

Report By:

National TAB
1329 E. KEMPER ROAD
SUITE 4210
CINCINNATI, OH 45246



Report: TAB

Function: Test, Adjust, & Balance

Date: 12/09/2024

Completed By: National TAB

PROJECT

12-09-24 CHIPOTLE #42-5234 GULFGATE (HOUSTON, TX)

710 Gulfgate Center Mall, Houston, TX 77087

HOUSTON, TX 77087

Client

Chipotle Mexican Grill

610 Newport Center Drive, Suite 1100

Newport Beach, CA 92660

National TAB

Project: 12-09-24 CHIPOTLE #42-5234 GULFGATE (HOUSTON, TX)

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Project Summary

The summary below provides a quick understanding of our scope of work and general testing procedures. Enclosed in the report is further detail about your building performance including recommendations, asset data, and pictures. Our focus is to work with the trades to remedy any issues or deficiencies during the actual field balancing and not after the balancing has occurred to achieve a positive environment and outcome. The level of success is determined by the availability of the trades, possible parts needed, or time constraints.

RTU's (Roof Top Units) w/ Diffusers

Each of the RTU's were measured at their terminal devices or via traverse to establish a total flow for that unit. Each RTU was adjusted to within tolerance of the engineer's design flow. Each outlet was then adjusted to within tolerance of the design flow. Outside air was measured by reading the intake air opening with a velocity grid and multiplying by the free area. The outside air damper was adjusted until the airflow was within the design requirements. Any equipment that fell outside of that tolerance is noted throughout the report.

Kitchen Exhaust Hood & Associated Fans

Each kitchen exhaust fan was measured at the hood filter bay utilizing a velocity matrix and a manufacturer's correction factor. Each filter velocity is multiplied by the manufacturer's corrected area. The sum of these readings equals the total flow of the exhaust fans. The total flow of the exhaust was then adjusted to within tolerance of the design flow. . Any EF's that fell outside of this tolerance is noted throughout the report.

MUA (Make Up Air Unit) w/ PSP

Total flow for the MAU (Make-up Air Unit) unit was measured by readings taken at the discharge of the hood's perforated supply plenum. Readings taken with a velocity matrix were averaged and multiplied by a manufacturer's corrected area. Adjustments to the fan speed were made in order to bring the unit to within design tolerance. Any MUA's that fell outside of this tolerance is noted throughout the report.

General Exhaust Fans w/ Grilles

The general exhaust fans were measured by reading each air device with a flow hood. The total airflow for each fan is equivalent to the sum of these readings. Fan speed was then adjusted so that the airflow was within tolerance of design. Each terminal device was balanced to within tolerance of the design volume using the installed volume dampers. Any equipment that fell outside of this tolerance is noted throughout the report.

Final Building Tests

After completing the test and balance the final building pressure was measured. It was confirmed that the building pressure fell within acceptable tolerances of $-0.02''$ wc to $+0.02''$ wc and that the pressure measurement coincides with the actual and design net airflow. Any deviations from these standards are noted throughout the report.

The hood capture was tested at the perimeter of the hood and the cook top level with the equipment heat on to ensure satisfactory hood capture and containment.

Issue List

- RTU-1 LOW AIRFLOW



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Project Issue Information

Issue Name : RTU-1 LOW AIRFLOW
Description : Pully on RTU-1 is set to 0 turns open and cannot be adjusted further. Design airflow of 4000 CFM cannot be reached current airflow is 3386 CFM.
Created By : National TAB **Assigned To :** National TAB - Will Turnbough
Status : Open
Priority : Urgent **Asset Tag :**
Originated Date : 12/16/2024 - Oscar Ventura - National TAB

AIR BALANCE SCHEDULE

UNIT	AREA SERVED	HVAC SUPPLY		HVAC RETURN		HVAC OUTDOOR		OA %		HOOD MAKE-UP		HOOD EXHAUST		GENERAL EXH.	
		DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL
RTU-1	Kitchen	4000	3386	3500	2961	500	425	12.5%	12.6%						
RTU-2	Dining	4375	4400	3375	3414	1000	986	22.9%	22.4%						
EF-1	Cook line											2550	2552		
EF-2	Bqthroom													150	146
MAU1	ACSP									1300	1344				
TOTALS		8375	7786	6875	6375	1500	1411			1300	1344	2550	2552	150	146

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2800	2755
TOTAL EXHAUST	2700	2698
NET AIRFLOW	100	57

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H2O)
FRONT	0.012
SIDE	0.011
REAR	0.011
AVERAGE	0.0113

FINAL CHECKS

- ACTUAL NET AIRFLOW COINCIDES WITH DESIGN: ✓

- MEASURED PRESSURES COINCIDES WITH ACTUAL NET AIRFLOW: ✓

- PRESSURE FALLS WITHIN IMC TOLERANCE OF +/-0.02" W.C. ✓

NOTES:

CheckList List

- 01: RTU'S/AHU'S
- 02: EF'S
- 03: MUA
- 04: HOODS
- 05: FINAL TESTS



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CheckList Information

Name : 01: RTU'S/AHU'S **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 12/05/2024 - Kyle Henry - National TAB
Completed Date : 12/10/2024 - Oscar Ventura - National TAB

CheckList Item Details

RTU's/AHU's

Thermostats installed and have power? Yes

Comment:

All diffusers and grilles are installed and match design? Yes

Comment:

Deflector plates are removed from 1x1 diffusers on the serve line (double check that this is specified on the diffuser schedule first) N/A

Comment:

Economizer blank plate is installed below the outside air intake (Trane only) (N/A = not applicable) N/A

Comment:

Economizers are assembled and functional? Yes

Comment:

DCV Max damper opening position is set to minimum? Yes

Comment:

Free cooling enthalpy set point set for lowest setting (Typically "D")

N/A

Comment:

Motors are all operating below the FLA rating?

Yes

Comment:

Are belts tight?

Yes

Comment:

If direct drive unit is the speed controller working?

N/A

Comment:

Is gas piping installed and valves turned on?

Yes

Comment:

Unit free of noticeable noise and vibration

Yes

Comment:

Final outside air damper position is marked with permanent marker?

Yes

Comment:



12-09-24 CHIPOTLE #42-5234 GULFGATE (HOUSTON, TX)

CheckList Information

Name : 02: EF'S **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 12/05/2024 - Kyle Henry - National TAB

Completed Date : 12/10/2024 - Oscar Ventura - National TAB

CheckList Item Details

EF's

Rotation is correct?	Yes
-----------------------------	-----

Comment:

Belts are tight?	N/A
-------------------------	-----

Comment:

DIRECT DRIVE

Viroguard installed on hood fan(s)?	Yes
--	-----

Comment:

Hinge kit installed installed on hood fan?	Yes
---	-----

Comment:

Lean fan back. Is grease duct installation adequate and is duct ran all the way to the base of the fan?	Yes
--	-----

Comment:

Flex conduit is long enough so that fan can be completely tilted back?	Yes
---	-----

Comment:

There is no major leakage around base of fan?

Yes

Comment:

Is the motor operating below the motor FLA rating?

Yes

Comment:

For restroom fan(s) is the back draft damper installed and can it fully open?

Yes

Comment:

Unit free of noticeable noise and vibration?

Yes

Comment:



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CheckList Information

Name : 03: MUA **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 12/05/2024 - Kyle Henry - National TAB
Completed Date : 12/10/2024 - Oscar Ventura - National TAB

CheckList Item Details

MUA

Rotation is correct? Yes

Comment:

Gas piping is installed and valves are in on position? Yes

Comment:

Internal motorized damper is fully opening? Yes

Comment:

Motor is operating below the FLA rating? Yes

Comment:

Unit free of noticeable noise and vibration? Yes

Comment:



12-09-24 CHIPOTLE #42-5234 GULFGATE (HOUSTON, TX)

CheckList Information

Name : 04: HOODS **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 12/05/2024 - Kyle Henry - National TAB
Completed Date : 12/10/2024 - Oscar Ventura - National TAB

CheckList Item Details

HOODS

All hood filters installed and accounted for? Yes

Comment:

Hoods are wired and have power? Yes

Comment:

Hood is free of alarms? Yes

Comment:

Hood is free of damage? Yes

Comment:

Quarter or full vertical end panels are installed if specified? Yes

Comment:



12-09-24 CHIPOTLE #42-5234 GULFGATE (HOUSTON, TX)

CheckList Information

Name : 05: FINAL TESTS **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 12/05/2024 - Kyle Henry - National TAB

Completed Date : 12/10/2024 - Oscar Ventura - National TAB

CheckList Item Details

FINAL CHECKS

Is space free of drafting? Yes

Comment:

Is space comfortable in all areas? Yes

Comment:

Is the space free of ventilation noise? Yes

Comment:

List kitchen equipment turned on for testing N/A

Comment:

List smoke candle type used

Comment:

45-SEC SMOKE CANDLE

HOOD CAPTURE TEST

Smoke test capture % - Perimeter of hood

Comment:

100%

Smoke test capture % - Top of cooking surface

Comment:

100%

WITNESS

Date test was completed

12/09/2024

Comment:

TAB tech name / Firm

Comment:

OSCAR VENTURA / NTAB

Site super name / Firm

Comment:

DEVIN DONAGHY / HORIZON

Owner representative name / Firm (if Applicable)

Comment:

NA

BUILDING PRESSURE

Do actual net building airflow, design net building airflow, and pressure coincide? If not why? (All three should either be positive or negative)

Pass

Comment:

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Project: 12-09-24 CHIPOTLE #42-5234 GULFGATE
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System/Unit: AHU/RTU

Asset: RTU1

AREA: KITCHEN

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	1824P10908
Model Num	48HCE12	48HCE12
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	24X26
Num Final Filter 1	-	6
Final Filter Size 1	-	18X24

Motor Data		
	Design	Actual
Motor MFG	-	MARATHON MOTORS
Frame	-	56HZ
Horsepower	-	NL
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	208	230/460
Rated Amperage	-	9.2/4.6

Drive Data	
	Actual
Motor Sheave Size	4"
Motor Bore Size	0.75"
Motor Sheave SetPt	0 TURNS
Fan Sheave Size	10"
Fan Sheave Bore	1.25"
Belt CL Distance	20"
Num of Belts	1
Belt Size	AX56
Belt Alignment	CORRECT

Test Data		
	Design	Actual
SF CFM	4000	3386
SF RPM	-	785
RA CFM	3500	2961
OA CFM	500	425
RL Voltage	-	490/492/491
RL Amperage	-	4.6/4.5/4.6
SF Rotation	-	CCW
SF System SetPt	-	100%
RA Damper Position	-	80%
Min OA Damper Position	-	20%
Min OA Damper Type	-	OPPOSED BLADE

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.92"
Fan Suction SP	-	-1.29"
Fan Discharge SP	-	0.76"
Total ESP	.8	1.68"
Fan Total SP	-	2.05"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

Completed By: Oscar Ventura on 12/09/2024

Notes:
(1). CONSTRUCTION FILTERS INSTALLED.

Written By: Oscar Ventura on 12/09/2024

Unit Data - PHOTO LOG



12/09/2024

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(HOUSTON, TX)

AHU/RTU



Diffuser Supply (GRD)

RTU1/KITCHEN

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	BACK	CD1	8"	150		135	209	163	108.7
SGRD2	BACK	CD1	12"	400		256	407	414	103.5
SGRD3	BACK	CD1	12"	400		257	371	406	101.5
SGRD4	Kitchen	CD2	8"	350		109	149	157	44.9
SGRD5	Kitchen	CD2	8"	350		129	180	287	82.0
SGRD6	Kitchen	CD2	8"	350		101	126	240	68.6
SGRD7	Kitchen	CD2	8"	350		115	156	192	54.9
SGRD8	Kitchen	CD2	12"	450		273	397	407	90.4
SGRD9	Kitchen	CD2	12"	500		287	437	436	87.2
SGRD10	HOOD	ACPSP	165X6	700		298	475	684	97.7
Total				4000		1960	2907	3386	84.65%

Completed By: Oscar Ventura on 12/09/2024

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Project: 12-09-24 CHIPOTLE #42-5234 GULFGATE
(HOUSTON, TX)



System/Unit: AHU/RTU

Asset: RTU2

AREA: DINING

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	4024P28449
Model Num	48HCE14	48HCE14
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	4
OA Filter Size 1	-	16X24
Num Final Filter 1	-	6
Final Filter Size 1	-	20X25X2

Motor Data		
	Design	Actual
Motor MFG	-	MARATHON MOTORS
Frame	-	145TZ
Horsepower	-	NL
Motor Rpm	-	1745
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	14.0

Drive Data	
	Actual
Motor Sheave Size	5"
Motor Bore Size	0.75"
Motor Sheave SetPt	
Fan Sheave Size	10"
Fan Sheave Bore	1.25"
Belt CL Distance	12"
Num of Belts	1
Belt Size	BX46
Belt Alignment	CORRECT

Test Data		
	Design	Actual
SF CFM	4375	4400
SF RPM	-	874
RA CFM	3375	3414
OA CFM	1000	986
RL Voltage	-	
RL Amperage	-	5.1/5.2/5.2
SF Rotation	-	491/492/493
SF System SetPt	-	100%
RA Damper Position	-	75%
Min OA Damper Position	-	25%
Min OA Damper Type	-	OPPOSED BLADE

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.68"
Fan Suction SP	-	1.04"
Fan Discharge SP	-	0.54"
Total ESP	.8	1.22"
Fan Total SP	-	1.58"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

Completed By: Oscar Ventura on 12/09/2024

Unit Data - PHOTO LOG



12/09/2024

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(HOUSTON, TX)

AHU/RTU



Diffuser Supply (GRD)

RTU2/DINING

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	DINING	SR2	18"	500		577		489	97.8
SGRD2	DINING	SR2	18"	525		524		513	97.7
SGRD3	DINING	SR2	18"	550		512		521	94.7
SGRD4	DINING	SR2	18"	550		489		539	98.0
SGRD5	DINING	SR2	18"	550		547		559	101.6
SGRD6	DINING	SR2	18"	550		505		554	100.7
SGRD7	DINING	SR2	18"	550		547		597	108.5
SGRD8	DINING	SR2	18"	550		416		574	104.4
SGRD9	Bathroom	CD3	6"	50		2800		54	108.0
Total				4375		6917	0	4400	100.57%

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(HOUSTON, TX)



System/Unit: FAN - Exhaust

Asset: EF2

AREA:bathroom

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	DR12HFA	DR12HFA
Serial Num	-	6777808
Type	Downblast	DOWNBLAST
Configuration	Vertical	VERTICAL

Test Data		
	Design	Actual
CFM	150	146
Fan RPM	-	1100
Fan Rotation	-	CCW
Motor RPM	-	1100
System SetPt	-	55%
RL Voltage	-	120
RL Amperage	-	1.6/1.5/1.5
Total ESP	.6	0.48"
Fan Inlet SP	-	-0.48"
Fan Discharge SP	-	ATM

Motor Data		
	Design	Actual
Motor MFG	-	TELCO GREEN
Frame	-	NL
Horsepower	.18	0.25
Motor Rpm	-	1800
Phase	1	1
Voltage (rated)	120	120
Amperage (rated)	-	2.9
Service Factor	-	NL

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Unit Data - PHOTO LOG



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(HOUSTON, TX)

FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF2/bathroom

Asset												
Asset Name	Model Num	MFG	Type	Size	DESIGN CFM	AK	VEL(1)	CFM(1)	VEL(2)	CFM(2)	FINAL CFM	% to design
EGRD1	NA	NA			75			64			75	100.0
EGRD2	NA	NA			75			61			71	94.7
Total					150			125		0	146	97.33%

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Project: 12-09-24 CHIPOTLE #42-5234 GULFGATE
(HOUSTON, TX)



System/Unit: FAN - Exhaust

Asset: KEF1

AREA:Kitchen

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	DU180HFA	DU180HFA
Serial Num	-	6777808
Type	upblast	UPBLAST
Configuration	Vertical	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	WEG
Frame	-	182/4T
Horsepower	2	2.0
Motor Rpm	-	1170
Phase	3	3
Voltage (rated)	208	208
Amperage (rated)	-	7.13
Service Factor	-	1.15

Test Data		
	Design	Actual
CFM	2550	2552
Fan RPM	969	969
Fan Rotation	-	CCW
Motor RPM	-	969
System SetPt	-	49.7 HZ
RL Voltage	-	116/117/117
RL Amperage	-	4.6/4.5/4.5
Total ESP	1.2	0.59"
Fan Inlet SP	-	-0.59
Fan Discharge SP	-	ATM

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Unit Data - PHOTO LOG



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System/Unit: FAN - Supply

Asset: MAU1

AREA:HOOD

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	A1-D.250-15D	A1-D.250-15D
Serial Num	-	6777808
Type	MAU	MAU
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	TECO
Frame	-	143T
Horsepower	1	1.0
Motor Rpm	-	1740
Phase	3	3
Voltage (rated)	208	208
Amperage (rated)	-	2.90
Service Factor	-	1.0

Gas Heat		
	Design	Actual
Heater Operates (y/n)	-	YES
Flame Status (pass/fail)	-	YES
Inlet Air Temp SetPt	-	55
Discharge Air Temp SetPt	-	60
Air Flow Switch SP Actual	-	0.48"

Test Data		
	Design	Actual
CFM	1300	1344
SF RPM	-	1392
Motor RPM	-	1392
SF System SetPt	-	48 HZ
RL Voltage	-	120
RL Amperage	-	2.3
Total ESP	-	0.57"
Fan Discharge SP	-	0.57"

General	
	Actual
Fan Rotation Correct	YES

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Unit Data - PHOTO LOG



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Project: 12-09-24 CHIPOTLE #42-5234 GULFGATE
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System/Unit: Kitchen Hood Type I

Asset: HD1

AREA:COOKLINE

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	5424 ND-2-ACPSP-F	5424 ND-2-ACPSP-F
Job / Serial Num	-	-
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	153"	153"
Hood Width	54"	54"
Supply Plenum Type	-	PSP
Supply Plenum Width	9"	9"
Supply Plenum Length	165"	165"

Test Data Exhaust		
	Design	Actual
Filter Type	CAPTRATE SOLO	CAPTRATE SOLO
Filter Size 1	16x16	16X16
Filter Qty 1	9	9
Filter AK factor size 1	1.62	1.62
Filter Total AK Area	14.58	14.58
Filter1 FPM	-	160
Filter2 FPM	-	174
Filter3 FPM	-	192
Filter4 FPM	-	185
Filter5 FPM	-	176
Filter6 FPM	-	193
Filter7 FPM	-	176
Filter8 FPM	-	161
Filter9 FPM	-	164
Filter Ave FPM(corr)	-	175
CFM	2550	2552

Cooking Equipment	
	Actual
Item 1	RANGE
Item 2	GRIDDLE
Item 3	FRYERS

Test Data Supply		
	Design	Actual
Total Area	10.31	10.31
Kv factor (Vel)	0.81	0.81
Num of Readings	-	8
Reading1 FPM	-	159
Reading2 FPM	-	151
Reading3 FPM	-	142
Reading4 FPM	-	150
Reading5 FPM	-	119
Reading6 FPM	-	189
Reading7 FPM	-	191
Reading8 FPM	-	194
Ave FPM(corr)	-	161
CFM	1300	1344

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Unit Data - PHOTO LOG



12/09/2024

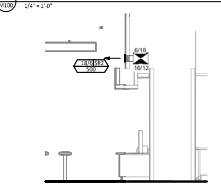
HVAC PLAN NOTES

1. SEE ARCHITECTURAL PLAN FOR CEILING PLAN FOR CEILING MOUNTED EQUIPMENT LOCATION. TYPICAL.
2. PAINT ALL VERTICAL DUCTWORK IN DINING SPACE TO MATCH METAL CEILING FINISH. TYPICAL.
3. NOT USED.
4. 26 IS DUCT UP FOR TRANSITION TO RTU 1 RETURN CONNECTION IN ROOF CURB. RTU 1 SHALL HAVE AN INTEGRAL SMOKE DETECTOR IN THE RETURN AIR STREAM. THE SMOKE DETECTOR IS TO DETECT SMOKE DETECTOR TO RTU 1 OPERATION.
5. 26 IS DUCT UP FOR TRANSITION TO RTU 2 RETURN CONNECTION IN ROOF CURB. RTU 2 SHALL HAVE AN INTEGRAL SMOKE DETECTOR IN THE RETURN AIR STREAM. INTERLOCKS SMOKE DETECTOR TO RTU 2 OPERATION.
6. 20 IS DUCT UP FROM BUILDING SUPPLY THROUGH ROOF TRANSITION TO RTU 1 SUPPLY CONNECTION IN ROOF CURB.
7. 20 IS DUCT UP FROM BUILDING SUPPLY THROUGH ROOF TRANSITION TO RTU 2 SUPPLY CONNECTION IN ROOF CURB.
8. 14 IS DUCT UP THROUGH ROOF TRANSITION TO MAIN SUPPLY CONNECTION IN ROOF CURB.
9. 14 IS DUCT UP FROM ROOF THROUGH ROOF TO RTU 1. COORDINATE WITH RTU 1A PROVIDE PACKAGED REVERSIBLE WITH AIR FLOWER RIGID DUCT AT BUILDING PERMEABLE DUCT.
10. AIR DUCT UP THROUGH ROOF TO RTU 2. COORDINATE WITH RTU 2A PROVIDE PACKAGED REVERSIBLE WITH AIR FLOWER RIGID DUCT AT BUILDING PERMEABLE DUCT.
11. 18 IS DUCT DOWN TO MAIN SUPPLY CONNECTION. TRANSITION TO SUPPLY THROUGH OPENING SIZE TYPICAL. CAN UNLOADED DUCT CONNECTIONS.
12. 18 IS DUCT DOWN TO MAIN SUPPLY CONNECTION. TRANSITION TO SUPPLY THROUGH OPENING SIZE TYPICAL. CAN UNLOADED DUCT CONNECTIONS.
13. INSTALL SINGLE GANG VERTICAL BOX FOR OUTPOINT THERMOSTATS FURNISHED BY TMS FOR RTU 1 AND RTU 2 AT THIS LOCATION AT 8' AFF. COORDINATE WITH ELECTRICAL WORK IN THIS AREA. PROVIDE WIRING AS SHOWN IN DETAIL BUE210.
14. INSTALL OUTPOINT SMOKE SENSOR MODULE FURNISHED BY TMS FOR RTU 1 AT THIS LOCATION 7' AFF. DIRECTLY TO WALL AND LUNION DUCT. COORDINATE LOCATION WITH EQUIPMENT. PROVIDE WIRING AS SHOWN IN DETAIL BUE210.
15. INSTALL OUTPOINT SMOKE SENSOR MODULE FURNISHED BY TMS FOR RTU 2 AT THIS LOCATION 6' AFF. DIRECTLY TO WALL AND LUNION DUCT. COORDINATE LOCATION WITH EQUIPMENT. PROVIDE WIRING AS SHOWN IN DETAIL BUE210.
16. INSTALL OUTPOINT SMOKE SENSOR MODULE FURNISHED BY TMS FOR RTU 2 AT THIS LOCATION 6' AFF. DIRECTLY TO WALL AND LUNION DUCT. COORDINATE LOCATION WITH EQUIPMENT. PROVIDE WIRING AS SHOWN IN DETAIL BUE210.
17. INSTALL REMOTE TEMPERATURE SENSOR FOR ROOF HDU AT THIS LOCATION 7' AFF. COORDINATE LOCATION WITH EQUIPMENT. PROVIDE 12 VDC 5.0 AMPERAGE CABLE FROM TEMPERATURE SENSOR TO REMOTE CONTROL PANEL.

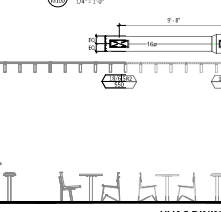
HVAC PLAN NOTES

18. INSTALL REMOTE TEMPERATURE SENSOR FOR ROOF HDU PER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS. INSTALL HOOD ACCORDING TO THE REQUIREMENTS OF LISTING IN CONFORMANCE WITH WORK BY THE BUILDING CODE, AND AUTHORIZED HAVING JURISDICTION. HOOD SHALL HAVE AN INTEGRAL DUCT CURB AIR FLOWER SENSOR TO AUTOMATICALLY SHUT OFF THE EXHAUST AND MAKE UP AIR FANS IF COOKING TEMPERATURES ARE DETECTED. REMOTE DUCT SYSTEM TO BE WELDED OR FACTORY MANUFACTURED WATER AND AIR TIGHT. INSTALL TO THE CODE AND AS SHOWN. INSTALL HOOD PER DETAILS 2, 4, AND 5 AND 10. CHARTER WILL PROVIDE AN INDEPENDENT TESTING AGENCY FOR TESTING THE RELIABILITY OF THE GASLEAK DETECT SYSTEM.
19. INSTALL REMOTE CONDENSING UNIT FOR MAIN IN COOLER ON ROOF AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS. INSTALL REFRIGERANT LINE SET, THERMOSTATIC EXPANSION VALVE, SOLENOID VALVE, TEMPERATURE CONTROL, SIGHT GLASS, FILL ORDER, PRESSURE CONTROL, LOW AMBIENT CONTROL, AND HEAT EXCHANGER. TRAP AND SLOPE REFRIGERANT LINES PER MANUFACTURER'S RECOMMENDATIONS. INSTALLATION SHALL COMPLY WITH ASHRAE 155 STANDARD 15. INSTALL THE REFRIGERANT LINE SET UNDER THE ROOF DECK TO WITHIN 2" OF THE CONDENSING UNIT. 2" SLOPE IN WALKWAY COOLERS FOR REFRIGERANT LINE SET AND SLOPE PER THE COOLER MANUFACTURER'S INSTALLATION INSTRUCTIONS AFTER THE SET IS INSTALLED.
20. INSTALL REMOTE CONDENSING UNIT FOR MAIN IN COOLER ON ROOF AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS. INSTALL REFRIGERANT LINE SET, THERMOSTATIC EXPANSION VALVE, SOLENOID VALVE, TEMPERATURE CONTROL, SIGHT GLASS, FILL ORDER, PRESSURE CONTROL, LOW AMBIENT CONTROL, AND HEAT EXCHANGER. TRAP AND SLOPE REFRIGERANT LINES PER MANUFACTURER'S RECOMMENDATIONS. SEAL PIPING PENETRATIONS THROUGH ROOF. INSTALLATION SHALL COMPLY WITH ASHRAE 155 STANDARD 15. INSTALL THE REFRIGERANT LINE SET UNDER THE ROOF DECK TO WITHIN 2" OF THE REMOTE CONDENSING UNIT. 2" SLOPE IN WALKWAY COOLERS FOR REFRIGERANT LINE SET AND SLOPE PER THE COOLER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
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24. PROVIDE SUPPLY AIR FLOWER CONNECTION TO SUPPLY SYSTEM PER DETAIL LMD100. TYPICAL.
25. PROVIDE ALTERNATE VENTILATION REMOTE SMOKE DETECTOR ANNUNCIATOR WITH REMOTE KEY OPERATED ROSE. WIRE A FEET BACK TO EACH SMOKE DETECTOR. MOUNT UNIT AT 8' AFF. TYPICAL.
26. INSTALL REMOTE HALO AIR PURGER FURNISHED BY TMS IN RTU PER DETAIL BUE210. SEE ELECTRICAL DRAWINGS FOR WIRING CONNECTIONS. INSTALL IN WARNING STICKERS ON EACH OF ENCLOSURE PER DETAIL AND ON ANY RTU ACCESS DOORS THROUGH WHICH THE REMOTE HALO HOOD IS TO BE INSTALLED.
27. MAINTAIN 2" CLEARANCE BETWEEN WATER HEATER FUEL TERMINATION AND OUTSIDE AIR INTAKE. MAINTAIN 12" CLEARANCE BETWEEN WATER HEATER COMBUSTION AIR INTAKE AND EXHAUST FAN 1" DISCHARGE. SEE FURNISHING DRAWINGS FOR MORE INFORMATION ON WATER HEATER FUEL AND COMBUSTION AIR TERMINATIONS.
28. ADJUST SUPPLY REGISTER SO THAT SUPPLY AIR HITS WALL ON OPPOSITE SIDE OF ROOM AT APPROXIMATELY 7' AFF WITH NO DRAFTS FELT IN THE DINING ROOM.

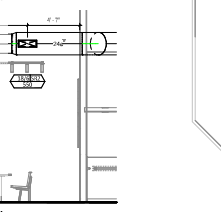
HVAC DINING ROOM RETURN SECTION



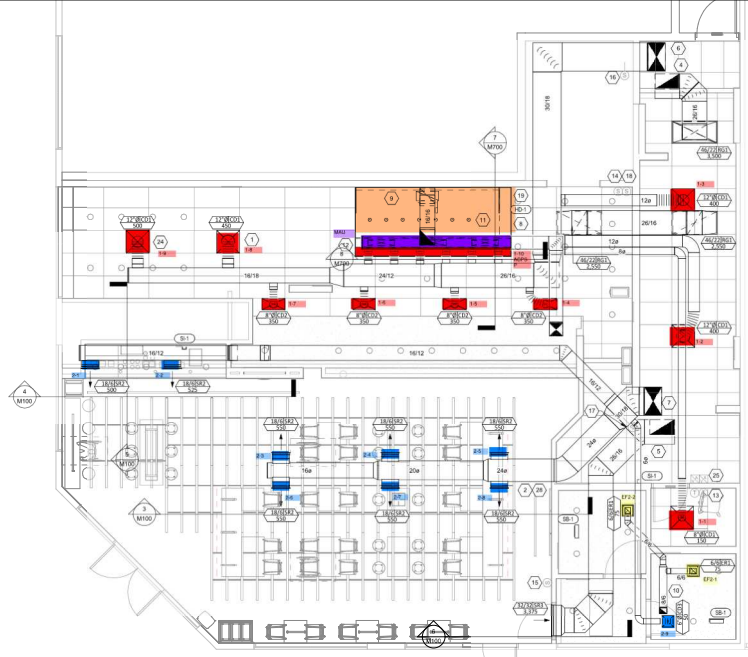
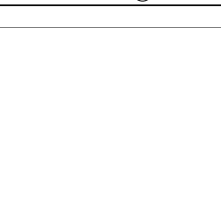
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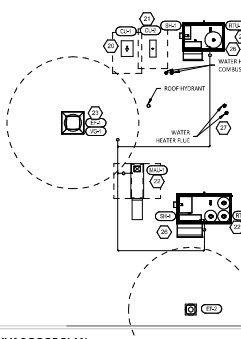
HVAC DINING ROOM SECTION



HVAC DINING ROOM SECTION



HVAC FLOOR PLAN



HVAC ROOF PLAN

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