

Report By:

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Report: Preliminary TAB
Function: Test, Adjust, & Balance
Date: 08/18/2024

PROJECT

08-12-24 WAWA #5446 MERRITT ISLAND, FL

435 E Merritt Island Cswy Brevard

MERRITT ISLAND , FL

Client

Wawa
260 West Baltimore Pike
Wawa, PA 19063

National TAB

Project: 08-12-24 WAWA #5446 MERRITT ISLAND, FL

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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

- Diffuser 1-10 Low Flow
- Diffuser 2-8 Low Flow
- EF-1 - Minimum Speed Controller Not Functional
- RTU 1 - Alarm 194
- RTU 2 - Incorrect OA Hood Cover
- RTU 3 - Water Leaking From Diffusers



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Project Issue Information

Issue Name : Diffuser 1-10 Low Flow
Description : Diffuser 1-10 (delivery vestibule) is currently at an airflow of 173 CFM (87% of design). Not expected to create comfort issues within the space.
Created By : National TAB **Assigned To :** National TAB - Will Turnbough
Status : Open
Priority : [Medium](#) **Asset Tag :**
Originated Date : 08/19/2024 - Mark Johnson - National TAB



08-12-24 WAWA #5446 MERRITT ISLAND, FL

Project Issue Information

Issue Name : Diffuser 2-8 Low Flow
Description : Diffuser 2-8 (dishwashing) is currently at an airflow of 267 CFM (67% of design). Airflow would not increase a substantial amount during balancing. Recommend inspecting damper or installing a scoop if comfort issues arise.
Created By : National TAB **Assigned To :** National TAB - Will Turnbough
Status : Open
Priority : High **Asset Tag :**
Originated Date : 08/19/2024 - Mark Johnson - National TAB



08-12-24 WAWA #5446 MERRITT ISLAND, FL

Project Issue Information

Issue Name : EF-1 - Minimum Speed Controller Not Functional
Description : The maximum speed controller (small potentiometer under sticker) appears to be shorted and not functional. Exhaust flow is stuck at 1636 CFM (142% of design) and cannot be lowered with the speed dial without causing the motor to overamp. Recommend replacing potentiometer.

Created By : National TAB **Assigned To :** National TAB - Will Turnbough

Status : Open

Priority : Urgent **Asset Tag :** EF1

Originated Date : 08/15/2024 - Mark Johnson - National TAB



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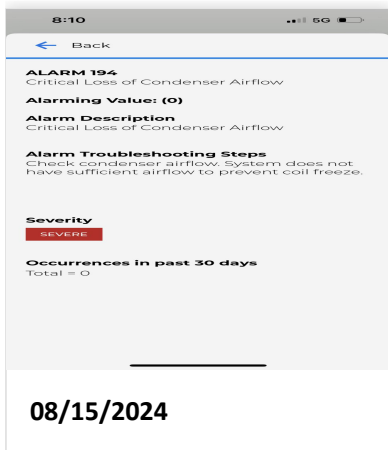
Project Issue Information

Issue Name : RTU 1 - Alarm 194
Description : Alarm 194 - Critical loss of condenser airflow. Water is dripping into the discharge duct and from the supply diffusers. Recommend HVAC inspection.
Created By : National TAB **Assigned To :** National TAB - Will Turnbough
Status : Open
Priority : Urgent **Asset Tag :** RTU1
Originated Date : 08/15/2024 - Mark Johnson - National TAB

Project Issue Response Details

- **08/16/2024 National TAB - Mark Johnson**
 - Resolved after setting OA to design.

- **08/15/2024 National TAB - Mark Johnson**
 - Added image





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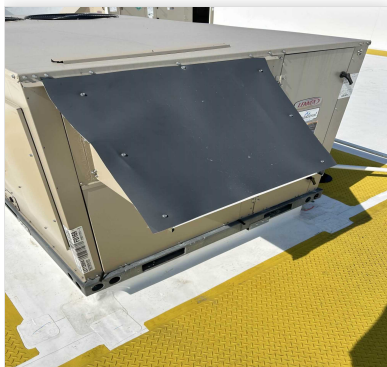
Project Issue Information

Issue Name : RTU 2 - Incorrect OA Hood Cover
Description : RTU 2 is missing the metal cover for the OA intake hood. A vinyl sheet has been fastened in its place. Recommend repairing with metal plate.
Created By : National TAB **Assigned To :** National TAB - Will Turnbough
Status : Open
Priority : Medium **Asset Tag :** RTU2
Originated Date : 08/15/2024 - Mark Johnson - National TAB

Project Issue Response Details

- **08/15/2024 National TAB - Mark Johnson**

- Added image



08/15/2024



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Project Issue Information

Issue Name : RTU 3 - Water Leaking From Diffusers
Description : There is excess moisture leaking around the discharge compartment in RTU 3. Water droplets are leaking from most diffusers served by this unit. No Core alarms present. Recommend HVAC inspection.
Created By : National TAB **Assigned To :** National TAB - Will Turnbough
Status : Open
Priority : Urgent **Asset Tag :** RTU3
Originated Date : 08/15/2024 - Mark Johnson - National TAB

Project Issue Response Details

- **08/16/2024 National TAB - Mark Johnson**
 - May be due to unit adjusting to new OA setting. Observe for the next several days to determine if the issue resolves or persists.



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 | 3433 | 2790 | 2826 | 610 | 607 | 17.9% | 17.7% | | | | | | |
| RTU-2 | FOOD SERVICE | 4000 | 3956 | 3350 | 3316 | 650 | 640 | 16.3% | 16.2% | | | | | | |
| RTU-3 | RETAIL | 3000 | 3060 | 2610 | 2667 | 390 | 393 | 13.0% | 12.8% | | | | | | |
| EF-1 | FOOD SERVICE | | | | | | | | | | | | | 1150 | 1636 |
| EF-2 | WATER SRV RM | | | | | | | | | | | | | 60 | 59 |
| TOTALS | | 10400 | 10449 | 8750 | 8809 | 1650 | 1640 | | | 0 | 0 | 0 | 0 | 1210 | 1695 |

NET BUILDING AIRFLOW CALCULATION

| TOTALS | DESIGN | ACTUAL |
|--------------------|------------|------------|
| TOTAL OA | 1650 | 1640 |
| TOTAL EXHAUST | 1210 | 1695 |
| NET AIRFLOW | 440 | -55 |

| DOOR TESTED | BUILDING PRESSURE MEASUREMENTS (IN. H2O) |
|----------------|--|
| FRONT | 0.005 |
| SIDE | - |
| REAR | 0.007 |
| AVERAGE | 0.006 |

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:

EF-1 remains high due to broken minimum speed potentiometer. Positive building pressure may be due to tolerance in OA and exhaust readings (net airflow close to neutral).

CheckList List

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



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CheckList Information

Name : TECH - SITE PICTURES **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 08/08/2024 - Brianna Biggs - National TAB

Completed Date : 08/19/2024 - Mark Johnson - National TAB

CheckList Item Details

STORE FRONT

Comment:



08/19/2024

RTU-1

Comment:



08/19/2024

RTU-2

Comment:



08/19/2024

RTU-3

Comment:



08/19/2024

EF-1

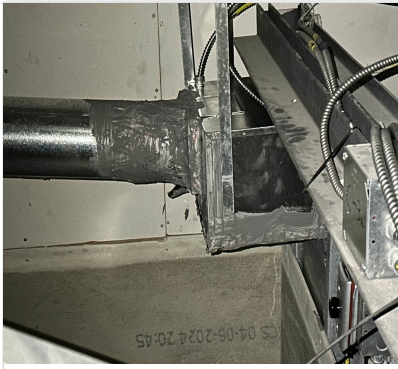
Comment:



08/19/2024

EF-2

Comment:



08/19/2024



08-12-24 WAWA #5446 MERRITT ISLAND, FL

CheckList Information

Name : TECH - STEP 1: RTU's/AHU's **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 08/08/2024 - Brianna Biggs - National TAB

Completed Date : 08/19/2024 - Mark Johnson - 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:

Direct Drive

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 - Alarm 194

Any noticeable duct leakage?

Pass

Comment:

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

Comment:

IN TEST MODE, TEST THE FOLLOWING:

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

Pass

Comment:

RTU 1: DAT=62°F, RAT=74°F RTU 2: DAT=63°F, RAT=71°F RTU 3: DAT=55°F, RAT=69°F

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

Pass

Comment:

RTU 1: DAT= 76°F, RAT=75°F RTU 2: N/A RTU 3: DAT=76°F, RAT=73°F

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°F, RAT=74°F RTU 2: DAT=73°F, RAT=74°F RTU 3: DAT=70°F, RAT=72°F



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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 : 08/08/2024 - Brianna Biggs - National TAB

Completed Date : 08/19/2024 - 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: 65% RTU 2: 71% RTU 3: 54%

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 : TECH - STEP 3: SENSOR WIRING **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 08/08/2024 - Brianna Biggs - National TAB

Completed Date : 08/16/2024 - 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: 54% RTU 2: 60% RTU 3: 55%



08-12-24 WAWA #5446 MERRITT ISLAND, FL

CheckList Information

Name : TECH - STEP 4: EF'S **Status :** Not Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 08/08/2024 - Brianna Biggs - National TAB

CheckList Item Details

EF's

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

Comment:

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

Comment:

Direct Drive

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

Comment:

Minimum speed potentiometer is not functional. Speed controller is functional but cannot safely bring exhaust flow within design. See issue list.

| | |
|--|------|
| 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:

Unit free of noticeable noise and vibration?

Pass

Comment:

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

Fail

Comment:

Total exhaust flow remains at +42% due to broken minimum speed potentiometer. Grilles were not balanced.



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CheckList Information

Name : TECH - STEP 5: CLOSEOUT CHECKS **Status :** Not Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 08/08/2024 - Brianna Biggs - 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) | Fail |
|--|-------------|

Comment:

Net building airflow is slightly negative, while design airflow and building pressures are positive. Exhaust flow from EF-1 is extremely high and cannot be adjusted because the minimum speed potentiometer is not functional. Positive building pressure may be due to tolerance in OA and exhaust readings, as the measured net airflow is close to neutral.



National TAB

Project: 08-12-24 WAWA #5446 MERRITT ISLAND, FL

System/Unit: AHU/RTU

Asset: RTU1

AREA:RETAIL

| Unit Data | | |
|---------------------|-------------------|--------------|
| | Design | Actual |
| MFG | LENNOX ENLIGHT | LENNOX |
| Serial Num | - | 5624C09506 |
| 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 |

| Test Data | | |
|--------------------|--------|--------------|
| | Design | Actual |
| SF CFM | 3400 | 3433 |
| SF RPM | - | 1430 |
| MOTOR RPM | - | 1430 |
| RA CFM | 2790 | 2826 |
| OA CFM | 610 | 607 |
| RL Voltage | - | 209/210/210 |
| RL Amperage | - | 2.9/2.8/2.8 |
| SF System SetPt | - | 65% |
| OA Damper Position | - | 42% |
| OA Damper Type | - | SINGLE BLADE |

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

| Performance Data | | |
|------------------|--------|--------|
| | Design | Actual |
| MA Plenum SP | - | -0.36" |
| Fan Suction SP | - | -0.65" |
| Fan Discharge SP | - | 0.46" |
| Total ESP | 0.5" | 0.82" |
| Fan Total SP | - | 1.11" |

| 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 |

Completed By: Mark Johnson on 08/15/2024



National TAB

Project:08-12-24 WAWA #5446 MERRITT ISLAND, 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" | 325 | 1 | 372 | 300 | 331 | 101.8 |
| SGRD2 | RETAIL | LD1 | 10" | 325 | 1 | 377 | 321 | 353 | 108.6 |
| SGRD3 | RETAIL | LD1 | 10" | 300 | 1 | 393 | 327 | 279 | 93.0 |
| SGRD4 | RETAIL | LD1 | 10" | 300 | 1 | 416 | 359 | 312 | 104.0 |
| SGRD5 | RETAIL | LD1 | 10" | 300 | 1 | 294 | 270 | 328 | 109.3 |
| SGRD6 | ASSOCIATES | CD1 | 8" | 150 | 1 | 205 | 181 | 148 | 98.7 |
| SGRD7 | OFFICE | CD1 | 8" | 150 | 1 | 185 | 169 | 150 | 100.0 |
| SGRD8 | RETAIL | LD1 | 10" | 300 | 1 | 386 | 331 | 315 | 105.0 |
| SGRD9 | RETAIL | LD1 | 10" | 280 | 1 | 286 | 239 | 270 | 96.4 |
| SGRD10 | DELIVERY VESTIBULE | CD1 | 8" | 200 | 1 | 174 | 150 | 173 | 86.5 |
| SGRD11 | RETAIL | LD1 | 10" | 280 | 1 | 287 | 258 | 273 | 97.5 |
| SGRD12 | RETAIL | LD1 | 10" | 290 | 1 | 371 | 327 | 314 | 108.3 |
| SGRD13 | WOMENS RR | CD3 | 6" | 50 | 1 | 115 | 96 | 47 | 94.0 |
| SGRD14 | MENS RR | CD3 | 6" | 50 | 1 | 126 | 104 | 48 | 96.0 |
| SGRD15 | REAR VESTIBULE | CD3 | 6" | 100 | 1 | 130 | 105 | 92 | 92.0 |
| Total | | | | 3400 | | 4117 | 3537 | 3433 | 100.97% |



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Project: 08-12-24 WAWA #5446 MERRITT ISLAND, FL

System/Unit: AHU/RTU

Asset: RTU2

AREA:FOOD SERVICE

| Unit Data | | |
|---------------------|----------------|--------------|
| | Design | Actual |
| MFG | LENNOX ENLIGHT | LENNOX |
| Serial Num | - | 5623B05103 |
| Model Num | LCT120H4E | LCT120H4EN1Y |
| 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 | - | NL |
| Horsepower | 3.75 | 3.8 |
| Motor Rpm | - | 2200 |
| Phase | 3 | 3 |
| Rated Voltage | 208 | 200-240 |
| Rated Amperage | - | 8.7 |
| Service Factor | - | NL |

| 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 | 4000 | 3956 |
| SF RPM | - | 1562 |
| MOTOR RPM | - | 1562 |
| RA CFM | 3350 | 3316 |
| OA CFM | 650 | 640 |
| RL Voltage | - | 210/211/210 |
| RL Amperage | - | 3.6/3.7/3.7 |
| SF System SetPt | - | 71% |
| OA Damper Position | - | 52% |
| OA Damper Type | - | SINGLE BLADE |

| Performance Data | | |
|------------------|--------|--------|
| | Design | Actual |
| MA Plenum SP | - | -0.30" |
| Fan Suction SP | - | -0.68" |
| Fan Discharge SP | - | 0.41" |
| Total ESP | 0.5" | 0.71" |
| Fan Total SP | - | 1.09" |

Completed By: Mark Johnson on 08/15/2024



National TAB

Project:08-12-24 WAWA #5446 MERRITT ISLAND, 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 | 10" | 400 | 1 | 578 | 521 | 390 | 97.5 |
| SGRD2 | FOOD SERVICE | LD1 | 10" | 400 | 1 | 523 | 436 | 431 | 107.8 |
| SGRD3 | FOOD SERVICE | LD1 | 10" | 400 | 1 | 602 | 538 | 370 | 92.5 |
| SGRD4 | FOOD SERVICE | LD1 | 12" | 500 | 1 | 567 | 507 | 543 | 108.6 |
| SGRD5 | FOOD SERVICE | LD1 | 12" | 500 | 1 | 462 | 421 | 500 | 100.0 |
| SGRD6 | FOOD SERVICE | LD1 | 12" | 500 | 1 | 588 | 537 | 514 | 102.8 |
| SGRD7 | BACKROOM | CD1 | 10" | 300 | 1 | 369 | 330 | 318 | 106.0 |
| SGRD8 | WASH ROOM | LD1 | 10" | 400 | 1 | 254 | 236 | 267 | 66.8 |
| SGRD9 | STAGING | CD1 | 6" | 50 | 1 | 77 | 56 | 46 | 92.0 |
| SGRD10 | ELECTRICAL ROOM | CD1 | 12" | 550 | 1 | 546 | 489 | 577 | 104.9 |
| Total | | | | 4000 | | 4566 | 4071 | 3956 | 98.9% |



National TAB

Project: 08-12-24 WAWA #5446 MERRITT ISLAND, FL

System/Unit: AHU/RTU

Asset: RTU3

AREA:RETAIL

| Unit Data | | |
|---------------------|----------------|--------------|
| | Design | Actual |
| MFG | LENNOX ENLIGHT | LENNOX |
| Serial Num | - | 5624C09094 |
| 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 | - | NL |
| Horsepower | 3.75 | 3.8 |
| Motor Rpm | - | 2200 |
| Phase | 3 | 3 |
| Rated Voltage | 208 | 200-240 |
| Rated Amperage | - | 8.7 |
| Service Factor | - | NL |

| 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 | 3060 |
| SF RPM | - | 1188 |
| MOTOR RPM | - | 1188 |
| RA CFM | 2610 | 2667 |
| OA CFM | 390 | 393 |
| RL Voltage | - | 210/211/211 |
| RL Amperage | - | 2.0/2.0/2.0 |
| SF System SetPt | - | 54% |
| OA Damper Position | - | 36% |
| OA Damper Type | - | SINGLE BLADE |

| Performance Data | | |
|------------------|--------|--------|
| | Design | Actual |
| MA Plenum SP | - | -0.21" |
| Fan Suction SP | - | -0.47" |
| Fan Discharge SP | - | 0.38" |
| Total ESP | 0.5" | 0.59" |
| Fan Total SP | - | 0.85" |

Completed By: Mark Johnson on 08/15/2024



National TAB

Project:08-12-24 WAWA #5446 MERRITT ISLAND, 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 | 564 | 481 | 534 | 106.8 |
| SGRD2 | RETAIL | LD1 | 10" | 350 | 1 | 442 | 367 | 380 | 108.6 |
| SGRD3 | RETAIL | LD1 | 10" | 300 | 1 | 423 | 349 | 316 | 105.3 |
| SGRD4 | RETAIL | LD1 | 10" | 350 | 1 | 454 | 353 | 347 | 99.1 |
| SGRD5 | COFFEE/SPECIALTY BEVERAGE | LD1 | 10" | 300 | 1 | 302 | 271 | 287 | 95.7 |
| SGRD6 | COFFEE/SPECIALTY BEVERAGE | LD1 | 10" | 300 | 1 | 317 | 280 | 316 | 105.3 |
| SGRD7 | COFFEE/SPECIALTY BEVERAGE | LD1 | 10" | 300 | 1 | 384 | 316 | 304 | 101.3 |
| SGRD8 | RETAIL | LD1 | 10" | 300 | 1 | 250 | 217 | 286 | 95.3 |
| SGRD9 | RETAIL | LD1 | 10" | 300 | 1 | 454 | 387 | 290 | 96.7 |
| Total | | | | 3000 | | 3590 | 3021 | 3060 | 102% |



National TAB

Project: 08-12-24 WAWA #5446 MERRITT ISLAND, FL

System/Unit: FAN - Exhaust

Asset: EF1

AREA:

| Unit Data | | |
|----------------------|-----------|------------------|
| | Design | Actual |
| MFG | GREENHECK | GREENHECK |
| Model Num | G-140 | G-140-B-4-1-22-X |
| Serial Num | - | 25099013 |
| Type | DOWNBLAST | DOWNBLAST |
| Configuration | VERTICAL | VERTICAL |

| Motor Data | | |
|-------------------------|--------|--------|
| | Design | Actual |
| Motor MFG | - | NL |
| Frame | - | 48Y |
| Horsepower | 1/4 | 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 | 1150 | 1636 |
| Fan RPM | 818 | 1140 |
| Fan Rotation | - | CW |
| Motor RPM | - | 1140 |
| System SetPt | - | SPEED CONTROLLER |
| RL Voltage | - | 114 |
| RL Amperage | - | 3.2 |
| Total ESP | 0.250" | |
| Fan Inlet SP | - | |
| Fan Discharge SP | - | ATM |

Notes:

Max speed controller (small potentiometer under sticker) has shorted and is no longer functional. Fan is stuck at high speed and lowering the speed via speed dial causes overramping. Fan was left at a safe amperage.

Written By: Mark Johnson on 08/15/2024



National TAB

Project:08-12-24 WAWA #5446 MERRITT ISLAND, 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 | 12" | 500 | 1 | 557 | 554 | 554 | 110.8 |
| EGRD2 | FOOD SERVICE | G1 | 10" | 300 | 1 | 543 | 543 | 543 | 181.0 |
| EGRD3 | STAGING | G1 | 6" | 100 | 1 | 216 | 221 | 221 | 221.0 |
| EGRD4 | WOMENS RR | G3 | 6" | 100 | 1 | 91 | 99 | 99 | 99.0 |
| EGRD5 | MENS RR | G3 | 6" | 50 | 1 | 127 | 127 | 127 | 254.0 |
| EGRD6 | MENS RR | G3 | 6" | 100 | 1 | 92 | 92 | 92 | 92.0 |
| Total | | | | 1150 | | 1626 | 1636 | 1636 | 142.26% |



National TAB

Project: 08-12-24 WAWA #5446 MERRITT ISLAND, FL

System/Unit: FAN - Exhaust

Asset: EF2

AREA:

| Unit Data | | |
|---------------|------------|-------------|
| | Design | Actual |
| MFG | GREENHECK | GREENHECK |
| Model Num | CSP-B110 | CSP-A110-QD |
| Serial Num | - | 23977517 |
| Type | INLINE | INLINE |
| Configuration | HORIZONTAL | HORIZONTAL |

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

| Test Data | | |
|------------------|--------|---------------------------|
| | Design | Actual |
| CFM | 60 | 59 |
| Fan RPM | 584 | 600 |
| Fan Rotation | - | CW |
| Motor RPM | - | 600 |
| System SetPt | - | SPEED CONTROLLER (MARKED) |
| RL Voltage | - | 122 |
| RL Amperage | - | 0.1-0.2 |
| Total ESP | 0.125" | 0.05" |
| Fan Inlet SP | - | -0.05" |
| Fan Discharge SP | - | ATM |

Completed By: Mark Johnson on 08/14/2024

