

Report By:

National TAB



Report: Prelim Report

Function: Test, Adjust, & Balance

Date: 08/14/2025

Completed By: National TAB

PROJECT

08-11-25 WAWA #6612 DUMFRIES, VA

3600 POINTE CENTER COURT

DUMFRIES, VA 22026

Client

Wawa

260 West Baltimore Pike

Wawa, PA 19063

National TAB

Project: 08-11-25 WAWA #6612 DUMFRIES, VA

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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.

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.

Ceiling Exhaust Fans

The ceiling exhaust fans were measured using a flow hood. If speed adjustment was provided, the fan speed was adjusted to within design tolerance. 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 and that the pressure measurement coincides with the actual and design net airflow. Any deviations from these standards are noted throughout the report.

CheckList List

- 01: RTU's/AHU's
- 04: EF'S
- 05: CLOSEOUT CHECKS



08-11-25 WAWA #6612 DUMFRIES, VA

CheckList Information

Name : 01: RTU's/AHU's **Status :** Not Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 07/31/2025 - Natasha Louw - National TAB

CheckList Item Details

RTU's/AHU's

All diffusers and grilles are installed and match design? Pass

Comment:

Clean filters installed? Pass

Comment:

Economizers are assembled and functional? Fail

Comment:

RTU's 1 and 3 require a plug-in attachment to program final set point. RTU-2 econ is not configured, all OA set manually.

Motors are all operating below the FLA rating? Pass

Comment:

Are belts tight? N/A

Comment:

If direct drive unit is the speed controller working? Pass

Comment:

Is gas piping installed and valves turned on? Pass

Comment:

Condensate drains are installed?

Fail

Comment:

RTU-3 missing drain, other drains installed incorrectly.

Unit free of noticeable noise and vibration

Pass

Comment:

Final outside air damper position is marked with permanent marker?

Pass

Comment:

No alarms present?

Pass

Comment:

Any noticeable duct leakage?

Pass

Comment:

Total supply and OA flows are balanced within +/-5% and supply & return diffusers within +/-10%?

Pass

Comment:

IN TEST MODE, TEST THE FOLLOWING:

Cooling mode is operational? Record EAT/LAT for each unit:

Comment:

RTU-1: RTU-2: RTU-3:

Heating mode is operational? Record EAT/LAT for each unit:

Comment:

RTU-1: RTU-2: RTU-3:

Dehumidification mode is operational? (Feel dehumidification coil with your hand. Is it hot?) Record EAT/LAT for each unit:

Comment:

RTU-1: RTU-2: RTU-3:



08-11-25 WAWA #6612 DUMFRIES, VA

CheckList Information

Name : 04: EF'S **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 07/31/2025 - Natasha Louw - National TAB

Completed Date : 08/14/2025 - Jordan Best - National TAB

CheckList Item Details

EF's

Rotation is correct?	Pass
----------------------	------

Comment:

Belts are tight (if applicable)?	Pass
----------------------------------	------

Comment:

Speed controller installed and functional (if applicable)?	Pass
--	------

Comment:

There is no major leakage around base of fan?	Pass
---	------

Comment:

Is the motor operating below the motor FLA rating?	Pass
--	------

Comment:

Back draft damper installed and can it fully open?	N/A
--	-----

Comment:

M-SET does not specify backdraft dampers are required.

Unit free of noticeable noise and vibration?

Pass

Comment:

Total exhaust flow balanced within +/-5% and grilles are within +/-10%?

Pass

Comment:



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CheckList Information

Name : 05: CLOSEOUT CHECKS **Status :** Not Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 07/31/2025 - Natasha Louw - National TAB

CheckList Item Details

SPACE COMFORT

Is space free of drafting? Pass

Comment:

Is space comfortable in all areas? Pass

Comment:

Is the space free of ventilation noise? Pass

Comment:

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)

Comment:

Issue List

- RTU's 1 & 3 Economizer Control
- RTU-2 Damper Configuration
- RTU-2 Return



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Project Issue Information

Issue Name : RTU's 1 & 3 Economizer Control
Description : Units 1 and 3 are equipped with Siemens unit controllers. This particular controller requires a USB plug-in attachment to permanently set economizer minimum positions. OA set manually and marked on gears to indicate proper minimum position.
Created By : National TAB **Assigned To :** National TAB - Jordan Best
Status : Open
Priority : Urgent **Asset Tag :**
Originated Date : 08/13/2025 - Jordan Best - National TAB



08-11-25 WAWA #6612 DUMFRIES, VA

Project Issue Information

Issue Name : RTU-2 Damper Configuration
Description : RTU-2 damper is not correctly configured and doesn't respond to changes via unit controller. OA set manually and marked on gears to indicate proper minimum position.. Recommend contacting Carrier tech support to verify proper installation.
Created By : National TAB **Assigned To :** National TAB - Jordan Best
Status : Open
Priority : High **Asset Tag :**
Originated Date : 08/13/2025 - Jordan Best - National TAB



08-11-25 WAWA #6612 DUMFRIES, VA

Project Issue Information

Issue Name : RTU-2 Return
Description : RTU-2 return is not covered with a bird screen / egg crate and is wide open. Return should be covered.
Created By : National TAB **Assigned To :** National TAB - Jordan Best
Status : Open
Priority : High **Asset Tag :**
Originated Date : 08/13/2025 - Jordan Best - National TAB

Project Issue File Details



08/14/2025

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Project: 08-11-25 WAWA #6612 DUMFRIES, VA

- [Open](#) COMPLETED_BALANCE_SCHEDULE_DUMFRIES_WAWA_6612.xlsx

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Project: 08-11-25 WAWA #6612 DUMFRIES, VA

System/Unit: AHU/RTU



Asset: RTU1

AREA:BOH

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	3024P13357
Model Num	50GC-N14L2A5-8W1C0	50GC-N14L2A5-8W1C0
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	24"X27"
Num Final Filter 1	-	4
Final Filter Size 1	-	20"X20"X2"

Motor Data		
	Design	Actual
Phase	-	3
Rated Voltage	3	208
Rated Amperage	208	7.5

Test Data		
	Design	Actual
SF CFM	4500	4844
RA CFM	3800	4133
OA CFM	700	711
RL Voltage	-	206.8 / 206 / 205.6
RL Amperage	-	7 / 7.1 / 6.6
SF System SetPt	-	7.64 VDC
OA Damper Position	-	SET MANUALLY
OA Damper Type	-	ECONOMIZER

Performance Data		
	Design	Actual
MA Plenum SP	-	-1.1"
Fan Suction SP	-	-1.3"
Fan Discharge SP	-	0.68"
Total ESP	0.70"	1.78"
Fan Total SP	-	1.98"

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AHU/RTU



Diffuser Supply (GRD)

RTU1/BOH

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	COFFEE	SD-6	12"	500	1	133	516	516	103.2
SGRD2	FOOD SERVICE	SD-6	10"	425	1	362	444	444	104.5
SGRD3	FOOD SERVICE	SD-6	10"	425	1	288	460	460	108.2
SGRD4	FOOD SERVICE	SD-6	10"	425	1	644	462	462	108.7
SGRD5	FOOD SERVICE	SD-6	10"	425	1	507	464	464	109.2
SGRD6	FOOD SERVICE	SD-6	10"	425	1	417	466	466	109.6
SGRD7	BOH	SD-6	10"	400	1	606	426	426	106.5
SGRD8	BOH	SD-6	10"	400	1	559	413	413	103.3
SGRD9	BOH	SD-6	10"	400	1	553	429	429	107.3
SGRD10	TRASH	SD-1	10"	300	1	510	392	392	130.7
SGRD11	ELECTRICAL ROOM	SD-1	10"	375	1	346	372	372	99.2
Total				4500		4925	4844	4844	107.64%

Diffuser Ret/Exh (GRD)

RTU1/BOH

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EGRD1	FOOD SERVICE	RG-1	14"	860	1	812	809	809	94.1
EGRD2	FOOD SERVICE	RG-1	14"	870	1	834	811	811	93.2
EGRD3	FOOD SERVICE	RG-1	14"	870	1	923	852	852	97.9
EGRD4	WASHROOM	RG-1	16X14	1200	1	1082	1108	1108	92.3
Total				3800		3651	3580	3580	94.21%

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System/Unit: AHU/RTU



Asset: RTU2

AREA:RETAIL

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	4223P74716
Model Num	48FCDN09R2M5-3W1F0	48FCDN09R2M5-3W1F0
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	36.5"X21"
Num Final Filter 1	-	4
Final Filter Size 1	-	20"X20"X2"

Motor Data		
	Design	Actual
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	6.4

Test Data		
	Design	Actual
SF CFM	3400	3438
RA CFM	3020	3091
OA CFM	380	347
RL Voltage	-	204.8 / 204.9 / 205.7
RL Amperage	-	5.9 / 6.2 / 5.6
SF System SetPt	-	90%
OA Damper Position	-	SET MANUALLY
OA Damper Type	-	ECONOMIZER

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.73"
Fan Suction SP	-	-1.2"
Fan Discharge SP	-	0.64"
Total ESP	1.00"	1.93"
Fan Total SP	-	1.84"

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AHU/RTU



Diffuser Supply (GRD)

RTU2/RETAIL

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	RETAIL	SD-2	12"	275	0.4	364	271	271	98.5
SGRD2	RETAIL	SD-2	12"	275	0.4	338	268	268	97.5
SGRD3	RETAIL	SD-2	12"	300	0.4	124	311	311	103.7
SGRD4	RETAIL	SD-2	12"	275	0.4	283	284	284	103.3
SGRD5	RETAIL	SD-2	12"	275	0.4	311	265	265	96.4
SGRD6	RETAIL	SD-2	12"	275	0.4	345	281	281	102.2
SGRD7	RETAIL	SD-2	12"	275	0.4	382	293	293	106.5
SGRD8	RETAIL	SD-2	12"	275	0.4	153	268	268	97.5
SGRD9	RETAIL	SD-2	12"	275	0.4	182	281	281	102.2
SGRD10	HALLWAY	SD-1	8"	200	1	262	204	204	102.0
SGRD11	WOMENS RR	SD-5	8"	100	1	272	92	92	92.0
SGRD12	REAR VESTIBULE	SD-5	8"	200	1	153	209	209	104.5
SGRD13	MENS RR	SD-5	8"	150	1	191	163	163	108.7
SGRD14	DELIVERY ROOM	SD-1	8"	250	1	261	248	248	99.2
Total				3400		3621	3438	3438	101.12%

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Project: 08-11-25 WAWA #6612 DUMFRIES, VA

System/Unit: AHU/RTU



Asset: RTU3

AREA:FOH

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	3124C09721
Model Num	48FCEN07L2A5-8W1C0	48FCEN07L2A5-8W1C0
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	30"X16"
Num Final Filter 1	-	4
Final Filter Size 1	-	15.5"X16"X2.5"

Motor Data		
	Design	Actual
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	5.5

Test Data		
	Design	Actual
SF CFM	2400	2380
RA CFM	2200	2191
OA CFM	200	189
RL Voltage	-	204.2 / 205.8 / 206.2
RL Amperage	-	4.5 / 4.5 / 4.5
SF System SetPt	-	9.8 VDC
OA Damper Position	-	SET MANUALLY
OA Damper Type	-	ECONOMIZER

Performance Data		
	Design	Actual
MA Plenum SP	-	-1.15"
Fan Suction SP	-	-1.5"
Fan Discharge SP	-	0.6"
Total ESP	0.50"	1.75"
Fan Total SP	-	2.1"

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AHU/RTU



Diffuser Supply (GRD)

RTU3/FOH

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	FOH	SD-2		450	0.4	602	438	438	97.3
SGRD2	FOH	SD-2		450	0.4	483	441	441	98.0
SGRD3	FOH	SD-2		450	0.4	463	432	432	96.0
SGRD4	FOH	SD-2		450	0.4	387	457	457	101.6
SGRD5	VESTIBULE	SD-5	8"	250	1	226	251	251	100.4
SGRD6	OFFICE	SD-1	8"	150	1	218	146	146	97.3
SGRD7	ASOCIATES AREA	SD-1	8"	200	1	185	215	215	107.5
Total				2400		2564	2380	2380	99.17%

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System/Unit: FAN - Exhaust



Asset: EF1

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	GB-098-6	GB-098-6
Serial Num	-	26970389
Type	DOWNBLAST	DOWNBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	GREENHECK
Horsepower	-	0.03
Motor Rpm	-	1000
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	2.7

Drive Data	
	Actual
Motor Sheave Size	VP25
Motor Bore Size	VP25
Motor Sheave SetPt	1.5 TURNS OUT
Fan Sheave Size	AK34X3/4
Fan Sheave Bore	AK34X3/4
Belt CL Distance	5"
Num of Belts	1
Belt Size	3L180

Test Data		
	Design	Actual
CFM	-	393
Fan Rotation	-	CCW
RL Voltage	-	118.3
RL Amperage	-	3.15
Suction ESP	-	-0.18"
Discharge ESP	-	ATM
Total ESP	-	0.18"

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FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF1/

Asset							
Asset Name	Location	Size	DESIGN CFM	CFM(1)	CFM(2)	FINAL CFM	% to design
EGRD1	MENS RR	8X8	225	208	232	232	103.1
EGRD2	WOMENS RR	8X8	150	192	161	161	107.3
Total			375	400	393	393	104.8%

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Project: 08-11-25 WAWA #6612 DUMFRIES, VA

System/Unit: FAN - Exhaust



Asset: EF2

AREA:

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	GB-098-6	GB-098-6
Serial Num	-	26970391
Type	DOWNBLAST	DOWNBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	GREENHECK
Horsepower	-	0.03
Motor Rpm	-	1000
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	2.7

Drive Data	
	Actual
Motor Sheave Size	VP25
Motor Bore Size	VP25
Motor Sheave SetPt	1 TURN OUT
Fan Sheave Size	AK34X3/4
Fan Sheave Bore	AK34X3/4
Belt CL Distance	5"
Num of Belts	1
Belt Size	3L180

Test Data		
	Design	Actual
CFM	-	383
Fan Rotation	-	CCW
RL Voltage	-	118.2
RL Amperage	-	2.98
Suction ESP	-	-0.19"
Discharge ESP	-	ATM
Total ESP	-	0.19"

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FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF2/

Asset							
Asset Name	Location	Size	DESIGN CFM	CFM(1)	CFM(2)	FINAL CFM	% to design
EGRD1	KITCHEN	8X8	200	238	192	192	96.0
EGRD2	KITCHEN	8X8	200	136	186	191	95.5
Total			400	374	378	383	95.75%

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Project: 08-11-25 WAWA #6612 DUMFRIES, VA

System/Unit: FAN - Exhaust



Asset: EF3

AREA:TRASH ROOM

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-B200	SP-B200
Serial Num	-	26969192
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	Actual
CFM	200	182
Fan Rotation	-	CCW
System SetPt	-	HIGH
Fan Discharge SP	-	ATM

Motor Data		
	Design	Actual
Motor MFG	-	GREENHECK
Horsepower	0.167	0.03
Motor Rpm	-	1000
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	2.7

Completed By: Jordan Best on 08/14/2025