## HVAC GENERAL SPECIFICATIONS

1. 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. 2. 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

3. 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 FLECTRICAL DRAWINGS

4. 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.

5. 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

6. ALL MECHANICAL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S

7. ALL MECHANICAL EQUIPMENT AND SYSTEMS SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE BY OWNER.

8. ALL HVAC COMPRESSORS SHALL HAVE EXTENDED 5-YEAR MANUFACTURER'S WARRANTY. 9. GROUND MOUNTED OUTDOOR AIR CONDITIONING EQUIPMENT LEVEL ON 4" THICK REINFORCED CONCRETE PADS, EXTENDING 6" BEYOND UNIT PERIMETER OF EQUIPMENT.

10. ALL DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEET METAL AS RECOMMENDED IN SMACNA (LATEST EDITION) LOW-PRESSURE DUCT CONSTRUCTION STANDARDS, THE MINIMUM THICKNESS OF 0.0217 INCHES (NO. 26 GAGE), UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL JOINTS AND SEAMS IN ALL SHEET METAL DUCTWORK SHALL BE SEALED WITH DUCT

11. 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

12. 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.

ZONE 1 THROUGH 4, MINIMUM R-12 IN CLIMATE ZONE 5 THROUGH 8.

13. 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'-O". 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

14. ROUND AND FLEXIBLE DUCTWORK SHALL BE CONNECTED TO MAIN DUCTS WITH SPIN-IN FITTINGS WITH SCOOP AND BALANCING DAMPER.

15. 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

16. PORTIONS OF DUCTWORK VISIBLE THROUGH AIR DISTRIBUTION DEVICES IN FINISHED AREAS SHALL BE PAINTED FLAT BLACK.

17. DUCTWORK DIMENSIONS SHOWN ON THE DRAWINGS ARE INSIDE CLEAR DIMENSIONS.

18. 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 SUGESSION FOR SIZING. LIQUID AND SUCTION SECTION OF REFRIGERANT PIPING SHALL BE INSULATED WITH 1" ARMALEX INSULATION. INSULATION APPLIED OVER TUBING WITHOUT CUTTING. ALL JOINTS AND SEAMS SHALL BE SEALED WITH ADHESIVE 19. 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, MOP 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.

20. 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.

21. 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.

22. MOUNT THERMOSTATS AND HUMIDISTATS 4' AFF TO TOP UNLESS NOTED OTHERWISE. PROVIDE CLEAR LOCKING COVER ASSEMBLIES FOR ALL PUBLIC AREA THERMOSTATS AND HUMIDISTATS.

23. 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.

24. 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.

25. LOCATIONS OF GRILLES, REGISTERS, & DIFFUSERS SHOWN ON THE DRAWINGS ARE APPROXIMATE. COORDINATE EXACT LOCATIONS WITH LIGHTS, CEILING GRID, ETC. AND

ARCHITECTURAL REFLECTED CEILING PLAN. 26. SLOPE ALL HORIZONTAL GAS FLUE PIPING MINIMUM 1/4"/FT.

27. 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.

28. PROVIDE MANUAL AIR VENTS AT HIGH POINTS OF ALL RECIRCULATING WATER PIPING

29. PIPING AT PUMPS AND EQUIPMENT SHALL BE SUPPORTED SO THAT NO PIPING OR ACCESSORY LOAD IS CARRIED BY THE PUMP OR EQUIPMENT.

30. 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.

31. 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., CP25 CAULK, CS195 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. 32. 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.

33. 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.FT., ACOUSTICAL

34. 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

35. DO NOT ROUTE DUCT OR PIPE OVER ELECTRICAL PANELS.

HAVE REMOVABLE 1/2" X 1/2" BIRD SCREEN.

36. LOCATE VALVES/ CONTROL VOLUME DAMPER WITHIN 18" OF CEILING SO THAT THEY ARE WITHIN REACH

37. WHERE THE DUCTWORK PENETRATE THE RATE WALL WHICH NOT REQUIRE FD/FSD. 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.

38. 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.

39. THE CONTRACTORS SHALL CONSTRUCT THE MECHANICAL SYSTEM ACCORDING TO MEPG'S MECHANICAL PLANS, CALCULATION, DETAILS AND SPECIFICATION. ALL REQUESTS FOR ALTERNATE MECHANICAL EQUIPMENT AND SOLUTIONS MUST BE SUBMITTED THROUGH REQUEST FOR INFORMATION (RFI)

40. 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.

41. THE COMPLETE MECHANICAL SYSTEM MUST BE TESTED, BALANCED, AND COMMISSIONED B 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 RE.S.PONSIBLE BY THE CONTRACTOR

42. 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

43. 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 BIDING

44. 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

45. 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**

- 1. THE CONTRACTORS SHALL CONSTRUCT MEP SYSTEM ACCORDING TO MEPG'S 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.
- 2. THE CONTRACTORS ARE REQUIRED TO FOLLOW THE SPECIFIED EQUIPMENT'S INSTALLATION MANUAL FROM THE MANUFACTURE
- 3. THE CONTRACTORS ARE REQUIRED TO FOLLOW THE LOCAL BUILDING CODE OF AUTHORITY HAVING JURISDICTION.
- 4. MECHANICAL CONTRACTOR TO INSTALL ROOF TOP UNITS SECURED TO ROOF PER REQUIRED SEISMIC/ WIND LOAD STANDARDS.
- 5. 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 RE.S.PONSIBILITIES REGARDING RE.S.PONDING 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

COMPLIANCE









## BALANCE AIR CALCULATION **EXHAUST AIR QUANTITIES:** A) RESTROOM - EXH. FAN EF-1: B) ICE MACHINE - EXH. FAN EF-2: 3 @ 70 CFM = 210C) 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

MECHANICAL SYMBOLS

ABBREVIATION

EG/ER

T'STAT

DESCRIPTION

AIR HANDLING UNIT - HORIZONTAL (ABOVE CEILING)

FAN COIL UNIT — HORIZONTAL (ABOVE CEILING)

AIR HANDLING UNIT — VERTICAL

AIR COOLED CONDENSING UNIT

FAN COIL UNIT-DUCTLESS

DEDICATED OUTSIDE AIR UNIT

EXHAUST FAN

EXHAUST GRILLE

SUPPLY AIR DIFFUSER

SIDEWALL SUPPLY REGISTER

RETURN GRILLE OR REGISTER

VOLUME CONTROL DAMPER

MANUAL BUTTERFLY DAMPER

LOUVER FOR COMBUSTION AIR

FIRE/SMOKE DAMPER

ELECTRIC UNIT HEATER

WALL MOUNTED THERMOSTAT

DUCT MOUNTED SMOKE DETECTOR

FLEXIBLE DUCT

HUMIDIFIER

MOTORIZED DAMPER

RETURN AIR DUCT

SUPPLY AIR DUCT

FRESH AIR DUCT

EXHAUST AIR DUCT

1 HR FIRE RATED WALL

2 HR FIRE RATED WALL

TOTAL EXHAUST AIR CFM = 5576

TEMPERATURE SENSOR

ABBREVIATION

ASHRAE

ASME

EUH

EDB

EWB

FPM

HVAC

DESCRIPTION

AIR COOLED CONDENSING UNIT

AMERICAN SOCIETY OF HEATING,

REFRIGERANT & AIR CONDITIONING

AMERICAN SOCIETY OF MECHANICAL

BRITISH THERMAL UNIT PER HOUR

ELECTRIC BASEBOARD HEATER

ENTERING DRY BULB TEMPERATURE

ENTERING WET BULB TEMPERATURE

ENTERING AIR TEMPERATURE

AIR HANDLING UNIT

ABOVE FINISHED FLOOR

BRITISH THERMAL UNIT

CUBIC FEET PER MINUTE

DEGREES FAHRENHEIT

ELECTRIC UNIT HEATER

COMBUSTION AIR

DUCT FURNACE

EXHAUST FAN

EXHAUST AIR DUCT

FEET PER MINUTE

FRESH AIR LOUVER

FULL LOAD AMPS

HORSE POWER

KILOWATT

GALLONS PER MINUTE

GENERAL CONTRACTOR

INCHES WATER COLUMN

LEAVING AIR TEMPERATURE

HEATING, VENTILATION AND AIR

CONDITIONING

FIRE DAMPER

EXHAUST AIR LOUVER

DIAMETER

ACCESS DOOR

ACCESS PANEL

FNGINFFRS

ABBREVIATION

LDB

LRA

NFPA

MBH

OSA

OSAT

RA

RPM

TYP.

VCD

WSA

DESCRIPTION

LEAVING DRY BULB TEMPERATURE

LEAVING WET BULB TEMPERATURE

LOCKED ROTOR AMP

MIXED AIR

ONE THOUSAND

OUTSIDE AIR

RETURN AIR

RETURN GRILLE

SUPPLY AIR

TYPICAL

RETURN REGISTER

RETURN AIR TEMPERATURE

REVOLUTIONS PER MINUTE

TOTAL STATIC PRESSURE

TEMPERATURE DIFFERENCE

UNDERWRITTEN LABORATORIES

VOLUME CONTROL DAMPER

VERTICAL TERMINAL AIR—CONDITIONING

SUPPLY AIR GRILLE

SUPPLY REGISTER

WIRE SIZE AMPS

MECHANICAL CONTRACTOR

NATIONAL FIRE PROTECTION

1000 BTU PER HOUR

OUTSIDE AIR TEMPERATURE

PACKAGE AIR-CONDITIONING UNIT

SHEET METAL & AIR CONDITIONING

CONTRACTORS NATIONAL ASSOCIATION

SYMBOL

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A) OUTSIDE AIR SERVED FOR THE WHOLE BUILDING:	DOAS-1 = 31
B) POOL DECK	DU-1 = 60
C) TOTAL GUESTROOM OUTSIDE AIR QUANTITIES:	99 @ 35 CFM = 346
	TOTAL OUTSIDE AIR SYSTEM CFM = 721

OUTSIDE AIR SYSTEM > EXHAUST AIR => POSITIVE BUILDING PRESSURIZATION

OUTSIDE AIR QUANTITIES AND SOURCE

AREA SERVED	FLOOR AREA (Square feet Az)	PEOPLE Pz	PEOPLE OUTDOOR AIR RATE PER TABLE 403.3.1.1 (CFM/person) Rp	AREA OUTDOOR AIRFLOW RATE PER TABLE 403.3.1.1 (CFM/ unit area ) Ra	TOTAL OUTSIDE AIR REQUIRED (CFM) Vbz	TOTAL OUTSIDE AIR PROVIDE 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	740 (FOLL 1.7)
MAIN VEST	200	0	7.5	0.06	12	→ 340 (FCU-1.7)
GM	140	2	5	0.06	19	
WORK AREA	200	4	5	0.06	32	90 (FCU-1.8)
SALES	89	3	5	0.06	21	
CORRIDOR	682	0	10	0.06	41	50 (FCU-1.9)
CORRIDOR2	760	0	10	0.06	46	
GUEST LAUN.	183	4	7.5	0.06	41	130 (FCU-1.10)
ENGINEER	127	2	5	0.06	18	
CORRIDOR 2F	1747	4	10	0.06	145	
ELEV LOBBY 2F	108	3	5	0.06	22	000 (AUU 0.4)
ICE 2F	35	1	5	0.06	8	200 (AHU-2.1)
HSKPG 2F	313	1	5	0.06	24	
CORRIDOR 3F	1747	4	10	0.06	145	
ELEV LOBBY 3F	108	3	5	0.06	22	000 (ALIII 7.4)
ICE 3F	35	1	5	0.06	8	200 (AHU-3.1)
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	200 (4111 4.4)
ICE 4F	35	1	5	0.06	8	200 (AHU-4.1)
HSKPG 4F	313	1	5	0.06	24	

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

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

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

1	5	0.06	8		
1	5	0.06	24		
4	10	0.06	145		
3	5	0.06	22	200 (AHU-4.1)	
1	5	0.06	8	200 (AII0-4.1)	REVISION DATES

PROJECT MANAGER: **MECHANICAL** 

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10/19/23 Staff/GM Toilets, Permit Revisions

SPECIFICATIONS AND SYMBOLS M1.0

GENERAL

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FLEXIBLE DUCT SIZE SCHEDULE

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

## COMBUSTION AIR ANALYSIS

{	) \		ANALISIS			
	) ) )	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

MAY 22, 2024

# EXHAUST AIR FLOW PER TABLE 403.3.1.1-2018 IMC

)					
) ) )	AREA SERVED	ZONE FLOOR AREA Az 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)

1. INTERLOCKED HEAT DETECTOR AND ELEVATOR LOBBY SMOKE DETECTORS WITH THE FAN

APPROX CONFIGURATION MARK BASED ON MODEL # CAPACITY SEER HSPF M.C.A M.O.C.P

MANUF.

1 | 15 | 208/1/60 | 31 | HIGH WALL | CU-1 | DAIKIN | RZQ24TAVJUA | 2.0 | 17.6 | 10.2 | 16.5 | 20 | 208/1/60 | 172

2. THE ELEVATOR CONTRACTOR SHALL BE PROVIDE THE EXHAUST FANS FOR ALL ELEVATOR CARS THAT DISCHARGE EXHAUST INTO THE ELEVATOR SHAFT PER IMC TABLE 403.3.1.1

OUTDOOR UNIT

# PACKAGED TERMINAL AIR CONDITIONER (MAKE-LIP AIR) SCHEDULES

15. MANUFACTURERS REPRESENTATIVE MUST HAVE LOCAL STOCK OF PARTS AND FACTORY CERTIFIED TECHNICIAN ON STAFF.

20. 3-PHASE AIR COOLED CONDENSING UNITS MUST HAVE PUBLISHED PERFORMANCE DATA WITH 200% INDOOR CONNECTED CAPACITY.

			AREA	FAN		COOLING CAPACITY HEATING CAPACITY ELE		ELECT. HEATER CAPACITY								
MARK	MANUF.	MODEL#	SERVED	C.F.M	MIN.	TOTAL	CLG.	EER	HTG	HTG.	0.00	WATTS	MCA	M.O.C.P	VOLTAGE	REMARKS
				HI/LOW	0.S.A.	BTU/HR	WATTS		BTU/HR	WATTS	C.O.P.	WATIS	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,
TAC-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,

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.

9. SYSTEM SHALL BE PROVIDED WITH I-TOUCH MANAGER CONTROLLER WITH WEB BASED SOFTWARE FOR DISPLAYING UP TO 8 DIII-NET SYSTEMS WITH 128 INDOOR UNITS PER SYSTEM.PC BY OTHERS.

18. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DIRECT COSTS AND OPERATING COSTS INCREASES 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.

: MANUFACTURER MUST CERTIFY AND SUBMIT SYSTEM PERFORMANCE AT EXTREME CONDITIONS OF 122 DEGREES FDB AMBIENT IN COOLING MODE AND -22 DEGREES FWB IN HEATING MODE.

23. MANUFACTURER MUST PROVIDE 10 YEARS PARTS WARRANTY ON ALL FCUS AND CONDENSING UNITS. WARRANTY CONDITIONS MUST BE CLARIFIED DURING SUBMITTAL PHASE.

1. 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.

MCA = MINIMUM CIRCUIT AMPS C.B. = CIRCUIT BREAKER MOCP = MAXIMUM OVER CURRENT PROTECTION

1. FURNISH WITH FACTORY INSTALLED POWER CORD & SUB-BASE WITH ACCESS PLATES FOR THE MOUNTING OF ELECTRICAL RECEPTACLE.

2. PROVIDE INSTRUCTION PLATE AT UNIT FOR REMOTE T-STAT AT WALL. 3. PROVIDE HARDWIRED T-STAT/ REMOTE CONTROL WITH TWO SPEED FAN

4. LOCATE THERMOSTAT AT WITHIN 12 FEET OF PERIMETER WALL.

1. MANUFACTURER MUST BE CERTIFIED, LISTED, AND LABELED PER AHRI 1230.

4 CONDENSING LINITS MUST HAVE FULLY MODULATING INVERTER COMPRESSORS CONDENSING UNITS MUST HAVE HAVE AUTO CHANGEOVER FUNCTIONS

14. CONTRACTOR TO FURNISH AND INSTALL INSULATION ON REFRIGERANT PIPING.

24. OUTSIDE AIR METAL MESH PRE-FILTER; 2" PLEATED FILTERS - MERV 13

DEMAND LIMITING RELAY CONTACT MUST BE PROVIDED.

2. CONTRACTOR TO VERIFY PIPING DIMENSIONS.

25. PROVIDE UNIT WITH CONDENSATE PUMP.

SYSTEM RATING DATA BASED ON DESIGN AMBIENT CONDITIONS FOR COOLING AND FOR HEATING.

1. SUBSTITUTE MANUFACTURER SHALL BE RESPONSIBLE FOR ADDITIONAL PIPING AND REFRIGERANT.

7. EEV ACTUATORS MUST BE REMOVABLE FROM VALVE BODY WITHOUT DISTURBING THE REFRIGERANT SYSTEM. 8. FCU THERMOSTATS MUST PROVIDE +/- 1 DEGREE DEAD-BAND SET-POINT AND CONTROL CAPABILITY.

O. MANUFACTURERS SUBMITTAL MUST INCLUDE REFRIGERANT PIPING DIAGRAM WITH PIPE DIAMETERS, LENGTHS, AND REFRIGERANT VOLUME.

3. INSTALLING CONTRACTOR MUST HAVE SUCCESSFULLY COMPLETED MANUFACTURERS CERTIFIED INSTALLATION CLASS WITHIN PAST 36 MONTHS.

7. MANUFACTURERS REPRESENTATIVE SHALL PROVIDE PROOF OF CONTINUOUS SALES AND SUPPORT OF THEIR PRODUCTS FOR AT LEAST 15 YEARS.

16. MANUFACTURERS REPRESENTATIVE SHALL PROVIDE PROOF OF ONGOING INSTALLATION TRAINING AT THEIR LOCAL FACILITY FOR AT LEAST THE PAST 5 YEARS.

CONTROL CAPABILITY. REFER TO ARCH/FRANCHISE FOR FINAL

5. FURNISH ARCHITECTURAL OUTDOOR GRILLE, PAINT GRILLE TO MATCH EXTERIOR WALL.

6. FURNISH INSULATED STEEL WALL SLEEVE.

7. FURNISH INTERNAL CONDENSATE DRAIN KIT .

8. FURNISH UNIT WITH LOW AMBIENT CONTROL AND LOW AMBIENT LOCKOUT TO LOCKOUT COMPRESSOR BELOW 40°F. 9. FURNISH UNIT WITH 42 1/4"W x 16 1/4"H x 13 3/4"D WALL CASE.

10. MULTIPLE UNITS. SEE MECHANICAL PLANS FOR EXACT LOCATIONS AND QUANTIT

11. PROVIDE TELKONET ECOLNSIGHT + HARDWIRED WALL MOUNTED

ARCH/FRANCHISE FOR FINAL LOCATION.

ITIES	OF	UNITS.	

THERMOSTAT, INNCOM BY HONEYWELL, SCHNIEDER ELECTRIC. REFER TO

STAINCE	DEIMEEN	INDOOR	AINL
ITH CON	NDENSATE	PUMP.	

MODEL #

MOCP = MAXIMUM OVERCURRENT PROTECTION AMPS \* IN CASE THE DISTANCE BETWEEN INDOOR AND OUTDOOR UNITS EXCEED 60 FEET, THE CONTRACTOR MUST CONTACT THE MANUFACTURE FOR INSTRUCTION.

INDOOR UNIT

HEAT CAPACITY

HEAT PUMP

FAN | COOLING CAPACITY |

\* PROVIDE UNIT WITH

\* INDOOR UNIT POWERED FROM OUTDOOR UNIT.

SPLIT DX FANCOIL UNIT SCHEDULES

MANUF. AREA

BASED ON SERVED

CU-1,2 | DAIKIN | PBX | FAQ24TAVJU

MCA = MINIMUM CIRCUIT AMPS

EXHAUST	FAN	N SCHEE	ULES

2. INTERLOCK FAN WITH LIGHTING

					MIN. C	APACITY				ELECTRIC	CAL			
MARK	TYPE	MANUF.	MODEL #	AREA SERVED	C.F.M.	E.S.P.	DRIVE	RPM	WATTS	HP	VOLTAGE	SPHERICAL SONES	WEIGHT LPS	REMARKS
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.

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 BACKDRAFT DAMPER.

4. PROVIDE FAN WITH OFF-WHITE ALUMINUM GRILLE.

6. PROVIDE FAN WITH 14" MANUNFACTURE ROOF CURB.

5. PROVIDE FAN WITH SOLID STATE SPEED CONTROLLER.

## 7. PROVIDE HI-PRO POLYESTER COATING FOR ACID AND CHLORINE RESISTANCE. 8. FAN WILL RUN CONTINUOUSLY.

DEHUMIDIFICATION AIR HANDLING UNIT SCHEDULE (POOL)
DEFIDING HEALTON AIR HANDLING ONLY SOFTEDOLE (FOOL)

											INDOOR								OUTDO	OR				
UNIT NO.	AREA SERVED	LOCATION	CFM	O.A. (CFM)	(INI WC)	ROOM CC	% RH	ELECTRIC KW I	HEAT FLA(A)	COMP (QTY)	COOLING CAPACIT TOTAL	TY(MBH) SENSIBLE	MOISTURE REMOVAL (LBS/HR)	V/P/HZ MCA		MAKE/MODEL	UNIT NO.	LOCATION	SERVES AMBIENT	V/P/HZ	HP	MCA	МОР	MAKE/MODEL
DU-1	POOL AREA	POOL MECHANICAL	800	200	2.0	80	60	21	-	1	48.63	20.45	29.35	208/3/60 76	80	AAON V3-B	DCU-1	1ST FLOOR	DU-1 95	208/3/60	0.33	24	40	AAON CF-005

DIMENSION

VOLUME VELOCITY | MOTOR | VOLTAGE | AMPS | LENGTH | DEPTH | HEIGHT |

1050 | 1800 | 1/6 | 208/1/60 | 1.2 | 42 | 9 | 8 | 35

# NOTES:

REFRIGERANT (R-410A)

PROVIDE TRAPS AT ALL ELEVATION CHANGES AND EVERY 10 FT OF RISER. PROVIDE A SEPARATE POWER SUPPLY TO THE OUTDOOR CONDENSER.

4. PROVIDE FACTORY-MOUNTED NON-FUSED DISCONNECT WITH OUTDOOR UNIT 5. UNIT ORIENTATION SHALL BE VERTICAL WITH 1-YEAR UNIT PARTS WARRANTY AND 5-YEAR WARRANTY ON THE COMPRESSOR

6. COMPRESSOR(S) SHALL BE VARIABLE CAPACITY TYPE AND ISOLATED FROM THE AIRSTREAM

7. UNIT SHALL INCLUDE MOTORIZED O/A AND R/A DAMPERS WITH MODULATING ACTUATOR

8. CONTROLS PROVIDED: FACTORY-MOUNTED DDC CONTROLLER

OA TEMPERATURE AND HUMIDITY SENSOR NEMA X4-RATED RETURN TEMPERATURE AND HUMIDITY SENSOR

DINNING

DUAL MINIMUM POSITION OA ACTUATOR

9. UNIT SHALL INCLUDE INTERIOR CORROSION PROTECTION 10. UNIT MOUNTED MODULATING SCR ELECTRIC HEAT WITH SINGLE POINT POWER CONNECTION

11. UNIT SHALL INCLUDE A MODULATING REHEAT COIL FOR HUMIDITY CONTROL 12. UNIT SHALL INCLUDE HOT GAS BYPASS

13. EVAPORATOR AND HOT GAS REHEAT COILS SHALL BE FULLY DIPPED FOR CORROSION PROTECTION (FIN ONLY COATING NOT ACCEPTABLE)

14. SUPPLY BLOWER SHALL BE DIRECT DRIVE WITH ECM CONTROL. FAN SPEED SHALL BE ADJUSTABLE FROM THE UNIT CONTROLLER. (BELT DRIVES NOT ACCEPTABLE) 15. UNIT SHALL HAVE FACTORY TRAINED STARTUP SERVICE.

(CFM) (FPM) (HP)

16. PLEASE CONTACT ROCKY ORMAND, SYSTEM SALES @ TEXAS AIRSYSTEMS FOR MORE INFORMATION832-342-9252, ROCKY.ORMAND@TEXASAIRSYSTEMS.COM

AIR CURTAIN SCHEDULES

AC-1 | MARS | LPV242-1D-OB |

MODEL NO.

MANUF.

# ELECTRIC UNIT HEATER SCHEDULES (EUH)

(LBS)

			AREA	AIR FLOW	HEAT	ING CAPA	CITY		
MARK	MANUF.	MODEL NO.	SERVED	CFM	BTU/HR	WATTS	AMPS	VOLTAGE	REMARKS
EUH-1	QMARK	RCC15008C	STAIRWELL		5,120	1,500	7.2	208/1/60	NOTES #1, 2, 3.
EUH-2	QMARK	EFF4804	STAIRWELL	350	17,060	5,000	24	208/1/60	NOTES #1, 2, 3.

NOTES: 1. TEMPERATURE RISE 45 DEGREES F. 2. HOUSING MATERIAL 20 ga. STEEL, FINISH POLYESTER POWER COAT.

3. EUH SHALL BE CONTROLLED BY WALL MOUNTED THERMOSTAT.

DEDICATED OUTDOOR AIR SYSTEM SCHEDULES (S	SPLIT UNIT)

IDOOR	

	•																			
	CLIDDLY	OLITCIDE			CO	OLING							ELECTRIC	HEATING	3	ELEC	TRIC DA	TA		
TAG	SUPPLY AIR	OUTSIDE AIR	ESP (in)	CAPACIT`	Y (MBH)	OA	1	L	4	%RH	SA FAN HP	SIZE	CAPACITY	EAT °F DB	LAT °F DB	VOLTAGE	MCA	MOP	WEIGHT	MODEL
	(CFM)	(CFM)		TOTAL	SENSIBLE	DB	WB	DB	WB			(KW)	(MBH)	טט	טט	VOLIAGE	IVICA	IVIOI	(LBS)	
DOAS-1	3150	3150	2	64.65	64.65	87.0	60.0	59.21	50.55	38	3	52.5	179.2	-10	57.5	208/3/60	154	175	775	AAON H3-C

# OUTDOOR

		ELECTRIC DATA					
TAG	NO. OF COMPRESSOR	RLA OF COMPRESSOR	VOLTAGE	MCA	MOP	WEIGHT (LBS)	MODEL
MCU-1	1	20.4	208/3/60	28	45	425	AAON CF-007

1. AIR HANDLER SHALL HAVE 1" FOAM INJECTED INSULATED (R-6.25) DOUBLEWALL CABINET CONSTRUCTION WITH HINGED ACCESS DOORS

. DIRECT DRIVE SUPPLY FAN WITH FACTORY MOUNTED VFD VARIABLE CAPACITY SCROLL COMPRESSORS

4. MODULATING GAS HEAT WITH STAINLESS STEEL HX — PROVIDED BY MANUFACTURER FOR FIELD INSTALLATION. MUST BE SUITABLE FOR 6900' ELEVATION.

5. PAINTED EXTERIOR OF 2,500 HOUR SALT SPRAY ON CONDENSING UNIT 6. AHU SHALL HAVE A FORKLIFTABLE BASE

7. SEPARATE 120V/1PH REQUIRED TO RUN HEATERS 8. STAINLESS STEÉL DRAIN PAN 9. CONDENSER HEAD PRESSURE CONTROL

10. 2" MERV 8 FILTERS 11. FACTORY INSTALLED WATTMASTER CONTROLS

12. CONDENSING UNIT SHALL INCLUDE NON-FUSED DISCONNECT

13. CONDENSER COIL GUARDS 14. CONDENSATE OVERFLOW SWITCH

15. MODULATING HOT GAS REHEAT 16. CONTACT ROCKY ORMAND WITH TEXAS AIRSYSTEMS FOR INFORMATION @ 832-342-9252

CRILLE AND REGISTER SCHEDLILES

BS- 3 | BSF6Q54TVJ

	GRILLE AND RE	GISTE	R SCHEL	DULES					
MARK	TYPE	MANUF.	MODEL	DESCRIPTION	OPPOSE BLADE DAMPER (OBD)	MATERIAL	MOUNTING	FINISH	REMARKS
А	SUPPLY AIR DIFFUSER	TITUS	TDC	LOUVERED FACE, 12"x 12" MODULE	YES	STEEL	CEILING	OFF-WHITE	12"x12". PAINT TO MATCH ADJACENT SURFACE.
В	SUPPLY AIR DIFFUSER	TITUS	TDC	LOUVERED FACE, 24"x 24" MODULE	YES	STEEL	CEILING	OFF-WHITE	24"x24". PAINT TO MATCH ADJACENT SURFACE.
С	RETURN AIR DIFFUSER	TITUS	350RLF2	PERFORATED, 24"x 24" MODULE	NO	STEEL	CEILING	OFF-WHITE	24"x24". PAINT TO MATCH ADJACENT SURFACE.
D	SUPPLY AIR GRILLE	TITUS	300RL	SIDE THROW	YES	STEEL	SIDE	OFF-WHITE	24"x8" . PAINT TO MATCH ADJACENT SURFACE.
D1	SUPPLY AIR GRILLE	TITUS	300RL	SIDE THROW	YES	STEEL	SIDE	OFF-WHITE	6"x4" . PAINT TO MATCH ADJACENT SURFACE.
Е	SUPPLY AIR GRILLE	TITUS	300RL	SIDE THROW	YES	STEEL	SIDE	OFF-WHITE	12"x6" . PAINT TO MATCH ADJACENT SURFACE.
F	EXHAUST AIR DIFFUSER	TITUS	50F	LOUVERED FACE, 12"x 12" MODULE	YES	STEEL	CEILING	OFF-WHITE	12"x12". PAINT TO MATCH ADJACENT SURFACE.
F1	EXHAUST AIR DIFFUSER	TITUS	50F	LOUVERED FACE, 8"x 6" MODULE	YES	STEEL	CEILING	OFF-WHITE	8"x6". PAINT TO MATCH ADJACENT SURFACE.
G	SLOT SUPPLY AIR DIFFUSER	TITUS	TBD-80	4' LONG, 2 SLOT, 1-1/2" SLOT WIDTH	YES	STEEL	CEILING	OFF-WHITE	WITH CABLE OPERATED DAMPER

208-230V 1ph 0.6

ACCU-1.3

## FLEX BRANCH SELECTOR BOX SCHEDULES | MIN CIRCUIT | MAX OVERCURRENT MAX CAPACITY BASIS OF DESIGN CONDENSING UNIT VOLTAGE-DIMENSIONS WEIGHT OPTIONS AND AMPS PROTECTION (DAIKIN) SERVED PHASE (PER PORT) (WxHxD INCH) | (LBS) ACCESSORIES (MOP) 208-230V 1ph | 0.6 BS- 1 BSF6Q54TVJ 54,000 23.3×9.5×23.7 72.8 KHFP26A100CA (1 15.0 ACCU-1.1 208-230V 1ph | 0.6 KHFP26A100CA (2) BS- 2 BSF6Q54TVJ 15.0 23.3×9.5×23.7 72.8 ACCU-1.2

15.0

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23.3x9.5x23.7 | 72.8 | KHFP26A100CA (3)

SHEET: 82 OF 142

# ASI #2 5/28/24

# **FAST AND ACCURATE**

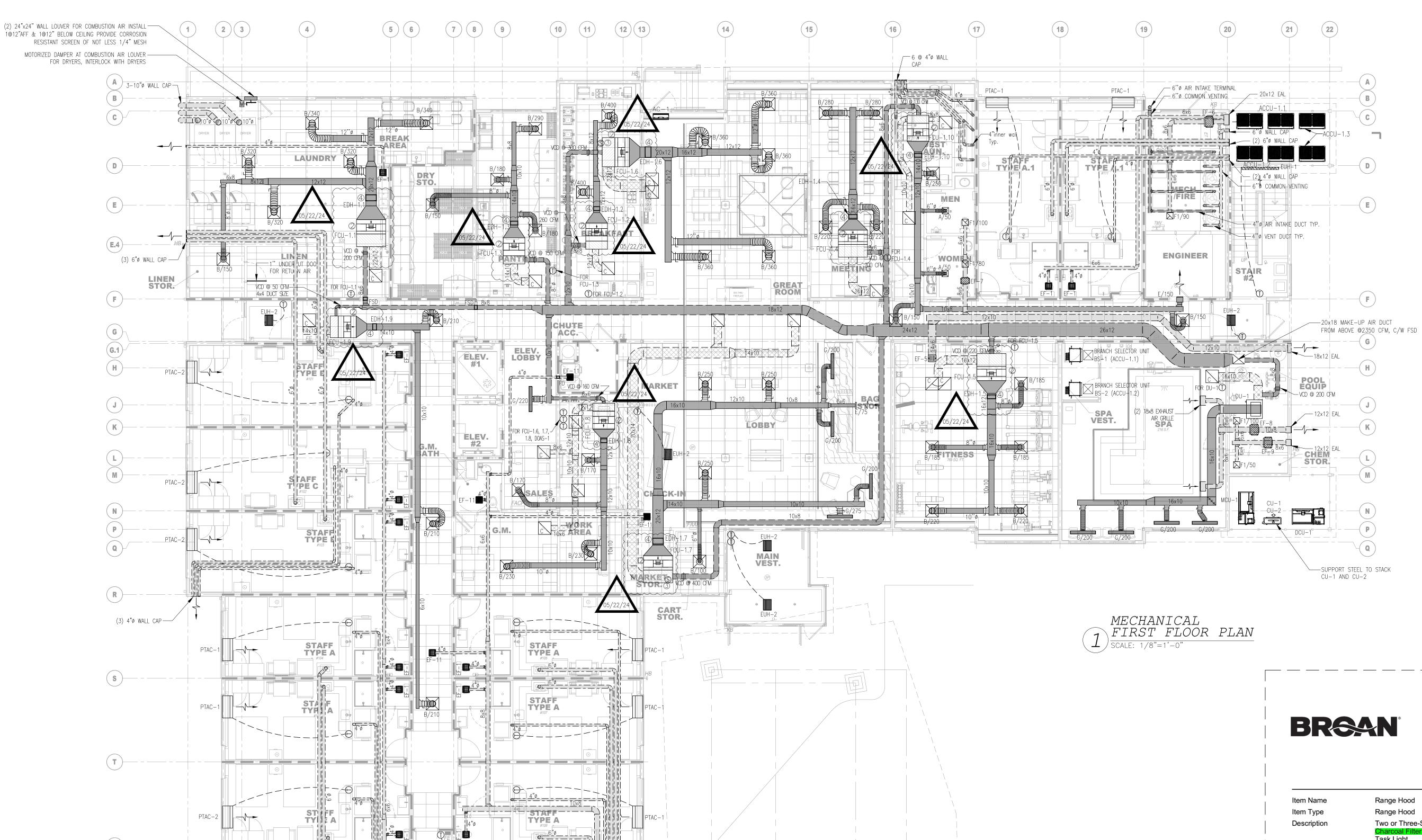
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**DRAWING ISSUE DATES:** 8/18/23 Permit Set

REVISION DATES: 10/19/23 Staff/GM Toilets, Permit Revisions 11/29/23 Mt. Werner Revisions 02/15/24 Pool Removal, Guest Room Addition 03/05/24 Updated plans 05/22/24 Updated per Submittal

DRAWN BY: **MECHANICAL** TECHNICAL SCHEDULES

PROJECT MANAGER:



# **GENERAL NOTES:**

1. REFER TO SHEET M1.0-1 & M3.0 FOR DETAILS AND SCHEDULES.

2. REFER TO SHEET M2.1 THRU M2.3 FOR THE SECOND, THIRD AND FOURTH FLOOR PLAN MECHANICAL DRAWING.

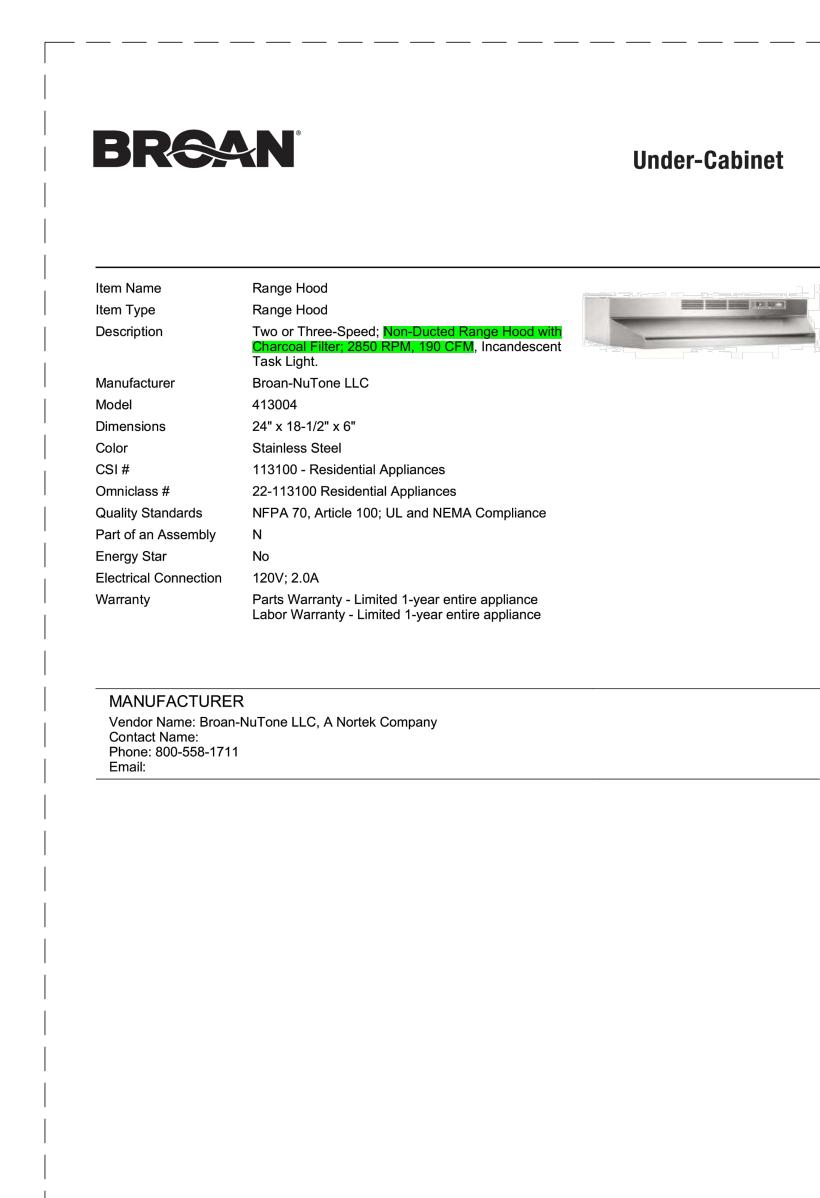
(3) 6"ø WALL CAP — 12x12 EAL —/

(3) 4"ø WALL CAP —

- 3. 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.
- 4. 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.
- 5. REFER THE ARCHITECTURAL PLANS AND ID PLANS FOR THE EXACT THERMOSTAT LOCATION.
- 6. 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.
- 7. 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.
- 8. PROVIDE UV PROTECTIVE COATING/COVERING ON ALL ELASTOMERIC PIPE INSULATION WHERE EXPOSED TO SUNLIGHT.
- 9. PROVIDE CEILING ACCESS PANELS FOR ALL CEILING-MOUNTED EQUIPMENT. SEE ARCHITECTURAL DRAWINGS FOR ACCESS PANEL REQUIREMENTS IN PUBLIC AREAS.
- 10. PROVIDE FIRE CAULKING WHEN THE METAL DUCT PENETRATE THE RATED ASSEMBLY.
- 11. PROVIDE THE SECONDARY DRAIN PANS FOR ALL AHUS THAT ARE HUNG ABOVE THE CEILING.
- 12. PROVIDE REFRIGERANT PIPES FROM/TO CORRE.S.PONDING CONDENSING UNIT. REFER TO MANUFACTURER FOR INSTRUCTION INSULATION. PROVIDE 1-1/2" AF ARMAFLEX INSULATION AS REQUIRED.
- 13. CONTRACTOR TO PROVIDE CEILING RADIATION DAMPERS COMPLYING WITH UL 555C AT LOCATIONS WHERE DUCTWORK OR REGISTERS PENETRATE THE FLOOR/CEILING OR ROOF/CEILING ASSEMBLY.
- 14. 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).
- 15. 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.
- 16. NO FIRE DAMPERS NEEDED AT FIRE BARRIER PENETRATION PER IBC 717.5.2 EXCEPTION #3
- 17. NO CEILING RADIATION DAMPERS ARE NECESSARY AT THE GUESTROOM EXHAUST FANS DUE TO THE FAN BEING BELOW THE RATED ASSEMBLY.

# 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 VRV SCHEDULE FOR FURTHER DETAILS.









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05/22/24 Úpdateď per Submittal

PROJECT MANAGER:

DRAWN BY:

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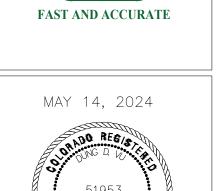
**MECHANICAL** FLOOR PLAN

ASI #2 5/28/24

12x12 EAL──









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DRAWING ISSUE DATES: 8/18/23 Permit Set

REVISION DATES: 10/19/23 Staff/GM Toilets, Permit Revisions 11/29/23 Mt. Werner Revisions 02/15/24 Pool Removal, Guest Room Addition 03/05/24 Updated plans 05/14/24 Updated plans

PROJECT MANAGER:

MECHANICAL SECOND FLOOR PLAN

SHEET: 84 OF 142

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NEW BACKGROUND

9. PROVIDE CEILING ACCESS PANELS FOR ALL CEILING-MOUNTED EQUIPMENT. SEE ARCHITECTURAL DRAWINGS FOR ACCESS PANEL REQUIREMENTS IN PUBLIC AREAS.

15. 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.

17. NO CEILING RADIATION DAMPERS ARE NECESSARY AT THE GUESTROOM EXHAUST FANS DUE TO THE FAN BEING BELOW THE RATED ASSEMBLY.

12. PROVIDE REFRIGERANT PIPES FROM/TO CORRE.S.PONDING CONDENSING UNIT. REFER TO MANUFACTURER FOR INSTRUCTION INSULATION. PROVIDE 1-1/2" AF ARMAFLEX INSULATION AS REQUIRED.

13. CONTRACTOR TO PROVIDE CEILING RADIATION DAMPERS COMPLYING WITH UL 555C AT LOCATIONS WHERE DUCTWORK OR REGISTERS PENETRATE THE FLOOR/CEILING OR ROOF/CEILING ASSEMBLY.

14. 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

10. PROVIDE FIRE CAULKING WHEN THE METAL DUCT PENETRATE THE RATED ASSEMBLY.

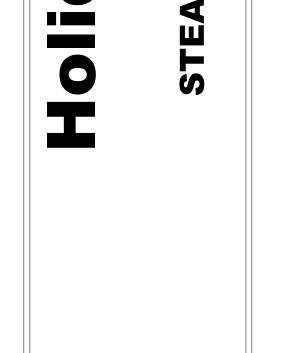
BARRIERS) AND IBC 717.5.4 EXCEPTION #4 (FIRE PARTITIONS).

11. PROVIDE THE SECONDARY DRAIN PANS FOR ALL AHUS THAT ARE HUNG ABOVE THE CEILING.

16. NO FIRE DAMPERS NEEDED AT FIRE BARRIER PENETRATION PER IBC 717.5.2 EXCEPTION #3

16. NO FIRE DAMPERS NEEDED AT FIRE BARRIER PENETRATION PER IBC 717.5.2 EXCEPTION #3

17. NO CEILING RADIATION DAMPERS ARE NECESSARY AT THE GUESTROOM EXHAUST FANS DUE TO THE FAN BEING BELOW THE RATED ASSEMBLY.



ALBUQUERQUE
NEW MEXICO 87199-3368
info@design2functionllc.com
505-823-6481

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DESIGN & BUILD

FAST AND ACCURATE

MAY 14, 2024

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11/29/23 Mt. Werner Revisions
02/15/24 Pool Removal, Guest Room Addition
03/05/24 Updated plans
05/14/24 Updated plans

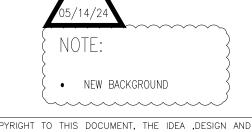
PROJECT MANAGER:
DV
DRAWN BY:

DRAWN BY:

SHEET TITLE:

MECHANICAL
THIRD
FLOOR PLAN

M2.2



FLOOR DRAIN

----Support Steel 🖰

DEDICATED OUTDOOR AIR SYSTEM

SCALE: NTS

AHUS VERTICAL MOUNTING DETAIL

SCALE: NTS

5. FOR STAND ALONE DRYERS MOUNT BOX SUCH THAT BOTTOM IS 48"

6. FOR STACKED DRYERS, MOUNT BOX SUCH THAT TOP OF BOX IS AT

DRYER WALL BOX DETAIL

36" BELOW CEILING.

SCALE: NTS



COMPLIANCE

01/12/2024







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DRAWING ISSUE DATES: 8/18/23 PERMIT SET

REVISION DATES:

PROJECT MANAGER: DV DRAWN BY:

MECHANICAL INSTALLATION DETAILS

Packaged terminal a/c unit detail

SCALE: NTS









# Holiday Inn Express 3350 S. LINCOLN AVE

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REVISION DATES:
10/19/23 Staff/GM Toilets, Permit Revisions
11/29/23 Mt. Werner Revisions
02/15/24 Pool Removal, Guest Room Addition
03/05/24 Updated plans
05/14/24 Updated plans

PROJECT MANAGER:
DV
DRAWN BY:

DRAWN BY:
PL
SHEET TITLE

MECHANICAL FOURTH FLOOR PLAN

M2.3
SHEET: 86 OF 142

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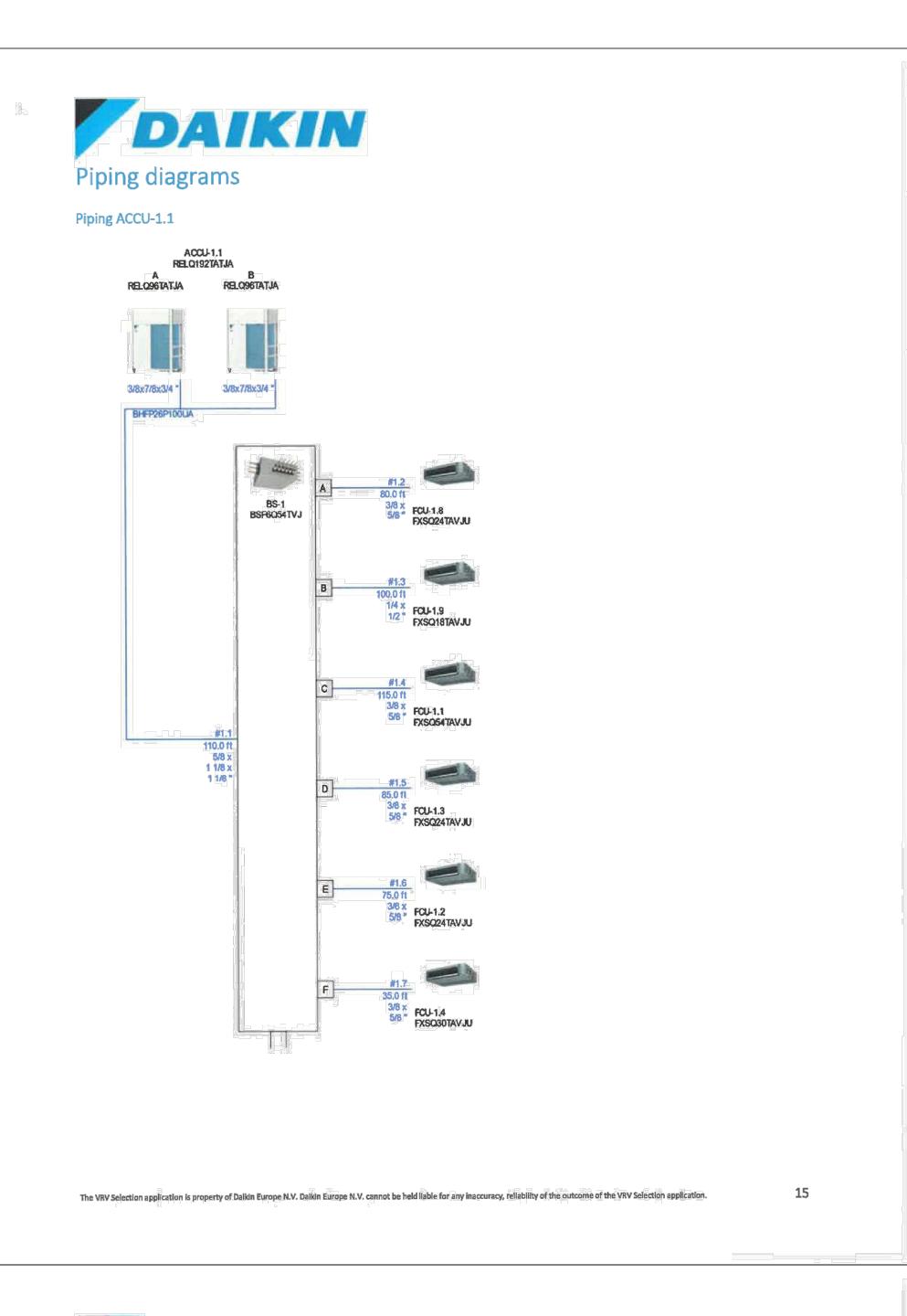
15. NO FIRE DAMPERS NEEDED AT FIRE PARTITION PENETRATIONS PER IBC 717.5.4 EXCEPTION #1 AT CORRIDOR WALLS AND EXCEPTION #4 AT NON-CORRIDOR WALLS.

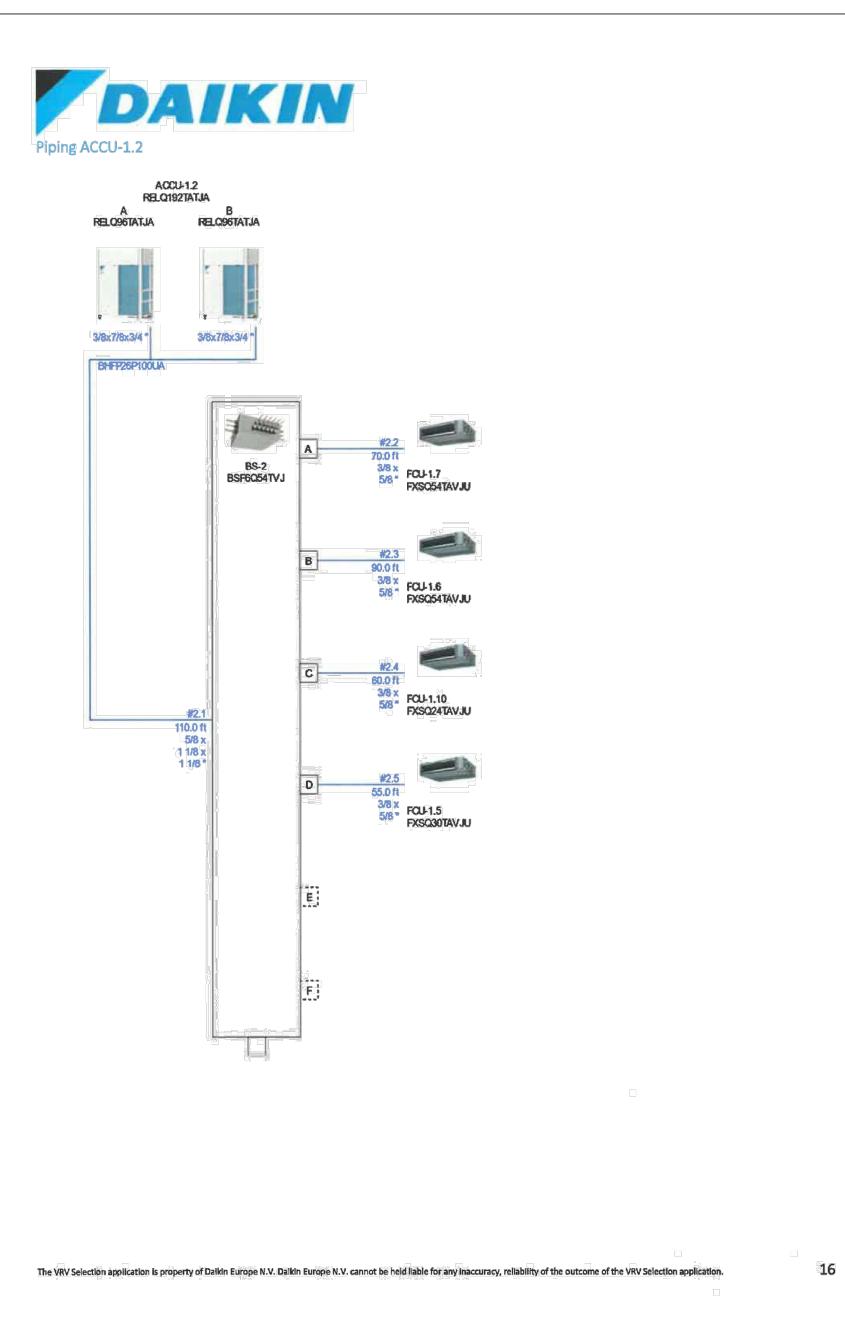
17. NO CEILING RADIATION DAMPERS ARE NECESSARY AT THE GUESTROOM EXHAUST FANS DUE TO THE FAN BEING BELOW THE RATED ASSEMBLY.

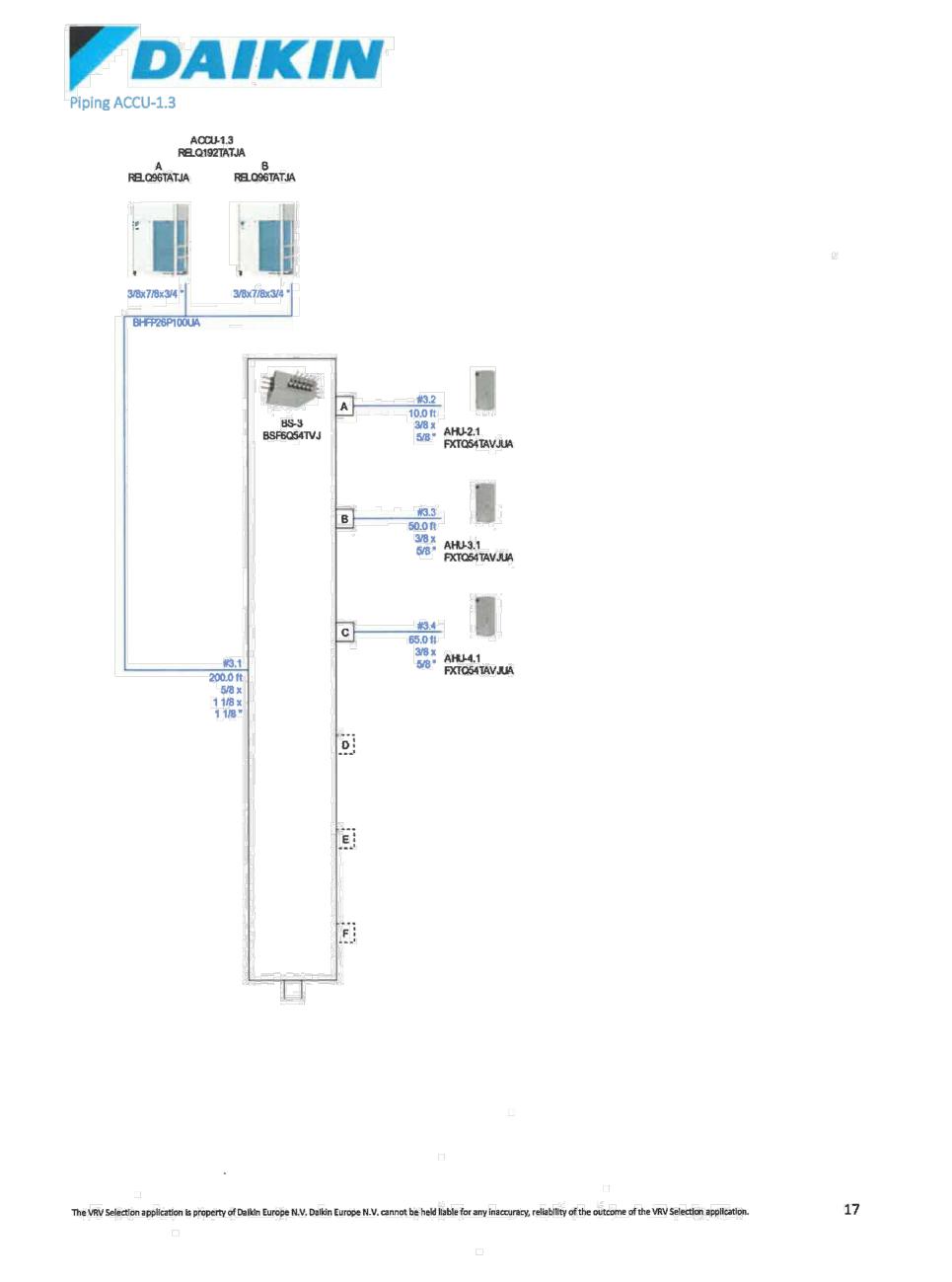
BARRIERS) AND IBC 717.5.4 EXCEPTION #4 (FIRE PARTITIONS).

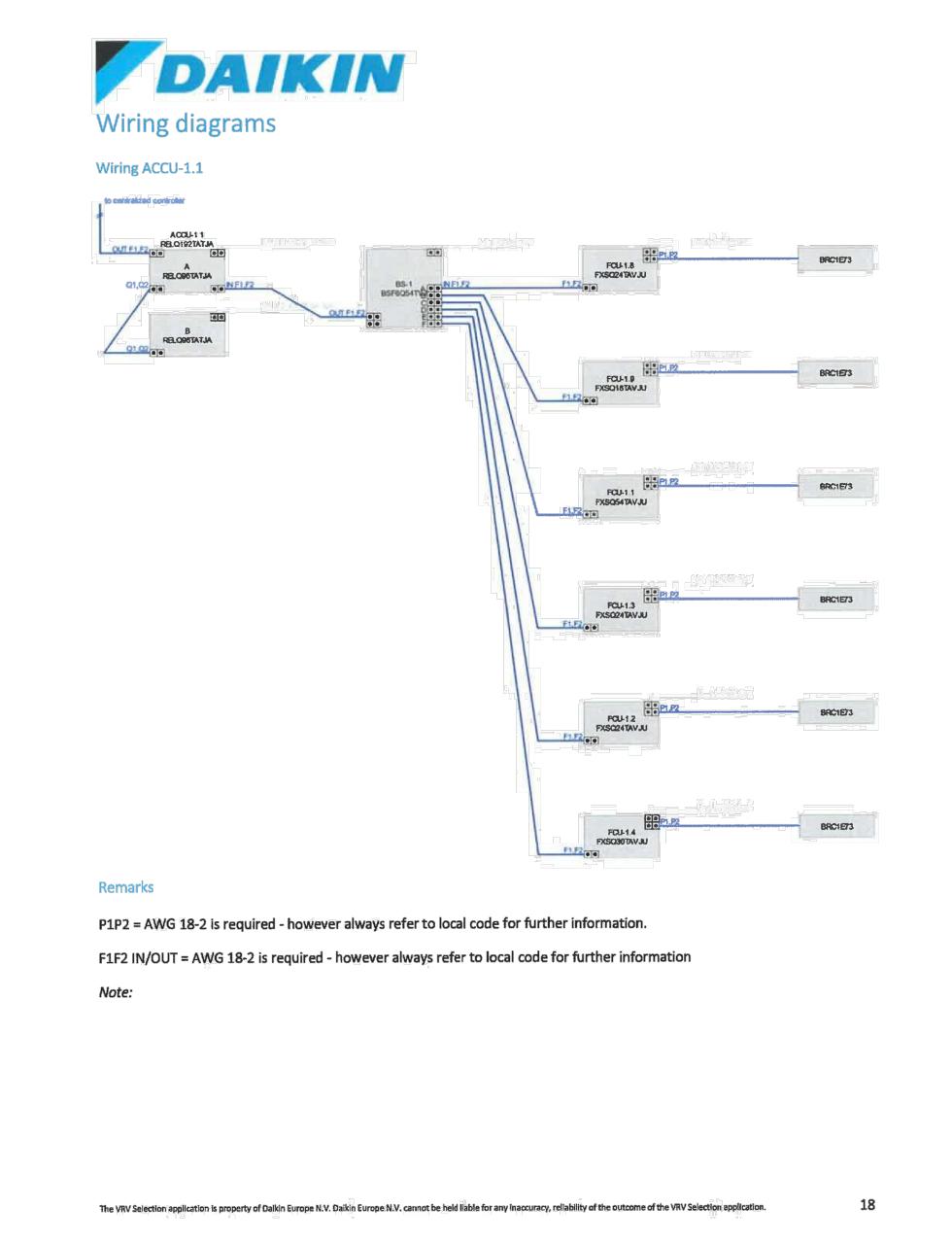
16. NO FIRE DAMPERS NEEDED AT FIRE BARRIER PENETRATION PER IBC 717.5.2 EXCEPTION #3

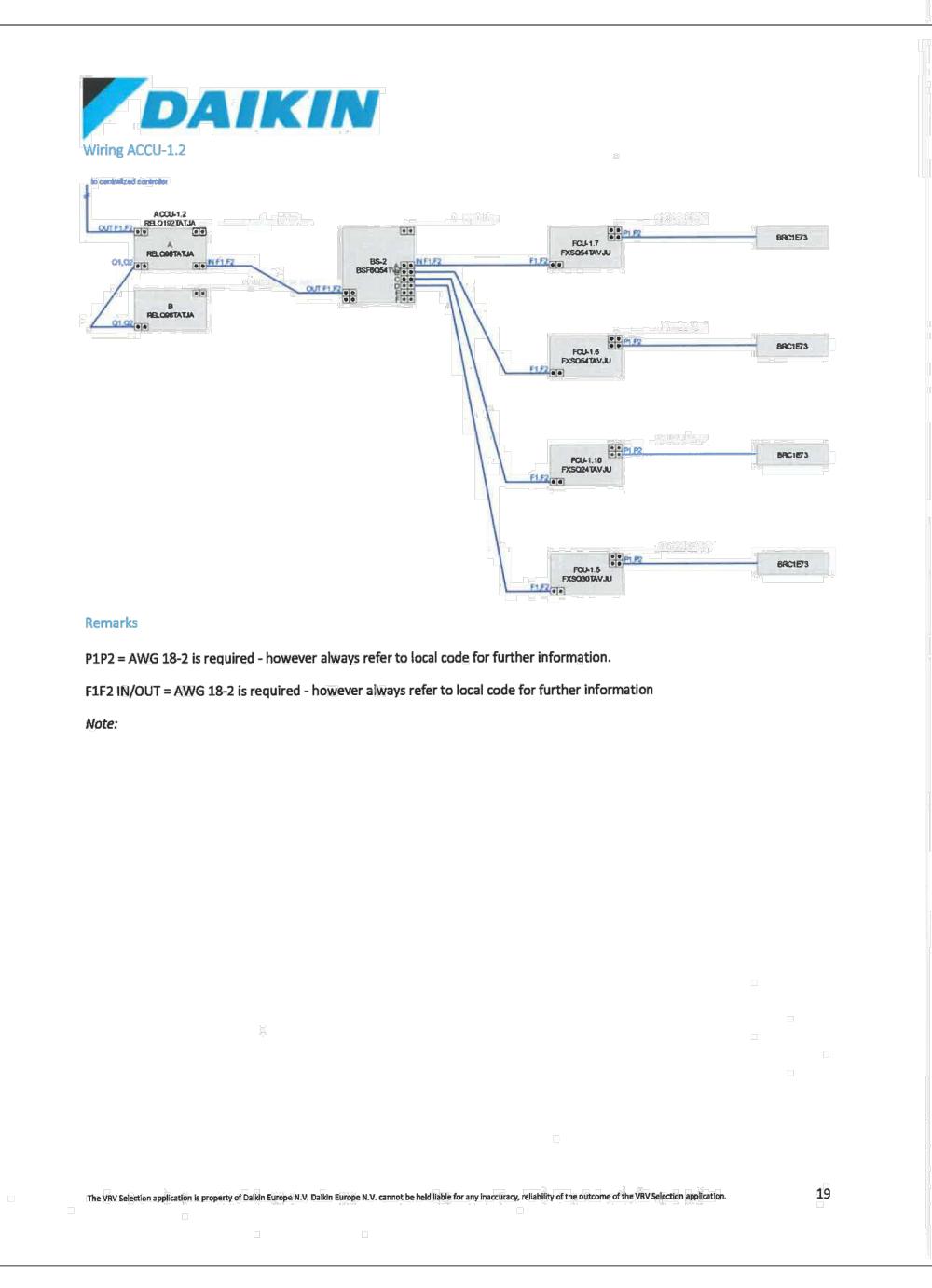
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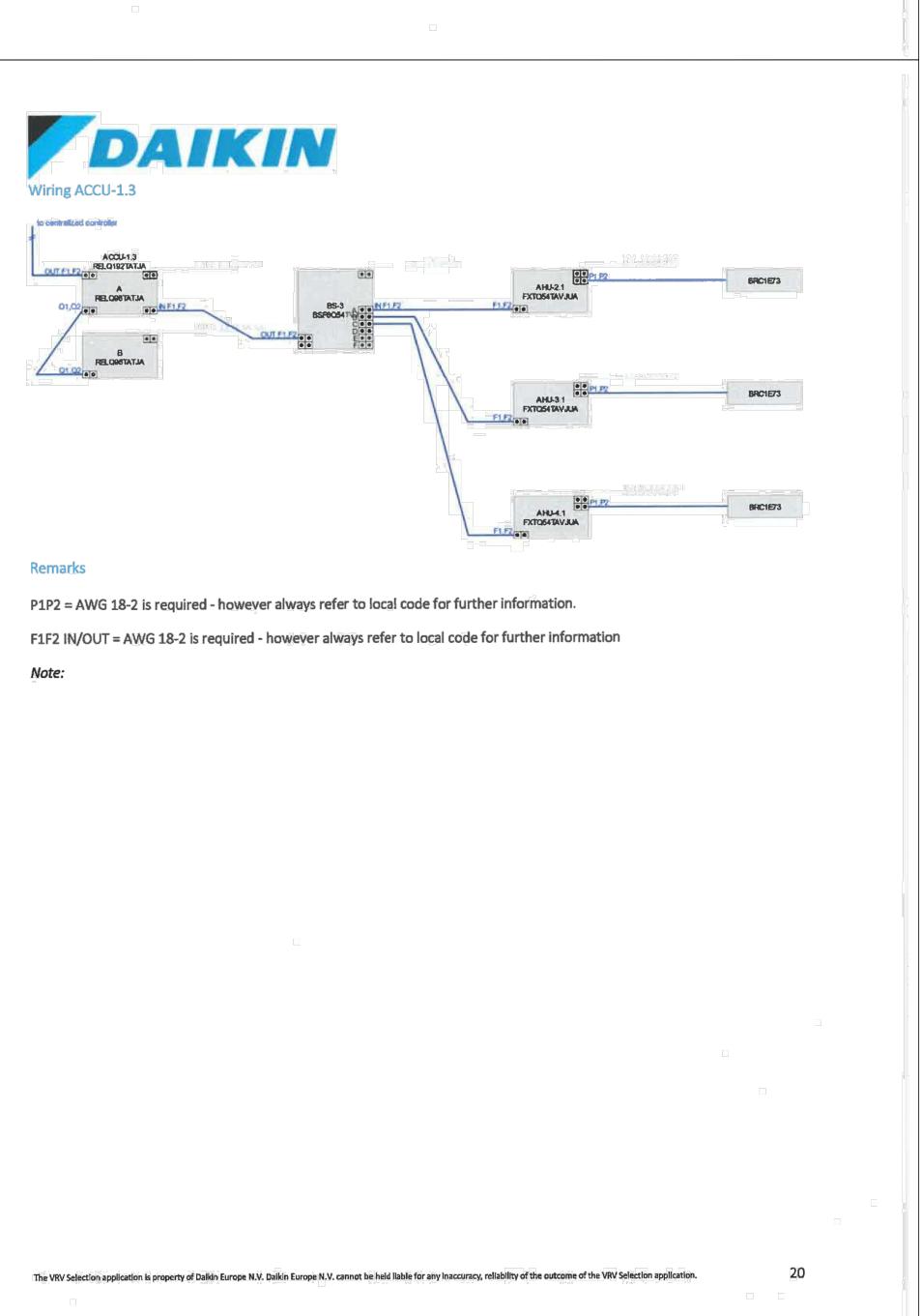






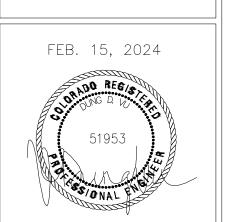












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DRAWING ISSUE DA 8/18/23 Permit Set

> REVISION DATES: 10/19/23 Staff/GM Toilets, Permit Revisions 11/29/23 Mt. Werner 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

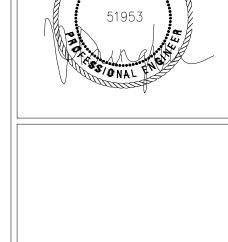




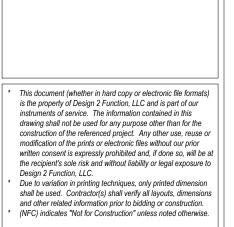












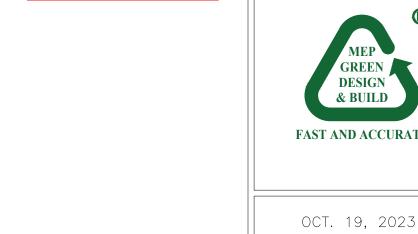
DRAWING ISSUE DATES: 8/18/23 PERMIT SET

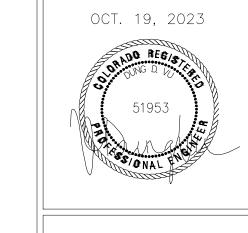
REVISION DATES: 10/19/23 Staff/GM Toilets, Permit Revisions

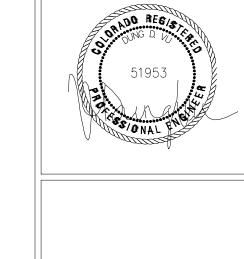
PROJECT MANAGER: MECHANICAL TYPICAL GUESTROOM PLAN



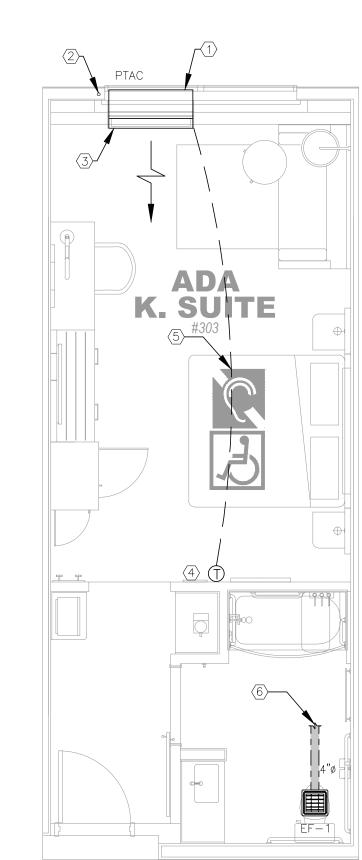




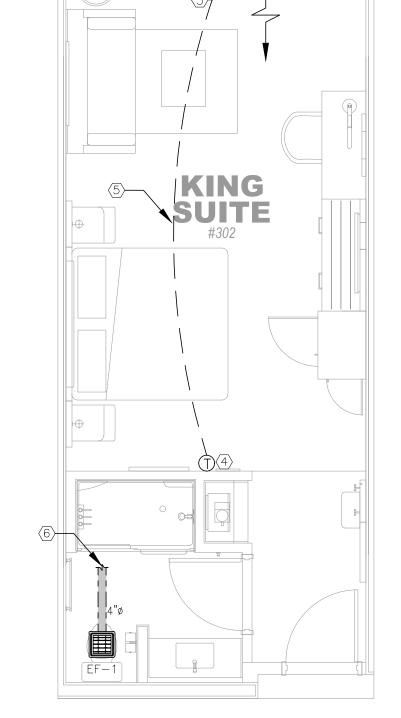


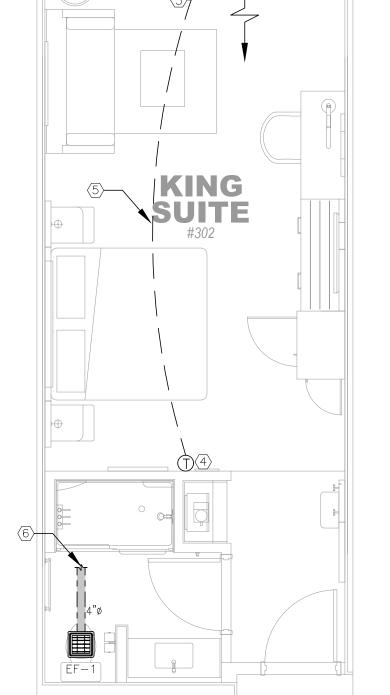












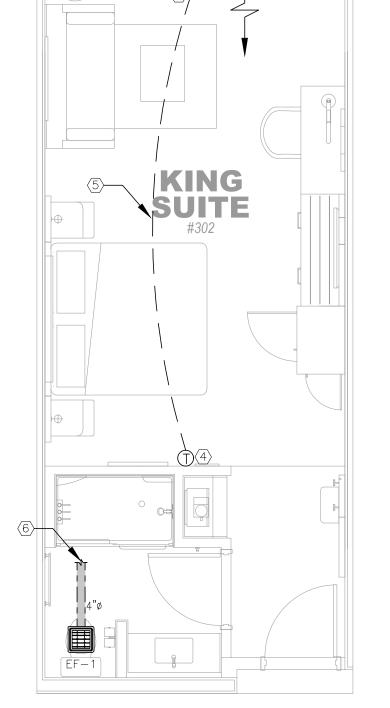
EXT. K/K WIDE

 $5^{\frac{EXT.}{SCALE: 1/4"=1'-0"}}$ 

K/K SUITE

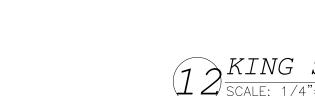
 $6^{\frac{K/K\ SUITE}{\text{SCALE: 1/4"=1'-0"}}}$ 

13 KING SUITE (HA)
SCALE: 1/4"=1'-0"











EXT. K/K

 $4^{\frac{EXT \cdot K/K}{\text{SCALE: 1/4"=1'-0"}}}$ 



11 ADA KING
SCALE: 1/4"=1'-0"

12 KING SUITE
SCALE: 1/4"=1'-0"

10 KING STANDARD
SCALE: 1/4"=1'-0"

ADA K/K

3 ADA K/K SCALE: 1/4"=1'-0"

 $8^{\frac{EXT. K/K SUITE}{SCALE: 1/4"=1'-0"}}$ 

**K/K** #301

1 K/K STANDARD SCALE: 1/4"=1'-0"

EXT. K/K SUITE

NOTES: 1. ARCHITECTURAL WALL GRILLE ARE PART OF THE WINDOW UNIT. PROVIDE BLANK-OFF PLATES AROUND PIAC SLEEVE AS REQUIRED (TYPICAL FOR ALL PIAC UNITS).

2. SEE PLUMBING DRAWINGS FOR CONDENSATE DRAIN PIPING (TYPICAL FOR ALL PTAC UNITS).

 $2^{\frac{K/K\ STANDARD\ (HA)}{SCALE:\ 1/4"=1'-0"}}$ 

ADA K/K SUITE

9 ADA K/K SUITE
SCALE: 1/4"=1'-0"

4. REFER THE ARCHITECTURAL PLANS AND ID PLANS FOR THE EXACT THERMOSTAT LOCATION. PROVIDE TELKONET'S ECOLNSIGHT+ THERMOSTAT (CONNECTED ROOM'S REQUIREMENT) 5. THERMOSTAT CONTROL CONDUIT AND CONTROL WIRING.

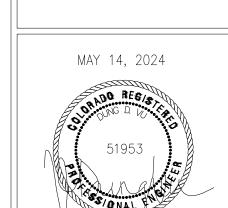
6. METAL EXHAUST DUCT ABOVE CEILING. SEE MECHANICAL FLOOR PLAN FOR CONTINUATION

3. PACKAGED TERMINAL A/C UNIT (PTAC). SEE DETAIL ON M3.0 FOR INSTALLATION DETAIL.

 NEW BACKGROUND 













Xpr

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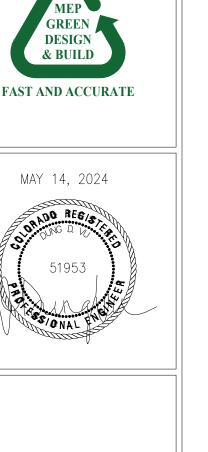
REVISION DATES: 10/19/23 Staff/GM Toilets, Permit Revisions 11/29/23 Mt. Werner Revisions 02/15/24 Pool Removal, Guest Room Addition 05/14/24 Updated plans

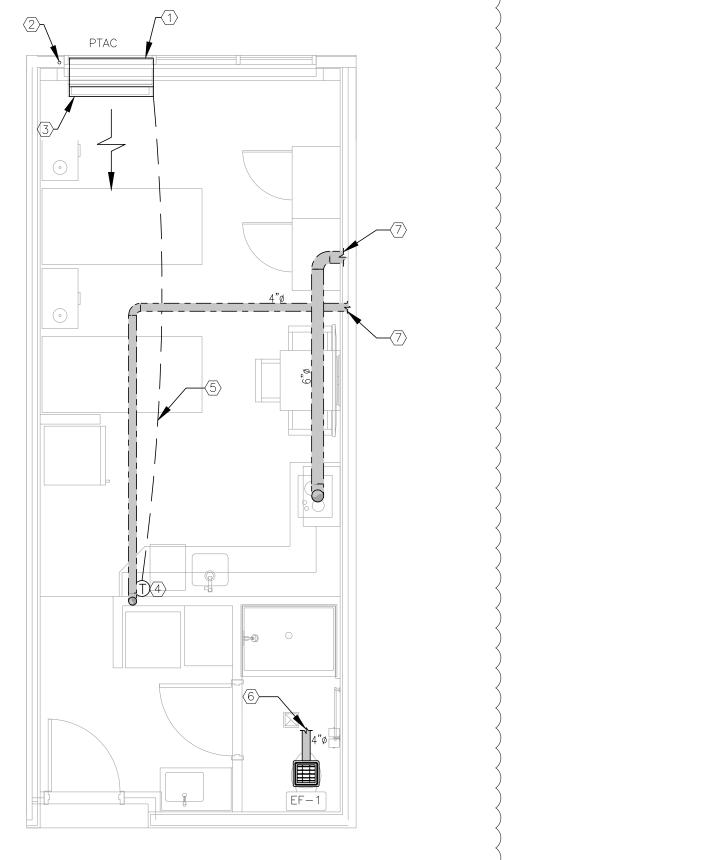
PROJECT MANAGER: MECHANICAL TYPICAL STAFFROOM PLAN

ASI #2 5/28/24

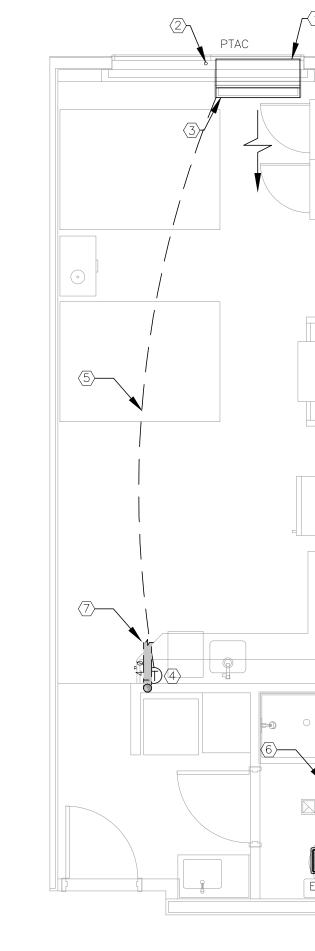
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NEW BACKGROUND



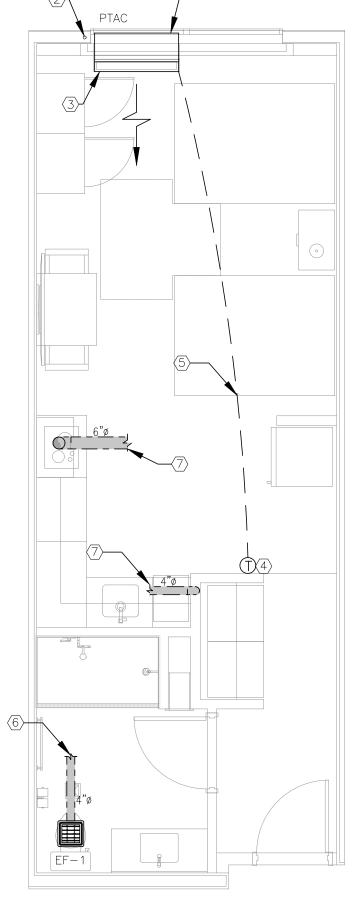


 $\underbrace{A\underbrace{STAFF\ TYPE\ A.1}_{\text{SCALE: 1/4"=1'-0"}}}$ 



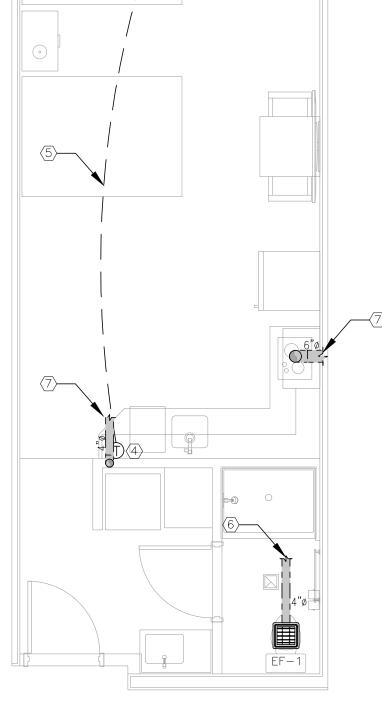
EF-1

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





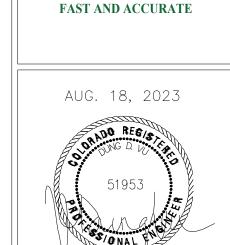
- 1. ARCHITECTURAL WALL GRILLE ARE PART OF THE WINDOW UNIT. PROVIDE BLANK-OFF PLATES AROUND PTAC SLEEVE AS REQUIRED (TYPICAL FOR ALL PTAC UNITS).
- 2. SEE PLUMBING DRAWINGS FOR CONDENSATE DRAIN PIPING (TYPICAL FOR ALL PTAC UNITS).
- 3. PACKAGED TERMINAL A/C UNIT (PTAC). SEE DETAIL ON M3.0 FOR INSTALLATION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







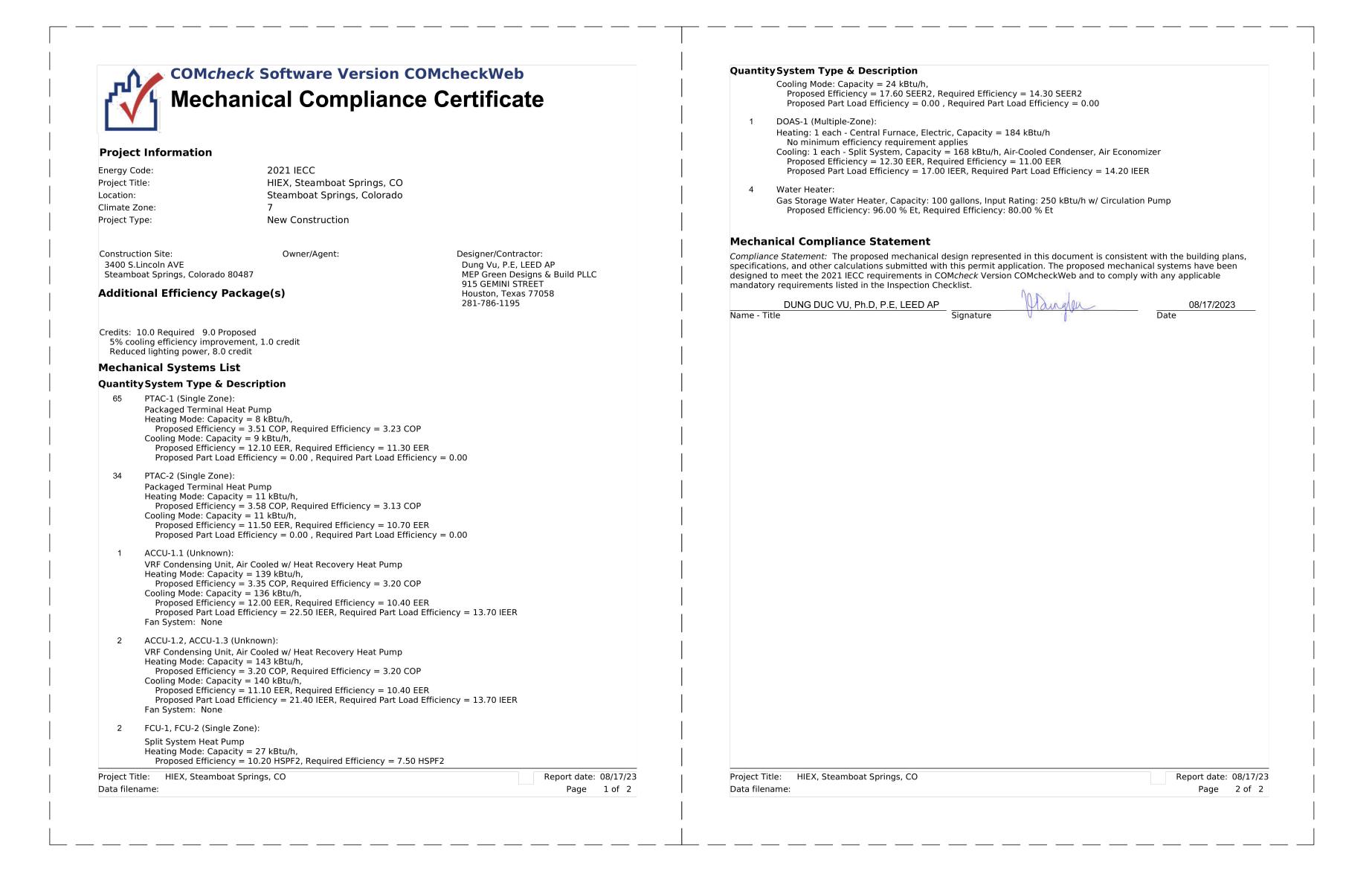




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& BUILD



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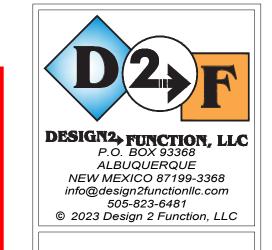
REVISION DATES:

PROJECT MANAGER:

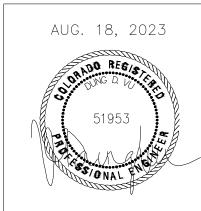
MECHANICAL COMCHECK REPORT

**M5.0** 











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DRAWING ISSUE DATES: 8/18/23 PERMIT SET

REVISION DATES:

PROJECT MANAGER:

MECHANICAL HEATING COOLING LOAD

·					System	n Checksum By Trane	•									Sy	stem Che	ecksum	ıs			
Part	CU-1-2					Бу ттапе				F	Fan Coil	FCU-1-3					Бу на	ne				Fan C
Part		COOLING O	OIL PEAK	С	LG SPACE PEAK	<u> </u>	HEATING CO	OIL PEAK	TEMF	PERATUR	RES		COOLING	COIL PEAK	C	CLG SPACE	PEAK		HEATING (	COIL PEAK	TE	MPERATURES
Second   Person   Med   Person   Square   Person   Med   Person   Square   Person   Med   Person   Square   Person   S	Pe	eaked at Time:	Mo/Hr	: 7/20	Mo/Hr: Sum of		Mo/Hr: H	eating Design		55.0	80.3	Peake	ed at Time:	Mo/H	lr: 7 / 18	Mo/Hr: S	Sum of		Mo/Hr:	Heating Design	SADB	Cooling Heat 56.0 9
COOLING COIL SELECTION   Total Capacity ton MBh cfm or F or gr/lb   Sens Cap. Coil Airflow ton MBh cfm or	Skylite Solar Skylite Cond Skylite Cond Cond Cond Solars Solar Solars Solar So	Sens. ÷ Lat.  Btu/h  ads  1 0 0 0 0 0 0 0 2,342 or 0 -180 or 0 -512 => 1,649  ds 2,713 12,584 7,167 => 22,464  load 0 s Heat 0 y Sizing ng 0 t at it kup o Ht Pkup eakage	Sens. + Lat Btu/h  0 0 0 0 459  678 0 678 -141 0  -269 0 0	Total Of Total Btu/h (%)  0 0 0 0 0 0 0 0 0 0 0 0 2,800 15 0 0 0 -180 -1 0 0 0 -512 -3 2,108 11  3,391 18 12,584 67 7,167 38 23,142 124  0 -6,300 -34 0 0 0 -269 -1 0	Sensible Btu/h         Of Total (%)           0         0           0         0           0         0           0         0           0         0           2,342         13           0         0           -180         -1           0         -45           0         2,116           12           2,713         15           5,984         33           7,167         40           15,864         88           141         1           0         0           0         0	Envelope Loads Skylite Solar Skylite Cond Roof Cond Glass Solar Glass/Door Cond Wall Cond Partition/Door Floor Adjacent Floor Infiltration Sub Total ==> Internal Loads Lights People Misc Sub Total ==> Ceiling Load Ventilation Load Adj Air Trans Heat Ov/Undr Sizing Exhaust Heat OA Preheat Diff. RA Preheat Diff. Additional Reheat Underfir Sup Ht Pku Supply Air Leakage	Space Sens Btu/h  0 0 0 0 0 -3,466 0 -2,444 0 -1,488 -7,398  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Tot Sens Of Total Btu/h (%)  0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 -4,153 15.84 0 0.00 -2,444 9.32 0 0 0 -1,488 5.68 -8,086 30.83  0 0.00 0 0.00 0 0.00 0 0.00 -18,301 69.79 0 0 0.00 0 0.00	Ret/OA Fn MtrTD Fn BldTD Fn Frict  AI  Diffuser Terminal Main Fan Sec Fan Nom Vent AHU Vent Infil MinStop/Rh Return Exhaust Rm Exh Auxiliary Leakage Dw Leakage Ups  ENGIN  % OA cfm/ft² cfm/ton ft²/ton Btu/hr·ft²	76.1 75.2 0.0 0.0 0.0 0.0 798 998 998 998 10 255 255 27 1,019 27,5 0 0 1,019 27,5 0 0 1,019 27,5 0 1,019 27,5 0 1,019 27,5 0 1,019 27,5 27,5 27,5 27,5 27,5 27,5 27,5 27,5	71.4 51.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	Skylite Solar Skylite Cond Roof Cond Glass Solar Glass/Door Cor Wall Cond Partition/Door Floor Adjacent Floor Infiltration Sub Total ==>  Internal Loads Lights People Misc Sub Total ==>  Ceiling Load Ventilation Load Adj Air Trans Ho Dehumid. Ov Si Ov/Undr Sizing Exhaust Heat Sup. Fan Heat Buct Heat Pkup Underfir Sup Ht Supply Air Leak	Sens. + La  Btu/ s  13,31  148 46 1,60 -27 -9 15,50  1,67 2,55 4,94 9,17  deat eat ezing  Pkup kage	t. Sens. + Lat h Btu/h  0 0 0 0 0 0 0 7 0 7 199 9 6 0 0 2 199 2 388 8 0 2 0 2 388 5 -55 0 0 0 -50 0 0	Total Of Total Btu/h (%)  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Sensible 6 Btu/h  0 0 13,314 487 467 1,429 -276 0 42 15,463  1,727 1,247 5,188 8,162 56 0 0 0	of Total (%) Envelo Skyl Skyl Skyl Roor S6 Glas C2 Wall Floo Adja Infilt Sub Interna T Ligh S2 Misc S4 Ceiling Ventila OV/Une Exhau OA Pre RA Pre Additio	ite Solar ite Cond ite Cond f Cond s Solar iss/Door Cond Cond ition/Door r icent Floor ration Total ==> al Loads ts cole ition Load r Trans Heat dr Sizing st Heat eheat Diff. chal Reheat fir Sup Ht Pk y Air Leakage	Space Sens Btu/h  0 0 0 -5,303 -526 -13,274 -2,660 0 -1,467 -23,229  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Tot Sens Btu/h  0 0 0 -5,303 -752 -13,274 -2,660 0 -1,467 -23,454  0 0 -8,505 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Percent (%) Return (Ret/OA Fn MtrTI Fn BldTI Fn Frict Fn	75.4 7 75.9 6 0 0.0 0 0.0 0 0.0 0 0.0 0 0.0  AIRFLOWS  Cooling Heat 1,370 1 1,370 1 1,370 1 1,370 1 1,381 1 111 t 111 Rh 0 1,381 1 122 0 0 Dwn 0 Ups 0  GINEERING CKS  Cooling Heat 8.6 3.36 3 669.78 199.49 60.15 -78
Iain Clg       1.6       18.7       18.3       998 75.2       57.6       58.9       55.0 50.1       58.1       Floor       414       Main Htg       -26.2       998 51.3       80.3         ux Clg       0.0	Tand Total	Total Capacity	COOLING C	OIL SELECTION bil Airflow Enter DB/	WB/HR Leave	DB/WB/HR	AREAS	Glass	ATING COIL	SELECT	TION Ent Lvg		otal Capacit	COOLING ( y Sens Cap. C	COIL SELECTION oil Airflow Enter DB/	/WB/HR	Leave DB/WB/	HR	AREAS Gross Total	Glass	HEATING C	OIL SELECTION ityCoil Airflow Ent
	ux Clg ot Vent	1.6 18.7 0.0 0.0 0.0 0.0	0.0	998 75.2 57.6 0 0.0 0.0	55.0 5 0 0.0 0.0	0.1 58.1 Floor 0.0 0.0 Part 0.0 0.0 Int Doc ExFir	0 0 340	Main Htg Aux Htg Preheat	0.0 -3.3	998 0 998	51.3 80.3 0.0 0.0 51.3 55.0	Aux Clg Opt Vent	2.1 24. 0.0 0. 0.0 0.	5 24.5 0 0.0 0 0.0	1,370 75.9 55. 0 0.0 0.	8 49.3 0 0.0	56.0 48.3 49 0.0 0.0 0	9.3 Floor Part 0.0 Int Do ExFir	408 432 <b>oor</b> 0 370		Aux Htg 0 Preheat 0	9 1,370 65.0 0 0 0.0 0 0 0.0

FCU-1-4															F	an Coil
	CO	OLING	COIL PEAK	<b>&lt;</b>	С	LG SPACI	E PEAK			HEATING (				TEMPE	RATURE	S
Pe	aked at Outsi	t Time: ide Air:		o/Hr: 7 / 19 /HR: 77 / 52 /	30	Mo/Hr: OADB:	Sum of Peaks			Mo/Hr: OADB:	Heating -7	Desigr	1	SADB Ra Plenum	<b>Cooling</b> 59.6 75.1	<b>Heating</b> 78.3 71.9
	Se	Space ens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h		Percent Of Total (%)	Space Sensible Btu/h	Percent Of Total (%)			Space Peak Space Sens Btu/h			Percent Of Total (%)	Return Ret/OA Fn MtrTD	75.1 75.1 0.0	71.9 65.9 0.0
Envelope Lo	ads	Dtu/II	Dtu/II	Dtu/II	(70)	Dtu/II	(70)	Envelope	Loads	Btu/II		Dlu/i	(70)	Fn BldTD	0.0	0.0
Skylite Solar		0	0	0	0	0	0	Skylite S		0		0	0.00	Fn Frict	0.0	0.0
Skylite Cond Roof Cond		0	0	0	0	0	0	Skylite C Roof Co		0		0	0.00			
Glass Solar		14,060	0	14,060		18,157	65	Glass So		0		0		AIR	FLOWS	
Glass/Door	Cond	313	ő	313	1	597	2		oor Cond	-6,960		-6,960		7 (11 (1		Haatina
Wall Cond		329	219	548	2	320	1	Wall Cor	nd	-338		-564	2.52	Diffuser	<b>Cooling</b> 2,001	Heating
Partition/Dod	or	0		0	0	0	0	Partition	/Door	0		0.500	0.00			2,001
Floor	o.r	-227	•	-227	-1	-260 0	-1	Floor	t Class	-2,566		-2,566		Terminal Main Fan	2,001 2,001	2,001 2,001
Adjacent Flo Infiltration	OF	0 -575	0	0 -575	0 -2	54	0	Adjacen Infiltratio		0 -1,521		-1,521	1	Sec Fan	0	2,001
Sub Total ==	:>	13,899	219	-373 14,118	44	18,868	68	Sub Tota		-11,385		-11,611		Nom Vent	150	150
		10,000	210	14,110		10,000	00			,000		,	002	AHU Vent	150	150
Internal Load	ls							Internal Lo	oads					Infil	11	21
Lights		2,923	0	2,923	9	2,382	9	Lights		0		0		MinStop/Rh Return	0 2,011	0 2,022
People Misc		11,521 3,379	0	11,521 3,379	36 11	3,667 2,969	13 11	People Misc		0		0		Exhaust	161	172
Sub Total ==		17,823	0	17.823	56	9.018	32	Sub Tota	1>	0		0		Rm Exh	0	0
300 TOTAL	-	17,023	U	17,023	50	9,010	32	Sub Tota	11	U		U	0.00	Auxiliary	Ő	0
<b>Ceiling Load</b>		15	-15	0	0	15	0	Ceiling Lo		-15		0	0.00	Leakage Dwn	0	0
Ventilation L		0	0	0	0	0	0	Ventilation		0		-10,813		Leakage Ups	0	0
Adj Air Trans		0		0	-	0	0	Adj Air Tra		0		0	- 1			
Dehumid. Ov				0	0	0	0	Ov/Undr S		0		0 18	0.00	ENGINE		1/0
Ov/Undr Sizi		0	-2	0 -2		0	0	Exhaust H				0		ENGINE	ERING C	KS
Sup. Fan Hea			-2	0	ő			RA Prehea				0			Cooling	Heating
Ret. Fan Hea			0	Ö	Ö			Additional				Ö		% OA	7.5	7.5
<b>Duct Heat Pk</b>			0	0	0									cfm/ft²	4.73	4.73
Underflr Sup				0	0				up Ht Pku	р		0		cfm/ton	751.73	
Supply Air Le	eakage		0	0	0			Supply Ai	r Leakage			0	0.00	ft²/ton	158.93	50.07
Grand Total :		31,737	202	31,939	100.00	27,901	100.00	Grand Tot	al ==>	-11,401		-22,406	100.00	Btu/hr·ft² No. People	75.51 25	-52.97
Grand Total -		31,737	202	01,000	100.00	27,501	100.00	Grand rot		-11,401			100.00	No. I eopie		
	Total	Capacity		COIL SEI		NR/HP	l asva l	OB/WB/HR		AREAS	Glass		HE	ATING COIL S CapacityCoi		
	ton	MBh	MBh	cfm	°F °F		°F			ii Uaa TUIdi	ft²	(%)		MBh	cfm	°F °F
Main Clg	2.7	31.9	26.3	2,001			59.6 56		Floor	423			Main Htg	-22.4	2,001 6	
Aux Clg	0.0	0.0	0.0		0.0 0.0		0.0		Part	0			Aux Htg	0.0	0	
Opt Vent	0.0	0.0	0.0	0	0.0 0.0	0.0	0.0	0.0 0.0	Int Doo				Preheat	0.0	0	0.0 0.0
Total	2.7	31.9							Roof	357 0	0	0	Humidif	0.0	0	0.0 0.0
. 5.41	2.1	51.5							Wall	153	89		Opt Vent	0.0	0	0.0 0.0
									Ext Do		0	- 1	Total	-22.4	-	3.0
									LAT DO	<b>∵.</b> ∪	-		, otal	-22.7		

System Checksums

**CLG SPACE PEAK** 

Net Percent Total Of Total

Btu/h (%)

21,344 848 2,418

1,520 1,926 32,886

36,332

-2,057

857 58,843 100.00 l

**COOLING COIL SELECTION** 

671 24,609

Mo/Hr: Sum of

OADB: Peaks

Space Percent Sensible Of Total

21,344 848 1,747

23,938

1,216 1,926 32,886

36,028

Btu/h (%)

FCU-1-1

Skylite Cond

Roof Cond

Glass Solar Glass/Door Cond

Wall Cond

Infiltration

Partition/Door

Adjacent Floor

Sub Total ==>

Internal Loads

Sub Total ==>

Ventilation Load Adj Air Trans Heat

Ov/Undr Sizing

Exhaust Heat Sup. Fan Heat

Main Clg Aux Clg

Opt Vent

Total

Dehumid. Ov Sizing

Ret. Fan Heat Duct Heat Pkup Underfir Sup Ht Pkup

Supply Air Leakage

**Grand Total ==>** 60,043

5.1 61.7

Dataset Name: HIEX STEAMBOAT SPRINGS CO.TRC

Project Name: Holiday Inn Express

Lights People Misc

COOLING COIL PEAK

Space Plenum Sens. + Lat. Sens. + Lat

21,344 848 1,747

23,938

32,886

36,028

Btu/h Btu/h

Outside Air: OADB/WB/HR: 81 / 53 / 31

671

Peaked at Time:

By Trane

Skylite Cond

Roof Cond

Wall Cond Partition/Door

Adjacent Floor Infiltration

40 Sub Total ==>

60 Sub Total ==>

Ventilation Load

0 Adj Air Trans Heat

Ov/Undr Sizing

Additional Reheat

Underfir Sup Ht Pkup

Supply Air Leakage

0 Exhaust Heat OA Preheat Diff. RA Preheat Diff.

55.0 50.9 61.5 Floor 0.0 0.0 0.0 Part

60,043 100.00 Grand Total ==>

0 0.0 0.0 0.0 0.0 0.0 0.0 Int Door ExFir Roof

2 Lights 3 People 55 Misc

**Internal Loads** 

Glass Solar Glass/Door Cond

**HEATING COIL PEAK** 

OADB: -7

Space Peak Space Sens Btu/h

-11,769

-11,837

**AREAS** 

Mo/Hr: Heating Design

Coil Peak Percent Return Tot Sens Of Total | Ret/OA

0 0.00 0 0.00 -9,522 40.45 -3,111 13.22 0 0.00 0 0.00 **Diffuser** 

-12,633 53.67 Nom Vent

-0.16 0.00 0.00

0.00 cfm/ton

Btu/hr·ft²

HEATING COIL SELECTION

MBh

0.0

TRACE® 700 v6.2.5 calculated at 06:45 PM on 08/09/2023

Alternative - 1 System Checksums Report Page 4 of 12

0 0.00 | ft²/ton

-23,540 100.00 | No. People

Main Htg Aux Htg Preheat

| Wall 588 236 40 | Opt Vent 0.0 | Ext Door 0 0 0 | Total -23.5

Btu/h (%) | Fn MtrTD

Fn BldTD 0.00 | Fn Frict

0.00 | **Sec Fan** 

0.00 Return

0.00 Exhaust 0 0.00 Rm Exh

AHU Vent

Auxiliary 0 0.00 | Leakage Dwn -10,944 46.49 | Leakage Ups Fan Coil

0.0

3,307 152

**TEMPERATURES** 

75.5 0.0 0.0

0.0

3,307 3,307

**ENGINEERING CKS** 

**Cooling Heating** 3,307 3,307

4.08 4.08

76.14 -29.06

cfm °F

0 0.0 0.0

0.0 0.0

0 0.0 0.0

643.43

157.61

CapacityCoil Airflow Ent Lvg

CU-1-5																	an C	oil
			COIL PEAK			CLG SPA					HEATING				TEMPE	RATUR		
Pea	ked at Outsi	Time: de Air:	Mo/Hi OADB/WB/HF	r: 7 / 18 R: 81 / 53 /	31			Sum of Peaks			Mo/Hr: OADB:		ng Desigr	ו	SADB Ra Plenum	55.0 75.5	8	ing 9.5 1.7
	Se		Plenum Sens. + Lat	Total	Percent Of Total	Sensi	ble	Percent Of Total			Space Peak Space Sens	,	Tot Sens	Percent Of Total	Return Ret/OA	75.5 76.0	7 6	1.7 3.6
Envelope Loa	de	Btu/h	Btu/h	Btu/h	(%)	Bt	u/h	(%)	Envelope	Loade	Btu/h		Btu/h	1 (%)	Fn MtrTD Fn BldTD	0.0 0.0		0.0
Skylite Solar	us	0	0	0	0		0	0	Skylite S		0		0	0.00	Fn Frict	0.0		0.0
Skylite Cond		Ö	ŏ	0	Ő		Ö	Ő	Skylite C		ŏ		Ö		1111100			0.0
Roof Cond		Ō	0	Ō	0		Ō	Ō	Roof Co		Ō		Ö					
Glass Solar		19,046	0	19,046	62	19,0	)46	66	Glass So	olar	0		0	0.00	AIRI	<b>FLOWS</b>		
Glass/Door C	ond	704	0	704	2		704	2		oor Cond	-7,202		-7,202			Cooling	ı Hea	ting
Wall Cond		597	378	975	3		97	2	Wall Cor		-721		-1,179		Diffuser	1,601	,	,601
Partition/Door	٢	1,152		1,152	4	,	152	4	Partition	Door	-9,955 5,033		-9,955 5,033		Terminal	1,601		,601
Floor Adjacent Floo	\r	-623 0	0	-623 0	-2 0	-6	623 0	-2 0	Floor Adjacen	t Floor	-5,923 0		-5,923 0		Main Fan	1,601		,601
Infiltration	71	-44	U	-44	0		54	0	Infiltratio		-1,539		-1,539		Sec Fan	, (		0
Sub Total ==>	>	20,833	378	21,211	69	20,9		72	Sub Tota		-25,340		-25,798		Nom Vent	166		166
Oub Total ==		20,000	070	21,211	00	20,0	, ,	12	000.000	••	_0,0.0		_0,.00		AHU Vent	166		166
nternal Loads	5								Internal Lo	oads					Infil	11		21
Lights		1,753	438	2,191	7	1 7	753	6	Lights		0		0	0.00	MinStop/Rh			0
People		3,850	0	3.850	12	,	25	7	People		Ö		Ö		Return	1,611	1	,622
Misc		4,382	0	4,382	14	4,3	382	15	Misc		0		0	0.00	Exhaust	176	6	187
Sub Total ==>	>	9,985	438	10,423	34	8,0	060	28	Sub Tota	a/ ==>	0		0	0.00	Rm Exh	(		0
													_		Auxiliary	(		0
Ceiling Load		69	-69	0	0		69	0	Ceiling Lo		-39		14 043		Leakage Dwn	(		0
/entilation Lo		0	0	-676	-2		0	0	Ventilation		0		-11,913		Leakage Ups	(	)	0
Adj Air Trans		0		0	0		0	0	Adj Air Tra		0		0	- 1				
Dehumid. Ov Dv/Undr Sizin		0		0	0		0	0	Ov/Undr S Exhaust H		U		48		ENCINE		21/0	
Exhaust Heat		0	-82	-82	0		U	U	OA Prehea				40		ENGINE		SKS	
Sup. Fan Heat			02	0	Õ				RA Prehea				Ö			Cooling	Heat	ing
Ret. Fan Heat			0	0	0				Additional				O		% OA	10.4		0.4
Duct Heat Pku			0	0	0										cfm/ft²	3.74	3	.74
Inderfir Sup		р		0	0					up Ht Pku	p		0	. 0.00	cfm/ton	622.03		
Supply Air Le	akage		0	0	0				Supply Air	r Leakage			0	0.00	ft²/ton	166.34	0.0	00
Grand Total =	=>	30,888	665	30,877	100.00	29,0	061	100.00	Grand Tot	al ==>	-25,379		-37,663	100.00	Btu/hr·ft² No. People	72.14 7	-88	.00
			COOLING C								AREAS			HEA	ATING COIL S			
	Total ton	Capacity MBh	Sens Cap. Co MBh	oil Airflow cfm		<b>B/WB/HR</b> °F gr/lb			<b>OB/WB/HR</b> °F gr/lb	G	ross Total	Glas	ss (%)		<b>CapacityCoi</b> MBh	il Airflow cfm	<b>Ent</b> °F	Lvg °F
/lain Clg	2.6	30.9	30.6	1,601		4.9 44.9		55.0 46		Floor	428			Main Htg	-37.7	1,601		89.5
Aux Clg	0.0	0.0	0.0	0		0.0		0.0		Part	324			Aux Htg	0.0		0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0		0.0	0.0	Int Door				Preheat	0.0	0	0.0	0.0
Fotol	0.6	20.0								ExFir	824	0	_	Lluca i alif	0.0	0	0.0	0.0
Total	2.6	30.9								Roof Wall	0 312	0 179		Humidif Opt Vent	0.0 0.0	0	0.0	0.0
										Ext Doc		0	0	Total	-37.7	J	0.0	0.0
											U U	U	U	าบเสเ	-31.1			

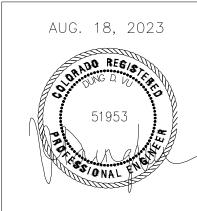
	CC	OLING (	COIL PEAK		C	LG SPAC	E PEAK			<b>HEATING</b>	COIL	<b>PEAK</b>		TEMPE	RATUR	ES
Pe	eaked a Outs	t Time: ide Air:	Mo/H OADB/WB/HF	lr: 7 / 18 R: 81 / 53 /	31	Mo/Hr: OADB:	Sum of Peaks			Mo/Hr: OADB:		ng Design	ı	SADB Ra Plenum	<b>Cooling</b> 55.0 76.0	<b>Heating</b> 80.6 71.4
	Se	Space ens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h		Percent Of Total (%)	Space Sensible Btu/h	Percent Of Total (%)			Space Peak Space Sens Btu/h	•	Coil Peak Tot Sens Btu/h		Return Ret/OA Fn MtrTD	76.0 76.4 0.0	71.4 64.7 0.0
Envelope Lo Skylite Sola Skylite Con-	r	0	0	0	0	0	0	Envelope Skylite S Skylite (	Solar	0		0	0.00	Fn BldTD Fn Frict	0.0	0.0
Roof Cond Glass Solar		0 35,450	0	0 35,450	0 61	0 35,450	0 66	Roof Co Glass S	nd olar	0		0	0.00 0.00	AIR	FLOWS	
Glass/Door Wall Cond Partition/Do		1,166 3,013 0	0 1,804	1,166 4,818 0	2 8 0	1,166 3,013 0	2 6 0	Wall Co		-13,588 -2,972 0		-13,588 -4,761 0	31.91 11.18 0.00	Diffuser	Cooling 2,957	
Floor Adjacent Flo		-338 0	0	-338 0	-1 0	-338 0	-1 0	Floor Adjacen	t Floor	-3,335 0		-3,335 0	7.83 0	Terminal Main Fan	2,957 2,957	2,957
Infiltration Sub Total =	=>	-183 39,108	1,804	-183 40,912	0 70	104 39,395	0 73	Infiltration		-2,952 -22,847		-2,952 -24,636		Sec Fan Nom Vent	252 252	252
Internal Loa	ds							Internal L	oads					AHU Vent Infil	252	
Lights People Misc		4,707 8,910 4,876	1,177 0 0	5,884 8,910 4,876	10 15 8	4,707 4,455 4,876	9 8 9			0 0 0		0 0 0	0.00	MinStop/Rh Return Exhaust	0 2,978 272	2,998
Sub Total =	=>	18,493	1,177	19,670	34	14,038	26	Sub Tota	a/ ==>	0		0	0.00	Rm Exh Auxiliary	0	0
Ceiling Load Ventilation L Adj Air Trans	.oad	262 0 0	-262 0	0 -2,243 0	0 -4 0	262 0 0	0 0 0	Ventilation	ı Load	-156 0 0		0 -18,102 0	<b>I</b>	Leakage Dwn Leakage Ups	0	٦
Dehumid. Ov Ov/Undr Siz	/ Sizing ing	_		0	0	0	Ü	Ov/Undr S Exhaust F	izing eat	0		0 159	0.00 -0.37	ENGINE	ERING (	CKS
Exhaust Hea Sup. Fan Hea Ret. Fan Hea	at it		-249 0	-249 0 0	0 0 0			OA Prehea RA Prehea Additiona	t Diff.			0 0 0		% OA	Cooling 8.5	8.5
Duct Heat Pl Underfir Sup Supply Air L	Ht Pkı		0	0 0 0	0 0 0			Underfir S Supply Ai	iup Ht Pkup r Leakage	)		0	0.00 0.00	cfm/ft² cfm/ton ft²/ton	3.60 610.90 169.60	3.60
Grand Total	_	57,863	2,471	58,091	100.00	53,695	100.00	Grand Tot	•	-23,003		-42,579	100.00	Btu/hr·ft² No. People	70.76 27	-51.86
	Total	Capacity	COOLING C Sens Cap. C			WB/HR	Leave	DB/WB/HR	G	AREAS	S Glas	ss	HEA	ATING COIL S		ON Ent Lvg
	ton	MBh	MBh	cfm	°F °I		°F	°F gr/lb			ft <sup>2</sup>	(%)		MBh	cfm	°F °F
Main Clg Aux Clg	4.8 0.0	58.1 0.0	57.4 0.0	0	76.4 56.5 0.0 0.0	0.0	55.0 4 0.0	0.0 0.0	Floor Part	821 0			Main Htg Aux Htg	-42.6 0.0		0.0 0.0
Opt Vent <i>Total</i>	0.0 4.8	0.0 58.1	0.0	0	0.0 0.0	0.0	0.0	0.0 0.0	Int Door ExFir Roof	464 0	0	0	Preheat Humidif	0.0 0.0	0	0.0 0.0 0.0 0.0
									Wall Ext Doo	312 or 0	174 0	1 1	Opt Vent <i>Total</i>	0.0 -42.6	0	0.0 0.0

**System Checksums** 









AUG.	18,	2023	
O.A.	O REG	15 TEAR	<i>\</i>
	51953		
	ONAL		
	Maria	<b>*</b>	

AVE CO 80487
3400 S. LINCOLN STEAMBOAT SPRINGS
3400 S.
S S T F A

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\* (NFC) indicates "Not for Construction" unless noted otherwise.

DRAWING ISSUE DATES: 8/18/23 PERMIT SET

REVISION DATES:

PROJECT MANAGER: MECHANICAL HEATING COOLING LOAD

	System Checksui By Trane	ms				System Checkson By Trane	ums				System Ch	necksums		
J-1-7	by frame		Fan Coil	FCU-1-8		by Halle		Fan Coil	FCU-9, FCU-10		by II	and		Fan C
COOLING COIL PEAK	CLG SPACE PEAK	HEATING COIL PEAK	TEMPERATURES	COOLING C	OIL PEAK	CLG SPACE PEAK	HEATING COIL PEA	AK TEMPERATURES	COOLING	COIL PEAK	CLG SPACE PEAK	HEATING C		TEMPERATURES
Peaked at Time: Mo/Hr: 7 / 9 Outside Air: OADB/WB/HR: 65 / 46 / 26	Mo/Hr: Sum of OADB: Peaks	Mo/Hr: Heating Design OADB: -7	Cooling         Heating           SADB         55.0         82.9	Peaked at Time: Outside Air:	Mo/Hr: 7 / 20 OADB/WB/HR: 73 / 50 / 29	Mo/Hr: Sum of OADB: Peaks	Mo/Hr: Heating Des OADB: -7	<b>SADB</b> 55.0 78.6	Peaked at Time: Outside Air:	Mo/Hr: 7 / 18 OADB/WB/HR: 81 / 53 / 31	Mo/Hr: Sum of OADB: Peaks	Mo/Hr: F OADB: -	11	SADB Cooling Heat
Space Plenum Net Perc				Space	Plenum Net Percent	Space Percent			Space	Plenum Net Percer		Space Peak	Coil Peak Percent	Ra Plenum         73.6           Return         73.6
Sens. + Lat. Sens. + Lat Total Of To Btu/h Btu/h Btu/h	otal Sensible Of Total (%) Btu/h (%)	Space Sens Tot Sens Of Total  Btu/h Btu/h (%)		Sens. + Lat. S	ens. + Lat Total Of Total  Btu/h Btu/h (%)	Sensible Of Total Btu/h (%)	•	Sens Of Total         Ret/OA         75.0         64.8           Btu/h         (%)         Fn MtrTD         0.0         0.0	Sens. + Lat	Sens. + Lat Total Of Total  Btu/h Btu/h (%)	Btu/h (%)	<b>Space Sens</b> Btu/h	Tot Sens Of Total Btu/h (%)	Fn MtrTD 0.0
<b>lope Loads</b> ite Solar 0 0 0	0 0 0 Envelope Loads Skylite Solar	0 0 0.00	Fn BldTD	Envelope Loads Skylite Solar 0	0 0 0	0 0 Envelope Load Skylite Solar	<b>s</b> 0	0 0.00   Fn Frict 0.0 0.0	Envelope Loads Skylite Solar	0 0	0 0 Sk	elope Loads ylite Solar 0		Fn BldTD         0.0           Fn Frict         0.0
lite Cond 0 0 0 0 of Cond 0 0 0	0 0 0 Skylite Cond 0 0 Roof Cond	0 0 0.00 0 0 0.00		Skylite Cond 0 Roof Cond 0	$egin{array}{cccc} 0 & 0 & 0 \ 0 & 0 & 0 \ \end{array}$	0 0 Skylite Cond 0 0 Roof Cond	0 0	0 0.00 0 0.00	Skylite Cond (	0 0 0 0	0 0 Ro	ylite Cond 0 of Cond 0	0 0.00   <sup>[</sup> 0 0.00   [	
ss Solar 38,217 0 38,217 ss/Door Cond -2,951 0 -2,951	67 43,136 67 Glass Solar -5 673 1 Glass/Door Cor	0 0 0.00 ond -20,607 -20,607 33.34		Glass Solar 0 Glass/Door Cond 0	$egin{array}{cccc} 0 & 0 & 0 \ 0 & 0 & 0 \ \end{array}$	0 0 Glass Solar 0 0 Glass/Door C	0 ond 0	0 0.00 AIRFLOWS 0 0.00 Cooling Heating	Glass Solar 11,618 Glass/Door Cond 348		1 345 1 Gla	ass Solar 0 ass/Door Cond -3,873	0 0.00     -3,873 9.69	AIRFLOWS  Cooling He
Il Cond 124 148 272 tition/Door 0 0	0 191 0 Wall Cond 0 0 Partition/Door	-485 -1,336 2.16 0 0 0.00	<b>Diffuser</b> 3,544 3,544	Wall Cond 0 Partition/Door 0	0 0 0	0 0 Wall Cond 0 0 Partition/Doo	. 0 0	0 0.00   Diffuser 774 774	Wall Cond 20° Partition/Door 1,418	1,418		all Cond -212 rtition/Door -8,402	-0.4UZ Z1.U3	Diffuser 2,252
or -646 -646 acent Floor 0 0 0	-1 -683 -1 Floor 0 0 Adjacent Floor	-9,043 -9,043 14.63 0 0 0	Terminal   3,544   3,544	Floor -227 Adjacent Floor 0	-227 -2 0 0 0	-220 -2 Floor 0 0 Adjacent Floo	or 0	1,084 31.75   <b>Terminal</b> 774 774 0 0 0   <b>Main Fan</b> 774 774   1	Floor -658 Adjacent Floor	-658 - 0 0		oor -9,828 ljacent Floor 0	0 0 1 1	<b>Main Fan</b> 2,252
tration -1,506 -1,506 1 Total ==> 33,238 148 33,386	-3 -467 -1 Infiltration 59 42.850 67 Sub Total ==>		Sec Fan         0         0           Nom Vent         363         363	Infiltration -333 <i>Sub Total</i> ==> -561	-333 -2 0 -561 -4	-191 -1 Infiltration -411 -3 Sub Total ==:		,542	Infiltration 284 Sub Total ==> 13,209	284 205 13.413 3		iltration -5,372 1b Total ==> -27,688	-5,372 13.44	Sec Fan 0 Nom Vent 175
nal Loads	Internal Loads	· ·	AHU Vent 363 363	Internal Loads		Internal Loads		AHU Vent 71 71 Infil 21 21	Internal Loads		Intern	nal Loads	·	AHU Vent 175
nts 10,062 2,515 12,577	22 9,379 15 Lights	0 0.00		Lights 3,514	0 3,514 23	4,026 29 Lights	0	0 0.00   MinStop/Rh 0 0	Lights 10,809		4 10,751 29 Lig	ghts 0	0 0.00	MinStop/Rh 0
pple 15,275 0 15,275 c 4,802 0 4,802	27 7,308 11 People 8 4,515 7 Misc	0 0 0.00	<b>Exhaust</b> 425 430	People 3,900 Misc 8,199	0 3,900 26 0 8,199 54	2,230 16 People 8,199 58 Misc	0	0 0.00   <b>Return</b> 795 795   0 0.00   <b>Exhaust</b> 92 92	People 2,039 Misc 9,83	0 9,831 2	5 1,640 4 Pe 5 11,031 30 Mis	ople 0 sc 0	0 0.00	Return         2,331           Exhaust         253
ab Total ==> 30,139 2,515 32,654	57 21,203 33 Sub Total ==>	0 0.00	Rm Exh	Sub Total ==> 15,613	0 15,613 104	14,456 103 Sub Total ==	0	0 0.00   <b>Rm Exh</b> 0 0   <b>Auxiliary</b> 0 0	Sub Total ==> 22,679	2,569 25,248 6	5 23,423 63 Su	b Total ==> 0	0 0.00	Rm Exh 0 Auxiliary 0
<b>ng Load</b> 300 -300 0 <b>ilation Load</b> 0 0 -8,816	0 286 0 Ceiling Load -15 0 0 Ventilation Load		Leakage Dwn         0         0           Leakage Ups         0         0	Ceiling Load 0 Ventilation Load 0	$egin{array}{cccc} 0 & 0 & 0 \\ 0 & 0 & 0 \\ \end{array}$	0 0 Ceiling Load 0 0 Ventilation Loa	0 <b>d</b> 0 -5,0	0 0.00   Leakage Dwn 0 0	Ceiling Load 584 Ventilation Load	-584 0 0 367	0 563 2 <b>Ceili</b> i 1 0 0 <b>Venti</b>	ng Load -42 ilation Load 0	0 0.00     -12,160 30.43	Leakage Dwn 0 Leakage Ups 0
ir Trans Heat 0 0 mid. Ov Sizing 0	0 0 Adj Air Trans Hea			Adj Air Trans Heat 0 Dehumid. Ov Sizing	0 0	0 0 Adj Air Trans H Ov/Undr Sizing	l <b>eat</b> 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Adj Air Trans Heat Dehumid. Ov Sizing	0		Air Trans Heat 0 Indr Sizing 0	0 0 0	
mdr Sizing 0 0 ust Heat -273 -273	0 0 Exhaust Heat OA Preheat Diff.	90 -0.15 0 0.00	ENGINEERING CKS	Ov/Undr Sizing 0 Exhaust Heat	0 0	0 0 Exhaust Heat OA Preheat Dit	f	0 0.00 0 0.00   ENGINEERING CKS	Ov/Undr Sizing ( Exhaust Heat	-172 -172	0 0 <b>Exha</b>	ust Heat Preheat Diff.	90 -0.23	<b>ENGINEERING CKS</b>
Fan Heat 0 0	0 RA Preheat Diff. 0 Additional Rehea	0 0.00	Cooling Heating   10.2   10.2	Sup. Fan Heat Ret. Fan Heat	0 0	RA Preheat Dif Additional Reh	f.	0 0.00   Cooling Heating   9.1 9.1	Sup. Fan Heat Ret. Fan Heat	0	0 RAP	reheat Diff. tional Reheat	0 0.00   0 0.00	Cooling Hea 7.8
Heat Pkup 0 0	0 0 Underfir Sup Ht I		cfm/ft <sup>2</sup> 2.64 2.64 cfm/ton 746.64	Duct Heat Pkup Underfir Sup Ht Pkup	0 0 0	Underfir Sup H		cfm/ft <sup>2</sup>	Duct Heat Pkup Underfir Sup Ht Pkup	0 0	0	erfir Sup Ht Pkup	0 0.00	<b>cfm/ft<sup>2</sup></b> 1.29
ly Air Leakage 0 0	0 Supply Air Leaka		ft²/ton 282.35	Supply Air Leakage	0 0 0	Supply Air Lea	•	0 0.00   ft²/ton 342.00	Supply Air Leakage	0 0		oly Air Leakage	0 0.00	ft²/ton 536.35
<b>d Total ==&gt;</b> 63,676 2,091 56,951 100	0.00 64,339 100.00 <i>Grand Total ==&gt;</i>	-35,050 -61,807 100.00		<b>Grand Total ==&gt;</b> 15,053	0 15,053 100.00	14,044 100.00 <i>Grand Total</i> ==	> -4,626 -9,7	7,713 100.00   <b>Btu/hr·ft²</b> 35.09 -22.64   <b>No. People</b> 9	<b>Grand Total ==&gt;</b> 36,47	2,018 38,856 100.0	0 37,071 100.00 <i>Gran</i>	d Total ==> -27,730	-39,962 100.00	
COOLING COIL SELECT	TION		ATING COIL SELECTION		COOLING COIL SELECTION	N .	AREAS	HEATING COIL SELECTION		COOLING COIL SELECTION	ON	AREAS		TING COIL SELECTION
Total Capacity Sens Cap. Coil Airflow Enter ton MBh MBh cfm °F	er DB/WB/HR Leave DB/WB/HR °F gr/lb °F °F gr/lb	Gross Total Glass ft <sup>2</sup> (%)	CapacityCoil Airflow Ent Lvg MBh cfm °F °F	<b>Total Capacity</b> ton MBh	Sens Cap. Coil Airflow Enter DB MBh cfm °F °	B/WB/HR Leave DB/WB/HR °F gr/lb °F °F gr/lb	Gross Total Glass ft² (%)	CapacityCoil Airflow Ent Lvg  MBh cfm °F °F	ton MBi	Sens Cap. Coil Airflow Enter MBh cfm °F	DB/WB/HR Leave DB/WE °F gr/lb °F °F g		Glass ft² (%)	CapacityCoil Airflow Ent MBh cfm °F
Clg 4.8 57.0 55.7 3,544 74.6 Clg 0.0 0.0 0.0 0.0	55.6 50.6 55.0 48.2 50.6 Floo 0.0 0.0 0.0 0.0 0.0 Part	,	-61.8 3,544 63.7 82.9 0.0 0 0.0 0.0	Main Clg 1.3 15.1 Aux Clg 0.0 0.0	13.7 774 75.0 56 0.0 0 0.0 0	5.2 52.8 55.0 48.2 50.4 F 0.0 0.0 0.0 0.0 P	oor 429 art 0	Main Htg	Main Clg 3.3 39.2 Aux Clg 0.0 0.0	39.2 2,252 74.1 0.0 0 0.0	51.7 34.1 55.0 43.7 3 0.0 0.0 0.0 0.0	33.8 Floor 1,750 0.0 Part 288	Main Htg Aux Htg	-41.6 2,252 62.7 0.0 0 0.0
	0.0 0.0 0.0 0.0 0.0 Int I	Door 0 Preheat	0.0 0 0.0 0.0	<b>Opt Vent</b> 0.0 0.0	0.0 0 0.0 0	0.0 0.0 0.0 0.0   In	t <b>Door</b> 0 <b>xFlr</b> 429	<b>Preheat</b> 0.0 0 0.0 0.0	<b>Opt Vent</b> 0.0 0.0			0.0 Int Door 0 ExFir 1,440	Preheat	0.0 0 0.0
d 4.8 57.0	EXP   Roo	of 0 0 0 Humidif	0.0 0 0.0 0.0 0.0 0 0.0 0.0	<i>Total</i> 1.3 15.1		R	oof 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0   Humidif	<b>Total</b> 3.3 39.2			Roof 0	0 0 Humidif 96 67 Opt Vent	0.0 0 0.0 0.0 0 0.0
	II -	t Door 0 0 0 Total	-61.8			11	xt Door 0 0 0	O Total -9.7				Ext Door 0	0 0 Total	-41.6
ct Name: Holiday Inn Express		TDACES 700 C 0 4	5 calculated at 06:45 PM on 08/09/2023	Project Name: Holiday Inn Ex	proce		TDAC	CE® 700 v6.2.5 calculated at 06:45 PM on 08/09/2023	Project Name: Holiday Inn	ivaross			TDACE® 700 vc 0.5	calculated at 06:45 PM on 08/0
et Name: HIEX STEAMBOAT SPRINGS CO.TRC			stem Checksums Report Page 10 of 12	Dataset Name: HIEX STEAMB				ernative - 1 System Checksums Report Page 11 of 12	Dataset Name: HIEX STEA					stem Checksums Report Page 12

System Checksums  By Trane		System Checksums By Trane		System Chec By Trane	ksums
IU-2-1	Fan Coil AHU-3-1		Fan Coil	AHU-4-1	Fan Co
COOLING COIL PEAK CLG SPACE PEAK HEATING COIL PEAK TEMPE	ERATURES COOLING COIL PEAK	CLG SPACE PEAK HEATING COIL PEAK	TEMPERATURES	COOLING COIL PEAK CLG SPACE PEAK	HEATING COIL PEAK TEMPERATURES
Peaked at Time: Outside Air:   OADB/WB/HR: 81 / 53 / 31   OADB: Peaks   OADB: -7   Sand Ball Mark   Sand B	Peaked at Time:	Mo/Hr: Sum of OADB: Peaks   Space Peak   Space Peak   Space Peak   Space Peak   Space Sens   Stuff   Sensible Of Total   Stuff   Stuff   Sensible Of Total   Skylite Solar   Skylite Solar   Skylite Solar   Skylite Cond   Skylite C	Cooling Heating   Cooling He	Peaked at Time: Outside Air:	Mo/Hr: Heating Design OADB: -7   Space Peak   Coil Peak Percent Space Sens   Tot Sens Of Total Btu/h   Btu/h   (%)   Eodd   O 0 0.00   Cond   O 0 0.00   Cond   O 0 0.00   Cond   O 0 0.00   O 0.00   Cond   O 0 0.00   O
COOLING COIL SELECTION   Total Capacity ton MBh   MBh   Cfm   °F   °F   gr/lb   Fr   °F   gr/lb   Total Clg   3.8   45.6   45.6   2,780   74.1   56.5   55.3   55.7   49.7   55.3   55.7   49.7   55.3   55.7   49.7   55.3   55.7   49.7   55.3   55.7   49.7   55.3   55.7   49.7   55.3   55.7   49.7   55.3   67.0   67	oil Airflow Ent Lvg Cfm °F °F Total Capacity Sens Cap. Coil Airflow Ente	TION     Care   Care	No. People 9  ING COIL SELECTION  CapacityCoil Airflow Ent Lvg MBh cfm °F °F  -48.5 2,521 62.9 84.0 0.0 0 0.0 0.0 0.0 0 0.0 0.0 0.0 0 0.0 0.	Grand Total ==>         39,122         2,476         40,570         100.00         39,693         100.00         Grand Total Total Total           COOLING COIL SELECTION           Total Capacity ton MBh         Sens Cap. Coil Airflow Enter DB/WB/HR of more of properties.         Leave DB/WB/HR of properties.         Leave DB/WB/HR of properties.         For gr/lb         %F %F gr/lb         %D.2         55.0 48.1 50.2         55.0 48.1 50.2         55.0 48.1 50.2         55.0 48.1 50.2         55.0 48.1 50.2         55.0 48.1 50.2         50.0 0.0 0.0 0.0 0.0         0.0 0.0 0.0 0.0 0.0         0.0 0.0 0.0 0.0 0.0         0.0 0.0 0.0 0.0 0.0         0.0 0.0 0.0 0.0 0.0         0.0 0.0 0.0 0.0         0.0 0.0 0.0 0.0         0.0 0.0 0.0 0.0         0.0 0.0 0.0	AREAS   Gross Total   Glass   ft² (%)     Floor   2,028   Part   384       AREAS   CapacityCoil Airflow   Ent   %F   Main Htg   -48.5   2,521   62.9   Aux Htg   0.0   0   0.0

COOLING COIL PEAK CLG SPACE PEAK											HE	ATING C		TEMPE	RATUR	ES				
Pea	ked at Outsid	Time:	Мо	- /Hr: 7 / 18 HR: 81 / 53 /	31			Sum of						Heati	ng Desigi		SADB Ra Plenum		Heating 84.0	
Envelope Load		Space ns. + Lat. Btu/h	Plenum Sens. + Lat Btu/h		Percen Of Tota (%	i s		Percent Of Total (%)		nvelope	Loads		ace Peak ace Sens Btu/h			Percent of Total	Ra Plenum Return Ret/OA Fn MtrTD Fn BldTD	73.6 73.6 74.1 0.0 0.0	6	68.5 68.5 62.9 0.0 0.0
Skylite Solar Skylite Cond		0 0	0 0	0 0	(	0	0 0	0 0		Skylite S	Solar Cond		0		(	0.00	Fn Frict	0.0		0.0
Roof Cond Glass Solar Glass/Door Co Wall Cond Partition/Door Floor Adjacent Floo Infiltration Sub Total ==>	r	0 7,738 848 475 1,779 -658 0 -313 9,869	0 0 0 184 0	0 7,738 848 659 1,779 -658 0 -313	1: : : -:	2 2 4 2 0	0 7,738 848 475 1,599 -658 0 262 10,264	0 19 2 1 4 -2 0 1 26		Roof Co Glass S Glass/D Wall Co Partition Floor Adjacer Infiltration Sub Total	olar oor Cond nd n/Door nt Floor		0 0 -6,664 -756 -11,352 -9,828 0 -6,974 -35,574		-6,664 -1,060 -11,352 -9,828 (0 -6,974 -35,878	0.00 1.3.69 0.2.18 2.3.31 3.20.18 0.00 1.4.32	AIR  Diffuser Terminal Main Fan Sec Fan Nom Vent	FLOWS Cooling 2,521 2,521 2,521 0 173	2	<b>ating</b> 2,521 2,521 2,521 ( 187
Internal Loads									lr	nternal L	oads						AHU Vent	173 58		187 101
Lights People Misc Sub Total ==>		13,536 2,396 12,572 28,503	3,287 0 0 3,287	16,823 2,396 12,572 31,790	4 3 7	5 1	13,995 1,775 12,912 28,682	35 4 33 72		Lights People Misc Sub Tot	al ==>		0 0 0		( ( (	0.00	MinStop/Rh Return Exhaust Rm Exh	2,578 231 231	2	2,622 288 0
Ceiling Load Ventilation Loa Adj Air Trans I	leat	749 0 0	-749 0	-1,028 0	-:	3	747 0 0	2 0 0	V		n Load ans Heat		-65 0 0		-12,897 (	7 26.49 0 0	Auxiliary Leakage Dwn Leakage Ups	0 0 0	)	(
Dehumid. Ov S Ov/Undr Sizing Exhaust Heat Sup. Fan Heat Ret. Fan Heat Duct Heat Pku	9	0	-245 0 0	0 0 -245 0 0	-	0	0	0	E C R	ov/Undr S exhaust H OA Prehe AA Prehe Additiona	leat at Diff.		U		8 <sup>2</sup> ()	0.17 0.00 0.00	ENGINE % OA cfm/ft²	Cooling 7.4 1.24	Heat	ting 7.4 1.24
Underfir Sup H Supply Air Lea	it Pku	p	0	0	(						Sup Ht Pku r Leakage	p			(		cfm/ton ft²/ton Btu/hr·ft²	710.01 571.27 21.01		3.90
Grand Total ==	=>	39,122	2,476	40,570	100.0	o	39,693	100.00	G	and To	tal ==>		-35,639		-48,691	I 100.00	No. People	9	-20	5.50
	Total (	Capacity MBh	COOLING Sens Cap. MBh	COIL SEI Coil Airflow cfm		DB/WB/	<b>HR</b> gr/lb	Leave I		s/WB/HR gr/lb	G	Fross	AREAS Total	Gla:		HEA	ATING COIL S CapacityCo MBh			
Main Clg Aux Clg Opt Vent	3.6 0.0 0.0	42.6 0.0 0.0	42.6 0.0 0.0	2,521 0 0	74.1 0.0 0.0	55.4 0.0 0.0	50.2 0.0 0.0	55.0 48 0.0 ( 0.0 (	0.0	0.0	Floor Part Int Doo		2,028 384 0			Main Htg Aux Htg Preheat	-48.5 0.0 0.0		62.9 0.0 0.0	84. 0. 0.
Total	3.6	42.6			-						ExFlr Roof Wall Ext Doo		1,440 0 216 0	0 90 0	0 42 0	Humidif Opt Vent <i>Total</i>	0.0 0.0 -48.5	0	0.0	0. 0.

AHU-4-1												1		an Coil			
COOLING COIL PEAK				(	CLG SPACI				HEATING C	OIL PEAK		TEMPERATURES					
	d at Time: utside Air:	Mo/ OADB/WB/H	Hr: 7 / 18 IR: 81 / 53	/ 31	Mo/Hr: OADB:	Sum of Peaks			Mo/Hr:   OADB: -	Heating Desigr -7	1	SADB Ra Plenum	55.0 73.6	84.0 68.5			
	Space Sens. + Lat.		Total	Percent Of Total	Sensible				Space Peak Space Sens	Coil Peak Tot Sens	Of Total	Return Ret/OA	73.6 74.1	68.5 62.9			
Envelope Loads	Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Envelope	l nade	Btu/h	Btu/h	(%)	││Fn MtrTD ││Fn BldTD	0.0 0.0	0.0 0.0			
Skylite Solar	0	0	0	0	0	0	Skylite S		0	0	0.00	Fn Frict	0.0	0.0			
Skylite Cond	0	0	0	0	0	0	Skylite C		0	0							
Roof Cond	7 720	0	7 720		7 720	0	Roof Co		0	0		AID	FLOWS				
Glass Solar Glass/Door Con	7,738 d 848	0 0	7,738 848	19 2	7,738 848	19	Glass So	oor Cond	-6,664	-6,664	0.00	AIR					
Wall Cond	475	184	659	2	475	1	Wall Cor		-756	-1,060			Cooling	_			
Partition/Door	1,779		1,779	4	1,599	4	Partition	/Door	-11,352	-11,352	23.31	Diffuser	2,521	2,521			
Floor	-658	-	-658	-2	-658	-2	Floor		-9,828	-9,828		Terminal Main Fan	2,521 2,521	2,521 2,521			
Adjacent Floor Infiltration	0 -313	0	0 -313	0 -1	0 262	0	Adjaceni Infiltratio		0 -6,974	-6,974	-	Sec Fan	2,321	2,521			
Sub Total ==>	9,869	184	10,053		10,264	26	Sub Tota		-6,974 -35,574	-0,974 -35,878		Nom Vent	173	187			
Sub Total>	9,009	104	10,000	2.5	10,204	20	Cab rote		00,014	00,070	70.00	AHU Vent	173	187			
Internal Loads							Internal Lo	oads				Infil	58	101			
Lights	13,536	3,287	16,823	41	13,995	35	Lights		0	0	0.00	MinStop/Rh	0	0			
People	2,396	0	2,396	6	1,775	4	People		0	0		Return	2,578	2,622			
Misc	12,572	0	12,572		12,912	33	Misc		0	0		Exhaust	231	288			
Sub Total ==>	28,503	3,287	31,790	78	28,682	72	Sub Tota	n/ ==>	0	0	0.00	Rm Exh	0	0			
Ceiling Load	749	-749	0	0	747	2	Ceiling Lo	ad	-65	0	0.00	Auxiliary Leakage Dwn	0	0			
Ventilation Load		-7-43	-1,028	-3	0	0	Ventilation		0	-12,897		Leakage Ups	0	0			
Adj Air Trans He	at 0		. 0	0	0	0	Adj Air Tra	ıns Heat	0	0	0	• • •					
Dehumid. Ov Siz	•		0	0			Ov/Undr S	-	0	0							
Ov/Undr Sizing Exhaust Heat	0	-245	0 -245	0 -1	0	0	Exhaust H			84 0		ENGINE	ERING C	KS			
Sup. Fan Heat		-245	-245 0	0			RA Prehea			0	0.00		Cooling	Heating			
Ret. Fan Heat		0	Ő	Ö			Additional			Ö		% OA	7.4	7.4			
<b>Duct Heat Pkup</b>		0	0							_		cfm/ft²	1.24	1.24			
Underfir Sup Ht		0	0	0				up Ht Pkup		0		cfm/ton	710.01				
Supply Air Leaka	age	0	U	0			Supply Air	Leakage		U	0.00	ft²/ton   Btu/hr⋅ft²	571.27 21.01	-23.90			
Grand Total ==>	39,122	2,476	40,570	100.00	39,693	100.00	Grand Total	al ==>	-35,639	-48,691	100.00	No. People	9	20.00			
т.	otal Capacity	COOLING Sens Cap.				Leave	DB/WB/HR	G.	AREAS oss Total	Glass	HE	ATING COIL S	ELECTION	ON Ent Ly			
	on MBh	MBh	cfm		F gr/lb	°F			ooo iotai	ft <sup>2</sup> (%)		MBh	cfm	ent Lvg			
	3.6 42.6	42.6	2,521	74.1 55		55.0 4		Floor	2,028		Main Htg	-48.5	2,521 6				
-	0.0	0.0	0	0.0 0		0.0	I	Part	384	I	Aux Htg	0.0	0				
Opt Vent	0.0	0.0	0	0.0 0	.0 0.0	0.0	0.0 0.0	Int Door ExFir	0 1,440		Preheat	0.0	0	0.0 0.0			
Total	3.6 42.6							Roof	0		Humidif	0.0	0				
								Wall	216	I	Opt Vent		0	0.0			
								Ext Door	r 0	0 0	Total	-48.5					