**Report By:**

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

NATIONAL TAB

Comfort. Under control.

**Report: FINAL TAB REPORT**
**Function: Test, Adjust, & Balance**
**Date: 10/31/2022**

# PROJECT

## 10-24 CULVERS - PERRYSBURG, OH

10380 FREMONT PIKE

PERRYSBURG, OH 43551

Client

Accurex

400 Ross Ave

Schofield, WI 54476

# National TAB

**Project: 10-24 CULVERS - PERRYSBURG, OH**

## Table Of Contents

## 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)
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.

General Exhaust Fans
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.

Comfort. Under control.

# 10-24 CULVERS - PERRYSBURG, OH

## Project Issue Information

**Issue Name :** DIFFUSER 2-7

**Description :** Takeoff is coming off the duct, HVAC will be on site to remedy tomorrow morning. I do not have the tools on site to fix.

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

**Status :** Pending

**Originated Date :** 10/26/2022 - Austin McFall - National TAB

Project Issue File Details

**IMG_0077.jpg**

Project Issue Response Details

- **10/27/2022 National TAB - Austin McFall**
  - GC was able to put HVAC tape to help with sealing the ductwork. Was able to complete the TAB, MC will be on site tomorrow AM to fix the issue 100%

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 | DINING | 6150 | 6238 | 4350 | 4342 | 1800 | 1896 | 29.3% | 30.4% | | | | | | |
| RTU-2 | KITCHEN | 6225 | 6307 | 4525 | 4559 | 1700 | 1748 | 27.3% | 27.7% | | | | | | |
| PRV-1 | RESTROOM | | | | | | | | | | | | | 300 | 311 |
| PRV-2 | KITCHEN | | | | | | | | | | | 1500 | 1536 | | |
| PRV-3 | KITCHEN | | | | | | | | | | | 1500 | 1614 | | |
| EF1A | MOP ROOM | | | | | | | | | | | | | 75 | 69 |
| EF1A(2) | RESTROOM | | | | | | | | | | | | | 75 | 70 |
| **TOTALS** | | 12375 | 12545 | 8875 | 8901 | 3500 | 3644 | | | 0 | 0 | 3000 | 3150 | 450 | 450 |

**NET BUILDING AIRFLOW CALCULATION**

| TOTALS | DESIGN | ACTUAL |
|---|---|---|
| TOTAL OA | 3500 | 3644 |
| TOTAL EXHAUST | 3450 | 3600 |
| **NET AIRFLOW** | 50 | 44 |

| DOOR TESTED | BUILDING PRESSURE MEASUREMENTS (IN. H20) |
|---|---|
| FRONT | 0.006 |
| SIDE | 0.008 |
| REAR | 0.005 |
| **AVERAGE** | **0.0063** |

**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:

Comfort. Under control.

# 10-24 CULVERS - PERRYSBURG, OH

## CheckList Information

| | | | |
|---|---|---|---|
| **Name :** | SITE PICTURES | **Status :** | Submitted |
| **Assigned Organization :** | National TAB | **Asset :** | |
| **Requesting Organization :** | National TAB | | |

### CheckList Item Details

RTU-1

**FuseIT01bbe0d1c0fe4dd...**

RTU-2

**FuseITe395069978fe42a...**

PRV1

**FuseITfea0579d05a84ec...**

PRV-2

**FuseIT70b7f2166cd74aa...**

PRV-3

**FuseITaf402211bb4f43a...**

EF-1A

**FuseIT9a584e067725415...**

HOOD-1

**FuseIT49b7fc1afa774c9...**

HOOD-2

**FuseITa14273d7d3534d4...**

**Notes/Comments :**

Comfort. Under control.

# 10-24 CULVERS - PERRYSBURG, OH

## CheckList Information

| | | | |
|---|---|---|---|
| **Name :** | TECH - STEP 1: INITIAL WALKTHROUGH | **Status :** | Submitted |
| **Assigned Organization :** | National TAB | **Asset :** | |
| **Requesting Organization :** | National TAB | | |

### CheckList Item Details

**INITIAL SITE WALKTHROUGH**

| | |
|---|---|
| All diffusers and grilles are installed and match design? | Diffusers and grilles are installed and matched design |
| Perforated diffusers are installed on the cook line? (4-ways will disrupt hood capture) | Perforated diffusers are installed where intended. |
| All hood filters installed and accounted for? | Hood filters are accounted for. |
| Hoods are wired and have power? | Hoods are wired and have power. |
| Thermostats have power? | Stats have power. |
| Have trades/general contractor been notified about any issues and are they created on FaciliBuild? | Yes. |

**Notes/Comments :**

Comfort. Under control.

# 10-24 CULVERS - PERRYSBURG, OH

## CheckList Information

| | | | |
|---|---|---|---|
| **Name :** | TECH - STEP 2: UNIT DATA AND EVAL | **Status :** | Submitted |
| **Assigned Organization :** | National TAB | **Asset :** | |
| **Requesting Organization :** | National TAB | | |

### CheckList Item Details

**UNIT DATA AND EVALUATION WHILE GATHERING UNIT DATA CHECK THE FOLLOWING:**

| | |
|---|---|
| **RTU's/AHU's** | |
| Economizers are assembled and functional? | Assembled and functional. |
| Thermostat wire run from OCP on the RTU to the Ec terminal at the thermostat? If no, jumper can be installed from R to OCP temporarily. (The economizers will not open without OCP being energized.) | Jumper has been installed. |
| Motors are all operating below the FLA rating? | Motors are currently operating above FLA but within service factor. |
| Are belts tight? | Belts are tight. |
| If direct drive unit is the speed controller working. | NA |
| Is gas piping installed and valves turned on? | Gas piping installed and turn on. |
| Unit free of noticeable noise and vibration | Free of noise and vibration. |
| **EF's** | |
| Rotation is correct? | Rotation is correct. |
| Belts are tight? | Belts are tight. |
| Grease cup installed on hood fan? | Grease cups installed. |
| Hinge kit installed installed on hood fan? | Hinge kits installed. |
| Lean grease rated fans back. Is grease duct installation adequate and is duct ran all the way to the base of the fan? | Ductwork is adequate. |

| | |
|---|---|
| Flex conduit is long enough so that fan can be completely tilted back? | Flex conduit is long enough to to tilt fan back. |
| There is no major leakage around base of fan? | No leakage around base of fan |
| Is the motor operating below the motor FLA rating? | Motors operating below FLA. |
| For restroom fan(s) is the back draft damper installed and can it fully open? | Damper installed, can fully open. |
| Unit free of noticeable noise and vibration? | No noise or vibration. |
| The hood exhaust fans are installed in correct positions and are not switched? | Exhaust are installed in correct positions. |
| **HOODS** | |
| Kitchen equipment installed in proper places? | Kitchen equipment installed in proper places. |
| Can kitchen equipment be turned on for final smoke test? | Yes. |
| Second stage Grease Grabber filters are installed on the griddle hood? | Grease grabbers installed for griddle hood. |
| **DOCUMENTATION** | |
| Have trades/general contractor been notified about any issues and are they created on FaciliBuild? | Yes |

**Notes/Comments :**

Comfort. Under control.

# 10-24 CULVERS - PERRYSBURG, OH

## CheckList Information

| | | | |
|---|---|---|---|
| **Name :** | TECH - STEP 3: TEST, ADJUST AND BALANCE | **Status :** | Submitted |
| **Assigned Organization :** | National TAB | **Asset :** | |
| **Requesting Organization :** | National TAB | | |

### CheckList Item Details

**TEST, ADJUST, AND BALANCE ALL EQUIPMENT:**

**DURING TESTING MAKE NOTE OF THE FOLLOWING:**

| | |
|---|---|
| Is space free of drafting? | Space is free if drafting |
| Is space comfortable in all areas? | Space is comfortable in all areas. |
| Is the space free of ventilation noise? | Free of ventilation noise. |
| If deviations from design were necessary to resolve 1-3 what were they? Otherwise put "NA". | NA |

**Notes/Comments :**

Comfort. Under control.

# 10-24 CULVERS - PERRYSBURG, OH

## CheckList Information

| | | | |
|---|---|---|---|
| **Name :** | TECH - STEP 4: FINAL TESTS | **Status :** | Submitted |
| **Assigned Organization :** | National TAB | **Asset :** | |
| **Requesting Organization :** | National TAB | | |

### CheckList Item Details

| | |
|---|---|
| **FINAL TESTS** | |
| **HOOD CAPTURE TEST** | |
| List equipment turned on for testing | NONE |
| List smoke candle type used | 45 SEC SMOKE EMITTER |
| Smoke test capture - Perimeter of hood | 100% |
| Smoke test capture - Top of cooking surface | 100% |
| **WITNESS** | |
| Date test was completed | 10/27/2022 |
| TAB tech name / Firm | AUSTIN MCFALL//NATIONAL TAB |
| Site super name / Firm | NA/NA |
| Owner representative name / Firm (if Applicable) | NA/NA |
| Building pressure at front & back doors (All Systems On) | FRONT:0.006"//BACK:0.005" |
| **ADDITIONAL** | |
| Do actual net building airflow, design net building airflow, and pressure coincide? If not why? (All three should either be positive or negative) | YES |
| Thermostats are programmed? | YES |
| **PRODIGY SETTINGS FOR RTU'S** | |
| Parameter 65 set to 0 | 0 |

| | |
|---|---|
| Parameter 78 set to 0 | 0 |
| Parameter 105 set to 6 | 6 |
| Parameter 156 set to 70 (Dining unit only) | 70 |
| Parameter 156 set to 65 (Kitchen Unit Only) | 65 |
| Parameter 170 set to 75 (Dining Unit Only) | 75 |
| Parameter 170 set to 70 (Kitchen Unit Only) | 70 |
| Parameter 131 set to the same % as OA minimum position? | SET |
| Parameter 117 set to the same % as OA minimum position? | SET |

**Notes/Comments :**

# National TAB

**Project: 10-24 CULVERS - PERRYSBURG, OH**

## System/Unit: AHU/RTU

Comfort. Under control.

**Asset: RTU1** AREA:DINING

| Unit Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **MFG** | LENNOX | LENNOX |
| **Serial Num** | - | 5622C02456 |
| **Model Num** | LGH210-H4B | LGH210-H4B |
| **Type** | RTU | RTU |
| **Configuration** | VERTICAL | VERTICAL |
| **Num OA Filters 1** | - | 3 |
| **OA Filter Size 1** | - | 13X23.25” |
| **Num Final Filter 1** | - | 6 |
| **Final Filter Size 1** | - | 24X24X2 |

| Motor Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **Motor MFG** | - | INTERLINK |
| **Frame** | - | 56HZ |
| **Horsepower** | - | 3.0 |
| **Motor Rpm** | - | 1750 |
| **Phase** | 3 | 3 |
| **Rated Voltage** | 208/230 | 208 |
| **Rated Amperage** | - | 8.0 |

| Drive Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **Motor Sheave Size** | - | MVL40 |
| **Motor Bore Size** | - | 0.875” |
| **Motor Sheave SetPt** | - | MINIMUM |
| **Fan Sheave Size** | - | 7.25” |
| **Fan Sheave Bore** | - | 1.125” |
| **Belt CL Distance** | - | 20.75” |
| **Num of Belts** | - | 1 |
| **Belt Size** | - | BX55 |
| **Belt Alignment** | - | GOOD |

| Test Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **SF CFM** | 6150 | 6238 |
| **RA CFM** | 4350 | 4342 |
| **OA CFM** | 1800 | 1896 |
| **RL Voltage** | - | 212/212/212 |
| **RL Amperage** | - | 9.4/9.1/9.0 |
| **SF Rotation** | - | CW |
| **RA Damper Position** | - | 66% |
| **Min OA Damper Position** | - | 34% |
| **Min OA Damper Type** | - | ECON |

| Performance Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **MA Plenum SP** | - | -0.34" |
| **Fan Suction SP** | - | -0.69" |
| **Fan Discharge SP** | - | 0.38" |
| **Total ESP** | - | 0.72" |
| **Fan Total SP** | - | 1.07" |

| General | | |
|---|---|---|
| | **Design** | **Actual** |
| **Fan Rotation Correct** | - | CORRECT |
| **Unit Filters Clean** | - | CLEAN |
| **Condensate Drain Installed** | - | INSTALLED |

Completed By: Austin McFall

Notes:

# National TAB

**Project:10-24 CULVERS - PERRYSBURG, OH**

## AHU/RTU

Comfort. Under control.

### Diffuser Supply (GRD)

**RTU1/DINING**

| Asset | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Asset Name** | **Location** | **Type** | **Size** | **DESIGN CFM** | **AK** | **CFM(1)** | **FINAL CFM** | **% to design** |
| SGRD1 | ENTRY | SD4 | 8" | 150 | 1 | 183 | 159 | 106.0 |
| SGRD2 | DINING | SD1 | 8" | 150 | 1 | 252 | 155 | 103.3 |
| SGRD3 | DINING | SD1 | 8" | 150 | 1 | 209 | 147 | 98.0 |
| SGRD4 | DINING | SD1 | 8" | 150 | 1 | 219 | 151 | 100.7 |
| SGRD5 | DINING | SD1 | 8" | 150 | 1 | 192 | 158 | 105.3 |
| SGRD6 | DINING | SD1 | 8" | 150 | 1 | 210 | 155 | 103.3 |
| SGRD7 | DINING | SD1 | 8" | 150 | 1 | 154 | 150 | 100.0 |
| SGRD8 | DINING | SD1 | 8' | 150 | 1 | 203 | 160 | 106.7 |
| SGRD9 | DINING | SD1 | 8" | 150 | 1 | 211 | 147 | 98.0 |
| SGRD10 | DINING | SD1 | 8" | 150 | 1 | 246 | 144 | 96.0 |
| SGRD11 | DINING | SD1 | 8" | 150 | 1 | 204 | 151 | 100.7 |
| SGRD12 | DINING | SD1 | 8" | 150 | 1 | 214 | 156 | 104.0 |
| SGRD13 | DINING | SD1 | 8" | 150 | 1 | 194 | 158 | 105.3 |
| SGRD14 | DINING | SD1 | 8" | 150 | 1 | 218 | 152 | 101.3 |
| SGRD15 | DINING | SD1 | 10" | 300 | 1 | 209 | 289 | 96.3 |
| SGRD16 | ENTRY103 | SD1 | 8" | 150 | 1 | 232 | 154 | 102.7 |
| SGRD17 | DINING | SD1 | 10" | 350 | 1 | 307 | 366 | 104.6 |
| SGRD18 | DINING | SD1 | 10" | 350 | 1 | 243 | 361 | 103.1 |
| SGRD19 | DINING | SD1 | 10" | 350 | 1 | 269 | 344 | 98.3 |
| SGRD20 | DINING | SD1 | 10" | 350 | 1 | 294 | 342 | 97.7 |
| SGRD21 | RESTROOM | SD4 | 8" | 150 | 1 | 144 | 155 | 103.3 |
| SGRD22 | RESTROOM | SD4 | 8" | 150 | 1 | 162 | 162 | 108.0 |
| SGRD23 | DINING | SD1 | 12" | 450 | 1 | 421 | 466 | 103.6 |
| SGRD24 | DINING | SD1 | 12" | 450 | 1 | 478 | 455 | 101.1 |
| SGRD25 | DINING | SD1 | 8" | 150 | 1 | 214 | 152 | 101.3 |
| SGRD26 | DINING | SD1 | 8" | 150 | 1 | 231 | 151 | 100.7 |
| SGRD27 | SUNDAE | SD1 | 12" | 500 | 1 | 481 | 489 | 97.8 |
| SGRD28 | OFFICE | SD1 | 8" | 200 | 1 | 162 | 209 | 104.5 |

**Completed By: Wale Odofin on**

# National TAB

**Project: 10-24 CULVERS - PERRYSBURG, OH**

## System/Unit: AHU/RTU

Comfort. Under control.

**Asset: RTU2** AREA:KITCHEN

| Unit Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **MFG** | LENNOX | LENNOX |
| **Serial Num** | - | 5622E01866 |
| **Model Num** | LGH210-H4B | LGH210-H4B |
| **Type** | RTU | RTU |
| **Configuration** | VERTICAL | VERTICAL |
| **Num OA Filters 1** | - | 3 |
| **OA Filter Size 1** | - | 13”X23.25” |
| **Num Final Filter 1** | - | 6 |
| **Final Filter Size 1** | - | 24X24X2 |
| **Num Final Filter 2** | - | - |
| **Final Filter Size 2** | - | - |

| Motor Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **Motor MFG** | - | INTERLINK |
| **Frame** | - | 56HZ |
| **Horsepower** | - | 3.0 |
| **Motor Rpm** | - | 1750 |
| **Phase** | 3 | 3 |
| **Rated Voltage** | 208/230 | 208 |
| **Rated Amperage** | - | 8.0 |

| Drive Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **Motor Sheave Size** | - | VP3.75” |
| **Motor Bore Size** | - | 0.875” |
| **Motor Sheave SetPt** | - | MINIMIM |
| **Fan Sheave Size** | - | BK72 |
| **Fan Sheave Bore** | - | 1.125” |
| **Belt CL Distance** | - | 20.5” |
| **Num of Belts** | - | 1 |
| **Belt Size** | - | BX55 |
| **Belt Alignment** | - | GOOD |

| Test Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **SF CFM** | 6225 | 6307 |
| **RA CFM** | 4525 | 4559 |
| **OA CFM** | 1700 | 1748 |
| **RL Voltage** | - | 212/213/212 |
| **RL Amperage** | - | 9.0/8.7/8.7 |
| **SF Rotation** | - | CW |
| **RA Damper Position** | - | 72% |
| **Min OA Damper Position** | - | 28% |
| **Min OA Damper Type** | - | ECON |

| Performance Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **MA Plenum SP** | - | -0.43" |
| **Fan Suction SP** | - | -0.76" |
| **Fan Discharge SP** | - | 0.42" |
| **Total ESP** | - | 0.85" |
| **Fan Total SP** | - | 1.18" |

| General | | |
|---|---|---|
| | **Design** | **Actual** |
| **Fan Rotation Correct** | - | CORRECT |
| **Unit Filters Clean** | - | CLEAN |
| **Condensate Drain Installed** | - | INSTALLED |

Completed By: Austin McFall

Notes:

# National TAB

**Project:10-24 CULVERS - PERRYSBURG, OH**

## AHU/RTU

Comfort. Under control.

### Diffuser Supply (GRD)

**RTU2/KITCHEN**

| Asset | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Asset Name** | **Location** | **Type** | **Size** | **DESIGN CFM** | **AK** | **CFM(1)** | **FINAL CFM** | **% to design** |
| SGRD1 | KITCHEN | SD5 | 10" | 200 | 1 | 394 | 212 | 106.0 |
| SGRD2 | KITCHEN | SD5 | 12" | 375 | 1 | 651 | 385 | 102.7 |
| SGRD3 | KITCHEN | SD5 | 12" | 350 | 1 | 502 | 367 | 104.9 |
| SGRD4 | KITCHEN | SD5 | 12" | 400 | 1 | 334 | 424 | 106.0 |
| SGRD5 | KITCHEN | SD5 | 12" | 350 | 1 | 480 | 343 | 98.0 |
| SGRD6 | KITCHEN | SD5 | 12" | 400 | 1 | 169 | 378 | 94.5 |
| SGRD7 | KITCHEN | SD5 | 10" | 250 | 1 | 339 | 256 | 102.4 |
| SGRD8 | KITCHEN | SD5 | 12" | 350 | 1 | 593 | 381 | 108.9 |
| SGRD9 | KITCHEN | SD5 | 10" | 275 | 1 | 439 | 273 | 99.3 |
| SGRD10 | KITCHEN | SD1 | 12" | 600 | 1 | 553 | 633 | 105.5 |
| SGRD11 | KITCHEN | SD1 | 12" | 600 | 1 | 566 | 641 | 106.8 |
| SGRD12 | KITCHEN | SD4 | 6" | 75 | 1 | 151 | 79 | 105.3 |
| SGRD13 | UTILITY ROOM | SD1 | 12" | 600 | 1 | 384 | 578 | 96.3 |
| SGRD14 | KITCHEN | SD1 | 12" | 600 | 1 | 396 | 589 | 98.2 |
| SGRD15 | DRY GOODS | SD1 | 12" | 600 | 1 | 283 | 556 | 92.7 |
| SGRD16 | DRY GOODS | SD1 | 10" | 200 | 1 | 288 | 212 | 106.0 |

**Completed By: Wale Odofin on**

# National TAB

**Project: 10-24 CULVERS - PERRYSBURG, OH**

## System/Unit: FAN - Exhaust

Comfort. Under control.

**Asset: EF1(2** AREA:TOILET

| Unit Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **MFG** | ACCUREX | NA |
| **Model Num** | XCR-B80 | BPT13-14MG |
| **Serial Num** | - | 156339 |
| **Type** | CEILING | CEILING |
| **Configuration** | VERTICAL | VERTICAL |

| Test Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **CFM** | 75 | 70 |
| **Fan RPM** | 885 | 850 |
| **Fan Rotation** | - | CCW |
| **RL Voltage** | - | 116 |
| **RL Amperage** | - | 0.14 |

| Motor Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **Phase** | 1 | 1 |
| **Voltage (rated)** | 115 | 120 |
| **Amperage (rated)** | - | 0.18 |

Completed By: Austin McFall

Notes:

# National TAB

**Project: 10-24 CULVERS - PERRYSBURG, OH**

## System/Unit: FAN - Exhaust

Comfort. Under control.

**Asset: EFA1** AREA:MOP ROOM

| Unit Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **MFG** | ACCUREX | ACCUREX |
| **Model Num** | XCR-B80 | XCR-B80 |
| **Serial Num** | - | 20260970 |
| **Type** | CEILING | CEILING |
| **Configuration** | VERTICAL | VERTICAL |

| Motor Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **Motor MFG** | - | GREENHECK |
| **Motor Rpm** | 900 | 900 |
| **Phase** | 1 | 1 |
| **Voltage (rated)** | 115 | 115 |
| **Amperage (rated)** | - | 0.16 |

| Test Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **CFM** | 75 | 69 |
| **Fan RPM** | 885 | 814 |
| **Fan Rotation** | - | CCW |
| **Motor RPM** | - | 900 |
| **System SetPt** | - | HIGH SPEED |
| **RL Voltage** | - | 116 |
| **RL Amperage** | - | 0.14 |

Completed By: Austin McFall

Notes:

# National TAB

**Project: 10-24 CULVERS - PERRYSBURG, OH**

## System/Unit: FAN - Exhaust

Comfort. Under control.

**Asset: PRV1** AREA:RESTROOM

| Unit Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **MFG** | ACCUREX | ACCUREX |
| **Model Num** | XRED090VG | XRED090VG |
| **Serial Num** | - | 20253971 |
| **Type** | DOWNBLAST | DOWNBLAST |
| **Configuration** | VERTICAL | VERTICAL |

| Motor Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **Motor MFG** | - | VARIGREEN |
| **Horsepower** | 0.1 | 0.10 |
| **Motor Rpm** | 1725 | 300-1750 |
| **Phase** | 1 | 1 |
| **Voltage (rated)** | 115 | 115 |
| **Amperage (rated)** | - | 1.38 |

| Test Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **CFM** | 300 | 311 |
| **Fan RPM** | 1465 | 1518 |
| **Fan Rotation** | - | CCW |
| **Motor RPM** | - | 300-1750 |
| **System SetPt** | - | 5.0 |
| **RL Voltage** | - | 116 |
| **RL Amperage** | - | 1.1 |
| **Total ESP** | 0.5" | 0.33” |
| **Fan Inlet SP** | - | -0.33” |
| **Fan Discharge SP** | - | ATM |

Completed By: Austin McFall

Notes:

# National TAB

**Project:10-24 CULVERS - PERRYSBURG, OH**

## FAN - Exhaust

Comfort. Under control.

**Diffuser Ret/Exh (GRD)**

**PRV1/RESTROOM**

| Asset | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Asset Name** | **Location** | **Type** | **Size** | **DESIGN CFM** | **AK** | **CFM(1)** | **CFM(2)** | **FINAL CFM** | **% to design** |
| EGRD1 | MEN'S RR | EG-1 | 8" | 150 | 1 | 155 | 139 | 152 | 101.3 |
| EGRD2 | WOMEN'S RR | EG-1 | 8" | 150 | 1 | 255 | 187 | 159 | 106.0 |

**Completed By: Wale Odofin on**

# National TAB

**Project: 10-24 CULVERS - PERRYSBURG, OH**

## System/Unit: FAN - Exhaust

Comfort. Under control.

**Asset: PRV2** AREA:HD1 GRIDDLE

| Unit Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **MFG** | ACCUREX | ACCUREX |
| **Model Num** | XRUB160XP-15 | XRUB160XP-15 |
| **Serial Num** | - | 20254066 |
| **Type** | UPBLAST | UPBLAST |
| **Configuration** | VERTICAL | VERTICAL |

| Motor Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **Motor MFG** | - | MARATHON |
| **Frame** | - | 56 |
| **Horsepower** | 1.5 | 1.15 |
| **Motor Rpm** | 1725 | 1760 |
| **Phase** | 3 | 3 |
| **Voltage (rated)** | 208 | 230 |
| **Amperage (rated)** | - | 4.2 |
| **Service Factor** | - | 1.25 |

| Drive Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **Motor Sheave Size** | - | VP44 |
| **Motor Bore Size** | - | 0.625" |
| **Fan Sheave Size** | - | 3.75" |
| **Fan Sheave Bore** | - | 1" |
| **Belt CL Distance** | - | 6.5" |
| **Num of Belts** | - | 1 |
| **Belt Size** | - | AX24 |

| Test Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **CFM** | 1500 | 1536 |
| **Fan RPM** | 2411 | 2468 |
| **Fan Rotation** | - | CCW |
| **Motor RPM** | - | 1760 |
| **RL Voltage** | - | 212/211/212 |
| **RL Amperage** | - | 2.7/2.8/2.7 |
| **Suction ESP** | - | 1.21" |
| **Discharge ESP** | - | ATM |
| **Total ESP** | 2.337" | 1.21' |

Completed By: Austin McFall

Notes:

# National TAB

**Project: 10-24 CULVERS - PERRYSBURG, OH**

## System/Unit: FAN - Exhaust

Comfort. Under control.

**Asset: PRV3** AREA:HD2 FRYERS

| Unit Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **MFG** | ACCUREX | ACCUREX |
| **Model Num** | XRUB140-7 | XRUB140-7 |
| **Serial Num** | - | 20254129 |
| **Type** | UPBLAST | UPBLAST |
| **Configuration** | VERTICAL | VERTICAL |

| Motor Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **Motor MFG** | - | MARATHONG |
| **Frame** | - | 56 |
| **Horsepower** | 0.75 | 0.75 |
| **Motor Rpm** | 1725 | 1760 |
| **Phase** | 3 | 3 |
| **Voltage (rated)** | 208 | 230 |
| **Amperage (rated)** | - | 2.30 |
| **Service Factor** | - | 1.25 |

| Drive Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **Motor Sheave Size** | - | VP36 |
| **Motor Bore Size** | - | 0.625" |
| **Motor Sheave SetPt** | - | 5 TURNS OPEN |
| **Fan Sheave Size** | - | AK41 |
| **Fan Sheave Bore** | - | 0.75 |
| **Belt CL Distance** | - | 5" |
| **Num of Belts** | - | 1 |
| **Belt Size** | - | A23 |

| Test Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **CFM** | 1500 | 1614 |
| **Fan RPM** | 1377 | 1481 |
| **Fan Rotation** | - | CCW |
| **Motor RPM** | - | 1760 |
| **RL Voltage** | - | 211/212/212 |
| **RL Amperage** | - | 1.7/1.8/1.7 |
| **Suction ESP** | - | -0.78" |
| **Discharge ESP** | - | ATM |
| **Total ESP** | 1" | 0.78" |

Completed By: Austin McFall

Notes:

# National TAB

**Project: 10-24 CULVERS - PERRYSBURG, OH**

## System/Unit: Kitchen Hood Type I

Comfort. Under control.

**Asset: HD1** AREA:GRIDDLE

| Unit Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **MFG** | ACCUREX | ACCUREX |
| **Model Num** | XGEP64-S | XGEP64-S |
| **Job / Serial Num** | - | 20209523 |
| **Type** | TYPE I LOW PROXIMITY | TYPE I LOW PROX |
| **Hood length** | 64 | 64" |
| **Hood Width** | 23 | 23" |

| Test Data Exhaust | | |
|---|---|---|
| | **Design** | **Actual** |
| **Filter Type** | GREASE GRABBER | GREASE GRABBER |
| **Filter Size 1** | 16X16 | 16X16 |
| **Filter Qty 1** | 4 | 4 |
| **Filter AK factor size 1** | 1.53 | 1.53 |
| **Filter Total AK Area** | 6.12 | 6.12 |
| **Filter1 FPM** | - | 284 |
| **Filter2 FPM** | - | 253 |
| **Filter3 FPM** | - | 232 |
| **Filter4 FPM** | - | 234 |
| **Filter Ave FPM(corr)** | - | 251 |
| **CFM** | 1500 | 1536 |

| Cooking Equipment | | |
|---|---|---|
| | **Design** | **Actual** |
| **Item 1** | - | GRIDDLE |

Completed By: Austin McFall

Notes:

# National TAB

**Project: 10-24 CULVERS - PERRYSBURG, OH**

## System/Unit: Kitchen Hood Type I

Comfort. Under control.

**Asset: HD2** AREA:FRYERS

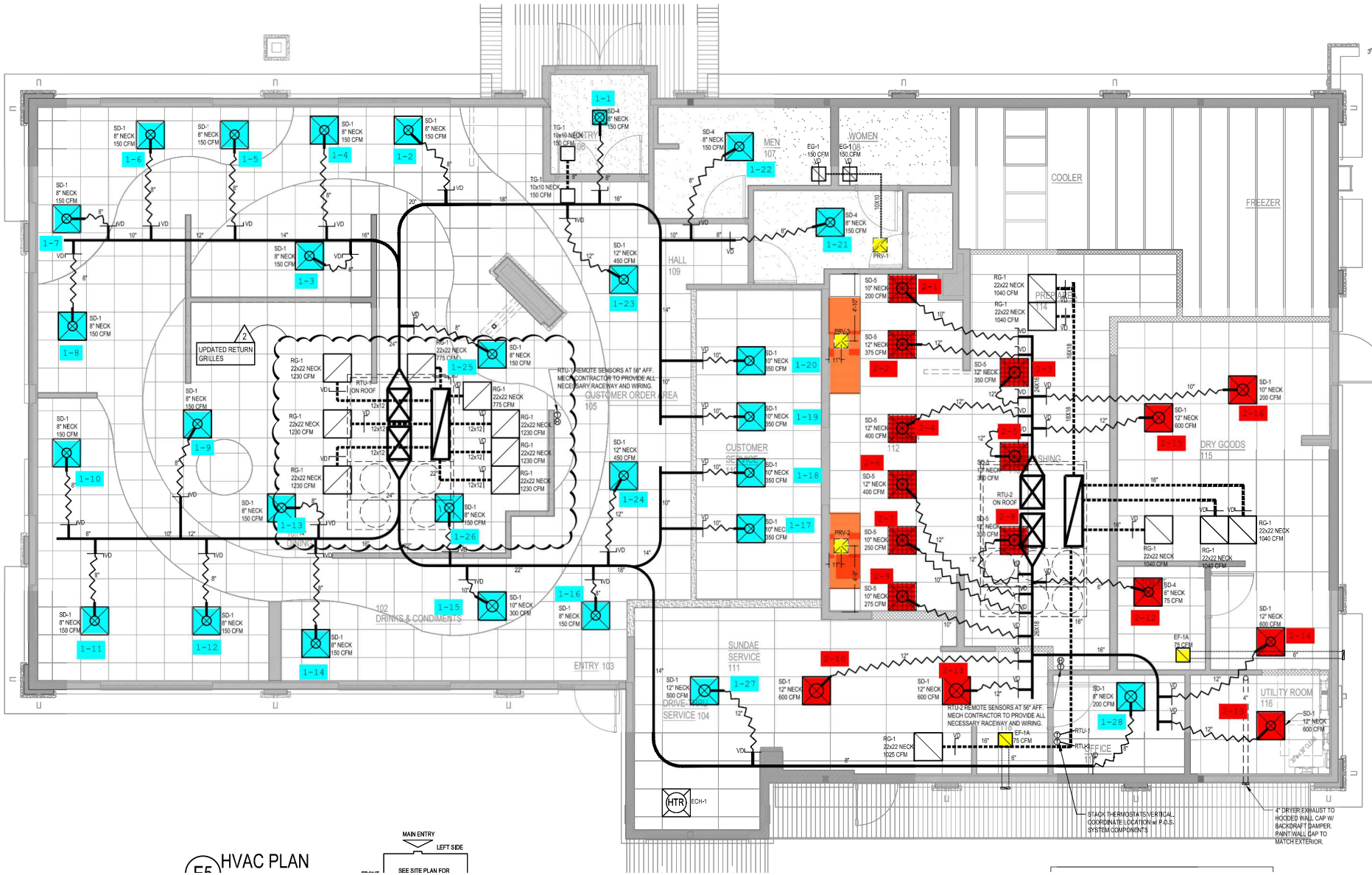
| Unit Data | | |
|---|---|---|
| | **Design** | **Actual** |
| **MFG** | ACCUREX | ACCUREX |
| **Model Num** | XXEP83-S | XXEP83-S |
| **Job / Serial Num** | - | 20209522 |
| **Type** | TYPE I LOW PROXIMITY | TYPE I LOW PROX |
| **Hood length** | 83 | 83" |
| **Hood Width** | 23 | 23" |

| Test Data Exhaust | | |
|---|---|---|
| | **Design** | **Actual** |
| **Filter Type** | XTRACTOR | XTRACTOR |
| **Filter Size 1** | 16X16 | 16X16 |
| **Filter Qty 1** | 5 | 5 |
| **Filter AK factor size 1** | 1.53 | 1.53 |
| **Filter Total AK Area** | 7.65 | 7.65 |
| **Filter1 FPM** | - | 224 |
| **Filter2 FPM** | - | 203 |
| **Filter3 FPM** | - | 204 |
| **Filter4 FPM** | - | 208 |
| **Filter5 FPM** | - | 218 |
| **Filter Ave FPM(corr)** | - | 211 |
| **CFM** | 1500 | 1614 |

| Cooking Equipment | | |
|---|---|---|
| | **Design** | **Actual** |
| **Item 1** | - | FRYER |

Completed By: Austin McFall

Notes:




E5 HVAC PLAN



Date: 11/4/2022