiday Inn Express**  
3400 S. LINCOLN AVE  
STEAMBOAT SPRINGS, CO 80487

\* This document (whether in text or electronic form) is the property of Design 2 Function, LLC and is part of our intellectual property. It is to be used for the project for which it was created and is not to be used for any other project without the express written consent of Design 2 Function, LLC.  
\* Due to weather or other conditions, any project drawings shall be revised. Construction shall only be based on the latest revision of the drawings. It is the responsibility of the contractor to ensure that the drawings are up to date and that they are used for the project for which they were created.

DRAWING ISSUE DATES:  
8/19/23 PERMIT SET

REVISION DATES:

PROJECT MANAGER:  
DV  
DRAWN BY:  
FL  
SHEET TITLE:

MECHANICAL  
HEATING  
COOLING LOAD

**M6.1**

SHEET: 92 OF 140

**System Checksums**  
By Trane

FCU-1-7										Fan Coil									
COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES				
Peaked at Time: Outside Air: Mo/Hr: 7 / 9 OADB/WBHR: 65 / 53 / 26					Mo/Hr: Sum of OADB: Peaks					Mo/Hr: Heating Design OADB: -7					Cooling Heating				
Sens.	Space	Plenum	Net	Percent	Sens.	Space	Plenum	Net	Percent	Space Peak	Coil Peak	Percent	Tot Sens	Of Total	SADB	Return	Re/OA	Fn M/TD	Fn B/TD
Btu/h	-Lat.	Sens.	+ Lat.	Of Total	Btu/h	Sens.	Plenum	Total	Of Total	Space Sens	Space Sens	Of Total	Btu/h	(%)	55.0	75.7	71.9	0.0	0.0
Envelope Loads					Envelope Loads					Envelope Loads					AIRFLOWS				
Skyline Solar					Skyline Solar					Skyline Solar					Diffuser				
Skyline Cond					Skyline Cond					Skyline Cond					Terminal				
Roof Cond					Roof Cond					Roof Cond					Main Fan				
Glass Solar					Glass Solar					Glass Solar					Sec Fan				
Glass/Door Cond					Glass/Door Cond					Glass/Door Cond					Nom Vent				
Wall Cond					Wall Cond					Wall Cond					Infil				
Partition/Door					Partition/Door					Partition/Door					MinStop/Rh				
Floor					Floor					Floor					People				
Adjacent Floor					Adjacent Floor					Adjacent Floor					Return				
Infiltration					Infiltration					Infiltration					Exhaust				
Sub Total ==>					Sub Total ==>					Sub Total ==>					Rm Exh				
Internal Loads					Internal Loads					Internal Loads					Auxiliary				
Lights					Lights					Lights					Leakage Dwn				
People					People					People					Leakage Ups				
Misc					Misc					Misc					Total				
Sub Total ==>					Sub Total ==>					Sub Total ==>					No. People				
Ceiling Load					Ceiling Load					Ceiling Load					Cooling Heating				
Ventilation Load					Ventilation Load					Ventilation Load					cfm/m²				
Adj Air Trans Heat					Adj Air Trans Heat					Adj Air Trans Heat					R/tion				
Dehumid. Ov Sizing					Dehumid. Ov Sizing					Dehumid. Ov Sizing					Btu/hr-ft²				
Ov/Undr Sizing					Ov/Undr Sizing					Ov/Undr Sizing					No. People				
Exhaust Heat					Exhaust Heat					Exhaust Heat					Engineering CKS				
Sup. Fan Heat					Sup. Fan Heat					Sup. Fan Heat					% OA				
Ret. Fan Heat					Ret. Fan Heat					Ret. Fan Heat					c/m²				
Duct Heat Pk Up					Duct Heat Pk Up					Duct Heat Pk Up					Underdrf Sup Ht Pk Up				
Supply Air Leakage					Supply Air Leakage					Supply Air Leakage					Humidif				
Grand Total ==>					Grand Total ==>					Grand Total ==>					Opt Vent				
Total Capacity					Total Capacity					Total Capacity					Gross Total				
ton					ton					ton					Areas				
MBH					MBH					MBH					Glass				
Main Clg					Main Clg					Main Clg					R² (%)				
Aux Clg					Aux Clg					Aux Clg					Floor				
Opt Vent					Opt Vent					Opt Vent					Part				
Total					Total					Total					Int Door				
															Extr				
															Roof				
															Wall				
															Ext Door				
															Total				

Project Name: Holiday Inn Express  
Dataset Name: HXIE STEAMBOAT SPRINGS CO TRC

TRACE8 700 v6.2.5 calculated at 06:45 PM on 08/09/2023  
Alternative - 1 System Checksums Report Page 10 of 12

**System Checksums**  
By Trane

FCU-1-8										Fan Coil									
COOLING COIL PEAK					CLG SPACE PEAK					HEATING COIL PEAK					TEMPERATURES				
Peaked at Time: Outside Air: Mo/Hr: 7 / 20 OADB/WBHR: 73 / 53 / 29					Mo/Hr: Sum of OADB: Peaks					Mo/Hr: Heating Design OADB: -7					Cooling Heating				
Space Sens.	Lat Btu/h	Plenum Sens.	Net Sens.	Percent Total (%)	Space Sens.	Lat Btu/h	Plenum Sens.	Net Sens.	Percent Total (%)	Space Peak Sens Btu/h	Coil Peak Sens Btu/h	Percent Total (%)	Tot Sens Btu/h	Of Total (%)	SADB	Return	Re/OA	Fn M/TD	Fn B/TD
Envelope Loads					Envelope Loads					Envelope Loads					AIRFLOWS				
Skyline Solar	0	0	0	0	Skyline Solar	0	0	0	0	Skyline Solar	0	0	0	0	Diffuser	774	774		
Skyline Cond	0	0	0	0	Skyline Cond	0	0	0	0	Skyline Cond	0	0	0	0	Terminal	774	774		
Roof Cond	0	0	0	0	Roof Cond	0	0	0	0	Roof Cond	0	0	0	0	Main Fan	774	774		
Glass Solar	0	0	0	0	Glass Solar	0	0	0	0	Glass Solar	0	0	0	0	Sec Fan	0	0		
Glass/Door Cond	0	0	0	0	Glass/Door Cond	0	0	0	0	Glass/Door Cond	0	0	0	0	Nom Vent	0	0		
Wall Cond	0	0	0	0	Wall Cond	0	0	0	0	Wall Cond	0	0	0	0	Infil	0	0		
Partition/Door	0	0	0	0	Partition/Door	0	0	0	0	Partition/Door	0	0	0	0	AHU Vent	71	71		
Floor	-227	-227	-2	0	Floor	-227	-227	-3,084	-3,084	Floor	-3,084	-3,084	31,754	31,754	Mini/Sprk	0	0		
Adjacent Floor	-333	-333	-2	0	Adjacent Floor	-333	-333	-191	-1	Adjacent Floor	-1,542	15.88	0	0	Return	795	795		
Infiltration	-461	-461	-2	0	Infiltration	-461	-461	-191	-1	Infiltration	-1,542	15.88	0	0	Exhaust	92	92		
Sub Total ==>	-581	-581	-4	0	Sub Total ==>	-581	-581	-4,628	-4,628	Sub Total ==>	-4,628	47.63	0	0	Rm Exch	0	0		
Internal Loads					Internal Loads					Internal Loads					Auxiliary Leakage Dwn Leakage Ups				
Lighta	3,514	0	3,514	23	Lighta	2,026	29	2,026	14	Lighta	0	0	0	0	Auxiliary Leakage Dwn	0	0		
People	3,900	0	3,900	26	People	4,238	16	4,238	30	People	0	0	0	0	Leakage Ups	0	0		
Misc	8,198	0	8,198	54	Misc	5,198	58	5,198	36	Misc	0	0	0	0					
Sub Total ==>	15,613	0	15,613	104	Sub Total ==>	14,456	103	14,456	103	Sub Total ==>	0	0	0	0					
Ceiling Load					Ceiling Load					Ceiling Load									
Ventilation Load	0	0	0	0	Ventilation Load	0	0	0	0	Ventilation Load	0	0	0	0					
Adj Air Trans Heat	0	0	0	0	Adj Air Trans Heat	0	0	0	0	Adj Air Trans Heat	-5,086	52.37	0	0					
Dehumid. Ov Sizing	0	0	0	0	Dehumid. Ov Sizing	0	0	0	0	Dehumid. Ov Sizing	0	0	0	0					
On/Under Sizing	0	0	0	0	On/Under Sizing	0	0	0	0	On/Under Sizing	0	0	0	0					
Exhaust Heat	0	0	0	0	Exhaust Heat	0	0	0	0	Exhaust Heat	0	0	0	0					
Spr. Fan Heat	0	0	0	0	Spr. Fan Heat	0	0	0	0	Spr. Fan Heat	0	0	0	0					
Ret. Fan Heat	0	0	0	0	Ret. Fan Heat	0	0	0	0	Ret. Fan Heat	0	0	0	0					
Duct Heat PkUp	0	0	0	0	Duct Heat PkUp	0	0	0	0	Duct Heat PkUp	0	0	0	0					
Underfrg Sup Hr PkUp	0	0	0	0	Underfrg Sup Hr PkUp	0	0	0	0	Underfrg Sup Hr PkUp	0	0	0	0					
Supply Air Leakage	0	0	0	0	Supply Air Leakage	0	0	0	0	Supply Air Leakage	0	0	0	0					
Grand Total ==>	15,053	0	15,053	100.00	Grand Total ==>	14,044	100.00	Grand Total ==>	-4,626	Grand Total ==>	-4,626	9,713	100.00						
COOLING COIL SELECTION					AREAS					HEATING COIL SELECTION									
Total Capacity MBH	Sens Cap. Coil Airflow MBH		DBWBHR cfm °F °F g/rb		Leave DBWBHR °F °F g/rb		Gross Total		Gloss °F (%)		Capacity/Coil Airflow cfm °F °F g/rb		Lgt Lgt Lgt						
Main Ctg	1.3	15.1	13.7	774 75.0 56.2 82.8	55.0 48.2 5.0 4.0	Port Floor	429	0	0	0	Main Htg	-8.7	774 64.8 78.6						
Aux Ctg	0.0	0.0	0.0	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	Int Door	0	0	0	0	Aux Htg	0.0	0.0 0.0 0.0						
Opt Vent	0.0	0.0	0.0	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	Roof	429	0	0	0	Preheat	0.0	0.0 0.0 0.0						
Total	1.3	15.1				Roof	0	0	0	0	Humidif	0.0	0.0 0.0 0.0						
						Opt Vent	0	0	0	0	Opt Vent	0.0	0.0 0.0 0.0						
						Roof	0	0	0	0		0.0	0.0 0.0 0.0						
						Opt Vent	0	0	0	0		0.0	0.0 0.0 0.0						