Report By:

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

Report: TAB Report

Function: Test, Adjust, & Balance

Date: 01/22/2026

Completed By: National TAB

PROJECT

03-09-26 QT #1137 PIEDMONT, SC

7599 AUGUSTA RD

PIEDMONT, SC

Client

QUIKTRIP

4705 SOUTH 129TH EAST AVENUE

TULSA, OK 74134

National TAB

Project: 03-09-26 QT #1137 PIEDMONT, SC

Table Of Contents

Project Summary

Project Summary
The summary below provides a quick understanding of our scope of work and general testing procedures. Enclosed in the report are further details 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)
Each of the RTU's was measured with a flow hood to establish total flow. The total flow was then adjusted via the VFD so that airflow fell within design tolerances. All diffusers on the kitchen RTU were balanced to the engineer's design flow. The diffusers on the sales floor were only adjusted when there were noticeable issues present like drafting or dampers that were found completely closed. The Hoods On outside air rate was set by first establishing the typical QT set point at the Emerson controller and then making manually adjustments on the roof. The hoods off airflow setpoint was found by adjusting the damper position at the Emerson controller until the design airflow was achieved. Outside air was measured by reading the intake air opening with a velocity grid and multiplying by the free area. After completion of TAB all overrides were released.

Kitchen Exhaust Hood & Associated Fans
The 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.

Restroom Exhaust Fans
The restroom exhaust fans were measured with a flow hood. The total flow was balanced for the fan with the exception of the new grille over the combi-oven, which was balanced to the listed design.

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 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

- Dirty final filters
- RTU 1 fan not working
- RTU 3 SGRD 1 leakage
- RTU 3 SGRD 2 leakage
- Wrong diffusers installed

03-09-26 QT #1137 PIEDMONT, SC

Project Issue Information

Issue Name : Dirty final filters

Description : RTU 2&3 both have dirty final filters that will need to be exchanged soon.

Created By :	National TAB	**Assigned To :**	National TAB - Dan Hertenstein
Status :	Open		
Priority :	Medium	**Asset Tag :**	
Originated Date :	03/10/2026 - Christian Moller - National TAB		

Project Issue File Details

03/10/2026

03/10/2026

03-09-26 QT #1137 PIEDMONT, SC

Project Issue Information

Issue Name : RTU 1 fan not working

Description : Upon arrival RTU 1's supply fan was not working. The unit itself has power, the VFD and economizer are working properly and it's connected to Emerson. The VFD is trying to run the fan at 36Hz however the fan isn't on. There were no amps coming from the motor to the VFD suggesting there is a problem with the motor itself.

Created By :	National TAB	**Assigned To :**	National TAB - Dan Hertenstein
Status :	Open		
Priority :	Urgent	**Asset Tag :**	RT-1
Originated Date :	03/10/2026 - Christian Moller - National TAB		

Project Issue File Details

03/10/2026

03-09-26 QT #1137 PIEDMONT, SC

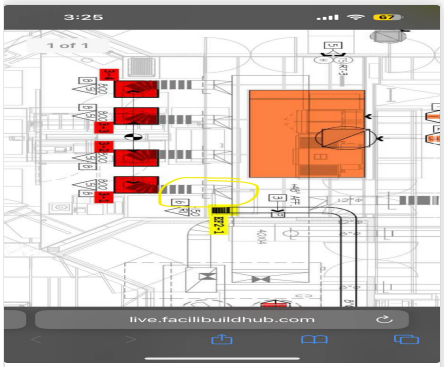
Project Issue Information

Issue Name : RTU 3 SGRD 1 leakage

Description : SGRD 1 on RTU 3 has a leak coming from the duct just past the hood. This is causing the diffuser to be low on flow.

Created By :	National TAB	**Assigned To :**	National TAB - Dan Hertenstein
Status :	Open		
Priority :	Urgent	**Asset Tag :**	SGRD1
Originated Date :	03/10/2026 - Christian Moller - National TAB		

Project Issue File Details



03/10/2026

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03-09-26 QT #1137 PIEDMONT, SC

Project Issue Information

Issue Name : RTU 3 SGRD 2 leakage

Description : SGRD 2 on RTU 3 has a leak coming from the duct just above the hood. This is causing the diffuser to be low on flow.

Created By : National TAB

Assigned To : National TAB - Dan Hertenstein

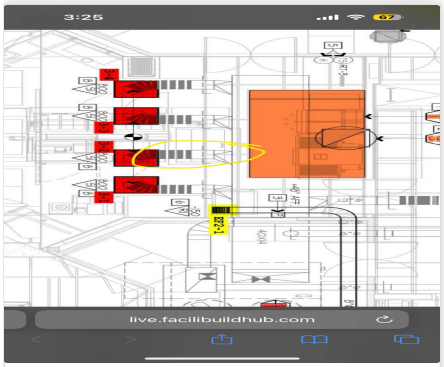
Status : Open

Priority : Urgent

Asset Tag : SGRD2

Originated Date : 03/10/2026 - Christian Moller - National TAB

Project Issue File Details



03/10/2026

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03-09-26 QT #1137 PIEDMONT, SC

Project Issue Information

Issue Name : Wrong diffusers installed

Description : The cook line diffusers on RTU 3 are the wrong versions. They are supposed to be TITUS Louvered supply grilles.

Created By : National TAB

Assigned To : National TAB - Dan Hertenstein

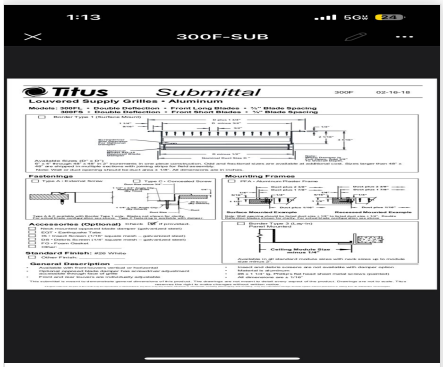
Status : Open

Priority : Medium

Asset Tag :

Originated Date : 03/10/2026 - Christian Moller - National TAB

Project Issue File Details



03/10/2026

NATIONAL TAB

AIR BALANCE SCHEDULE

UNIT	AREA SERVED	HOOD ON OA		HOOD OFF OA		HOOD ON EXHAUST		HOOD OFF EXHAUST	
		DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL
RTU 1	SALES	800	0	350	0				
RTU-2	SALES	800	813	350	338				
RTU-3	BOH/KITCHEN	800	844	350	351				
EF-1	WOMEN'S RR					225	213	225	213
EF-2	MEN'S RR					525	510	525	510
EF-3	HOOD					1350	1323	0	0
TOTALS		2400	1657	1050	689	2100	2046	750	723

HOODS ON

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2400	1657
TOTAL EXHAUST	2100	2046
NET AIRFLOW	300	-389

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	
SIDE	
REAR	
AVERAGE	

HOODS OFF

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1050	689
TOTAL EXHAUST	750	723
NET AIRFLOW	300	-34

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	
SIDE	
REAR	
AVERAGE	

NOTES:

CheckList List

- 01: RTU’s/AHU’s
- 02: Exhaust Fans
- 03: Hoods
- 04: Final Tests

03-09-26 QT #1137 PIEDMONT, SC

CheckList Information

Name :	01: RTU’s/AHU’s	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	01/22/2026 - Trinity Dodds - National TAB		
Completed Date :	03/10/2026 - Christian Moller - National TAB		

CheckList Item Details

RTU's/AHU's

Evaporator coils are clean?	Pass
Comment:	
Condenser coils are clean?	Pass
Comment:	
Gas piping is installed and valves are turned on?	Pass
Comment:	
Unit free of noticeable noise and vibration	Pass
Comment:	

Notes/Comments :

RTU 1 fan not working

Date :03/10/2026

03-09-26 QT #1137 PIEDMONT, SC

CheckList Information

Name :	02: Exhaust Fans	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	01/22/2026 - Trinity Dodds - National TAB		
Completed Date :	03/10/2026 - Christian Moller - National TAB		

CheckList Item Details

EF's

Hinge kit installed installed on hood fan?	Pass
Comment:	
Flex conduit is long enough so that fan can be completely tilted back?	Pass
Comment:	
No major leakage around the fan base	Pass
Comment:	
Unit is free of noise and vibration	Pass
Comment:	

03-09-26 QT #1137 PIEDMONT, SC

CheckList Information

Name :	03: Hoods	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	01/22/2026 - Trinity Dodds - National TAB		
Completed Date :	03/10/2026 - Christian Moller - National TAB		

CheckList Item Details

HOODS

Hood is free of alarms?	Pass
Comment:	
Hood is free of damage?	Pass
Comment:	
End panels are installed per prototype?	Pass
Comment:	

03-09-26 QT #1137 PIEDMONT, SC

CheckList Information

Name :	04: Final Tests	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	01/22/2026 - Trinity Dodds - National TAB		
Completed Date :	03/10/2026 - Christian Moller - National TAB		

CheckList Item Details

FINAL CHECKS

HOOD CAPTURE TEST

List kitchen equipment turned on for testing

Comment:

Fryer, Pizza Oven

List smoke candle type used

Comment:

None - only cooking was observed

Smoke test capture % - Perimeter of hood

Comment:

100%

Smoke test capture % - Top of cooking surface

Comment:

100%

WITNESS

Date test was completed	03/10/2026

Comment:

TAB tech name / Firm

Comment:

Christian Moller / NTAB

Site super name / Firm

Comment:

Micki Pittman / Ascent Construction

Owner representative name / Firm (if Applicable)

Comment:

N/A

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)	N/A

Comment:

Final pressure was not taken, due to RTU 1 not working.

National TAB

Project: 03-09-26 QT #1137 PIEDMONT, SC

System/Unit: AHU/RTU

Asset: RT-1 AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	201701-ANEK15121
Model Num	RN-013-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	45X24
Num Final Filter 1	2
Final Filter Size 1	56X45
Num Final Filter 2	
Final Filter Size 2	

Motor Data	
	Actual
Motor MFG	AAON
Frame	
Horsepower	3
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	**Actual**
SF CFM	4200	0
SF RPM	-	
OA CFM (Hoods On)	800	
OA CFM (Hoods Off)	350	
RL Voltage	-	
RL Amperage	-	
VFD Max SetPt	-	
VFD Min SetPt	-	
OA Damper Position (Hoods On)	-	
OA Damper Position (Hoods Off)	-	

Performance Data		
	Design	**Actual**
MA Plenum SP	-	
Fan Suction SP	-	
Fan Discharge SP	-	
Total ESP	-	
Fan Total SP	-	

General	
	Actual
Fan Rotation Correct	
Unit Filters Clean	
Condensate Drain Installed	

Completed By: Christian Moller on 03/10/2026

Notes:
[1] UNIT NOT WORKING. SEE ISSUES.

Written By: Christian Moller on 03/10/2026

Unit Data - PHOTO LOG

03/10/2026

National TAB

Project: 03-09-26 QT #1137 PIEDMONT, SC

System/Unit: AHU/RTU

Asset: RT-2 AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	201701-ANEK15120
Model Num	RN-013-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	45X25
Num Final Filter 1	2
Final Filter Size 1	56X45
Num Final Filter 2	
Final Filter Size 2	

Motor Data	
	Actual
Motor MFG	AAON
Frame	NL
Horsepower	3
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	**Actual**
SF CFM	4200	4312
SF RPM	-	DD
OA CFM (Hoods On)	800	813
OA CFM (Hoods Off)	350	338
RL Voltage	-	204/208/206
RL Amperage	-	5.6/5.4/7.3
VFD Max SetPt	-	36.2Hz
VFD Min SetPt	-	24Hz
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	25%

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.26”
Fan Suction SP	-	-0.41”
Fan Discharge SP	-	0.36”
Total ESP	-	0.67”
Fan Total SP	-	0.77”

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

Completed By: Christian Moller on 03/10/2026

Notes:
[2] DIRTY FINAL FILTERS. SEE ISSUES.

Written By: Christian Moller on 03/10/2026

Unit Data - PHOTO LOG

03/10/2026

National TAB

Project: 03-09-26 QT #1137 PIEDMONT, SC

System/Unit: AHU/RTU

Asset: RT-3 AREA:BOH/KITCHEN

Unit Data	
	Actual
MFG	AAON
Serial Num	201701-ANEK15122
Model Num	RN-013-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	45X24
Num Final Filter 1	2
Final Filter Size 1	56X45
Num Final Filter 2	
Final Filter Size 2	

Motor Data	
	Actual
Motor MFG	AAON
Frame	
Horsepower	3
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	**Actual**
SF CFM	4200	4339
SF RPM	-	DD
OA CFM (Hoods On)	800	844
OA CFM (Hoods Off)	350	351
RL Voltage	-	202/206/205
RL Amperage	-	6.8/8.6/8.3
VFD Max SetPt	-	40.2Hz
VFD Min SetPt	-	24Hz
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	30%

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.24”
Fan Suction SP	-	-0.39”
Fan Discharge SP	-	0.32”
Total ESP	-	0.63”
Fan Total SP	-	0.71”

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

Completed By: Christian Moller on 03/10/2026

Notes:
[2] DIRTY FINAL FILTERS. SEE ISSUES.

[3] SGRD 1&2 DUCT LEAKAGE. SEE ISSUES.

[4] WRONG DIFFUSERS INSTALLED. SEE ISSUES.

Written By: Christian Moller on 03/10/2026

Unit Data - PHOTO LOG

03/10/2026

03/10/2026

National TAB

Project:03-09-26 QT #1137 PIEDMONT, SC

AHU/RTU

Diffuser Supply (GRD)

RT-3/BOH/KITCHEN

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	SUPPORT SERVICE	SI	12"	800	1	638	645	645	80.6
SGRD2	SUPPORT SERVICE	SI	12"	800	1	325	459	459	57.4
SGRD3	SUPPORT SERVICE	SI	12"	800	1	942	812	812	101.5
SGRD4	SUPPORT SERVICE	SI	12"	800	1	743	746	746	93.3
SGRD5	DOCK	ES	12"	750	1	1098	743	743	99.1
SGRD6	WORKROOM	ES	8"	250	1	258	255	255	102.0
Total				4200		4004	3660	3660	87.14%

National TAB

Project: 03-09-26 QT #1137 PIEDMONT, SC

System/Unit: FAN - Exhaust

Asset: EF1 AREA:WOMEN'S RR

Unit Data		
	Design	**Actual**
MFG	NA	COOK
Model Num	NA	90 ACEH 90C15DH
Serial Num	-	050SC83350-00/0000301
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	COOK
Frame	-	
Horsepower	-	0.125
Motor Rpm	-	1550
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	1.7
Service Factor	-	

Test Data		
	Design	**Actual**
CFM	225	213
Fan RPM	-	DD
Fan Rotation	-	CORRECT
Motor RPM	-	DD
System SetPt	-	SPEED CONTROLLER /MEDIUM SPEED
RL Voltage	-	105
RL Amperage	-	1.0
Total ESP	-	0.21”
Fan Inlet SP	-	-0.21”
Fan Discharge SP	-	ATM

Completed By: Christian Moller on 03/10/2026

Unit Data - PHOTO LOG

03/10/2026

National TAB

Project: 03-09-26 QT #1137 PIEDMONT, SC

System/Unit: FAN - Exhaust

Asset: EF2 AREA:MEN'S RR/COMBI

Unit Data		
	Design	**Actual**
MFG	NA	COOK
Model Num	NA	120 ACE 120C13D 33
Serial Num	-	050SG83350-00/0002101
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	COOK
Frame	-	
Horsepower	-	0.250
Motor Rpm	-	1550
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	3.3
Service Factor	-	

Test Data		
	Design	**Actual**
CFM	525	510
Fan RPM	-	DD
Fan Rotation	-	CORRECT
Motor RPM	-	DD
System SetPt	-	SPEED CONTROLLER / MEDIUM SPEED
RL Voltage	-	110
RL Amperage	-	2.6
Total ESP	-	0.54”
Fan Inlet SP	-	-0.54”
Fan Discharge SP	-	ATM

Completed By: Christian Moller on 03/10/2026

Unit Data - PHOTO LOG

03/10/2026

National TAB

Project:03-09-26 QT #1137 PIEDMONT, SC

Diffuser Ret/Exh (GRD)

EF2/MEN'S RR/COMBI

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
EGRD1	SUPPORT SERVICE	RI	8"	150	1	207	157	157	104.7
Total				150		207	157	157	104.67%

National TAB

Project: 03-09-26 QT #1137 PIEDMONT, SC

System/Unit: FAN - Exhaust

Asset: EF3 AREA:KITCHEN HD

Unit Data		
	Design	**Actual**
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU50HFA
Serial Num	-	8318550
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	CAPTIVEAIRE
Frame	-	
Horsepower	1/2	0.5
Motor Rpm	-	1800
Phase	-	1
Voltage (rated)	-	208
Amperage (rated)	-	3.8
Service Factor	-	

Test Data		
	Design	**Actual**
CFM	1350	1323
Fan RPM	-	DD
Fan Rotation	-	CORRECT
Motor RPM	-	DD
System SetPt	-	HMI / 56.8Hz
RL Voltage	-	112
RL Amperage	-	2.9
Total ESP	-	0.66”
Fan Inlet SP	-	-0.66”
Fan Discharge SP	-	ATM

Completed By: Christian Moller on 03/10/2026

Unit Data - PHOTO LOG

03/10/2026

National TAB

Project: 03-09-26 QT #1137 PIEDMONT, SC

System/Unit: Kitchen Hood Type I

Asset: HD1 AREA:GRIDDLE

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	6030ND-2-F	6030ND-2
Job / Serial Num	-	8318550
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	108"	108”
Hood Width	60"	60”

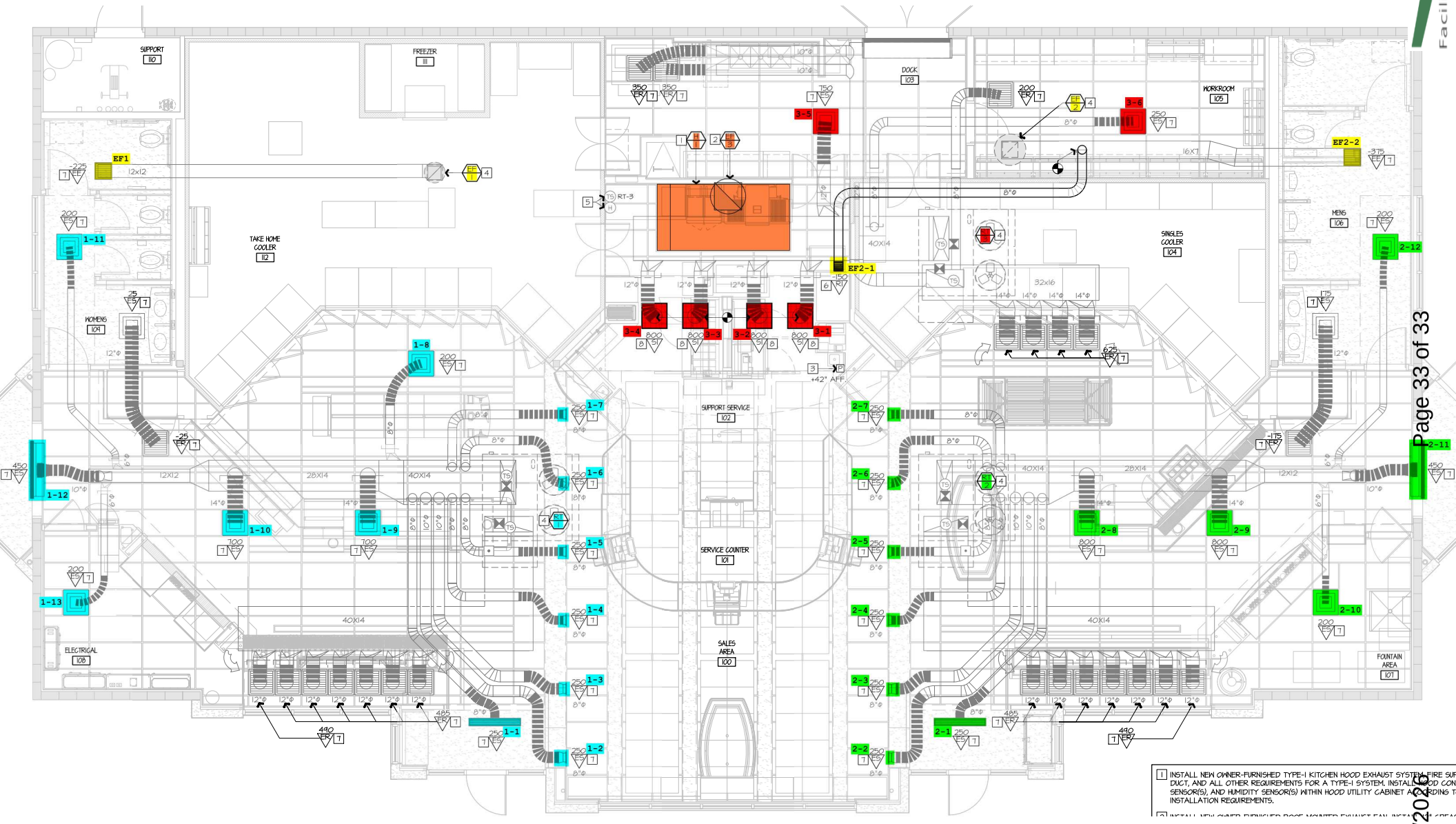
Test Data Exhaust		
	Design	**Actual**
Filter Type	-	BAFFLE
Filter Size 1	-	16X20
Filter Size 2	-	
Filter Qty 1	-	6
Filter Qty 2	-	
Filter AK factor size 1	-	2.08
Filters AK factor size 2	-	
Filter Total AK Area	-	12.48
Filter1 FPM	-	91
Filter2 FPM	-	121
Filter3 FPM	-	105
Filter4 FPM	-	106
Filter5 FPM	-	106
Filter6 FPM	-	108
Filter7 FPM	-	
Filter8 FPM	-	
Filter9 FPM	-	
Filter10 FPM	-	
Filter11 FPM	-	
Filter12 FPM	-	
Filter Ave FPM(corr)	-	106
CFM	1350	1323

Cooking Equipment	
	Actual
Item 1	FRYER
Item 2	PIZZA OVEN

Completed By: Christian Moller on 03/10/2026

Unit Data - PHOTO LOG

03/10/2026



1 INSTALL NEW OWNER-FURNISHED TYPE-I KITCHEN HOOD EXHAUST SYSTEM. FIRE SUP
DUCT, AND ALL OTHER REQUIREMENTS FOR A TYPE-I SYSTEM. INSTALL HOOD CON
SENSOR(S), AND HUMIDITY SENSOR(S) WITHIN HOOD UTILITY CABINET A CORDING T
INSTALLATION REQUIREMENTS.

Date: 4/1/2026