Report By:

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

NATIONAL TAB

Comfort. Under control.

Report: TAB REPORT
Function: Test, Adjust, & Balance
Date: 05/02/2023

PROJECT

04-24-23 CULVERS - CAMDENTON, MO

70 JACK CROWELL RD

CAMDENTON, MO 65020

Client

Accurex

PO Box 410

Schofield, WI 54476

National TAB

Project: 04-24-23 CULVERS - CAMDENTON, MO

Table Of Contents

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)
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.

General Exhaust Fans
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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04-24-23 CULVERS - CAMDENTON, MO

Project Issue Information

Issue Name : EF1A not installed

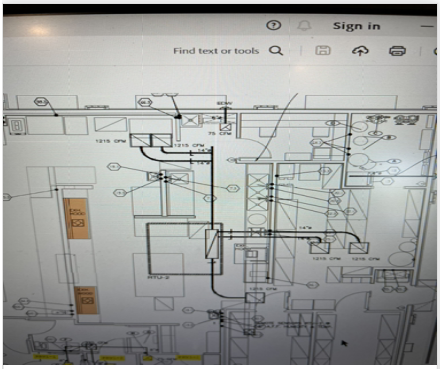
Description : 75CFM Exhaust fan above the mop sink is not installed. I asked the GC and he said they had an extra fan in the end so he's going to see what can be done.

Created By : National TAB **Assigned To :** National TAB - Jacob Davidson

Status : Open

Originated Date : 04/24/2023 - Jacob Davidson - National TAB

Project Issue File Details



FANGRD.jpeg

Exhaustfanmissing.jpe...

Comfort. Under control.

04-24-23 CULVERS - CAMDENTON, MO

Project Issue Information

Issue Name : PRV1 employee restroom has no damper accessible

Description : PRV1 men and women restrooms have a face damper to adjust flow. The employee restroom does not have any damper visible. If there is a damper, it would have to be at the takeoff which is not accessible. Tech is unable to balance airflow without damper on diffuser in employee restroom.

Created By : National TAB **Assigned To :** National TAB - Jacob Davidson

Status : Open

Originated Date : 04/24/2023 - Jacob Davidson - National TAB

Project Issue File Details

EmpRRr.jpeg

MenwowenRR.jpeg

Takeoff.jpeg

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04-24-23 CULVERS - CAMDENTON, MO

Project Issue Information

Issue Name : PRV1 missing backdraft damper

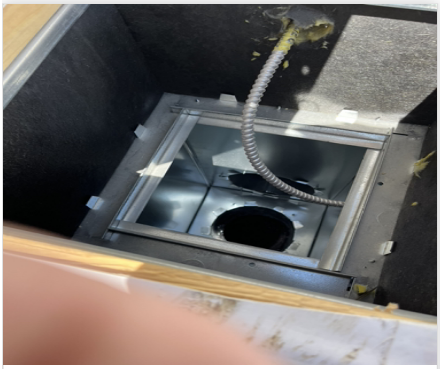
Description : INFO ONLY Restroom exhaust fan is missing the backdraft damper at the curb on the roof. This needs to be installed but will not affect the scope of the TAB.

Created By : National TAB **Assigned To :** National TAB - Jacob Davidson

Status : Open

Originated Date : 04/24/2023 - Jacob Davidson - National TAB

Project Issue File Details



Duct.jpeg

PRV1.jpeg

Comfort. Under control.

04-24-23 CULVERS - CAMDENTON, MO

Project Issue Information

Issue Name : PRV2/PRV3 missing grease cups

Description : INFO ONLY The grease cups for both hood fans have not been installed. They will need to be installed for when the restaurant starts cooking. This does not affect scope of the TAB.

Created By : National TAB **Assigned To :** National TAB - Jacob Davidson

Status : Open

Originated Date : 04/24/2023 - Jacob Davidson - National TAB

Project Issue File Details

PRV2.jpeg

PRV3.jpeg

Comfort. Under control.

04-24-23 CULVERS - CAMDENTON, MO

Project Issue Information

Issue Name : PRV3 Disconnect switch is backwards

Description : INFO ONLY Disconnect switch is backwards so the switch needs to be in the off position with the cover on in order for fan to operate. This doesn't affect TAB scope.

Created By : National TAB **Assigned To :** National TAB - Jacob Davidson

Status : Open

Originated Date : 04/25/2023 - Jacob Davidson - National TAB

Project Issue File Details

1. Open Disconnectbackwards.MOV

Comfort. Under control.

04-24-23 CULVERS - CAMDENTON, MO

Project Issue Information

Issue Name : RTU1 diffuser 1-2/1-19 is wrong size and flex duct is not attached

Description : Diffuser 1-2 is sized for 12” diffuser but an 8” diffuser is installed. The zip tie did not fasten to the diffuser properly. Tech can reattach the flex duct with tape to continue to balance, but it needs to be reattached properly and the correct size diffusers need to be installed.

Created By : National TAB **Assigned To :** National TAB - Jacob Davidson

Status : Open

Originated Date : 04/24/2023 - Jacob Davidson - National TAB

Project Issue Response Details

- **04/25/2023 National TAB - Jacob Davidson**
  - Added pictures

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04-24-23 CULVERS - CAMDENTON, MO

Project Issue Information

Issue Name : RTU1 noise when running.

Description : INFO ONLY RTU1 fan makes a noise when running. Tech inspected the fan and found nothing. The noise seems to be coming from the discharge. This does not affect the scope of the TAB.

Created By : National TAB **Assigned To :** National TAB - Jacob Davidson

Status : Open

Originated Date : 04/24/2023 - Jacob Davidson - National TAB

Project Issue File Details

1. Open IMG_Noise.MOV

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04-24-23 CULVERS - CAMDENTON, MO

Project Issue Information

Issue Name : RTU1/RTU2 final filters need installed

Description : Both units still have their construction filters in and need their final filters for building opening.

Created By : National TAB **Assigned To :** National TAB - Jacob Davidson

Status : Open

Originated Date : 04/25/2023 - Jacob Davidson - National TAB

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	DINING	6225	5742	4225	3657	2000	2085	32.1%	36.3%						
RTU-2	KITCHEN	6075	6416	4325	4583	1750	1833	28.8%	28.6%						
PRV-2	GRIDDLE											1500	1490		
PRV-3	FRYER											1500	1482		
PRV-1	RESTROOM													375	407
EF-1A	MOP SINK													75	0
TOTALS		12300	12158	8550	8240	3750	3918			0	0	3000	2972	450	407

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	3750	3918
TOTAL EXHAUST	3450	3379
NET AIRFLOW	300	539

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H20)
FRONT	0.0121
SIDE	0.0139
REAR	0.0152
AVERAGE	**0.0137**

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:

Comfort. Under control.

04-24-23 CULVERS - CAMDENTON, MO

CheckList Information

Name :	SITE PICTURES	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

STORE FRONT

Front.jpeg

RTU-1

RTU1.jpeg

RTU-2

RTU2.jpeg

PRV-1

PRV1.jpeg

PRV-2

PRV2.jpeg

PRV-3

PRV3.jpeg

EF-1A	Not Installed

HOOD 1

HD1.jpeg

HOOD 2

Hood2.jpeg

Notes/Comments :

Comfort. Under control.

04-24-23 CULVERS - CAMDENTON, MO

CheckList Information

Name :	TECH - STEP 1: INITIAL WALKTHROUGH	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

INITIAL SITE WALKTHROUGH

All diffusers and grilles are installed and match design?	YES
Perforated diffusers are installed on the cook line? (4-ways will disrupt hood capture)	YES
All hood filters installed and accounted for?	YES
Hoods are wired and have power?	YES
Thermostats have power?	YES
Have trades/general contractor been notified about any issues and are they created on FaciliBuild?	

Notes/Comments :

Comfort. Under control.

04-24-23 CULVERS - CAMDENTON, MO

CheckList Information

Name :	TECH - STEP 2: UNIT DATA AND EVAL	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

UNIT DATA AND EVALUATION WHILE GATHERING UNIT DATA CHECK THE FOLLOWING:

RTU's/AHU's	
Economizers are assembled and functional?	YES
Thermostat wire run from OCP on the RTU to the Ec terminal at the thermostat? If no, jumper can be installed from R to OCP temporarily. (The economizers will not open without OCP being energized.)	YES
Motors are all operating below the FLA rating?	YES
Are belts tight?	YES
If direct drive unit is the speed controller working.	NA
Is gas piping installed and valves turned on?	YES
Unit free of noticeable noise and vibration	RTU1 makes noise on roof that is not noticable in store
EF's	
Rotation is correct?	YES
Belts are tight?	NA
Grease cup installed on hood fan?	NO, GREASE CUPS NEED INSTALLED
Hinge kit installed installed on hood fan?	YES
Lean grease rated fans back. Is grease duct installation adequate and is duct ran all the way to the base of the fan?	YES

Flex conduit is long enough so that fan can be completely tilted back?	YES
There is no major leakage around base of fan?	YES, NO MAJOR LEAKAGE
Is the motor operating below the motor FLA rating?	YES
For restroom fan(s) is the back draft damper installed and can it fully open?	NO, NEEDS TO BE INSTALLED
Unit free of noticeable noise and vibration?	YES
The hood exhaust fans are installed in correct positions and are not switched?	THE FANS ARE SWITCHED, BUT ARE THE SAME MODEL SO THIS WILL NOT AFFECT STORE.
HOODS	
Kitchen equipment installed in proper places?	YES
Can kitchen equipment be turned on for final smoke test?	NO, START UPS NOT DONE
Second stage Grease Grabber filters are installed on the griddle hood?	YES
DOCUMENTATION	
Have trades/general contractor been notified about any issues and are they created on FaciliBuild?	YES

Notes/Comments :

Comfort. Under control.

04-24-23 CULVERS - CAMDENTON, MO

CheckList Information

Name :	TECH - STEP 3: TEST, ADJUST AND BALANCE	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

TEST, ADJUST, AND BALANCE ALL EQUIPMENT:

DURING TESTING MAKE NOTE OF THE FOLLOWING:

Is space free of drafting?	YES
Is space comfortable in all areas?	YES
Is the space free of ventilation noise?	YES
If deviations from design were necessary to resolve 1-3 what were they? Otherwise put "NA".	NA

Notes/Comments :

Comfort. Under control.

04-24-23 CULVERS - CAMDENTON, MO

CheckList Information

Name :	TECH - STEP 4: FINAL TESTS	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

FINAL TESTS	
HOOD CAPTURE TEST	
List equipment turned on for testing	HOODS
List smoke candle type used	45 SECOND SMOKE EMITTER
Smoke test capture - Perimeter of hood	100%
Smoke test capture - Top of cooking surface	100%
WITNESS	
Date test was completed	04/25/2023
TAB tech name / Firm	JACOB DAVIDSON / NATIONAL TAB INTELLIGENCE
Site super name / Firm	MATT / ANCELL CONSTRUCTION
Owner representative name / Firm (if Applicable)	MIKE / CULVER'S
Building pressure at front & back doors (All Systems On)	0.0121" FRONT 0.0152" BACK
ADDITIONAL	
Do actual net building airflow, design net building airflow, and pressure coincide? If not why? (All three should either be positive or negative)	YES
Thermostats are programmed?	YES
PRODIGY SETTINGS FOR RTU'S	
Parameter 65 set to 0	NA

Parameter 78 set to 0	NA
Parameter 105 set to 6	NA
Parameter 156 set to 70 (Dining unit only)	NA
Parameter 156 set to 65 (Kitchen Unit Only)	NA
Parameter 170 set to 75 (Dining Unit Only)	NA
Parameter 170 set to 70 (Kitchen Unit Only)	NA
Parameter 131 set to the same % as OA minimum position?	NA
Parameter 117 set to the same % as OA minimum position?	NA

Notes/Comments :

National TAB

Project: 04-24-23 CULVERS - CAMDENTON, MO

System/Unit: AHU/RTU

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Asset: RTU1 AREA:DINING

Unit Data		
	Design	**Actual**
MFG	NA	TRANE
Serial Num	-	22512655JA
Model Num	NA	GBC180A3EMC09
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1 METAL MESH
OA Filter Size 1	-	17.5X65
Num Final Filter 1	-	8
Final Filter Size 1	-	20X25X2

Motor Data		
	Design	**Actual**
Motor MFG	-	MARATHON
Frame	-	56HZ
Horsepower	-	3
Motor Rpm	-	1725/1425
Phase	3	3
Rated Voltage	208	208-230/460
Rated Amperage	-	9.4-9.2/4.6

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	4"
Motor Bore Size	-	7/8"
Motor Sheave SetPt	-	5 TURNS OUT
Fan Sheave Size	-	7.75"
Fan Sheave Bore	-	1-7/16"
Belt CL Distance	-	15"
Num of Belts	-	1
Belt Size	-	BX44
Belt Alignment	-	VERIFIED GOOD

Test Data		
	Design	**Actual**
SF CFM	6225	5742
SF RPM	-	813
RA CFM	-	3657
OA CFM	2000	2085
RL Voltage	-	216/216/217
RL Amperage	-	7.6/7.8/8.2
SF Rotation	-	CW
RA Damper Position	-	2.25" GAP
Min OA Damper Position	-	2.25" GAP
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	E

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.41"
Fan Suction SP	-	-0.67"
Fan Discharge SP	-	0.61"
Total ESP	-	1.02"
Fan Total SP	-	1.28"

General		
	Design	**Actual**
Fan Rotation Correct	-	YES
Unit Filters Clean	-	NO, NEED NEW FILTERS
Condensate Drain Installed	-	YES

Completed By: Jacob Davidson

Notes:

Diffuser Supply (GRD)

RTU1/DINING

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	ENTRY	NA	8"	150	1	195	191	140	93.3
SGRD2	DINING	NA	12"	450	1	272	219	251	55.8
SGRD3	DINING	NA	8"	150	1	142	201	153	102.0
SGRD4	DINING	NA	8"	150	1	183	136	161	107.3
SGRD5	DINING	NA	8"	150	1	179	207	147	98.0
SGRD6	DINING	NA	8"	150	1	179	127	145	96.7
SGRD7	DINING	NA	8"	150	1	118	138	150	100.0
SGRD8	DINING	NA	8"	150	1	205	141	163	108.7
SGRD9	DINING	NA	8"	150	1	137	139	162	108.0
SGRD10	DINING	NA	8"	150	1	181	183	161	107.3
SGRD11	DINING	NA	8"	150	1	199	136	136	90.7
SGRD12	DINING	NA	8"	150	1	155	221	135	90.0
SGRD13	DINING	NA	8"	150	1	205	135	155	103.3
SGRD14	DINING	NA	8"	150	1	149	184	137	91.3
SGRD15	DINING	NA	8"	150	1	199	135	163	108.7
SGRD16	DINING	NA	10"	300	1	383	269	306	102.0
SGRD17	DINING	NA	8"	150	1	197	143	161	107.3
SGRD18	DINING	NA	8"	150	1	194	190	242	161.3
SGRD19	DINING	NA	12"	450	1	220	239	271	60.2
SGRD20	DINING	NA	8"	150	1	218	131	144	96.0
SGRD21	DINING	NA	10"	500	1	451	531	471	94.2
SGRD22	DINING	NA	8"	200	1	240	188	182	91.0
SGRD23	CUST. SERV	NA	10"	350	1	218	266	282	80.6
SGRD24	CUST. SERV	NA	10"	350	1	178	258	268	76.6
SGRD25	CUST. SERV	NA	10"	350	1	248	259	329	94.0
SGRD26	CUST. SERV	NA	10"	350	1	279	297	349	99.7
SGRD27	RESTROOM	NA	8"	150	1	174	188	160	106.7
SGRD28	RESTROOM	NA	8"	150	1	170	211	143	95.3
SGRD29	RESTROOM	NA	8"	75	1	185	54	75	100.0

Completed By: Wale Odofin on

Asset	Notes
SGRD2	Diffuser is supposed to be 12" but only 8" is installed. Diffuser is not able to get airflow needed until correct diffuser size is installed.
SGRD19	Diffuser is supposed to be 12" but only 8" is installed. Diffuser is not able to get airflow needed until correct diffuser size is installed.
SGRD23	Damper is fully open. Unable to push more air to diffuser without putting others out of balance. This diffuser is in an open area and should not affect store comfort.

National TAB

Project: 04-24-23 CULVERS - CAMDENTON, MO

System/Unit: AHU/RTU

Comfort. Under control.

Asset: RTU2 AREA:KITCHEN

Unit Data		
	Design	**Actual**
MFG	NA	TRANE
Serial Num	-	22521320JA
Model Num	NA	GBC210A3EMC09
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1 METAL MESH
OA Filter Size 1	-	17.5X65
Num Final Filter 1	-	8
Final Filter Size 1	-	20X25X2

Motor Data		
	Design	**Actual**
Motor MFG	-	MARATHON
Frame	-	56HZ
Horsepower	-	5
Motor Rpm	-	3450
Phase	3	3
Rated Voltage	208	208-230
Rated Amperage	-	13.4-12.6

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	3.75"
Motor Bore Size	-	7/8"
Motor Sheave SetPt	-	5 TURNS OUT
Fan Sheave Size	-	13.75" SHEAVE
Fan Sheave Bore	-	1-7/16"
Belt CL Distance	-	15"
Num of Belts	-	1
Belt Size	-	BX55
Belt Alignment	-	VERIFIED GOOD

Test Data		
	Design	**Actual**
SF CFM	6150	6416
SF RPM	-	893
RA CFM	-	4583
OA CFM	1750	1833
RL Voltage	-	214/215/216
RL Amperage	-	9.5/9.6/9.8
SF Rotation	-	CW
RA Damper Position	-	2" GAP
Min OA Damper Position	-	2" GAP
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	E

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.46"
Fan Suction SP	-	-0.79"
Fan Discharge SP	-	0.68"
Total ESP	-	1.14"
Fan Total SP	-	1.47

General		
	Design	**Actual**
Fan Rotation Correct	-	YES
Unit Filters Clean	-	NO, NEED CLEAN FILTERS
Condensate Drain Installed	-	YES

Completed By: Jacob Davidson

Notes:

National TAB

Project:04-24-23 CULVERS - CAMDENTON, MO

AHU/RTU

Comfort. Under control.

Diffuser Supply (GRD)

RTU2/KITCHEN

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	KITCHEN	NA	12"	600	1	480	652	649	108.2
SGRD2	KITCHEN	NA	12"	600	1	553	595	653	108.8
SGRD3	KITCHEN	NA	10"	200	1	516	184	196	98.0
SGRD4	KITCHEN	NA	12"	375	1	353	424	383	102.1
SGRD5	KITCHEN	NA	12"	400	1	458	380	435	108.8
SGRD6	KITCHEN	NA	12"	400	1	400	589	396	99.0
SGRD7	KITCHEN	NA	10"	250	1	574	247	274	109.6
SGRD8	KITCHEN	NA	10"	275	1	268	476	270	98.2
SGRD9	KITCHEN	NA	8"	125	1	253	115	131	104.8
SGRD10	KITCHEN	NA	12"	600	0.727	538	722	625	104.2
SGRD11	KITCHEN	NA	12"	350	1	515	409	337	96.3
SGRD12	KITCHEN	NA	12"	350	1	439	356	384	109.7
SGRD13	KITCHEN	NA	12"	350	1	417	341	382	109.1
SGRD14	KITCHEN	NA	12"	600	0.727	538	617	659	109.8
SGRD15	KITCHEN	NA	12"	600	1	520	538	642	107.0

Completed By: Jacob Davidson on

National TAB

Project: 04-24-23 CULVERS - CAMDENTON, MO

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: EFA1 AREA:RESTROOM

Unit Data		
	Design	**Actual**
MFG	ACCUREX	ACCUREX
Model Num	XCR-B80	XCR-B80
Serial Num	-	NA
Type	CEILING	NA
Configuration	VERTICAL	NA

Motor Data		
	Design	**Actual**
Motor MFG	-	NA
Frame	-	NA
Horsepower	0.1	NA
Motor Rpm	-	NA
Phase	1	NA
Voltage (rated)	115	NA
Amperage (rated)	-	NA
Service Factor	-	NA

Test Data		
	Design	**Actual**
CFM	75	0
Fan RPM	-	NA
Fan Rotation	-	NA
Motor RPM	-	NA
System SetPt	-	NA
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	0.125"	NA
Fan Inlet SP	-	NA
Fan Discharge SP	-	NA

Completed By: Jacob Davidson

Notes:

National TAB

Project: 04-24-23 CULVERS - CAMDENTON, MO

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: PRV1 AREA:RESTROOM

Unit Data		
	Design	**Actual**
MFG	ACCUREX	ACCUREX
Model Num	XRED-090-D	XRED-090-VG-1-17-X
Serial Num	-	21688296
Type	DOWNBLAST	DOWNBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	GREENHECK
Frame	-	NL
Horsepower	1/15	1/10
Motor Rpm	-	300-1750
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	1.38
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	375	407
Fan RPM	-	DD
Fan Rotation	-	CCW
Motor RPM	-	DD
System SetPt	-	6 OF 10 POTENTIOMETER
RL Voltage	-	UNSAFE
RL Amperage	-	0.72"
Total ESP	0.5"	0.19"
Fan Inlet SP	-	-0.19"
Fan Discharge SP	-	ATM

Completed By: Jacob Davidson

Notes:

National TAB

Project:04-24-23 CULVERS - CAMDENTON, MO

FAN - Exhaust

Comfort. Under control.

Diffuser Ret/Exh (GRD)

PRV1/RESTROOM

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
EGRD1	RESTROOM	NA	8"	150	1	130	130	130	86.7
EGRD2	RESTROOM	NA	8"	150	1	129	129	129	86.0
EGRD3	RESTROOM	NA	8"	75	1	148	148	148	197.3

Completed By: Jacob Davidson on

National TAB

Project: 04-24-23 CULVERS - CAMDENTON, MO

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: PRV2 AREA:HOOD 1

Unit Data		
	Design	**Actual**
MFG	ACCUREX	ACCUREX
Model Num	XCUE-140-VG	XCUE-140-10-VG-1-26-G
Serial Num	-	21699052
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	GREENHECK
Frame	-	NL
Horsepower	0.83"	1
Motor Rpm	1725	350-1750
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	13.0
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	1500	1490
Fan RPM	1725	DD
Fan Rotation	-	CCW
Motor RPM	-	DD
System SetPt	-	5.6 VDC
RL Voltage	-	124V
RL Amperage	-	3.34A
Total ESP	1.799"	0.87"
Fan Inlet SP	-	-0.87"
Fan Discharge SP	-	ATM

Completed By: Jacob Davidson

Notes:

National TAB

Project: 04-24-23 CULVERS - CAMDENTON, MO

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: PRV3 AREA:

Unit Data		
	Design	**Actual**
MFG	ACCUREX	ACCUREX
Model Num	XCUE-140-VG	XCUE-140-10-VG-1-26-G
Serial Num	-	21699062
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	GREENHECK
Frame	-	NL
Horsepower	0.46	1
Motor Rpm	1725	350-1750
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	13.0
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	1500	1482
Fan RPM	1366	DD
Fan Rotation	-	CCW
Motor RPM	-	DD
System SetPt	-	5.0 VDC
RL Voltage	-	124V
RL Amperage	-	3.84A
Total ESP	1.0"	0.69"
Fan Inlet SP	-	-0.69"
Fan Discharge SP	-	ATM

Completed By: Wale Odofin

Notes: Fan positions are swapped on the roof, but they are the same model so this will not affect the store.

National TAB

Project: 04-24-23 CULVERS - CAMDENTON, MO

System/Unit: Kitchen Hood Type I

Comfort. Under control.

Asset: HOOD1 AREA:KITCHEN

Unit Data		
	Design	**Actual**
MFG	ACCUREX	ACCUREX
Model Num	XGEP-64-S	XGEP-64.00-S
Job / Serial Num	-	21687375
Type	LOW PROX	LOW PROXIMITY
Hood length	64	64"
Hood Width	23	23"

Test Data Exhaust		
	Design	**Actual**
Filter Type	GREASE GRABBER	GREASE GRABBER
Filter Size 1	16X16	16X16
Filter Qty 1	4	4
Filter AK factor size 1	1.62	1.62
Filter Total AK Area	6.48	6.48
Filter1 FPM	-	244
Filter2 FPM	-	219
Filter3 FPM	-	223
Filter4 FPM	-	234
Filter Ave FPM(corr)	-	230
CFM	1500	1490

Cooking Equipment		
	Design	**Actual**
Item 1	-	GRIDDLE

Completed By: Jacob Davidson

Notes:

National TAB

Project: 04-24-23 CULVERS - CAMDENTON, MO

System/Unit: Kitchen Hood Type I

Comfort. Under control.

Asset: HOOD2 AREA:KITCHEN

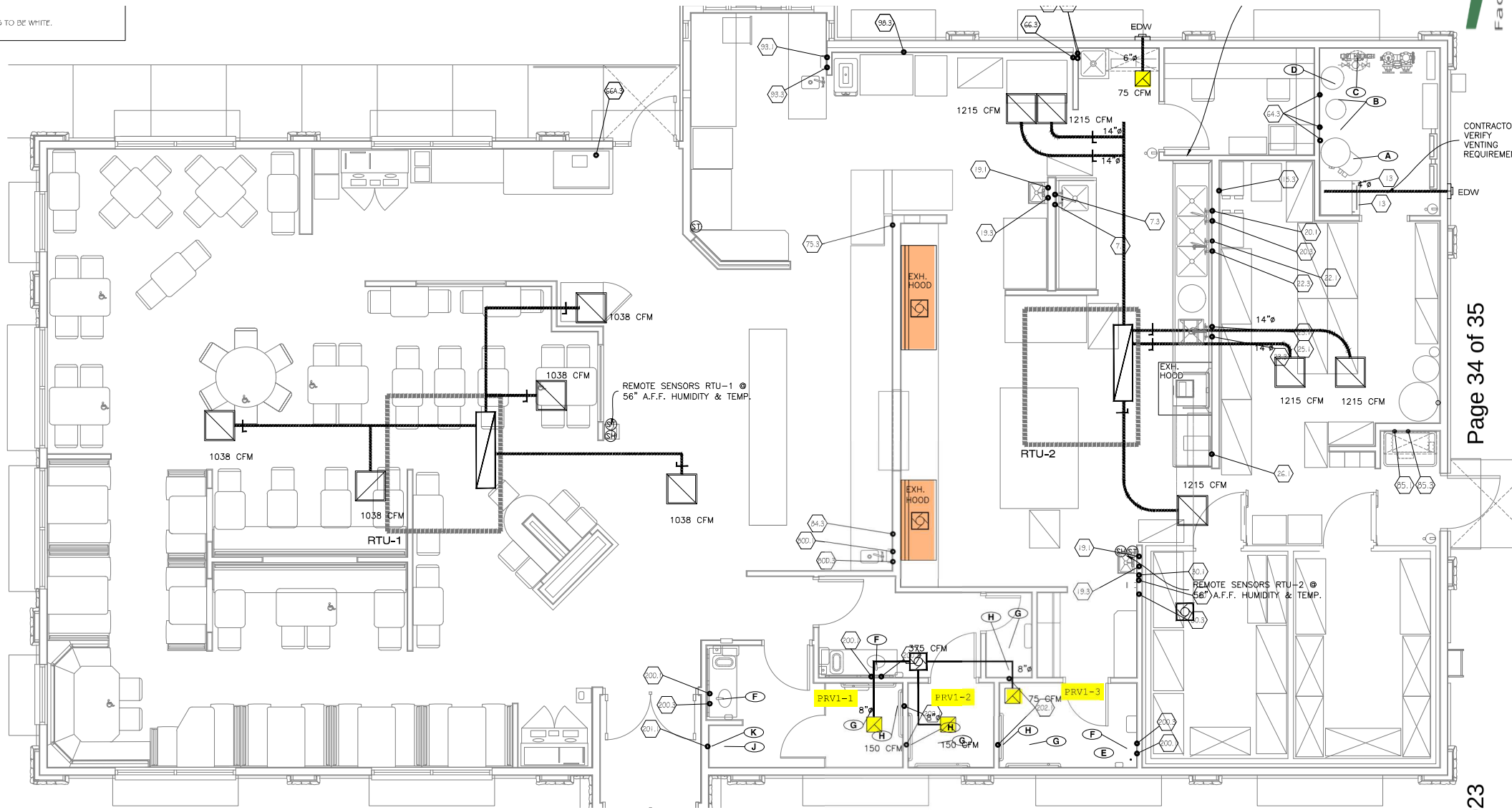
Unit Data		
	Design	**Actual**
MFG	ACCUREX	ACCUREX
Model Num	XXEP-83-S	XXEP-83.00-S
Job / Serial Num	-	21687369
Type	LOW PROX	LOW PROXIMITY
Hood length	83	83"l
Hood Width	23	23"

Test Data Exhaust		
	Design	**Actual**
Filter Type	GREASE GRABBER	X-TRACTOR
Filter Size 1	16X16	16X16
Filter Qty 1	5	5
Filter AK factor size 1	1.62	1.62
Filter Total AK Area	8.1	8.1
Filter1 FPM	-	188
Filter2 FPM	-	181
Filter3 FPM	-	164
Filter4 FPM	-	179
Filter5 FPM	-	205
Filter Ave FPM(corr)	-	183
CFM	1500	1482

Cooking Equipment		
	Design	**Actual**
Item 1	-	FRYERS

Completed By: Jacob Davidson

Notes:



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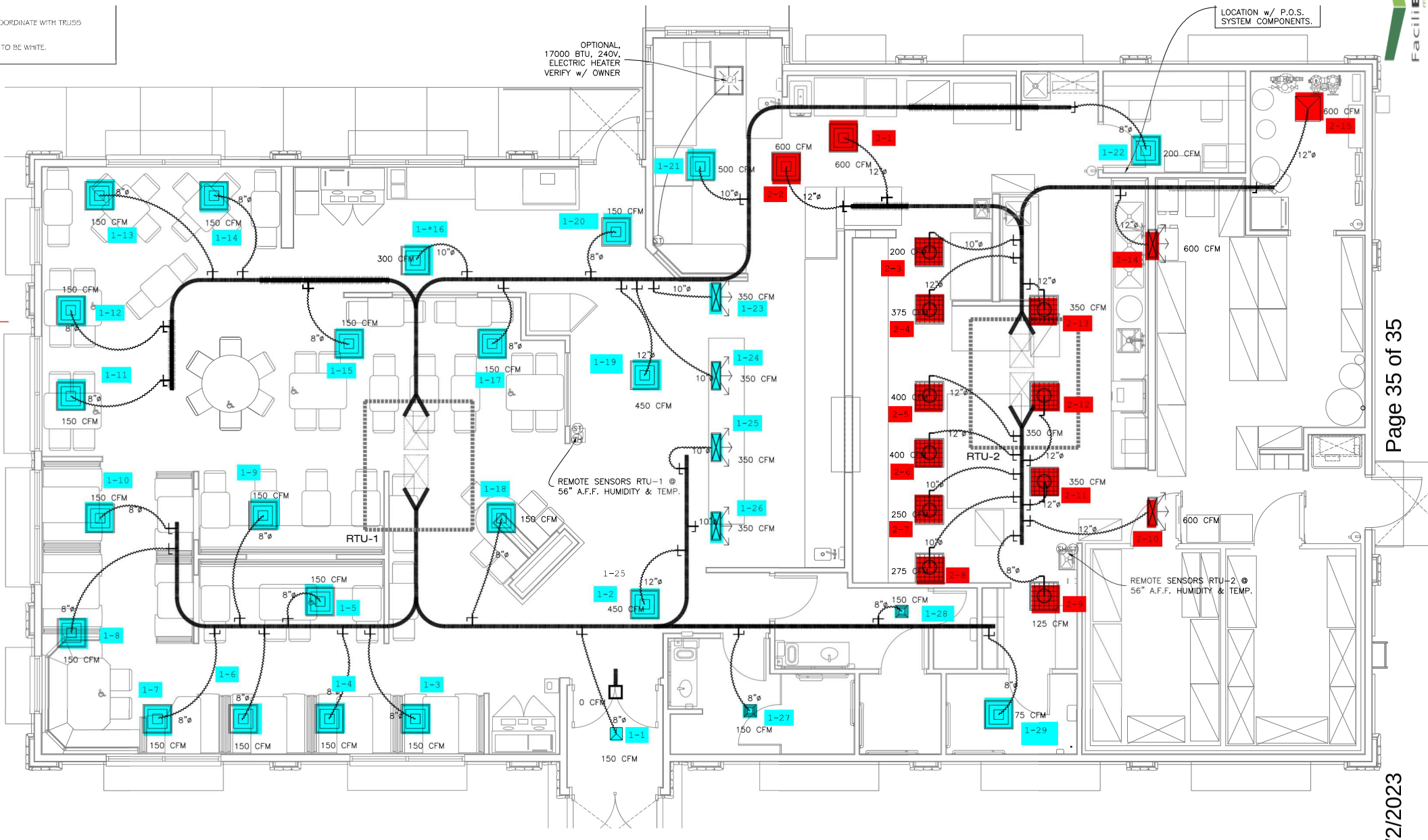
OPTIONAL,
17000 BTU, 240V,
ELECTRIC HEATER
VERIFY w/ OWNER
LOCATION w/ P.O.S.
SYSTEM COMPONENTS.
RTU-1
RTU-2
REMOTE SENSORS RTU-1 @
56" A.F.F. HUMIDITY & TEMP.
REMOTE SENSORS RTU-2 @
56" A.F.F. HUMIDITY & TEMP.
DORDINATE WITH TRUSS
TO BE WHITE.

Date: 5/2/2023