Report By:

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CINCINNATI, OH 45246

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Report: TAB REPORT - 8-2-22
Function: Test, Adjust, & Balance
Date: 8/2/2022

PROJECT

MENDOCINO FARMS - ENCINTAS, CA

268 N EL CAMINO REAL

ENCINTAS, CA 92024

Client

Chill - Factor Mechanical

PO BOX 5756

SAN DIEGO, CA 92165

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Project: MENDOCINO FARMS - ENCINTAS, CA

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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.

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Project: MENDOCINO FARMS - ENCINTAS, CA

System/Unit: AHU/RTU

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Asset: RTU1 AREA:DINING ROOM

Unit Data		
	Design	**Actual**
MFG	TRANE	TRANE
Serial Num	-	173810391L
Model Num	YHC060	YHC120F3RLA
Type	-	RTU
Configuration	-	HORIZONTAL
Num OA Filters 1	-	1
OA Filter Size 1	-	35X17
Num Final Filter 1	-	4
Final Filter Size 1	-	20X25X2
Num Final Filter 2	-	212X20X2
Final Filter Size 2	-	

Motor Data		
	Design	**Actual**
Motor MFG	-	NL
Frame	-	NL
Horsepower	-	2.75
Motor Rpm	-	NL
Phase	-	3
Rated Voltage	208	208
Rated Amperage	-	7.3

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	DD
Motor Bore Size	-	DD
Motor Sheave SetPt	-	DD
Fan Sheave Size	-	DD
Fan Sheave Bore	-	DD
Belt CL Distance	-	DD
Num of Belts	-	DD
Belt Size	-	DD
Belt Alignment	-	DD

Test Data		
	Design	**Actual**
SF CFM	3500	3750
SF RPM	-	5.72 VDC
RA CFM	-	2519
OA CFM	1200	1238
RL Voltage	-	206/207/206
RL Amperage	-	3.3/3.2/3.25
SF Rotation	-	CCW
RA Damper Position	-	70%
Min OA Damper Position	-	30%
Min OA Damper Type	-	MOTORIZED
OA Enthalpy Setpt	-	E
Brake Horse Power	-	1.24

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.81"
Fan Suction SP	-	-0.94"
Fan Discharge SP	-	0.37"
Total ESP	0.8	1.18"
Fan Total SP	-	1.31"

General		
	Design	**Actual**
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES
Condensate Drain Installed	-	YES, BUT NEEDS TO BE REPAIRED

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Notes:AIRFLOW SCHEDULED FOR 3500 CFM BUT THE DIFFUSERS TOTAL 3650 CFM. BALANCED TO SATISFY BOTH REQUIREMENTS.

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Project:MENDOCINO FARMS - ENCINTAS, CA

AHU/RTU

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Diffuser Supply (GRD)

RTU1/DINING ROOM

Asset							
1-1	**Location**	**Type**	**DESIGN CFM**	**AK**	**CFM(2)**	**FINAL CFM**	**% to design**
	RESTROOM	CD3	75	1	82	82	109.3
1-2	**Location**	**Type**	**DESIGN CFM**	**AK**	**CFM(2)**	**FINAL CFM**	**% to design**
	RESTROOM	CD3	75	1	79	79	105.3
1-3	**Location**	**Type**	**DESIGN CFM**	**AK**	**CFM(2)**	**FINAL CFM**	**% to design**
	DINING	SR1	350	0.745	372	372	106.3
1-4	**Location**	**Type**	**DESIGN CFM**	**AK**	**CFM(2)**	**FINAL CFM**	**% to design**
	DINING	SR1	350	0.745	347	347	99.1
1-5	**Location**	**Type**	**DESIGN CFM**	**AK**	**CFM(2)**	**FINAL CFM**	**% to design**
	DINING	SR1	350	0.745	377	377	107.7
1-6	**Location**	**Type**	**DESIGN CFM**	**AK**	**CFM(2)**	**FINAL CFM**	**% to design**
	DINING	SR1	350	0.745	372	372	106.3
1-7	**Location**	**Type**	**DESIGN CFM**	**AK**	**CFM(2)**	**FINAL CFM**	**% to design**
	DINING	SR1	350	0.745	359	359	102.6
1-8	**Location**	**Type**	**DESIGN CFM**	**AK**	**CFM(2)**	**FINAL CFM**	**% to design**
	DINING	SR1	350	0.745	371	371	106.0
1-9	**Location**	**Type**	**DESIGN CFM**	**AK**	**CFM(2)**	**FINAL CFM**	**% to design**
	DINING	SR1	350	0.745	373	373	106.6
1-10	**Location**	**Type**	**DESIGN CFM**	**AK**	**CFM(2)**	**FINAL CFM**	**% to design**
	DINING	SR1	350	0.745	343	343	98.0
1-11	**Location**	**Type**	**DESIGN CFM**	**AK**	**CFM(2)**	**FINAL CFM**	**% to design**
	DINING	SR1	350	0.745	342	342	97.7
1-12	**Location**	**Type**	**DESIGN CFM**	**AK**	**CFM(2)**	**FINAL CFM**	**% to design**
	DINING	SR1	350	0.745	333	333	95.1

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Asset	Notes

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Project: MENDOCINO FARMS - ENCINTAS, CA

System/Unit: AHU/RTU

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Asset: RTU2 AREA:KITCHEN

Unit Data		
	Design	**Actual**
MFG	TRANE	TRANE
Serial Num	-	173713244
Model Num	YHC060	YHC060FRLA1
Type	-	RTU
Configuration	-	HORIZONTAL
Num OA Filters 1	-	1
OA Filter Size 1	-	35X17
Num Final Filter 1	-	4
Final Filter Size 1	-	16X25X2
Num Final Filter 2	-	
Final Filter Size 2	-	

Motor Data		
	Design	**Actual**
Motor MFG	-	MARATHON
Frame	-	56
Horsepower	-	1
Motor Rpm	-	1725
Phase	-	3
Rated Voltage	208	230/460
Rated Amperage	-	4.4/2.2

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	3"
Motor Bore Size	-	1/2"
Motor Sheave SetPt	-	2 TURNS OPEN
Fan Sheave Size	-	AK49
Fan Sheave Bore	-	3/4
Belt CL Distance	-	10"
Num of Belts	-	1
Belt Size	-	AX29
Belt Alignment	-	VERIFIED

Test Data		
	Design	**Actual**
SF CFM	2000	1862
SF RPM	-	786
RA CFM	-	1290
OA CFM	600	572
RL Voltage	-	206/207/206
RL Amperage	-	2.75/2.78/2.8
SF Rotation	-	CCW
RA Damper Position	-	70%
Min OA Damper Position	-	30%
Min OA Damper Type	-	MOTORIZED
OA Enthalpy Setpt	-	E
Brake Horse Power	-	0.63

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.28"
Fan Suction SP	-	-0.54"
Fan Discharge SP	-	-0.15"
Total ESP	0.8	0.43"
Fan Total SP	-	0.69"

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

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Project:MENDOCINO FARMS - ENCINTAS, CA

AHU/RTU

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Diffuser Supply (GRD)

RTU2/KITCHEN

Asset							
2-1	**Location**	**Type**	**DESIGN CFM**	**AK**	**CFM(1)**	**FINAL CFM**	**% to design**
	KITCHEN	CD2	250	1	180	231	92.4
2-2	**Location**	**Type**	**DESIGN CFM**	**AK**	**CFM(1)**	**FINAL CFM**	**% to design**
	KITCHEN	CD2	250	1	131	227	90.8
2-3	**Location**	**Type**	**DESIGN CFM**	**AK**	**CFM(1)**	**FINAL CFM**	**% to design**
	KITCHEN	CD1	350	1	323	322	92.0
2-4	**Location**	**Type**	**DESIGN CFM**	**AK**	**CFM(1)**	**FINAL CFM**	**% to design**
	KITCHEN	CD1	350	1	396	332	94.9
2-5	**Location**	**Type**	**DESIGN CFM**	**AK**	**CFM(1)**	**FINAL CFM**	**% to design**
	KITCHEN	CD1	250	1	239	227	90.8
2-6	**Location**	**Type**	**DESIGN CFM**	**AK**	**CFM(1)**	**FINAL CFM**	**% to design**
	KITCHEN	CD1	250	1	131	230	92.0
2-7	**Location**	**Type**	**DESIGN CFM**	**AK**	**CFM(1)**	**FINAL CFM**	**% to design**
	KITCHEN	CD1	300	1	329	293	97.7

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Project: MENDOCINO FARMS - ENCINTAS, CA

System/Unit: FAN - Exhaust

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Asset: EF1 AREA:HOOD 1

Unit Data		
	Design	**Actual**
MFG	CAPTIVE AIRE	CAPTIVE AIRE
Model Num	DU180HFA	DU180HFA
Serial Num	-	5234516
Type	-	VERTICAL
Configuration	-	UPBLAST

Motor Data		
	Design	**Actual**
Motor MFG	-	NEMA
Frame	-	182T
Horsepower	-	3
Motor Rpm	-	1755
Phase	-	3
Voltage (rated)	-	230/460
Amperage (rated)	-	7.7/3.85
Service Factor	-	1.15

Test Data		
	Design	**Actual**
CFM	-	2664
Fan RPM	-	728
Fan Rotation	-	CW
Motor RPM	-	728
System SetPt	-	41.5HZ
RL Voltage	-	206/206/207
RL Amperage	-	4.2/4.1/4.1
Total ESP	-	1.08
Fan Inlet SP	-	-1.08"
Fan Discharge SP	-	ATM

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Asset	Notes

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Project: MENDOCINO FARMS - ENCINTAS, CA

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: EF2 AREA:HOOD 2

Unit Data		
	Design	**Actual**
MFG	CAPTIVE AIRE	CAPTIVE AIRE
Model Num	DU33HFA	DU33HFA
Serial Num	-	5234516
Type	-	VERTICAL
Configuration	-	UPBLAST

Motor Data		
	Design	**Actual**
Motor MFG	-	TELCO GREEN
Frame	-	NL
Horsepower	-	0.333
Motor Rpm	-	2000
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	4.3
Service Factor	-	1.15

Test Data		
	Design	**Actual**
CFM	-	748
Fan RPM	-	1449
Fan Rotation	-	CW
Motor RPM	-	1449
System SetPt	-	77%
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	-	0.43"
Fan Inlet SP	-	-0.43"
Fan Discharge SP	-	ATM

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Project: MENDOCINO FARMS - ENCINTAS, CA

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: EF3 AREA:RESTROOMS

Unit Data		
	Design	**Actual**
MFG	CAPTIVE AIRE	CAPTIVE AIRE
Model Num	DR12HFA	DR12HFA
Serial Num	-	5234516
Type	-	VERTICAL
Configuration	-	DOWNBLAST

Motor Data		
	Design	**Actual**
Motor MFG	-	NEMA
Frame	-	NL
Horsepower	-	1/4
Motor Rpm	-	1800
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	2.9
Service Factor	-	1.15

Test Data		
	Design	**Actual**
CFM	-	277
Fan RPM	-	1440
Fan Rotation	-	CW
Motor RPM	-	1440
System SetPt	-	80%
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	-	0.41"
Fan Inlet SP	-	-0.41"
Fan Discharge SP	-	ATM

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Project:MENDOCINO FARMS - ENCINTAS, CA

FAN - Exhaust

Comfort. Under control.

Diffuser Ret/Exh (GRD)

EF3/RESTROOMS

Asset							
EF3-EGRD1	**Location**	**Type**	**DESIGN CFM**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
	RESTROOM	ER1	150	115	137	137	91.3
EF3-EGRD2	**Location**	**Type**	**DESIGN CFM**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
	RESTROOM	ER1	150	150	140	140	93.3

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Project: MENDOCINO FARMS - ENCINTAS, CA

System/Unit: FAN - Supply

Comfort. Under control.

Asset: SF1 AREA:HOOD 1

Unit Data		
	Design	**Actual**
MFG	CAPTIVE AIRE	CAPTIVE AIRE
Model Num	A1-15D	A1-15D
Serial Num	-	5234516
Type	-	MUA
Configuration	-	HORIZONTAL

Motor Data		
	Design	**Actual**
Motor MFG	-	NEMA
Frame	-	143T
Horsepower	-	1
Motor Rpm	-	1750
Phase	-	3
Voltage (rated)	-	230/460
Amperage (rated)	-	2.9/1.45
Service Factor	-	1.15

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	DD
Motor Bore Size	-	DD
Fan Sheave Size	-	DD
Fan Sheave Bore	-	DD
Belt CL Distance	-	DD
Num of Belts	-	DD
Belt Size	-	DD
Belt Alignment Verified	-	DD

Gas Heat		
	Design	**Actual**
Heater Operates (y/n)	-	N/A
Flame Status (pass/fail)	-	N/A
Inlet Air Temp SetPt	-	N/A
Discharge Air Temp SetPt	-	N/A
Air Flow Switch SP Actual	-	N/A

Test Data		
	Design	**Actual**
CFM	-	1508
SF RPM	-	36.2HZ
Motor RPM	-	634
RL Voltage	-	205/206/206
RL Amperage	-	1.1/1.0/0.9
Total ESP	-	NA
Fan Discharge SP	-	NA

General		
	Design	**Actual**
Fan Rotation Correct	-	YES

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Project: MENDOCINO FARMS - ENCINTAS, CA

System/Unit: Kitchen Hood Type I

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Asset: HD1 AREA:MAIN COOKLINE

Unit Data		
	Design	**Actual**
MFG	CAPTIVE AIRE	CAPTIVE AIRE
Model Num	5412 SND-2-ACPSP-F	5412 SND-2-ACPSP-F
Job / Serial Num	-	5234516
Type	TYPE I	TYPE I
Hood length	-	122"
Hood Width	-	55"
Supply Plenum Type	-	PERFORATED
Supply Plenum Width	-	20"
Supply Plenum Length	-	122"

Test Data Exhaust		
	Design	**Actual**
Filter Type	-	BAFFLE
Filter Size 1	-	16X20
Filter Size 2	-	N/A
Filter Qty 1	-	7
Filter Qty 2	-	N/A
Filter AK factor size 1	-	2.08
Filters AK factor size 2	-	N/A
Filter Total AK Area	-	14.56
Filter1 FPM	-	173
Filter2 FPM	-	177
Filter3 FPM	-	178
Filter4 FPM	-	199
Filter5 FPM	-	200
Filter6 FPM	-	185
Filter7 FPM	-	169
Filter8 FPM	-	N/A
Filter9 FPM	-	N/A
Filter10 FPM	-	N/A
Filter11 FPM	-	N/A
Filter12 FPM	-	N/A
Filter Ave FPM(corr)	-	183
CFM	2500	2664

Cooking Equipment		
	Design	**Actual**
Item 1	-	BROILER
Item 2	-	FLAT TOP GRILL
Item 3	-	SANDWICH GRILL
Item 4	-	
Item 5	-	

Test Data Supply		
	Design	**Actual**
Total AK Area	-	16.94
Kv factor (Vel)	-	0.89
Num of Readings	-	15.1
Reading1 FPM	-	146
Reading2 FPM	-	102
Reading3 FPM	-	87
Reading4 FPM	-	108
Reading5 FPM	-	94
Reading6 FPM	-	80
Reading7 FPM	-	82
Reading8 FPM	-	108
Reading9 FPM	-	N/A
Reading10 FPM	-	N/A
Reading11 FPM	-	N/A
Reading12 FPM	-	N/A
Reading13 FPM	-	N/A
Reading14 FPM	-	N/A
Ave FPM(corr)	-	100
CFM	1400	1508

Performance Data		
	Design	**Actual**
Exh-Supply Net CFM	-	1156
Smoke Generation Type	-	S102
Cooking Equip Heat On	-	NO
Hood Capture %	-	100%
End Panels Installed (Y/N)	-	YES
Space Offset Temp Riser 1	-	15
Space Offset Temp Riser 2	-	
Riser Temp F (idle) Riser 1	-	73
Riser Temp F (idle) Riser 2	-	71.1
Ambient Room Temp	-	73.2

General		
	Design	**Actual**
Third Party Witness	-	ART
Third Party Company	-	PACIFIC COMMERCIAL
Tech Witness	-	ZACK

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Project: MENDOCINO FARMS - ENCINTAS, CA

System/Unit: Kitchen Hood Type II

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Asset: HD2 AREA:DISH WASH

Unit Data		
	Design	**Actual**
MFG	CAPTIVE AIRE	CAPTIVE AIRE
Model Num	4224 VHB-G	4224 VHB-G
Serial Num	-	5234519
Type	-	TYPE II
Hood length	-	42"
Hood Width	-	42"

Test Data		
	Design	**Actual**
Exhaust CFM	700	748

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Asset	Notes

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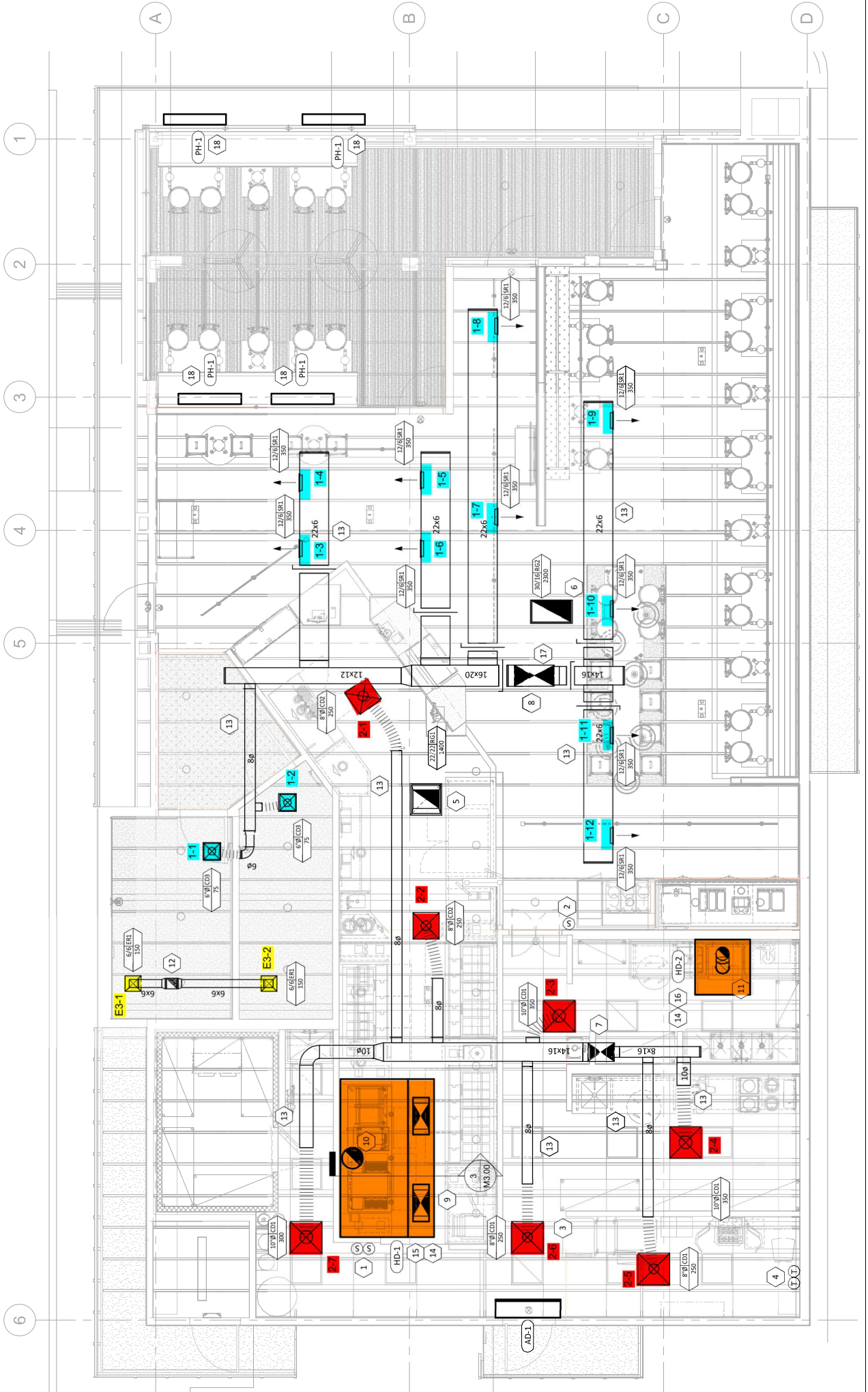

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