Report By:

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

Report: TAB Report

Function: Test, Adjust, & Balance

Date: 08/01/2024

PROJECT

06-24-24 WAWA #5413 SARASOTA, FL

7707 24TH COURT E

SARASOTA, FL 34243

Client

Wawa

260 West Baltimore Pike

Wawa, PA 19063

National TAB

Project: 06-24-24 WAWA #5413 SARASOTA, FL

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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	RETAIL	3400	3393	2790	2785	610	608	17.9%	17.9%						
RTU-2	FOOD SERVICI	5000	4932	4100	4028	900	904	18.0%	18.3%						
RTU-3	RETAIL	3000	3088	2460	2567	540	521	18.0%	16.9%						
EF-1														1550	1519
EF-2														60	61
TOTALS		11400	11413	9350	9380	2050	2033			0	0	0	0	1610	1580

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2050	2033
TOTAL EXHAUST	1610	1580
NET AIRFLOW	440	453

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H20)
FRONT	0.004
SIDE	0.005
REAR	0.002
AVERAGE	**0.0037**

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:

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.

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.

MUA (Make Up Air Unit) w/ PSP
Total flow for the MAU (Make-up Air Unit) unit was measured by readings taken at the discharge of the hood's perforated supply plenum. Readings taken with a velocity matrix were averaged and multiplied by a manufacturer's corrected area. Adjustments to the fan speed were made in order to bring the unit to within design tolerance. Any MUA's that fell outside of this 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.

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.

Issue List

- RTU 1 - compressor 1 fault
- RTU turning vane installation

Project Issue Information

Issue Name : RTU 1 - compressor 1 fault

Description : RTU 1 has a persistent error on the CORE interface, stating that compressor 1 is not running as intended. Recommend inspecting compressor for possible damage.

Created By : National TAB

Assigned To : National TAB - Mark Johnson

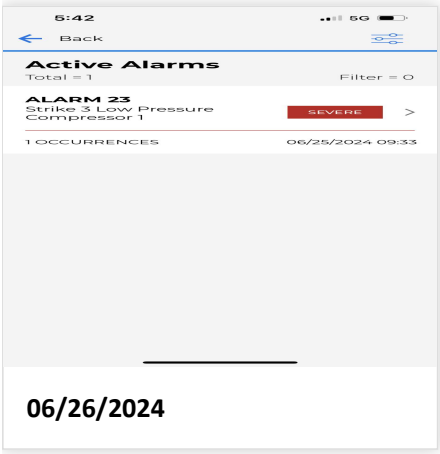
Status : Open

Priority : High

Asset Tag :

Originated Date : 06/26/2024 - Mark Johnson - National TAB

Project Issue File Details



06/26/2024

Project Issue Response Details

- **08/05/2024 National TAB - Stephen Tassinaro**
  - MC was working on resolving compressor issues when NTi was on site 8/1.

Project Issue Information

Issue Name : RTU turning vane installation

Description : The turning vanes located in the supply drops of the RTUs are not fully installed, sitting loose inside the duct. Recommend installing.

Created By : National TAB

Assigned To : National TAB - Mark Johnson

Status : Open

Priority : Low

Asset Tag :

Originated Date : 06/30/2024 - Mark Johnson - National TAB

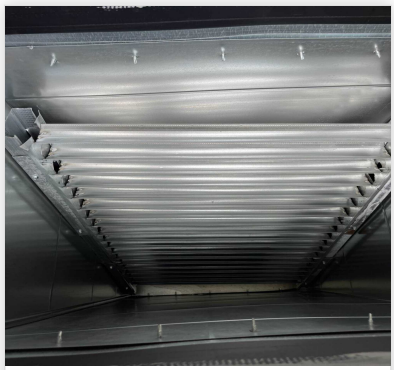
Project Issue File Details

06/30/2024

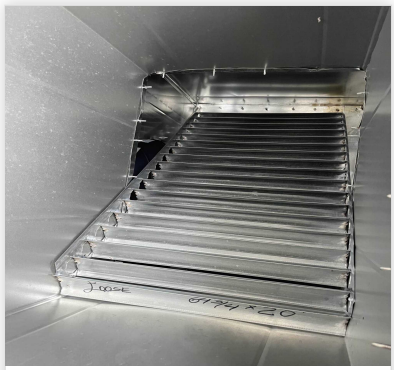
Project Issue Response Details

- **08/05/2024 National TAB - Stephen Tassinaro**
  - Turning vanes are confirmed to be screwed into the ducts. However, they do not appear to smoothly transition the air around the 90 degree turns. Recommend EOR review.

08/05/2024



08/05/2024



08/05/2024

CheckList List

- TECH - SITE PICTURES
- TECH - STEP 1: RTU's/AHU's
- TECH - STEP 2: LENNOX SETUP PARAMETERS
- TECH - STEP 3: SENSOR WIRING (LENNOX)
- TECH - STEP 4: EF'S
- TECH - STEP 5: CLOSEOUT CHECKS

06-24-24 WAWA #5413 SARASOTA, FL

CheckList Information

Name :	TECH - SITE PICTURES	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	06/24/2024 - Brianna Biggs - National TAB		
Completed Date :	06/24/2024 - Mark Johnson - National TAB		

CheckList Item Details

STORE FRONT

Comment:

06/24/2024

RTU-1

Comment:

06/24/2024

RTU-2

Comment:

06/24/2024

RTU-3

Comment:

06/24/2024

EF-1

Comment:

06/24/2024

EF-2

Comment:

06/24/2024

06-24-24 WAWA #5413 SARASOTA, FL

CheckList Information

Name :	TECH - STEP 1: RTU's/AHU's	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	06/24/2024 - Brianna Biggs - National TAB		
Completed Date :	08/05/2024 - Stephen Tassinaro - 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?	Pass
Comment:	
Motors are all operating below the FLA rating?	Pass
Comment:	
Are belts tight?	N/A
Comment: DD	
If direct drive unit is the speed controller working?	Pass
Comment:	

Is gas piping installed and valves turned on?	N/A
Comment: Electric heating	
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?	Pass
Comment:	
No alarms present?	Fail
Comment: RTU 1 has “Alarm 23 - Strike 3 Low Pressure Compressor 1” occurring intermittently.	
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:	Pass
Comment: RTU 1: DAT=67 deg, RAT=71 deg - Fail / Compressor Issue - RTU 2: DAT=57 deg, RAT=67 deg RTU 3: DAT=52 deg, RAT=73 deg	
Heating mode is operational? Record EAT/LAT for each unit:	Pass
Comment: RTU 1: DAT=80 deg, RAT=71 deg RTU 2: N/A RTU 3: DAT=75 deg, RAT=74 deg	
Dehumidification mode is operational? (Feel dehumidification coil with your hand. Is it hot?) Record EAT/LAT for each unit:	Pass

Comment:

RTU 1: DAT=71 deg, RAT=72 deg RTU 2: DAT=73 deg, RAT=70 deg RTU 3: DAT=70 deg, RAT=73 deg

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CheckList Information

Name :	TECH - STEP 2: LENNOX SETUP PARAMETERS	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	06/24/2024 - Brianna Biggs - National TAB		
Completed Date :	06/27/2024 - Mark Johnson - National TAB		

CheckList Item Details

UNIT ID CONFIGURATIONS

BACNET CONFIGURATION: GO TO SETTINGS>GENERAL>CONFIGURATION ID1 POSITION 5 SET TO "N".	Pass
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?	Pass

Comment:

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

Comment:

RTU 1: 67% RTU 2: 87% RTU 3: 68%

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:	

06-24-24 WAWA #5413 SARASOTA, FL

CheckList Information

Name :	TECH - STEP 3: SENSOR WIRING (LENNOX)	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	06/24/2024 - Brianna Biggs - National TAB		
Completed Date :	06/27/2024 - Mark Johnson - 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)	Pass
Comment:	

RTU 1: 56% RTU 2: 53% RTU 3: 58%

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CheckList Information

Name :	TECH - STEP 4: EF'S	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	06/24/2024 - Brianna Biggs - National TAB		
Completed Date :	08/05/2024 - Stephen Tassinaro - 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?	Pass
Comment:	

Unit free of noticeable noise and vibration?	Pass
Comment:	
Total exhaust flow balanced within +/-5% and grilles are within +/-10%?	Pass
Comment:	
.	

06-24-24 WAWA #5413 SARASOTA, FL

CheckList Information

Name :	TECH - STEP 5: CLOSEOUT CHECKS	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	06/24/2024 - Brianna Biggs - National TAB		
Completed Date :	06/27/2024 - Mark Johnson - 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:	

National TAB

Project: 06-24-24 WAWA #5413 SARASOTA, FL

System/Unit: AHU/RTU

Asset: RTU1 AREA:RETAIL

Unit Data		
	Design	**Actual**
MFG	LENNOX ENLIGHT	LENNOX
Serial Num	-	5623M03511
Model Num	LCT102H4E	LCT102H4EG1Y
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	23x14
Num Final Filter 1	-	4
Final Filter Size 1	-	20x25x2

Motor Data		
	Design	**Actual**
Motor MFG	-	EBMPAPST
Frame	-	N/A
Horsepower	3.75	3.80
Motor Rpm	-	2200
Phase	3	3
Rated Voltage	208	200-240
Rated Amperage	-	8.7
Service Factor	-	N/A

Drive Data	
	Actual
Motor Sheave Size	DD
Motor Bore Size	DD
Motor Sheave SetPt	DD
Fan Sheave Size	DD
Fan Sheave Bore	DD
Belt CL Distance	DD
Num of Belts	DD
Belt Size	DD

Test Data		
	Design	**Actual**
SF CFM	3400	3393
RA CFM	2730	2785
OA CFM	610	608
RL Voltage	-	205/204/206
RL Amperage	-	3.2/3.2/3.1
SF System SetPt	-	67%
OA Damper Position	-	52%
OA Damper Type	-	SINGLE BLADE

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.43”
Fan Suction SP	-	-0.81”
Fan Discharge SP	-	0.49”
Total ESP	0.5"	0.92”
Fan Total SP	-	1.30”

Completed By: Mark Johnson on 06/27/2024

National TAB

Project:06-24-24 WAWA #5413 SARASOTA, FL

AHU/RTU

Diffuser Supply (GRD)

RTU1/RETAIL

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	RETAIL	LD1	10"	300	1	451	351	278	92.7
SGRD2	RETAIL	LD1	10"	300	1	400	388	293	97.7
SGRD3	RETAIL	LD1	10"	300	1	400	350	287	95.7
SGRD4	RETAIL	LD1	10"	300	1	243	233	299	99.7
SGRD5	OFFICE	CD1	8"	150	1	190	193	149	99.3
SGRD6	ASSOCIATES	CD1	8"	150	1	229	213	153	102.0
SGRD7	RETAIL	LD1	10"	310	1	307	297	319	102.9
SGRD8	RETAIL	LD1	10"	310	1	390	355	332	107.1
SGRD9	RETAIL	LD1	10"	285	1	309	318	289	101.4
SGRD10	DELIVERY VESTIBULE	CD1	8"	200	1	186	160	192	96.0
SGRD11	RETAIL	LD1	10"	285	1	287	277	289	101.4
SGRD12	RETAIL	LD1	10"	285	1	308	278	293	102.8
SGRD13	REAT VESTIBULE	CD3	6"	100	1	116	91	91	91.0
SGRD14	MENS RR	CD3	6"	75	1	93	86	77	102.7
SGRD15	WOMENS RR	CD3	6"	50	1	83	82	52	104.0
Total				3400		3992	3672	3393	99.79%

National TAB

Project: 06-24-24 WAWA #5413 SARASOTA, FL

System/Unit: AHU/RTU

Asset: RTU2 AREA:FOOD SERVICE

Unit Data		
	Design	**Actual**
MFG	LENNOX ENLIGHT	LENNOX
Serial Num	-	5624C06207
Model Num	LCT150H4E	LCT150H4EN1Y
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	23x14
Num Final Filter 1	-	4
Final Filter Size 1	-	20x25x2

Motor Data		
	Design	**Actual**
Motor MFG	-	EBMPAPST
Frame	-	N/A
Horsepower	3.75	3.8
Motor Rpm	-	2200
Phase	3	3
Rated Voltage	208	200-240
Rated Amperage	-	8.7
Service Factor	-	N/A

Drive Data	
	Actual
Motor Sheave Size	DD
Motor Bore Size	DD
Motor Sheave SetPt	DD
Fan Sheave Size	DD
Fan Sheave Bore	DD
Belt CL Distance	DD
Num of Belts	DD
Belt Size	DD

Test Data		
	Design	**Actual**
SF CFM	5000	4932
RA CFM	4100	4028
OA CFM	900	904
RL Voltage	-	207/207/208
RL Amperage	-	6.8/6.7/6.6
SF System SetPt	-	87%
OA Damper Position	-	52%
OA Damper Type	-	SINGLE BLADE

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.56”
Fan Suction SP	-	-1.23”
Fan Discharge SP	-	0.40”
Total ESP	0.5"	0.96”
Fan Total SP	-	1.63”

Completed By: Stephen Tassinaro on 08/01/2024

National TAB

Project:06-24-24 WAWA #5413 SARASOTA, FL

AHU/RTU

Diffuser Supply (GRD)

RTU2/FOOD SERVICE

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	FOOD SERVICE	LD1	12"	500	1	705	669	499	99.8
SGRD2	FOOD SERVICE	LD1	12"	500	1	581	509	462	92.4
SGRD3	FOOD SERVICE	LD1	12"	500	1	763	664	471	94.2
SGRD4	FOOD SERVICE	LD1	12"	500	1	809	739	522	104.4
SGRD5	FOOD SERVICE	LD1	12"	500	1	444	406	536	107.2
SGRD6	FOOD SERVICE	LD1	12"	500	1	807	703	527	105.4
SGRD7	FOOD SERVICE	CD1	12"	500	1	540	489	488	97.6
SGRD8	WASH ROOM	CD1	10"	375	1	317	275	398	106.1
SGRD9	WASH ROOM	CD1	12"	500	1	527	492	452	90.4
SGRD10	ELECTRICAL ROOM	CD1	12"	550	1	271	244	501	91.1
SGRD11	STAGING	CD1	6"	75	1	106	96	76	101.3
Total				5000		5870	5286	4932	98.64%

Completed By: Stephen Tassinaro on 08/01/2024

Asset	Notes	Date	Written By
SGRD1	DAMPER NOT HOLDING POSITION	07/03/2024	Stephen Tassinaro
SGRD10	DAMPER FULL OPEN	07/03/2024	Stephen Tassinaro

National TAB

Project: 06-24-24 WAWA #5413 SARASOTA, FL

System/Unit: AHU/RTU

Asset: RTU3 AREA:RETAIL

Unit Data		
	Design	**Actual**
MFG	LENNOX ENLIGHT	LENNOX
Serial Num	-	5624B04846
Model Num	LCT092H4E	LCT092H4EG1Y
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	23x14
Num Final Filter 1	-	4
Final Filter Size 1	-	20x25x2

Motor Data		
	Design	**Actual**
Motor MFG	-	EBMPAPST
Frame	-	N/A
Horsepower	3.75	3.8
Motor Rpm	-	2200
Phase	3	3
Rated Voltage	208	200-240
Rated Amperage	-	8.7
Service Factor	-	N/A

Drive Data	
	Actual
Motor Sheave Size	DD
Motor Bore Size	DD
Motor Sheave SetPt	DD
Fan Sheave Size	DD
Fan Sheave Bore	DD
Belt CL Distance	DD
Num of Belts	DD
Belt Size	DD

Test Data		
	Design	**Actual**
SF CFM	3000	3088
RA CFM	2460	2567
OA CFM	540	521
RL Voltage	-	207/206/207
RL Amperage	-	3.4/3.4/3.4
SF System SetPt	-	66%
OA Damper Position	-	41%
OA Damper Type	-	SINGLE BLADE

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.34”
Fan Suction SP	-	-0.70”
Fan Discharge SP	-	0.79”
Total ESP	0.5"	1.13”
Fan Total SP	-	1.49”

Completed By: Stephen Tassinaro on 08/05/2024

National TAB

Project:06-24-24 WAWA #5413 SARASOTA, FL

AHU/RTU

Diffuser Supply (GRD)

RTU3/RETAIL

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	FRONT VESTIBULE	CD2	12"	500	1	601	549	530	106.0
SGRD2	RETAIL	LD1	10"	350	1	401	362	356	101.7
SGRD3	RETAIL	LD1	10"	300	1	333	285	318	106.0
SGRD4	COFFEE/SPECIALTY	LD1	10"	300	1	296	380	317	105.7
SGRD5	COFFEE/SPECIALTY	LD1	10"	300	1	305	281	279	93.0
SGRD6	COFFEE/SPECIALTY	LD1	10"	300	1	374	329	315	105.0
SGRD7	RETAIL	LD1	10"	300	1	319	313	304	101.3
SGRD8	RETAIL	LD1	10"	300	1	252	336	307	102.3
SGRD9	RETAIL	LD1	10"	350	1	360	368	362	103.4
Total				3000		3241	3203	3088	102.93%

Completed By: Stephen Tassinaro on 08/05/2024

National TAB

Project: 06-24-24 WAWA #5413 SARASOTA, FL

System/Unit: FAN - Exhaust

Asset: EF1 AREA:

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	G-160	G-140-B-4-1-22-X
Serial Num	-	24866065
Type	DOWNBLAST	DOWNBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	N/A
Frame	-	48Y
Horsepower	3/4	1/4
Motor Rpm	-	1140
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	3.2
Service Factor	-	1.00

Test Data		
	Design	**Actual**
CFM	1550	1519
Fan RPM	700	N/A
Fan Rotation	-	CW
Motor RPM	-	N/A
System SetPt	-	HIGH
RL Voltage	-	121
RL Amperage	-	3.1
Total ESP	0.250"	0.19”
Fan Inlet SP	-	0.19”
Fan Discharge SP	-	ATM

Completed By: Mark Johnson on 06/26/2024

National TAB

Project:06-24-24 WAWA #5413 SARASOTA, FL

FAN - Exhaust

Diffuser Ret/Exh (GRD)

EF1/

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
EGRD1	FOOD SERVICE	G1	10"	400	1	329	421	415	103.8
EGRD2	FOOD SERVICE	G1	12"	500	1	339	465	463	92.6
EGRD3	FOOD SERVICE	G1	12"	300	1	386	295	296	98.7
EGRD4	STAGING	G1	8"	100	1	323	114	98	98.0
EGRD5	MENS RR	G3	6"	100	1	83	101	103	103.0
EGRD6	MENS RR	G3	6"	50	1	0	43	52	104.0
EGRD7	WOMENS RR	G3	6"	100	1	86	93	92	92.0
Total				1550		1546	1532	1519	98%

National TAB

Project: 06-24-24 WAWA #5413 SARASOTA, FL

System/Unit: FAN - Exhaust

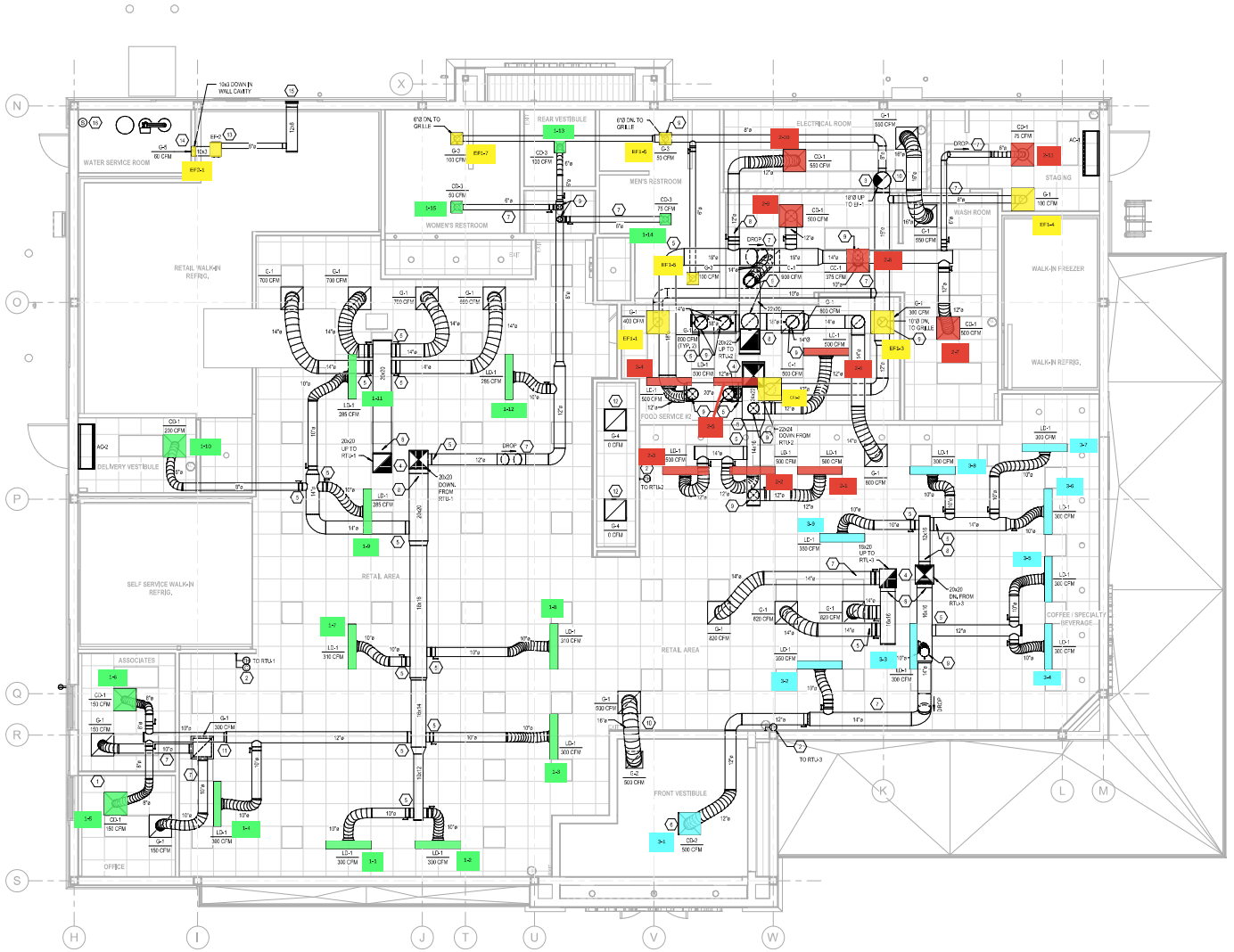
Asset: EF2 AREA:

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	CSP-B110	CSP-A110
Serial Num	-	24865003
Type	INLINE	INLINE
Configuration	HORIZONTAL	HORIZONTAL

Motor Data		
	Design	**Actual**
Motor MFG	-	GREENHECK
Frame	-	N/A
Horsepower	21W	N/A
Motor Rpm	-	950
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	0.19
Service Factor	-	N/A

Test Data		
	Design	**Actual**
CFM	60	61
Fan RPM	584	DD
Fan Rotation	-	CORRECT
Motor RPM	-	DD
System SetPt	-	HIGH
RL Voltage	-	119.6
RL Amperage	-	0.1

Completed By: Stephen Tassinaro on 08/01/2024



1 HVAC FLOOR PLAN
1/4" = 1'-0"

KEY NOTES:

1. REMOTE SMOKE DETECTOR TEST STATIONS FOR RTU-1, 2, & 3. TEST STATIONS TO BE MOUNTED ON THE MANAGERS OFFICE WALL. SECURITY CONTRACTOR SHALL WIRE RTU FACTORY MOUNTED SMOKE DETECTORS TO SECURITY/FIRE ALARM PANEL. MECHANICAL CONTRACTOR SHALL PROVIDE TEST STATION AND WIRING BETWEEN COMPONENTS AS WELL AS WIRING TO SHUT DOWN THE A/C FAN UPON ACTIVATION OF THE SMOKE DETECTOR. G.C. TO TEST THE SMOKE DETECTOR FUNCTIONS WITH THE WAWA PROJECT MANAGER.
2. WALL MOUNTED SENSOR(S) FOR EACH MECHANICAL UNIT PER ROOFTOP UNIT SCHEDULE ON SHEET M3.0. G.C. SHALL INSTALL AND WIRE TO UNIT. BAS CONTRACTOR SHALL CONNECT TO MECHANICAL UNIT ONLY.
3. COORDINATE EXACT LOCATION OF EXHAUST FAN PENETRATION WITH ARCHITECTURAL ROOF PLAN. INSTALL GALVANIZED DUCT WORK DOWN FROM FAN, INTO CEILING/JOIST SPACE, AND CONNECT TO CEILING GRILLES.
4. REFER TO TYPICAL DUCT PLENUM DETAIL ON SHEET M3.0.
5. COORDINATE DUCT WITH STRUCTURE IN THIS LOCATION. COORDINATE TAKEOFF LOCATIONS WITH ANGLED WEB MEMBERS.
6. PROVIDE SURFACE MOUNT ADAPTER FRAME TO ALLOW ACCESS TO CEILING ABOVE THROUGH DIFFUSER OPENING. SEE AIR DEVICE SCHEDULE.
7. ROUTE DUCT UNDER STRUCTURAL MEMBERS AT THIS LOCATION.
8. DUCTWORK TO RUN WITHIN JOIST SPACING. MECHANICAL CONTRACTOR TO COORDINATE MECHANICAL WORK WITH ALL TRADES PRIOR TO INSTALLATION.
9. DUCT TAKEOFF WITH DAMPER FROM BOTTOM OF MAIN DUCT.
10. TRANSFER DUCT ASSEMBLY.
11. PROVIDE SEALED 20"x20" PLENUM BOX ASSEMBLY ABOVE TRANSFER GRILLES TO ALLOW FLEX TRANSFER DUCT CONNECTIONS.
12. GRILLE OPEN TO ABOVE CEILING.
13. INSTALL EXHAUST FAN ABOVE CEILING PER DETAIL SHEET M3.0. FAN SHALL BE WIRED TO EMERGENCY SHUTOFF SWITCH PROVIDED BY OTHERS. REFERENCE ARCHITECTURAL AND ELECTRICAL DRAWINGS.
14. MOUNT CENTER OF EXHAUST GRILLE AT 12" ABOVE FINISHED FLOOR. ROUTE DUCT SIZED AS SHOWN FROM GRILLE, UP IN WALL CAVITY TO ABOVE CEILING. THEN TO EXHAUST FAN AND OUT TO EXTERIOR WALL LOUVER. COORDINATE DUCT ROUTING WITH ALL OTHER TRADES.
15. 12"X12" EXTERIOR WALL LOUVER MODEL EHH-6010 AS MANUFACTURED BY GREENHECK. INSTALL PER MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS. FLORIDA PRODUCT APPROVAL #10088.1. PROVIDE WITH BIRD SCREEN. 1-1/2" FLANGE, AND ALUMINUM WALL FINISH.
16. EMERGENCY SHUT-OFF SWITCH AND WALL PLACARD INDICATING VENTILATION SYSTEM EMERGENCY SHUT-OFF PROVIDED BY OTHERS. REFERENCE ELECTRICAL AND ARCHITECTURAL DRAWINGS

SHEET GENERAL NOTE:

A. MECHANICAL CONTRACTOR SHALL ADJUST ALL LINEAR SLOT DIFFUSERS TO A GENERALLY VERTICAL FLOW. ADJUSTMENT SHALL BE MADE SO AS TO AVOID AIRFLOWS ON SENSORS, REFRIGERATION CASES, OR OPEN FOOD REFRIGERATION EQUIPMENT.

HVAC LEGEND

SYMBOL	DESCRIPTION
12x8 / 10"ø	NEW RECTANGULAR OR ROUND DUCT
12"ø	FLEXIBLE DUCT
	SUPPLY AIR DUCTWORK UP THROUGH PLAN
	RETURN AIR DUCTWORK UP THROUGH PLAN
	EXHAUST AIR DUCTWORK UP THROUGH PLAN
	90° ELBOW WITH TURNING VANES
	MANUAL AIR VOLUME CONTROL DAMPER
	4 WAY SUPPLY DIFFUSER
	3 WAY SUPPLY DIFFUSER
	2 WAY OPPOSED SUPPLY DIFFUSER
	2 WAY CORNER SUPPLY DIFFUSER
	RETURN AIR DEVICE
	EXHAUST AIR DEVICE
AC-X	AIR CURTAIN
LD-X	LINEAR SLOT DIFFUSER WITH PLENUM
T H	COMBINATION TEMPERATURE/HUMIDITY SENSOR
T	TEMPERATURE SENSOR
C	CO2 SENSOR
S	SWITCH
XXX CFM	TYPE MARK / CFM
RTU-10	MECHANICAL EQUIPMENT TAG
	CONDENSATE PIPING
EF-X	ROOF MOUNTED EXHAUST FAN
EFX	INLINE EXHAUST FAN
RTU-X	PACKAGED ROOFTOP AIR CONDITIONER

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PROJECT NAME:
WAWA FBFB v21.3
STORE #5413
7707 24TH COURT EAST.
SARASOTA, FL 34243

SHEET TITLE:
HVAC FLOOR PLAN

Revision Schedule

No.	Description:	Date:
	PERMIT SET	11/07/2022
	PERMIT SET	05/05/2023
	MECH & PLUMB	06/21/2023
	BID SET	
	BID SET	08/03/2023
	CONSTRUCTION SET	09/06/2023

PROJECT NO. 2203078
DATE 11-21-2022
DRAWN FAK
CHECKED JD

M1.0