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Report: TAB REPORT
Function: Test, Adjust, & Balance
Date: 09/19/2024

PROJECT

09-16-24 TRUE FOOD KITCHEN - RALIEGH, NC

4104 CENTER @ NORTH HILLS , # 100

RALEIGH, NC 27609

Client

True Food Kitchen
4455 E Camelback Rd, Ste B100
Phoenix, AZ 85018

National TAB

Project: 09-16-24 TRUE FOOD KITCHEN - RALIEGH, NC

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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.

AHU's w/ Diffusers

Each of the AHU's were measured at their terminal devices utilizing a flow hood. The sum of these readings is equal to the total flow for that particular unit. The total flow of each AHU was then adjusted to within tolerance of the specified design. Each terminal diffuser was balanced to within tolerance of the engineer's design volume utilizing the provided hand damper located at the takeoff of the main & branch trunk line(s). Any equipment that fell outside of this tolerance is noted throughout the report.

Outside Air Fan

The OAF provides ventilation air to HVAC units throughout the space. All equipment on the duct system was first turned on in a full fan speed condition. The total airflow was measured via traverse and then adjustment was made to bring the total flow within design tolerance. The individual branches to each unit were then traversed and balanced until they were within design tolerances. Once balancing was completed, the overrides were released.

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.

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.

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.

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

- AHU-1 Low Flow
- EF-1 Grease Cup Not Installed
- High Flow Diffusers
- MUA Heat Test



09-16-24 TRUE FOOD KITCHEN - RALIEGH, NC

Project Issue Information

Issue Name : AHU-1 Low Flow
Description : AHU-1 is at 85% of design for total flow (1687CFM/2000CFM). Diffusers are balanced proportionally low. Motor is on High Speed Tap and at FLA. Based on the performance curve the unit may not be capable of achieving the design airflow.
Created By : National TAB **Assigned To :** National TAB - Antonio Flores-De La Cruz
Status : Open
Priority : **Medium** **Asset Tag :**
Originated Date : 09/19/2024 - Antonio Flores-De La Cruz - National TAB

Project Issue File Details



09/19/2024



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Project Issue Information

Issue Name : EF-1 Grease Cup Not Installed
Description : The grease cup on EF-1 is not installed. Recommend installing.
Created By : National TAB **Assigned To :** National TAB - Antonio Flores-De La Cruz
Status : Open
Priority : **Asset Tag :**
Originated Date : 09/19/2024 - Antonio Flores-De La Cruz - National TAB

Project Issue File Details



09/19/2024



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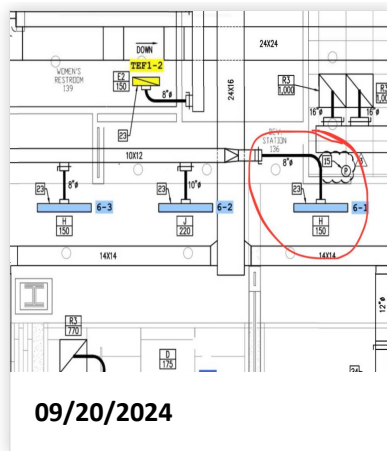
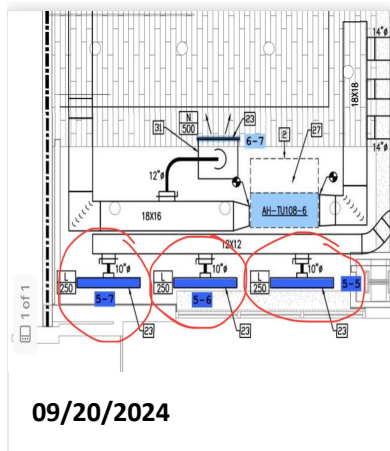
Project Issue Information

Issue Name : High Flow Diffusers
Description : AHU-5, and AHU-6 have linear diffusers that are high, but within 10% of design on linear type diffusers. Linear diffusers are within hard ceiling and have no provided cable dampers to be able to adjust flow. The fins on the linear diffusers with adjusted to limit flow as much as possible.
Created By : National TAB
Assigned To : National TAB - Antonio Flores-De La Cruz
Status : Open
Priority : Low
Asset Tag :
Originated Date : 09/19/2024 - Antonio Flores-De La Cruz - National TAB

Project Issue Response Details

- **09/20/2024 National TAB - Antonio Flores-De La Cruz**

- **IMAGES**





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Project Issue Information

Issue Name : MUA Heat Test
Description : Unable to perform Heat test for the MUA. Startup has not been completed by mechanical. Gas line is turned on. Mechanical is aware of issue.
Created By : National TAB **Assigned To :** National TAB - Antonio Flores-De La Cruz
Status : Open
Priority : Medium **Asset Tag :**
Originated Date : 09/19/2024 - Antonio Flores-De La Cruz - 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 |
| AH-T1U08-1 | | 2015 | 1687 | 1875 | 1541 | 140 | 146 | 6.9% | 8.7% | | | | | | |
| AH-T1U08-2 | | 2000 | 1873 | 2000 | 1873 | 0 | 0 | 0.0% | 0.0% | | | | | | |
| AH-T1U08-3 | | 2000 | 2046 | 1535 | 1574 | 465 | 472 | 23.3% | 23.1% | | | | | | |
| AH-T1U08-5 | | 1750 | 1789 | 1285 | 1321 | 465 | 468 | 26.6% | 26.2% | | | | | | |
| AH-T1U08-6 | | 1750 | 1701 | 1285 | 1256 | 465 | 445 | 26.6% | 26.2% | | | | | | |
| AH-T1U08-8 | | 2000 | 2030 | 1535 | 1543 | 465 | 487 | 23.3% | 24.0% | | | | | | |
| MUA-1 | | | | | | | | | | 4035 | 4093 | | | | |
| KEF-1 | | | | | | | | | | | | 4600 | 4513 | | |
| DEF-1 | | | | | | | | | | | | 950 | 901 | | |
| TEF-2 | | | | | | | | | | | | | | 375 | 368 |
| TOTALS | | 11515 | 11126 | 9515 | 9108 | 2000 | 2018 | | | 4035 | 4093 | 5550 | 5414 | 375 | 368 |

NET BUILDING AIRFLOW CALCULATION

| TOTALS | DESIGN | ACTUAL |
|--------------------|------------|------------|
| TOTAL OA | 6035 | 6111 |
| TOTAL EXHAUST | 5925 | 5782 |
| NET AIRFLOW | 110 | 329 |

| DOOR TESTED | BUILDING PRESSURE MEASUREMENTS (IN. H2O) |
|----------------|--|
| FRONT | 0.007 |
| SIDE | 0.006 |
| REAR | 0.003 |
| AVERAGE | 0.0053 |

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:

SYSTEM COMPONENTS TO ASSETS SCHEDULED ABOVE

National TAB

Project: 09-16-24 TRUE FOOD KITCHEN - RALIEGH, NC

System/Unit: AHU/RTU



Asset: AH-T1U08-1

AREA:

| Unit Data | | |
|---------------------|-----------|-----------------|
| | Design | Actual |
| MFG | TRANE | TRANE |
| Serial Num | - | 2216240F3V |
| Model Num | TEM4A0B60 | TEM4A0C60S51SBA |
| Type | AHU | AHU |
| Configuration | VERTICAL | HORIZONTAL |
| Num Final Filter 1 | - | 1 |
| Final Filter Size 1 | - | 20X24X1 |

| Motor Data | | |
|----------------|--------|--------|
| | Design | Actual |
| Motor MFG | - | GENTEQ |
| Frame | - | NL |
| Horsepower | 3/4 | 0.75 |
| Motor Rpm | - | NL |
| Phase | 1 | 1 |
| Rated Voltage | 208 | 208 |
| Rated Amperage | 6.0 | 6.0 |

| Drive Data | |
|-------------------|--------|
| | Actual |
| Motor Sheave Size | DD |

| Test Data | | |
|------------------------|--------|------------|
| | Design | Actual |
| SF CFM | 2015 | 1687 |
| SF RPM | - | DD |
| RA CFM | 1860 | 1541 |
| OA CFM | 140 | 146 |
| RL Voltage | - | 211 |
| RL Amperage | - | 6.0 |
| SF Rotation | - | CW |
| SF System SetPt | - | HIGH SPEED |
| RA Damper Position | - | 100% |
| Min OA Damper Position | - | 50% |
| Min OA Damper Type | - | NA |
| OA Enthalpy Setpt | - | NA |

| Performance Data | | |
|------------------|--------|--------|
| | Design | Actual |
| MA Plenum SP | - | -0.17 |
| Fan Suction SP | - | -0.87" |
| Fan Discharge SP | - | 0.22" |
| Total ESP | 0.5" | 0.39" |
| Fan Total SP | - | 1.19" |

| General | |
|----------------------------|--------|
| | Actual |
| Fan Rotation Correct | YES |
| Unit Filters Clean | YES |
| Condensate Drain Installed | YES |

Completed By: Antonio Flores-De La Cruz on 09/19/2024

Notes:
FAN IS WIRED TO HIGH SPEED. BASED ON PERFORMANCE CURVE, THE UNIT MAY NOT BE CAPABLE OF 2015 CFM.

Written By: Will Turnbough on 09/25/2024

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Project:09-16-24 TRUE FOOD KITCHEN - RALIEGH, NC

AHU/RTU



Diffuser Supply (GRD)

AH-T1U08-1/

| Asset | | | | | | | | | |
|-------------------|-------------|------|------|------------|----|--------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | AK | CFM(1) | CFM(2) | FINAL CFM | % to design |
| AH-T1U08-1-SGRD1 | EXPO | C | 10 | 275 | 1 | 142 | 220 | 227 | 82.5 |
| AH-T1U08-1-SGRD2 | EXPO | C | 10 | 275 | 1 | 149 | 241 | 226 | 82.2 |
| AH-T1U08-1-SGRD3 | EXPO | C | 10 | 275 | 1 | 136 | 217 | 230 | 83.6 |
| AH-T1U08-1-SGRD4 | EXPO | C | 10 | 275 | 1 | 107 | 172 | 225 | 81.8 |
| AH-T1U08-1-SGRD5 | DRY STORAGE | B | 8 | 150 | 1 | 192 | 143 | 124 | 82.7 |
| AH-T1U08-1-SGRD6 | DRY STORAGE | B | 8 | 150 | 1 | 197 | 135 | 130 | 86.7 |
| AH-T1U08-1-SGRD7 | MECH ROOM | B | 8 | 100 | 1 | 169 | 94 | 80 | 80.0 |
| AH-T1U08-1-SGRD8 | WASH WARE | B | 8 | 200 | 1 | 203 | 188 | 167 | 83.5 |
| AH-T1U08-1-SGRD9 | EMPLOYEE RR | A | 6 | 40 | 1 | 75 | 42 | 42 | 105.0 |
| AH-T1U08-1-SGRD10 | OFFICE | L | 10 | 275 | 1 | 213 | 268 | 236 | 85.8 |
| Total | | | | 2015 | | 1583 | 1720 | 1687 | 83.72% |

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Project: 09-16-24 TRUE FOOD KITCHEN - RALIEGH, NC

System/Unit: AHU/RTU



Asset: AH-T1U08-2

AREA:

| Unit Data | | |
|---------------------|------------|-----------------|
| | Design | Actual |
| MFG | TRANE | TRANE |
| Serial Num | - | 22092WB03V |
| Model Num | TEM4A0B60 | TEM4A0A60S51SBA |
| Type | AHU | AHU |
| Configuration | HORIZONTAL | HORIZONTAL |
| Num Final Filter 1 | - | 1 |
| Final Filter Size 1 | - | 20X24X1 |

| Motor Data | | |
|----------------|--------|--------|
| | Design | Actual |
| Motor MFG | - | GENTEQ |
| Frame | - | NL |
| Horsepower | 3/4 | 0.75 |
| Motor Rpm | - | NL |
| Phase | 1 | 1 |
| Rated Voltage | 208 | 230 |
| Rated Amperage | 6.0 | 6.0 |

| Drive Data | |
|-------------------|--------|
| | Actual |
| Motor Sheave Size | DD |

| Test Data | | |
|------------------------|--------|------------|
| | Design | Actual |
| SF CFM | 2000 | 1873 |
| SF RPM | - | DD |
| RA CFM | 2000 | 1873 |
| OA CFM | 0 | 0 |
| RL Voltage | - | 211 |
| RL Amperage | - | 6.0 |
| SF Rotation | - | CW |
| SF System SetPt | - | HIGH SPEED |
| RA Damper Position | - | 100% |
| Min OA Damper Position | - | 0% |
| Min OA Damper Type | - | NA |
| OA Enthalpy Setpt | - | NA |

| Performance Data | | |
|------------------|--------|--------|
| | Design | Actual |
| Fan Suction SP | - | -0.25" |
| Fan Discharge SP | - | -0.11" |
| Total ESP | 0.5" | 0.36" |
| Fan Total SP | 0.5" | 0.36" |

| General | |
|----------------------------|--------|
| | Actual |
| Fan Rotation Correct | YES |
| Unit Filters Clean | YES |
| Condensate Drain Installed | YES |

Completed By: Antonio Flores-De La Cruz on 09/17/2024

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Project:09-16-24 TRUE FOOD KITCHEN - RALIEGH, NC

AHU/RTU



Diffuser Supply (GRD)

AH-T1U08-2/

| Asset | | | | | | | | | |
|------------------|----------|-------|-------|------------|------|--------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | AK | CFM(1) | CFM(2) | FINAL CFM | % to design |
| AH-T1U08-2-SGRD1 | KITCHEN | C | 10 | 285 | 1 | 238 | 327 | 270 | 94.7 |
| AH-T1U08-2-SGRD2 | HOOD2 | ACPSP | 132X6 | 625 | 4.29 | 485 | 485 | 589 | 94.2 |
| AH-T1U08-2-SGRD3 | HOOD3 | ACPSP | 120X6 | 525 | 3.9 | 601 | 542 | 489 | 93.1 |
| AH-T1U08-2-SGRD4 | KITCHEN | C | 10 | 280 | 1 | 229 | 312 | 266 | 95.0 |
| AH-T1U08-2-SGRD5 | KITCHEN | C | 10 | 270 | 1 | 221 | 314 | 259 | 95.9 |
| Total | | | | 1985 | | 1774 | 1980 | 1873 | 94.36% |

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Project: 09-16-24 TRUE FOOD KITCHEN - RALIEGH, NC

System/Unit: AHU/RTU



Asset: AH-T1U08-3

AREA:

| Unit Data | | |
|---------------------|-----------|-----------------|
| | Design | Actual |
| MFG | TRANE | TRANE |
| Serial Num | - | 221628XJ3V |
| Model Num | TEM4A0B60 | TEM4A0C60S51SBA |
| Type | AHU | AHU |
| Configuration | VERTICAL | HORIZONTAL |
| Num Final Filter 1 | - | 1 |
| Final Filter Size 1 | - | 20X24X1 |

| Motor Data | | |
|----------------|--------|--------|
| | Design | Actual |
| Motor MFG | - | GENTEQ |
| Frame | - | NL |
| Horsepower | 3/4 | 0.75 |
| Motor Rpm | - | NL |
| Phase | 1 | 1 |
| Rated Voltage | 208 | 208 |
| Rated Amperage | 6.0 | 6.0 |

| Drive Data | |
|-------------------|--------|
| | Actual |
| Motor Sheave Size | DD |

| Test Data | | |
|------------------------|--------|-----------|
| | Design | Actual |
| SF CFM | 2000 | 2046 |
| SF RPM | - | DD |
| RA CFM | 1535 | 1574 |
| OA CFM | 465 | 472 |
| RL Voltage | - | 211 |
| RL Amperage | - | 4.2 |
| SF Rotation | - | CW |
| SF System SetPt | - | LOW SPEED |
| RA Damper Position | - | 100% |
| Min OA Damper Position | - | 65% |
| Min OA Damper Type | - | MANUAL |

| Performance Data | | |
|------------------|--------|--------|
| | Design | Actual |
| MA Plenum SP | - | -0.14" |
| Fan Suction SP | - | -0.59" |
| Fan Discharge SP | - | 0.17" |
| Total ESP | 0.5" | 0.31" |
| Fan Total SP | - | 0.74" |

| General | |
|----------------------------|--------|
| | Actual |
| Fan Rotation Correct | YES |
| Unit Filters Clean | YES |
| Condensate Drain Installed | YES |

Completed By: Antonio Flores-De La Cruz on 09/19/2024

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Project:09-16-24 TRUE FOOD KITCHEN - RALIEGH, NC

AHU/RTU



Diffuser Supply (GRD)

AH-T1U08-3/

| Asset | | | | | | | | | |
|------------------|----------|------|------|------------|------|--------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | AK | CFM(1) | CFM(2) | FINAL CFM | % to design |
| AH-T1U08-3-SGRD1 | DINNING | M | 12 | 350 | 1 | 340 | 329 | 357 | 102.0 |
| AH-T1U08-3-SGRD2 | DINNING | M | 12 | 300 | 1 | 320 | 263 | 310 | 103.3 |
| AH-T1U08-3-SGRD3 | DINNING | M | 12 | 350 | 1 | 255 | 212 | 324 | 92.6 |
| AH-T1U08-3-SGRD4 | DINNING | S | 18 | 335 | 0.83 | 422 | 501 | 345 | 103.0 |
| AH-T1U08-3-SGRD5 | DINNING | S | 18 | 335 | 0.83 | 488 | 496 | 365 | 109.0 |
| AH-T1U08-3-SGRD6 | DINNING | S | 18 | 330 | 0.83 | 649 | 412 | 345 | 104.5 |
| Total | | | | 2000 | | 2474 | 2213 | 2046 | 102.3% |

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Project: 09-16-24 TRUE FOOD KITCHEN - RALIEGH, NC

System/Unit: AHU/RTU



Asset: AH-T1U08-5

AREA:

| Unit Data | | |
|---------------------|-----------|-----------------|
| | Design | Actual |
| MFG | TRANE | TRANE |
| Serial Num | - | 22062YDE3V |
| Model Num | TEM4A0B60 | TEM4A0C60S51SBA |
| Type | AHU | AHU |
| Configuration | VERTICAL | HORIZONTAL |
| Num Final Filter 1 | - | 1 |
| Final Filter Size 1 | - | 20X24X1 |

| Motor Data | | |
|----------------|--------|--------|
| | Design | Actual |
| Motor MFG | - | GENTEQ |
| Frame | - | NL |
| Horsepower | 3/4 | 0.75 |
| Motor Rpm | - | NL |
| Phase | 1 | 1 |
| Rated Voltage | 208 | 208 |
| Rated Amperage | 6.0 | 6.0 |

| Drive Data | |
|-------------------|--------|
| | Actual |
| Motor Sheave Size | DD |

| Test Data | | |
|------------------------|--------|-----------|
| | Design | Actual |
| SF CFM | 1750 | 1789 |
| SF RPM | -- | DD |
| RA CFM | 1285 | 1321 |
| OA CFM | 465 | 468 |
| RL Voltage | - | 211 |
| RL Amperage | - | 4.6 |
| SF Rotation | - | CW |
| SF System SetPt | - | MED SPEED |
| RA Damper Position | - | 100% |
| Min OA Damper Position | - | 75% |
| Min OA Damper Type | - | MANUAL |

| Performance Data | | |
|------------------|--------|--------|
| | Design | Actual |
| MA Plenum SP | - | 0.14" |
| Fan Suction SP | - | -0.61" |
| Fan Discharge SP | - | 0.21" |
| Total ESP | 0.5" | 0.35" |
| Fan Total SP | - | 0.82" |

| General | |
|----------------------------|--------|
| | Actual |
| Fan Rotation Correct | YES |
| Unit Filters Clean | YES |
| Condensate Drain Installed | YES |

Completed By: Antonio Flores-De La Cruz on 09/19/2024

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Project:09-16-24 TRUE FOOD KITCHEN - RALIEGH, NC

AHU/RTU



Diffuser Supply (GRD)

AH-T1U08-5/

| Asset | | | | | | | | | |
|------------------|----------|------|------|------------|------|--------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | AK | CFM(1) | CFM(2) | FINAL CFM | % to design |
| AH-T1U08-5-SGRD1 | DINNING | Q | 12 | 250 | 0.58 | 379 | 240 | 245 | 98.0 |
| AH-T1U08-5-SGRD2 | DINNING | Q | 12 | 250 | 0.58 | 356 | 257 | 258 | 103.2 |
| AH-T1U08-5-SGRD3 | DINNING | K | 10 | 250 | 1 | 38 | 264 | 242 | 96.8 |
| AH-T1U08-5-SGRD4 | DINNING | K | 10 | 250 | 1 | 420 | 278 | 235 | 94.0 |
| AH-T1U08-5-SGRD5 | DINNING | L | 10 | 250 | 1 | 203 | 246 | 270 | 108.0 |
| AH-T1U08-5-SGRD6 | DINNING | L | 10 | 250 | 1 | 121 | 166 | 268 | 107.2 |
| AH-T1U08-5-SGRD7 | DINNING | L | 10 | 250 | 1 | 242 | 267 | 271 | 108.4 |
| Total | | | | 1750 | | 1759 | 1718 | 1789 | 102.23% |

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Project: 09-16-24 TRUE FOOD KITCHEN - RALIEGH, NC

System/Unit: AHU/RTU



Asset: AH-T1U08-6

AREA:

| Unit Data | | |
|---------------------|-----------|-----------------|
| | Design | Actual |
| MFG | TRANE | TRANE |
| Serial Num | - | 221624U03V |
| Model Num | TEM4A0B60 | TEM4A0C60S51SBA |
| Type | AHU | AHU |
| Configuration | VERTICAL | HORIZONTAL |
| Num Final Filter 1 | - | 1 |
| Final Filter Size 1 | - | 20X24X1 |

| Motor Data | | |
|----------------|--------|--------|
| | Design | Actual |
| Motor MFG | - | GENTEQ |
| Frame | - | NL |
| Horsepower | 3/4 | 0.75 |
| Motor Rpm | - | NL |
| Phase | 1 | 1 |
| Rated Voltage | 208 | 208 |
| Rated Amperage | 6 | 6 |

| Drive Data | |
|-------------------|--------|
| | Actual |
| Motor Sheave Size | DD |

| Test Data | | |
|------------------------|--------|-----------|
| | Design | Actual |
| SF CFM | 1750 | 1701 |
| SF RPM | - | DD |
| RA CFM | 1285 | 1256 |
| OA CFM | 465 | 445 |
| RL Voltage | - | 211 |
| RL Amperage | - | 4.6 |
| SF Rotation | - | CW |
| SF System SetPt | - | MED SPEED |
| RA Damper Position | - | 100% |
| Min OA Damper Position | - | 80% |
| Min OA Damper Type | - | MANUAL |

| Performance Data | | |
|------------------|--------|--------|
| | Design | Actual |
| MA Plenum SP | - | -0.17" |
| Fan Suction SP | - | -0.72" |
| Fan Discharge SP | - | 0.15" |
| Total ESP | 0.5" | 0.32" |
| Fan Total SP | - | 0.87" |

| General | |
|----------------------------|--------|
| | Actual |
| Fan Rotation Correct | YES |
| Unit Filters Clean | YES |
| Condensate Drain Installed | YES |

Completed By: Antonio Flores-De La Cruz on 09/19/2024

National TAB

Project:09-16-24 TRUE FOOD KITCHEN - RALIEGH, NC

AHU/RTU



Diffuser Supply (GRD)

AH-T1U08-6/

| Asset | | | | | | | | | |
|------------------|-----------|------|------|------------|------|--------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | AK | CFM(1) | CFM(2) | FINAL CFM | % to design |
| AH-T1U08-6-SGRD1 | DINNING | H | 8 | 150 | 1 | 161 | 177 | 164 | 109.3 |
| AH-T1U08-6-SGRD2 | DINNING | J | 10 | 220 | 1 | 166 | 183 | 204 | 92.7 |
| AH-T1U08-6-SGRD3 | DINNING | H | 8 | 150 | 1 | 132 | 145 | 156 | 104.0 |
| AH-T1U08-6-SGRD4 | WOMENS RR | F | 8 | 130 | 1 | 87 | 96 | 130 | 100.0 |
| AH-T1U08-6-SGRD5 | MENS RR | F | 8 | 100 | 1 | 74 | 83 | 100 | 100.0 |
| AH-T1U08-6-SGRD6 | BOH | N | 12 | 500 | 1.13 | 504 | 561 | 478 | 95.6 |
| AH-T1U08-6-SGRD7 | BOH | N | 12 | 500 | 1.13 | 469 | 521 | 469 | 93.8 |
| Total | | | | 1750 | | 1593 | 1766 | 1701 | 97.2% |

National TAB

Project: 09-16-24 TRUE FOOD KITCHEN - RALIEGH, NC

System/Unit: AHU/RTU



Asset: AH-T1U08-8

AREA:

| Unit Data | | |
|---------------------|-----------|-----------------|
| | Design | Actual |
| MFG | TRANE | TRANE |
| Serial Num | - | 22083Y403V |
| Model Num | TEM4A0B60 | TEM4A0C60S51SBA |
| Type | AHU | AHU |
| Configuration | VERTICAL | VERTICAL |
| Num Final Filter 1 | - | 1 |
| Final Filter Size 1 | - | 20X24X1 |

| Motor Data | | |
|----------------|--------|--------|
| | Design | Actual |
| Motor MFG | - | GENTEQ |
| Frame | - | NL |
| Horsepower | 3/4 | 0.75 |
| Motor Rpm | - | NL |
| Phase | 1 | 1 |
| Rated Voltage | 208 | 208 |
| Rated Amperage | 6.0 | 6.0 |

| Drive Data | |
|-------------------|--------|
| | Actual |
| Motor Sheave Size | DD |

| Test Data | | |
|------------------------|--------|-----------|
| | Design | Actual |
| SF CFM | 2000 | 2030 |
| SF RPM | - | DD |
| RA CFM | 1565 | 1543 |
| OA CFM | 465 | 487 |
| RL Voltage | - | 211 |
| RL Amperage | - | 4.7 |
| SF Rotation | - | CW |
| SF System SetPt | - | MED SPEED |
| RA Damper Position | - | 100% |
| Min OA Damper Position | - | 100% |
| Min OA Damper Type | - | MANUAL |

| Performance Data | | |
|------------------|--------|--------|
| | Design | Actual |
| MA Plenum SP | - | -0.17 |
| Fan Suction SP | - | -0.77" |
| Fan Discharge SP | - | 0.14" |
| Total ESP | 0.5" | 0.31" |
| Fan Total SP | - | 0.81" |

| General | |
|----------------------------|--------|
| | Actual |
| Fan Rotation Correct | YES |
| Unit Filters Clean | YES |
| Condensate Drain Installed | YES |

Completed By: Antonio Flores-De La Cruz on 09/19/2024

National TAB

Project:09-16-24 TRUE FOOD KITCHEN - RALIEGH, NC

AHU/RTU



Diffuser Supply (GRD)

AH-T1U08-8/

| Asset | | | | | | | | | |
|-------------------|----------|------|------|------------|-----|--------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | AK | CFM(1) | CFM(2) | FINAL CFM | % to design |
| AH-T1U08-8-SGRD1 | DINNING | P | 12X6 | 185 | 0.5 | 239 | 191 | 191 | 103.2 |
| AH-T1U08-8-SGRD2 | DINNING | P | 12X6 | 185 | 0.5 | 208 | 167 | 167 | 90.3 |
| AH-T1U08-8-SGRD3 | DINNING | P | 12X6 | 185 | 0.5 | 237 | 190 | 190 | 102.7 |
| AH-T1U08-8-SGRD4 | DINNING | P | 12X6 | 185 | 0.5 | 227 | 182 | 191 | 103.2 |
| AH-T1U08-8-SGRD5 | DINNING | P | 12X6 | 185 | 0.5 | 263 | 203 | 201 | 108.6 |
| AH-T1U08-8-SGRD6 | DINNING | P | 12X6 | 185 | 0.5 | 259 | 199 | 199 | 107.6 |
| AH-T1U08-8-SGRD7 | DINNING | P | 12X6 | 185 | 0.5 | 269 | 200 | 200 | 108.1 |
| AH-T1U08-8-SGRD8 | DINNING | P | 12X6 | 185 | 0.5 | 267 | 213 | 201 | 108.6 |
| AH-T1U08-8-SGRD9 | DINNING | D | 8 | 175 | 1 | 168 | 168 | 168 | 96.0 |
| AH-T1U08-8-SGRD10 | DINNING | D | 8 | 170 | 1 | 148 | 158 | 158 | 92.9 |
| AH-T1U08-8-SGRD11 | DINNING | D | 8 | 175 | 1 | 164 | 164 | 164 | 93.7 |
| Total | | | | 2000 | | 2449 | 2035 | 2030 | 101.5% |

National TAB

Project: 09-16-24 TRUE FOOD KITCHEN - RALIEGH, NC

System/Unit: AHU/RTU



Asset: DOAS1

AREA:

| Unit Data | | |
|---------------------|------------|--------------|
| | Design | Actual |
| MFG | LG | LG |
| Serial Num | - | 402UCZP00269 |
| Model Num | ARND203DCR | ARND203DCR |
| Type | AHU | DOAS |
| Configuration | VERTICAL | HORIZONTAL |
| Num Final Filter 1 | - | 2 |
| Final Filter Size 1 | - | 25X20X2 |

| Motor Data | | |
|----------------|--------|--------|
| | Design | Actual |
| Motor MFG | - | NA |
| Frame | - | NA |
| Horsepower | 1 | 1 |
| Motor Rpm | - | NA |
| Phase | 1 | 1 |
| Rated Voltage | 208 | 208 |
| Rated Amperage | 6.0 | 6.0 |

| Drive Data | |
|-------------------|--------|
| | Actual |
| Motor Sheave Size | DD |

| Test Data | | |
|------------------------|--------|--------|
| | Design | Actual |
| SF CFM | 2000 | 2013 |
| SF RPM | - | DD |
| RA CFM | 0 | 0 |
| OA CFM | 2000 | 2000 |
| RL Voltage | - | 211 |
| RL Amperage | - | 4.0 |
| SF Rotation | - | NA |
| SF System SetPt | - | 77% |
| RA Damper Position | - | 0% |
| Min OA Damper Position | - | 100% |
| Min OA Damper Type | - | DOAS |
| OA Enthalpy Setpt | - | NA |

| Performance Data | | |
|------------------|--------|--------|
| | Design | Actual |
| Fan Suction SP | - | -0.48" |
| Fan Discharge SP | - | 0.28" |
| Total ESP | 1.5" | 0.79" |
| Fan Total SP | - | 0.79" |

| General | |
|----------------------------|--------|
| | Actual |
| Fan Rotation Correct | YES |
| Unit Filters Clean | YES |
| Condensate Drain Installed | YES |

Completed By: Antonio Flores-De La Cruz on 09/19/2024

Notes:

No access to the motor compartment of the DOAS. Bottom plate is blocked by the base holding up the DOAS and the motor is also directly in front of the supply ductwork connection.

Written By: Antonio Flores-De La Cruz on 09/19/2024

National TAB

Project:09-16-24 TRUE FOOD KITCHEN - RALIEGH, NC

AHU/RTU



Diffuser Supply (GRD)

DOAS1/

| Asset | | | | | | | | | |
|------------|------|------|------------|------|--------|--------|--------|-----------|-------------|
| Asset Name | Type | Size | DESIGN CFM | AK | VEL(1) | CFM(1) | VEL(2) | FINAL CFM | % to design |
| AHU1 | DUCT | 8 | 140 | 0.35 | 1043 | 365 | 417 | 146 | 104.3 |
| AHU2 | DUCT | - | 0 | - | - | - | - | - | - |
| AHU3 | DUCT | 12 | 465 | 0.79 | 535 | 423 | 597 | 472 | 101.5 |
| AHU5 | DUCT | 12 | 465 | 0.79 | 563 | 445 | 592 | 468 | 100.6 |
| AHU6 | DUCT | 12 | 465 | 0.79 | 712 | 563 | 563 | 445 | 95.7 |
| AHU8 | DUCT | 12 | 465 | 0.79 | 447 | 353 | 616 | 487 | 104.7 |
| Total | | | 2000 | | | 2149 | | 2018 | 100.9% |

National TAB

Project: 09-16-24 TRUE FOOD KITCHEN - RALIEGH, NC

System/Unit: FAN - Exhaust



Asset: DEF1

AREA:DISH HOOD #1

| Unit Data | | |
|---------------|-------------|-------------|
| | Design | Actual |
| MFG | CAPTIVEAIRE | CAPTIVEAIRE |
| Model Num | SIG11DD-SS | SIG11DD-SS |
| Serial Num | - | 5795645 |
| Type | INLINE | INLINE |
| Configuration | HORIZONTAL | HORIZONTAL |

| Motor Data | | |
|------------------|--------|--------|
| | Design | Actual |
| Motor MFG | - | NA |
| Frame | - | NA |
| Horsepower | 0.5 | 0.5 |
| Motor Rpm | - | NA |
| Phase | 1 | 1 |
| Voltage (rated) | 115 | 115 |
| Amperage (rated) | - | 6.3 |
| Service Factor | - | 1 |

| Test Data | | |
|------------------|--------|--------|
| | Design | Actual |
| CFM | 950 | 901 |
| Fan RPM | DD | DD |
| Fan Rotation | - | CCW |
| Motor RPM | - | 1478 |
| System SetPt | - | 70P |
| RL Voltage | - | 120 |
| RL Amperage | - | NA |
| Total ESP | 0.70" | 0.63" |
| Fan Inlet SP | - | 0.63" |
| Fan Discharge SP | - | ATM |

Completed By: Antonio Flores-De La Cruz on 09/18/2024

Notes:
No Access to the motor compartment. Unit is above the dishwasher sink and above a wall as well.

Written By: Antonio Flores-De La Cruz on 09/19/2024

National TAB

Project: 09-16-24 TRUE FOOD KITCHEN - RALIEGH, NC

System/Unit: FAN - Exhaust



Asset: KEF1

AREA:COOKLINE HOOD 2 & 3

| Unit Data | | |
|---------------|-------------|-------------|
| | Design | Actual |
| MFG | CAPTIVEAIRE | CAPTIVEAIRE |
| Model Num | USBI24DD-RM | USBI24DD-RM |
| Serial Num | - | 5795645 |
| Type | UTILITY | UTILITY |
| Configuration | VERTICAL | VERTICAL |

| Motor Data | | |
|------------------|--------|--------|
| | Design | Actual |
| Motor MFG | - | WEG |
| Frame | - | 213T |
| Horsepower | 5 | 5 |
| Motor Rpm | 1170 | 1170 |
| Phase | 3 | 3 |
| Voltage (rated) | 460 | 460 |
| Amperage (rated) | - | 6.83 |
| Service Factor | - | 1.25 |

| Test Data | | |
|------------------|--------|-------------|
| | Design | Actual |
| CFM | 4600 | 4513 |
| Fan RPM | 1170 | DD |
| Fan Rotation | - | CCW |
| Motor RPM | - | DD |
| System SetPt | - | 57.6 Hz |
| RL Voltage | - | 492/490/491 |
| RL Amperage | - | 5.6/5.7/5.6 |
| Total ESP | 2.20" | NA |
| Fan Inlet SP | - | NA |
| Fan Discharge SP | - | ATM |

Completed By: Antonio Flores-De La Cruz on 09/18/2024

National TAB

Project: 09-16-24 TRUE FOOD KITCHEN - RALIEGH, NC

System/Unit: FAN - Exhaust



Asset: TEF1

AREA:RESTROOMS

| Unit Data | | |
|---------------|-------------|-------------|
| | Design | Actual |
| MFG | CAPTIVEAIRE | CAPTIVEAIRE |
| Model Num | SIF10DD | SIF10DD |
| Serial Num | - | 5795645 |
| Type | INLINE | INLINE |
| Configuration | HORIZONTAL | HORIZONTAL |

| Motor Data | | |
|------------------|--------|--------|
| | Design | Actual |
| Motor MFG | - | NA |
| Frame | - | NA |
| Horsepower | 0.250 | 0.250 |
| Motor Rpm | - | NA |
| Phase | 1 | 1 |
| Voltage (rated) | 115 | 115 |
| Amperage (rated) | - | 2.9 |
| Service Factor | - | NA |

| Test Data | | |
|------------------|--------|--------|
| | Design | Actual |
| CFM | 375 | 368 |
| Fan RPM | DD | DD |
| Fan Rotation | - | CCW |
| Motor RPM | - | 1613 |
| System SetPt | - | 83P |
| RL Voltage | - | NA |
| RL Amperage | - | NA |
| Total ESP | 0.50 | 0.39" |
| Fan Inlet SP | - | -0.39" |
| Fan Discharge SP | - | ATM |

Completed By: Antonio Flores-De La Cruz on 09/18/2024

Notes:

No Access to the motor compartment. It is above some piping and an emergency light with brackets.

Written By: Antonio Flores-De La Cruz on 09/19/2024

National TAB

Project:09-16-24 TRUE FOOD KITCHEN - RALIEGH, NC

FAN - Exhaust



Diffuser Ret/Exh (GRD)

TEF1/RESTROOMS

| Asset | | | | | | | | | |
|------------|-------------|------|------|------------|------|--------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | AK | CFM(1) | CFM(2) | FINAL CFM | % to design |
| TEF1-EGRD1 | MENS RR | E2 | 8 | 150 | 1.35 | 196 | 176 | 150 | 100.0 |
| TEF1-EGRD2 | WOMENS RR | E2 | 8 | 150 | 1.35 | 150 | 130 | 149 | 99.3 |
| TEF1-EGRD3 | EMPLOYEE RR | E1 | 6 | 75 | 1.35 | 150 | 65 | 80 | 106.7 |
| Total | | | | 375 | | 496 | 371 | 379 | 101.07% |

National TAB

Project: 09-16-24 TRUE FOOD KITCHEN - RALIEGH, NC

System/Unit: FAN - Supply



Asset: MUA1

AREA:

| Unit Data | | |
|---------------|------------------|------------------|
| | Design | Actual |
| MFG | CAPTIVEAIRE | CAPTIVEAIRE |
| Model Num | A2-D.250-20D-MPU | A2-D.250-20D-MPU |
| Serial Num | - | 5795645 |
| Type | MUA | MUA |
| Configuration | VERTICAL | VERTICAL |

| Motor Data | | |
|------------------|--------|--------------|
| | Design | Actual |
| Motor MFG | - | WESTINGHOUSE |
| Frame | - | 184T |
| Horsepower | 5 | 5 |
| Motor Rpm | 1750 | 1750 |
| Phase | 3 | 3 |
| Voltage (rated) | 460 | 460 |
| Amperage (rated) | - | 6.8 |
| Service Factor | - | 1.15 |

| Drive Data | |
|-------------------|--------|
| | Actual |
| Motor Sheave Size | DD |

| Gas Heat | | |
|---------------------------|--------|--------|
| | Design | Actual |
| Heater Operates (y/n) | - | N |
| Flame Status (pass/fail) | - | FAIL |
| Inlet Air Temp SetPt | 55 | 55 |
| Discharge Air Temp SetPt | 65 | 65 |
| Air Flow Switch SP Actual | - | 0.47" |

| Test Data | | |
|------------------|--------|-------------|
| | Design | Actual |
| CFM | 4035 | 4174 |
| SF RPM | DD | DD |
| Motor RPM | - | DD |
| SF System SetPt | - | 60.6 Hz |
| RL Voltage | - | 490/491/491 |
| RL Amperage | - | 5.5/5.6/5.0 |
| Total ESP | - | NA |
| Fan Discharge SP | - | NA |

| General | |
|----------------------|--------|
| | Actual |
| Fan Rotation Correct | YES |

Completed By: Antonio Flores-De La Cruz on 09/18/2024

National TAB

Project: 09-16-24 TRUE FOOD KITCHEN - RALIEGH, NC

System/Unit: Kitchen Hood Type I



Asset: HD2

AREA:

| Unit Data | | |
|----------------------|-------------|-------------|
| | Design | Actual |
| MFG | CAPTIVEAIRE | CAPTIVEAIRE |
| Model Num | 6030 ND-2 | 6030 ND-2 |
| Job / Serial Num | - | 5795645 |
| Type | TYPE I HOOD | TYPE I HOOD |
| Hood length | 120" | 120" |
| Hood Width | 60" | 60" |
| Supply Plenum Type | - | PERFORATED |
| Supply Plenum Width | 18" | 18" |
| Supply Plenum Length | 132" | 132" |

| Test Data Supply | | |
|------------------|--------|--------|
| | Design | Actual |
| Total AK Area | 16.5 | 16.5 |
| Kv factor (Vel) | 0.88 | 0.88 |
| Num of Readings | - | 8 |
| Reading1 FPM | - | 145 |
| Reading2 FPM | - | 148 |
| Reading3 FPM | - | 142 |
| Reading4 FPM | - | 148 |
| Reading5 FPM | - | 156 |
| Reading6 FPM | - | 111 |
| Reading7 FPM | - | 141 |
| Ave FPM(corr) | - | 142 |
| CFM | 2025 | 2062 |

| Test Data Exhaust | | |
|-------------------------|---------------|---------------|
| | Design | Actual |
| Filter Type | CAPTRATE SOLO | CAPTRATE SOLO |
| Filter Size 1 | 20X16 | 20X16 |
| Filter Qty 1 | 7 | 7 |
| Filter AK factor size 1 | 2.08 | 2.08 |
| Filter Total AK Area | 14.56 | 14.56 |
| Filter1 FPM | - | 123 |
| Filter2 FPM | - | 128 |
| Filter3 FPM | - | 167 |
| Filter4 FPM | - | 165 |
| Filter5 FPM | - | 142 |
| Filter6 FPM | - | 121 |
| Filter7 FPM | - | 111 |
| Filter Ave FPM(corr) | - | 137 |
| CFM | 2000 | 1995 |

| Cooking Equipment | |
|-------------------|--------|
| | Actual |
| Item 1 | OVEN |
| Item 2 | GRILL |
| Item 3 | GRILL |
| Item 4 | STOVE |

Completed By: Antonio Flores-De La Cruz on 09/16/2024

National TAB

Project: 09-16-24 TRUE FOOD KITCHEN - RALIEGH, NC

System/Unit: Kitchen Hood Type I



Asset: HD3

AREA:

| Unit Data | | |
|----------------------|-------------|-------------|
| | Design | Actual |
| MFG | CAPTIVEAIRE | CAPTIVEAIRE |
| Model Num | 6030 ND-2 | 6030 ND-2 |
| Job / Serial Num | - | 5795645 |
| Type | TYPE I | TYPE I |
| Hood length | 120" | 120" |
| Hood Width | 60" | 60" |
| Supply Plenum Type | - | PERFORATED |
| Supply Plenum Width | 18" | 18" |
| Supply Plenum Length | 120" | 120" |

| Test Data Supply | | |
|------------------|--------|--------|
| | Design | Actual |
| Total AK Area | 15 | 15 |
| Kv factor (Vel) | 0.88 | 0.88 |
| Num of Readings | - | 8 |
| Reading1 FPM | - | 160 |
| Reading2 FPM | - | 135 |
| Reading3 FPM | - | 172 |
| Reading4 FPM | - | 161 |
| Reading5 FPM | - | 182 |
| Reading6 FPM | - | 150 |
| Ave FPM(corr) | - | 160 |
| CFM | 2010 | 2112 |

| Test Data Exhaust | | |
|-------------------------|---------------|---------------|
| | Design | Actual |
| Filter Type | CAPTRATE SOLO | CAPTRATE SOLO |
| Filter Size 1 | 20X16 | 20X16 |
| Filter Qty 1 | 7 | 7 |
| Filter AK factor size 1 | 2.08 | 2.08 |
| Filter Total AK Area | 14.56 | 14.56 |
| Filter1 FPM | - | 175 |
| Filter2 FPM | - | 162 |
| Filter3 FPM | - | 183 |
| Filter4 FPM | - | 173 |
| Filter5 FPM | - | 186 |
| Filter6 FPM | - | 165 |
| Filter7 FPM | - | 167 |
| Filter Ave FPM(corr) | - | 173 |
| CFM | 2600 | 2518 |

| Cooking Equipment | |
|-------------------|------------|
| | Actual |
| Item 1 | WOK |
| Item 2 | PIZZA OVEN |

Completed By: Antonio Flores-De La Cruz on 09/16/2024

National TAB

Project: 09-16-24 TRUE FOOD KITCHEN - RALIEGH, NC

System/Unit: Kitchen Hood Type II



Asset: HD1

AREA:

| Unit Data | | |
|--------------------|-------------|-------------|
| | Design | Actual |
| MFG | CAPTIVEAIRE | CAPTIVEAIRE |
| Model Num | NA | 4830 VHB |
| Serial Num | - | 5795645 |
| Type | TYPE II | TYPE II |
| Hood length | 90" | 90" |
| Hood Width | 48" | 48" |

| Test Data | | |
|--------------------|--------|--------|
| | Design | Actual |
| Exhaust CFM | 950 | 901 |

Completed By: Antonio Flores-De La Cruz on 09/16/2024

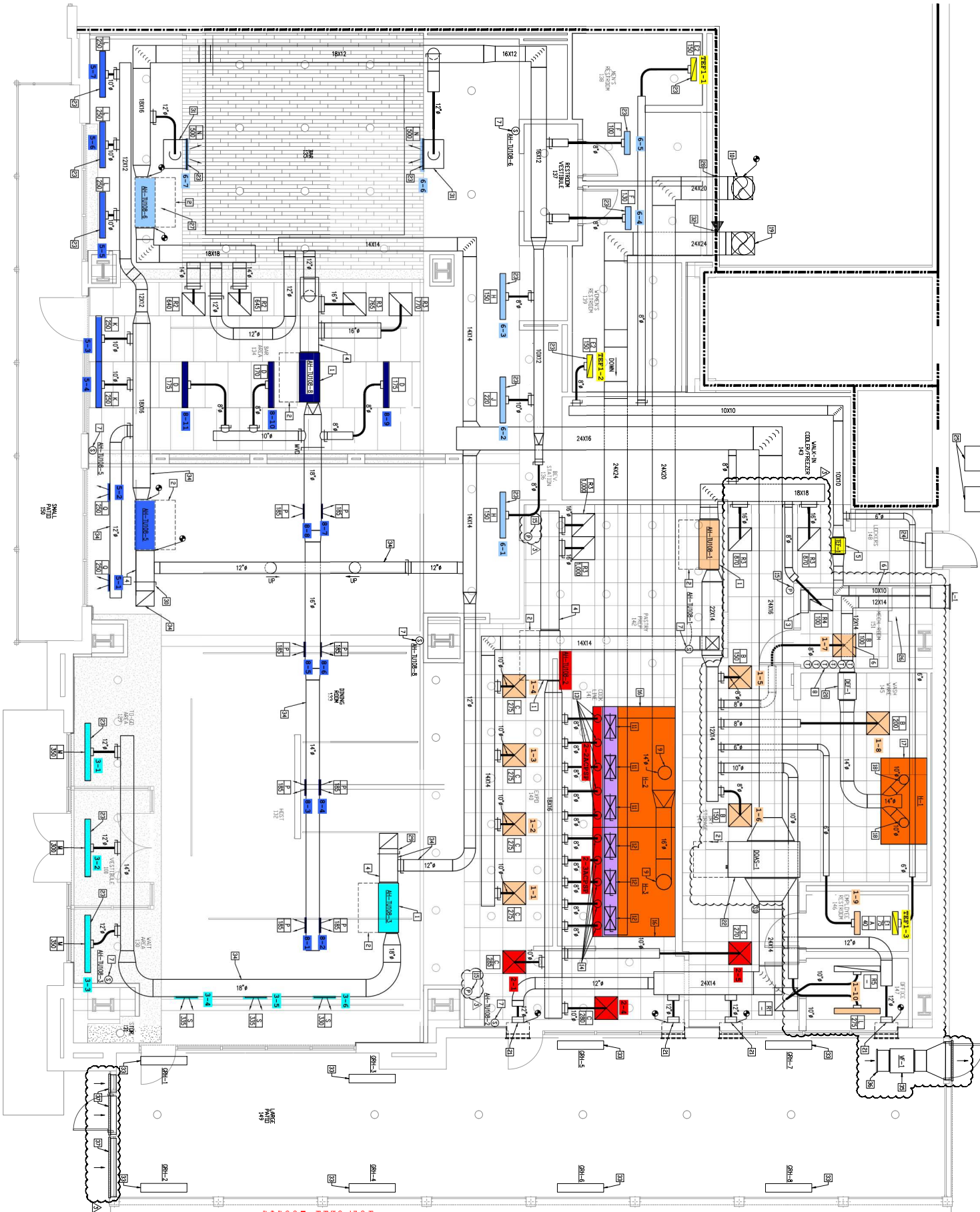
Notes:

VDC: 100%

Written By: Antonio Flores-De La Cruz on 09/16/2024

Notes for the project:
 1. The information on this drawing represents the current design of the project. The property owner is responsible for obtaining all necessary permits and approvals from the local, state, and federal authorities. All work shall be done in accordance with the applicable codes and regulations.
Electronic Approval:
 Only work that is approved by the City of Redwood City shall be considered for approval.

City of Redwood



1 FIRST FLOOR PLAN - MECHANICAL
 SCALE: 1/4"=1'-0"