

Report By:

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



Report: TAB Report
Function: Test, Adjust, & Balance
Date: 09/05/2025
Completed By: National TAB

PROJECT
08-25-25 WAWA #6613 CHANTILLY, VA

44104 POINTE PLAZA

CHANTILLY, VA 20152

Client

Wawa
260 West Baltimore Pike

Wawa, PA 19063

National TAB

Project: 08-25-25 WAWA #6613 CHANTILLY, 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.

Issue List

- ALL RTU's MIXED AIR COMPARTMENT PLENUM PANEL INSULATION
- EF1-2 DIFFUSER
- EF2 AIRFLOW LOW
- RTU 1 & 3 RETURN DAMPERS
- RTU2 SENSOR



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Project Issue Information

Issue Name : ALL RTU's MIXED AIR COMPARTMENT PLENUM PANEL INSULATION
Description : Insulation is coming loose from inside the mixed air compartment.
Recommend re-securing.
Created By : National TAB **Assigned To :** National TAB - Cody Mauro
Status : Open
Priority : High **Asset Tag :**
Originated Date : 08/27/2025 - Cody Mauro - National TAB

Project Issue File Details



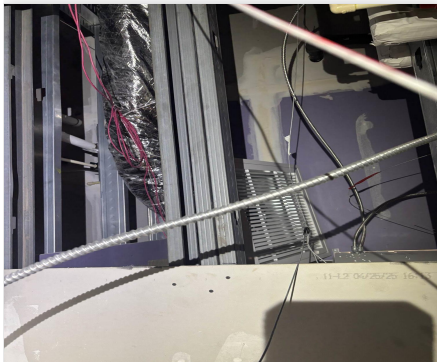


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Project Issue Information

Issue Name : EF1-2 DIFFUSER
Description : Ef1-2 diffuser is sitting above the ceiling, not installed. Unable to measure airflow
Created By : National TAB **Assigned To :** National TAB - Cody Mauro
Status : Open
Priority : High **Asset Tag :**
Originated Date : 08/28/2025 - Cody Mauro - National TAB

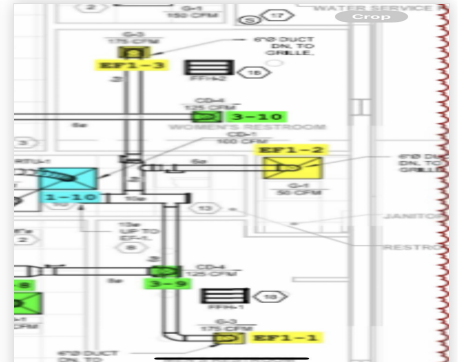
Project Issue File Details



08/28/2025



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08/28/2025



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Project Issue Information

Issue Name : EF2 AIRFLOW LOW
Description : Airflow measured as 869 CFM out of design of 1400 CFM. Design static pressure is 0.25" but the actual static pressure is 0.56" which indicates restriction. Need the mechanical contractor to verify that the balancing dampers are fully open and not closed.
Created By : National TAB **Assigned To :** National TAB - Cody Mauro
Status : Open
Priority : High **Asset Tag :** EF2
Originated Date : 08/28/2025 - Cody Mauro - National TAB

Project Issue File Details



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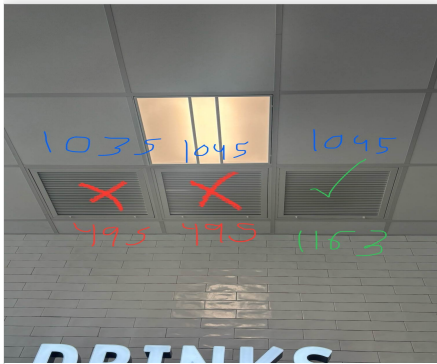


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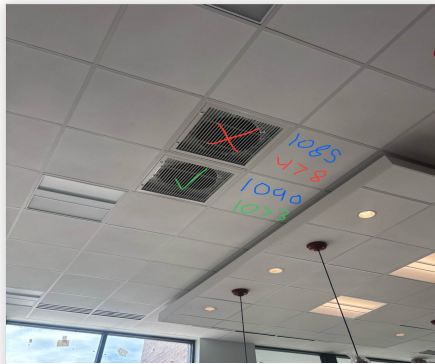
Project Issue Information

Issue Name : RTU 1 & 3 RETURN DAMPERS
Description : RTU 1 & 3 appear to have closed return dampers. There is elevated static pressure at the units as a result. Need assistance from the mechanical contractor to open the dampers due to the height of the ceiling.
Created By : National TAB **Assigned To :** National TAB - Cody Mauro
Status : Open
Priority : High **Asset Tag :**
Originated Date : 08/28/2025 - Cody Mauro - National TAB

Project Issue File Details



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08/28/2025

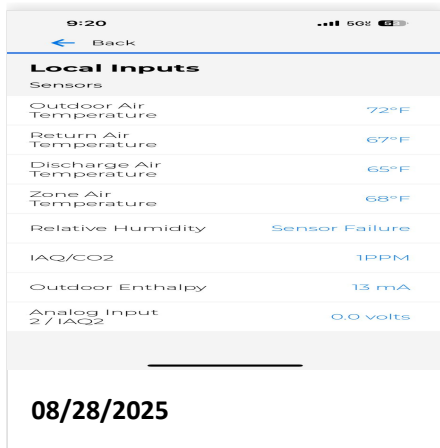


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Project Issue Information

Issue Name : RTU2 SENSOR
Description : There is no heating testing mode on the unit. Unable to test heating. The humidity sensor is also failing to display. Startup needs to be completed on the unit and ensure that the humidity sensor is reading accurately.
Created By : National TAB **Assigned To :** National TAB - Cody Mauro
Status : Open
Priority : High **Asset Tag :**
Originated Date : 08/28/2025 - Cody Mauro - National TAB

Project Issue File Details



CheckList List

- 01: RTU's/AHU's
- 02: LENNOX SETUP PARAMETERS
- 03: SENSOR WIRING (LENNOX)
- 04: EF'S
- 05: CLOSEOUT CHECKS



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CheckList Information

Name : 01: RTU's/AHU's **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 08/13/2025 - Natasha Louw - National TAB

Completed Date : 08/28/2025 - Cody Mauro - National TAB

CheckList Item Details

RTU's/AHU's

All diffusers and grilles are installed and match design?	Fail
--	------

Comment:

RTU1, RTU3 return diffusers majorly closed. Causing high static pressure in unit

Clean filters installed?	Pass
---------------------------------	------

Comment:

Economizers are assembled and functional?	Pass
--	------

Comment:

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?

Pass

Comment:

Unit free of noticeable noise and vibration

Pass

Comment:

Final outside air damper position is marked with permanent marker?

N/A

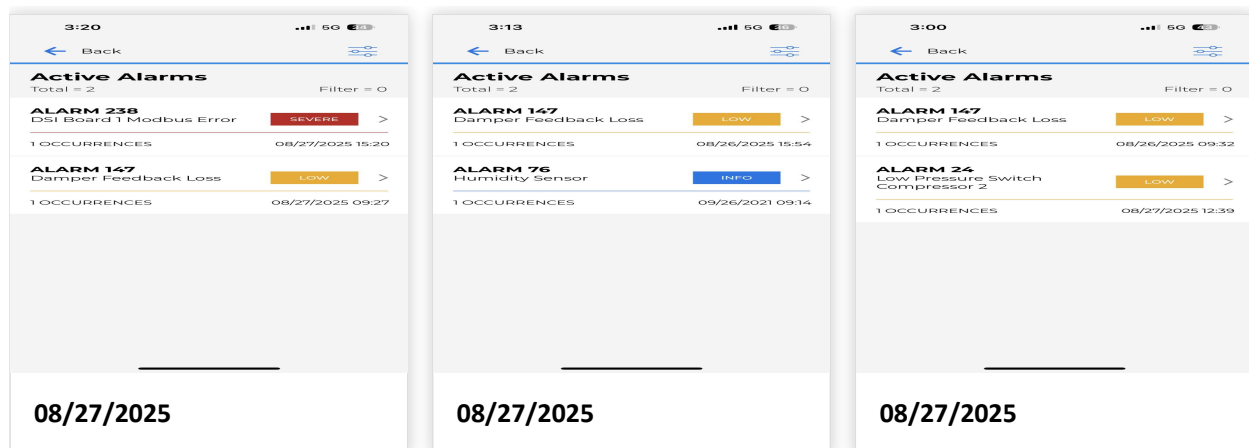
Comment:

Cannot open panel without insulation getting sucked off. Needs to be resealed

No alarms present?

Fail

Comment:



Any noticeable duct leakage?

N/A

Comment:

Had to crank the speed up a lot to get required CFM, could possibly be minor leakage or improper seal somewhere along ductwork

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

Fail

Comment:

Supply & OA balanced within +/-5%, diffusers are unable to be tampered due to high ceilings. Cannot reach.

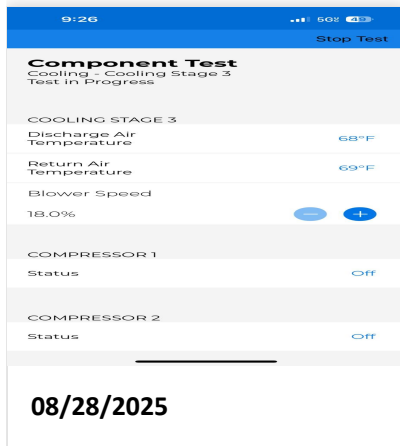
IN TEST MODE, TEST THE FOLLOWING:

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

Pass

Comment:

RTU1: EAT - 57F, LAT - 67F RTU2: EAT - 55F, LAT - 67F RTU3: EAT - 55F, LAT - 72F



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

Pass

Comment:

RTU1: EAT - 73F, LAT - 73F RTU2: N/A (Kitchen Unit) RTU3: EAT - 73F, LAT - 72F

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

Pass

Comment:

RTU1: EAT - 60F, LAT - 68F RTU2: EAT - 65F, LAT - 67F RTU3: EAT - 63F, LAT - 69F



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CheckList Information

Name : 02: LENNOX SETUP PARAMETERS **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 08/13/2025 - Natasha Louw - National TAB

Completed Date : 08/27/2025 - Cody Mauro - National TAB

CheckList Item Details

UNIT ID CONFIGURATIONS

BACNET CONFIGURATION: GO TO SETTINGS>GENERAL>CONFIGURATION ID1 POSITION 5 SET TO "N". N/A

Comment:

NETWORK CONFIGURATION: GO TO SETUP>NETWORK INTEGRATION, SET TO BACNET IP Pass

Comment:

CONTROL MODE: SET CONTROL MODE TO ROOM SENSOR: CO2, TEMP & HUMIDITY (PER UNIT, AS NEEDED). Pass

Comment:

INDIVIDUAL PARAMETER CONFIGURATIONS (MECHANICAL CONTRACTOR TO DEFINE / AS APPLICABLE):

PARAMETER 105 DEHUMID MODE: 7 NO CONDITIONS Pass

Comment:

PARAMETER 106 DEHUMID SETPOINT: 50, THIS IS A CENTERED SET POINT (+/-) Yes

Comment:

PARAMETER 107 DEHUMID DEADBAND: 3 (DEFAULT) THIS IS THE ACTUAL +/- VALUE Pass

Comment:

PARAMETER 117 CO2 DAMPER MAX OPEN: 50%

Pass

Comment:

PARAMETER 118 CO2 START OPEN PPM: 1500

Pass

Comment:

PARAMETER 119 CO2 MAX OPEN PPM: 1500

Pass

Comment:

PARAMETER 137 OCCHET SET POINT: 68 (BACK UP)

Pass

Comment:

PARAMETER 131 SET TO THE SAME % AS THE MINMIUM OA DAMPER SETPOINT

Pass

Comment:

PARAMETER 139 OCC COOLING SET POINT: 72 (BACK UP)

Pass

Comment:

PARAMETER 154 OCC BLOWER MODE: ON-CONTINUOUS 1

Pass

Comment:

CFM VALUES / MSAV FAN SPEEDS (AIR BALANCER TO DEFINE / IF APPLICABLE):

OA DAMPER SET TO SAME POSITION IN ALL FAN SPEEDS?

Fail

Comment:

RTU1: 17% RTU2: 11% RTU3: 13%

ALL FAN SPEEDS SET TO THE SAME CFM VALUE (ENTER SETPOINTS BELOW)

Pass

Comment:

RTU1: 96% blower speed RTU2: 97% blower speed RTU3: 79% blower speed

HEAT CFM VALUE: PER THE HVAC SCHEDULE

Pass

Comment:

HIGH COOL CFM VALUE: THE HIGH COOL CFM VALUE

Pass

Comment:

LOW COOL CFM VALUE: MATCH THE HIGH COOL CFM VALUE

Pass

Comment:

VENTILATION CFM VALUE: MATCH THE HIGH COOL CFM VALUE

Pass

Comment:



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CheckList Information

Name : 03: SENSOR WIRING (LENNOX) **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 08/13/2025 - Natasha Louw - National TAB

Completed Date : 08/28/2025 - Cody Mauro - National TAB

CheckList Item Details

COMBINATION TEMPERATURE/HUMIDITY SENSOR

Sensors are installed where shown on the drawing? Pass

Comment:

2 conductor shielded cable has one wire landed to Vin, one to GND, and the shield wire is not connected. Pass

Comment:

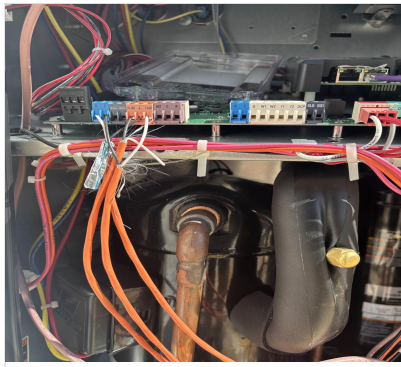
For second shielded cable, one wire is landed to Vout and the shield wire is not connected. Pass

Comment:

Verify that the CORE or Prodigy controller is sensing a relative humidity (record the reading) Fail

Comment:

RTU1: 62% RTU2: Sensor Failure RTU3: 55%



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9:20 50%

← Back

Local Inputs

Sensors

Outdoor Air Temperature	72°F
Return Air Temperature	67°F
Discharge Air Temperature	65°F
Zone Air Temperature	68°F
Relative Humidity	Sensor Failure
IAQ/CO2	1PPM
Outdoor Enthalpy	13 mA
Analog Input 2 / IAQ2	0.0 volts

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CheckList Information

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

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 08/13/2025 - Natasha Louw - National TAB

Completed Date : 08/28/2025 - Cody Mauro - National TAB

CheckList Item Details

EF's

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

Comment:

Belts are tight (if applicable)?	N/A
---	-----

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?	Fail
---	------

Comment:

No backdraft damper installed for EF2



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Unit free of noticeable noise and vibration?

Pass

Comment:

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

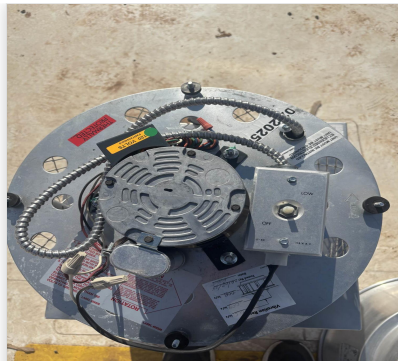
Fail

Comment:

Speed controllers for both EF's are maxed, total not within +/-5%. Grilles unable to be balanced due to lack of air.



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CheckList Information

Name : 05: CLOSEOUT CHECKS **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 08/13/2025 - Natasha Louw - National TAB

Completed Date : 08/28/2025 - Cody Mauro - 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) Pass

Comment:

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Project: 08-25-25 WAWA #6613 CHANTILLY, VA

System/Unit: AHU/RTU



Asset: RTU1

AREA:RETAIL

Unit Data		
	Design	Actual
MFG	LENNOX	LENNOX
Serial Num	-	5624G03839
Model Num	LGT120H4E	LGT120H4E
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	4
OA Filter Size 1	-	20x25x2
Num Final Filter 1	-	2
Final Filter Size 1	-	16x24

Motor Data		
	Design	Actual
Motor MFG	-	Ebmpapst
Motor Rpm	-	2200
Phase	3	3
Rated Voltage	208	200-240
Rated Amperage	-	8.7

Test Data		
	Design	Actual
SF CFM	3925	3942
RA CFM	3125	3067
OA CFM	800	875
RL Voltage	-	210/209/209
RL Amperage	-	8.6/8.5/8.5
SF System SetPt	-	96%
RA Damper Position	-	83%
RA Damper Type	-	ECON
OA Damper Position	-	17%
OA Damper Type	-	ECON

Performance Data		
	Design	Actual
MA Plenum SP	-	1.33
Fan Suction SP	-	1.70
Fan Discharge SP	-	0.62
Total ESP	1.00"	1.98"
Fan Total SP	-	2.32"

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Project: 08-25-25 WAWA #6613 CHANTILLY, VA

System/Unit: AHU/RTU



Asset: RTU2

AREA:FOOD SERVICE

Unit Data		
	Design	Actual
MFG	LENNOX	LENNOX
Serial Num	-	5624H03624
Model Num	LCT150H4E	LCT150H4E
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	4
OA Filter Size 1	-	20x25x2
Num Final Filter 1	-	2
Final Filter Size 1	-	16x24

Motor Data		
	Design	Actual
Motor MFG	-	Ebmpapst
Motor Rpm	-	2200
Phase	3	3
Rated Voltage	208	200-240
Rated Amperage	-	8.7

Test Data		
	Design	Actual
SF CFM	4850	4804
RA CFM	3900	3849
OA CFM	950	955
RL Voltage	-	210/210/209
RL Amperage	-	8.2/8.2/8.1
SF System SetPt	-	97%
RA Damper Position	-	89%
RA Damper Type	-	ECON
OA Damper Position	-	11%
OA Damper Type	-	ECON

Performance Data		
	Design	Actual
MA Plenum SP	-	0.55
Fan Suction SP	-	1.10
Fan Discharge SP	-	0.60
Total ESP	1.00"	1.15"
Fan Total SP	-	1.70"

Completed By: Cody Mauro on 08/27/2025

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Project: 08-25-25 WAWA #6613 CHANTILLY, VA

System/Unit: AHU/RTU



Asset: RTU3

AREA:FOH

Unit Data		
	Design	Actual
MFG	LENNOX	LENNOX
Serial Num	-	5624G03635
Model Num	LGT092H4E	LGT092H4E
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	4
OA Filter Size 1	-	20x25x2
Num Final Filter 1	-	2
Final Filter Size 1	-	16x24

Motor Data		
	Design	Actual
Motor MFG	-	Ebmpapst
Motor Rpm	-	2200
Phase	3	3
Rated Voltage	208	200-240
Rated Amperage	-	8.7

Test Data		
	Design	Actual
SF CFM	2775	2823
RA CFM	2175	2156
OA CFM	600	667
RL Voltage	-	209/209/209
RL Amperage	-	5.1/5.0/5.0
SF System SetPt	-	79%
RA Damper Position	-	83%
RA Damper Type	-	ECON
OA Damper Position	-	13%
OA Damper Type	-	ECON

Performance Data		
	Design	Actual
MA Plenum SP	-	1.44
Fan Suction SP	-	1.64
Fan Discharge SP	-	0.43
Total ESP	1.00"	1.87"
Fan Total SP	-	2.07"

Completed By: Cody Mauro on 08/27/2025

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Project: 08-25-25 WAWA #6613 CHANTILLY, VA

System/Unit: FAN - Exhaust



Asset: EF1

AREA:RESTROOM

Unit Data		
	Design	Actual
MFG	PENNBARRY	PENNBARRY
Model Num	DX10R	DX10R
Serial Num	-	B25AJ42860
Type	DOWNBLAST	DOWN
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	Actual
CFM	400	161
Fan Rotation	-	CORRECT
Total ESP	0.250"	0.16'
Fan Inlet SP	-	0.16
Fan Discharge SP	-	ATM

Motor Data		
	Design	Actual
Motor MFG	-	Fasco
Horsepower	0.083	0.16
Motor Rpm	-	1550
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	1.8/.90

Notes:
EF1 speed controller max speed.

Written By: Will Turnbough on 09/05/2025

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Project: 08-25-25 WAWA #6613 CHANTILLY, VA

System/Unit: FAN - Exhaust



Asset: EF2

AREA:BOH

Unit Data		
	Design	Actual
MFG	PENNBARRY	PENNBARRY
Model Num	DX16S	DX16S
Serial Num	-	B25AJ78024
Type	DOWNBLAST	DOWNBLAST
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	Actual
CFM	1400	869
Fan Rotation	-	CORRECT
Total ESP	0.250"	0.56'
Fan Inlet SP	-	0.56
Fan Discharge SP	-	ATM

Motor Data		
	Design	Actual
Motor MFG	-	Genteq
Horsepower	0.33	0.33
Motor Rpm	-	1550
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	4.5

Notes:

Speed controller max speed
 No backdraft damper installed

Written By: Will Turnbough on 09/05/2025

