

Report By:

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



Report: TAB REPORT
Function: Test, Adjust, & Balance
Date: 11/08/2023

PROJECT

11-06-23 HOMEWARD KITCHEN - SOUTHERN PINES, NC

10735 South U.S Hwy

Southern Pines, , NC 28387

Client

Captive-Aire Region #15 (National Accounts)
4641 Paragon Park Road
Raleigh, NC 27616

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
EXRTU-1	DINING	2720	2516	1720	1466	1000	1050	36.8%	41.7%						
EXRTU-2	KITCHEN	3800	3742	3050	2955	750	787	19.7%	21.0%						
RTU-3	DINING	1920	2003	1170	1214	750	789	39.1%	39.4%						
EXRTU-4	DINING	2400	2244	1800	1615	600	629	25.0%	28.0%						
EXRTU-5	DINING	1750	1538	1350	1113	400	425	22.9%	27.6%						
SF-1	HOODS									1890	1775				
EF-1	HOOD 1											2100	2187		
EF-2	HOOD 2											875	889		
EF-3	HOOD 3											1531	1528		
EF-4	RESTROOM													450	425
TOTALS		12590	12043	9090	8363	3500	3680			1890	1775	4506	4604	450	425

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	5390	5455
TOTAL EXHAUST	4956	5029
NET AIRFLOW	434	426

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H2O)
FRONT	0.009
SIDE	0.01
REAR	0.008
AVERAGE	0.0095

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:

National TAB

Project: 11-06-23 HOMEWARD KITCHEN - SOUTHERN PINES, NC



System/Unit: AHU/RTU

Asset: EX RTU1

AREA:

Unit Data		
	Design	Actual
MFG	LENNOX	LENNOX
Serial Num	-	5602K00444
Model Num	LGA102HH3Y	LGA102HH3Y
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	23.375X14.375
Num Final Filter 1	-	4
Final Filter Size 1	-	18X24X2

Motor Data		
	Design	Actual
Motor MFG	-	EMERSON
Frame	-	56 HZ
Horsepower	2	2
Motor Rpm	1725	1725
Phase	3	3
Rated Voltage	208	208
Rated Amperage	7.6	7.6

Drive Data		
	Design	Actual
Motor Sheave Size	-	3.5"
Motor Bore Size	-	0.875"
Motor Sheave SetPt	-	3 TO
Fan Sheave Size	-	AK63
Fan Sheave Bore	-	1"
Belt CL Distance	-	16"
Num of Belts	-	1
Belt Size	-	AX46
Belt Alignment	-	CORRECT

Test Data		
	Design	Actual
SF CFM	2720	2516
SF RPM	-	777
RA CFM	1720	1466
OA CFM	1000	1050
RL Voltage	-	212/213/211
RL Amperage	-	5.0/4.8/5.2
SF Rotation	-	CW
RA Damper Position	-	70%
Min OA Damper Position	-	30%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	D

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.29"
Fan Suction SP	-	-0.51"
Fan Discharge SP	-	0.45"
Total ESP	-	0.74"
Fan Total SP	-	0.96"

General		
	Design	Actual
Fan Rotation Correct	-	YES
Unit Filters Clean	-	NO
Condensate Drain Installed	-	YES

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Project: 11-06-23 HOMEWARD KITCHEN - SOUTHERN PINES, NC

System/Unit: AHU/RTU



Asset: EX RTU2

AREA:

Unit Data		
	Design	Actual
MFG	LENNOX	LENNOX
Serial Num	-	5615F08094
Model Num	LGH150S4BH4Y	LGH150S4BH4Y
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	23.375X14.375
Num Final Filter 1	-	4
Final Filter Size 1	-	

Motor Data		
	Design	Actual
Motor MFG	-	US MOTORS
Frame	-	184 TZ
Horsepower	5	5
Motor Rpm	1765	1765
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	15.8

Drive Data		
	Design	Actual
Motor Sheave Size	-	5"
Motor Bore Size	-	1"
Motor Sheave SetPt	-	1 TO
Fan Sheave Size	-	7.5"
Fan Sheave Bore	-	0.875"
Belt CL Distance	-	21"
Num of Belts	-	1
Belt Size	-	BX59
Belt Alignment	-	CORRECT

Test Data		
	Design	Actual
SF CFM	3800	3742
SF RPM	-	1076
RA CFM	3050	2955
OA CFM	750	787
RL Voltage	-	212/212/211
RL Amperage	-	8.6/8.6/8.4
SF Rotation	-	CW
RA Damper Position	-	20%
Min OA Damper Position	-	80%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	D

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.94"
Fan Suction SP	-	-1.08"
Fan Discharge SP	-	0.67"
Total ESP	-	1.61"
Fan Total SP	-	1.75"

General		
	Design	Actual
Fan Rotation Correct	-	YES
Unit Filters Clean	-	NO
Condensate Drain Installed	-	YES

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Project: 11-06-23 HOMEWARD KITCHEN - SOUTHERN PINES, NC

System/Unit: AHU/RTU



Asset: EX RTU4

AREA:

Unit Data		
	Design	Actual
MFG	LENNOX	LENNOX
Serial Num	-	5602K00411
Model Num	LGA90HH2Y	LGA90HH2Y
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	23.125X14.5
Num Final Filter 1	-	4
Final Filter Size 1	-	18X24X2

Motor Data		
	Design	Actual
Motor MFG	-	EMERSON
Frame	-	56 HZ
Horsepower	2	2
Motor Rpm	1725	1725
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	7.6

Drive Data		
	Design	Actual
Motor Sheave Size	-	3.75"
Motor Bore Size	-	0.875"
Motor Sheave SetPt	-	4 TO
Fan Sheave Size	-	AK69
Fan Sheave Bore	-	0.875"
Belt CL Distance	-	17"
Num of Belts	-	1
Belt Size	-	AX46
Belt Alignment	-	CORRECT

Test Data		
	Design	Actual
SF CFM	2400	2244
SF RPM	-	684
RA CFM	1800	1615
OA CFM	600	629
RL Voltage	-	210/211/211
RL Amperage	-	4.6/4.4./4.4
SF Rotation	-	CW
RA Damper Position	-	80%
Min OA Damper Position	-	20%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	D

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.20"
Fan Suction SP	-	-0.31"
Fan Discharge SP	-	0.30"
Total ESP	-	0.50"
Fan Total SP	-	0.61"

General		
	Design	Actual
Fan Rotation Correct	-	YES
Unit Filters Clean	-	NO
Condensate Drain Installed	-	YES

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Notes:

Date: 11/10/2023

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Project: 11-06-23 HOMEWARD KITCHEN - SOUTHERN PINES, NC

System/Unit: AHU/RTU



Asset: EX RTU5

AREA:

Unit Data		
	Design	Actual
MFG	LENNOX	LENNOX
Serial Num	-	5602J07687
Model Num	LGA060HH2Y	LGA060HH2Y
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	23.5X14.5
Num Final Filter 1	-	4
Final Filter Size 1	-	-

Motor Data		
	Design	Actual
Motor MFG	-	EMERSON
Frame	-	56 HZ
Horsepower	1.5	1.5
Motor Rpm	1725	1725
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	5.4

Drive Data		
	Design	Actual
Motor Sheave Size	-	3.75"
Motor Bore Size	-	0.875"
Motor Sheave SetPt	-	2 TO
Fan Sheave Size	-	AK59
Fan Sheave Bore	-	1"
Belt CL Distance	-	15.5"
Num of Belts	-	1
Belt Size	-	A43
Belt Alignment	-	CORRECT

Test Data		
	Design	Actual
SF CFM	1750	1538
SF RPM	-	1016
RA CFM	1350	1113
OA CFM	400	425
RL Voltage	-	209/210/210
RL Amperage	-	3.2/3.3/3.3
SF Rotation	-	CCW
RA Damper Position	-	85%
Min OA Damper Position	-	15%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	D

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.31"
Fan Suction SP	-	-1.05"
Fan Discharge SP	-	0.54"
Total ESP	-	0.85"
Fan Total SP	-	-1.59"

General		
	Design	Actual
Fan Rotation Correct	-	YES
Unit Filters Clean	-	NO
Condensate Drain Installed	-	YES

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Project: 11-06-23 HOMEWARD KITCHEN - SOUTHERN PINES, NC

System/Unit: AHU/RTU



Asset: RTU3

AREA:

Unit Data		
	Design	Actual
MFG	LENNOX	TRANE
Serial Num	-	232614581L
Model Num	LGT072H4E	YSJ072A3S
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	35.75X15.5
Num Final Filter 1	-	3
Final Filter Size 1	-	16X24X2
Num Final Filter 2	-	2
Final Filter Size 2	-	18X24X2

Motor Data		
	Design	Actual
Motor MFG	-	NA
Frame	-	NA
Horsepower	-	3
Motor Rpm	-	-
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	8.8

Drive Data		
	Design	Actual
Motor Sheave Size	-	DD

Test Data		
	Design	Actual
SF CFM	1920	2003
SF RPM	-	45% POWER
RA CFM	1170	1214
OA CFM	750	789
RL Voltage	-	211/211/210
RL Amperage	-	0.9/0.9/1.0
SF Rotation	-	CCW
RA Damper Position	-	70%
Min OA Damper Position	-	30%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	D

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.09"
Fan Suction SP	-	-0.22"
Fan Discharge SP	-	0.13"
Total ESP	-	0.22"
Fan Total SP	-	0.35"

General		
	Design	Actual
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES
Condensate Drain Installed	-	NO

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Project: 11-06-23 HOMEWARD KITCHEN - SOUTHERN PINES, NC

System/Unit: FAN - Exhaust



Asset: EF1

AREA:

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	DU180HFA	DU180HFA
Serial Num	-	5956469
Type	UPBLAST	UPBLAST
Configuration	VERTIICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	WESTINGHOUSE
Frame	-	184T
Horsepower	2	2
Motor Rpm	1165	1165
Phase	3	3
Voltage (rated)	208	208
Amperage (rated)	-	7.51
Service Factor	-	1.15

Test Data		
	Design	Actual
CFM	2100	2187
Fan RPM	-	DD
Fan Rotation	-	CCW
Motor RPM	-	DD
System SetPt	-	59.3 Hz
RL Voltage	-	212/212/211
RL Amperage	-	5.8/5.8/5.9
Total ESP	1.75"	1.46"
Fan Inlet SP	-	-1.46"
Fan Discharge SP	-	ATM

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Project: 11-06-23 HOMEWARD KITCHEN - SOUTHERN PINES, NC

System/Unit: FAN - Exhaust



Asset: EF2

AREA:

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	DU50HFA	DU50HFA
Serial Num	-	5956469
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	TELCO GREEN
Frame	-	NL
Horsepower	0.50	0.50
Motor Rpm	1800	1800
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	3.91
Service Factor	-	1.15

Test Data		
	Design	Actual
CFM	875	889
Fan RPM	-	DD
Fan Rotation	-	CCW
Motor RPM	-	DD
System SetPt	-	71% POWER
RL Voltage	-	120
RL Amperage	-	3.7
Total ESP	1.1"	0.93"
Fan Inlet SP	-	-0.93"
Fan Discharge SP	-	ATM

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Project: 11-06-23 HOMEWARD KITCHEN - SOUTHERN PINES, NC

System/Unit: FAN - Exhaust



Asset: EX EF3

AREA:

Unit Data		
	Design	Actual
MFG	NA	JEN FAN
Model Num	NA	NBRTD14CF3724
Serial Num	-	B11985
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	CENTURY
Frame	-	56
Horsepower	-	0.75
Motor Rpm	-	1725
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	6.6
Service Factor	-	1.25

Test Data		
	Design	Actual
CFM	1531	1528
Fan RPM	-	1273
Fan Rotation	-	CCW
Motor RPM	-	1790
System SetPt	-	2 TO
RL Voltage	-	120
RL Amperage	-	2.1
Total ESP	-	0.23"
Fan Inlet SP	-	-0.23"
Fan Discharge SP	-	ATM

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Project: 11-06-23 HOMEWARD KITCHEN - SOUTHERN PINES, NC

System/Unit: FAN - Exhaust



Asset: EX EF4

AREA:RESTROOMS

Unit Data		
	Design	Actual
MFG	LOREN COOK	LOREN COOK
Model Num	100ACEH	100ACEH
Serial Num	-	050S177687-01/0001603
Type	DOWNBLAST	DOWNBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	US MOTORS
Frame	-	48Y
Horsepower	0.125	0.125
Motor Rpm	1600	1600
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	1.7
Service Factor	-	1

Test Data		
	Design	Actual
CFM	450	425
Fan RPM	-	DD
Fan Rotation	-	CCW
Motor RPM	-	DD
System SetPt	-	75% ON DIAL
RL Voltage	-	120
RL Amperage	-	1.5
Total ESP	-	0.13"
Fan Inlet SP	-	-0.13"
Fan Discharge SP	-	ATM

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Project: 11-06-23 HOMEWARD KITCHEN - SOUTHERN PINES, NC

System/Unit: FAN - Supply



Asset: SF1

AREA:

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	SP-B90	SP-B90
Serial Num	-	5956469
Type	MUA	MUA
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	WESTINGHOUSE
Frame	-	145T
Horsepower	2	2
Motor Rpm	1740	1740
Phase	3	3
Voltage (rated)	208	208
Amperage (rated)	-	5.48
Service Factor	-	1.15

Gas Heat		
	Design	Actual
Heater Operates (y/n)	-	Y
Flame Status (pass/fail)	-	PASS
Inlet Air Temp SetPt	55	55
Discharge Air Temp SetPt	60	60
Air Flow Switch SP Actual	-	0.34"

Test Data		
	Design	Actual
CFM	1890	1775
SF RPM	-	DD
Motor RPM	-	DD
SF System SetPt	-	74.3 Hz
RL Voltage	-	212/212/211
RL Amperage	-	5.0/5.0/5.1
Total ESP	-	NA
Fan Discharge SP	-	NA

General		
	Design	Actual
Fan Rotation Correct	-	YES

Completed By: Antonio Flores-De La Cruz on 11/09/2023

Date: 11/10/2023

National TAB

Project: 11-06-23 HOMEWARD KITCHEN - SOUTHERN PINES, NC



System/Unit: Kitchen Hood Type I

Asset: HD1

AREA:

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	5424 ND-2	5424 ND-2
Job / Serial Num	-	5956469
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	144"	144"
Hood Width	54"	54"
Supply Plenum Type	-	PERFORATED
Supply Plenum Width	14"	14"
Supply Plenum Length	156"	156"

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	-	135
Filter2 FPM	-	150
Filter3 FPM	-	166
Filter4 FPM	-	161
Filter5 FPM	-	173
Filter6 FPM	-	160
Filter7 FPM	-	140
Filter8 FPM	-	136
Filter9 FPM	-	136
Filter Ave FPM(corr)	-	150
CFM	2100	2187

Cooking Equipment		
	Design	Actual
Item 1	-	FRYER
Item 2	-	GRILL
Item 3	-	OVEN
Item 4	-	PRESSURE COOKER

Test Data Supply		
	Design	Actual
Total AK Area	-	15.2
Kv factor (Vel)	-	0.89
Num of Readings	-	9
Reading1 FPM	-	142
Reading2 FPM	-	126
Reading3 FPM	-	120
Reading4 FPM	-	141
Reading5 FPM	-	150
Reading6 FPM	-	121
Reading7 FPM	-	121
Reading8 FPM	-	122
Reading9 FPM	-	137
Ave FPM(corr)	-	131
CFM	1890	1775

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Project: 11-06-23 HOMEWARD KITCHEN - SOUTHERN PINES, NC

System/Unit: Kitchen Hood Type I



Asset: HD2

AREA:

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	5424 ND-2	5424 ND-2
Job / Serial Num	-	5956469
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	60"	60"
Hood Width	54"	54"

Test Data Exhaust		
	Design	Actual
Filter Type	CAPTRATE SOLO	CAPTRATE SOLO
Filter Size 1	16X16	16X16
Filter Qty 1	3	3
Filter AK factor size 1	1.62	1.62
Filter Total AK Area	4.86	4.86
Filter1 FPM	-	180
Filter2 FPM	-	183
Filter3 FPM	-	184
Filter Ave FPM(corr)	-	182
CFM	875	889

Cooking Equipment		
	Design	Actual
Item 1	-	OVEN
Item 2	-	OVEN

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Project: 11-06-23 HOMEWARD KITCHEN - SOUTHERN PINES, NC

System/Unit: Kitchen Hood Type I



Asset: HD3

AREA:

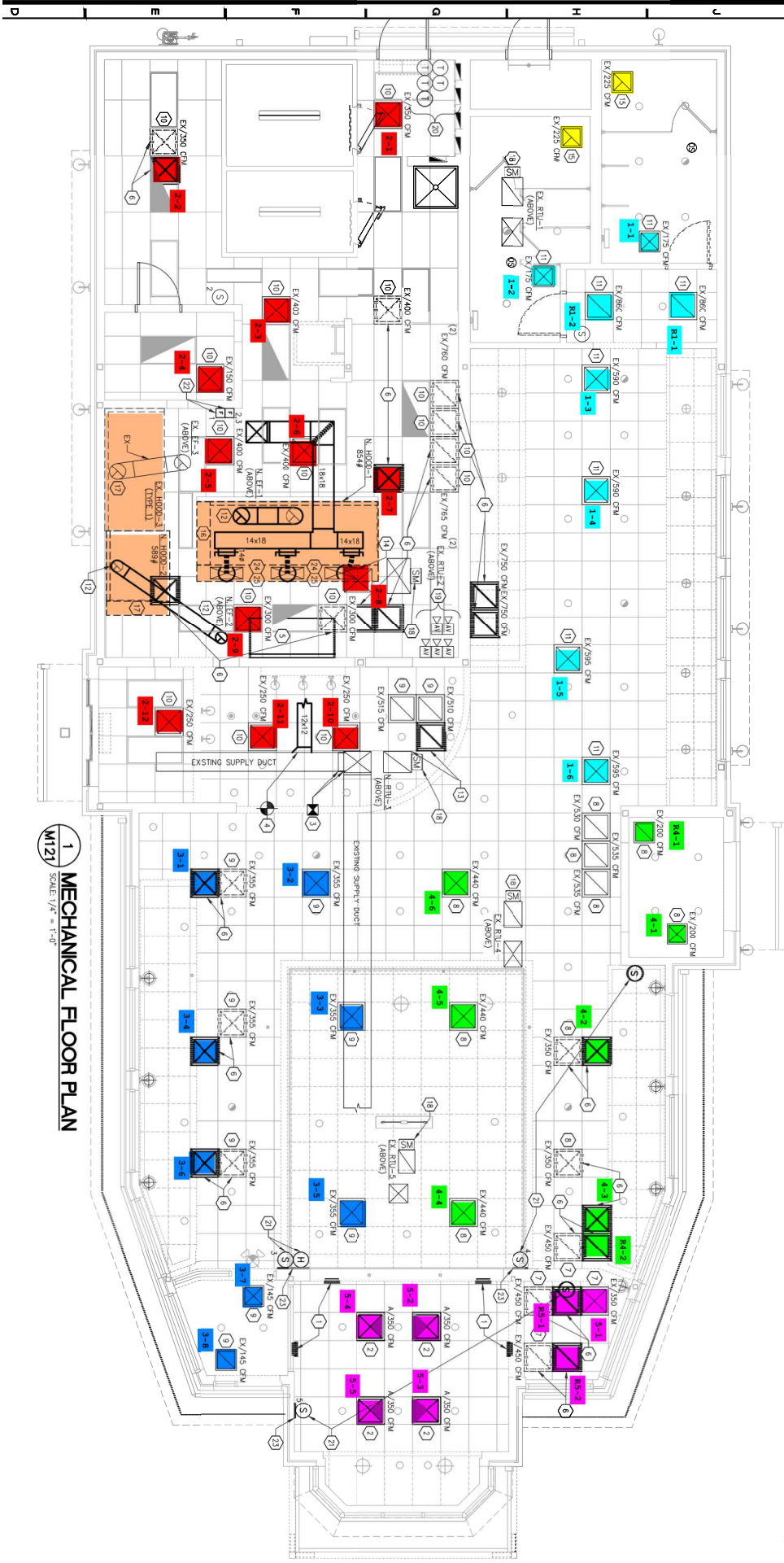
Unit Data		
	Design	Actual
MFG	NA	HALTON
Model Num	NA	NA
Job / Serial Num	-	20241-1
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	-	105"
Hood Width	-	51"

Test Data Exhaust		
	Design	Actual
Filter Type	-	BAFFLED
Filter Size 1	-	13X20
Filter Qty 1	-	5
Filter AK factor size 1	-	2.08
Filter Total AK Area	-	10.4
Filter1 FPM	-	155
Filter2 FPM	-	149
Filter3 FPM	-	139
Filter4 FPM	-	144
Filter5 FPM	-	148
Filter Ave FPM(corr)	-	147
CFM	1531	1528

Cooking Equipment		
	Design	Actual
Item 1	-	OVEN
Item 2	-	OVEN

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Date: 11/10/2023



1
MECHANICAL FLOOR PLAN
SCALE: 1/4" = 1'-0"
M121