



KITCHEN EQUIPMENT LIST (MECHANICAL):

SEE CAPTIVE AIRE AND FOOD SERVICE DRAWINGS FOR ALL NOTES AND ADDITIONAL COORDINATION REQUIREMENTS REGARDING KITCHEN MECHANICAL EQUIPMENT (BY OTHERS). INFORMATION BELOW IS FOR COORDINATION AND BALANCING PURPOSES. COORDINATE ALL EQUIPMENT SELECTIONS WITH ALL ELECTRICAL, KITCHEN EQUIPMENT, PLUMBING/FIRE SUPPRESSION AND ARCHITECTURAL REQUIREMENTS.

MAKE-UP AIR UNIT (MAU-1/CU-1):

"CAPTIVE-AIRE" MODEL A4-0.1000-30D
 ROOF-MTD DIRECT GAS-FIRED MAKE-UP AIR UNIT (TAG:MAU-1)
 6,800 CFM AT 1.25" W.C. --1281 RPM
 10.0 HP MOTOR 480V/3Ø FLA=12.9A
 GAS IN/OUT: 440/404 BTUH; 39' TEMP RISE
 92% EFFICIENCY
 DX COOLING COIL 240MBH SENSIBLE
 100/78" EAT DB/WB 77/72" LAT DB/WB
 2400.0 LBS
 REMOTE OUTDOOR CONDENSING UNIT (TAG:CU-1)
 480V/3Ø MCA=12.9A MFS=50.0A 900LBS
 PROVIDE ROOF MOUNTING CURB OR RAILS WITH VIBRATION ISOLATORS
 INTERLOCK WITH KEF-1
 SEE CAPTIVE AIRE DRAWINGS FOR ADDITIONAL INFORMATION.

POLLUTION CONTROL UNIT (PCU-1/KEF-1):

"CAPTIVE-AIRE" MODEL USB36DD-RM
 POLLUTION CONTROL UNIT (PCU-1) W/ FIRE PROTECTION SYSTEM,
 HIGH EFFICIENCY FILTERS AND DUAL ODOR CONTROL
 & ROOF-MTD UTILITY SET FAN (KEF-1)
 9500 CFM AT 3.0" W.C. --754 RPM
 15.0 HP MOTOR, 480V/3Ø, FLA=19.2A
 1300.0 LBS KEF-1 1600.0 LBS PCU-1
 PROVIDE DUCT ADAPTER FAN OUTLET TRANSITION
 PLATE/ADAPTER, MOUNTING RAILS FOR HANGING OF THE UNIT
 AND SPRING VIBRATION ISOLATORS.
 SEE CAPTIVE AIRE DRAWINGS FOR ADDITIONAL INFORMATION
 INCLUDING NECESSARY CLEARANCES AND PIPING REQUIREMENTS.

WALK-IN COOLER/FREEZER INFORMATION:

VOLUME OF FREEZER/COOLER: 1585 CU. FT.
 TYPE OF REFRIGERANT: R-404A
 POUNDS OF REFRIGERANT: 25.0 LBS
 HORSEPOWER & LOCATION OF COMPRESSORS:
 QTY: 1 @ 2.0HP, QTY: 1 @ 1.5HP
 COMPRESSORS ARE LOCATED INSIDE THE BUILDING, ON THE MEZZANINE LEVEL.

SEE FOOD SERVICE DRAWINGS AND CUT-SHEETS FOR ADDITIONAL INFORMATION.

APPROVED REFRIGERATION PLAN

WATER SOURCE HEAT PUMP SCHEDULE

TAG ID	NOMINAL AIRFLOW (CFM)	OUTSIDE AIRFLOW (CFM)	ESP	MOTOR HP (KW)	COOLING DATA					HEATING DATA				ELECTRICAL DATA				EER	COP	MANUFACTURER AND MODEL #	NOTES	
					TOTAL MBH	SENS. MBH	EAT DB/WB	LAT DB/WB	EWT/LWT	MBH	EAT	LAT	EWT/LWT	GPM	WPD	V/PH/Hz	MCA					MOCP
WSHP-1	6000	855	0.5	5.0	181.8	167.2	75.0/63.0	56.6/53.4	90/100	SEE ELECTRIC DUCT HEATER SCHEDULE	45.0	47.2	460/3/60	33.9	45.0	13.1	4.40	1200	57x85x31	TRANE	GEHE1804	#1-12,15,17
WSHP-2	4000	880	0.5	3.0	116.3	107.0	75.0/63.0	56.6/53.8	90/100	SEE ELECTRIC DUCT HEATER SCHEDULE	30.0	31.7	460/3/60	21.7	25.0	13.4	4.60	1680	70x85x24	TRANE	GEHE1204	#1-12,15,17
WSHP-3	1200	215	0.4	(0.5)	32.3	25.7	75.0/63.0	56.3/54.2	90/100	SEE ELECTRIC DUCT HEATER SCHEDULE	9.0	6.14	460/3/60	10.5	15.0	17.7	5.50	1200	57x85x31	TRANE	DXHF0364	#1-12,15,17
WSHP-4	6000	855	0.5	5.0	181.8	167.2	75.0/63.0	56.6/53.4	90/100	SEE ELECTRIC DUCT HEATER SCHEDULE	45.0	47.2	460/3/60	33.9	45.0	13.1	4.40	1200	57x85x31	TRANE	GEHE1804	#1-12,15,18
WSHP-5	800	70	0.5	(0.2)	24.9	18.4	75.0/63.0	54.9/52.6	90/100	SEE ELECTRIC DUCT HEATER SCHEDULE	6.0	7.13	460/3/60	6.6	15.0	17.7	5.50	1200	57x85x31	TRANE	DXVF0244	#1,3-12,15,16,18
WSHP-6	1600	45	0.3	(0.5)	49.3	36.5	75.0/63.0	55.0/52.8	90/100	SEE ELECTRIC DUCT HEATER SCHEDULE	12.0	9.19	460/3/60	11.8	15.0	17.7	5.50	1200	57x85x31	TRANE	DXHF0484	#1-12,15,17
WSHP-7	1600	95	0.3	(0.5)	49.3	36.5	75.0/63.0	55.0/52.8	90/100	SEE ELECTRIC DUCT HEATER SCHEDULE	12.0	9.19	460/3/60	11.8	15.0	17.7	5.50	1200	57x85x31	TRANE	DXHF0484	#1-12,15,17
OAHU-1A	1260	1260	0.3	(0.6)	96.0	-	100.0/78.0	75.0/63.0	-	N/A	-	-	208/1/60	3.1	-	16.0	3.40	1078	32x11x29	TRANE	4TVN0096A100NA	#1,3,4,8,10,11,14,15
OAHU-1B	-	-	-	-	96.0	-	-	-	90/100	N/A	25.4	10.0	460/3/60	11.0	15.0	16.0	3.40	1078	32x11x29	TRANE	4TPV0096B400NB	#1,3,4,8,10,11,13,15

- NOTES:**
- COOLING CAPACITY IS BASED ON 96°F DB/81° WB (SUMMER) AMBIENT, 72°F DB/60° WB RETURN AIR AND 3.0 GPM/TON, PER BASE BUILDING DESIGN.
 - UNITS SHALL BE HIGH EFFICIENCY, HORIZONTAL, CEILING-HUNG UNITS.
 - REFRIGERANT: R-410a
 - PROVIDE TWO (2) SETS OF 2", PLEATED MERV-8 TYPE FILTERS.
 - PROVIDE FREEZE PROTECTION THERMOSTAT, CONDENSATE, FILTER AND FAN STATUS SENSORS.
 - PROVIDE FACTORY-INSTALLED WATERSIDE ECONOMIZER COIL INCLUDING ALL CONTROLS, CONTROL VALVES, PIPING AND ALL ADDITIONAL PIPING SPECIALTIES, ALL RATED FOR 300 PSIG MAX.
 - PROVIDE DELUXE SOUND ATTENUATION PACKAGE.
 - PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT W/ NIGHT-SETBACK, 5° DEADBAND, FAN SPEED, ON-OFF CONTROL AND HEAT/COOL/FAN/AUTO MODE CONTROL. ALL CONTROLS SHALL BE HARD-WIRED.
 - PROVIDE CONTROLS AND RELAYS TO INTERLOCK UNIT WITH ASSOCIATED ELECTRIC DUCT HEATER.
 - PROVIDE ALL PIPING AND PIPING ACCESSORIES AS REQUIRED BY THE UNIT MANUFACTURER.
 - ACCEPTABLE ALTERNATE MANUFACTURERS INCLUDE: CARRIER, YORK, DAIKIN-MCQUAY, LENNOX, FLORIDA HEAT PUMP.
 - WEIGHT LISTED INCLUDES WATER-SIDE ECONOMIZER (WHEN PROVIDED).
 - HIGH EFFICIENCY, WATER-COOLED VARIABLE REFRIGERANT FLOW "CONDENSER".
 - 100% DEDICATED OUTDOOR AIR, CEILING-HUNG, AIR HANDLER UNIT. INTERLOCK UNIT OPERATION WITH ASSOCIATED WSHP UNIT(S).
 - PROVIDE CONDENSATE PUMP (IF REQUIRED); "LITTLE GIANT" VCMA-15 W/ FLOAT SWITCH 115V-1PH
 - UNIT SHALL BE HIGH EFFICIENCY, VERTICAL, FLOOR-MOUNTED UNITS.
 - OUTSIDE AIR PROVIDED VIA MAKE-UP AIR UNIT (MAU-1).
 - OUTSIDE AIR PROVIDED VIA OUTSIDE AIR HANDLER UNIT (OAHU-1).

FAN SCHEDULE

NO.	CFM	ESP	RPM	HP (WATTS)	VOLTS/Ø	WEIGHT LBS	MANUFACTURER & MODEL NO.	NOTES
TEF-1	210	0.13	1,050	(75)	120/1	25	"PENN" ZBS-TDA	#1-5
TEF-2	350	0.20	1,050	(132)	120/1	35	"PENN" Z10S-TDA	#1-5
TEF-3	600	0.30	1,550	(372)	120/1	35	"PENN" Z10H-TDA	#2-6

- NOTES:**
- CONTROLLED BY TIMELOCK LOCATED NEAR ELECTRICAL PANELS.
 - PROVIDE WITH BACKDRAFT DAMPER.
 - PROVIDE EXHAUST 8X8 GRILLES AT EACH TOILET.
 - PROVIDE INLINE CONVERSION KIT - MODEL TDA.
 - PROVIDE VARIABLE SPEED CONTROLLER.
 - CONTROLLED VIA TIMED WALL SWITCH, SET FOR 5 MINUTE RUN TIME.

ELECTRIC DUCT HEATER SCHEDULE

NO.	CFM	SIZE	KW	TEMP RISE	VOLTS/Ø	AMPS	WEIGHT LBS	MANUFACTURER & MODEL NO.	REMARKS
EDH-1	6000	30X20	65	35	480/3	78.2	-	"INDEECO" QUA	#1-5
EDH-2	4000	24X20	45	35	480/3	54.1	-	"INDEECO" QUA	#1-5
EDH-3	1200	16X12	13	35	480/3	15.6	-	"INDEECO" QUA	#1-5
EDH-4	6000	30X20	65	35	480/3	78.2	-	"INDEECO" QUA	#1-5
EDH-5	800	12X12	9	35	480/3	10.8	-	"INDEECO" QUA	#1-5
EDH-6	1600	20X12	15	30	480/3	18.1	-	"INDEECO" QUA	#1-5
EDH-7	1600	20X12	15	30	480/3	18.1	-	"INDEECO" QUA	#1-5

- NOTES:**
- PROVIDE SCR CONTROL.
 - PROVIDE 0-10VDC CONTROL SIGNAL.
 - PROVIDE CONTACTORS, EAT & LAT SENSORS.
 - UNIT SHALL BE SLIP-IN DUCT MOUNTING TYPE.
 - INTERLOCK UNIT WITH WSHP OPERATION.
 - CONTRACTOR SHALL CONFIRM EXACT SIZING, OVERHANG DIRECTION AND AIRFLOW DIRECTION PRIOR TO RELEASE TO PRODUCTION.

COMcheck Software Version 4.0.8.2 Mechanical Compliance Certificate

Project Information

Energy Code: 2015 IECC
 Project Title: Ouzo Restaurant & Loch Bar
 Location: Houston, Texas
 Climate Zone: 2a
 Project Type: New Construction

Construction Site: 4444 Westheimer Rd, Houston, TX 77027
 Owner/Agent: Alexander Smith, 4102411224, afsmith11@gmail.com
 Designer/Contractor: JB Wyble & Associates P.A., 7950 Norfolk Ave 2nd Floor, Bethesda, MD 20814, 301-654-1410

Additional Efficiency Package(s)

Enhanced Interior Lighting Controls

Mechanical Systems List

Quantity	System Type & Description
1	WSHP-1 (Single Zone): Water Source Heat Pump Heating Mode: Capacity = 222 kBtu/h, No minimum efficiency requirement applies Cooling Mode: Capacity = 182 kBtu/h, Water Economizer No minimum efficiency requirement applies Fan System: FAN SYSTEM 1 - Compliance (Motor nameplate HP method) : Passes Fans: FAN 1 Supply, Single-Zone VAV, 6000 CFM, 5.0 motor nameplate hp, 85.0 fan efficiency grade
1	WSHP-2 (Single Zone): Water Source Heat Pump Heating Mode: Capacity = 154 kBtu/h, Proposed Efficiency = 4.60 COP, Required Efficiency = 4.30 COP Cooling Mode: Capacity = 116 kBtu/h, Water Economizer Proposed Efficiency = 13.40 EER, Required Efficiency: 13.00 EER Fan System: FAN SYSTEM 2 - Compliance (Motor nameplate HP method) : Passes Fans: FAN 2 Supply, Single-Zone VAV, 4000 CFM, 3.0 motor nameplate hp, 85.0 fan efficiency grade
1	WSHP-3 (Single Zone): Water Source Heat Pump Heating Mode: Capacity = 44 kBtu/h, Proposed Efficiency = 5.40 COP, Required Efficiency = 4.30 COP Cooling Mode: Capacity = 32 kBtu/h Proposed Efficiency = 17.00 EER, Required Efficiency: 13.00 EER Fan System: FAN SYSTEM 3 - Compliance (Motor nameplate HP method) : Passes Fans: FAN 3 Supply, Constant Volume, 1200 CFM, 1.0 motor nameplate hp, 85.0 fan efficiency grade
1	WSHP-4 (Single Zone): Water Source Heat Pump Heating Mode: Capacity = 222 kBtu/h, No minimum efficiency requirement applies Cooling Mode: Capacity = 182 kBtu/h, Water Economizer No minimum efficiency requirement applies Fan System: FAN SYSTEM 4 - Compliance (Motor nameplate HP method) : Passes Fans: FAN 4 Supply, Constant Volume, 800 CFM, 0.5 motor nameplate hp, 85.0 fan efficiency grade
1	WSHP-6 (Single Zone): Water Source Heat Pump Heating Mode: Capacity = 51 kBtu/h, Proposed Efficiency = 5.40 COP, Required Efficiency = 4.30 COP Cooling Mode: Capacity = 49 kBtu/h, Proposed Efficiency = 17.20 EER, Required Efficiency: 13.00 EER Fan System: FAN SYSTEM 6 - Compliance (Motor nameplate HP method) : Passes Fans: FAN 5 Supply, Constant Volume, 1600 CFM, 0.5 motor nameplate hp, 85.0 fan efficiency grade
1	WSHP-7 (Single Zone): Water Source Heat Pump Heating Mode: Capacity = 51 kBtu/h, Proposed Efficiency = 5.40 COP, Required Efficiency = 4.30 COP Cooling Mode: Capacity = 49 kBtu/h, Proposed Efficiency = 17.20 EER, Required Efficiency: 13.00 EER Fan System: FAN SYSTEM 7 - Compliance (Motor nameplate HP method) : Passes Fans: FAN 6 Supply, Constant Volume, 1600 CFM, 0.5 motor nameplate hp, 85.0 fan efficiency grade
1	OAHU-1A,1B (Single Zone): Water Source Heat Pump Heating Mode: Capacity = 96 kBtu/h, Proposed Efficiency = 5.40 COP, Required Efficiency = 4.30 COP Cooling Mode: Capacity = 59 kBtu/h, Water Economizer Proposed Efficiency = 16.00 EER, Required Efficiency: 13.00 EER Fan System: OAHU-1A,1B - Compliance (Motor nameplate HP method) : Passes Fans: FAN 8 Supply, Constant Volume, 1236 CFM, 0.8 motor nameplate hp, 85.0 fan efficiency grade

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Quantity System Type & Description

No minimum efficiency requirement applies
 Fan System: FAN SYSTEM 4 - Compliance (Motor nameplate HP method) : Passes

Fans:
 FAN 7 Supply, Constant Volume, 6000 CFM, 5.0 motor nameplate hp, 85.0 fan efficiency grade

1 WSHP-5 (Single Zone):
 Water Source Heat Pump
 Heating Mode: Capacity = 31 kBtu/h,
 Proposed Efficiency = 5.30 COP, Required Efficiency = 4.30 COP
 Cooling Mode: Capacity = 25 kBtu/h,
 Proposed Efficiency = 17.70 EER, Required Efficiency: 13.00 EER
 Fan System: FAN SYSTEM 5 - Compliance (Motor nameplate HP method) : Passes

Fans:
 FAN 4 Supply, Constant Volume, 800 CFM, 0.5 motor nameplate hp, 85.0 fan efficiency grade

1 WSHP-6 (Single Zone):
 Water Source Heat Pump
 Heating Mode: Capacity = 51 kBtu/h,
 Proposed Efficiency = 5.40 COP, Required Efficiency = 4.30 COP
 Cooling Mode: Capacity = 49 kBtu/h,
 Proposed Efficiency = 17.20 EER, Required Efficiency: 13.00 EER
 Fan System: FAN SYSTEM 6 - Compliance (Motor nameplate HP method) : Passes

Fans:
 FAN 5 Supply, Constant Volume, 1600 CFM, 0.5 motor nameplate hp, 85.0 fan efficiency grade

1 WSHP-7 (Single Zone):
 Water Source Heat Pump
 Heating Mode: Capacity = 51 kBtu/h,
 Proposed Efficiency = 5.40 COP, Required Efficiency = 4.30 COP
 Cooling Mode: Capacity = 49 kBtu/h,
 Proposed Efficiency = 17.20 EER, Required Efficiency: 13.00 EER
 Fan System: FAN SYSTEM 7 - Compliance (Motor nameplate HP method) : Passes

Fans:
 FAN 6 Supply, Constant Volume, 1600 CFM, 0.5 motor nameplate hp, 85.0 fan efficiency grade

1 OAHU-1A,1B (Single Zone):
 Water Source Heat Pump
 Heating Mode: Capacity = 96 kBtu/h,
 Proposed Efficiency = 5.40 COP, Required Efficiency = 4.30 COP
 Cooling Mode: Capacity = 59 kBtu/h, Water Economizer
 Proposed Efficiency = 16.00 EER, Required Efficiency: 13.00 EER
 Fan System: OAHU-1A,1B - Compliance (Motor nameplate HP method) : Passes

Fans:
 FAN 8 Supply, Constant Volume, 1236 CFM, 0.8 motor nameplate hp, 85.0 fan efficiency grade

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2015 IECC requirements in COMcheck Version 4.0.8.2 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

James B. Wyble, PE Name - Title Signature Date 8/24/18

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AIR DISTRIBUTION DEVICES:

LINEAR SLOT DIFFUSER (LSD-1):
 "TITUS" MODEL: ML-38. NECK SIZE & LENGTH AS INDICATED, 3/4" SLOT, 3-SLOT, FINISH: WHITE OR AS BY ARCHITECT. PROVIDE WITH CONTINUOUS INSULATED PLENUM, VOLUME DAMPER AND ADJUSTABLE PATTERN CONTROLLER.

LINEAR SLOT DIFFUSER (LSD-2):
 "TITUS" MODEL: ML-37. NECK SIZE & LENGTH AS INDICATED, 1/2" SLOT, 2-SLOT, FINISH: WHITE OR AS BY ARCHITECT. PROVIDE WITH CONTINUOUS INSULATED PLENUM, VOLUME DAMPER AND ADJUSTABLE PATTERN CONTROLLER.

CEILING DIFFUSER (CD-1):
 "TITUS" MODEL: PAS. NECK SIZE AS INDICATED, 24" X 24" PERFORATED FACE, 4-WAY DISCHARGE PATTERN, FINISH: WHITE. PROVIDE WITH VOLUME DAMPER.

SUPPLY REGISTER (SR-1):
 "TITUS" MODEL 300FL SUPPLY REGISTER OF THE SIZE SHOWN ON PLANS. DOUBLE DEFLECTION, ADJUSTABLE LOUVERS, ALUMINUM CONSTRUCTION. STANDARD WHITE FINISH. PROVIDE WITH VOLUME DAMPER.

RETURN/EXHAUST GRILLES (RG-1, EG-1):
 "TITUS" MODEL 350FL RETURN GRILLE OF THE SIZE SHOWN ON PLANS. 35° FIXED DEFLECTION, ALUMINUM CONSTRUCTION, 3/4-INCH SPACING. PROVIDE WITH VOLUME DAMPER. PAINTED FINISH - COLOR BY ARCHITECT. REFER TO ARCHITECTURAL FOR DETAILS.

RETURN GRILLES (RG-2):
 "TITUS" MODEL GT-580 LINEAR BAR GRILLE OF THE SIZE SHOWN ON PLANS. 1/8" THICK BARS, 0° FIXED DEFLECTION, 1/2-INCH SPACING WIDTH, ALUMINUM CONSTRUCTION. PROVIDE WITH VOLUME DAMPER. PAINTED FINISH - COLOR BY ARCHITECT. REFER TO ARCHITECTURAL FOR DETAILS.

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OUZO BAY/ LOCH BAR HOUSTON
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PROJECT NO. JBW17108
 I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF TEXAS.
 PE. LICENSE # 129510, EXPIRATION DATE: DECEMBER 31, 2018
 FIRM LICENSE #: F19615, EXPIRATION DATE: MARCH 31, 2019

REV	DATE	ISSUED FOR	REV	DATE	ISSUED FOR
05/16/2018	06/11/2018	PROGRESS SET			
		PERMIT SET			
08/30/2018		PERMIT COMMENTS			
10/04/2018		PERMIT COMMENTS			

MECHANICAL SCHEDULES

M002