Report By:

National TAB
105 Stone Village Drive
Fort Mill, SC 29708

Report: TAB Report

Function: Test, Adjust, & Balance

Date: 01/29/2026

Completed By: National TAB

PROJECT

01-26-26 WHATABURGER #1653 - HICKORY, NC

2411 N CENTER ST

HICKORY, NC 28601

Client

Whataburger Restaurants

300 Concord Plaza Dr

San Antonio, TX 78216

National TAB

Project: 01-26-26 WHATABURGER #1653 - HICKORY, NC

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) 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.

Exhaust Fans w/ Registers
The exhaust fan was measured at the grilles to measure the total flow. The fan was then adjusted to bring airflow within tolerance of the engineer's design flow. Each grille was then adjusted to within tolerance of design flow.

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.

CheckList List

- 01: RTU's
- 02: EF's
- 03: Hoods
- 04: Final Checks

01-26-26 WHATABURGER #1653 - HICKORY, NC

CheckList Information

Name :	01: RTU's	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	12/26/2025 - Trinity Dodds - National TAB		
Completed Date :	01/29/2026 - Christian Moller - National TAB		

CheckList Item Details

RTU's/AHU's

Thermostats installed and have power?	Pass
Comment:	
All diffusers and grilles are installed and match design?	Pass
Comment:	
Motors are all operating below the FLA rating?	Pass
Comment:	
Is gas piping installed and valves turned on?	Pass
Comment:	
Unit free of noticeable noise and vibration	Pass
Comment:	
Final outside air damper position is set manually and marked with permanent marker?	Pass
Comment:	
Supply airflow is 0 to +10%?	Pass

Comment:

Outside airflow is 0 to +10%?	Pass

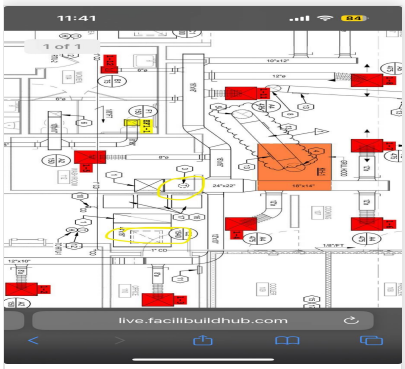
Comment:

Return balance dampers are confirmed to be 100% open (if installed)?	Pass

Comment:

Screenshot of the GRD marked up with supply and return traverse locations for RTU-1 (Add picture here)	Pass

Comment:



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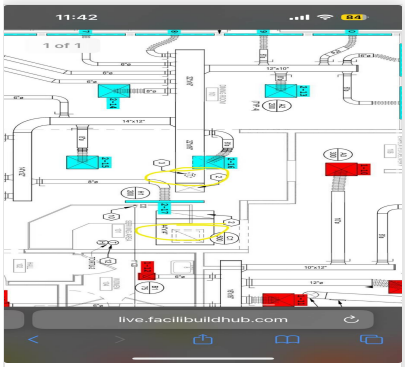
Screenshot of the GRD marked up with supply and return traverse locations for RTU-2 (Add picture here)	Pass

Comment:



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For each unit supply, is the flow hood reading within 10% of the final traverse reading? If not do you feel any major points of leakage	Pass
Comment:	

For each unit return, is the flow hood reading within 10% of the final traverse reading? If not do you feel any major points of leakage	Pass
Comment:	

01-26-26 WHATABURGER #1653 - HICKORY, NC

CheckList Information

Name :	02: EF's	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	12/26/2025 - Trinity Dodds - National TAB		
Completed Date :	02/09/2026 - Christian Moller - National TAB		

CheckList Item Details

EF's

Rotation is correct?	Pass
Comment:	
Belts are tight?	N/A
Comment:	
Hinge kit installed installed on hood fan?	Pass
Comment:	
Lean fan back. Is grease duct installation adequate and is duct ran all the way to the base of the fan?	Pass
Comment:	
Flex conduit is long enough so that fan can be completely tilted back?	Pass
Comment:	
There is no major leakage around base of fan?	Pass
Comment:	

Is the motor operating below the motor FLA rating?	Pass
Comment:	
For restroom fan(s) is the back draft damper installed and can it fully open?	Pass
Comment:	
Unit free of noticeable noise and vibration?	Pass
Comment:	
Exhaust airflow is 0 to +10%?	Pass
Comment:	

01-26-26 WHATABURGER #1653 - HICKORY, NC

CheckList Information

Name :	03: Hoods	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	12/26/2025 - Trinity Dodds - National TAB		
Completed Date :	01/29/2026 - Christian Moller - National TAB		

CheckList Item Details

HOODS

All hood filters installed and accounted for?	Pass
Comment:	
Hoods are wired and have power?	Pass
Comment:	
Hood is free of alarms?	Pass
Comment:	
Hood is free of damage?	Pass
Comment:	
Quarter or full vertical end panels are installed if specified?	Pass
Comment:	

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CheckList Information

Name :	04: Final Checks	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	12/26/2025 - Trinity Dodds - National TAB		
Completed Date :	02/09/2026 - Christian Moller - National TAB		

CheckList Item Details

FINAL CHECKS

Is space free of drafting?	Pass
Comment:	
Is space comfortable in all areas?	Pass
Comment:	
Is the space free of ventilation noise?	Pass
Comment:	

List kitchen equipment turned on for testing

Comment:

None

List smoke candle type used

Comment:

S102 - 45 Second Candles

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	01/29/2026

Comment:

TAB tech name / Firm

Comment:

Christian Moller / NTAB

Site super name / Firm

Comment:

Damion Swindle / WIMCO

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)	Pass

Comment:

Yes: Front: 0.022" Back: 0.02"

Is the building pressure at least +0.02"? If not, do you see any obvious areas of external building that aren't sealed?	Pass

Comment:

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	3650	3684	1540	1496	2110	2188	57.8%	59.4%						
RTU-2	DINING	2240	2079	500	280	1740	1799	77.7%	86.5%						
KEF-1	GRILL HOOD											1994	2016		
KEF-2	FRYER HOOD											1216	1115		
EF-1	RESTROOMS													300	302
TOTALS		5890	5763	2040	1776	3850	3987			0	0	3210	3131	300	302

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	3850	3987
TOTAL EXHAUST	3510	3433
NET AIRFLOW	340	554

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H20)
FRONT	0.022
SIDE	
REAR	0.02
AVERAGE	**0.021**

FINAL CHECKS

ACTUAL NET AIRFLOW COINCIDES WITH DESIGN: ✔

MEASURED PRESSURES COINCIDES WITH ACTUAL NET AIRFLOW: ✔

NOTES:

National TAB

Project: 01-26-26 WHATABURGER #1653 - HICKORY, NC

System/Unit: AHU/RTU

Asset: RTU-1 AREA:KITCHEN

Unit Data	
	Actual
MFG	CAPTIVEAIRE
Serial Num	7658584
Model Num	CAS-HVAC3-I.300-20-20T
Num OA Filters 1	1
OA Filter Size 1	46X32
Num OA Filters 2	4
OA Filter Size 2	24X16
Num Final Filter 1	6
Final Filter Size 1	20X25X2

Motor Data		
	Design	**Actual**
Motor MFG	-	NEMA PREMIUM
Frame	-	184T
Horsepower	3.0	5
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	208	230
Rated Amperage	-	13.6

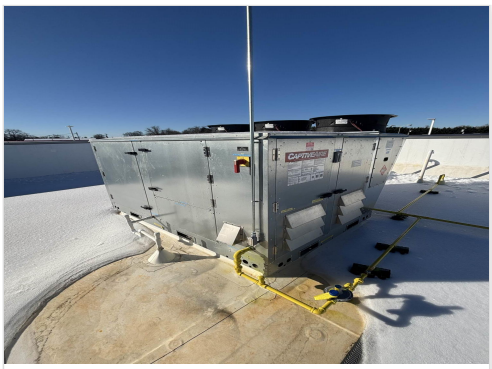
Test Data		
	Design	**Actual**
SF CFM (Traverse)	-	3711
SF CFM	3650	3684
SF RPM	-	DD
MOTOR RPM	-	DD
RA CFM (Traverse)	-	1521
RA CFM	1540	1496
OA CFM	2110	2188
RL Voltage	-	148
RL Amperage	-	10.4
SF System SetPt	-	VFD 43.9Hz
RA Damper Position	-	38%
Min OA Damper Position	-	62%
Min OA Damper Type	-	ECON

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.19"
Fan Suction SP	-	-0.72"
Fan Discharge SP	-	0.36"
Total ESP	1.10"	0.91"
Fan Total SP	-	1.08"

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

Completed By: Christian Moller on 01/27/2026

Unit Data - PHOTO LOG



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Project:01-26-26 WHATABURGER #1653 - HICKORY, NC

AHU/RTU

Diffuser Supply (GRD)

RTU-1/KITCHEN

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	BOH ENTRY	H3	8"	160	1	130	168	171	106.9
SGRD2	DRY STORAGE	A2	8"	150	1	204	162	162	108.0
SGRD3	OFFICE	A2	8"	165	1	247	153	165	100.0
SGRD4	COOKING	A4	12"	475	1	526	476	502	105.7
SGRD5	WASHROOM	A2	8"	150	1	157	144	141	94.0
SGRD6	COOKING	A4	12"	475	1	560	474	508	106.9
SGRD7	COOKING	A5	12"	475	1	586	442	479	100.8
SGRD8	COOKING	A5	12"	475	1	364	436	438	92.2
SGRD9	COOKING	H2	8"	200	1	157	206	216	108.0
SGRD10	DELIVERY	A3	10"	300	1	197	272	270	90.0
SGRD11	COOKING	A4	12"	475	1	434	473	477	100.4
SGRD12	WOMEN RR	B1	6"	75	1	56	77	73	97.3
SGRD13	MEN RR	B1	6"	75	1	94	126	82	109.3
Total				3650		3712	3609	3684	100.93%

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Project: 01-26-26 WHATABURGER #1653 - HICKORY, NC

System/Unit: AHU/RTU

Asset: RTU-2 AREA:DINING

Unit Data	
	Actual
MFG	CAPTIVEAIRE
Serial Num	7658584
Model Num	CAS-HVAC3-I.200-15-15T
Num OA Filters 1	1
OA Filter Size 1	46X32
Num OA Filters 2	4
OA Filter Size 2	24X16
Num Final Filter 1	8
Final Filter Size 1	20X25X2

Motor Data		
	Design	**Actual**
Motor MFG	-	GREENHECK
Frame	-	NL
Horsepower	2.00	2.0
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	6.1

Test Data		
	Design	**Actual**
SF CFM (Traverse)	-	2005
SF CFM	2240	2079
SF RPM	-	DD
MOTOR RPM	-	DD
RA CFM (Traverse)	-	311
RA CFM	500	280
OA CFM	1740	1799
RL Voltage	-	105
RL Amperage	-	3.5
SF System SetPt	-	VFD/42Hz
RA Damper Position	-	2.5
Min OA Damper Position	-	7.5
Min OA Damper Type	-	ECON

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.14"
Fan Suction SP	-	-0.22"
Fan Discharge SP	-	0.17"
Total ESP	1.10"	0.36"
Fan Total SP	-	0.39"

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

Completed By: Christian Moller on 01/29/2026

Unit Data - PHOTO LOG

01/27/2026

Diffuser Supply (GRD)

RTU-2/DINING

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	DINING AREA	P2	8"	120	1	69	119	109	90.8
SGRD2	DINING AREA	P2	8"	120	1	108	96	110	91.7
SGRD3	DINING AREA	P1	6"	100	1	72	142	95	95.0
SGRD4	DINING AREA	P1	6"	100	1	94	102	90	90.0
SGRD5	DINING AREA	P1	6"	100	1	142	148	92	92.0
SGRD6	DINING AREA	P1	6"	100	1	131	127	94	94.0
SGRD7	DINING AREA	P1	6"	100	1	111	142	96	96.0
SGRD8	DINING AREA	P1	6"	100	1	48	63	94	94.0
SGRD9	DINING AREA	P1	6"	100	1	62	99	94	94.0
SGRD10	DINING AREA	P1	6"	100	1	83	103	97	97.0
SGRD11	DINING AREA	P1	6"	100	1	77	112	91	91.0
SGRD12	DINING AREA	P1	6"	100	1	113	100	93	93.0
SGRD13	DINING AREA	A2	8"	200	1	162	131	194	97.0
SGRD14	DINING AREA	A2	8"	200	1	129	172	185	92.5
SGRD15	DINING AREA	A2	8"	200	1	146	84	183	91.5
SGRD16	DINING AREA	A2	8"	200	1	97	115	180	90.0
SGRD17	SERVING AREA	H1	8"	200	1	138	116	182	91.0
Total				2240		1782	1971	2079	92.81%

National TAB

Project:01-26-26 WHATABURGER #1653 - HICKORY, NC

Diffuser Supply (GRD)

TRAVERSES/

Asset					
Asset Name	**Size**	**DESIGN CFM**	**VEL(1)**	**FINAL CFM**	**% to design**
RETURN TRAVERSE - RTU1	44X16	1540	1521	1521	98.8
RETURN TRAVERSE - RTU2	44X14	500	280	280	56.0
SUPPLY TRAVERSE - RTU1	24X22	3650	3711	3711	101.7
SUPPLY TRAVERSE - RTU2	22X16	2240	2005	2005	89.5
Total		7930		7517	94.79%

Completed By: Christian Moller on 01/27/2026

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Project: 01-26-26 WHATABURGER #1653 - HICKORY, NC

System/Unit: FAN - Exhaust

Asset: EF-1 AREA:RESTROOMS

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	G-080-VG	G-080-VG-1-17-X
Serial Num	-	27813549
Type	DOWNBLAST	DOWNBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	GREENHECK
Frame	-	25J
Horsepower	0.10	1/10
Motor Rpm	-	1750
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	1.38
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	300	302
Fan RPM	-	DD
Fan Rotation	-	CORRECT
Motor RPM	-	DD
System SetPt	-	SPEED CONTROLLER / 6
RL Voltage	-	112
RL Amperage	-	0.86
Total ESP	0.50"	0.32"
Fan Inlet SP	-	-0.32"
Fan Discharge SP	-	ATM

Completed By: Christian Moller on 02/09/2026

Unit Data - PHOTO LOG

01/27/2026

National TAB

Project:01-26-26 WHATABURGER #1653 - HICKORY, NC

FAN - Exhaust

Diffuser Ret/Exh (GRD)

EF-1/RESTROOMS

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
EGRD1	WOMEN'S RR	F1	8X8	150	1	32	262	147	98.0
EGRD2	MEN'S RR	F1	8X8	150	1	67	245	155	103.3
Total				300		99	507	302	100.67%

National TAB

Project: 01-26-26 WHATABURGER #1653 - HICKORY, NC

System/Unit: FAN - Exhaust

Asset: KEF-1 AREA:GRILL HD

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	CUE-140-VG	CUE-140-7-VG-1-22-G
Serial Num	-	27813550
Type	UPBLAST	UPBLAST
Configuration	VERITCAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	GREENHECK
Frame	-	NL
Horsepower	1.00	0.75
Motor Rpm	-	1550
Phase	1	1
Voltage (rated)	208	208
Amperage (rated)	-	5.4
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	1994	2016
Fan RPM	-	DD
Fan Rotation	-	CORRECT
Motor RPM	-	DD
System SetPt	-	SPEED CONTROLLER / 6.5
RL Voltage	-	211
RL Amperage	-	3.7
Total ESP	1.00"	0.60"
Fan Inlet SP	-	-0.60"
Fan Discharge SP	-	ATM

Completed By: Christian Moller on 01/29/2026

Unit Data - PHOTO LOG

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Project: 01-26-26 WHATABURGER #1653 - HICKORY, NC

System/Unit: FAN - Exhaust

Asset: KEF-2 AREA:FRYER HD

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	CUE-120-VG	CUE-120-5-VG-1-19-G
Serial Num	-	27813551
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	GREENHECK
Frame	-	NL
Horsepower	0.50	0.5
Motor Rpm	-	1416
Phase	1	1
Voltage (rated)	208	208
Amperage (rated)	-	3.8
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	1216	1115
Fan RPM	-	DD
Fan Rotation	-	CORRECT
Motor RPM	-	DD
System SetPt	-	SPEED CONTROLLER / 7.0
RL Voltage	-	211
RL Amperage	-	3.1
Total ESP	0.75"	0.46"
Fan Inlet SP	-	-0.46"
Fan Discharge SP	-	ATM

Completed By: Christian Moller on 01/29/2026

Unit Data - PHOTO LOG

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Project: 01-26-26 WHATABURGER #1653 - HICKORY, NC

System/Unit: Kitchen Hood Type I

Asset: HD-1 AREA:GRILL

Unit Data		
	Design	**Actual**
MFG	H&K	H&K
Model Num	HKD027	HKD027
Job / Serial Num	-	8184330-001
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	87"	87"
Hood Width	55"	55"

Test Data Exhaust		
	Design	**Actual**
Filter Type	FLAMGUARD FILTER	FLAMEGUARD
Filter Size 1	12X20	12X20
Filter Qty 1	8	8
Filter AK factor size 1	1.5	1.5
Filter Total AK Area	12	12
Filter1 FPM	-	149
Filter2 FPM	-	182
Filter3 FPM	-	183
Filter4 FPM	-	156
Filter5 FPM	-	140
Filter6 FPM	-	206
Filter7 FPM	-	185
Filter8 FPM	-	146
Filter Ave FPM(corr)	-	168
CFM	1994	2016

Cooking Equipment	
	Actual
Item 1	GRILL

Completed By: Christian Moller on 01/29/2026

Unit Data - PHOTO LOG

01/27/2026

National TAB

Project: 01-26-26 WHATABURGER #1653 - HICKORY, NC

System/Unit: Kitchen Hood Type I

Asset: HD-2 AREA:FRYER

Unit Data		
	Design	**Actual**
MFG	H&K	H&K
Model Num	HKD023	HKD023
Job / Serial Num	-	8189823-001
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	73"	73"
Hood Width	22"	22"

Test Data Exhaust		
	Design	**Actual**
Filter Type	FLAMGUARD FILTER	FLAMEGUARD
Filter Size 1	12X20	12X20
Filter Size 2	12X16	12X16
Filter Qty 1	2	1
Filter Qty 2	2	3
Filter AK factor size 1	1.5	1.5
Filters AK factor size 2	1.16	1.16
Filter Total AK Area	5.32	4.98
Filter1 FPM	-	205
Filter2 FPM	-	239
Filter3 FPM	-	237
Filter4 FPM	-	217
Filter Ave FPM(corr)	-	224
CFM	1216	1115

Cooking Equipment	
	Actual
Item 1	FRYER

Completed By: Christian Moller on 01/29/2026

Unit Data - PHOTO LOG

01/27/2026