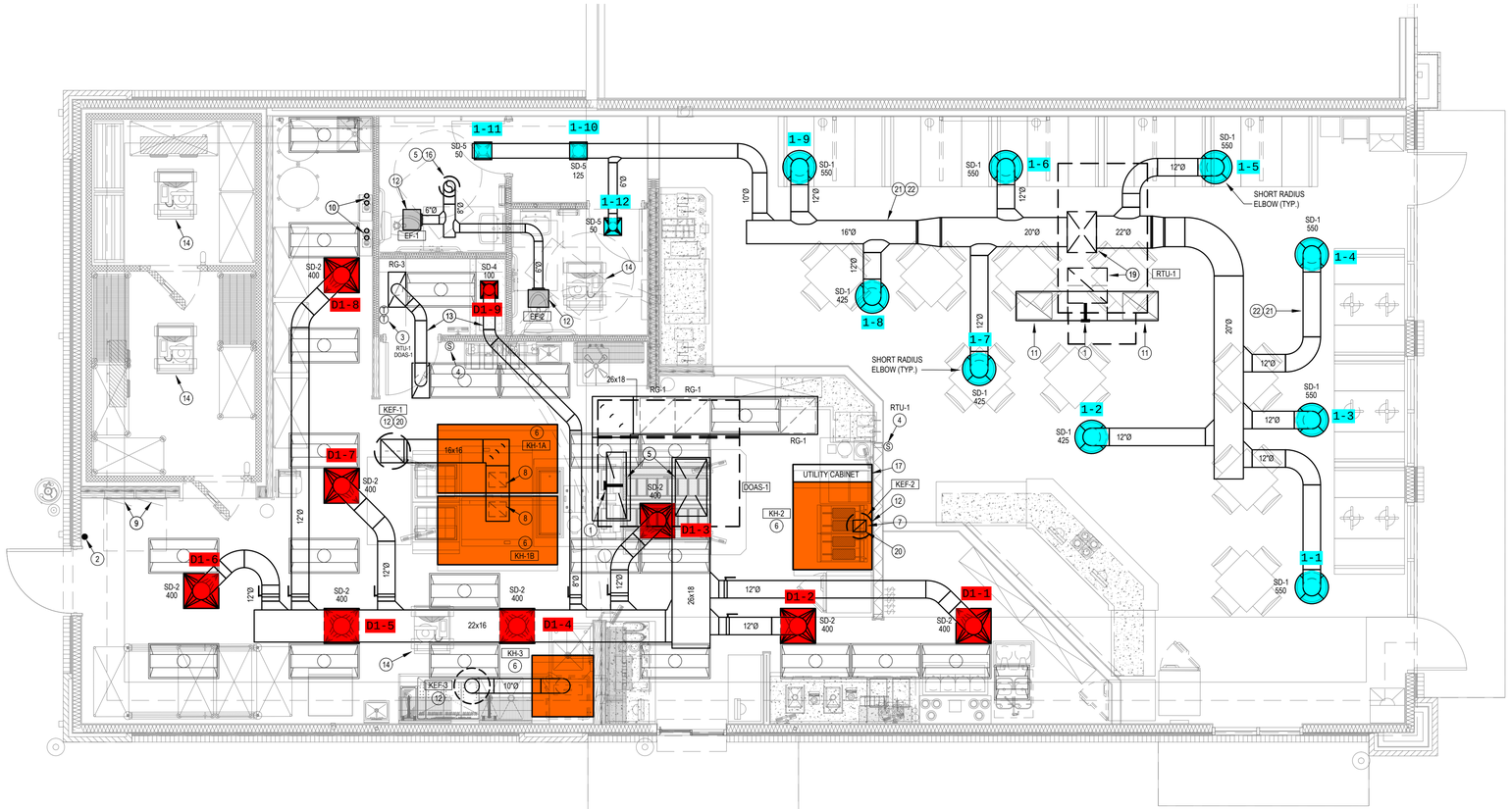


A MECHANICAL PLAN
SCALE: ¼" = 1'-0"

NORTH

GENERAL NOTES:

1. DUCT SYSTEMS SERVING REMOVAL OF GREASE LADEN AIR (TYPE 1 HOOD) SHALL BE CONSTRUCTED AND INSTALLED SO THAT GREASE WILL NOT ACCUMULATE IN DUCTWORK. DUCTWORK SHALL SLOPE AT 2% TOWARD HOOD OR GREASE RESERVOIR. PROVIDE DUCT CLEAN OUTS AT ALL CHANGES OF DIRECTION WITH GREASE TIGHT ACCESS DOORS.
2. DUCTWORK SERVING KITCHEN AND WORK ROOM AREAS SHALL NOT BE LINED. DUCTWORK SERVING THESE AREAS SHALL UTILIZE EXTERNAL DUCT WRAP INSULATION.
3. MAINTAIN MINIMUM 10'-0" CLEARANCE BETWEEN OUTDOOR AIR INTAKES AND EXHAUST FAN/VENT TERMINATIONS.
4. KITCHEN HOODS ARE PROVIDED BY KITCHEN EQUIPMENT SUPPLIER AND INSTALLED BY MECHANICAL CONTRACTOR.
5. REFER TO HOOD MANUFACTURER SHOP DRAWINGS FOR HOOD SUPPORT INFORMATION.
6. CEILING SPACE IS LIMITED. COORDINATE WORK WITH OTHER TRADES.
7. EXPOSED DUCTWORK SHALL BE CLEAN AND FREE OF DEFECTS.
8. EXPOSED DUCTWORK SHALL BE CONSTRUCTED OF PAINT LOCK SHEETMETAL AND PAINTED AS DIRECTED BY ARCHITECT.

PLAN NOTES:

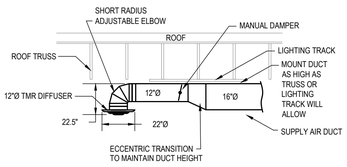
1. MOUNTING LOCATION FOR DUCT MOUNTED SMOKE DETECTOR.
2. LOCATION OF MANUAL PULL STATION. INSTALL PER MANUFACTURER INSTRUCTIONS.
3. LOCATION OF RTU THERMOSTATS. LABEL THERMOSTATS WITH RTU NUMBER. LABELS BY M.C.
4. LOCATION OF RTU TEMPERATURE SENSORS MOUNTED 7'-0" AFF.
5. COORDINATE DUCT BETWEEN STRUCTURAL TRUSSES WITH SIZES SHOWN.
6. EXHAUST HOOD PROVIDED BY OTHERS. INSTALLED BY MECHANICAL CONTRACTOR. INSTALL PER MANUFACTURERS INSTRUCTIONS.
7. TRANSITION AND CONNECT 8"x9" GREASE DUCT TO EXHAUST HOOD AS SHOWN. ROUTE DUCT UP AND CONNECT TO EXHAUST FAN. OFFSET AS REQUIRED TO AVOID ROOF STRUCTURE AND TO MAINTAIN 10'-0" CLEARANCE FROM ALL OUTSIDE AIR INTAKES AND 5'-0" FROM PARAPET WALLS. REFER TO DETAIL ON SHEET M-2. ALL GREASE DUCT SHALL BE INSTALLED WITH DUCT WRAP AND ACCESS DOORS AS DETAILED AND PER MANUFACTURER INSTRUCTIONS. SEE CAPTIVE AIRE DRAWING.
8. TRANSITION AND CONNECT 12"x10" GREASE DUCT TO EXHAUST HOOD AS SHOWN. ROUTE DUCT UP AND CONNECT TO EXHAUST FAN. OFFSET AS REQUIRED TO AVOID ROOF STRUCTURE AND TO MAINTAIN 10'-0" CLEARANCE FROM ALL OUTSIDE AIR INTAKES AND 5'-0" FROM PARAPET WALLS. REFER TO DETAIL ON SHEET M-2. ALL GREASE DUCT SHALL BE INSTALLED WITH DUCT WRAP AND ACCESS DOORS AS DETAILED AND PER MANUFACTURER INSTRUCTIONS. SEE CAPTIVE AIRE DRAWING.
9. COORDINATE DUCT ROUTING WITH ELECTRICAL GEAR. DO NOT ROUTE DUCTWORK ABOVE ELECTRICAL GEAR.
10. COMBUSTION AIR AND VENT PIPING THROUGH ROOF. PROVIDE TERMINATION PER MANUFACTURER'S RECOMMENDATIONS. EXTEND TO WATER HEATER. COORDINATE REQUIREMENTS WITH HEATER PROVIDED BY KITCHEN EQUIPMENT SUPPLIER.
11. RETURN AIR DUCT LOCATED BETWEEN ROOF TRUSSES. OPEN DUCTWORK UP TOWARD STRUCTURE. COVER OPENING WITH ½" EXPANDED WITH MESH.
12. SUPPORT EXHAUST FAN FROM STRUCTURE AS REQUIRED BY THE MANUFACTURER.
13. ROUTE DUCT AS HIGH AS POSSIBLE OVER OFFICE AREA TO ALLOW FOR ROUTING OF CABLES.
14. MOUNT CONDENSING UNIT ON ROOF AS DETAILED AND AS REQUIRED BY THE MANUFACTURER. CONNECT REFRIGERANT PIPING PER MANUFACTURER RECOMMENDATIONS. SEE SM2.
15. ROUTE RETURN AIR DUCT THROUGH OR BETWEEN ROOF TRUSSES.
16. ROUTE 8"Ø EXHAUST DUCT UP THROUGH ROOF TO ROOF CAP. VERIFY 10' CLEARANCE FROM ALL OUTSIDE AIR INTAKES.
17. HOOD SHALL BE PROVIDED WITH FACTORY PRE-WIRE PACKAGE AND A PRE-ENGINEERED UL-300 FIRE SUPPRESSION SYSTEM. SYSTEM SHALL BE PROPERLY SIZED FOR THE HOOD, DUCT PLENUM AND ALL EQUIPMENT BELOW (VERIFY EXACT REQUIREMENTS WITH KITCHEN EQUIPMENT SUPPLIER). HOOD EXHAUST, MAKE-UP AND LIGHTS SHALL BE SWITCHED FROM CONTROL PANEL THAT IS INTEGRAL TO FRONT OF UTILITY CABINET. UTILITY CABINET SHALL SERVE ALL HOODS.
18. PROVIDE LOCKING QUADRANT DAMPER AND SQUARE TO 18'Ø ROUND TRANSITION FOR DUCT CONNECTION TO RETURN GRILLE.
19. COORDINATE DUCT DROP BETWEEN STRUCTURAL TRUSSES WITH SIZES SHOWN. ALTER RECTANGLE R.A. DUCT TO FIT BETWEEN TRUSSES.
20. PROVIDE CAPTIVE AIRE WBE WINDBAND EXTENSION FOR KEF-1 AND KEF-2.
21. EXPOSED DUCTWORK SHALL BE OF PAINTLOCK CONSTRUCTION AND PAINTED AS PER DIRECTION OF ARCHITECT (TYP.).
22. COORDINATE DUCT ROUTING BELOW CEILING WITH LIGHTING.

MECHANICAL LEGEND

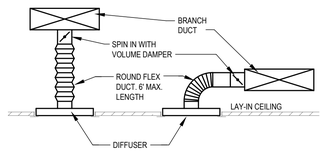
HVAC:		HVAC:		HVAC:		MISC. SYMBOLS:	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
A-9x9 20Ø	SUPPLY AIR DIFFUSER MARK - SIZE AIRFLOW CFM		ELBOW ROUND DUCT		ECCENTRIC TRANSITION	CH-1	EQUIPMENT IDENTIFICATION
C-22x10	RETURN AIR GRILLE MARK - SIZE		ROUND DUCT DROP / DOWN		DUCT OFFSET - RISE OR DROP	1	PLAN NOTE
C-22x10	RETURN AIR GRILLE WITH SOUND BOOT MARK - SIZE		ROUND DUCT RISE / UP		FLEX DUCT (5'-0" MAX. LENGTH)	AFF	ABOVE FINISHED FLOOR
	SIDE WALL REGISTER / GRILLE		FLEXIBLE CONNECTION	OBD	OPPOSED BLADE DAMPER	SA	SUPPLY AIR
	SUPPLY AIR DUCT RISE / UP	22x12	DUCT SIZE / DIMENSIONS FIRST SIZE TOP DIMENSION	PBD	PARALLEL BLADE DAMPER	RA	RETURN AIR
	SUPPLY DUCT DROP / DOWN		45° HIGH EFFICIENCY TAKE-OFF	T	THERMOSTAT / SENSOR	EA	EXHAUST AIR
	RETURN OR EXHAUST DUCT RISE / UP		45° HIGH EFFICIENCY TAKE-OFF WITH LOCKING QUAD. DAMPER	H	HUMIDISTAT / SENSOR	OSA	OUTSIDE AIR
	RETURN OR EXHAUST DUCT DROP / DOWN		CONCENTRIC TRANSITION	FS	FIRE SMOKE DAMPER	RAG	RETURN AIR GRILLE
	ELBOW WITH TURNING VANES		RECT. TO ROUND TRANSITION	FD	FIRE DAMPER		

OUTDOOR AIR CALCULATION

UNIT	AREA (SQFT)	OCCUPANCY CLASSIFICATION	OCCUPANT DENSITY #/1000 SQFT	PEOPLE OUTDOOR AIRFLOW RATE IN BREATHING ZONE. (RP) CFM/PERSON	AREA OUTDOOR AIRFLOW RATE IN BREATHING ZONE. (RA) CFM/SQFT	EXHAUST AIRFLOW RATE CFM/SQFT	BREATHING ZONE OUTDOOR AIRFLOW (VBZ)	ZONE AIR DISTRIBUTION EFFECTIVENESS (EZ)	ZONE OUTDOOR AIRFLOW (CFM)
RTU-1	1375	DINING RM	70	7.5	0.18		- - -	0.8	970
	87	CORRIDORS	0	0	0.06		- - -	0.8	7
								TOTAL	977



DINING ROOM DIFFUSER DETAIL
SCALE: NONE



DIFFUSER DETAIL
SCALE: NONE

NOTE:
PROVIDE SHORT RADIUS ELBOWS (1 TIMES CENTERLINE 90° ELL) FOR ELBOW DOWN TO DIFFUSER ON EXPOSED DUCTWORK IN DINING ROOM. DIFFUSER SHALL BE MINIMUM OF 9'-0" A.F.F. SEE DETAIL.

NOTE:
REMOTE SENSORS WIRE TO THERMOSTAT. HUMIDITY SENSORS WIRE UP TO THE PRODIGY CONTROL PANEL. REFER TO HUMIDITY SENSOR INSTALLATION INSTRUCTIONS. HUMIDITY LEVEL IS CONTROL ON THE PRODIGY PANEL. SET HUMIDITY LEVEL AT 50-55%. CONTACT NA TECH SUPPORT GROUP AT 1-800-367-6285 FOR QUESTIONS.

FREDDY'S FROZEN CUSTARD
2578 AIRLINE DRIVE
BOSSIER CITY, LA

GREG RICHARD CUIGLEY
License No. 40936
PROFESSIONAL ENGINEER
1-7-2022

DAN WINTER ARCHITECT
1024 EAST FIRST STREET
WICHITA, KS. 67214
PH. 316-267-7142

MECHANICAL PLAN

DATE
1/7/2022

DRAWN BY:

CHECKED BY:

SHEET NO.
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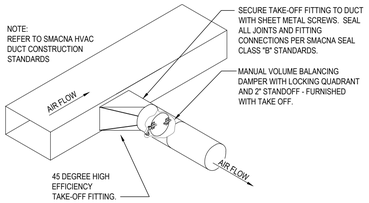
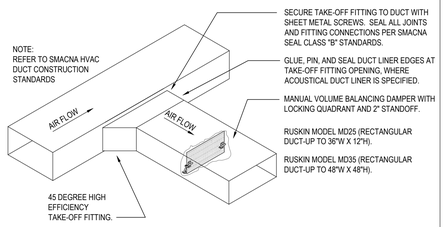
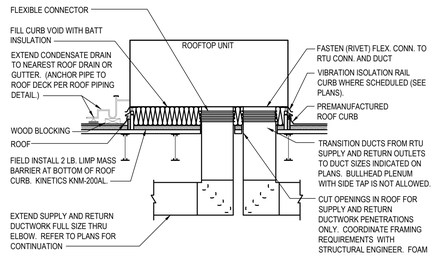


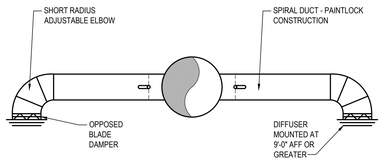
1 ROUND DUCT TAKE-OFF
NO SCALE



2 RECTANGULAR DUCT TAKE-OFF
NO SCALE



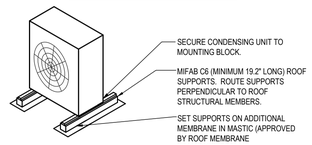
3 DOWNFLOW ROOF TOP UNIT DETAIL
NO SCALE



4 DINING ROOM DIFFUSER DETAIL
NO SCALE

NOTES:

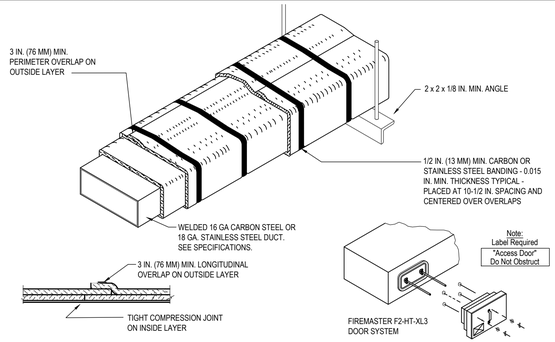
1. PROVIDE MANUFACTURERS RECOMMENDED CLEARANCES BETWEEN CU & HP UNITS.
2. PROVIDE ADDITIONAL SUPPORTS AS REQUIRED IF UNITS ARE NOT SAME WIDTH.
3. PAINT EXPOSED INSULATION WITH MANUFACTURER RECOMMENDED ULTRAVIOLET PROTECTIVE COATING.



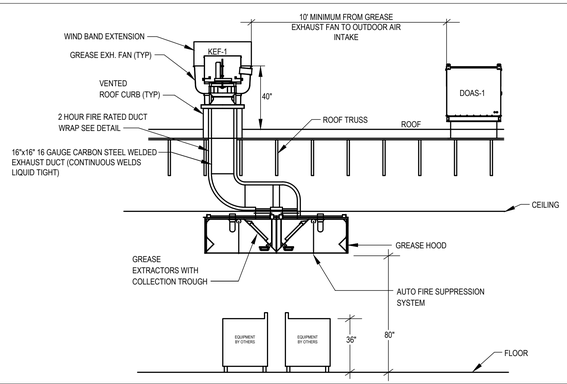
5 ROOF CONDENSING UNIT MOUNTING
NO SCALE CONDENSER ON ROOF

NOTES:

1. THERMAL CERAMICS FIREMASTER FASTWRAP XL OR PYROSCAT XL HAS BEEN TESTED IN ACCORDANCE WITH ASTM E2336 TO PROVIDE ZERO CLEARANCE TO COMBUSTIBLES AND MEETS THE REQUIREMENTS FOR ONE OR TWO HOUR ENCLOSURES. THROUGH PENETRATIONS FIRESTOP SYSTEMS ARE TESTED IN ACCORDANCE WITH EITHER ASTM E 814 OR UL 1479. ICC-ES APPROVAL PER REPORT ESR 2213 OR ESR 2832. UNDERWRITERS LABORATORIES (UL) LISTINGS SHOW COMPLIANCE TO UL 1479 FOR THROUGH PENETRATION FIRESTOP SYSTEMS.
2. COMPLIANT TO THE FOLLOWING CODES: NFPA 96 2003 AND 2006 INTERNATIONAL MECHANICAL CODES 2006 UNIFORM MECHANICAL CODE.
3. INSULATION APPLIED IN TWO LAYERS WITH TIGHT COMPRESSION JOINT ON INSIDE LAYER AND 3 INCH MINIMUM OVERLAPS ON BOTH PERIMETER AND LONGITUDINAL OVERLAPS ON OUTSIDE LAYER.
4. GREASE EXHAUST DUCT RUNS FROM THE HOOD EXHAUST CONNECTION UP TO THE EXHAUST FAN ON THE ROOF WITH MINIMAL TURNS OR BENDS AND MAINTAINING MINIMUM 1/4 UNIT VERTICAL RISE PER 12 UNITS HORIZONTAL RUN. NFPA 96 COMPLIANT ACCESS DOORS LOCATED AS REQUIRED BY CODE.
5. THERMAL CERAMICS FIREMASTER ACCESS DOORS AS SPECIFIED IN ICC-ES BUILDING CODE REPORTS ESR 2213 OR ESR 2832.
6. ROOF MOUNTED EXHAUST FAN IS MOUNTED ON A HINGED BASE WHICH ALLOWS ACCESS TO THE DUCT FROM THE ROOF.
7. SUPPORT HANGER SYSTEMS DO NOT NEED TO BE WRAPPED PROVIDED THE HANGER RODS ARE AT LEAST A MINIMUM OF 3/8 IN. DIAMETER. USE MINIMUM 2 X 2 X 1/8 IN. STEEL ANGLE OR SMACNA EQUIVALENT SUPPORT SYSTEM.
8. THERMAL CERAMICS DUCT ENCLOSURE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
9. THERMAL CERAMICS DUCT WRAP SHALL BE INSTALLED ON THE DUCT FROM THE HOOD CONNECTION TO THE CONNECTION TO THE FAN.



6 COMMERCIAL KITCHEN GREASE DUCT SYSTEM
NO SCALE



7 GREASE HOOD DETAIL
NO SCALE

ROOFTOP UNIT SCHEDULE

MARK	MFGR	MODEL NO.	NOM. TONS	EVAP. CFM	EXT. STATIC P. IN. WG. (NOTE 2)	COOLING			HEATING (GAS)		ELECTRICAL				MINIMUM OUTDOOR AIR (CFM)	TOTAL WEIGHT (LBS)	IEER	REFRIG.	NOTES
						TOTAL MBH	SENS. MBH	AMB	EVAP. EAT DB/WB	MBH INPUT	MBH OUTPUT	VOLT/Ø/HZ	BLOWER MOTOR	MIN. MCA (AMPS)	MIN. MOCP (AMPS)					
RTU-1	LENNOX	LGH150	12.5	4,800	1.0	136.0	100.0	100	**80/67**	240 / 156	192 / 125	208/3/60	5 HP	71	90	1000	1,650	12.8	R-410a	1,2,3,4,5,6

ALTERNATE RTU MANUFACTURER

MARK	MFGR	MODEL NO.	NOM. TONS	EVAP. CFM	EXT. STATIC P. IN. WG. (NOTE 2)	COOLING			HEATING (GAS)		ELECTRICAL				MINIMUM OUTDOOR AIR (CFM)	TOTAL WEIGHT (LBS)	IEER	REFRIG.	NOTES
						TOTAL BTUH	SENS. BTUH	AMB	EVAP. EAT DB/WB	BTUH INPUT	BTUH OUTPUT	VOLT/Ø/HZ	BLOWER MOTOR	MIN. MCA (AMPS)	MIN. MOCP (AMPS)					
RTU-1	TRANE	YHD150G3R	12.5	4,800	1.0	146.74	98.91	95	80/67	250,000	200,000	208/3/60	3 HP	67	80	1000	2,500	12.1	R-410a	1,2,3,4,5,6

NOTES:

1. PROVIDE OUTDOOR AIR ECONOMIZER WITH DIFFERENTIAL ENTHALPY CONTROL, HOT GAS REHEAT WITH 75° L.A.T., TIME DELAY ON COMPRESSOR RE-START, CRANKCASE HEATER, BAROMETRIC RELIEF DAMPER, AND COMPRESSOR LOCK-OUT WITH AMBIENT BELOW 55 °F FOR EACH UNIT. OUTDOOR AIR DAMPER TO FULLY CLOSE W/ FAN SHUTDOWN FOR ALL UNITS.
2. EXTERNAL STATIC PRESSURE LISTED REPRESENTS STATIC PRESSURE REQUIRED FOR DUCTWORK AND DIFFUSERS OUTSIDE THE HVAC UNIT COMPLETELY INDEPENDENT OF ANY PRESSURE DROP THROUGH THE HVAC EQUIPMENT INCLUDING BUT NOT LIMITED TO FILTERS, COILS AND ECONOMIZERS. THE FAN AND MOTOR SHALL BE SIZED APPROPRIATELY TO MEET THIS DEFINITION OF EXTERNAL STATIC PRESSURE.
3. PROVIDE COMMERCIAL 7-DAY PROGRAMMABLE HEAT/COOL/AUTO CHANGEOVER THERMOSTAT WITH REMOTE TEMPERATURE AND HUMIDITY SENSORS AND ECONOMIZER OUTPUT FOR EACH UNIT. ECONOMIZER/OUTDOOR AIR DAMPER IS TO CLOSE DURING UNOCCUPIED HOURS. THERMOSTAT SHALL BE HONEYWELL VISIONPRO (OR EQUAL) WITH HUMIDITY CONTROL.
4. PROVIDE 18" HIGH (AT LOWEST POINT) PRE-FABRICATED INSULATED ROOF CURB WITH SLOPE TO MATCH SLOPE OF ROOF FOR EACH UNIT.
5. PROVIDE HAIL GUARDS FOR EACH UNIT.
6. DISCONNECTS BY ELECTRICAL. MECHANICAL CONTRACTOR TO COORDINATE UNIT MOCP WITH ELECTRICAL CONTRACTOR.

SEE SHEET M4 & M5 FOR OWNER PROVIDED, MECHANICAL CONTRACTOR INSTALLED DOAS UNIT INFORMATION.

NATIONAL ACCOUNT INFORMATION

FREDDY'S FROZEN CUSTARD HAS NATIONAL ACCOUNT AGREEMENTS FOR ROOF TOP UNITS WITH LENNOX AND TRANE.
NO ALTERNATE MANUFACTURERS ARE ALLOWED.

FOR LENNOX EQUIPMENT CONTACT:
DAVE EBNER, LENNOX INDUSTRIES NATIONAL ACCOUNT MANAGER, (612) 860-5933, Dave.Ebner@Lennoxind.com

FOR TRANE EQUIPMENT EQUAL TO THE UNITS SPECIFIED CONTACT:
TOM ROOD OR PAUL MINOCK, TRANE ACCOUNT MANAGER - NATIONAL ACCOUNTS, (800) 729-9115, TOM.ROOD@TRANE.COM, PMINOCK@TRANE.COM

DIFFUSER SCHEDULE

MARK	MFGR	MODEL	NECK SIZE	FACE SIZE	FINISH	REMARKS
SD-1	TITUS	TMR	12"Ø	22"Ø	WHITE	WITH OPPOSED BLADE DAMPER, FIELD PREP FOR PAINTING
SD-2	TITUS	TMS/3	12"Ø	24"x24"	WHITE	
SD-3	TITUS	PAS/3	10"Ø	24"x24"	WHITE	
SD-4	TITUS	T3SQ4	8"Ø	24"x24"	WHITE	THERMAL VAV DIFFUSER
SD-5	TITUS	TMS/3	6"Ø	12"x12"	WHITE	WITH OPPOSED BLADE DAMPER AND TRM KIT
SD-6	TITUS	TMS/3	8"Ø	24"x24"	WHITE	WITH OPPOSED BLADE DAMPER AND TRM KIT
SD-7	TITUS	TMS/3	8"Ø	12"x12"	WHITE	12x12 CEILING MODULE
RG-1	AMER. LOUVER CO.	STRATUS	20"x20"	24"x24"	WHITE	SEE NOTE 1.
RG-2	TITUS	350RL	8"x8"	-	WHITE	
RG-3	TITUS	50F	10x22	24X12	WHITE	

NOTES: 1. RETURN GRILL TO BE PLASTIC FILTER RETURN, FILTER TO BE AMERICAN AIR FILTER (AAF) FRONTLINE GREEN 1", WITH AAF AMERIFRAME SIZE 20x20x1.

BUILDING AIR BALANCE SCHEDULE

MARK	SPACE OR AREA	EXHAUST AIR CFM	OUTSIDE AIR CFM	RETURN AIR CFM	SUPPLY AIR CFM	REMARKS
RTU-1	DINING	--	1000	4,800	4,800	--
DOAS-1	COOKLINE / OFFICE / COUNTER	--	3,300	0	2,650	--
		--	--	--	--	--
KEF-1	RANGE - KITCHEN HOOD	2,585	--	--	--	--
KEF-2	FRYERS - KITCHEN HOOD	775	--	--	--	--
KEF-3	DISHWASHER - KITCHEN HOOD	525	--	--	--	--
EF-1	WOMEN'S RESTROOM	75	--	--	--	--
EF-2	MEN'S RESTROOM	75	--	--	--	--
TOTALS	BUILDING TOTALS	4,035	4,300	4,800	7,450	NOTE: AREA IS 265 CFM POSITIVE

THE BUILDING HVAC SYSTEM SHALL BE BALANCED BY NATIONAL TAB HIRED BY THE OWNER. CONTACT DAN HERTENSTEIN - NATIONAL TAB AT: 816-215-1593 - DAN@NATIONALTAB.COM

EXHAUST FAN SCHEDULE

MARK	MFGR	MODEL	CFM	EXTERNAL STATIC P. IN. WG.	RPM	ELECTRICAL		FAN TYPE	REMARKS
						VOLT/Ø/HZ	PWR		
EF-1	COOK	GC-146	75	0.25	900	120/1/60	30.3W	CEILING EXH.	-
EF-2	COOK	GC-146	75	0.25	900	120/1/60	30.3W	CEILING EXH.	-

NOTES: 1. PROVIDE CEILING GRILLE, INTEGRAL BACK DRAFT DAMPER, DISCONNECT SWITCH, AND VARIABLE SPEED CONTROLLER.
2. FANS SHALL NOT EXCEED SCHEDULED RPM.

PUMP SCHEDULE

MARK	SERVICE	GPM	HEAD	EFFICIENCY	MOTOR			PIPE INCHES		FLOW	STARTER BY	REMARKS
					HP	RPM	ELECTRICAL	SUCTION	DISCHARGE			
RP-1	DOMESTIC HW	10	6	-	⅙	3250	115/60/1	-	-	CONST	-	(1)

REMARKS:
(1) SELECTION BASED ON BELL & GOSSETT INLINE PUMP MODEL PL-30. ALL BRONZE CONSTRUCTION.

FREDDY'S FROZEN CUSTARD
2578 AIRLINE DRIVE
BOSSIER CITY, LA

GREG RICHARD QUIGLEY
License No. 43006
PROFESSIONAL ENGINEER
1/7/2022

DAN WINTER ARCHITECT
1024 EAST FIRST STREET
WICHITA, KS. 67214
PH. 316-267-7142

MECHANICAL SCHEDULES & DETAILS

DATE
1/7/2022

DRAWN BY:

CHECKED BY:

SHEET NO.
M